DISTRICT HUMAN DEVELOPMENT REPORT

HOOGHLY

DEVELOPMENT & PLANNING DEPARTMENT
GOVERNMENT OF WEST BENGAL

Final Proof

District Human Development Report : Hooghly

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Government of West Bengal

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Foreword

For a very long time, Hooghly has been held as a district of eminence in the annals of Bengal. It has welcomed almost all the factors that have impacted West Bengal to find its place on the historical, social, cultural, political and economic map of India. Situated on the banks of one of the tributaries of the Ganga, this district takes its name from the tributary itself. A cradle of mixed European cultures - the French in Chandannagore, the Dutch in Sreerampore and Chinsurah, this district is replete with representations of the glorious heritage of Bengal. Here, agricultural progress and industrial development have not been mere successive processes of socio-economic churning, but have played a vital role to shape the destiny of Gangetic Bengal for centuries together. Being the birth-place of Sree Sree Ramakrishna and Raja Rammohan Roy and the primary working place of Ishwarchandra Vidyasagar, Haji Mohammed Mohsin and Rev. William Carey, religious and social reforms have had a compatriotic influence on the academic and artistic arena of Hooghly that manifests in the historical structures of yesteryears, which attract the present generation equally as it had been in the past.

Blessed with natural and topographic advantages, Hooghly has been a forerunner in the field of agro-industrial development. The first automobile plant of the country came up in this district only. This event was preceded by remarkable growth in agricultural produce, which continues, followed by setting up of numerous jute-mills that catapulted this district on the top rung of the growth ladder along with Bardhaman. It is one of the few districts in the entire Eastern region of the country that portrays superiority not only in agriculture but in all the sectors - small, medium and large - of industries.

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To depict the human development scenario of such a district is no mean task. In fact very few districts in the country may have such a variety of working population comprising of farmers, craftsmen, weavers, boat-makers, mill-workers and artisans in the backdrop of burgeoning urbanisation and the pressures of modernisation. The credit to document all these with their sectional variations goes to the combined efforts of the academicians, the administrators and their associates, the peoples' representatives and to the numerous silent yet untold of contributors. I thank all of them and avail this opportunity to record my appreciation to the esteemed members of the State Planning Board and the officers and staff of the Development and Planning Department, without whom this Report could not have been published. This the seventh in our series of DHDRs, following the publication of the SHDR in 2004.

It is my belief that this document will serve as a useful instrument to further the progress of Hooghly in the sphere of Human Development.

Kolkata
March, 2011

Nirupam Sen

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Preface

The concept 'human development' is a paradigm shift in development thinking, which gained much popularity after the publication of first Human Development Report in 1990. The prime objective of the human development approach is to put people at the centre of development with their active participation in the development process. Human Development approach broadly advocates for widening up of people's choice and the attainment of a decent standard of living. Three essential choices of life are: to lead a long and healthy life, to acquire knowledge and to have access to the resources needed for a decent standard of living. Other choices highly valued by many people, range from political, economic and social freedom to opportunities for being creative and productive and enjoying self-respect and guaranteed human rights (HDR, 1990). Human development index as an indicator of prosperity is measured how the planned efforts have succeeded in providing better opportunities for people specially the deprived and those who are living below the poverty line to enjoy a productive and socially meaningful life. To combat with the socio-economic deprivation of the people, Eleventh Five Year Plan document of the Government of India focuses on a new development challenge, known as inclusive development, is based on the understanding of the two concepts: inclusion and development. Inclusion is a process that aims at bringing about all the people in the developmental network; while Millennium Development Goals provide the basic framework of developmental needs of the people. The key ingredients of inclusive development paradigm are: poverty alleviation, establishment of human rights and the participation of civil society in the developmental process. The concept Human Development which focuses the socio-economic conditions of the people also propagates for inclusive development paradigm. In fact, the central to Human Development is the participation of the vulnerable sections of the society in the development process.

People's participation in the development process can be ensured through the implementations of decentralized planning. District Human Development Report attempts to capture the sub-district level variations in the socio-economic indicators of development so as to prepare the blue-print of a balanced human development strategy ensuring people's participation at the grass root level. This report makes an in-depth analysis of the quality of life of the people of the district encompassing the components like livelihood opportunities, educational achievements, health status, gender disparities, resource vulnerability and the dimension of cultural tourism. Since independence, especially in the last three decades of development planning, there has been noticeable progress in Hooghly district especially in respect of poverty eradication, and in the fields of education, health, employment and people's participation in development process. Nevertheless, certain areas demand active governmental actions and a participative civil society to ensure that the most vulnerable groups benefit from the development process.

Getting formal invitation for preparing District Human Development Report Hooghly from the then District Magistrate of Hooghly Mrs. Nilam Meena through our Hon'ble Vice Chancellor Professor Subrata Pal and the Registrar Dr. Shorosimohan Dan of the University of Burdwan on December 31, 2008, was a big challenge as well as a huge opportunity to the Department of Economics. We whole heartedly took the responsibility and devoted our relentless efforts in the preparation of DHDR Hooghly. We express our gratitude to Mrs Nilam Meena, former District

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Magistrate, Prof. Subrata Pal, Vice-chancellor of Burdwan University, Dr. Shorosimohan Dan, Registrar and Prof. Arup Chattopadhyay, Dean, Faculty of Arts, for assigning such a high valued task to the Department of Economics, Burdwan University.

This report is an outcome of fruitful collaborative efforts. The process of preparation of this report has been an enriching experience for the core team. In the process we have received help, guidance, advice and suggestions from many quarters. We are deeply indebted to Mr. Aswini Yadav, Present District Magistrate, Hooghly, for his dynamic leadership, generous administrative supports and suggestions especially in the final stage of preparing the report. We express our sincerer gratitude to Mr. Asit Patra, Savadhipati , Hooghly Zilla Parishad, for his assistance and constant encouragement during the period of the study.

The preparation of the report followed a number of workshops and presentations both at the district and the State level. First two district level workshops were held at Hooghly involving academicians, officials of various line Departments specifically to identify the thrust areas of the study and the data gap, while the third one focused on methodological dimensions of the study. Two State level presentations were held on June 15, 2009 and November 27, 2009, at the Department of Planning, Government of West Bengal in the presence of Hon'ble Minister in Charge, Development Planning and Industries, Sri Nirupam Sen and we shared the experience of noted academicians of national and international repute, like Prof. Nripen Bandopadhyay, Prof. Asis Banerjee, Prof. P.N. Roy and Prof. Nikhilesh Bhattacharya, the Directors of various Departments of the Government of West Bengal. We take this opportunity to express our deep sense of gratitude to Sri Nirupam Sen, Hon'ble MIC, Development Planning and Industries, for showing his keen interests to explore the diverse socio-economic situations and the level of living of the people of the District. He has been a constant source of inspiration for meaningful conclusion of the report. We also express our gratitude to all the academicians and administrators who participated in the discussions on the presentations of the report. Ms. Jaya Das Gupta, Principal Secretary, played an instrumental role for organizing State level workshops and made effective suggestions for qualitative improvement of the report. We express our sincerely thanks to Ms Das Gupta. We acknowledge the dynamic role played by Mr. S. Purkait, ADM (Dev), Mr. Asraf Ali, former ADM (Gen), Mr. Saibal Chakraborty, former DPLO, Mr. Adhir Biswas, present DPLO, Dr. Subrata Sarma, Economist-cum-Credit Planner, Badal Krishna Mukhapadhyay of District Administration, Hooghly, in executing the study specially in collecting data, organizing district level workshops and making insightful comments on the first draft of the report. Natural Resource Database Management System (NRDMS) Centre, Hooghly, also played a very active role in the preparation of the report. We acknowledge the services of two young but dynamic staff Sri Sudipta Ghosh,in charge NRDMS and Ms Barnali Sinha ,Centre Assistant, for their tireless efforts in the preparation of various maps relating to the report. We thankfully acknowledge the co-operation of various line departments of Hooghly district administration such as Departments of Health, Education, Agriculture, Land, Forest, Agri-irrigation, Animal husbandry, Fishery, Industry, PWD and Handloom.

We express our gratitude to all the people whom we interviewed and interacted during primary survey as well as in PEOPLESPEAK visits in different blocks/Municipalities of the district. We gratefully acknowledge the services rendered by the personnel of BAES, Hooghly Branch,

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under the leadership of Asst. Director Sri Mrinal Santra, who provided trained manpower and supervised the primary data collection process. We also express our sincere thanks to all the ICDS and SHG members who took the burden of collecting primary data from various blocks and municipalities of the district.

Such a monumental task of preparing DHDR is contingent upon efficient handling of data and its appropriate analysis. The DHDR Data Entry Desk at the Department of Economics was effectively handled by Ms Moumita Chattopadhyay , Sri Madhusudan Das and Sri Amit Nandi as project Assistants and a group of young scholars of Economics specially Dr. Arindam Laha, Lecturer, Department of Commerce, Burdwan University, Ms. Runa Roy, Lecturer in Economics, Durgapur Government College, Sri Debasis Chakraborty, Sri Tirthankar Mondal, Sri Pankaj Kumar Pal, Sri Krishna Singh, Koushik Hati , Krishanu Sarkar, Tibul Hoque and Debasis Battabyal, Lecturer, DSMS, Durgapur . Without their active co-operations and relentless efforts this report would not have got its present shape. We gratefully acknowledge their contributions. Department of Economics being the nodal agency of preparing the DHDR, Hooghly, extended all types of institutional supports including computer laboratory, infrastructure of DRS project of UGC and skilled man power. We take this opportunity to express our gratitude to all members of the Faculty of Economics including the office assistants Sri Sandipan Hati, Sri Prabir Sen Sharma, and Sri Harasit Sil for their self-less assistance and co-operation.

We are grateful to Prof. Jaydev Sarkhel, Department of Commerce, Prof. Kalyanbrata Bhattacharya, Rtd. Professor, Department of Economics, Prof. Arup Chattapadhyay, Department of Economics and Prof. Soumyendra Kishor Datta, Department of Economics, University of Burdwan, for extending their valuable time and labour in checking parts of the manuscripts and making effective suggestions to improve upon the report.

This is the first human development report for the District of Hooghly. The unique feature of this report is that it provides a comprehensive picture of Human Development at the sub-district level in three modes of presentation: it gives analytical explanations of identified issues of Human Development , simultaneously it attempts to identify the gaps in human development parameters at the sub-district level in terms of several indices of development and finally, this report provides a snapshot view of development of the district in terms of social development radar. We hope the analysis and findings of the report would be useful to the planners and policy makers for adopting appropriate policy actions so as to achieve a balanced and sustainable human development for Hooghly District.

Pravat Kumar Kuri,

Lead Co-ordinator

(DHDR Team, Hooghly)

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Chapter 1

INTRODUCTION AND HUMAN DEVELOPMENT INDICES FOR HOOGHLY DISTRICT

Human well being is a multi-dimensional concept. It comprises of the issue pertaining to socio-economic dimensions of development with a broad focus on economic well-being, capacity building and longevity of life. Exploring the historical records and current status of development, the introductory chapter identifies the unique features of the district from the perspective of socio-economic development and paves the way for the conceptualization of the human development issues. This chapter also gives an overview of the level of human development of the district in terms of composite human development index. The methodological issues of the report appear in technical appendix.

1.1 Unique Features of Hooghly District

Hooghly district in West Bengal is unique in several respects. This part of the country has experienced with first European settlement way back in the 15th century (for historical background of the district see Annexure I). The proximity to State capital and well connected by railways, roads and water transports, have helped the district to enjoy the fruits of modern development at a greater speed than most of the districts of the State. Along the bank of river Hooghly, the district is economically better-off both in terms of agriculture and industry. It is among the very few districts in West Bengal which successfully adopted the strategy of green revolution especially with respect to rice and potato cultivation. The river belt of Hooghly is heavily industrialized. The district has the experience of first wave of industrialization with the setting up of jute mills along the Hooghly river bed during the British era. It also has a long foundation of education since the dawn of history.

1.2 District Hooghly: Location and Boundaries

Geographical location of the district is between 230 01'20''N to 220 39'32''N latitude and 880 30'15''E to 870 39'32'' E longitude. Hooghly district is surrounded by the district of Bankura and Burdwan in the North, Nadia and 24-Parganas in the East, Howrah in the South and Paschim Medinipur district in the West. The district Hooghly is mostly bounded by its principal rivers. The principal rivers in the district are the Hooghly, the Damodar and the Rupnarayan. The Hooghly River flows along the eastern boundary of the district. The Rupnarayan flows from Bankura district under the name of the Dhalkisor or Dwarakeswar. It takes the name of Rupnarayan from the point where it receives the water of the Sailai(Sailavati), a tributary which flows into it from Midnapore districts. The Damodar, which enters Hooghly district from Burdwan district, is the only large river which intersects the district. Hooghly District is bounded on the north by Burdwan district; on the east by the Hooghly River, on the south and west by the Rupnarayan River. District forms a part of the flat plains of the lower Gangetic delta and there is remarkable topographical homogeneity. The district is broadly divided into two main natural divisions, the plains and the uplands, the river Dwarakeswar forming the dividing line between the two. The flat alluvial plains may again be sub-divided into three regions, namely (i) the Dwarkeswar-Damodar interriverine plain, (ii) the Damodar-Bhagirathi interriverine plain and (iii) the Char lands (Baneerjee, 1972). However, the human interferences in the forms of building railways and roadways, flood control measures have changed the topography of the region to a considerable extent. The process of urbanization and industrialization has contributed significantly in changing the land use pattern of the district. A number of important roads e.g. the National High ways etc. run along elevated surfaces. The changing topography and land use-pattern have their maximum impact in areas where urbanization is accompanied by large scale industrialization.

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1.3 Land Utilization Pattern of Hooghly District

The district has a territory of 3149 sq. km, which is about 3.55 per cent of total geographical area of the State.

Table 1.1: Land Utilization Statistics of Hooghly District (in '000 ha.)

1	Reporting Area	312.22
2	Forest Area	0.53
3	Area under Non-Agricultural use	84.65
4	Barren and Unculturable Land	0.61
5	Permanent pasture and other grazing land	0.06
6	Land under Miscellaneous Tree Groves not included in Net Sown Area	3.18
7	Culturable Waste Land	1.83
8	Fallow Land other than Current Fallow	0.55
9	Current Fallow	1.08
10	Net Sown Area	219.73

Source: Statistical Handbook, BAE & S, 2005

In 2005, the reported area under land utilization statistics of the district was 312.22 sq. km. 71 per cent of which was under net sown area and 27 per cent under non-agricultural use. Forest area is negligible(less than one per cent). The land utilization statistics of the district thus offer enough scopes for both agricultural and non-agricultural activities of the district.

1.4 Administrative Information

The district Hooghly with its Headquarters located at Chinsurah town is within the Burdwan Division of the State of West Bengal. There are 4 sub-divisions, 18 blocks, 12 municipalities, one corporation in Hooghly district. Among the 12 municipalities, Dankuni Municipality is created only on 14th January, 2008, under West Bengal Municipal Act, 1993. Total geographical area of the district is 3149 Sq. Km.

Table. 1.2: Administrative Information of Hooghly District

Administrative Information	Units in number
No. of Sub-divisions	04
No. of Blocks	18
No. of Gram Panchayat	207
No. of Gram Sansads	3029
No. of Villages	2585
No. of Backward Villages	38
No. of Police Stations	23
No. of Mouzas	1915
No. of Municipalities	12
No. of Municipal Corporation	1
No. of Inhabited Villages	1886
Area of the District	3149 sq.km.

Source: Statistical Handbook, BAE & S, 2005

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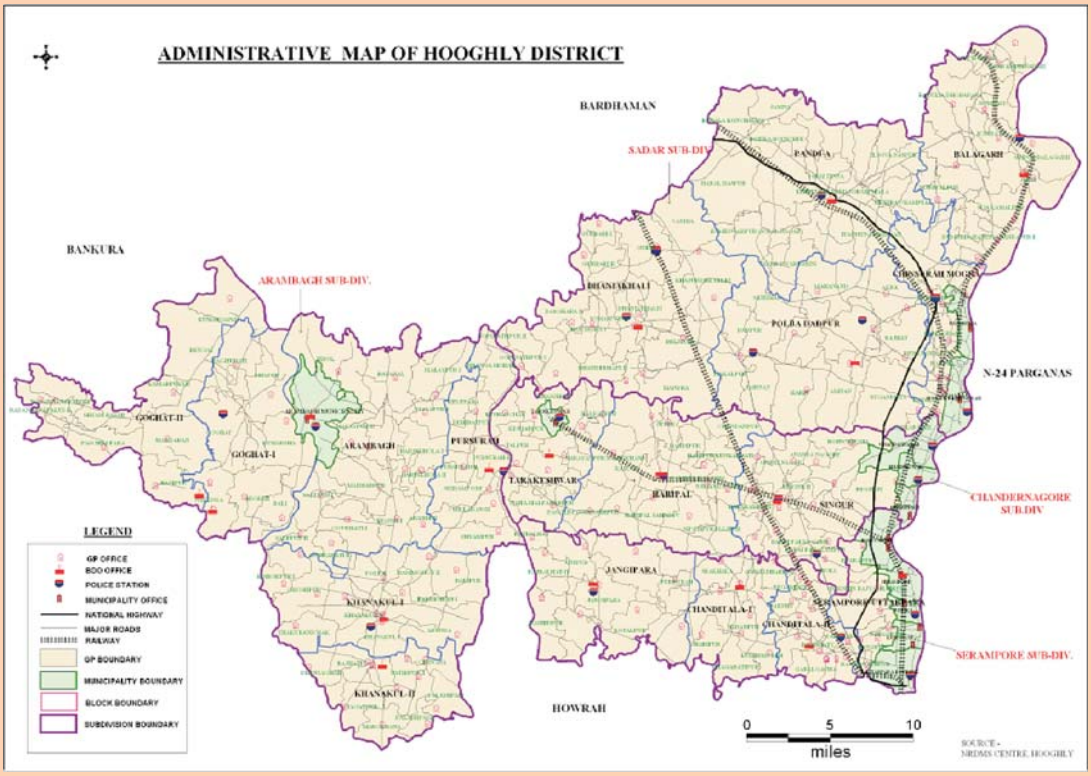
Map 1.1: Administrative Map of Hooghly District



1.5 The Demographic Profile of the District

Hooghly is one of the major districts in West Bengal and ranks 5th in terms of population. With a population of 50,41976 in 2001, the district contributes more than 6 per cent of total population of the State (projected population would be around 54,89534 in 2008). About 66 per cent of the people live in rural areas. The percentage of population who are Hindu, Muslim, Christian and others are respectively 83.63, 15.14, 0.09 and 1.08 which yr. in 2001. Further, 23.6 per cent of total population belongs to the SC category and 4.2 per cent under ST category. It is to be noted that minorities, SC and ST population together constitute around 43 per cent of total population. The density of population (1601 per sq. Km) is much higher than the West Bengal average of 904 per sq. km. In terms of density of population, district ranks 4th, next to Kolkata and Howrah and North 24 Parganas (Census, 2001).

Table 1.3: Area, Population and Density of Population in the District of Hooghly, 2001

Sub-division / C.D.Block / MC / M	Area in sq.km.	Population	Density per sq. km.	% of Population to District Population
(1)	(2)	(3)	(4)	(5)
Sadar Sub-Division	**1148.15**	**1517520**	**1322**	**30.10**
Dhaniakhali	275.68	293345	1064	5.82
Pandua	276.43	284231	1028	5.64
Balagarh	202.15	214784	1062	4.26
Hooghly-Chinsurah(M)	17.27	170206	9856	3.38

Contd.

Sub-division / C.D.Block / MC / M	Area in sq.km.	Population	Density per sq. km.	% of Population to District Population
(1)	(2)	(3)	(4)	(5)
Chinsurah-Mogra	81.86	211049	2578	4.19
Bansberia(M)	9.07	104412	11512	2.07
Polba-Dadpur	285.69	239493	838	4.75
Chandannagar Sub-division	**508.08**	**1058383**	**2083**	**20.99**
Tarakeswar	119.93	162371	1354	3.22
Tarakeswar(M)	3.90	28187	7227	0.56
Haripal	184.42	235494	1277	4.67
Singur	164.85	260827	1582	5.17
Bhadreswar(M)	6.48	106071	16369	2.10
Champdani(M)	6.47	103246	15958	2.05
Chandannagar(M.C)	22.03	162187	7362	3.22
Serampur Sub-division	**422.45**	**1348634**	**3192**	**26.75**
Jangipara	164.23	201001	1224	3.99
Chanditala-I	93.45	165837	1775	3.29
Chanditala-II	70.34	213485	3035	4.23
Serampur-Uttarpara	44.8	126380	2821	2.51
Uttarpara-Kotrung(M)	16.34	150363	9202	2.98
Konnagar(M)	4.42	72177	16330	1.43
Serampur(M)	14.5	197857	13645	3.92
Baidyabati(M)	7.89	108229	13717	2.15
Rishra(M)	6.48	113305	17485	2.25
Arambagh Sub-division	**1058.87**	**1117439**	**1055**	**22.16**
Goghat-I	186.32	125280	672	2.48
Goghat-II	190.03	143359	754	2.84
Arambagh	269.31	253579	942	5.03
Arambagh(M)	19.04	56140	2949	1.11
Khanakul-I	171.92	221871	1291	4.40
Khanakul-II	121.83	160888	1321	3.19
Pursurah	100.42	156322	1557	3.10
District Total, 2001	**3149.00**	**5041976**	**1601**	**100.00**
District Total, 1991	**3149.00**	**4355230**	**1383**	**100.00**

Source: Census of India, 1991 and 2001

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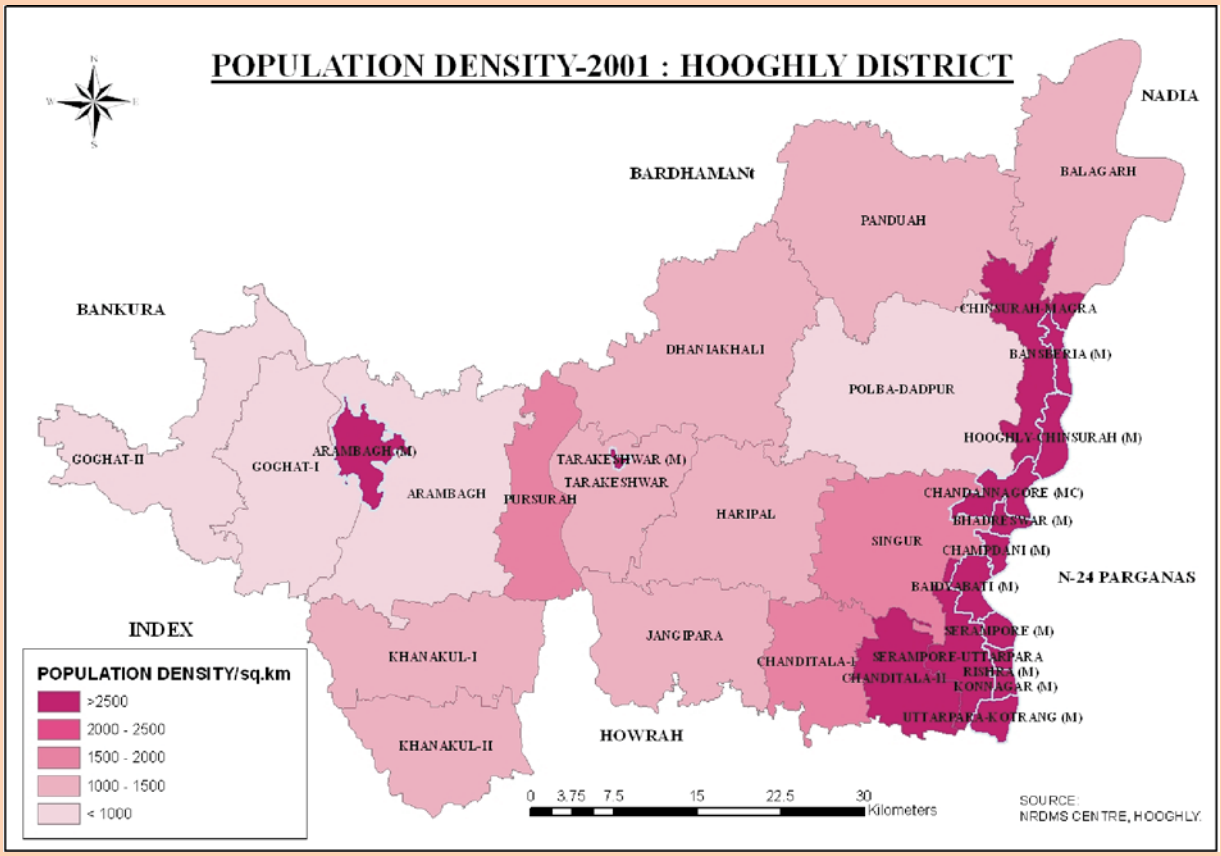
Since Dankuni Municipality was created on 2008, data on socio-economic variables are not available and hence we shall restrict our urban analysis within 11 Municipalities and one Corporation. Totol area of Dankuni Municipality is 19.90 sq.km., total population is 70,907 and the density of population is 3563 per sq. km. (as per 2001 Census).

Map 1.2: Population Density of Hooghly District, 2001



Natural rate of growth of population, which is defined as the difference between the birth rate and death rate, is an important vital statistics reflecting the standard of health of the population. The birth rate as well as the death rate of the population of Hooghly is lower than both the State average as well as the Country average. Consequently, the rate of growth of population of the district is lower than the State and Country average.

Table 1.4: Crude Birth Rate and Crude Death Rate in Hooghly District

Location	Crude Birth Rate (CBR)	Crud Death Rate (CDR)	NR*	Infant Mortality Rate
India	25.40	8.40	17.00	66
West Bengal	20.50	6.80	13.70	51
Hooghly	18.16	6.50	11.56	48

Note: NR* is the Natural Rate of growth of population defined as CBR-CDR

Source: Health on March, 2007-08

Similarly, Infant Mortality Rate (IMR), which is also an important health indicator, is found to be much lower in Hooghly district (48) than the state average (51) or the country average (66). Recent data shows the IMR of the district has come down to only 17.79 (CMOH, Hooghly, 2009). The demographic features of the population change along with the level of economic development. Urbanization is such a factor which is directly associated with the level of economic development. Over the years the district has been increasingly moving from a highly rural society towards an urbanized modern society. The level of urbanization in Hooghly district is found to be much higher than the State as well as the Country averages. According to census, 2001, the percentage of urban population in West Bengal was 27.97, which was almost similar to 27.81 per cent urban population at all-India level; whereas in Hooghly district, 33.47 per cent of the total population is residing in the urban location compared to 31.19 per cent in 1991.

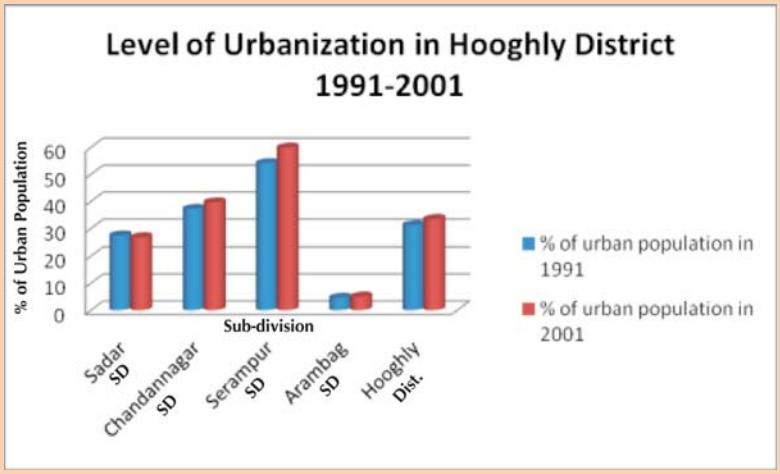
Table 1.5: The Level of Urbanization at Sub-divisions of Hooghly District, 1991- 2001

Sub-division	% of Urban Population in 1991	% of Urban Population in 2001
Sadar	27.31	26.71
Chandannagar	37.17	39.61
Serampur	54.11	59.84
Arambag	4.57	5.02
Hooghly District	31.19	33.47

Source: Census, 1991 & 2001

The above table shows that according to the 1991 and 2001 Census reports, Serampore is the most urbanized sub-division in the Hooghly district with the largest percentage of population living in urban areas followed by Chandanangar, whereas Arambagh is a largely rural sub-division. The Serampore sub-division and a portion of Chandannagar sub-division lie in the traditional industrial belt of Bengal that saw the first wave of industrialization with the setting up of jute mills along the banks of the Hooghly river long back in the British era.

Fig. 1.1: Sub-division-wise Level of Urbanization in Hooghly District, 1991-2001



Source: Census, 2001

Sex ratio which is measured by the number of female population per 1000 male population is another important demographic factor indicating the level of social disparity between men and women. Sex ratio of Hooghly district moves in favour of female since 1931 (Health on March, 2006-07).

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Table 1.6: Sex Ratio : India, West Bengal and Hooghly District

Location	1991	2001
India	927	933
West Bengal	917	934
Hooghly	917	947

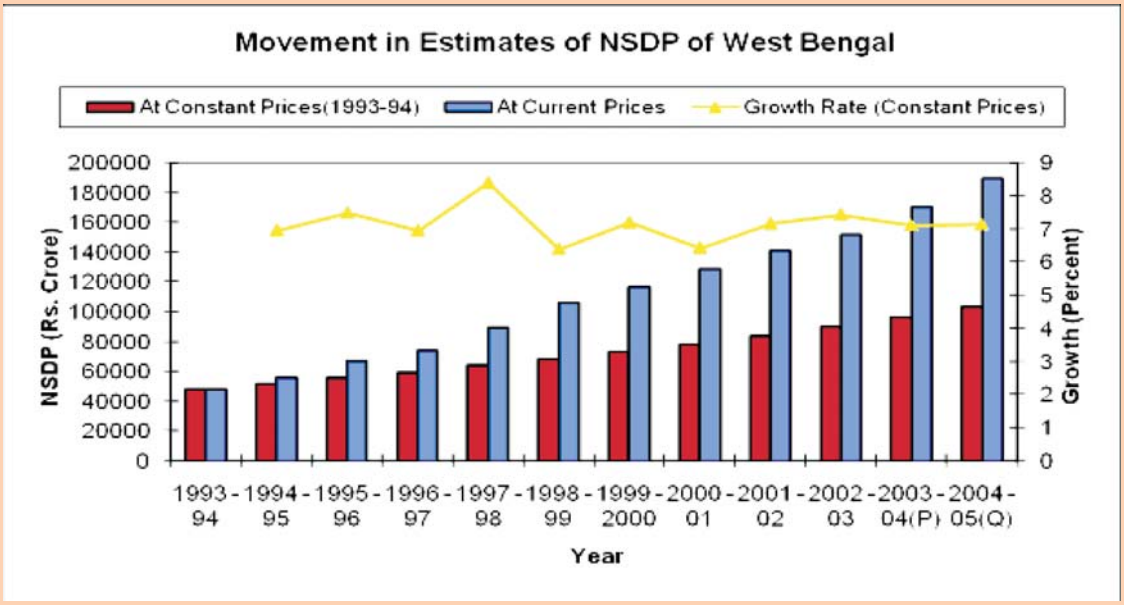
Source: Census, 1991 and 2001

In 1991, sex ratio of Hooghly district was found to be equal to the State average of 917 per 1000 males and that was much lower than the country average of 927. In 2001, the sex ratio of the district improved to a significant extent and reached to the level of 947 exceeding the state average of 934 and the all India average of 933.

1.6 Structural Transformation of the economy of Hooghly District

Structural transformation is inevitable in the process of economic development. As the economy develops, the contribution of primary sector declines while the contribution of secondary and tertiary sectors increases. Net State Domestic Product (NSDP) and its movement over the years are considered to be the single most macro-economic aggregate to measure the overall performance of the economy. The contribution of Hooghly district to NSDP has been doubled during the period 1993-94 to 2004-05 from Rs. 3530.80 crore to Rs. 7184.15 crore. Per capita income, which is a commonly used as an index of standard of living of the people, has increased from Rs. 7806.88 in 1993-94 to Rs. 13520.38 in 2004-05. In terms of per capita income district ranks 5th among the 18 districts of the State.

Fig. 1.2: Movement in Estimates of Net State Domestic Product of Hooghly District, 1993-94 to 2004-05



Source: State Domestic Products, BAE & S, Hooghly, 2006

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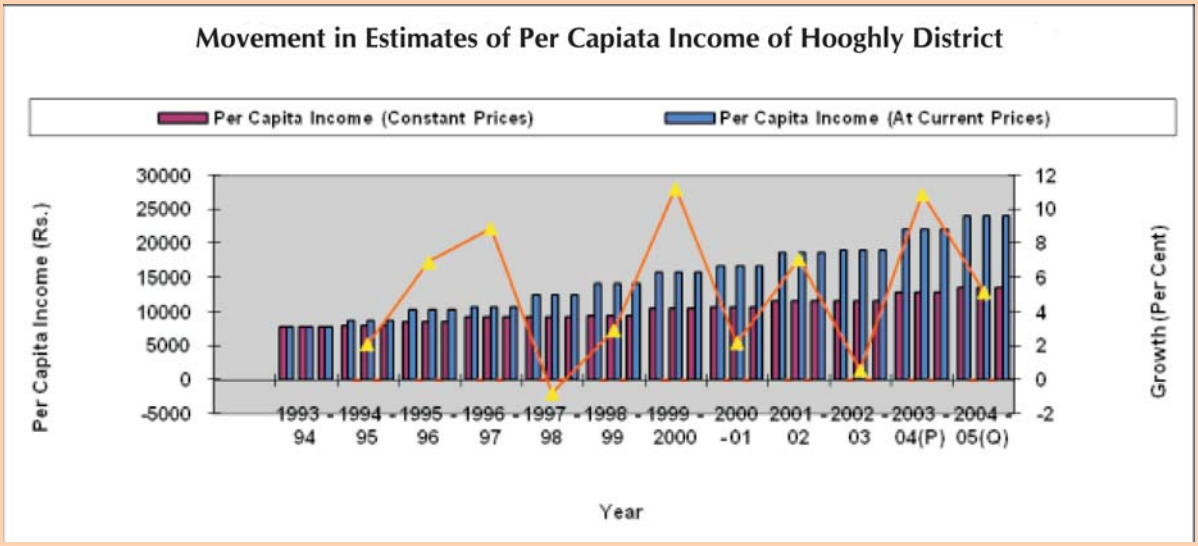
Fig.1.3: Movement in Estimates of Per Capita Income of Hooghly District



Source: State Domestic Products, BAE & S, Hooghly, 2006

Figure 1.2 shows the year-wise estimates of contribution of Hooghly district to NSDP both at current and constant 1993-94 prices for the year 1993-94 to 2004-05 along with the growth rate of NSDP at constant(1993-94) prices. The estimates of per capita income of Hooghly along with its growth (at 1993-94 prices) over the year have been presented in Fig. 1.3. It is evident that there are wide fluctuations in the growth rate of NSDP over the period 1993-94 to 2004-05. Similarly, per capita income of the district varies widely over the period. For sector specific analysis, the entire economy is divided broadly in three sectors, namely, primary, secondary and tertiary sectors and these, in turn, are composed of different activities like, agriculture and allied activities, manufacturing, electricity, trade, transport, financial and other service sectors. The sectoral composition along with the sectoral growth measured in terms of estimates for these macro aggregates indicate the structural movement of the economy.

Table 1.7: Sectoral Contributions to Net State Domestic Product(NSDP): West Bengal vis-a-vis Hooghly District

Sectors	West Bengal			Hooghly District		
	Contribution to NSDP at 1993-94 prices			Contribution to NSDP at 1993-94 prices		
	1993-94	1999-00	2004-05	1993-94	1999-00	2004-05
Primary	35.90	29.75	24.20	34.64	27.01	22.90
Secondary	21.31	21.29	18.65	25.38	25.79	23.25
Tertiary	42.79	46.96	57.15	39.98	47.20	53.85

Source: State Domestic Products, BAE & S, Hooghly, 2006

A close reading of table reveals some important facts about the sectoral aspects of the economy of Hooghly. The share of primary sector has been declining continuously and almost consistently following the state pattern. The contribution of secondary sector which is above the state average shows a sign of decline in 2004-05. On the other hand, the tertiary sector of the economy has experienced a robust growth during 1993-94 to 2004-05. This sector contributes around 54 per cent of the total domestic product of the district. So, Hooghly is moving fast towards the expansion of the tertiary sector of the economy.

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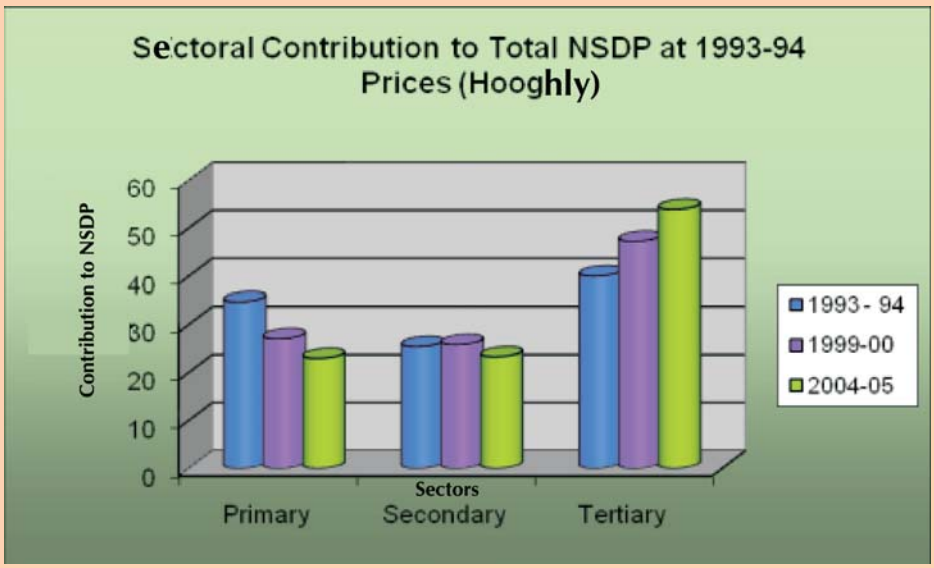
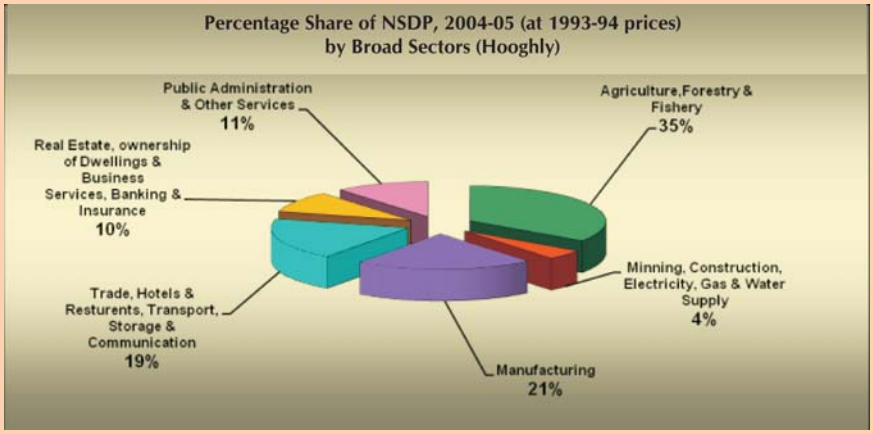
Fig.1. 4: Sectoral Contribution of NSDP in Hooghly District at 1993-94 prices



Source : State Domestic Products, BAE & S, Hooghly, 2006.

Fig. 1.4. depicts the movement in estimates of NSDP at constant (1993-94) prices by three major sectors of the economy.

Fig.1.5: Percentage Share of NSDP, 2004-05 (at 1993-94 prices) by Broad Sectors (Hooghly)



Source : State Domestic Products, BAE & S, Hooghly, 2006.

Sectoral contribution to district domestic product by broad sectors for the year 2004-05 has been shown in Fig. 1.5. It is evident that the sector consisting of Agriculture, Forestry and Fishing contributes as high as around 35 per cent of district income, followed by manufacturing (21 per cent) and Public Administration and others (11 per cent).

In terms of economic indicators of development, Hooghly is a middle income districts in West Bengal. It ranks 5th among 18 major districts of West Bengal and maintains it unchanged rank since 1981(SHDR, 2004). According to BPL survey, 21.61 per cent of the households are lying below poverty level. NSSO, 55th round data reveal that the rural poverty ratio of the district is 20.43 while that in urban areas is 11.43. Urban monthly per capita consumption expenditure is found to be 1.48 per cent higher than in rural areas.

1.7 Current Status of Human Development: India, West Bengal and Hooghly District

Human Development broadly advocates for widening up of people's choice and the attainment of a decent standard of living. Under UNDP framework, three essential choices for the people are: to lead a long and healthy life, to acquire knowledge and to have access to the resources needed for a decent standard of living. Other choices highly valued by many people, range from political, economic and social freedom to opportunities for being creative and productive and enjoying self-respect and guaranteed human rights (HDR, 1990). Since 1990, UNDP publishes Human Development Report every year covering 177 countries of the world; so far we have come across 18 such reports under different themes on Human Development. After UNDP publication, almost all the countries of the world have taken initiatives to prepare the country specific Human Development Report for preparing the blue-print of development planning. In this fray Planning Commission, Government of India, has brought out the National HDR in the year 2001. The National Human Development Report has presented State-wise as well as All India Human Development Indices for 1981, 1991 and 2001. Moreover, to understand the level of Human Development at the State level, India has the largest programme for preparation of Human Development Report at sub-national level. So far 21 States of India have published State Human Development Report and others are in the process of preparation. State Human Development Report documents Human Development achievements and disparities among sub-state administrative units (districts).

India: ranks 128th among 177 countries of the world and belongs to the category of countries with Medium Human Development (UNDP, 2005).

West Bengal: ranks 8th among 15 major States of India (NHDR, 2001)

Hooghly District: ranks 6th among 17 districts of West Bengal in HDI index (SHDR, 2004). Kolkata, Howrah, North-24 Parganas, Darjeeling and Bardhaman are ahead of Hooghly district. In Gender Development Index , Hooghly ranks 3rd among 18 districts of West Bengal, next to Kolkata and Darjeeling.

The first ever Human Development Report published in 2004 gives a clear picture on the relative position of different districts in West Bengal in terms of three major indices of human development. It also ranks various districts of the state in terms of composite human development index.

Table1.8: Human Development Indices for Hooghly vis-a -vis other Districts of West Bengal

District	Health Index	Income Index	Education Index	HDI Value (Composite Index)	HDI Rank
Kolkata	0.82	0.73	0.80	0.78	1
Howrah	0.77	0.53	0.75	0.68	2
North 24-Parganas	0.72	0.49	0.76	0.66	3
Darjeeling	0.73	0.49	0.72	0.65	4
Bardhaman	0.74	0.47	0.71	0.64	5
Hooghly	**0.77(2nd)**	**0.46(5th)**	**0.67(8th)**	**0.63(6th)**	**6**
Medinipur	0.68	0.45	0.74	0.62	7
South 24-Parganas	0.71	0.40	0.68	0.60	8
Nadia	0.65	0.41	0.66	0.57	9
Jalpaiguri	0.61	0.38	0.60	0.53	10
Coochbehar	0.50	0.41	0.65	0.52	11

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Contd.

District	Health Index	Income Index	Education Index	HDI Value (Composite Index)	HDI Rank
Bankura	0.67	0.26	0.62	0.52	12
Dinajpur	0.62	0.39	0.53	0.51	13
Birbhum	0.53	0.27	0.61	0.47	14
Murshidabad	0.57	0.29	0.52	0.46	15
Purulia	0.61	0.18	0.55	0.45	16
Malda	0.49	0.36	0.48	0.44	17
West Bengal	**0.70**	**0.43**	**0.69**	**0.61**	

Source: West Bengal Human Development Report, 2004

Both in terms of composite index and in terms of individual indices, the position of Hooghly district is above the state average. In health index the district occupies second position along with Howrah (next to Kolkata). Among the three individual indices, education index shows poor performance of the district which gives 8th position among 17 districts of the State. The income index awards 5th rank justifying its position among middle income district of the State.

1.8 Strength Weakness Opportunity & threat (SWOT) Analysis: - Hooghly District

District Human Development Report attempts to capture the sub-district level variations so as to prepare the blue-print of balanced human development strategy for the district ensuring people's participation at the grass root level. It is therefore necessary to identify the areas of strength, weakness, opportunity and threat of the district to focus on human development issues for suggesting appropriate policy intervention to evolve a balanced and sustainable human development strategy for the district. .

1.8.1 Strength

Major area of strength of the district is its fertile soil and diversified agriculture. The agro climatic conditions of the district are suitable for multiple crops which are grown throughout the year. The net sown area of the district was 219.73 (000 'ha) in 2004-05, while the gross cropped area was 525.97(000'ha). This signifies that cropping intensity is 240 per cent, which is an indication of prosperous agriculture. In fact, the adoption of green revolution strategy in the 1980's and the successful implementation of Land Reforms Policy have led a very high growth of agricultural production and productivity in the district. Given the fertile alluvial soil of the district and along with irrigation facilities multiple crops are grown throughout the year. Arambagh, Champadanga, Tarakeswar are potato grown areas. If Buardwan District is known as Granary of Paddy, then Hooghly is very rich for the production of Potato. "Chandramukhi" Potato is abundantly grown in Chandannagar, Arambagh, Champadanga & Tarakeswar of this district. Potato based industry is under consideration of the district. Apart from agriculture, another potential area of strength of the district is the possibility of industrialization. In Hooghly, there are 3 major large industries with ancillaries and some other small industries that have formed a growth centre around Uttarpara, Rishra, Serampore, Shoraphully, Mogra, Chinsurah and Pandua. In order to derive the benefits of flexible specialization through a clustering mode having the facility of multipurpose machinery, multi-skilled labour force, customized product, broad based market demand and use of local inputs, it is desirable that extension and promotion of small and medium industries may be undertaken in hitherto neglected sites other than the existing growth centers. Recent drive in this direction has been underneath that specifies specifying further growth sites covering

Sheakhala (Chanditala 1), Makla (Serampore-Uttarpara), Khalisani (Singur),Sugandha (Polba-Dadpur), Tribeni (Chinsurah-Mogra), Jirat(Balagarh), Khanyan(Pandua), Champadanga (Tarakeswar), Arambagh(Arambagh),Kamarpukur(Goghat-II) and Jangipara(Jangipara). The SSI sector of the district comprises of vast range of productive activities. The small units consists of Rice Mills, Cold Storages, Brick fields, Rolling Mills, Cattle/Poultry feed, Ice Block/Ice Candy, Paints and Varnish, Plastic products, Rubber moulded items, Bakery, Wire drawing, Casting of non-ferrous/ferrous, PVC rigid pipe, Computer, Hatchery, Mustard Seed crushing, Spice grinding, Electronic items etc. This district offers a great scope for the development of industries especially in the Agro-based items. Weaving is an important traditional industry in Hooghly. There are a number of weavers, co-operatives which often function along the line of subcontracting. In the arena of green energy growth and proliferation there have been commendable performance in Hooghly district. Biogas is recognized as a first step to change the rural energy scenario by providing clean, cheap and convenient fuel for both cooking and lighting purposes.

The third dimension of strength of the district is its human capital and skilled labour force. The extent of skilled labour force is measured by the magnitudes of human capital formation. In respect to formation of human capital, this district is well advanced compared to state average. The literacy rate of the district is 80.5 percent (in 2008) compared to the state average of 68.64 per cent. The district has a strong foundation of education with 3096 Primary Schools, 365 Secondary Schools, 192 Higher Secondary Schools, 24 numbers of General Degree Colleges, 348 SSK and MSK, 7 AIE Centers, 2 Engineering Colleges and 2 polytechnics and 1 ITI. The only Survey Institute in West Bengal is situated at Bandel in this District. Moreover, hundreds of private educational institutes including Missionary schools, Sanskrit tolls, Madrassas and many private general and engineering colleges are operating in the state to generate skilled labour force of the district. The level and extent of human resources of the district can be guessed from the classification of workforce and the sectoral engagement of workforce. Out of total population of 5041976 (as per census, 2001), total number of workers is 1859487 constituting workforce participation rate to the level of 36.88 per cent. Among total workers 82.18 per cent are main workers while 17.82 per cent are marginal workers. Main workers are usually skilled workers who contribute significantly to the economic wellbeing of the district. Among total workers, major proportions of workers are engaged in the secondary and tertiary sectors of the economy. Handlooms industry has gained a place of pride in Hooghly district. Many skillfull artisans are engaged in this profession. Dhaniakhali and Begampur are famous places of the district for handloom activities. Moreover many workers are engaged in the electrical works in Chandannagar sub-division of the district whose expertise in festival lighting is famous in the country. Another area of strength of the district is its connectivity with other parts of the states and the country. The district is only 40 km. away from the state capital and well connected by railways, road, water communication services. In Eastern Railway, Howrah - Bandel Main Line, Howrah - Burdwan Cord Line, Howrah - Tarakeswar Main Line, Naihati - Bandel Main Line & Howrah - Katwa Main Line passes through this district. Tarakeswar - Bishnupur Broad-Gauge Line is under construction. In near future, Arambagh and its adjacent areas will also be included in Railway Map of this District. Moreover, G.T. Road and Durgapur Expressway passes through this district.

1.8.2 Weakness

Duality in development is a common phenomenon in Indian development experience. In spite of concerted efforts, there are certain grey areas of development. The major areas of weakness that have been identified in the district are the followings: Overall 21.61% (approx.) of the households of the district are under BPL category. Antodaya Anna Yojana, Annapurna Anna Joyona have been introduced to feed the BPL families to emancipate them from hunger. SHGs have also been formed for the economic empowerment of BPL families. But unfortunately the achievement in this regard is far below the target. Moreover, in spite of having a strong foundation of education in the district, still around 20 per cent of the population of the

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district is illiterate. Health hazards is another dimension of weakness of the district in the socio-economic spheres of development. Several diseases like Diarrhoea, TB pose a major problem in some parts of Chinsurah-Mogra & Chanditala - I Block. Moreover, Leprosy Patients have also been identified in the ST dominated belt of Arambagh & Goghat - I Block. Carriers of HIV (+) diseases by the jewllery workers in Chanditala - I, Khanakul, Pandua Blocks have created an environment of fear amongst the local people of the said blocks. Immunization problem in Furfura under Jangipara & Haripal Blocks appears to be a great threat to eradicate the disease like polio among the children of this district. Finally, social and gender discriminations is prevalent in the district to a significant extent, gap exists in immunizing children, maternal health care services, in providing access to safe drinking water and sanitation programme.

1.8.3 Opportunities

There are several opportunities in the district which, if tapped effectively, would form potential growth promoting activities that would in turn give momentum to the development process. Due to suitable agro-climatic condition of this district, Potato cultivation of the special variety like "Chanrdamukhi" Potato, is grown in a large extent. But due to lack of adequate storage facilities, farmers are deprived to reap considerable profits due to distress sell of the potatoes. Due to this problem of preservation, every year large quantities of potatoes are spoiled. It is an undeniable fact that there is enough potential for Potato based Food Processing Industry in this district. Similarly, there are enough scopes for the development of medium, small and cottage industries of the district. Hooghly district has great potentiality for the expansion of activities in Medium -Small Scale & Cottage Industries with a very good employment opportunity amongst the young generation of this district where there is no dearth of skilled manpower. The industrial belts from Chinsurah to Uttarpara are adjacent areas of Kolkata creating marketing opportunity of the products of the said industries. The India famous Dunlop Rubber Factory, Hindustan Motors, Tribeni Tissues, Kesoram Rayon, Jayashree Textiles & other Industries are situated in this district. The famous 'Handloom made Sarees' of Dhaniakhali & Begumpur are very popular amongst the women throughout the country. Moreover, the famous Electrical Decoration Industry of Chandernagore is very popular all over India and in abroad too. Another important potential areas of development in the district is the Cultural Tourism. Hooghly is a culturally affluent district in West Bengal. Backed by the deep rooted cultural heritage, historical monuments, sacred places, temples, spiritual centres, attract tourists to the district. The important tourist destinations of the district are: Muslim Imam-bara("meeting place"), Bandel (Portuguese)church, Hansweswari temple at Banshberia, Nandadulal Mondir at Lal Bangal, Jagaddhhtri Puja of Chandannagar, Tarakeshwar Temple, Radhanagar, Devanandapur, Birth place of Sarat Chandra Chattopadhyay etc. Cultural Tourism has an important bearing on the economic and social lives of the people and hence on human development of the district.

1.8.4 Threats

Almost in every year the district is affected by flood in major areas of Khanakul - II, Khanakul - I, Arambagh Sub-division & Tarakeswar & Balagarh Blocks under Chandernagore & Sadar Sub-division. Specially Khanakul - I & Khanakul - II remain water logged for a long days due to heavy rainfall as well as due to discharge of DVC water through Damodar, Mundeswari, Darakeswar rivers only for their low topography. This miserable flood situation in this district causes ample miseries to the local people increasing the death toll of both human being as well as animal population every year. In this context, Disaster Management Programme has already been taken to minimize the threat of flood in this district. The erosion of river Hooghly (Bhagirathi) is a burning problem along the river side from Balagarh to Uttarpara of this district. In the meantime, major areas of Balagarh Block have been engulfed by Hooghly river. Moreover, Balagarh Block of this district has been declared as Arsenic Prone area in Chandrahati & Dumurdaha G.Ps.

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Table1.9: Strength, Weakness, Opportunity and Threat Areas of Hooghly District

Strength	Weakness
• Agriculture· • Industry • Human Resources • Connectivity	• Poverty(still around 21.61 per cent of population is lying below poverty line) • Illiteracy(Around 20 per cent of population are illiterate) • Social and Gender Discrimination • Gap exists in immunizing children, maternal health services, in providing access to safe drinking water and sanitation programme
Opportunity	**Threat**
• Spread of Non-farm activates • Promotion of SHGs and empowering women • Expansion of small and medium scale industries specially the agro-based industries • Cultural Tourism	• Flood and Human Miseries • Erosion of River Hooghly (Bhagirathi).· • Arsenic Prone Area • Illegal Migration • Degradation of Natural Environment

1.9 Thrust Areas of Study: Concept, Motivation and Scope

The District Human Development Report of Hooghly addresses the issues which have important bearings to accelerate the pace of human development of the district. On the basis of the SWOT analysis, the following thrust areas have been identified which are considered to be the major determinants of the level of human development in the district:

1.9.1 Livelihood Opportunity, Poverty and Deprivation:

The human development paradigm considers the livelihood opportunity as one of the major indicators of development. Along with economic development, the establishment of grass root decentralized democracy in the form of 3-tier Panchayat system, implementations of government sponsored rural development schemes, and more importantly, introduction of Land Reform in the form of Operation Barga in West Bengal , there have emerged a significant changes in the pattern of rural livelihood in Hooghly district in recent years. These are reflected in the dynamic changes in the occupational pattern and the workforce participation rate. Hooghly district with a substantial stretch of fertile land has fared rather well in the agricultural front and further rise in productivity in the rural sector is unlikely to be paralleled by the existence of tremendous potential of diverse type of industrial expansion. The district of Hooghly being adjacent to the saturated industrial hub in Howrah with a developed agricultural status, there is a natural trend of extension of mostly medium and small scale industries in the district. This district offers a great scope for the development of modern industries especially in the Agro-based and weaving items.

On the other hand, inequitable livelihood opportunities result in the deprivation and destitution of people. Deprivation or inequality implies the state of not having the resources, opportunities and benefits that other people in the society have. On the other, destitution or poverty can be defined as the inability of a section

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of the society to fulfill even its basic necessities of life. These two economic phenomena are closely related: one being the cause as well as effect of the other. Under the circumstances, the study explores the dynamics of changes in the pattern of rural livelihood in Hooghly district with specific focuses on the following dimensions of livelihood issues: agriculture, industry, non-farm activities, the extent of poverty - income poverty, human poverty, etc

1.9.2 Education

Education is one of the key components of human development index. Due to early European settlement, this part of the state came in touch with modern educational system way back in 15th century. Consequent upon early educational establishment, the performance of the district is much better than the state average in terms of educational achievement. The efforts of the Government of West Bengal and the successful implementation of centrally sponsored schemes in spreading education in the district have brought significant achievements in attaining the targets of Millennium Development Goals. Still, around 20 per cent of population of the district is illiterate. Gap exists in respects of targets and achievements especially among various social groups (gender, caste, religion) in the formation of human capital. In this context, this sub-theme deals with the educational development in Hooghly district focusing on levels and trends in literacy and schooling, supply factors like schools, teachers, and physical infrastructure. It also sheds some lights in respect of impact assessment of some policy interventions like ICDS, SSA, SSKs, and Mid-day Meal schemes.

1.9.3 Health

Nobody would deny that a healthy community is the infrastructure of building an economically viable society. Sound health is the precondition for human development process to roll on smoothly, irrespective of caste, creed, religion and region. This document captures the current status of health and human well-being in Hooghly district. The areas identified as being important in health and human well-being in Hooghly district are: health care system, public health services, health infrastructure, Infant/Child Mortality, burden of diseases, emerging and re-emerging diseases, communicable diseases such as HIV/AIDS, malaria etc. Under human development paradigm, life expectancy at birth is considered as an important indicator of health status of the people of the region. Attempts have been made to construct the life table for the district using age specific mortality rate for analyzing the quality of health of the people of the district.

1.9.4 Gender and Other Vulnerabilities

Gender discrimination leads to vulnerabilities in various dimensions of human well beings. It is often observed that women, particularly, lag behind their male counterparts in many aspects. However, the development is incomplete if female population lack proper education, health care and economic independence and is also socially less acceptable than their male counterpart. Bridging the gap between men and women, especially in terms of economic independence and social empowerment, is one of the most important targets of development planning. Recent movement of the formation of SHGs to combat the challenge of gender discrimination and empowering women is undoubtedly yielding results. Other than gender vulnerability there are other human vulnerabilities which affect the level of human development like old age vulnerability, disability, homelessness, poverty etc. An attempt has been made under this sub-theme to examine the level and extent of gender discrimination and other human vulnerabilities that prevail in socio-economic spheres of Hooghly district.

1.9.5 Resources, Environment and Natural Vulnerabilities

The maintenance of human well being is ultimately linked with preservation and upkeep of the natural resources (like land, air, water, river, forest) which provide multifarious functions for economic production and life support. All human efforts need to be oriented towards preserving the status of the eco-system and prevent possible drift towards vulnerability. The major natural threats in the district are: recurrent floods,

the erosion of river Hooghly (Bhagirathi) and ever increasing pollution. In the district of Hooghly there are some regions endowed with rich forest resources. Forest resources provide enormous indirect benefits in the form of carbon sequestration, protection from the impact of storms, maintenance of biodiversity and habitat, checking of soil erosion etc. The direct benefit of timber and non timber forest products are very much tangible. Deforestation of any type leads to loss of these benefits and in green accounting sense reduces the DDP. Scarcity as well as contamination of this resource aggravates various health hazards and creates problem for agriculture. Protection of environment is the ultimate aim of sustainable development. Under the circumstances, it is desirable to look into the state and problem of maintenance of various natural resources including the problems of river erosion and pollution in Hooghly district of West Bengal, which have direct bearings on the eco-system services related to the wellbeing of the inhabitants in the district.

1.9.6 Cultural Tourism

Tourism is one of the fastest growing industries of the world in the 21 century. It has emerged as one of the major sources of employment and foreign exchange earnings for many developing countries, including India. Hooghly is an important district in the tourism map of West Bengal. Historical monuments, sacred places, temples, spiritual centres of the district attract tourists from various parts of the country and abroad. The important tourist destinations of the district are: Muslim Imam-bara("meeting place"), Bandel(Portuguese)church, Hansweswari temple at Bansberia, Nandadulal Mondir, Tarakeshwar Temple, Radhanagar, Devanandapur, Birth place of Sarat Ch. Chattopadhyay etc. Cultural Tourism has an important bearing on the economic and social lives of the people and hence on human development of the district. It is thus desirable to looks into the core cultural competency of the district for identifying the comparative and competitive advantages of the area in terms of tourism development vis-a- vis other places of the state.

1.10 Organization of District Human Development Report, Hooghly

The report contains with eight chapters. Chapter I entitled **Introduction and Human Development Indices for Hooghly District** outlines the unique features of the district and conceptualizes the human development issues of the district. It also highlights the level of human development of the district in terms of composite human development index. **Chapter II** entitled **Economic Wellbeing: *Livelihood Opportunity, Poverty and Deprivation*** provides an overview of the livelihood status of the people of the district. It focuses economic performance of the district and measures the level and extent of income and human poverty and deprivation. The chapter broadly argues that expanding productive employment and livelihood is central for sustained poverty reduction and for enhancing human development. **Chapter III** deals with **Human Development and Capacity Building: Education**. This chapter assesses the status of education in Hooghly district in terms of educational infrastructures, educational achievements of the people, and the disparity of achievements across regions and social groups, and the various programmes implemented in recent times to uplift capacity building of the people. It also depicts the current position of the Hooghly district in terms of achieving the Millennium Development Goals. **Chapter IV** entitled **Health Status: Longevity of Life** examines various aspects of health in Hooghly district and constructs the life table to ascertain the health conditions of the people. The areas identified as being important in health and human well-being in Hooghly district are: health care system, public health services, health infrastructure, Infant/Child Mortality, reproductive health of mother, burden of diseases, emerging and re-emerging diseases. **Chapter V** deals with **Gender, Empowerment and Human Vulnerability.** This chapter highlights the status of women in the socio economic ladder of development in the district and the nature of human vulnerabilities. Exploring the gender discriminations in social and economic fronts, the chapter focuses on women's empowerment through SHG formation and the extent of human vulnerabilities. **Chapter VI** entitled **Resources, Environment and Natural Vulnerabilities** examines the importance of natural resources and environment in enhancing human development and the quality of life. **Chapter VII** solely devotes to district specific dimension of

Final Proof

Human Development entitled **The Cultural Tourism in Hooghly District.** Historically, Hooghly is historically a culturally affluent district in West Bengal. This chapter explores the problem and prospect of tourism in Hooghly district and its impact on Human Resource Development. **Chapter VIII** presents the summary of the report and makes the policy suggestions so as to prepare the road map to achieve all-round sustainable human development in the district of Hooghly.

1.11 Composite Index of Human Development of Hooghly District

The broad indicators of human development namely livelihood opportunity, education and health have been dealt separately in three different chapters (chapter II, III and IV) and accordingly various sub-divisions, blocks and urban bodies of the district have been ranked in terms of level of achievements in those indicators. A composite human development index has been constructed based on the above parameters of human development for ranking various blocks and Municipalities in terms of composite human development index. This would enable us to identify the gaps in human development parameters at the sub-district level to make suggestions for appropriate policy interventions for achieving balanced human development of the district. However, due to non-availability of segregated data especially in health indicators at Municipality level, the composite HDI has been constructed at the block and district levels. The detailed methodology of constructing Human Development Index of Hooghly district is given in technical appendix (chapter I). District Hooghly lies in the middle of human development ladder of West Bengal (SHDR, 2004), but there are substantial variation regarding the indices of human development at the sub-district units viz Sub-divisions and Blocks.

Table 1.10 : Composite Index of Human Development of Hooghly District

Block	Livelihood index	Rank	Health index	Rank	Education index	Rank	HDI	Rank
Dhaniakhali	0.30	10	0.35	8	0.63	5	0.43	6
Pandua	0.19	14	0.33	9	0.53	10	0.35	9
Balagarh	0.30	10	0.30	10	0.39	15	0.33	11
Chinsurah-Mogra	0.36	7	0.65	1	0.52	11	0.51	3
Polba-Dadpur	0.35	8	0.29	11	0.39	15	0.34	10
Tarakeswar	0.38	6	0.47	6	0.63	5	0.49	4
Haripal	0.43	2	0.36	7	0.50	12	0.43	6
Singur	0.50	1	0.49	4	0.89	1	0.63	1
Jangipara	0.35	8	0.60	2	0.43	14	0.46	5
Chanditala-I	0.40	4	0.55	3	0.60	7	0.52	2
Chanditala-II	0.39	5	0.48	5	0.68	3	0.52	2
Serampur-Uttarpara	0.42	3	0.30	10	0.32	16	0.35	9
Goghat-I	0.28	11	0.30	10	0.61	6	0.40	7
Goghat-II	0.27	12	0.30	10	0.81	2	0.46	5
Arambagh	0.28	11	0.19	13	0.59	8	0.35	9
Khanakul-I	0.27	12	0.27	12	0.58	9	0.37	8
Khanakul-II	0.21	13	0.19	13	0.65	4	0.35	9
Pursurah	0.33	9	0.30	10	0.48	13	0.37	8
Hooghly	**0.36**		**0.38**		**0.65**		**0.46**	

Source : Computed in Chapters.

Final Proof

It is evident from the above table that there are wide variations across the blocks in terms of composite human development index. Human Development Index ranges from a high of 0.63 for Singur to a low of 0.33 in Balagarh of Hooghly district.

Map 1.3 : Composite Index of Human Development of Hooghly District

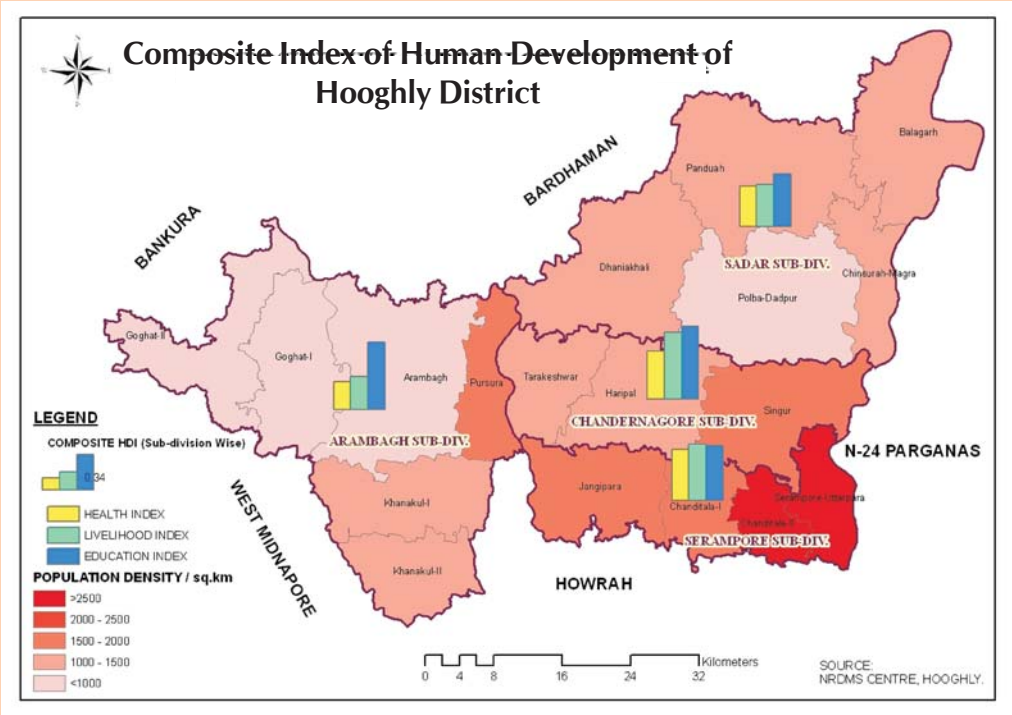
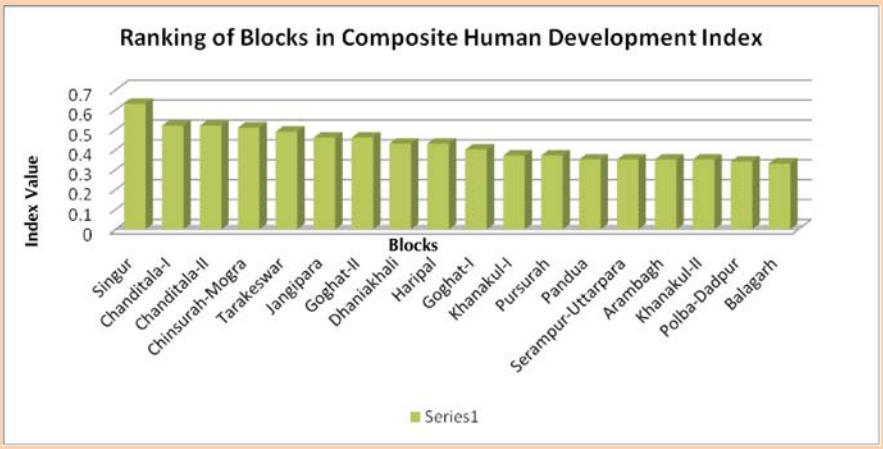


Fig. 1.6 Ranking of Blocks in Composite Human Development Index



Source : Table 1.10.

In terms of composite human development index, the first five blocks having better ranks in district human development ladder are: Singur, Chanditala I, Chanditala II,Chinsurah-Mogra and Tarakeshwar, while the first five blocks having lower ranks are: Balagarh, Polba-Dadpur, Khanakul II, Arambagh, and Serampur-Uttarpara. Sub-division wise, Chandannagar sub-division is at the top of human development ladder of the district followed by Serampore Sub-division and Sadar Sub-division. Arambag is the laggard Sub-division in terms of human development indicator.

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Chapter V broadly deals with gender issue. However, to examine the relationship between human development and gender development a gender parity index as constructed in chapter V has been presented in the table below.

Table 1.11: Gender Parity Index

Block	Social PI	Eco PI	Edu PI	Health PI	Gender PI	Rank
Dhaniakhali	0.78	0.58	0.5	0.39	0.56	14
Pandua	0.81	0.69	0.58	0.41	0.62	9
Balagarh	0.66	0.72	0.42	0.29	0.53	17
Chinsurah-Mogra	0.56	0.86	0.51	0.38	0.58	12
Polba-Dadpur	0.77	0.56	0.45	0.39	0.54	16
Tarakeswar	0.68	0.63	0.37	0.77	0.61	10
Haripal	0.83	0.36	0.31	0.56	0.52	18
Singur	0.81	0.74	0.6	0.57	0.68	3
Jangipara	0.80	0.40	0.52	0.70	0.61	10
Chanditala-I	1.00	0.26	0.83	0.43	0.63	8
Chanditala-II	0.71	0.59	0.74	0.53	0.64	7
Serampur-Uttarpara	0.61	0.74	0.69	0.55	0.65	6
Goghat-I	0.68	0.33	0.21	0.35	0.39	22
Goghat-II	0.67	0.09	0.16	0.25	0.29	24
Arambagh	0.67	0.62	0.39	NA	0.56	14
Khanakul-I	0.78	0.10	0.42	0.16	0.37	23
Khanakul-II	0.97	0.00	0.33	0.36	0.41	21
Pursurah	0.68	0.62	0.38	0.50	0.55	15
Hooghly-Chinsurah(M)	0.72	0.98	0.80	0.47	0.74	1
Bansberia(M)	0.41	0.86	0.52	0.62	0.60	11
Tarakeswar(M)	0.39	0.77	0.38	NA	0.52	18
Bhadreswar(M)	0.17	0.90	0.50	0.56	0.54	16
Champadani(M)	0.00	0.93	0.25	0.73	0.48	20
Chandannagar(MC)	0.58	0.94	0.50	0.54	0.64	7
Serampur(M)	0.37	0.95	0.68	NA	0.67	4
Rishra(M)	0.10	0.83	0.33	0.72	0.50	19
Baidyabati(M)	0.55	0.94	0.83	0.34	0.66	5
Konnagar(M)	0.49	1.00	0.61	0.59	0.67	4
Uttarpara-Kotrang(M)	0.50	0.97	0.88	0.41	0.69	2
Arambagh(M)	0.69	0.89	0.39	0.33	0.57	13
Hooghly	**0.66**	**0.54**	**0.56**	**0.60**	**0.59**	

Note: Social PI: Social Parity Index; Econ PI: Economic Parity Index. Edu PI: Education Parity Index; Health PI: Health Parity Index, and Gender PI: Gender Parity Index. NA = Not Applicable

Source : Computed in Chapter V.

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It is interesting to note that ranking of the blocks in terms of Gender Parity Index follow almost the same pattern as the ranking in terms of composite human development index. This clearly suggests that in Hooghly district along with socio-economic development women folk are catching up the developmental benefits almost at the same pace as the male folk. It is interesting to note that the higher value of composite human development index is associated with the higher value of Gender Parity Index. Serampur is the only mismatch in this regard. In fact, lower rank of Serampur-Uttarpara block in terms of human development index is really unfortunate and it is mainly due to the weak health status. The first five best blocks in terms of Gender Parity Index are: Singur, Serampur, Chanditala II, Chanditala I and Pandua, while five blocks having lower values of Gender Parity Index are: Goghat II, Khanakul I, Goghat I, Khanakul II and Haripal.

Map1.4: Combined Gender Parity Index

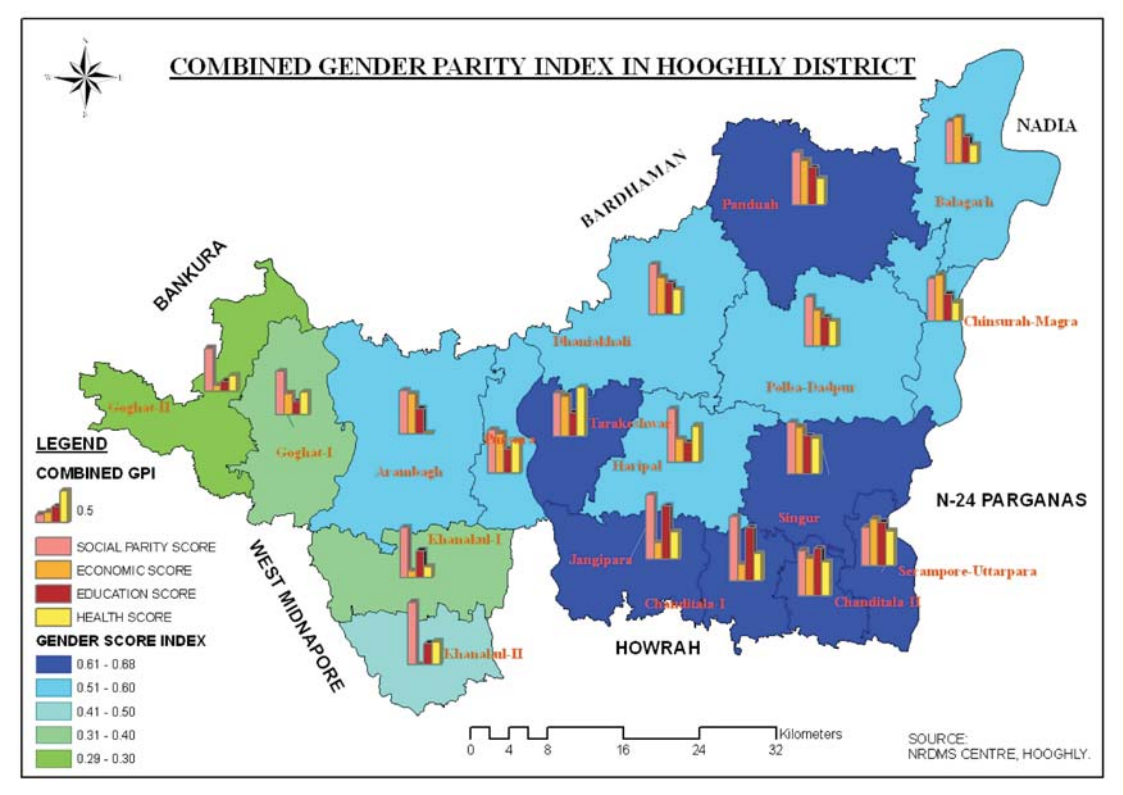
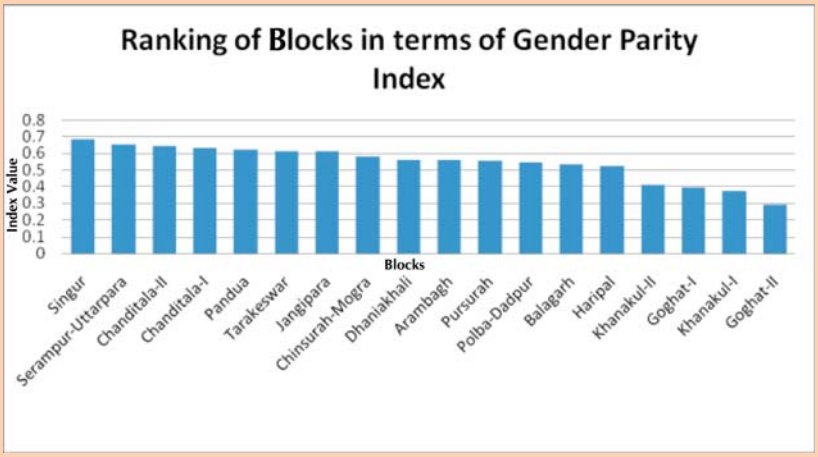
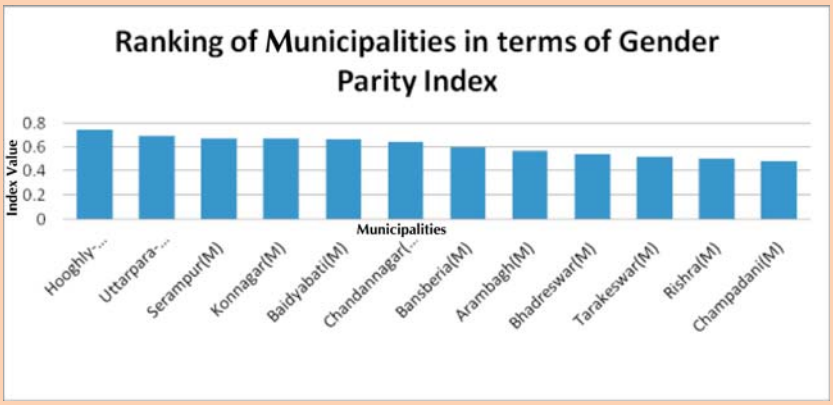


Fig.1.7: Ranking of Blocks in terms of Gender Parity Index



Source : Table 1.11.

Fig.1.8: Ranking of Municipalities in terms of Gender Parity Index



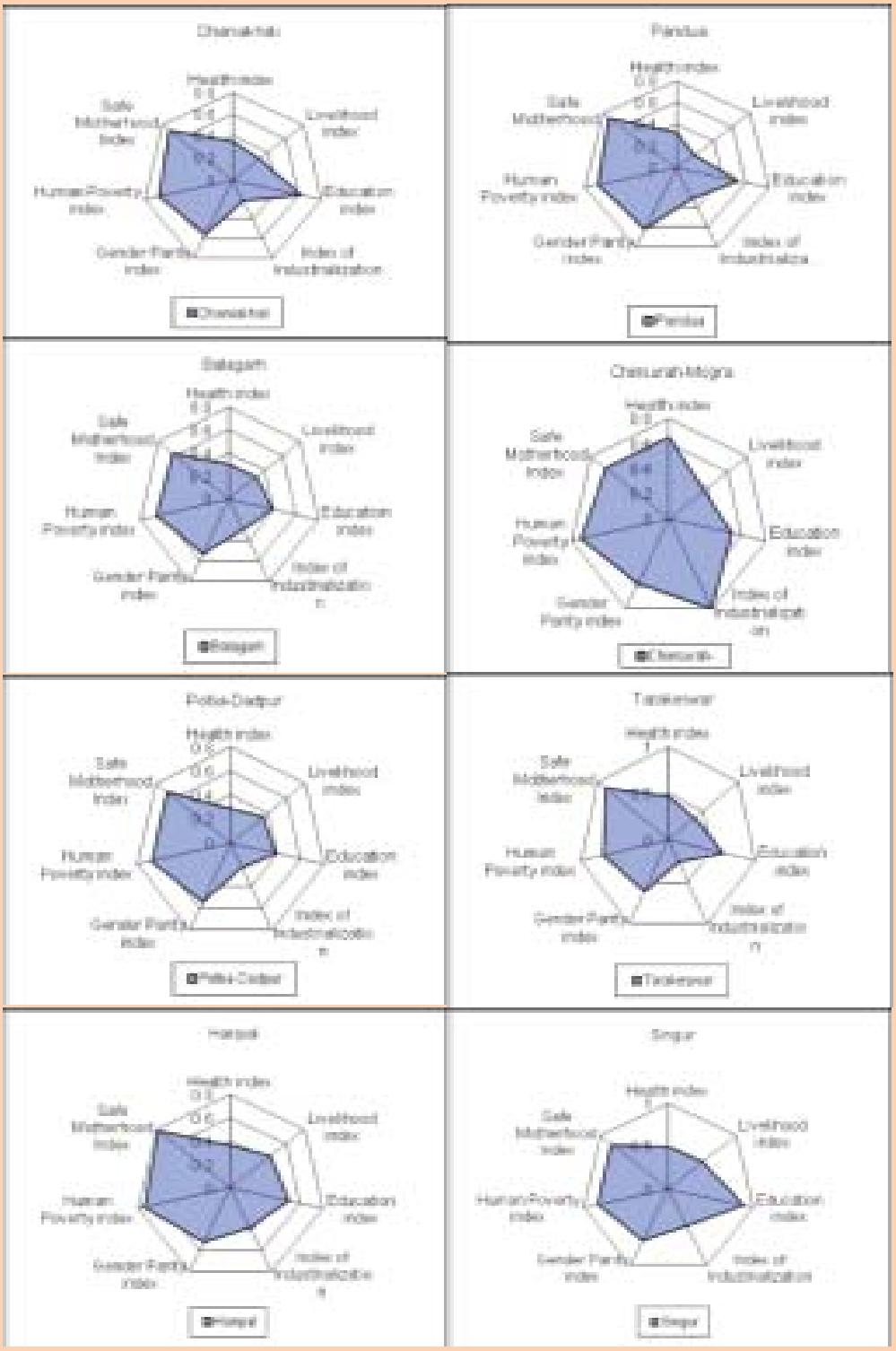
Source : Table 1.11.

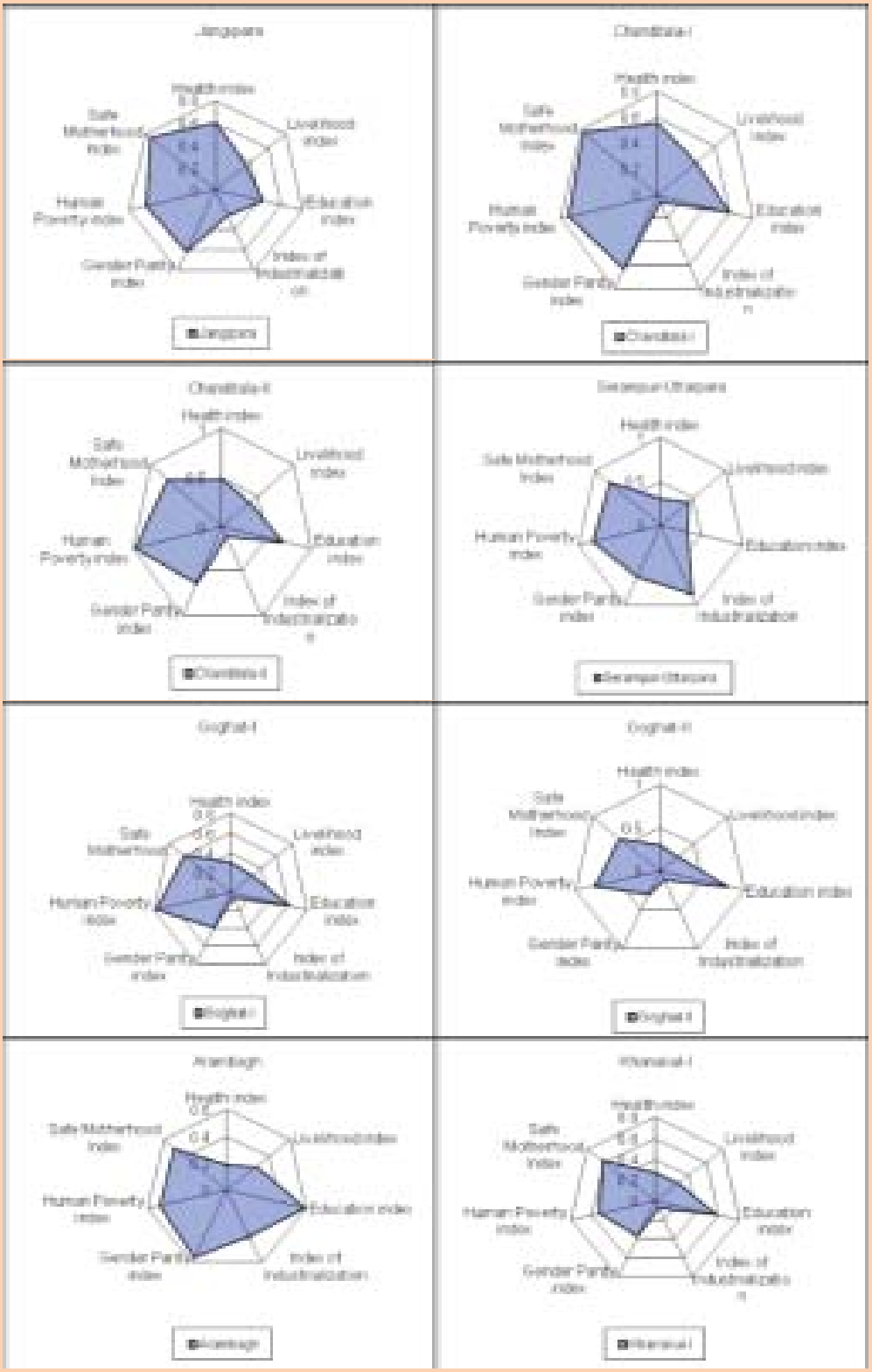
1.12 Social Development Radar

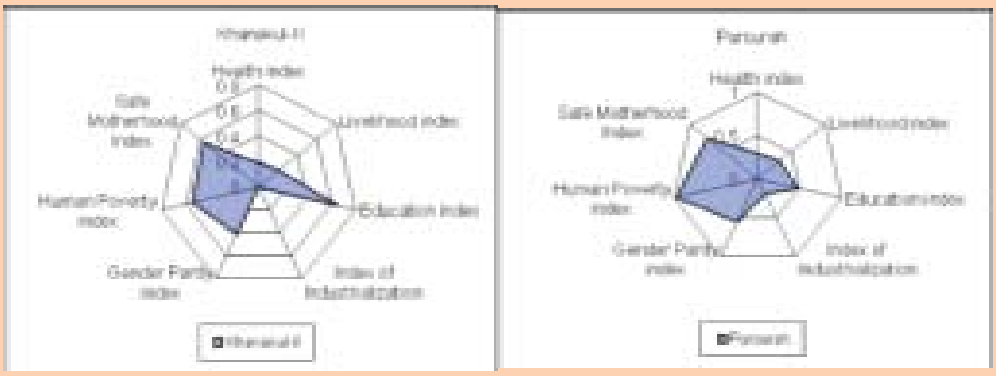
The district of Hooghly has achieved a considerable degree of social development during the planning era especially in the last three decades of development planning. However, intra-district variations in the achievement of human development are evident from sub-district level variations in social development indicators. An attempt has been made in this section to provide pictorial presentation of the achievement of social indicators across various sub-district units namely blocks using social development radar. Social development radar shows even a broader dimension of development than the human development index. Composite Human Development Index considers only three indicators of development. Social development radar is capable of incorporating context specific development indicators as well as indicators of deprivation.

To capture of status of social development we have chosen seven indices of socio-economic indicators of development of district of Hooghly: Livelihood index, Health index, Education index, Gender parity index, Human Poverty index (reciprocal), Index of Industrialization, and Safe Motherhood index. The components and methods of constructions of these indices are discussed in details in technical appendix (Chapter I). The status of social development in various blocks of Hooghly district is presented below in terms of social development Radar.

Social Development Radars




Health index
Livelihood index
Education index
Index of Industrialisation
Gender Parity index
Human Poverty index
Safe Motherhood Index



It is evident that Singur, Chinsurah-Mogra, Serampur, Tarakeswar and Chanditala I & II blocks occupy higher position in the Social Development Radar of the District whereas the laggard blocks have been identified as Khanakul II, Goghat I, Goghat II, Khanakul I, Balagarh and Poalba-Dadpur. It is interesting to note that Singur block is found to occupy the top position both in human development index and in social development rader.

Technical Appendix

We have constructed several indices specially to highlight the level of variations of human development indicators at the sub-district level. Moreover, to provide a pictorial presentation of the degree of social development we have constructed the social development radar.

Construction of District Human Development Index

In UNDP approach, the HDI is a simple average of the three indices reflecting three dimensions of Human Development namely per capita income, literacy rate & gross enrolment ratio and the life expectation at birth. One of the major problems of constructing district human development index is the non-availability of appropriate data at the district level. It is thus necessary to choose some proxy variables for the construction of District Human Development Index. However, there is wide variability among districts with respect to their resource base, economic activities, health and education services etc. It is thus desirable to evolve some common modalities for preparing district development reports so as to make them comparable. In this context, Jeta Sankrityayana , Member/SPB& WBSSPHD-Empowered Committee and Lead Coordinator, Malda, DHDR ,evolved a common methodology for preparing District Human Development reports in West Bengal. Hooghly Human Development Report has followed the same line of methodology to the maximum possible extent. However, in view of the non-availability of relevant data, district specific methodology has been adopted wherever it felt necessary.

In District Human Development Index, Hooghly, the following indices have been constructed:

(1) Livelihood Opportunity Index

Step-1: Construction of Employment Index

Components of Employment Index

(i) Total workers as percentage of total population i.e. work participation rate is taken as one of the components of livelihood index (P1), (ii) The proportion of main workers to total workers (P2). These two components are combined using data driven weights following Principal Component Method to arrive at an employment index.

Step-2: Construction of Asset Ownership

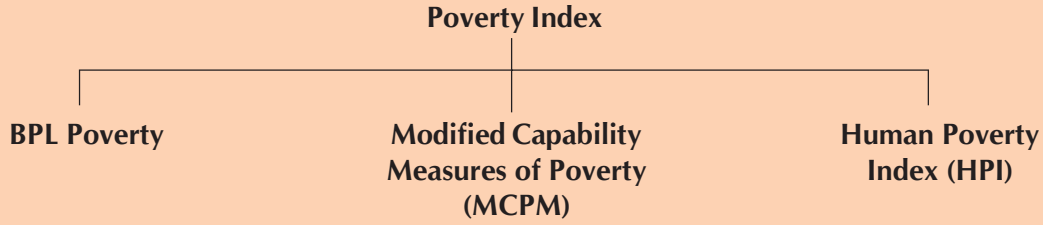
Components of Asset Ownership

(i) Proportion of households having at least one of the assets (television, ratio, telephone, scooter, motor cycle etc.)(P3) (ii) Proportion of households possessing houses with electric connection (P4), (iii) the proportion of households possessing houses with separate toilets (P5). These three components are combined using data driven weights through Principal Component Method to arrive at an asset index.

Step-3: Construction of Composite index of Livelihood Opportunity (CLI)

Combining both employment index and asset index, a composite index for livelihood opportunity has been constructed by taking a simple average of the indices.

(2) Poverty Index



Step-1: Construction of Human Poverty Index

Components of Human Poverty Index

(i) % of female illiteracy, (ii) % of Non-institutional delivery,(iii) % of agricultural labourers the human poverty index, H is constructed using the methodology suggested by Anand

and Sen (2003) ; where $H = [(1/3)\ p1^{\alpha} + (1/3)\ p2^{\alpha} + (1/3)\ p3^{\alpha}]^{1/\alpha}$

Components of Capability Measures of poverty

(i) Deprivation from capability for healthy reproduction, represented by the proportion of births unattended by trained health persons(P1) ,(ii) Lack of capability to be well nourished and healthy, represented by the proportion of underweight children (P2), (iii) lack of capability to be educated and knowledgeable, represented by female illiteracy' (P3).

Step-1: Construction of Human Poverty Index

Components of Human Poverty Index

(i) % of female illiteracy, (ii) % of Non-institutional delivery,(iii) % of agricultural labourers

the human poverty index, H is constructed using the methodology suggested by Anand

and Sen (2003) ; where $H = [(1/3)\ p1\mu + (1/3)\ p2\mu + (1/3)\ p3\mu]1/\mu$

Components of Capability Measures of poverty

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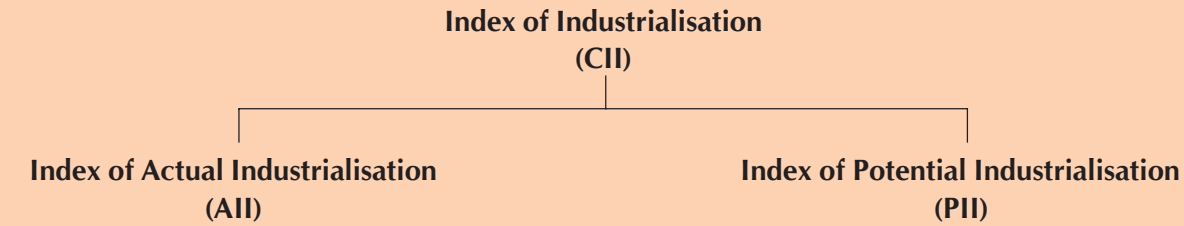
(3) Index of Industrialisation



Step-1: Construction of Index of Actual Industrialisation (I_1)

Components of Actual Industrialization:

(i) Proportion of household industry worker to total worker, (ii) No. of employment in MSSE,(iii) Total industrial production (Khadi), (iv) Average productivity

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The index of Actual Industrialization (AII) has been constructed using Principal Component Analysis (PCA) following data driven weightage system.

Step-2: Construction of Index of Potential Industrialization (I2)

Components of Potential Industrialization:

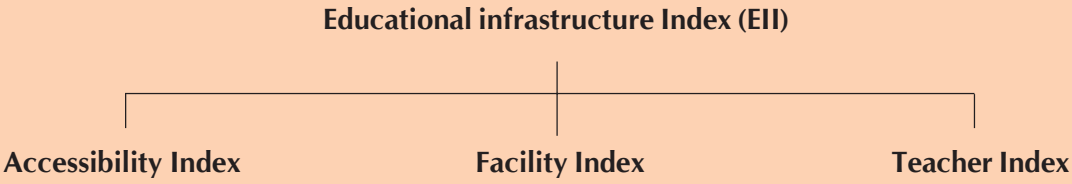
(i) Percentage of Mouzas electrified(electric),(ii)Percentage of road length to total area(Road density), (iii)Proportion of population served by bank (reciprocal),(iv) Rail-road connectivity(reciprocal of the distance of Block head quarter from nearest railway station

Step-3: Construction of Combined Industrial Index (CII)

$$CII = (a \times AII + b \times PII)/(a + b)$$

Where a and b are data driven weights derived using PCA

(4) Educational Infrastructure Index



Step-1: Construction of Accessibility Index

Components of Accessibility Index:

(i) Distance of primary school from the village, (ii) Distance of secondary school from the village,(iii) Distance of college from the village

Step-2: Construction of Facility Index

Components of Facility Index:

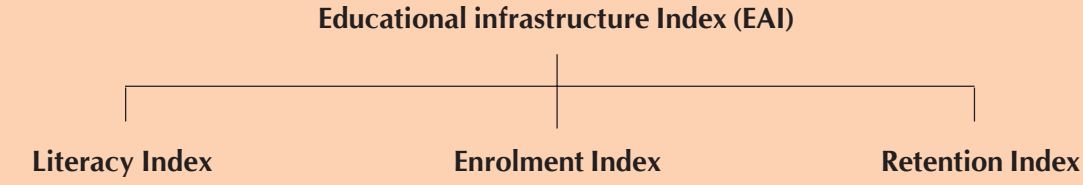
(ii) Pucca building, (ii) Drinking water, (iii) Sanitation facilities,(iv) Blackboard in class room,(v) Average floor area per student,(v) Teacher strength

Step-3: Construction of Teacher Index

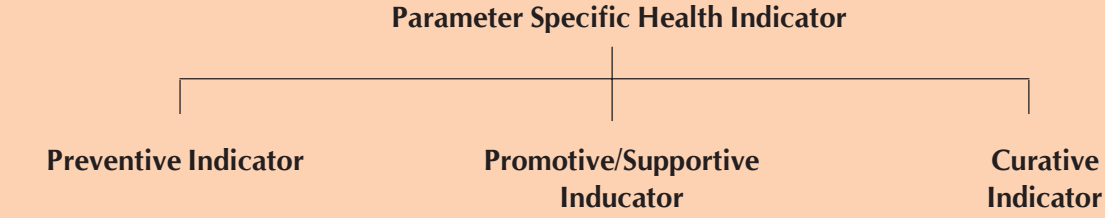
Components of Teacher Index:

(i) Teacher-student ratio,(ii) Teacher per school

(5) Construction of Educational Development/Achievement Index



(6) Health Index: Life table for the district has been constructed. However, sub-district level variations in health indicators have been measured using the following health index.



B. Step-1: Construction of Preventive Health Index (I1)

Components of Preventive Health Index (I1)

(i) Percentage of households having latrine, (ii) Percentage of households having sanitation facilities, (iii) Percentage of households having separate bathroom, (iv) Percentage of households having safe drinking water facility, (v) Percentage of immunized children, (vi) Percentage of ante-natal care

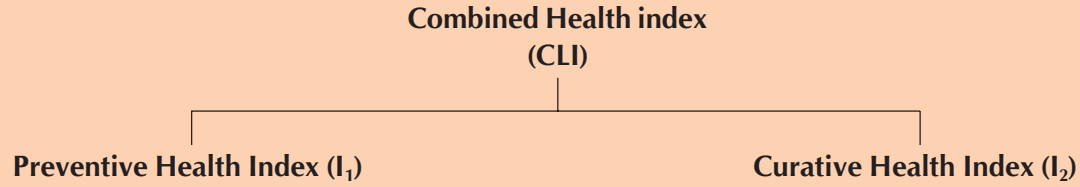
C. Step-2: Construction of Curative Health Care Index (I2)

Components of Curative Health Care Index (I2)

(i) Number of beds per 1000 population, (ii) Number of doctors per 1000 population

The curative health care index has been constructed using Principle component analysis following data driven weight age system.

D. Combined index of Health Performance (CLI)



The combined health performance index (CLI) has been constructed using Principle component analysis following data driven weight age system.

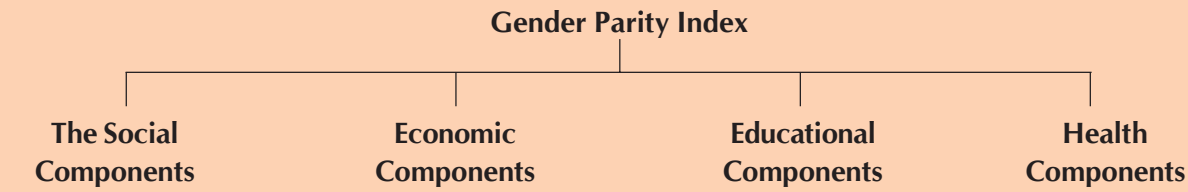
(7) Construction of Safe Motherhood index:

Components:

(i) Institutional delivery, (ii) Ant-3 check up

A simple average of the dimension indices of the percentage of intuitional delivery and percentage of Ant-3 check up.

(8) Gender Parity Index



(i) Social component: Female-Male sex ratio, (ii) Economic Parity component: % of working population (Male / Female) and % of Main worker (Male/Female), (iii) Education Parity component: Literacy rate, Enrolment rate, Retention rate (iv) Healthcare component: % of Ante-natal care, % of Institutional delivery, % of Post -natal care.

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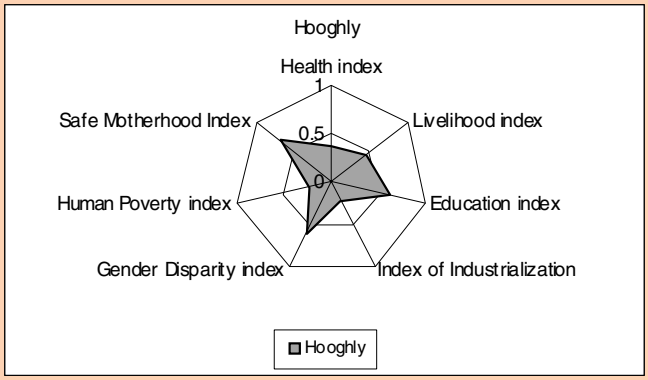
(9) Composite Human Development Index:

Composite Human Development Index

Livelihood Opportunity Index | **Health Index** | **Educational Development Index**

C.2: Social Development Radar

The concept of Human development Radar was explored first in National Human Development Report 2001. The social development Radars give a snapshot view of the structure, the pace and the gaps in the social development across Blocks of the district. Social Development Radars capture the relative contribution of different dimensions of development in overall development indicators.



The greater the shaded area of any indicator the better is the attainment on that indicator. Similarly, the more symmetrical the shaded portion of the Radar, the more balanced is the attainments on different dimensions of well being (NHDR, 2001).

Data Sources: Study uses both primary and secondary sources of data (sources of data have been mentioned as and when used in the report). A primary survey was conducted in 2009 using a stratified sampling technique covering more than 6000 households from 12 blocks and 5 municipalities out of 18 blocks and 13 municipalities of the district to ascertain the latest socio-economic situations of the people in the district and to address the issues where there were data gap in the available secondary information.

1.31 Annexure I

Historical Account of Hooghly District

1. The origin of the name Hooghly: Many contrasting views can be traced from the history regarding the origin of the name of Hooghly district. The most popular view is that the district of Hooghly which is situated in the western bank of Hooghly River got its name after Hooghly River. According to another view the district derived its name from "Hogla", a tall reed grows along the banks of the river and marshy lowland. The third view proclaims foreign origin in the name of Hooghly district because many foreign traders like that of Portuguese, Dutch, French and British entered and settled in the region in the historical past. The Portuguese settled at Hooghly about or immediately after 1575. Hooghly at that time was a petty village with only a number of straw huts and bamboo stockades in which the visiting Portuguese ships used to sell their cargo of salt from Hijli and which they used to evacuate when the sell was over. A storehouse of salt or any other commodity is called in Bengali Gola, and this word in the mouth of the Portuguese became O-Golim. The Bengalis turned O-goli into Hooghly (Banerjee, 1972).

2. The European Settlement in Hooghly District:

The Portuguese: The Portuguese were the first to arrive in Bengal and the district of Hooghly was one of the main centres of their trading activities. In 1535 Diego Rebello, the first Poutuguese reached Satgaon through Hooghly river way. The next year proved a landmark in the history of the Portuguese in Bengal. In 1536 they obtained a permit from SultanMahmud Shah to trade in this area of Bengal. With the advantage of Hooghly river port this region turned into one the major commercial hubs of Bengal within a very short period of time. In the year 1579-80, then emperor of Bengal, Akbar permitted the Portuguese traders to develop a city within the Bengal province. They had chosen Hooghly and the district became the first European settlement in Bengal. In the port of Satgaon, the Porto Piqueno or the little heaven, 30 to 35 ships used to land very year and most of them were Portuguese. The traders used to trade their goods at temporary markets called hats. They opened the gate of Asian market. About 1588 Ralph Fitch,a English trader, found Hooghly in the sole possession of the Portuguese. During this period many schools and churches (like Bandel church) were established. Towards the end of the 16the century the bulk of Bengal's overseas trade had passed into their hands. But soon they become degenerated into a race of pirates and slave dealers, and lived like 'wild men and untamed horses'. They seized and carried off peaceful cultivators, harassed travelers and traders, were irregular in the payment of revenue. Then emperor of Bengal Shah Jahan had shown his displeasure over Portugueses and attacked upon them, destroyed the Bandel Church. In 1632 Hooghly, the great centre of Portuguese activity in Bengal fell before the imperial army of Shah Jahan. But the Portuguese returned in the emperor's favour and retuned to Hooghly in 1633 with a grant of 777 bighas of rent-free land to Bandel Church which was rebuilt in 1660. But they could not regain their trade activities in the region. Virtual monopolists in the first twenty years of the 17the century, the second half of the century saw the passing of their trade to the Dutch and the English, and they were reduced to a poor industrious and numerous communities.

The Dutch: The next European nation to settle in Bengal was the Dutch. The Dutch were called the Olandaz from Holland. They also entered in the region through the imperial port of Bengal, Satgaon, probably in 1615 and settled in Chinsura. During the reign of Auranzeb the Dutch in Bengal was regulated by a pharman granted by that Emperor in 1662. Besides Fort Gustavus at Chinsura and a silk factory at Kashimbazar, the Dutch trade had, on the Hooghly River, a garden just south of Chandernagore, a factory for salting pork at Baranagar and, later, a station at Falta for seagoing ships. In the time of Sirajuddaula they appear to have been the most favoured European nation. However, the competition with the English traders

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resulted in loss of ground for the Dutches. This had made the Dutches hostile against English traders. In 1781, on the outbreak of war with Halland, Chinsura was aken by the British. By 1827 the Dutch of Chinsura had fallen on evil days, and they disappeared shortly after.

The English: The first Englishman to visit Bengal was Ralph Fitch, who came to Hooghly about 1588.In December 1600 the East India Company was incorporated by royal charter. The first factory of the English in Hooghly adjoined that of the Dutch but in 1665 the English built a new factory quarter of a mile higher up. In 1685 Job Charnock became Agent and had to afce a critical situation. It was observed that a fake company of traders under the name of New English Company were mischievously active and the Nawab of Bengal thwarted trade and molested the Company's men. Charnock found Hooghly a difficult place to flourish and decided to shift their trading centre from Hooghly to Kolkata due to strategically safe location of Kolkata and its proximity to the sea. This was done some time in 1704. Though Calcutta became the new heqadquaters the English kept up their connections with Hooghly so long as it continued to bethe seat of the faujdar."There were frequent tiffs between the faujdar and the English. Finally English took over Hooghly in 1757. Chandannagore was captured on March 1757.

Among **other European powers** that came to Hooghly were **Dutch, Danish, British, French, Belgians and Germans.** With the advantage of Hooghly river port this region turned into one of the major commercial hubs of Bengal within a very short period of time. Chandernagore was under the French since 1696 till 1950. Similarly Danish settled in Sirampur Chinsurah amd Serampore were under the Dutch and Danes respectively for a long period. All of the European settlement attempted to establish their supremacy in the region. 'In Indo-European history, there is not, undoubtedly, a more interesting Indian town than Hooghly; because there, within a range of a few miles, seven European nations, fought for supremacy: the Portuguese, the Dutch, the English, the Danes, the French, the Flemish and the Prussians'(History of the Portuguese in Bengal-J.J. A Campos(1919) Among all these nations, British ultimately became the most powerful. After the battle of Plassey, Mirkashim by an agreement donated the Zamindary areas of Burdwan, Midnapur and Chittagang to the British in the year 1760. The British introduce their own rule to administer those areas according to their system. For administrative purpose in 1795, the district of Burdwan was divided into two parts, the Northern division being called Burdwan and the Southern division Hooghly. Interestingly, since "Buxar War" this region was under direct British rule until India's independence in 1947. After independence this district merged into the State of West Bengal (Banerjee, 1972, Census 2001)).

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Chapter 2

ECONOMIC WELL-BEING: LIVELIHOOD OPPORTUNITY, POVERTY AND DEPRIVATION

Economic well-being is central to Human Development. There appears a steady rise in per capita income of the district of Hooghly especially in the last decade. Agriculture, which is the prime livelihood option to the people, has been slowing down along with more than compensatory increase in non-farm activities in the district. In other words, the economy is moving fast towards the tertiary sector of the district. However, duality in development is widely visible. Poverty, unemployment and destitution co-exist along with economic development.

2.1 Introduction

Livelihood opportunity of the people comprises an important part of human welfare. Livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. The aim of development is to improve the quality of life and to enhance the choices of people. It is a well-established fact that secured livelihood positively affects the quality of life.

The factors affecting people's livelihood include:

- the priorities that people define as their desired livelihood outcomes
- their access to social, human, physical, financial and natural capital or assets, and their ability to put these into productive use
- the different strategies they adopt (and how they use their assets) in pursuit of their priorities
- the policies, institutions and processes that shape their access to assets and opportunities
- the context in which they live, and factors affecting vulnerability to shocks and stresses.

According to Sen (Employment, Technology and Growth 1966), there are several aspects of livelihood that are to be distinguished:

- *Employment Aspect :* The first important aspect of livelihood is employment or active participation in the labour market. It is true that people may earn from the ownership of asset or share of companies without directly entering the labour market. However, for a majority of the people, labour earning is the chief source of livelihood. The availability of the work, the possibility of getting employment, the duration of the work, -all such things comprise important elements of the human livelihood pattern.
- *Income aspect :* However, more important than employment are the problems of obtaining 'gainful employment'- employment that can provide adequate income for a meaningful existence. In the developing countries, poor people generally work for long hours without earning sufficient money. In fact, sometimes they may retain nothing after repaying their old debts or obligations. According to Paul Streeten (1992) (Streeten P., 1992: 'Global Governance for Human Development', Human Development Report Office, Occasional Paper 4, UNDP, New York), employment as interpreted in the industrial country is inappropriate for the poorest countries. A person living in extreme poverty can rarely afford to be unemployed. In order to do so, a worker has to be well off. To survive, an unemployed person must have an income from some source. The root problem of poverty, it has been found, is 'low productivity employment, not unemployment'.

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- Recognition Aspect: This aspect has two dimensions: ethical dimension and recognition dimension. First, in every society there are certain activities that are deemed to be unethical and often illegal (such as robbery, theft, black marketing, illegal hoarding, prostitution etc.). Hence any earning from these activities cannot form a part of normal livelihood opportunities. Second, certain activities though not illegal often go unnoticed or unrecognised by the society. For example, housewives play an important role in the overall social fabric of any economy. But their work goes unrecognised. Sometimes even their activities that generate market products and incomes for the family remain unnoticed since they are intermingled with so-called household chores. For instance, the activities of female bidi workers are not recognised as economic work in many parts of India.
- Satisfaction Aspect: An individual should get proper satisfaction from what he does. There are times when individuals are coerced to perform certain economic activities (such as slave labour, child labour etc.). In these cases human welfare is adversely affected even if the remuneration is high enough.
- Production Aspect: An important point from the society's perspective is whether the employment generated provides worthwhile output for the society. Development economists were concerned about the use of labour in underdeveloped economics. They argued that a huge amount of labour force in these poor countries is in reality surplus- in the sense that they have no positive contribution to the output per se. As a result, withdrawal of this labour force with very low marginal productivity would have negligible impact on the aggregate output. In the standard literature it is customary to set up a norm that corresponds to an optimum input use. Input use patterns of other units are then compared with the norm and the extent of surplus labour is measured. These norms are by their very nature arbitrary. Hence they are difficult to be assessed.

In this chapter we will be mainly concerned with these aspects of livelihood in the context of the Hooghly district. The appropriate disaggregated units for discussing these aspects would be blocks or municipalities. However, the relevant data is not always forthcoming. In those cases, we shall have to discuss only the overall district-level trends.

2.2 Demographical Profile of the District

A brief review of the demographic profile of the district will reveal much about its livelihood position. From Table 2.1 we find that the district shares only 3.55% of the total geographical area of the state, whereas its share in population is well over 6%. Though there is a slight decadal decline, its share in population far exceeds its share in geographical area. This is well reflected in the high density figures of the district vis-à-vis the state figures.

Table 2.1: Demographic Status of Hooghly District

Units	Area (in sq. km.)	Population (1991)	Population (2001)	Density (1991)	Density (2001)
	(1)	(2)	(3)	(2)/(1)	(3)/(1)
Hooghly	3149	4355230	5041976	1383.05	1601.14
WB	88752	68077965	80176197	767.06	903.37
% share in WB	3.55	6.40	6.29	——	——

Source : Census, 1991 and 2001

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The table clearly indicates a high conglomeration of people within the district. This definitely points towards a sound livelihood prospect within the district. In our next Table 2.2 we give the block wise (and sub-division-wise) break-up of the density of population (number of people living in per square kilometre) in the Hooghly district.

Table 2.2: Area, Population and Density of Population in the District of Hooghly, 2001

Sub-division / C.D.Block / MC / M	Area in Sq.km.	Population	Density per sq.km.	Percentage of Population to District Population
(1)	(2)	(3)	(4)	(5)
Sadar Sub-division	**1148.15**	**1517520**	**1322**	**30.10**
Dhaniakhali	275.68	293345	1064	5.82
Pandua	276.43	284231	1028	5.64
Balagarh	202.15	214784	1062	4.26
Hooghly-Chinsurah(M)	17.27	170206	9856	3.38
Chinsurah-Mogra	81.86	211049	2578	4.19
Bansberia(M)	9.07	104412	11512	2.07
Polba-Dadpur	285.69	239493	838	4.75
Chandannagar Sub-division	**508.08**	**1058383**	**2083**	**20.99**
Tarakeswar	119.93	162371	1354	3.22
Tarakeswar(M)	3.90	28187	7227	0.56
Haripal	184.42	235494	1277	4.67
Singur	164.85	260827	1582	5.17
Bhadreswar(M)	6.48	106071	16369	2.10
Champdani(M)	6.47	103246	15958	2.05
Chandannagar(M.C)	22.03	162187	7362	3.22
Serampur Sub-division	**422.45**	**1348634**	**3192**	**26.75**
Jangipara	164.23	201001	1224	3.99
Chanditala-I	93.45	165837	1775	3.29
Chanditala-II	70.34	213485	3035	4.23
Serampur-Uttarpara	44.80	126380	2821	2.51
Uttarpara-Kotrang(M)	16.34	150363	9202	2.98
Konnagar(M)	4.42	72177	16330	1.43
Serampur(M)	14.50	197857	13645	3.92
Baidyabati(M)	7.89	108229	13717	2.15
Rishra(M)	6.48	113305	17485	2.25
Arambagh Sub-division	**1058.87**	**1117439**	**1055**	**22.16**
Goghat-I	186.32	125280	672	2.48
Goghat-II	190.03	143359	754	2.84
Arambagh	269.31	253579	942	5.03

Contd.

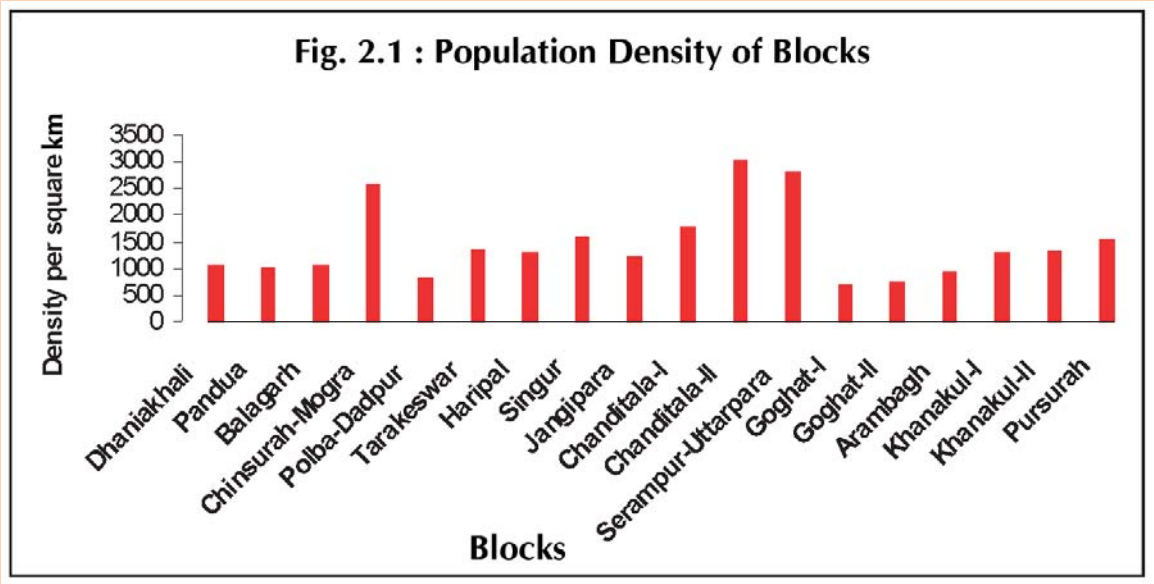
Sub-Division / C.D.Block / MC / M	Area in Sq.km.	Population	Density per Sq.km.	Percentage of population to district population
(1)	(2)	(3)	(4)	(5)
Arambagh(M)	19.04	56140	2949	1.11
Khanakul-I	171.92	221871	1291	4.40
Khanakul-II	121.83	160888	1321	3.19
Pursurah	100.42	156322	1557	3.10
District Total, 2001	**3149.00**	**5041976**	**1601**	**100.00**
District Total, 1991	**3149.00**	**4355230**	**1383**	**100.00**

Note: Total of rural and urban area may not conform to the district area

Source: Census of India 2001

There are wide differences in the population density across sub-divisions and blocks. Among the sub-divisions the density is highest in Serampore sub-division followed by the Chandannagar sub-division, and lowest in Arambagh. According to the 1991 and 2001 Census reports, Serampore is the most urbanised sub-division in the Hooghly district with the largest percentage of population living in urban areas followed by Chandannagar. On the other hand, Arambagh is largely a rural sub-division. Urban areas are in a more varied and remunerative livelihood opportunities compared to the rural blocks.

Fig. 2.1 : Population Density of Blocks in Hooghly District, 2001.



Source: Census, 2001

The Serampore sub-division and a portion of Chandannagar sub-division lie in the traditional industrial belt of Bengal that saw the first wave of industrialisation with the setting up of jute mills along the banks of Hooghly river long back in the British era.

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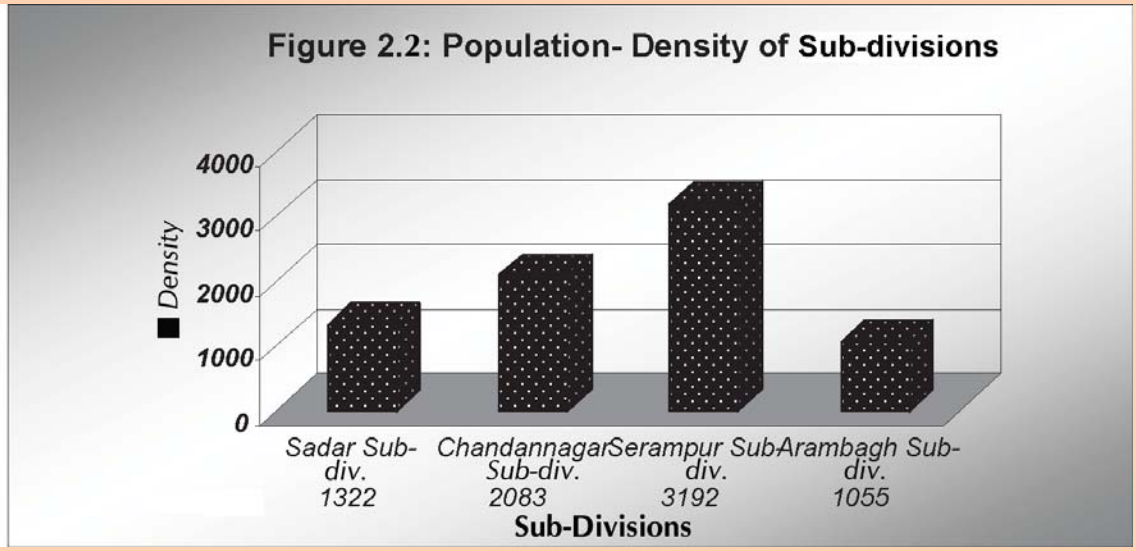
Fig. 2.2 : Population Density of Sub-divisions of the Hooghly District, 2001.



Source: Census, 2001

Similarly among the blocks density is highest in three blocks: Serampur-Uttarpara, Chinsura-Mogra and Chanditala-II. Again from Table 2.6 it is apparent that the first two of these blocks are largely urbanised with a high proportion of population residing in the urban areas. As for Chanditala-II it changed its character from being a largely rural block in 1991 (70.65% of the people living in rural area) to a semi-urban block in 2001 (the same percentage being now 57.64%).

Table 2.3: Growth of Population by Sex in Different Census Years in the District Of Hooghly (Number)

Year	Index with 1901 as base	No. of Females per 100 Males	Percentage of Rural Population to Total Population
1901	100	98	85.07
1911	104	96	84.16
1921	103	92	83.59
1931	106	88	82.13
1941	132	86	79.96
1951	149	88	75.40
1961	207	89	74.04
1971	267	90	73.53
1981	330	91	70.47
1991	405	92	68.81
2001	468	95	66.53

Source: District Handbook, 2005

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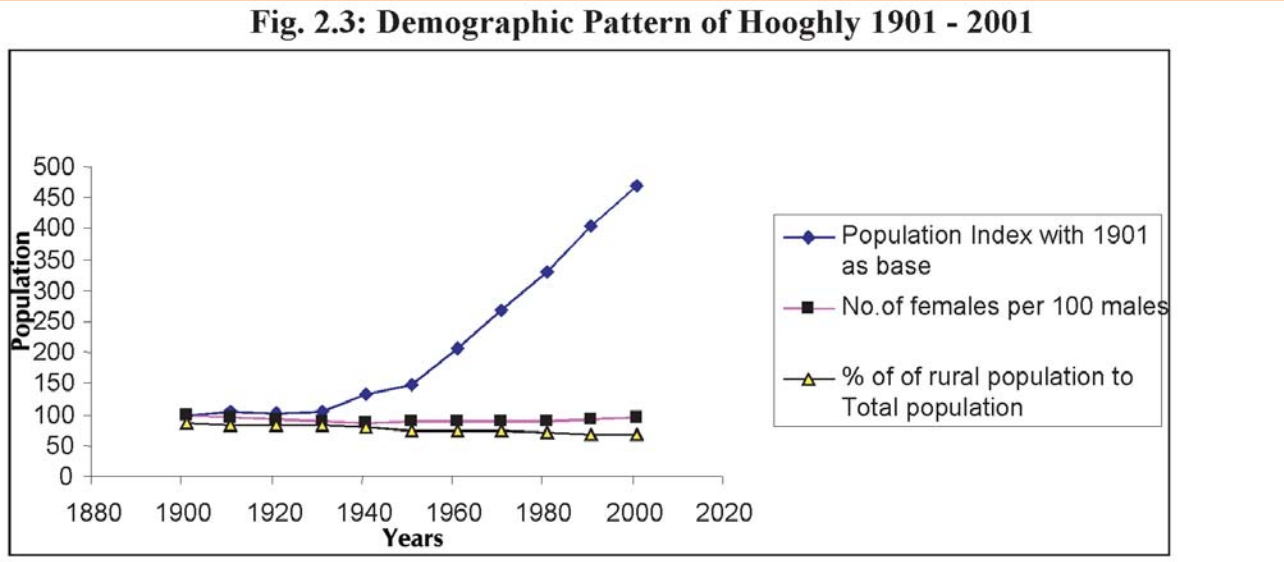
Fig. 2.3: Demographic Pattern of Hooghly District, 1901 - 2001



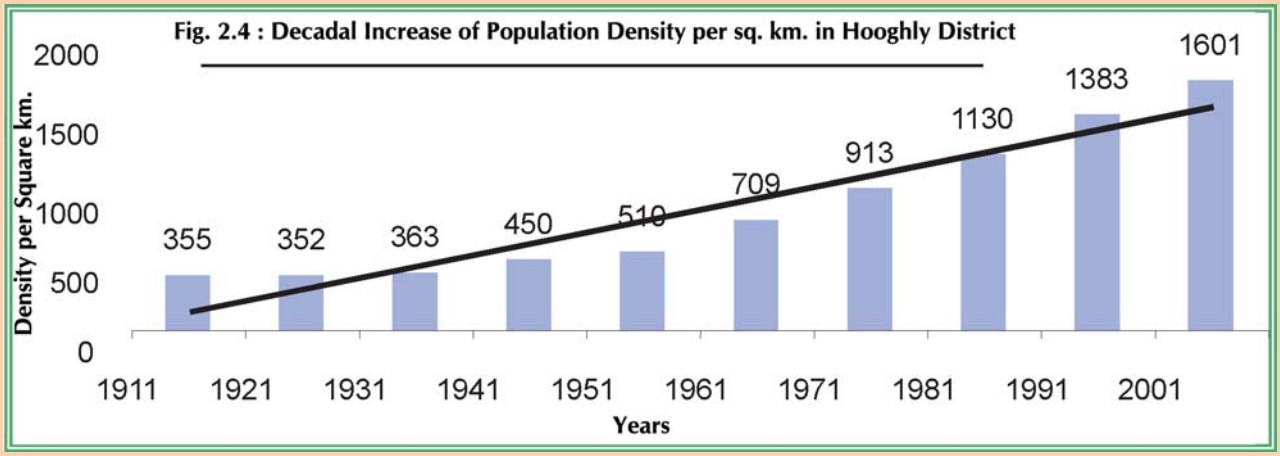
Source: District Statistical Hand Book, Hooghly, (Year) various issues

Table 2.4: Population Density (per square km.) in Hooghly District

Year	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001
Density	355	352	363	450	510	709	913	1130	1383	1601

Source: Block Health Action Plan & Population Estimated with data from 'Health on March 2006-07'

Fig. 2.4: Decadal Increase of Population Density per sq. km. in Hooghly District



Source: Block Health Action Plan & Population Estimated with data from 'Health on March 2006-07'

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We now look at the historic evolution of the demographic profile of this district as presented in the above tables and figures. Historically we can divide the evolution into the following periods:

Period	Demographic Features
1901-1931	All the demographic features (population, density, percentage of rural population) are almost static
1931-1961	Slow increase in the demographic variables
1961-2001	Explosion of population and density; less dramatic but commendable rise in urbanisation

The above periodization of demographic history brings out in a nutshell the development of livelihood opportunities in this district. In the British era, development was largely restricted to the Serampore sub-division and a portion of Chandannagar sub-division. Other parts of Hooghly were largely underdeveloped. The picture was aptly described by the great novelist Bibhutibhusan Bandopadhyaya in his child-fiction "Moroner Donka Baje" (The sound of the Death-knell) where his hero, Sureswar lived in a tiny village of Hooghly district. The village was depicted as underdeveloped with very little livelihood opportunities. The hero, a graduate from Calcutta University, had to move on in search of livelihood to the war-field of China, where life was risky and full of danger. These pictures of a Hooghly village during the period of Sino-Japanese war in the 1930s have, of course, now greatly changed.

The district has increasingly moved from a highly rural society with only 14.92% of population living in the urban areas (in 1901) to a more urban economy -with 33.47% of the people living in the urban areas (in 2001). This increasing urbanisation has opened up a broader range of livelihood opportunities with the concomitant rise in population density as people are attracted from elsewhere to this district. The picture of gender ratio is, however, in complete contrast to this. It fell from a very high figure in 1901 to a low level in 1951 and then started rising again. However, the 1901 figure is still not touched.

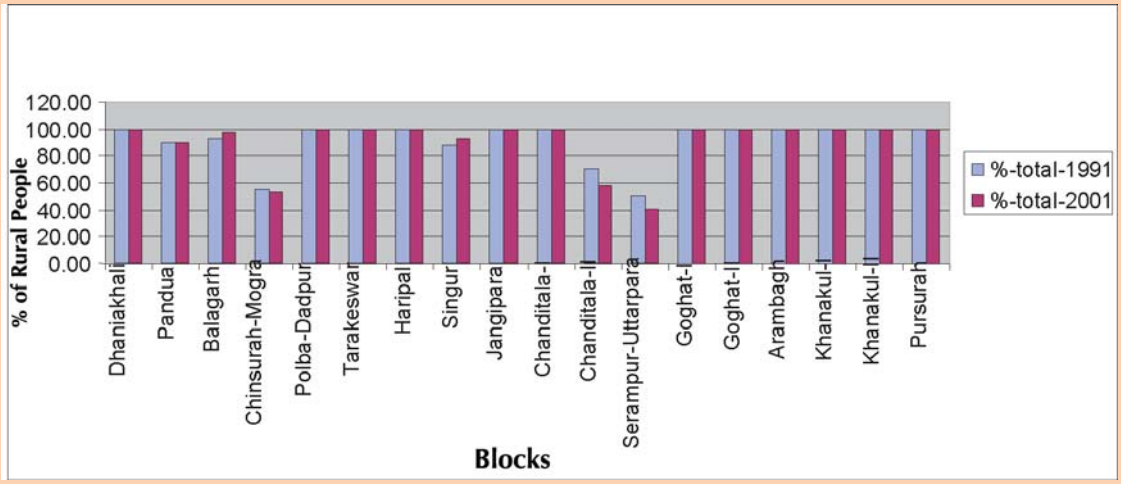
Next we look at the proportion of rural population in various blocks of the district (Table 2.5). In the district there are 12 blocks (out of 18 blocks, i.e., amounting to 66.67%) where all the population live in rural area (both in 1991 and 2001). These blocks are distributed among all the sub-divisions. But its share is highest in Arambagh that appears to be fully rural dominated sub-division. All its blocks have cent percent population living in the rural areas. The sub-division figure falls below this only due to the presence of Arambagh Municipality. Two blocks in each of the other sub-divisions are rural. In three blocks there has been an increasing trend towards urbanisation. However, other three blocks also show the opposite trend with a rising percentage of rural populace between 1991 and 2001. Among the sub-divisions only one namely, Chandannagar shows a decreasing rate of urbanisation. Thus, the district presents a unique feature- existence of large number of municipalities (12) surrounded by rural areas. The livelihood opportunities are thus more varied here.

Table 2.5: Share of Rural Population in Hooghly District (1991-2001)

Sub-division / C.D.Block / MC / M	% of Rural Population					
	% Male-1991	%-Male 2001	%Female-1991	%Female-2001	%-Total-1991	%-Total-2001
(1)						
Sadar Sub-division	**72.25**	**72.93**	**73.17**	**73.66**	**72.69**	**73.29**
Dhaniakhali	100.00	100.00	100.00	100.00	100.00	100.00
Pandua	89.91	90.39	90.24	90.50	90.07	90.44
Balagarh	93.19	97.81	92.97	97.80	93.08	97.80
Chinsurah-Mogra	54.92	53.15	56.36	53.19	55.60	53.17
Polba-Dadpur	100.00	100.00	100.00	100.00	100.00	100.00
Chandannagar Sub-division	**61.47**	**58.93**	**64.35**	**61.96**	**62.83**	**60.39**
Tarakeswar	100.00	100.00	100.00	100.00	100.00	100.00
Haripal	100.00	100.00	100.00	100.00	100.00	100.00
Singur	88.40	92.37	88.68	92.65	88.54	92.51
Serampur Sub-division	**44.50**	**38.97**	**47.46**	**41.44**	**45.89**	**40.16**
Jangipara	100.00	100.00	100.00	100.00	100.00	100.00
Chanditala-I	100.00	100.00	100.00	100.00	100.00	100.00
Chanditala-II	70.36	57.27	70.97	58.02	70.65	57.64
Serampur-Uttarpara	49.63	40.92	51.77	40.90	50.63	40.91
Arambagh Sub-division	**95.37**	**94.95**	**95.50**	**95.01**	**95.43**	**94.98**
Goghat-I	100.00	100.00	100.00	100.00	100.00	100.00
Goghat-II	100.00	100.00	100.00	100.00	100.00	100.00
Arambagh	100.00	100.00	100.00	100.00	100.00	100.00
Khanakul-I	100.00	100.00	100.00	100.00	100.00	100.00
Khanakul-II	100.00	100.00	100.00	100.00	100.00	100.00
Pursurah	100.00	100.00	100.00	100.00	100.00	100.00
District Total	**67.82**	**65.64**	**69.90**	**67.46**	**68.81**	**66.53**

Source: District Statistical Handbook, Hooghly, 2005

Fig. 2.5: Percentage of Rural Population in 1991 and 2001



Source: District Statistical Handbook, Hooghly, 2005

2.3 Migration and Livelihood Opportunity

The rich livelihood opportunities available in the district are evident from the flow of in-migration to it. It is apparent that Hooghly is one of the most preferred destinations for migrants among the districts of West Bengal (fourth in overall, third in male and fifth in female). In fact if we leave aside female migrants where a dominant portion is for marriage, Hooghly is the one of the most preferred district so far as male migrants are concerned.

Table 2.6: Distribution of Migrants (percentage of the State Total)

	Persons	Rank	Male	Rank	Female	Rank
Uttar Dinajpur	2.54	16	2.35	15	2.62	15
South 24-Parganas	7.43	5	5.66	8	8.20	4
Purulia	2.84	15	1.25	18	3.54	13
North 24-Parganas	14.92	1	20.70	1	12.40	2
Nadia	6.87	6	7.95	5	6.40	6
Murshidabad	5.33	8	3.55	10	6.10	7
Medinipur	10.96	2	5.13	9	13.51	1
Malda	3.49	13	2.75	13	3.81	11
Kolkata	4.03	10	7.96	4	2.32	16
Coochbehar	3.00	14	3.16	11	2.94	14
Jalpaiguri	4.33	9	5.70	7	3.73	12
Hooghly	**7.93**	**4**	**8.24**	**3**	**7.79**	**5**
Howrah	5.42	7	6.03	6	5.15	8
Darjeeling	1.75	18	2.81	12	1.29	18
Dakshin Dinajpur	2.05	17	2.07	17	2.04	17
Birbhum	3.50	12	2.41	14	3.98	10
Barddhaman	9.61	3	10.18	2	9.35	3
Bankura	4.00	11	2.12	16	4.82	9

Source: Census, 2001, D series

Table 2.7: Inter-District Net Migration of Hooghly

	Total	Rural	Urban
Darjeeling	15	-58	73
Jalpaiguri	334	86	248
Coochbehar	516	264	252
Uttar Dinajpur	188	121	67
Dakshin Dinajpur	261	133	128
Malda	969	438	531

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	Total	Rural	Urban
Murshidabad	20,934	13,794	7,140
Birbhum	5,269	2,533	2,736
Burdwan	25,227	12,102	13,125
Nadia	14,633	7,002	7,631
North 24-Parganas	-12,108	-3,932	-8,176
Bankura	12,499	5,451	7,048
Purulia	1,616	837	779
Medinipur	2,625	5,990	-3,365
Howrah	13,978	5,879	8,099
Kolkata	53,900	20,569	33,331
South 24-Parganas	8,939	3,659	5,280
Unclassifiable	20,391	10,310	10,081
Total	**170,186**	**85,178**	**85,008**

Source: Census, 2001

Again inter-district migration figures show that inter-district net migration is positive for total, rural and urban sector separately. The highest positive net migration is from Kolkata. Burdwan, Murshidabad, Nadia and Howrah are the other major districts of migration. The only district that has negative net migration to the district is North 24 Parganas. Migration to the northern districts is negligibly small.

2.4 Economic Evolution of the District

The above mentioned demographic analysis clearly brings out how historical evolution of the district's economy took place over a century. However, these are all indirect evidences. Some recent direct evidences are also available.

2.4.1 Net State Domestic Product and its Sectoral Composition:

We first consider the Net Domestic Product at constant prices. We have a relatively long time series of data since 1993-94. The data (Table-2.8) reveals that the district's economy is expanding over this entire period with a boost in the Net District Domestic Product (NDDP).

However, the percentage share in the state's income is showing a slight downward movement.

Table 2.8: NDDP and NSDP at 1993-94 Prices (Rs. Crore)

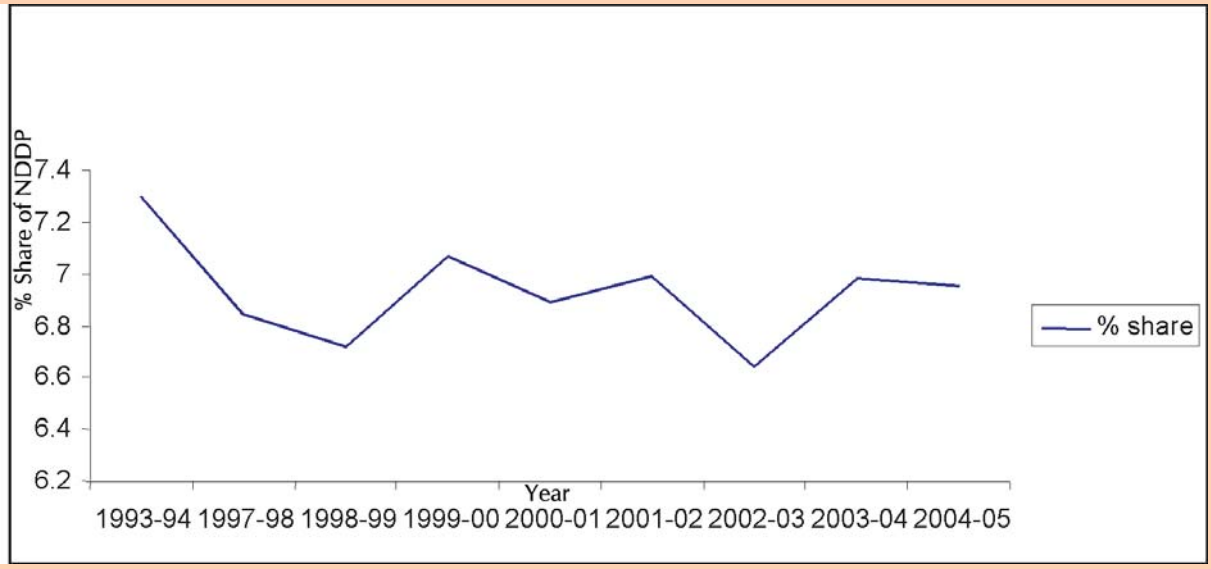
Year	West Bengal	Hooghly	% Share
1993-94	48397.63	3533.03	7.30
1997-98*	64483.61	4410.68	6.84
1998-99	68598.38	4609.81	6.72
1999-00	73527.81	5198.42	7.07
2000-01	78254.03	5391.70	6.89
2001-02	83849.19	5861.06	6.99
2002-03	90077.48	5981.14	6.64
2003-04	96478.32	6734.19	6.98
2004-05	103361.75	7183.64	6.95

* Note : Comparable Data for 1994-95 to 1996-97 was not available.

Source: BAE & S,Govt. of West Bengal, 2006.

Final Proof

Fig.2.6: Percentage Share of the District NDDP of the State NSDP (at 1993-94 Prices)



Source: BAE & S, Govt. of West Bengal, 2006.

The sectoral composition of the district income reveals that the economy of Hooghly moved very fast towards the tertiary sectors. Consequently, in 2004-05, the contribution of primary sector consisting of the agriculture and its allied sectors reduced to 22.9 per cent of the district income from 34.64 per cent in 1993-94, while the contribution of tertiary sector increased to 53.85 per cent from 39.98 per cent in 1993-94 at current prices. The contribution of secondary sector to the district income declined marginally to 23.25 per cent in 2004-05 from 25.38 per cent in 1993-94. (Table 2.9 & Figure 2.7). These over time movements in sectoral shares of Hooghly NDDP do not change even if those are computed in current prices (Table 2.10).

Table 2.9: Composition of the NDDP (Hooghly) at 1993-94 Prices

Compostion of Hooghly DDP	At 1993-94 Prices (Rs. Crore)			(% Share)			
	1993-94	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Primary	34.64	27.01	26.12	27.89	21.95	24.38	22.90
Secondary	25.38	25.79	25.50	24.40	25.43	23.55	23.25
Tertiary	39.98	47.20	48.38	47.71	52.62	52.07	53.85
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: BAE & S, Govt. of West Bengal, 2006.

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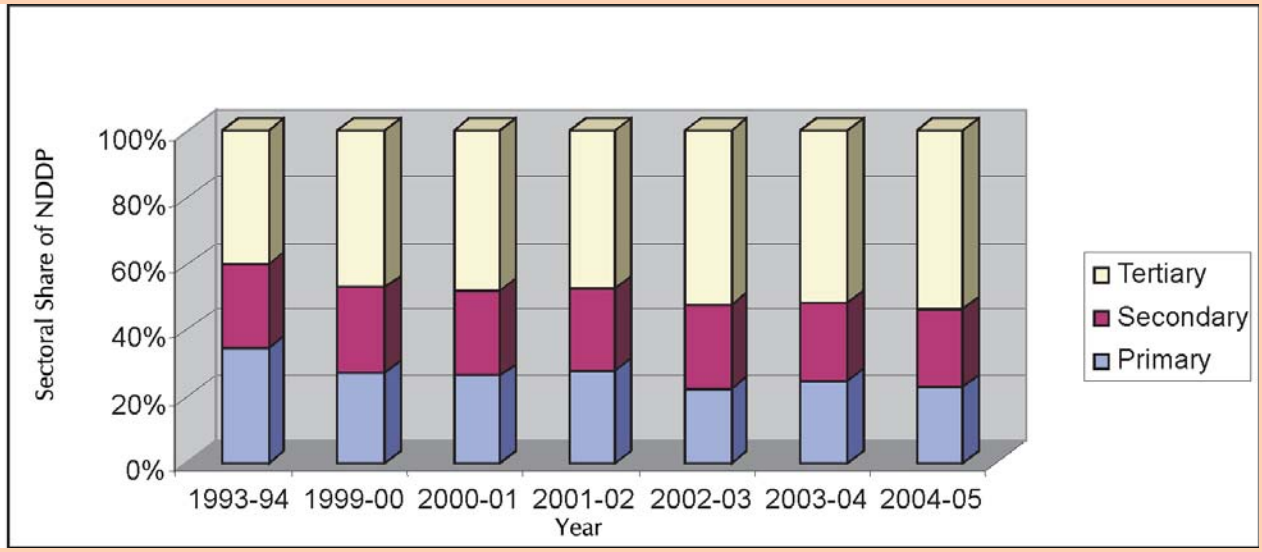
Fig. 2.7: Sectoral Share of Hooghly NDDP (at 1993-94 Prices)



Source: BAE & S, Govt. of West Bengal, 2006.

Table 2.10: Sectoral Shares of Net District Domestic Product of Hooghly at Constant and Current Prices

Sector	Share of NDDP at Currrent Prices		Share of NDDP at Constant Prices	
	1993-94 (%)	2004-05(Q) (%)	1993-94 (%)	2004-05(Q) (%)
Primary Sector	**34.64**	**24.25**	**34.64**	**22.90**
• Agriculture	31.40	21.26	31.40	20.25
• Forestry, Fishery and Mining	3.24	2.99	3.24	2.65
Secondary Sector	**25.38**	**22.29**	**25.38**	**23.25**
• Manufacturing	20.95	14.79	20.95	18.38
• Construction and Electricity, Gas	4.43	7.50	4.43	4.87
Tertiary Sector	**39.98**	**53.46**	**39.98**	**53.85**
• Transport, Storage and Communication	4.97	5.21	4.97	6.34
• Trade, Hotels and Restaurants	14.03	15.85	14.03	17.39
• Finance and Real Estate	5.30	10.38	5.30	12.22
• Community and Personal Services	11.12	11.91	11.12	9.22
NDDP	**3533.03** (Rs. Crore)	**12759.43** (Rs. Crore)	**3533.03** (Rs. Crore)	**7183.64** (Rs. Crore)

Source: BAE & S, Govt. of West Bengal, 2006.

Final Proof

2.4.2 Trends of Per Capita Income in Hooghly District

Our next Table 2.11 provides the figures on per capita income of the district at Constant (1993-94) Prices. There appears a steady rise in the per-capita income of the district at Constan Prices during 1993-94 to 2003-04. The estimated long run annual rate of growth in per-capita income has been 2.71%.

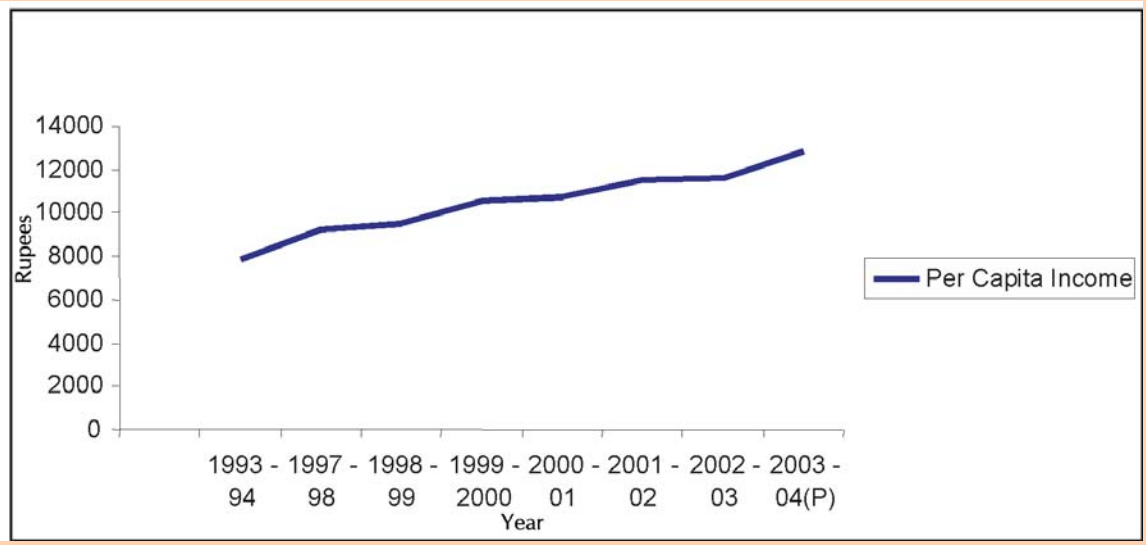
Table 2.11: Estimates of Per Capita Income by District of Hooghly at Constant (1993-94) Prices in Rupees

YEAR	Per Capita Income
1993 - 94	7806.88
1997 - 98*	9202.36
1998 - 99	9471.23
1999 - 2000	10535.86
2000 - 01	10765.28
2001 - 02	11526.58
2002 - 03	11590.87
2003 - 04(P)	12855.55
2004 - 05(Q)	13520.38

Source: BAE & S, Govt. of West Bengal, 2006.

* Comparable Data for 1994-95 to 1996-97 was not available.

Fig. 2.8: Per Capita Income in Hooghly at Constant Prices



Source: BAE & S, Govt. of West Bengal, 2006.

2.4.3 Patterns of Consumption Expenditure

Another important aspect which reflects the livelihood pattern of the people is the level of consumption expenditure. Unfortunately, the only available data at the district level is the NSS sample data. Information below the district level is spread over NSS substrata that is not helpful for our purpose.

The analysis of the NSS data is given in Table 2.12 and Figure 2.8 below. In NSS data two types of consumption are considered: consumption from purchase denoting the value of goods and services that are bought by the families from the market and non market avenues of consumption. However, in a country like India, with incomplete market structure, this does not exhaust the total value of consumption by a family. The bite of poverty would have been much more intolerable for our poor had there been no other alternative avenues of consumption. In fact, for some families market bought consumption is non-existent. NSS data covers four non-market avenues of consumption: (i) Consumption expenditure on home produce (that includes consumption on home made goods and services) (ii) Consumption expenditure on receipts (that includes income received in kinds) (iii) Consumption expenditure on gifts and loans (that includes goods and services acquired from benevolent persons, reciprocity, loans in kinds, acquisition due to interlinked transactions and so on) and (iv) Consumption expenditure on free collection (i.e., receipts from village commons such as fruits, herbs etc.). These non -market items are very important for rural consumption expenditure in the district. It is seen that they add up to 17.19% of per capita monthly total consumption expenditure in rural Hooghly and 19.60% of the state's overall rural per capita consumption expenditure. But this share of non-market consumption expenditure is negligible for the urban areas (only 1.84% for Hooghly and 2.08% for the state). Overall its contribution is 7.23% for Hooghly and 8.10% for the State.

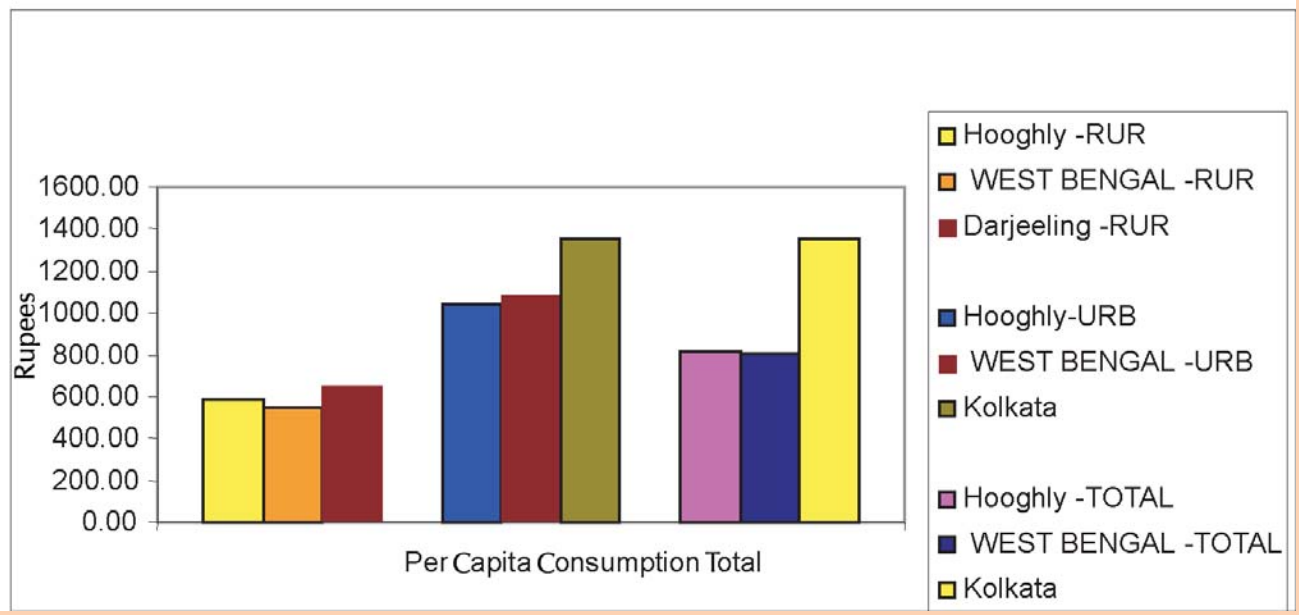
Table 2.12: Per Capita Consumption in the Rural and Urban NSS Substrata in Hooghly District and W.B. (Rs.)

Dist./State	Per Capita Cons.exp. (Purchase)	Per Capita Cons. Exp (Total)	Rank	Best	Worst
(1)	(2)	(3)	(4)	(5)	(6)
RURAL					
Hooghly	484.77	585.41	5	Howrah	Purulia
West Bengal	435.81	542.08		651.16	400.78
URBAN					
Hooghly	1020.86	1040.01	7	Kolkata	Dakshin Dinajpur
West Bengal	1058.29	1080.75		1354.36	875.09
TOTAL					
Hooghly	758.14	817.23	6	Kolkata	Purulia
West Bengal	740.26	805.54		1354.36	573.69

Source: NSS unit level data, 62nd Round, (2004-05)

Final Proof

Fig. 2.9: Per Capita Monthly Consumption in 2004-05



Notes: RUR = Rural, URB = Urban

Source: NSS unit level data 62nd Round (2004-05)

Among the rural-districts of the State, rural Hooghly ranks sixth while its rank is seventh among the urban areas. Per capita monthly consumption in rural Hooghly is well above the state average but per capita monthly consumption in the urban areas is below that of the state average. The per capita monthly consumption in rural Hooghly is about 89.90% of the best district-Howrah. But for the urban areas, the per capita monthly consumption is only 76.79% of Kolkata-the best district. Its overall per capita consumption is only 60.34% of the best region-Kolkata. Thus, rural area of Hooghly is comparable to the best in the State, while the urban-Hooghly is far behind.

The difference is more pronounced when we consider only consumption of purchased goods and services. Per capita consumption of purchased items in rural Hooghly is 86.70% of that of rural Howrah while in urban Hooghly it is only 76.32% that of Kolkata. Overall Hooghly's per capita consumption of purchased items is only 56.68% of the corresponding figure of best-Kolkata.

However, there is a huge gap among the rural and urban areas of Hooghly in regard to consumption expenditure. The per capita consumption expenditure in urban Hooghly is about 1.77 times of that of the rural areas. Again the difference is more pronounced when we consider only consumption of purchased goods and services. Per capita consumption of purchased items in urban Hooghly is 2.10 times that of rural Hooghly.

The facts given above reflect the income capability of the district as a whole. For getting parallel reflections on the blocks and urban governance areas the availability of data is insufficient and inadequate. However the Primary data, collected for preparing Hooghly DHDR explores the consumption pattern of the people at the sub-district level, which is presented in Box 2.1 below:

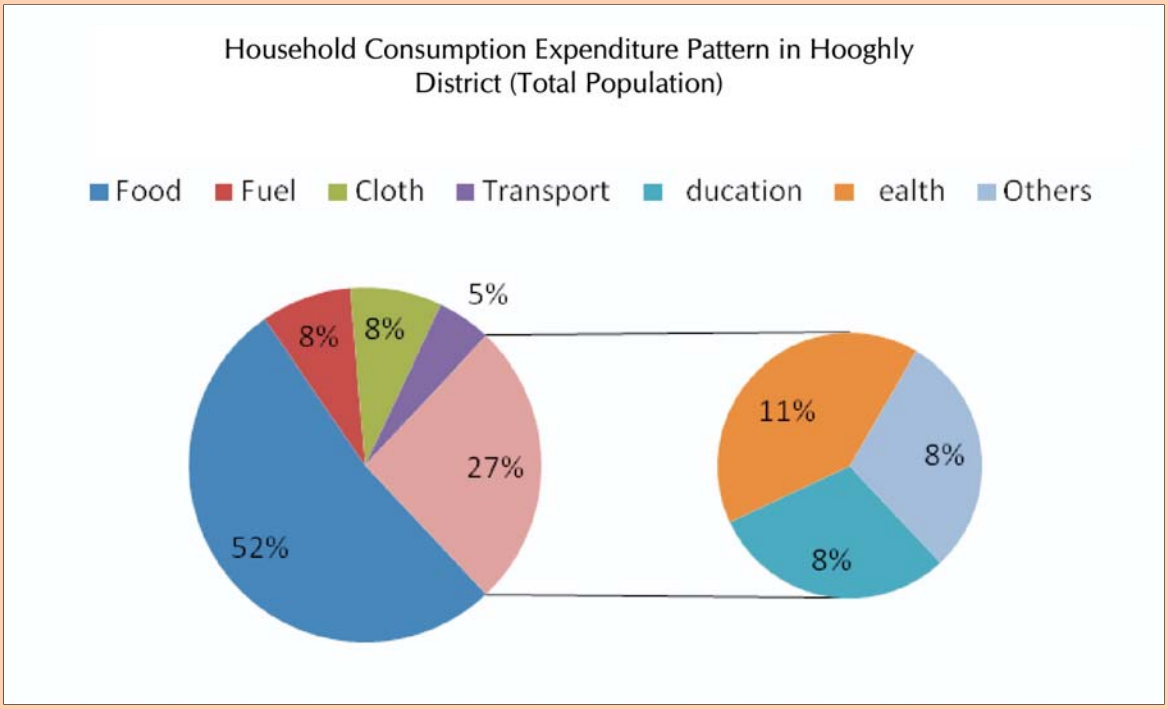
Box 2.1

Consumption Pattern in Hooghly District: Recent Trends

(DHDR, Primary Survey, 2009)

Total consumption expenditure of household is divided into seven components namely food, fuel, cloth, transport, education, health and others. It is evident from Figure 2.10 that an average household of the district spends around 52 per cent of the total consumption expenditure on food and 27 per cent on health, education and clothes. The expenditure on health (10.49 per cent) is found to be little higher than that of education (8.01 per cent) and clothes (8.39 per cent). Household energy (8.26 per cent) and transport expenditure (4.96 per cent) constitute another 13.22 per cent of total consumption expenditure.

Fig. 2.10



Source : DHDR, Hooghly, Primary Survey, 2009.

The block and municipality level variations in consumption expenditure of the district are shown in Table 2.13 .

Table 2.13 : Pattern of Consumption of Total Surveyed Population(% of Total Expenditure)

Name of Block/Municipality	Eexpenditure on						
	food	fuel	cloth	transport	education	health	others
Arambagh	45.17	7.72	18.65	5.40	6.68	8.75	7.63
Balagarh	56.39	8.86	6.90	6.07	8.52	7.48	5.78
Chanditala 1	55.28	10.55	5.85	6.86	5.03	9.96	6.48

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Contd.

Name of Block/Municipality	Expenditure on						
	food	fuel	cloth	transport	education	health	others
Chanditala 2	54.8	6.77	8.59	5.07	6.62	7.14	11.03
Dhaniakhali	60.47	7.50	5.34	4.38	5.84	9.93	6.54
Goghat 1	58.41	8.31	8.65	4.99	4.39	8.68	6.56
Goghat 2	53.54	8.59	8.06	6.42	10.00	9.99	3.40
Jangipara	38.06	9.59	11.73	9.54	5.89	9.97	15.22
Khanakul 1	45.71	8.44	14.78	5.72	7.14	11.34	6.87
Khanakul 2	48.80	14.02	7.69	4.58	5.35	10.14	9.41
Singur	57.65	7.50	10.73	4.88	5.00	8.02	6.23
Tarakeshwar	52.09	5.81	7.61	5.82	6.20	13.01	9.46
Arambagh (M)	45.04	6.59	7.50	3.70	9.97	19.04	8.16
Baidyabati (M)	58.79	8.40	3.41	3.22	9.66	9.05	7.46
Bansberia (M)	64.44	9.05	5.97	4.56	5.12	6.99	3.89
Bhadreswar (M)	52.88	7.10	7.31	3.42	12.23	10.57	6.49
Serampur (M)	61.31	9.63	3.06	4.03	8.01	6.02	7.93
District	**52.39**	**8.26**	**8.39**	**4.96**	**7.81**	**10.49**	**7.70s**

Source: DHDR, Hooghly, Primary Survey, 2009

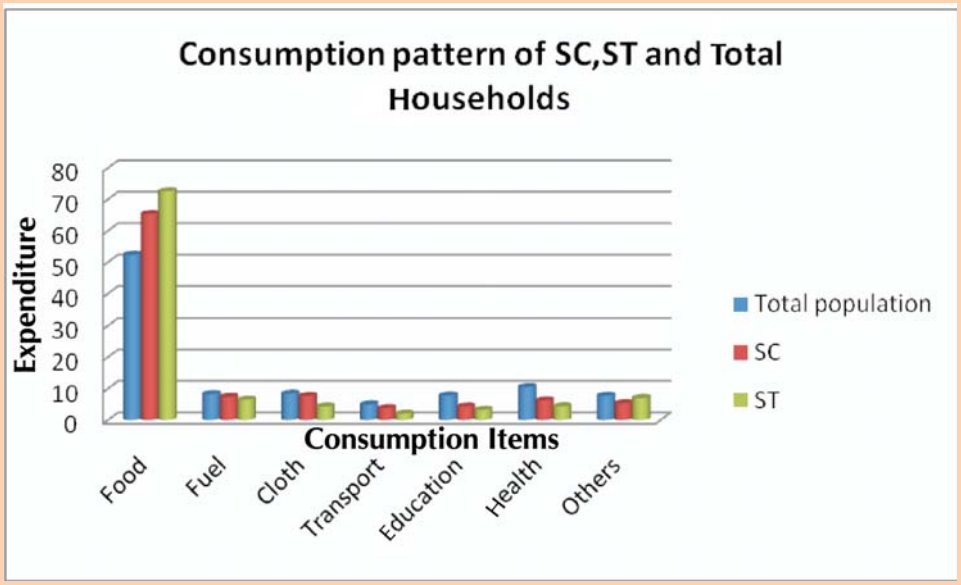
Attempts have also been made to analyse the consumption pattern of the households belonging to the Scheduled Castes (SC) and Scheduled Tribes (ST) category (Table 2.14). It is evident from Table 2.14 and Figure 2.11 that Scheduled Castes and Scheduled Tribes households spend larger shares of their total consumption expenditure on food than the average household of the district. To be exact, a representative SC household spends 65.35 per cent of total expenditure on food, which is as high as 72.58 per cent for a representative ST household. Expenditure on health and education of the SC/ST households are found to be much lower than the average household of the district. The consumption pattern of the Muslim households is found to follow almost invariant pattern of average households of the district.

Table 2.14: Consumption Pattern Of Surveyed Household (SC, ST and General) (Percentage Of Spending on Various Components)

	All Households	SC	ST	Muslim
Food	52.39	65.35	72.58	51.54
Fuel	8.26	7.37	6.46	7.99
Cloth	8.39	7.65	4.32	9.79
Transport	4.96	3.80	2.02	5.21
Education	7.81	4.28	3.25	8.02
Health	10.49	6.25	4.38	9.33
Others	7.70	5.30	6.99	8.12
	100.00	100.00	100.00	100.00

Source: DHDR, Hooghly, Primary Survey, 2009

Fig. 2.11: Consumption Pattern of SC,ST and All Sampled Households, Hooghly

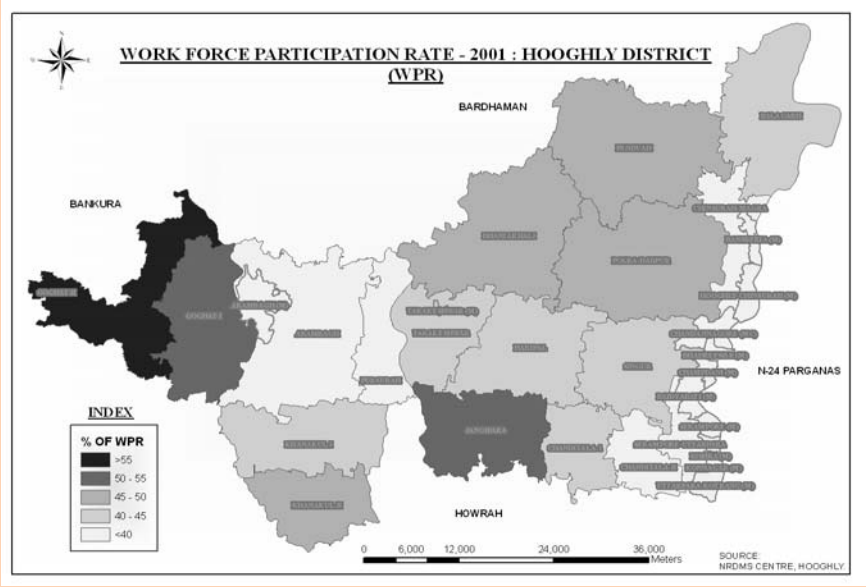


Source: DHDR, Hooghly, Primary Survey, 2009

2.5 Occupational Status

Let us now look at the workforce participation rate for an appraisal of employment, capability and functioning aspects at the sub-district (block/municipalities/sub-division) levels. We consider two important aspects of occupation structure: workforce participation and sectoral break-up of working population. We first consider the Workforce Participation Rate (WPR) in estimating which we have slightly deviated from the usual norm. We have deleted the 0-5 age group from the total population in calculating WPR since in no society this group can be employed as labour. Workforce participation rates in various sub-divisions and blocks of Hooghly are presented in terms of Map 2.1 which is self-explanatory.

Map 2.1: Workforce Participation Rate in Hooghly District, 2001



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2.5.1 Gender Composition Of Workforce Participation Rate

The gender break-up of WPR in the district and the State is analysed here. As expected, female WPR is less than that of the male WPR. Also the rural WPR is higher than the urban WPR for the gender categories (male and female). These are all expected results given our social taboo against working of women and the spread of family farms in the rural areas. The district WPR is lower than the State WPR. Given the high contribution of the district's NDP in the SDP, this merely implies high productivity of labour force and a relatively small amount of distress labour in Hooghly compared to West Bengal.

Table 2.15: Workforce Participation (Hooghly and WB) (Gender break-up)

NAME	WPR	WPR-M	WPR-F
Hooghly -Total	41.89	64.16	18.36
Hooghly -Rural	37.11	66.51	21.72
Hooghly -Urban	44.39	59.86	11.63
West Bengal-Total	42.87	62.81	21.42
WEST BENGAL-Rural	45.01	64.16	24.81
WEST BENGAL-Urban	37.71	59.67	12.94

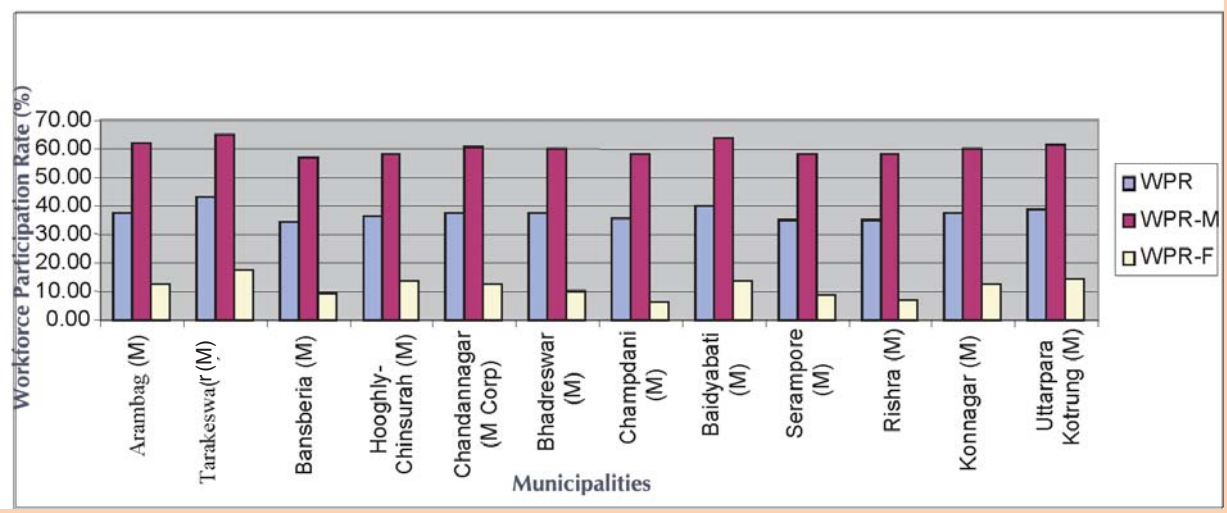
Source: Census, 2001

Table 2.16: Workforce Participation in the Municipalities of Hooghly (Gender Break-up)

NAME	WPR	WPR-M	WPR-F
Arambag (M)	37.70	61.68	12.56
Tarakeswar (M)	43.00	65.23	17.59
Bansberia (M)	34.56	56.82	9.25
Hooghly-Chinsurah (M)	36.41	58.42	13.51
Chandannagar (M. Corp.)	37.76	60.91	12.72
Bhadreswar (M)	37.52	60.08	9.83
Champdani (M)	35.64	58.19	6.17
Baidyabati (M)	39.74	63.57	13.76
Serampore (M)	35.25	58.37	8.75
Rishra (M)	35.23	57.94	6.77
Konnagar (M)	37.52	59.99	12.64
Uttarpara-Kotrang (M)	38.83	61.10	14.23

Source: Census, 2001

Fig. 2.12: Workforce Participation Rate (WPR) Municipalities of Hooghly District



Note: WPR-M = Male WPR and WPR-F = Female WPR

Source: Census, 2001

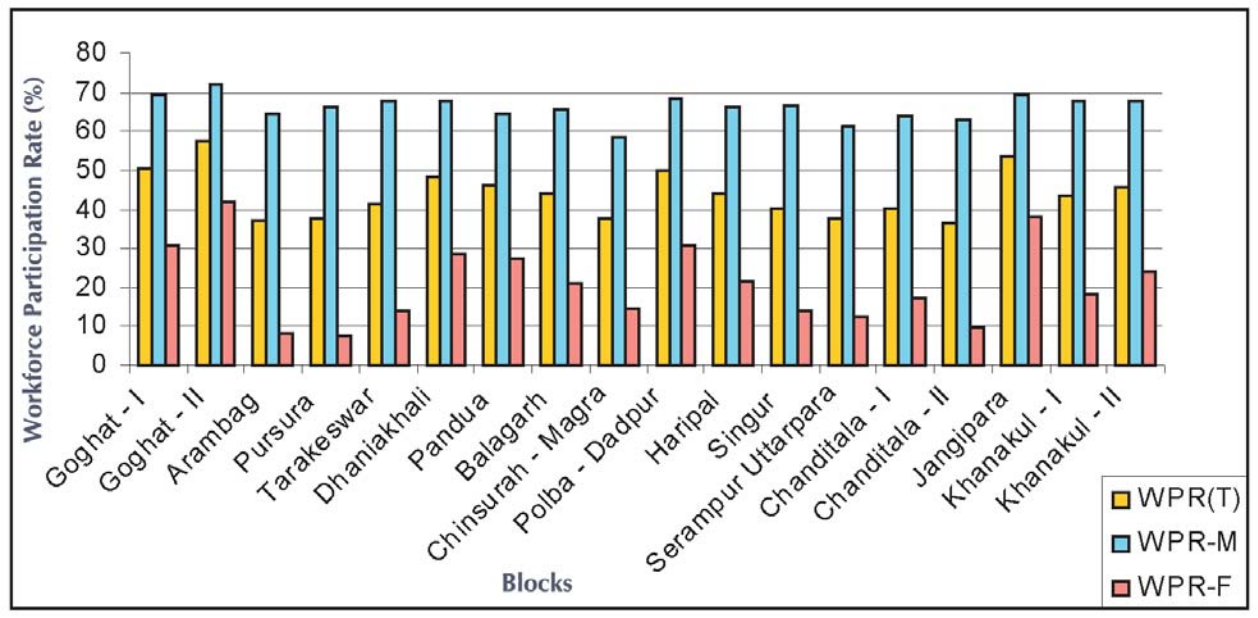
Table 2.17 Workforce Participation in Blocks of Hooghly (Gender Break-up)

NAME	WPR	WPR-M	WPR-F
Goghat - I	50.55	69.49	30.65
Goghat - II	57.29	71.72	42.10
Arambag	37.04	64.43	8.18
Pursura	37.54	66.29	7.31
Tarakeswar	41.48	67.53	14.15
Dhaniakhali	48.27	67.83	28.30
Pandua	46.04	64.41	27.48
Balagarh	43.86	65.50	21.07
Chinsurah - Magra	37.46	58.49	14.65
Polba - Dadpur	49.79	68.28	30.87
Haripal	43.83	66.00	21.52
Singur	40.40	66.74	13.76
Serampur-Uttarpara	37.61	61.33	12.26
Chanditala - I	40.01	64.05	16.92
Chanditala - II	36.77	62.91	9.53
Jangipara	53.79	69.47	37.89
Khanakul - I	43.31	67.84	18.20
Khanakul - II	45.49	67.39	24.35

Source: Census, 2001

Final Proof

Fig. 2.13: Workforce Participation Rate (WPR) in the Blocks of Hooghly District



Source: Census, 2001

The municipalities have generally a smaller value of WPR than the rural areas. Among the municipalities, Tarakeswar (M) has the highest WPR (43) and the lowest is Bansberia (34.56). Tarakeswar (M) also has the highest Female WPR (17.59). The high WPR in Tarakeswar may be due the availability of large number semi-temporary jobs available there connected with the religious shrine. Female WPR is very low in almost all the municipalities -the lowest being Champdani (M) (6.17) followed by Rishra (M) (6.77).

Among the blocks, the highest WPR for all the categories is Goghat-II. The lowest WPR for all persons and male workers is found in Chanditala-II. For female WPR, lowest is, however, Pursura. The differences in WPR are attributed to a number of causes that are not all directly related to economic well-being.

2.5.2 Main and Marginal Workforce Participation Rate

We now consider the main and marginal categories of the labour force. Here we find that except for a few cases, the main WPR is higher in the district compared to the State but the marginal WPR is lower. This implies that people in this district get more stable livelihood opportunities than most of the other parts of the State. However, the proportion of non-workers is lower in the district compared to that of the state. Hence, there remain some traces of distress employment in the district.

Table 2.17a: Workforce Participation in the Hooghly District and W.B. (Main and Marginal)

NAME	WPR	Main-WPR	Marg-WPR	T NON W/TP
Hooghly -Total	41.89	34.43	7.47	71.70
Hooghly -Rural	37.11	33.89	3.22	73.72
Hooghly -Urban	44.39	34.7	9.69	70.64
WB-Total	42.87	33.48	9.39	73.72
WB-Rural	45.01	33.12	11.89	73.74
WB-Urban	37.71	34.36	3.35	73.69

Source: Census, 2001

Table 2.17b: Workforce Participation in the Hooghly District (Main) (Gender Break-up)

NAME	Main-WPR	Main-WPR (M)	Main-WPR (F)
Hooghly -Total	34.43	57.40	10.15
Hooghly -Rural	34.70	58.18	10.64
Hooghly -Urban	33.89	55.97	9.17
WB-Total	33.48	54.70	10.65
WB-Rural	33.12	54.27	10.80
WB-Urban	34.36	55.69	10.29

Source: Census, 2001

Table 2.17c: Workforce Participation in the Hooghly District (Marginal) (Gender Break-up)

NAME	Marg-WPR	Marg-WPR (M)	Marg-WPR (F)
Hooghly -Total	7.47	6.76	8.21
Hooghly -Rural	9.69	8.33	11.08
Hooghly -Urban	3.22	3.89	2.46
WB-Total	9.39	8.12	10.76
WB-Rural	11.89	9.88	14.01
WB-Urban	3.35	3.98	2.64

Source: Census, 2001

Among the various categories of non-workers, female non-workers are expectedly much higher than the male non-workers. However, again the State figures are found to be higher than those of the district.

Table 2.17d: Non-Workers in the Hooghly District (Gender Break-up)

NAME	T NON W/TP	T NON W/TP-M	T NON W/TP-F
Hooghly -Total	71.70	49.39	95.27
Hooghly -Rural	70.64	48.67	93.17
Hooghly -Urban	73.72	50.73	99.47
WB-Total	73.72	53.53	95.46
WB-Rural	73.74	54.45	94.10
WB-Urban	73.69	51.37	98.87

Source: Census, 2001

The municipalities have generally a smaller value of marginal WPR than the rural areas, but there are no differences in main-WPR. They also have a higher percentage of non-workers. Among the municipalities, Tarakeswar (M) has the highest main WPR (38.74) and the lowest in Bansberia (31.16). However, marginal WPR is highest in Arambag and lowest in Serampore.

Final Proof

Table 2.17e: Workforce Participation in the Municipalities of Hooghly (Main and Marginal)

NAME	WPR	Main-WPR	Marg-WPR	T NON W/TP
Arambag (M)	37.70	32.64	5.05	75.72
Tarakeswar (M)	43.00	38.74	4.26	69.20
Bansberia (M)	34.56	31.16	3.40	76.90
Hooghly-Chinsurah (M)	36.41	33.45	2.96	72.41
Chandannagar (M Corp)	37.76	34.48	3.27	71.33
Bhadreswar (M)	37.52	34.66	2.86	74.68
Champdani (M)	35.64	33.19	2.45	78.90
Baidyabati (M)	39.74	36.24	3.50	69.27
Serampore (M)	35.25	32.90	2.35	74.47
Rishra (M)	35.23	32.45	2.77	77.19
Konnagar (M)	37.52	34.22	3.30	71.90
Uttarpara-Kotrang (M)	38.83	36.33	2.50	70.63

Source: Census, 2001

Among the blocks , the highest main and marginal WPRs for all the categories are in Jangipara .The lowest main WPR is in Arambagh, while marginal WPR is lowest in Chanditala-II. The non-worker ratio is highest in Arambagh and lowest in Jangipara.

Table 2.17f: Workforce Participation in the Blocks of Hooghly (Main and Marginal)

Sub-division / C.D.Block	WPR	Main-WPR	Marg-WPR	T Non W/TP
Sadar Sub-Division	**45.08**	**35.79**	**9.29**	**69.52**
Dhaniakhali	48.27	36.60	11.67	66.26
Pandua	46.04	34.49	11.55	69.38
Balagarh	43.86	37.06	6.80	70.14
Chinsurah-Mogra	37.46	32.35	5.11	75.95
Polba-Dadpur	49.79	38.46	11.32	65.89
Chandannagar Sub-division	**41.90**	**34.32**	**7.58**	**71.48**
Tarakeswar	41.48	35.19	6.29	72.06
Haripal	43.83	31.92	11.91	70.63
Singur	40.40	35.85	4.55	71.74
Serampur Sub-division	**42.04**	**34.05**	**7.99**	**72.15**
Jangipara	53.79	39.59	14.20	62.06

Contd.

Sub-division / C.D.Block	WPR	Main-WPR	Marg-WPR	T Non W/TP
Chanditala-I	40.01	31.94	8.07	76.17
Chanditala-II	36.77	32.25	4.52	76.25
Serampur-Uttarpara	37.61	32.42	5.19	74.12
Arambagh Sub-division	**45.20**	**34.23**	**10.97**	**70.93**
Goghat-I	50.55	39.11	11.44	65.61
Goghat-II	57.29	38.26	19.03	59.14
Arambagh	37.04	29.65	7.38	79.05
Khanakul-I	43.31	33.55	9.76	74.08
Khanakul-II	45.49	31.86	13.63	71.01
Pursurah	37.54	32.95	4.59	76.67
District Total	**41.89**	**34.43**	**7.47**	**71.70**

Source: Census, 2001

2.5.3 Occupational Break-up Of The Working Population

To have an appraisal of capability and functioning aspects of employment let us consider the occupational structure of working population in the district at the disaggregated (block/municipalities/zones) levels.

Table 2.17g: Sectoral Distribution Of Labourers (% Of Total Workers,)-Hooghly and WB

NAME	CULTIVATORS	AGRICULTURAL LABOURERS	HOUSEHOLD WORKERS	OTHER WORKERS
Hooghly (Total)	14.95	24.31	5.17	55.57
Hooghly (Urban)	0.81	1.79	3.11	94.28
Hooghly (Rural))	21.12	34.15	6.07	38.66
WB (Total)	15.45	24.97	7.37	48.48
WB (Urban)	0.77	1.61	5.98	91.51
WB (Rural)	20.55	33.08	7.85	33.55

Source: Census, 2001

First, we compare the district figure with the state figure. It appears that the district pattern reflects the state pattern in terms of occupational share of workforce both for rural and urban areas as well as when it is considered as a whole. As for the district Hooghly is concerned, there appears a sharp rural-urban divide in work-force composition. The rural workforce being mostly related to agriculture and allied activities - cultivation and agricultural labour add up to roughly 55.27% ,while in the urban areas the category of "other workers "contributes to more than 90 % (94.28%) of the total workforce. (The same comparable figures for the state are 53.63% and 91.51%). The share of agricultural labourers outnumbers that of the cultivators indicating the huge pressure on land that far outstrips its ownership.

Final Proof

Table 2.17h: Municipality-wise Sectoral Distribution of Labourers (% of Total Workers)

NAME	CULTIVATORS	AGRICULTURAL LABOURERS	HOUSEHOLD WORKERS	OTHER WORKERS
Hooghly (Total)	**14.95**	**24.31**	**5.17**	**55.57**
Hooghly (Urban)	**0.81**	**1.79**	**3.11**	**94.28**
Arambag (M)	6.50	17.46	1.36	74.68
Tarakeswar (M)	1.37	9.02	3.12	86.49
Bansberia (M)	0.43	0.61	3.11	95.86
Hooghly-Chinsurah (M)	0.29	0.18	2.69	96.83
Bhadreswar (M)	0.25	0.67	2.86	96.21
Champdani (M)	0.06	0.10	1.04	98.80
Baidyabati (M)	0.53	0.82	3.11	95.54
Serampore (M)	0.18	0.18	2.09	97.55
Rishra (M)	0.59	0.28	1.07	98.07
Konnagar (M)	0.21	0.06	1.52	98.21
Uttarpara-Kotrang (M)	0.26	0.26	1.50	97.98

Source: Census, 2001

The figures on municipalities roughly adhere to the same district feature. The exception is Arambagh where the share of agricultural workforce is 23.96% and to a lesser extent in Tarakeswar where this figure is 10.39%. Barring these two municipalities, all the other municipalities have over 90% share of "other workers".

However, this uniformity breaks down when we consider the blocks of the district. There are a number of blocks where the proportion of "other workers" is very high. The highest percentage of "other workers" is found in the block of Serampore-Uttarpara (86.28%). In this block agricultural activities amount to only 9.25%. In the block Chinsura-Mogra, the category "other workers" contributes to 80.01% of the total workforce while agricultural activity employs only 16.73%. A somewhat similar block is Chanditala-II where agriculture contributes only 10.54% of the workforce. These are undoubtedly urbanised blocks with a sizable number of people living in semi-urban areas. Sub-division wise Serampore is the most urbanised one. The blocks of this sub-division employ more than 40% of their workforce in "other workers" category. Except the block Jangipara, this is well over 50%. As evidenced earlier, Serampore sub-division has the highest population density among all the sub-divisions of the district.

Table 2.17i Block-wise Sectoral Distribution of Labourers (% of Total Workers)

NAME	CULTIVATORS	AGRICULTURAL LABOURERS	HOUSEHOLD WORKERS	OTHER WORKERS
Sadar Sub-divison	**15.25**	**39.52**	**4.62**	**40.61**
Dhaniakhali	19.68	48.03	4.52	27.77
Pandua	13.93	49.90	3.08	33.09
Balagarh	19.41	37.39	4.69	38.51
Chinsurah-Mogra	3.58	13.15	3.26	80.01

Final Proof

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NAME	CULTIVATORS	AGRICULTURAL LABOURERS	HOUSEHOLD WORKERS	OTHER WORKERS
Polba-Dadpur	19.64	49.13	7.53	23.70
Chandannagar Sub-div.	**20.43**	**29.52**	**6.80**	**43.25**
Tarakeswar	26.86	34.66	3.73	34.75
Haripal	18.50	37.32	7.30	36.89
Singur	15.93	16.58	9.35	58.13
Serampore Sub-Div.	**8.83**	**15.86**	**8.40**	**66.91**
Jangipara	16.28	29.80	10.02	43.90
Chanditala-I	12.98	19.93	9.32	57.77
Chanditala-II	3.14	7.40	9.79	79.67
Serampur-Uttarpara	2.94	6.31	4.47	86.28
Arambagh Sub-Div.	**30.96**	**30.38**	**5.38**	**33.28**
Goghat-I	36.65	33.28	3.30	26.76
Goghat-II	36.20	31.65	5.30	26.84
Arambagh	22.46	36.12	4.50	36.91
Khanakul-I	27.38	25.07	9.53	38.02
Khanakul-II	30.76	28.55	6.09	34.61
Pursurah	32.29	27.62	3.53	36.56
Hooghly District	**14.95**	**24.31**	**5.17**	**55.57**

Source: Census, 2001

Thus, the district Hooghly provides a peculiar profile of semi-urban blocks where agricultural activities are relatively less dominating. The district is surely moving towards increasing urbanisation and better livelihood opportunities for its populace.

2.6 Agriculture and Rural Livelihood

As the economy has been shifting away from agriculture and a major process of structural change is on, the question of security in terms of livelihood turns up. Agriculture is still the pre-dominant economic activity and the main source of livelihood to the rural people of the district. Agriculture contributes a significant proportion of district income. Almost one third of the district income comes from agriculture. As per 2001 census, 14.95 per cent of the total workers were engaged as cultivators and 24.31 per cent as agricultural workers. Moreover, a significant per cent of total workers are engaged in agro-based household industries. Hooghly is an agriculturally prosperous district of West Bengal. The land use pattern of the district demonstrates a high proportion of net sown area as percentage of total reported area (about 70.01% in 2005-06). However, there is a decline in the net shown area and a steady rise of area under non-agricultural use. Thus, there is a gradual shift from agriculture to non-agriculture. Forest area remained static after a decline between 2002-03 and 2003-04. It appears that by and large rise in the non-agricultural area came at the cost of agricultural land.

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Table 2.18: Index Numbers of Agricultural Area, Production & Productivity in the District of Hooghly

Base : Triennium ending crop year 1981-82 = 100						
Year	Area		Production		Productivity	
	Cereals	All crops combined	Cereals	All crops combined	Cereals	All crops combined
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2001-02	126.00	136.20	201.92	256.83	160.25	188.57
2002-03	123.20	136.17	184.86	155.01	150.05	113.84
2003-04	120.55	137.13	188.72	247.27	156.55	180.32
2004-05	122.85	135.87	204.31	220.53	166.31	162.31
2005-06	125.38	138.68	201.95	246.45	161.07	177.71

Source: B.A.E. & S., Govt. of W.B.

Table-2.18 above indicates a steady rise in area under all crops combined. This combined with the earlier observations indicates a decline in non-crop agricultural area (such as orchard, floriculture etc.). However, production and yield show wide fluctuation. In fact, production of cereals has been fairly stable while that of all crops combined has fallen. Similarly, productivity of cereals has only slightly improved while that of all crops combined has fallen. Thus, though agriculture has still remained a major source of livelihood, it is becoming increasingly vulnerable in terms of productivity mostly after 2000-01.

2.6.1 Land Reforms and Agricultural Holdings

We now consider the size-distribution of agricultural holding and the impact of land-reforms for the district as a whole. We find that an overwhelming majority (85.64%) of the operational holdings are marginal covering more than half of the total cultivated area of the district. If we consider small and marginal holdings together, constitute 97.18% of the total holdings and 86.01% of the total cultivated area. The predominance of small and marginal holdings is not a typical feature of this district only, it is a general feature of the state also.

Table 2.19: Distribution of Operational Holdings over Size Classes in the District of Hooghly

	% of holdings	% of area
Marginal	85.640	57.596
Small	11.539	28.412
Semi-Medium	2.523	11.381
Medium	0.294	2.471
Large	0.005	0.140
100	100.00	
Average size of Holdings (in Hectares)	0.660	

Source: District Hand Book, Hooghly, 2006

Notes:
- Marginal- Below 1.0 hectare
- Small- 1.0 hectare and above but less than 2.0 hectares
- Semi-medium- 2.0 hectares and above but less than 4.0 hectares
- Medium- 4.0 hectares and above but less than 10.0 hectares
- Large- 10.0 hectares and above. It includes mostly institutional holdings

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Table 2.20: Area of Vested Agricultural Land Distributed and Number of Beneficiaries in the District of Hooghly

Up to	Area of land distributed (hectare)	Number of Beneficiaries							
		Scheduled Castes		Scheduled Tribes		Others		Total	
(1)	(2)	(3)		(4)		(5)		(6)	
		No.	%	No.	%	No.	%	No.	%
30.09.2002	4833	30285	46.41	12883	19.74	22089	33.85	65257	100
30.09.2003	5118	31334	46.09	13265	19.51	23380	34.39	67979	100
30.11.2004	5170	31669	46.01	13433	19.52	23732	34.48	68834	100
30.11.2005	5216	32746	46.31	13609	19.25	24353	34.44	70708	100
30.11.2006	5260	33241	46.40	13692	19.11	24710	34.49	71643	100

Source: District Hand Book, 2006

From Table 2.20, we get certain information regarding the progress of land reforms in the district. There is a steady increase in land distributed during 2002-2006. The majority of these beneficiaries are people belonging to scheduled castes and scheduled tribes. Again the average area distributed (area of land distribution divided by No. of beneficiaries) is more or less constant.

Table 2.21: Percentage of Different Categories of Persons Engaged in Agriculture in the Blocks of Hooghly

Name of Block/Sub-division	Bargadars	Patta holders	Small farmers	Marginal farmers	Agricultural labourers(2001)
Arambag Sub-division	**16.86**	**9.11**	**5.07**	**22.63**	**46.33**
Goghat - I	9.73	16.81	6.95	22.97	43.53
Goghat - II	12.67	17.89	6.60	20.90	41.95
Arambag	11.98	7.87	7.58	22.75	49.81
Khanakul - I	27.83	3.92	1.89	23.07	43.30
Khanakul - II	21.38	3.22	2.08	34.62	38.71
Pursurah	17.54	4.95	5.34	11.47	60.70
Sadar Sub-division	**10.88**	**9.76**	**5.51**	**15.77**	**58.07**
Dhaniakhali	11.09	7.62	4.75	18.21	58.34
Pandua	9.51	7.94	4.77	17.73	60.05

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Name of Block/Sub-division	Bargadars	Patta holders	Small farmers	Marginal farmers	Agricultural labourers(2001)
Balagarh	10.27	14.91	5.25	9.89	59.68
Chinsurah - Magra	10.57	13.91	4.93	16.83	53.76
Polba - Dadpur	10.48	8.52	3.33	11.52	66.15
Chandannagar Sub-division	**13.39**	**5.65**	**10.05**	**20.47**	**50.44**
Tarakeswar	18.41	7.60	6.77	11.50	55.72
Haripal	13.40	6.43	13.53	14.95	51.70
Singur	8.36	2.92	9.86	34.96	43.90
Serampur Sub-division	**15.45**	**4.63**	**10.53**	**28.22**	**41.16**
Jangipara	14.10	5.25	15.31	22.10	43.23
Chanditala - I	25.96	7.46	4.27	9.48	52.83
Chanditala - II	6.30	1.16	12.02	53.09	27.43
Serampur Uttarpara	14.66	3.48	11.05	21.36	49.45
District Total	**14.15**	**7.29**	**7.79**	**21.77**	**49.00**

Source: District Statistical Hand book, 2006

The percentage distributions of various categories of agricultural workers are given in Table 2.21. A large percentage of workers are agricultural labourers (about 49%) in the district. This is well above 50% in the Sadar sub-division (58.07%) while 41.16% in Serampore Sub-division. This portion of the agricultural workers is most vulnerable. A closely related group is that of marginal farmers who add up to 21.77% for the District. About 70.77 % of the agricultural workers belong to these two vulnerable categories. The largest percentage of such vulnerable workers are found in Chanditala-II while the lowest in Chanditala-I. Distribution of patta holders is an indicator of land reforms. This is observed to be the highest in Goghat-II and the worst in Chanditala-II. Sub-division wise the distribution of patta holders is the highest in Sadar Sub-division and the lowest in Serampore Sub-division.

2.6.2 Cultivation Pattern in Hooghly District

The cultivation is broadly divided into two categories: crop cultivation and plantation (or orchard). From the table below (Table 2.22), we find that Goghat is the leader in terms of percentage of area under crop cultivation and is among the laggard blocks in consideration to the percentage of area under plantation. Similar patterns may be found in a number of blocks (Arambagh, Chanditala-I, Khanakul-II, Haripal etc.). On the other hand, Singur ranks 15th in terms of percentage area devoted to crop cultivation but the leading block (ranking first) in percentage of area devoted to plantation. A number of blocks that share this pattern are Chinsura-Mogra, Polba-Dadpur, Serampore-Uttarpara, Chanditatla-II, Pursurah etc. However, there are three blocks that do equally well in both the criteria, namely - Dhaniakhali, Pandua, and Balagarh. There are few blocks (Viz Khanakul-I and Tarakeswar) that fare badly according to both the criteria.

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Table 2.22: Some Basic Information regarding Agricultural Pattern of the District

Sub-division / C.D.Block	% of land used for crop cultivation	rank	% of land used for plantation	rank
Sadar Sub-division	**72.31**	**2nd**	**7.12**	**1st**
Dhaniakhali	82.92	2	8.78	3
Pandua	82.34	3	9.3	2
Balagarh	79.15	5	6.43	4
Chinsurah-Mogra	44.43	17	4.89	6
Polba-Dadpur	72.73	10	6.2	5
Chandannagar Sub-division	**64.99**	**3rd**	**5.28**	**2nd**
Tarakeswar	63.85	13	2.75	10
Haripal	78.52	7	2.42	11
Singur	52.59	15	10.67	1
Serampur Sub-division	**64.03**	**4th**	**2.55**	**3rd**
Jangipara	75.87	8	1.86	14
Chanditala-I	79.84	4	2.14	12
Chanditala-II	55.87	14	2.84	9
Serampur-Uttarpara	44.53	16	3.35	8
Arambagh Sub-division	**77.80**	**1st**	**1.24**	**4th**
Goghat-I	93.26	1	1.88	13
Goghat-II	93.26	1	1.88	13
Arambagh	78.72	6	0.004	17
Khanakul-I	71.79	11	0.77	15
Khanakul-II	75.52	9	0.15	16
Pursurah	69.71	12	3.39	7
District Total	**69.78**		**4.05**	

Note: Segregated data for Goghat-I and II are not available.
Source: District Authority, Hooghly

It is generally argued that plantation is more remunerative than crop-cultivation. In this regard, then, the best placed block is Singur followed by Pandua, Dhaniakhali, Balagarh, Polba-Dadpur and Chinsura-Mogra. Except Singur, all these blocks lie in Sadar sub-division. This clearly indicates that Sadar sub-division is placed best in terms of remunerative agrarian livelihood. On the other hand, Arambagh fares the worst in this count with almost negligible area devoted to plantation.

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However, to get a clear picture we should concentrate on the quality of crop-cultivation rather than simply consider the quantity of area allocated to it. This is because stable livelihood from agriculture does not merely depend on cultivating more area but cultivating them in a qualitatively improved manner through intensive use of modern technology, multiple cropping practice, high quality seeds, better feed management etc. The figures on cropping intensity should help us to understand this qualitative aspect of agrarian land use.

Table 2.23: Qualitative Aspect of Agriculture in Hooghly

Sub-Division/ Blocks	% of area sown more than once	Rank	Cropping Intensity	Rank
Sadar Sub-division	**86.48**	**2nd**	**185.59**	**3rd**
Dhaniakhali	99.26	1	215.30	7
Pandua	80.18	12	188.91	9
Balagarh	93.46	3	184.52	11
Chinsurah-Mogra	87.69	6	167.03	16
Polba-Dadpur	71.83	15	172.19	15
Chandannagar Sub-division	**88.36**	**1st**	**210.38**	**2nd**
Tarakeswar	81.79	11	268.36	2
Haripal	96.13	2	183.49	12
Singur	87.18	7	179.29	13
Serampore Sub-division	**76.07**	**4th**	**159.86**	**4th**
Jangipara	90.30	5	174.80	14
Chanditala-I	81.86	10	190.63	8
Chanditala-II	82.96	9	154.02	17
Serampur-Uttarpara	49.17	17	120.01	18
Arambagh Sub-division	**77.18**	**3rd**	**227.03**	**1st**
Goghat-I	54.75	16	221.97	4
Goghat-II			187.26	10
Arambagh	76.42	14	230.86	3
Khanakul-I	77.91	13	221.79	5
Khanakul-II	83.97	8	215.46	6
Pursurah	92.87	4	284.82	1

Source: District Statistical Handbook, Hooghly, 2006

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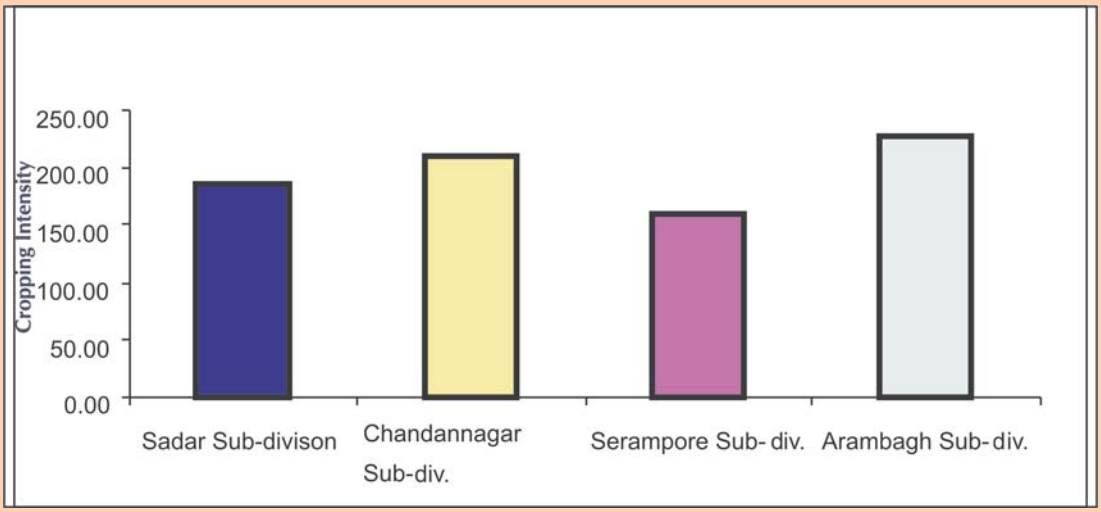
Map 2.2: Cropping Intensity of Hooghly District

Fig. 2.14: Cropping Intensity in various Sub-divisions of Hooghly District



Source: District Statistical Handbook, Hooghly, 2006

From the above table and figures we see almost similar features. Dhaniakhali is the best block in terms of area cultivated more than once while Pursurah is the best in terms of cropping intensity. By all counts, Serampore-Uttarpara is the worst performer. Most of the best performer blocks in terms of area sown more than once lie in the Sadar sub- division while those in terms of cropping intensity lie in the Arambagh sub-divisions. Sub-division wise Chandannagar sub-divison is the leading one while Serampore is the worst

performer in these terms. However the figure of Arambagh is surprising. Though it is one of the laggard sub-divison in terms of area cultivated more than once, in terms of cropping intensity it stands just behind the Sadar. Table 2.24 and Figure 2.15 are presented here to have a glimpse on the basic statistics of major crops in the district by blocks /sub-divisions.

Table 2.24: Area (hect.), Production ('000mt) and Yield (kg/hect.) of Major Crops in Hooghly District, 2005-06

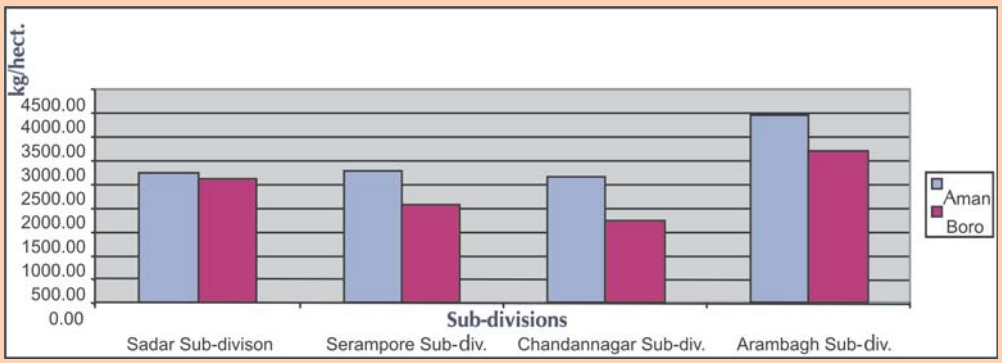
Area(hect.),Production (' 000 mt.) and Yield (Kg./ hect.) of Major Crops in the Blocks of Hooghly for the year 2005-06

Name of Block	Aman			Boro			Jute			Potato		
	Area	Prod.	Yield	Area	Prod.	Yield	Area	Prod.*	Yield**	Area	Prod.	Yield
Sadar Sub-div.	72010.00	197.00	2735.72	47418.00	123.78	2610.34	9754.00	165.44	16.96	27101.00	623.32	22999.96
Dhaniakhali	18541.00	48.88	2636.05	10964.00	26.20	2389.57	2650.00	51.62	19.48	7543.00	183.09	24273.13
Pandua	19824.00	52.52	2649.29	13946.00	38.90	2788.54	90.00	1.53	16.96	8050.00	184.84	22961.72
Balagarh	10347.00	32.53	3143.68	5903.00	15.83	2682.42	5842.00	90.38	15.47	3740.00	73.47	19643.26
Chinsurah-Mogra	2831.00	7.77	2745.51	2345.00	5.51	2348.20	-	-	16.97	383.00	10.23	26702.01
Polba-Dadpur	20467.00	55.30	2705.02	14260.00	37.34	2618.53	1172.00	21.92	18.75	7385.00	171.70	23249.14
Chandannagar Sub-div.	29726.00	79.63	2678.80	9563.00	16.34	1708.88	8484.00	165.46	19.50	20942.00	538.11	25695.01
Tarakeswar	8045.00	21.30	2647.38	2388.00	3.36	1407.86	2443.00	42.00	17.19	7721.00	238.45	30882.89
Haripal	13194.00	35.08	2658.91	4743.00	6.66	1404.19	3315.00	77.67	23.43	7492.00	173.53	23161.73
Singur	8487.00	23.25	2739.43	2432.00	6.32	2598.57	2726.00	45.80	16.80	5729.00	126.13	22015.97
Serampore Sub- div.	21787.00	60.46	2775.23	11390.00	23.57	2069.18	2621.00	49.05	18.71	8313.00	184.64	22211.12
Jangipara	10660.00	32.56	3054.43	4342.00	8.54	1966.73	1559.00	32.57	20.89	6379.00	137.17	21503.58
Chanditala-I	6240.00	15.92	2550.43	4544.00	8.74	1923.76	739.00	11.51	15.58	1179.00	29.54	25057.78
Chanditala-II	3967.00	10.15	2559.09	1592.00	4.03	2530.79	223.00	3.42	15.35	730.00	17.35	23770.23
Serampur-Uttarpara	920.00	1.84	1996.25	912.00	2.26	2474.37	100.00	1.54	15.44	25.00	0.58	23019.00
Arambagh Sub- div.	64454.12	254.01	3940.93	39305.00	125.78	3200.05	10146.00	223.87	22.07	35818.00	1003.98	28029.90
Goghat-I	12574.00	36.96	2938.99	8211.00	23.38	2847.71	9.00	0.20	22.17	5870.00	164.84	28081.43
Goghat-II	10881.00	28.58	2626.93	5136.00	15.11	2941.75	-	-	-	6438.00	154.34	23973.80
Arambagh	19394.00	58.53	3018.00	13300.00	42.83	3320.29	1267.00	27.46	21.67	7317.00	201.38	27521.90
Khanakul-I	12794.00	34.06	2661.92	6398.00	23.02	3598.59	4591.00	106.19	23.13	4694.00	123.22	26251.16
Khanakul-II	2171.12	74.71	34410.81	6260.00	21.43	3423.58	2218.00	45.18	20.37	4657.00	165.19	35472.29
Pursurah	6640.00	21.17	3188.52	-	-	2953.06	2061.00	44.85	21.76	6842.00	195.00	28500.29

*Production in thousand bales of 180 kgs. each.
** In bales per hectare

Source: BAE & S, Government of West Bengal, 2006

Fig. 2.15: Yield Rate (Kg/hect.) of Paddy in the Sub-divisions of Hooghly, 2005-06



Source: BAE & S, Government of West Bengal, 2006

2.7 Non-farm Economic Activities: Micro and Small Scale Enterprises (MSSEs)

A new direction of development and livelihood enhancement in these days is the emerging non agricultural small industrial activity sector described as the non-farm sector. The district is marching forward in the

development of the non-farm sector of the economy. In view of the declining trend of agricultural productivity, growing urbanization and population increase, non-farm sectors of the economy are expanding at a significant space. There are industrial areas in all the sub-divisions of the district. However, the dominant area lies in the Serampore sub-division. The traditional industrial base of the region, chiefly supported by jute has undergone a rapid diversification. Yet there are other activities as per the traditional needs for new employment demanded. In Hooghly, for example, especially in the Dhanikhali region, traditional cotton textile and weaving industries continue to maintain the heritage with large volumes of business activities. This region is the main handloom centre of the district where cotton weaving provides livelihood support to a large number of people. Moreover, Micro and Small Scale Enterprises (MSSEs) play a significant role in the economy of the Hooghly district. On the basis of factor endowments available in the district, there is ample scope for the development of MSSEs, which have tremendous potentialities to mobilize local resources and generate productive employment. Almost all the MSSEs of the district utilize the indigenous sources of inputs. MSSEs are well spread in the district.

Table 2.25: Micro and Small Scale Enterprises in Hooghly District

Name of the Block	No. MSSEs	Fixed Capital (in Rs. Lakh)	Labour Employed (No.)	Type of Industries
Arambag	189	7000	3802	Rice Mill, Cold Storage, Engineering Workshop, Washing Soap
Khanakul I	50	400	801	Engineering Workshop, vegetable Oil, Ground Nut Processing, Handicraft
Khanakul II	48	300	853	Saw Mill, Conch Sheli
Pursurah	60	1200	905	Cold storage, Gunny Bag, Engg. Workshop, Rice Mill, Groundnut Decorticating
Goghat I	72	450	911	Rice Mill, Brane, Bellmetal, Oil Mill, Breaks
Goghat II	63	4000	1008	Rice Mill, Cold Storage, Chilling Plant
Tarakeswar	150	2050	1410	Cold Storage, Oil Mill, Elastic Tape, Automobile, Repairing, Silver Ornaments, Handicraft products
Haripal	106	1800	1223	Cold Storage, Oil Mill, Steel, Furniture, Nylon Rope
Singur	445	6500	2821	Plastic Product, Plywood, Bakery, Alum, Meta Container, Surgical Hand Glaves, Rubberized Coin, Matress Timber, Chikon embroidery, R.M.G, Optical Lance, Detergent Powder, water cooling plant, Accessories, Imitation Ornaments, Distribution Transformer
Chinsurah-Mogra	391	6600	3403	P.V.C Pipe, Sports Gear, Sugar Confectionery, poles, plastic product, Battery, Automobile Repairing, P.C.C Brick, Hume Pipe, Card Poles, Board Box, Papad, Biscuit, Soft Toys, R.M.G

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Name of the Block	No. MSSEs	Fixed Capital (in Lakh)	Labour Employed (No.)	Type of Industries
Balagarh	80	2000	922	Bricks, Rice Mill, Country Boat, Handicraft Items, Plastic Products, Tiles(Clay)
Polba-Dadpur	101	2100	1115	Mosquito Net, PVC Pipe, Cold Storage, Beverages, Detergent Powder, Biscuits, Coconut, Oil, Chickon Embroidery, Acid Slurry
Pandua	120	1600	1327	M.S. Tubed Pipes, Fire Extinguishing Foam, Rice Mill, Coconut, Steel, Furniture, Organic Acid, Cold Storage, PVC Pite
Dhaniakhali	115	2400	1123	Cold Storage, Rice Mill, Pharmaceutical Mfg, Bakery, Textile Product, Optical Lens, Optical Powder, Handicraft Products
Serampur-Uttarpara	550	6700	4200	Ceramic Products, Fire Extinguishing, Transformer, Plywood, PVC Pipes, Transmission Belt, Bekery, P.V. Foam, EET Bottle, Textiles Printing, Casting, Lime, alloy Steel, Forging, Handicraft Product.
Chanditala-I	70	2500	1205	HDPE Ropes and Twine, Coir Rope, Oil Mill, Jewellery, Fishing Wheel, Sports Net.
Chanditala-II	360	6800	2217	M.S. Tube, Metal Casting, Nitrous Oxide, Steel, Fabrication, FRP Product, Lead Ingot Inorganic Acid, Coalter Product, Rolling Mill, Ceramic Product, Surgical Goods, R.M.G.
Jangipara	70	2200	1012	Cold Storage, Engineering Workshop, Steel Furniture, Nylon Rope
Hooghly	**3040**	**56600**	**30258**	**All Above**

Source: Directorate of Industries, Hooghly, 2009

A disaggregated analysis of the nature of MSSEs reveals that the Brick Making and Food Processing industries are generating a huge extent of employment in the district. Among the major food processing industries that are functioning in the district are: Rice Mill (102 units), Oil Mill (106 units), Cold Storage (75 units), Flour Milling (17 units) and Bakery/Biscuits (16 units). Moreover, a large number of families are engaged in handicraft activities in the district.

Table 2.26: Important Handicrafts of Hooghly District

Name of the Craft	Location	No. of Families
Zari Works on Sari	Pandua, Pursurah, Jangipara, Tarakeswar and other blocks	3000
Chikon Embroidery	Babnan, Pandua, Singur	2500
Silk and Cotton Printing	Serampore(Chanditala)	300

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Name of the Craft	Location	No. of Families
Brass and Bell Metal	Manikpat, Goghat, Arambag	150
Conch Shell	Pandua, Khanakul, Makla, Chandannagar	20
Jute Diversified Product	Baidyabati, Mogra	25
Terracotta	Chinsurah, Chandannagar, Baidyabati, Mogra	50

Source: Directorate of Industries, Hooghly, 2009

2.7.1 Handloom Weaving in Hooghly District

The Handloom sarees of Dhaniakhali, Begampur, Jangipara, Rajbalhat areas and dhutis of Haripal, Rajbalhat, Khanakul areas of Hooghly district are widely familiar in all corners of our country for their own characteristics. For the development of Handloom Industries as well as for weavers, both the State & Central Governments Introduced different developmental schemes, like Project Package, Deendayal Hat Kargha Prohotsan Yojana, Integrated Handloom Training Programme etc. and Welfare schemes like Old Age Pension, Contributory Provident Fund, Health Insurance Scheme, Bunkar Bima Yojana House-cum-workshed / Workshed, Mill Gate Price Subsidy Scheme etc. During the 11th Five-year plan attempts have been made for the implementation of new cluster development programme. Considering the market demand of the handicraft items as well as for larger growth of the activity, Government of West Bengal is continuously extending the economic support through the District Industries Centre, Hooghly. Entrepreneurship Development Programme, and skill development training have been arranged by the District Industries Centre from time to time to motivate the artisans and to improve the quality of the finished product. The Cluster Development Programme for the handicraft artisans as well as for micro and small scale enterprises has also been under taken by the District Industries Centres, Hooghly, for better social intervention, market support, financial intervention, up gradation of technology etc. In spite of several steps taken up by the Government, problems of adequate finance, raw materials and marketing continue to persist, causing hindrance to the development of the handloom industry in the district.

Box 2.2: Dhaniakhali Handloom: A pride of Bengal is Shimmering in view of Growing Competition and Duplicity

PEOPLESPEAK SURVEY, DHDR, 2009

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Dhaniakhali handloom, once pride of Bengal, has been fading away in importance in recent years mainly due to severe competitions from the duplicate varieties. Handloom weaver artisans are not getting their justified remunerations for the level of skilled labour they extend in weaving. Many of the artisans have switched over to other professions for the survival of their families. Those who are engaged in this profession, work mostly as marginal workers on part time basis. Truly, there is tremendous demand for Dhaniakhali handloom products like Sari(Tasar), Dhoti and Lungi from the country like Bangladesh, States like Bihar, Tripura, Chennai, Assam, Delhi and from all the districts of West Bengal. In recent years there has been a technological up gradation of weaving maku, from Gharan loom to Dobby and then to Jackard variety of loom. In terms of quality of clothes, three variety of Sari are found in Dhaniakhali: 100 counts (fine), 80 counts (medium) and 60 counts (general). Weavers, wage for finishing a 60 count quality sari is Rs. 47, Rs. 62 for an 80 count sari and Rs. 135 for a 100 count sari. For a weaver it takes two days to complete one sari in each category. Thus, average wage of a weaver per day varies from Rs. 23.50 to Rs. 65. With this low wage young generations do not find any prospects of life and thus are inclined to move away from handloom activities in search of better jobs. This is the main cause of concern specially to preserve the pride of Dhaniakhali in Bengal.

In Somospur Co-operative Weavers Society, Hooghly, there are 546 members who are skilled weavers of Dhaniakhali variety. However, only 280 weavers are actively engaged in the weaving profession. The other weavers have switched over to other professions. Most of the weavers' general sentiment reveals that there is neglect of artisans' interest and also mis-appropriation of co-operative profits by the management.

2.7.2 Livestock Production

In Hooghly district, per capita milk availability is 198.30 gm, meat availability is 15 gm. per day and the egg availability is 38.62 numbers per capita annually. The recommendation of ICMR for per capita daily requirement of milk and meat is 240 gm and 60 gm, respectively, while that of egg is 188 numbers annually. In view of a huge gap between availabilities and requirements of milk, meat and egg, the Department of Animal Resource Development (ARD) of Hooghly district is trying hard to increase the productions of milk, meat and egg through implementation of different schemes set up. Mainly cows and buffalos are reared for milk production purpose. As the indigenous breed is of low productive capacity, the Department of A.R.D. has taken up the prime target to cover maximum number of breedable bovine with artificial insemination under frozen semen technology to enhance milk productivity. Artificial insemination facilities have already been created in all corners of the district. Presently, the existing artificial insemination units are covering 1146 breedable bovine population under self employment programme. Self employed para professional like 'Prani Bandhu' has been trained up in artificial insemination work and activity related to preventive animal health care system. The development of cattle and buffalo is mostly encouraged in the flood prone areas of the district. As the poor man cannot rear the cow due to their financial constraint, they are encouraged to rear goats known as the poor man's cow, through grazing. The farmers belonging to SC and ST categories are mostly engaged in the rearing of pigs in the district as a subsidiary profession. Local indigenous pigs have been upgraded by replacing the indigenous boars with high quality exotic boars to enhance productivity. But due to the lack of proper marketing facilities, the farmers are deprived of the adequate economic benefits from pig rearing. Other important components of livestock are duck and chicken. Attempts have been made in the district to enhance the egg production by introducing an improved

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variety of duck called "Khanki Campble" through the formation of Self-help Groups. Similarly, 'RIR breed' chicks are introduced to replace the deshi Poultry birds of low productivity.

Table 2.27: Livestock Population in Hooghly District

Block	Milch Cow		Milch Buffalo		Total Sheep	Total Goat	Poultry		Pig	
	Local	Upgraded	Local	Upgraded			Backyard	Farm	Local	Exotic
Balagarh	15376	11372	437	0	877	38853	96620	19307	4348	0
Chinsurah-Mogra	4467	6093	1357	0	21	12119	42194	7318	1487	170
Polba-Dadpur	21396	3707	1407	0	119	53471	222683	8253	3158	81
Singur	11693	9854	1082	0	06	26670	46260	27620	287	52
Chanditala-I	9514	3783	350	0	116	21031	6789	8237	122	45
Serampur-Uttarpara	2082	2668	1733	0	12	4953	428471	26882	11	197
Pandua	20008	7689	364	0	22	54387	27804	35897	1882	32
Dhaniakhali	16829	4358	38	0	03	38815	78421	28343	1335	382
Haripal	26020	4842	1014	0	662	83564	198820	76494	10921	6000
Jangipara	22652	6412	188	0	09	69253	138836	90000	4608	392
Tarakeshwar	12794	5567	23	0	0	34004	65780	49322	230	13
Chanditala-II	10743	5493	758	0	0	21985	45698	22297	20	06
Pursurah	11777	1435	34	0	0	27980	27808	18000	04	01
Arambagh	26803	1523	719	0	73	46319	112336	78030	100	39
Khanakul-I	19144	398	24	0	09	43878	79836	59369	40	22
Khanakul-II	13776	279	0	0	0	21646	35690	29538	04	01
Goghat-I	23063	998	34	0	05	34552	100691	17827	1114	17
Goghat-II	24902	2516	107	0	74	27967	116795	33413	1062	24

Source: Directorate of Animal Husbandry, Hooghly, Govt. of West Bengal, 2009

2.8 Industrial Scenario in Hooghly District

Industrialization may be thought to be synonymous with economic development and agriculture acts here as a catalytic agent because of its 'product contribution', 'factor contribution' and 'market contribution' [Kuznet (1961)]. Moreover, for any sustainable economic development only the expansion of service sector supported by the growth of the agricultural sector would not be sufficient; rather industrialization is essential, which also helps enlarge the capacity as well as the choice-base of the individual. Any document on human development in any region, therefore, should give emphasis exclusively on industrialization.

Industries in any region flourish if that region has a past legacy of developed industrial establishments or if that region provides requisite infrastructural facilities like rail and road connectivity, water and electricity supply, availability of suitable workforce, proximity to potential markets, etc. Hooghly district satisfying most of these features becomes one of the industrially developed districts in West Bengal.

Historically industrialization in the Hooghly district can be traced back to 17th and 18th centuries from when different industrial units came into existence with the development of various European settlements along the river Bhagirathi, namely, Chinsura, Chandannagar, Serampore, Hooghly, Saptagram etc. The traditional industries in the district were silk and cotton handloom weaving, chikan embroidery, brass and bell-metal manufacture, bricks and tiles, rural oil pressing, hand-pounding of rice, salt, ice, indigo, tobacco and boat making industries, manufacturing of fishing hook and thread, carpentry etc. Later on large-scale modern industrial units, like different jute and cotton mills, thermal power plant, Hindustan Motors, Dunlop Rubber Company, Alkali and Chemical Corporation of India, J.K.Steel and Hindustan National Glass Manufacturing Company, Tribeni Tissues, Angus Works (manufacturing railway wagon components, road roller, cranes, etc.), to name a few, have been set up mainly within the municipal areas of Konnagar, Rishra, Serampore, Baidyabati, Champdani, Gourhati, Bhadreswar, Chandannagar, Hooghly, Chinsura and Bansberia [Banerjee, (1972)].

From this brief historical review of the industrial development of the district it is evident that (i) the district has a long tradition of developing all kinds of industries (large, medium and small) and (ii) there remains an imbalance 'between the narrow riparian strip along the Bhagirathi from Tribeni to Uttarpara and the rest of the district; while the former bristles with modern factories, the industrial progress elsewhere is indicated, at best, by cold storages and rice mills...'[Banerjee, (1972)].

But, presently the situation in the district has changed remarkably and become conducive to further its pace of industrialization. Following Table 2.28 justifies the favourable climate of the district:

Table 2.28: Some Important Economic Features of Hooghly District

Economic Indicators		Past Year(s)		Recent Year
		1990-91	2000-01	2006-07
Index Number of Agricultural : [Base : Trinnimum ending 1981-82]	Area	118.82	102.76	138.10
	Producing	168.67	199.51	181.01
	Productivity	141.95	194.15	131.07
		1991	**2001**	**2007**
Literacy Rate		66.78 (57.70)	75.11 (68.64)	—
Density of Population		1383 (767)	1601 (903)	—
Percentage of Urban Population to Total		31.19 (27.48)	33.47 (27.97	—

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Economic Indicators	Past Year(s)		Recent Year
	1990-91	2000-01	2006-07
Main workers as percentage to total population	29.58 (30.23)	30.3 (28.72)	—
Total electricity consumption/— supplied ('000 KWH)	313103	462196*	
Average population per bank office ('000)	18 (16)	19 (18)	20 (19)
Length of road maintained by1121 PWD (in Km.)	1137	1195	
No. of technical schools and colleges	—	7+6=13	16+13=29*
No. of registered motor vehicles	—	114093	221212*
Amount of small savings (in crore)	—	58.57	73.02*

Notes : Figures within the Parentheses are corresponding state figures. *Data are related to

Source : Statistical Handbook, Hooghly, BAE & S, Govt. of W.B., 2006

From Table 2.28 we see that over time the electric supply/consumption, literacy rate, number of technical educational institutions, level of urbanization, flow of main workers, road connectivity as well as number of motor vehicles and surplus generated by the masses, all of which are favourable indicators of industrialization, improved enormously. Moreover, the district is well connected by railway lines and most of the block headquarters are not far away (within 20 km) from their nearest railway stations. Density of population in Hooghly district is much higher than the State average, which signifies the easy maintenance of livelihood in the district. The figures in Table 2.28 also establish the saturation of the already developed agricultural sector in the district where there is little scope to increase productivity further and to accommodate ever growing population in this sector. Thus, the higher population density in the district signifies the existence of higher non-farm activities in general and industrial activities in particular.

We cover here both block-wise potential and actual state of industrialization in the district. Owning to non-availability of consistent and reliable data on existing large scale industrial units located mainly in the municipal area, we have excluded factors associated with such large scale industries. However, this would not affect the DHDR significantly because the existing large industrial units are supposed to have limited scope of further enhancing the employment opportunity, productivity and marketability of their non-customized products.

2.8.1 Potential Industrialization: Industrial Infrastructure

To capture the block-wise state of potential industrialization in the district we have selected four indicators of industrial infrastructure, namely,

a) road density

b) railway connectivity

c) banking network, and

d) electricity coverage.

First three components have been clubbed by assigning data driven weights (using principal component

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analysis) to construct their combined form with which last indicator (namely, electricity coverage that has no variation in all the blocks) is again combined using the method of simple arithmetic mean to get block level overall picture of potential industrialization. Next, from these lastly derived figures block level index of potential industrialization has been computed using the UNDP method [namely (Actual value-Minimum value)/ (Maximum value-Minimum value)]. On the basis of values of this index we have then constructed block level rankings for representing the state of potential industrialization.

Box: 2.3: Step I: Construction of Index of Potential Industrialization

Components of Potential Industrialization:

- Percentage of Mouzas electrified(electric)
- Percentage of road length to total area(Road density)
- Proportion of population served by bank (reciprocal to represent banking network)
- Rail-road connectivity (reciprocal of the distance of Block headquarter from nearest railway station).

In the first place using the last three indicators, the index of Potential Industrialization (I*) has been constructed using Principal Component Analysis (PCA) following data driven weight method. Since all the mouzas of Hooghly district have been electrified, to incorporate the impact the electricity on industrialization, index has been modified in the following way:

$I_2 = (I^* + Electric)/2.$

Final index for potential industrialization (PII) has been constructed using dimension index of UNDP approach

Out of different indicators of industrial infrastructure, as per availability of block-level data, four indicators as mentioned earlier have been selected. Electricity coverage could be accurately represented if block-level data on total electricity consumption would be available. But we get data on number of mouzas electrified in a block from which we have calculated the proportion of electrified mouzas, which is also a good indicator of industrial infrastructure in any block.

Table 2.29: Electricity Coverage of Different Blocks in Hooghly

Name of the Block	No. of Mouzas	No. of Mouzas electrified		Proportion of electrified Mouzas	
	2001	2001	2005	2001	2005
1. Chinsurah-Mogra	56	51	56	0.91	1.00
2. Polba-Dadpur	194	193	194	0.99	1.00
3. Pandua	157	156	157	0.99	1.00
4. Dhaniakhali	214	214	214	1.00	1.00
5. Balagarh	135	131	135	0.97	1.00
6. Serampore-Uttarpara	19	19	19	1.00	1.00
7. Jangipara	129	129	129	1.00	1.00
8. Chanditala-I	56	56	56	1.00	1.00

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Name of the Block	No. of Mouzas	No. of Mouzas electrified		Proportion of electrified Mouzas	
	2001	2001	2005	2001	2005
9. Chanditala-II	36	36	36	1.00	1.00
10. Tarakeswar	90	89	90	0.99	1.00
11. Haripal	154	153	154	0.99	1.00
12. Singur	108	108	108	1.00	1.00
13. Arambag	159	152	159	0.96	1.00
14. Pursurah	50	50	50	1.00	1.00
15. Goghat-I	99	97	99	0.98	1.00
16. Goghat-II	112	109	112	0.97	1.00
17. Khanakul-I	94	93	94	0.99	1.00
18. Khanakul-II	53	52	53	0.98	1.00

Source: Statistical Handbook, Hooghly; BAE & S, Govt. Of W.B, 2006

From Table 2.29 it is observed that in the year 2005 (and naturally from 2005) Hooghly district has become fully electrified which was less than 100 % in 11 blocks (out of total 18 blocks) in 2001. In the West Bengal District Gazetters Hooghly A.K. Banerjee has opined that 'as regard small-scale industries, their expansion is linked with the gradual extension of electricity to the interior villages. More rice mills, cold storages, bricks and tiles manufacturing units, factories for production of agricultural implements and the like are expected to grow in number with better distribution of energy' (P. 318, 1972). At present, however, the district is quite capable of utilizing erstwhile-untapped potentialities. As this data has no variation, it does not change the relative position of the block; in whatever it is accommodated in the index.

In National Human Development Report (2001) it is documented that "a good road connectivity of habitations, with sub-divisional towns and district headquarters, is often the primary means of supplementing the public effort directed at providing basic health and educational services, as well as infrastructural support for production, trade and commerce at the local village level". Transport facility is an essential pre-requisite for establishing any industrial unit. At the district level mainly, there are two modes of transportation: roadways and railways (waterways had lost its importance due to poor navigation of rivers and canals). In the present study railway connectivity of any block has been represented as the reciprocal of distance (measured in kilometers) of any block headquarter from its nearest railway station and the road network of the block has been measured as the proportion of surfaced (metalled) and unsurfaced (semi-metalled and all weather) roads maintained by PWD and Zilla Parishad (not by Gram Panchayat and Panchayat Samity whose maintained roads and unsurfaced roads maintained by Zilla Parishad are not always suitable for transportation of industrial goods) to the total area of the block. Data for both these indicators (namely, road network and railway connectivity) are presented in Table-2.30.

From Table 2.30 it is observed that in 2005, 50% of the blocks in the district (exactly nine out of eighteen blocks) are within the distance of 5 km. (having reciprocal value 0.2) from the nearest railway stations and the rest blocks are also not far away (having a maximum reciprocal value of 0.023 i.e., a distance of 43 km.).

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Table-2.30: Road Net-work and Railway Connectivity of the Blocks in Hooghly District

Name of the Block	Railway Connectivity *
1. Chinsurah-Mogra	1.000
2. Polba-Dadpur	0.100
3. Pandua	1.000
4. Dhaniakhali	0.200
5. Balagarh	1.000
6. Serampore-Uttarpara	1.000
7. Jangipara	0.056
8. Chanditala-I	0.125
9. Chanditala-II	0.333
10. Tarakeswar	1.000
11. Haripal	1.000
12. Singur	1.000
13. Arambag	0.034
14. Pursurah	0.100
15. Goghat-I	0.026
16. Goghat-II	0.023
17. Khanakul-I	0.028
18. Khanakul-II	0.026

Note: * Reciprocal of the distance (in km.) of block headquarter from nearest rail station is computed to represent higher value for better railway connectivity.

Source: District Statistical Handbook, Hooghly, 2006

Table 2.31: Index of Potential Industrialization in Hooghly District

Block	Proportion of Mouzas electrified	Percentage of Road Length to Total Area	Proportion of Population served by bank	Rail-Road Connectivity	Weighted Index of Potential Industrialization	Rank
Chinsurah-Mogra	1	2.54	0.07	1	1.25	1
Polba-Dadpur	1	1.04	0.04	0.1	0.76	8
Pandua	1	0.95	0.04	1	0.87	4
Dhaniakhali	1	0.71	0.05	0.2	0.7	11

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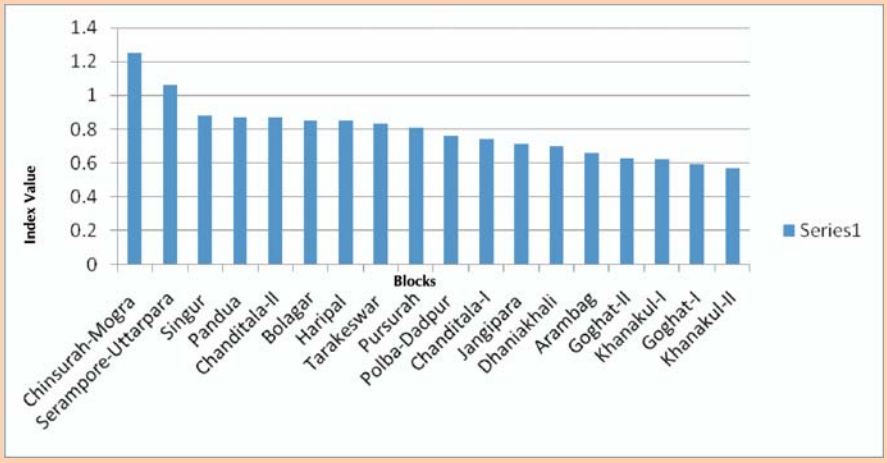
Block	Proportion	Percentage	Proportion	Rail-Road	Weighted Index	Rank
Balagarh	1	0.87	0.05	1.00	0.85	5
Serampore-Uttarpara	1	1.72	0.09	1.00	1.06	2
Jangipara	1	0.85	0.05	0.06	0.71	10
Chanditala-I	1	0.9	0.12	0.13	0.74	9
Chanditala-II	1	1.32	0.13	0.33	0.87	4
Tarakeswar	1	0.76	0.04	1.00	0.83	6
Haripal	1	0.84	0.07	1.00	0.85	5
Singur	1	0.98	0.08	1.00	0.88	3
Arambag	1	0.66	0.04	0.03	0.66	12
Pursurah	1	1.24	0.09	0.10	0.81	7
Goghat-I	1	0.35	0.03	0.03	0.59	15
Goghat-II	1	0.51	0.04	0.02	0.63	13
Khanakul-I	1	0.46	0.06	0.03	0.62	14
Khanakul-II	1	0.24	0.06	0.03	0.57	16
District		**0.448**	**0.056**	**0.076**	**0.622**	

Source: Statistical Handbook, Hooghly, 2006

Fig. 2.16: Arrangement of Blocks in terms of Index of Potential Industrialization in Hooghly District



Source : Table 2.31

In terms of potential index of industrialization Chinsurash-Mogra block occupies the top position in the district followed by Serampur-Uttarpara, Singur,Chanditala II, Haripal amd Tarakeshwar. The blocks having least potentialitites for industrialization in the district are: Khanakul II, Goghat I, Khanakul I,Goghat II and Arambag.

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2.8.2 Index of Actual Industrialization in Hooghly

The block level indices and rankings have been computed through the same technique of clubbing (that is, using principal component analysis followed by UNDP method of index construction) of four indicators relating to the actual state of industrialization in the district. These selected indicators are

a) proportion of household industry workers to total workers,
b) employment in Micro and Small Scale Enterprises(MSSE),
c) total production of units covered by KVIB (Khadi and Village Industries Board), and
d) Average productivity in handloom industries.

Box 2.4: Construction of Index of Actual Industrialization

Components of Actual Industrialization:

- Proportion of household industry worker to total worker.
- No. of employment in MSSE
- Total industrial production in Khadi and Village Industries
- Average productivity in Handloom Industries

The index of Actual Industrialization (AII) has been constructed using Principal Component Analysis (PCA) following data driven weightage system and then by using dimension index of UNDP approach.

Table 2.32: Index of Actual Industrialization in Hooghly District

Block	Proportion of household industry workers to total workers	No. of employment in MSSE	Total industrial production in K.V.I (in Crore Rs.)	Average productivity in handloom (in Lakh Rs.)	Index of Actual industrialization	Rank
Chinsurah-Mogra	0.033	1902	10.61	2.300	438.96	8
Polba-Dadpur	0.075	560	27.59	0.215	330.25	11
Pandua	0.031	617	6.22	3.900	349.35	9
Dhaniakhali	0.045	573	15.59	178.980	438.96	8
Balagarh	0.047	406	18.89	153.000	332.51	10
Serampore-Uttarpara	0.045	3037	4.02	5.200	1691.18	1
Jangipara	0.100	915	5.14	32.890	533.67	6
Chanditala-I	0.093	845	0.54	49.230	501.79	7
Chanditala-II	0.098	2117	0.11	108.970	1243.79	2
Tarakeswar	0.037	517	2.54	6.510	293.35	12
Haripal	0.073	1132	2.87	22.820	645.63	5

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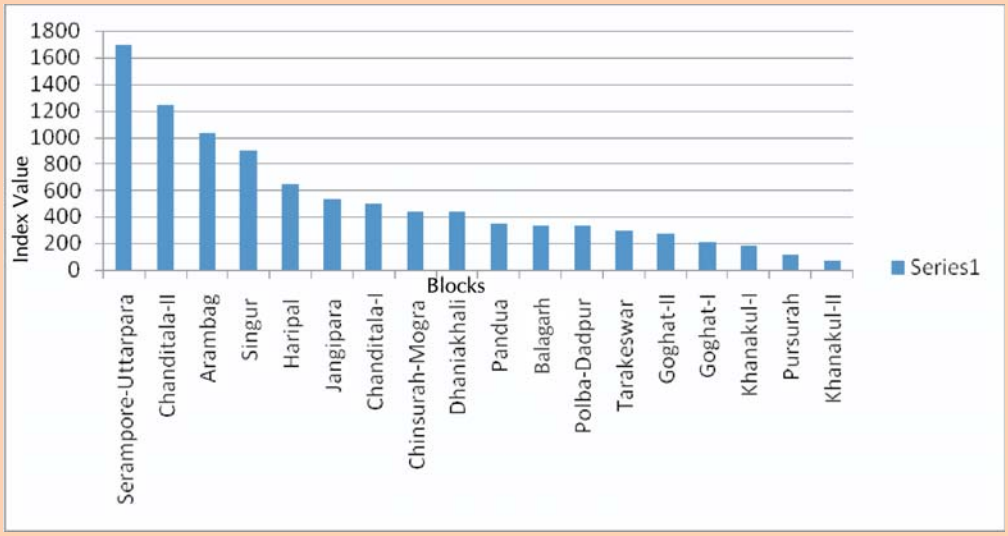
Block	Proportion of household industry workers to total workers	No. of employment in MSSE	Total industrial production in K.V.I (in Crore Rs.)	Average productivity in handloom (in Lakh Rs.)	Index of Actual industrialization	Rank
Singur	0.094	1615	2.7	1.97	901.12	4
Arambag	0.045	1842	6.26	7.58	1031.37	3
Pursurah	0.035	201	1.9	2.53	115.20	16
Goghat-I	0.033	378	0.92	3.5	213.27	14
Goghat-II	0.053	481	0	4.51	270.98	13
Khanakul-I	0.095	273	17.41	22.935	179.17	15
Khanakul-II	0.061	115	0	8.92	70.94	17
District	**0.052**	**17526**	**123.31**	**34.22**	**532.30**	**—**

Source: Statistical Handbook, Hooghly, BAE & S, Govt. Of W.B, 2006

Serampore-Uttarpara is the most industrialized block of Hooghly district. The degree of industrialization varies widely over the blocks of the district. In terms of index of actual industrialization other important industrialized blocks of the district are: Chanditala -II, Arambag, Singur and Haripal. On the other hand, Khanakul II, Pursurah, Khanakul I, Goghat I amd Goghat II are the least industrialized blocks of the district.

Fig. 2.17: Arrangement of Blocks in terms of the Index of Actual Industrialization in Hooghly District



Source : Table 2.32

2.8.3 Combined Index of Industrialization:

Finally, the block level indices of industrialization have been constructed through weighted average of potential industrialization index and actual industrialization index when weights are determined on the

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basis of relative strength of association of a particular index (potential or actual) with the population density of any region. Here the weights may be termed as market determined weights on the presumption that (i) the respective associations are positive (which has actually been observed) and (ii) in an agriculturally more-or-less saturated situation people prefer to live in that region where it is easy to maintain livelihood through non-farm activities including industrial activities. It is to be noted that the usual methodology of HDI has not been followed here mechanically as the basic objective of this study is to present the region-wise state of industrialization based on the relative importance of the indicators.

Box 2.5: Methodology for Constructing an Index for Combined Industrialization

Step-: Construction of Combined Industrial Index (CII)

(A) Weightage on Actual Industrialization Index (AII), $a = R_{11}$

Where R_{11} is the correlation coefficient between AII and population density

(B) Weightage on Potential Industrialization Index (PII), $b = R_{12}$

Where R_{12} is the correlation co-efficient between PII and population density

☐ The Combined Industrial Index (CII) $= \left(\frac{a}{a+b}\right) \times AII + \left(\frac{b}{a+b}\right) \times PII$

Where $\left(\frac{a}{a+b}\right)$ and $\left(\frac{b}{a+b}\right)$ are the market determined weights for AII & PII respectively.

Table 2.33: Index of Combined Industrialization in Hooghly District

Blocks	Actual Industrialisation Index	A II	Potential Industrialisation Index	P II	Combined Industrialisation Index	Rank
Chinsurah-Mogra	438.96	0.61	1.25	1.00	0.80	2
Polba-Dadpur	330.25	0.16	0.76	0.29	0.22	10
Pandua	349.35	0.17	0.87	0.45	0.31	6
Dhaniakhali	438.96	0.23	0.70	0.20	0.21	11
Balagarh	332.51	0.16	0.85	0.42	0.29	7
Serampore-Uttarpara	1691.18	1.00	1.06	0.72	0.87	1
Jangipara	533.67	0.29	0.71	0.22	0.25	9
Chanditala-I	501.79	0.27	0.74	0.26	0.26	8
Chanditala-II	1243.79	0.73	0.87	0.45	0.59	3
Tarakeswar	293.35	0.14	0.83	0.38	0.26	8
Haripal	645.63	0.36	0.85	0.42	0.38	5
Singur	901.12	0.51	0.88	0.46	0.49	4
Arambag	1031.37	0.59	0.66	0.15	0.38	5

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Contd.

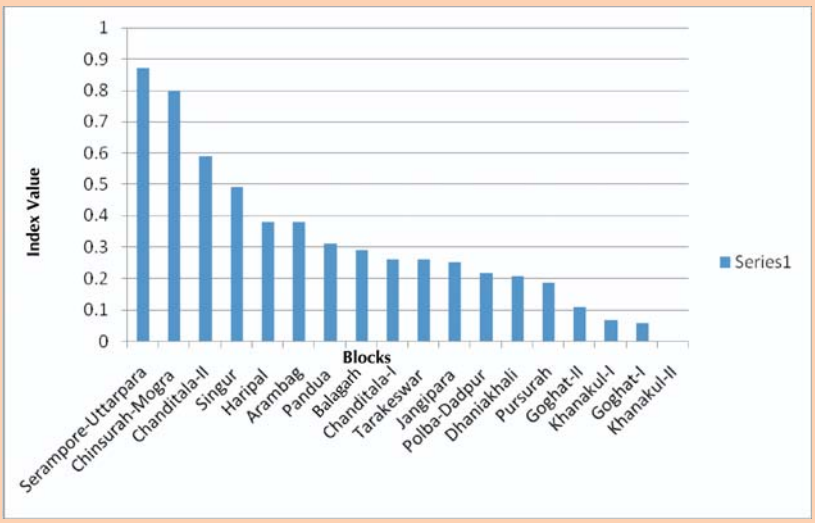
Blocks	Actual Industrialisation Index	A II	Potential Industrialisation	P II	Combined Industialisation Index	Rank
Pursurah	115.20	0.03	0.81	0.37	0.19	12
Goghat-I	213.27	0.09	0.59	0.03	0.06	15
Goghat-II	270.98	0.12	0.63	0.09	0.11	13
Khanakul-I	179.17	0.07	0.62	0.08	0.07	14
Khanakul-II	70.94	0.00	0.57	0.00	0.00	16
District	**532.30**	**0.31**	**0.622**	**0.076**	**0.20**	

Note: where

a = R11	0.751
b = R12	0.68
a+b	1.43
a/a+b	0.52
b/a+b	0.47

Source: Table 2.31and Table 2.32

Fig. 2.18 Arrangements of Blocks in terms of the Combined Industrialization Index in Hooghly District



Source : Table 2.33

Combined index of industrialization which is the composite index of industrialization measures the level of industrialization of Hooghly district. In terms of combined index of industrialization, Serampore-Uttarpara block occupies again the top position followed by Chinsurah-Mogra, Chanditala II, Singur and Haripal; while Khanakul II is the least industrialized block of the district followed by Goghat I, Khanakul I, Pursurah and Dhaniakhali.

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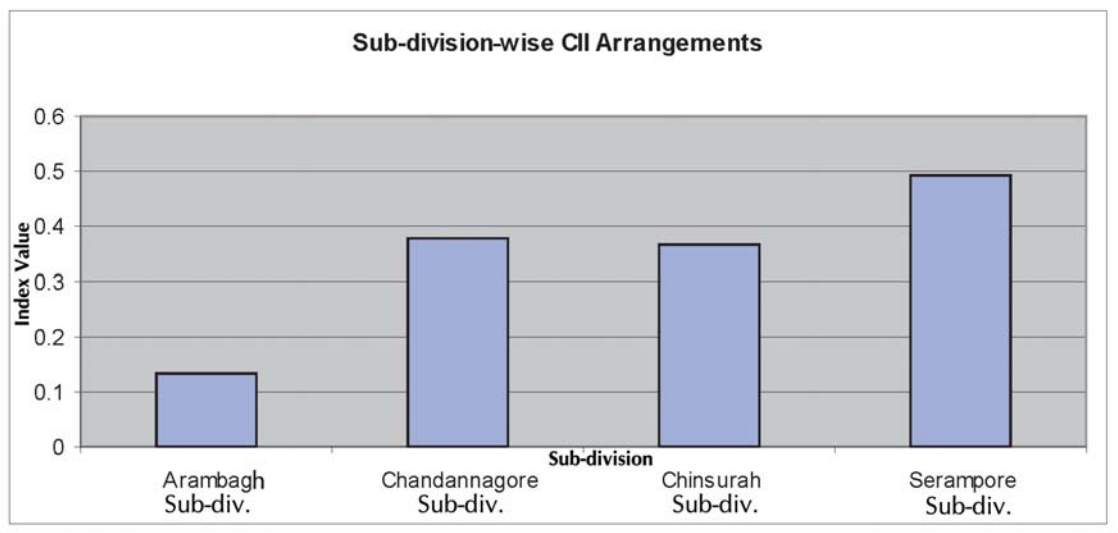
Fig. 2.19: Arrangement of Sub-divisions in terms of Combined Industrialization Index (CII)



Source : Computation based on Table 2.33

From Figure 2.19 it is observed that Serampore is the most industrialized sub-division followed by Chinsurah and Chandannagore, while Arambag is the least industrialized sub-division in the district of Hooghly.

2.9 Towards a Livelihood Index

Livelihood index reflects the materialistic standard of living of the people. This takes care of capability and functioning aspects of development benefits. Non-availability of segregated income data at the block level compels us to search for an alternative measure of materialistic standard of living at the disaggregated level. Under the circumstances, two proxy variables have been used. One of the components of livelihood that has been identified is the level of employment. The extent of employment i.e. the number of persons engaged in economic activities is used as a proxy variable to determine the materialistic well being of the people with the supposition that the higher the level of employment the higher will be the economic well being. However, in a poor economy there might be divergence between employment and earning. In fact a poor family cannot afford to be unemployed. Hence, the basic requirement is not only some employment but some decent employment i.e., employment that fetches reasonable income. Hence, we consider another component of livelihood -the asset ownership. Stable livelihood sources should show itself in the accumulation of household assets of different types.

2.9.1 Components of Livelihood Index

(a) Employment:

The level of employment has been approximated from workers participation in various economic activities. Two components of employment have been identified. Total workers as percentage of total population i.e. work participation rate is taken as one of the components of livelihood index (P1). According to the nature of the work and its contribution to income, total workers are divided into two parts: main workers and marginal workers. Main workers are expected to contribute significantly on economic well being and so the proportion of main workers to total workers is also taken as another component of livelihood index (P2). These two components are combined using data driven weights (i.e. using Principal Component Method) to arrive at an employment index.

(b) Asset ownership:

One of the most important measures of vulnerability is the extent of economic deprivation. Among the several measures of deprivation, income poverty is most widely used[1] . However, it is possible to measure it in an indirect way by using the Census 2001 data. Here for our purpose we look at the issues from availability, entitlement and outreach and so we take a different angle, focussing on asset poverty as defined below. This Census provides us detailed record of the number of households possessing a specified list of assets namely (i) availing banking facilities (b) radio, transistor (c) bicycle (d) television (e) telephone (f) scooter, motorcycle, moped (g) car, jeep, and van at the block level. Thus, it is possible to calculate the proportion of households who possess at least one of the above assets (P3). Obviously, blocks with greater proportion households having some of these assets are enjoying a more stable livelihood base.

Another important asset is the ownership of house that includes ownership of both homestead land and the construction thereof. However, we concentrated on possession of quality housing. The Census gives us two qualities of owned houses- whether they have electric connection and whether they have separate toilet facilities. Thus we have calculated proportion of households possessing houses with electric connection (P4) and the proportion of households possessing houses with separate toilets (P5). These three components (namely P3, P4, and P5) are combined using data driven weights through Principal Component Method to arrive at an asset index.

2.9.2 Livelihood Index:

To form the livelihood index appropriate weights for the two components (viz employment index and asset index) need to be chosen. Again, we utilise the data driven weights using Principal Component Method to arrive at the livelihood index at the block level of the district.

The results are given in the tables below. The first table (Table 2.34) shows us the components of asset index. There appears wide variety in the distribution of these parameters. As for example, Singur ranks best in terms of P3 and P5 but not so much in P4. Again, Haripal is in the leading position in terms of P3 but a laggard block in terms of other two parameters.

Table: 2.34: Components of Asset Index

	% of households owning house with electricity (P3)	rank	% of households owning house with toilet (P4)	rank	% of households with assets (P5)	rank
Sadar Sub-division	**38.61**	**3rd**	**40.44**	**3rd**	**75.93**	**3rd**
Dhaniakhali	33.34	25	34.25	24	79.10	15
Pandua	33.68	24	37.39	21	73.44	23
Balagarh	32.85	26	43.72	16	73.26	24
Chinsurah-Mogra	48.16	14	54.90	10	75.35	21
Polba-Dadpur	45.04	16	31.95	25	78.49	18
Chandannagar Sub-division	**65.32**	**1st**	**43.60**	**2nd**	**82.58**	**1st**
Tarakeswar	51.93	12	41.12	18	81.85	10

[1]By income poverty we simply mean the proportion that is incapable of securing a pre-specified level of income. This os generally regarded to be an ablolute measure of deprivation. Unfortunately due to lack of adepuate data, income poverty could not be measured at the block level.

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	% of households owning house with electricity (P3)	rank	% of households owning house with toilet (P4)	rank	% of households with assets (P5)	rank
Haripal	66.06	3	38.40	19	79.38	14
Singur	77.99	1	51.27	12	86.52	3
Serampur Sub-division	**54.36**	**2nd**	**53.84**	**1st**	**81.05**	**2nd**
Jangipara	42.21	19	36.15	22	82.49	8
Chanditala-I	58.53	8	49.14	13	78.27	19
Chanditala-II	56.25	11	61.72	6	80.24	12
Serampur-Uttarpara	60.44	7	68.36	4	83.21	7
Arambagh Sub-division	**30.50**	**4th**	**24.12**	**4th**	**74.48**	**4th**
Goghat-I	27.99	28	20.99	29	79.73	13
Goghat-II	26.79	29	19.05	30	85.21	5
Arambagh	36.46	23	24.52	26	71.11	26
Khanakul-I	29.28	27	23.27	27	69.26	27
Khanakul-II	18.20	30	22.33	28	61.06	29
Pursurah	44.27	18	34.53	23	80.48	11
Arambag (M)	51.48	13	43.18	17	74.48	22
Tarakeswar (M)	46.03	15	56.65	9	58.88	30
Bansberia (M)	42.18	20	51.40	11	78.61	16
Hooghly-Chinsurah (M)	65.32	4	72.49	2	88.72	1
Chandannagar (M Corp)	66.71	2	69.96	3	87.60	2
Bhadreswar (M)	44.30	17	48.77	14	78.59	17
Champdani (M)	37.44	22	37.48	20	64.08	28
Baidyabati (M)	64.35	5	74.19	1	85.24	4
Serampore (M)	56.82	10	59.07	8	82.19	9
Rishra (M)	41.97	21	44.28	15	71.71	25
Konnagar (M)	62.03	6	64.29	5	76.95	20
Uttarpara Kotrang (M)	57.05	9	59.39	7	84.53	6

Source: Census, 2001

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However, on the whole, the picture is consistent. All the blocks of Arambagh sub-division lie in the lower spectrum of ranking (in terms P3, P4 and P5) the worst being Khanakul-I and II. Again Chandannagar (M) is a leader with respect to all the parameters. Same is the case of Hooghly-Chinsura (M). Among the municipalities, Rishra and Champdani are in a very bad shape. Tarakeswar (M) is the worst in terms of P5 but better placed when we consider P4.

Next, we consider the components of employment index. This is given in Table 2.35 below. Again, there are some anomalies between P1 and P2. For example, Pandua has a high rank in WPR but the lowest rank in terms of P2. This implies that though WPR is high in this block, the proportion of main workers is very low. Similar is the case for Haripal. However, the overall picture is consistent. Among the blocks Jangipara is in the best position closely followed by Goghat-I and II. Khanakul-II seems to be in bad shape even in terms of employment index with a large percentage of people engaged in marginal works. The municipalities are mostly in a very bad shape - the worst being Bansberia (M). Rishra (M) closely follows it.

It must be noted, however, that this employment need not always indicate income earning capacity or vice-versa. For this we have to construct livelihood index that combines both income (represented in terms of asset ownership) and employment aspects and employment aspects of livelihood.

Table 2.35: Components of Employment Index

	WPR (P1)	rank	% of main worker to total worker (P2)	rank
Sadar Sub-division	**45.08**	**2nd**	**29.04**	**4th**
Dhaniakhali	48.27	5	36.60	7
Pandua	46.04	6	0.73	30
Balagarh	43.86	8	37.06	6
Chinsurah-Mogra	37.46	23	32.35	23
Polba-Dadpur	49.79	4	38.46	4
Chandannagar Sub-division	**41.90**	**4th**	**34.32**	**1st**
Tarakeswar	41.48	12	35.19	11
Haripal	43.83	9	31.92	26
Singur	40.40	13	35.85	10
Serampur Sub-division	**42.04**	**3rd**	**34.05**	**3rd**
Jangipara	53.79	2	39.59	1
Chanditala-I	40.01	14	31.94	25
Chanditala-II	36.77	25	32.25	24
Serampur-Uttarpara	37.61	19	32.42	22
Arambagh Sub-division	**45.20**	**1st**	**34.23**	**2nd**
Goghat-I	50.55	3	39.11	2

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	WPR (P1)	rank	% of main worker to total worker (P2)	rank
Goghat-II	57.29	1	38.26	5
Arambagh	37.04	24	29.65	29
Khanakul-I	43.31	10	33.55	15
Khanakul-II	45.49	7	31.86	27
Pursurah	37.54	20	32.95	18
Arambag (M)	37.70	18	32.64	20
Tarakeswar (M)	43.00	11	38.74	3
Bansberia (M)	34.56	30	31.16	28
Hooghly-Chinsurah (M)	36.41	26	33.45	16
Chandannagar (M Corp)	37.76	17	34.48	13
Bhadreswar (M)	37.52	21	34.66	12
Champdani (M)	35.64	27	33.19	17
Baidyabati (M)	39.74	15	36.24	9
Serampore (M)	35.25	28	32.90	19
Rishra (M)	35.23	29	32.45	21
Konnagar (M)	37.52	22	34.22	14
Uttarpara Kotrang (M)	38.83	16	36.33	8

Source: Census, 2001

The results on livelihood index are given in Table 2.36 below. Several findings are immediate. Firstly, the employment index and asset index are sharply contrast to each other. The dominating component of the livelihood index is not the employment index but the asset index. In fact, the employment index lags well beyond the asset and livelihood index. There is little difference in terms of employment index across the sub-divisions. The difference crops up in the asset index. For example, the blocks Dhaniakhali and Singur match each other closely in employment index but in terms of asset index Singur moves well ahead of Dhanikhali.

Table 2.36: Livelihood Index and its Various Components

	Asst. Indx	Rank	Emply. Indx	Rank	Liveli Indx	Rank
Sadar Sub-division	**0.41**	**3rd**	**0.19**	**2nd**	**0.30**	**3rd**
Dhaniakhali	0.36	25	0.24	7	0.30	23
Pandua	0.36	25	0.02	30	0.19	30
Balagarh	0.36	25	0.24	7	0.30	23

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	Asst. Indx	Rank	Emply. Indx	Rank	Liveli Indx	Rank
Chinsurah-Mogra	0.51	14	0.21	22	0.36	15
Polba-Dadpur	0.45	18	0.25	4	0.35	17
Chandannagar Sub-division	**0.64**	**1st**	**0.22**	**1st**	**0.43**	**1st**
Tarakeswar	0.52	13	0.23	10	0.38	12
Haripal	0.64	5	0.21	22	0.43	6
Singur	0.76	1	0.23	10	0.5	1
Serampur Sub-division	**0.56**	**2nd**	**0.22**	**1st**	**0.39**	**2nd**
Jangipara	0.44	21	0.26	1	0.35	17
Chanditala-I	0.59	9	0.21	22	0.4	10
Chanditala-II	0.58	11	0.21	22	0.39	11
Serampur-Uttarpara	0.63	7	0.21	22	0.42	7
Arambagh Sub-division	**0.32**	**4th**	**0.22**	**1st**	**0.27**	**4th**
Goghat-I	0.30	28	0.25	4	.28	26
Goghat-II	0.29	29	0.25	4	.27	27
Arambagh	0.37	23	0.19	29	.28	25
Khanakul-I	0.31	27	0.22	14	.27	28
Khanakul-II	0.21	30	0.21	22	.21	29
Pursurah	0.45	18	0.21	22	.33	19
Arambag (M)	0.52	13	0.21	22	0.37	14
Tarakeswar (M)	0.48	15	0.25	4	0.37	14
Bansberia (M)	0.45	18	0.20	28	0.33	21
Hooghly-Chinsurah (M)	0.68	3	0.21	22	0.45	4
Chandannagar (M Corp)	0.68	3	0.22	14	0.45	3
Bhadreswar (M)	0.47	16	0.22	14	0.35	18
Champdani (M)	0.39	22	0.21	22	0.3	23
Baidyabati (M)	0.67	4	0.23	10	0.45	3
Serampore (M)	0.59	9	0.21	22	0.4	10
Rishra (M)	0.44	21	0.21	22	0.33	21
Konnagar (M)	0.63	7	0.22	14	0.43	6
Uttarpara Kotrang (M)	0.59	9	0.23	10	0.41	8
Hooghly	**0.496**		**0.214**		**0.36**	

Source: Census, 2001

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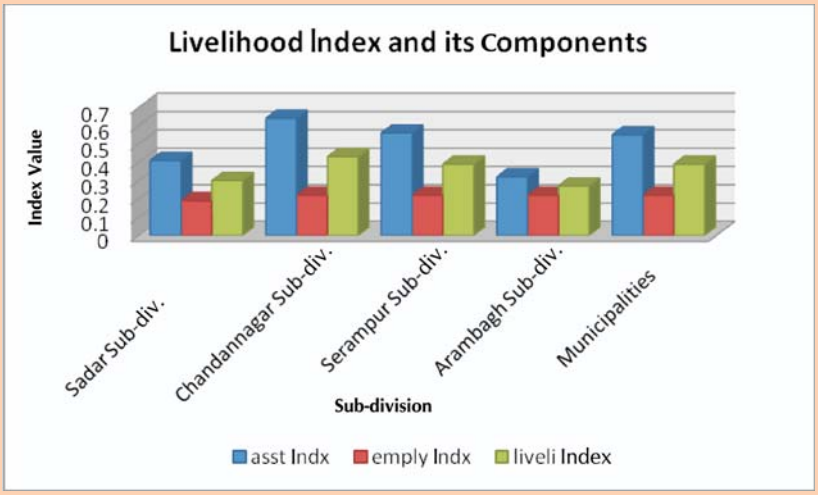
Table 2.37: Sub-division-wise Livelihood Index and its components at the Sub-division Level

	asst indx	Avg rank	emply indx	Avg rank	liveliindx	Avg rank
Sadar Sub-division	0.41	21.40	0.19	14.00	0.30	21.6
Chandannagar Sub-division	0.64	6.33	0.22	14.00	0.43	6.33
Serampur Sub-division	0.56	12	0.22	16.75	0.39	11.25
Arambagh Sub-division	0.32	25.83	0.22	15.83	0.27	25.67
Municipalities	0.55	11.67	0.22	17.00	0.39	12.085

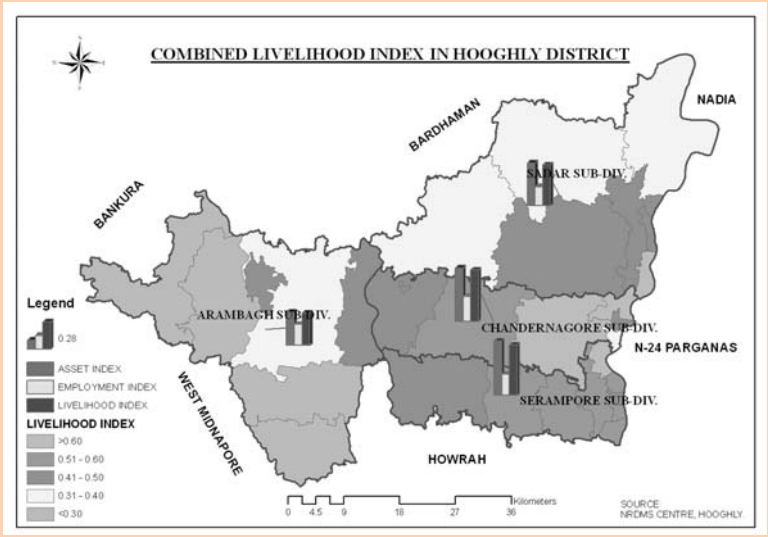
Source : Table 2.36

Fig. 2.20: Livelihood Index and its components at the Sub-division level



Source : Table 2.37

Map 2.3: Combined Livelihood Index in Hooghly District



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The phenomenon is reinforced by the fact that except Sadar sub-division all other sub-divisions have almost identical values of employment index. Their values of asset index vary much. In fact, Chandannagar is the best sub-division while Arambagh is the worst. Thus, block like Jangipara lies in the lower end of asset and livelihood index and are placed at a comfortable position if we consider employment index. On the contrary, Haripal ranks fifth with respect to asset index and sixth in terms of livelihood index but lies at the lower spectrum in terms of the employment index.

Second, there is wide difference in terms of livelihood opportunities among the blocks . The municipalities top the list of the livelihood index while many blocks lie well behind. In terms of livelihood index, the average rank of Chandannagar sub-division is 6.33 while that of Arambagh is 25.67. Serampore is a few steps behind the average rank (in livelihood index) being 11.25 while the rank of Sadar sub-division is 21.6. In terms of value, the livelihood index of the Chandannagar sub-division is almost 1.59 times that of the worst sub-division Arambagh. It is 1.43 times that of the sadar sub-division. The enormous inequality in livelihood opportunity with the predominance of low income generating employment in the backward blocks makes the livelihood condition of this district discouraging.

2.10 The Extent of Poverty in Hooghly

The extent of poverty and the related deprivations significantly affect the development of any region. High poverty levels are associated with poor quality of life, deprivation, malnutrition, low literacy, unemployment and low human resource development. Poverty is a complex phenomenon with multiple dimensions. So any unique homogeneous criterion cannot be used in its measurement for all societies and economies at all times which has led to alternative forms of conceptualisation and measurement of deprivation.

The UNDP in its successive Annual Reports on Human Development has been emphasizing the need to comprehend alternative indicators of deprivations based on poor access to education, health, drinking water, and sanitation and gender inequality. So, apart from the traditional notions like Head Count Ratio and the Gini Coefficient, to measure poverty attempts have been made to frame concepts like Human Development Index(HDI), Gender Empowerment Measure Capability Measure of Poverty and Human Poverty Index (HPI). In other words, in addition to the aspect of income poverty alone it is now required to look into deprivational aspects to capture the 'other dimensions' of development.

2.10.1 The Extent of Rural Poverty: The Rural Households Survey

A comprehensive study on poverty measures has been made by the Department of Panchayats and Rural Development, Government of West Bengal, based on 'rural household survey' identifying 12 indicators of human necessities and well-being, namely (i) effective land holding (including land cultivated as registered barga holder) of the family, (ii) housing condition, (iii) clothing, (iv) food security, (v) consumer durables, (vi) education status, (vii) earning capability status, (viii) livelihood, (ix) child education, (x) indebtedness, (xi) migration nature and (xii) special vulnerability. Data have been collected on a five-point scale depending on the status of each indicator for the respondent. So the total score for each household may vary from lowest 12 to highest 60 as its living condition improves. The same survey was conducted in the district in 2005 for identifying the households living below poverty line. A household is identified as poor if its total score is less than or equal to 33 points based on those 12 development indicators (each defined in the 5-point scale). Block-wise and municipality-wise poverty estimates obtained from Household Survey for BPL list are presented in Tables 2.38. From Table 2.38 it is observed that the percentage of rural households

Final Proof

living below the poverty line in the district is 33.49% which is much higher than the state figures of rural head count ratio, 31.7% and 28.5%, estimated through the NSSO surveys on consumer expenditure in its 55th and 61st Rounds respectively. But these figures are non-comparable because (i) the State Government's Household Survey for BPL list is a broad based measure of poverty while the NSSO's sample survey is based only on its single indicator, namely consumer expenditure and (ii) the latter estimates head count ratio while the former identifies BPL families.

Table 2.38: Empirical Measurement of Rural Poverty in Hooghly

	BPL (% of households)	Rank
Arambag Sub-div.	**26.13**	**4th**
Goghat - I	29.97	13
Goghat - II	17.85	8
Arambag	49.89	18
Khanakul - I	11.10	4
Khanakul - II	16.47	7
Pursura	31.51	14
Sadar Sub-div.	**24.38**	**3rd**
Dhaniakhali	31.85	15
Pandua	34.30	17
Balagarh	11.19	5
Chinsurah - Magra	15.99	6
Polba - Dadpur	28.54	12
Chandannagar Sub-div.	**21.52**	**2nd**
Tarakeswar	18.62	10
Haripal	27.56	11
Singur	18.39	9
Serampore Sbu-div.	**14.42**	**1st**
Jangipara	32.05	16
Chanditala - I	9.07	3
Chanditala - II	8.98	2
Serampur Uttarpara	7.59	1
District total	**21.61**	

Source: BPL Census, 2005

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Map 2.4: Rural Poverty in Hooghly District, 2005

If we look at Table 2.38, we observe that in some blocks the percentage of people living below the poverty line is very high, e.g. Arambag (49.89%), Pandua (34.30%), Jangipara (32.05%), Dhaniakhali (31.85%) and so on. On the other hand, it is lower than average district level in blocks, like Serampore-Uttarpara (7.59%), Chanditala-I (8.98%) and Chanditala-II (9.07%). So, we can say that in rural Hooghly there is a high degree of unevenness as far as percentage of BPL population is concerned. The result roughly conforms to the livelihood index. Serampore-Uttarpara, Chanditala-I and II are well placed both in respect of livelihood index and incidence of poverty. On the other hand, Arambag is badly placed in both terms. Sub-division wise also the result is very satisfying. Serampore and Chandernogre that were well placed in livelihood index also share the lowest incidence of poverty. On the other hand, Arambag is very badly placed in both counts.

2.10.2 Modified Capability Poverty Measure (MCPM)

The BPL poverty does not necessarily reflect the deprivation from human capabilities. To measure the deprivation in human capability we need an alternative measure of poverty. In view of UNDP's Human Development Report 1996, we have attempted to estimate the 'Capability Poverty Measure' to assess the level of deprivation in human capability. 'Capability Poverty Measure' takes into account at least three capabilities, namely (i) 'deprivation from capability for healthy reproduction, represented by the proportion of births unattended by trained health persons, (ii) lack of capability to be well nourished and healthy, represented by the proportion of underweight children and (iii) lack of capability to be educated and knowledgeable, represented by female illiteracy'.

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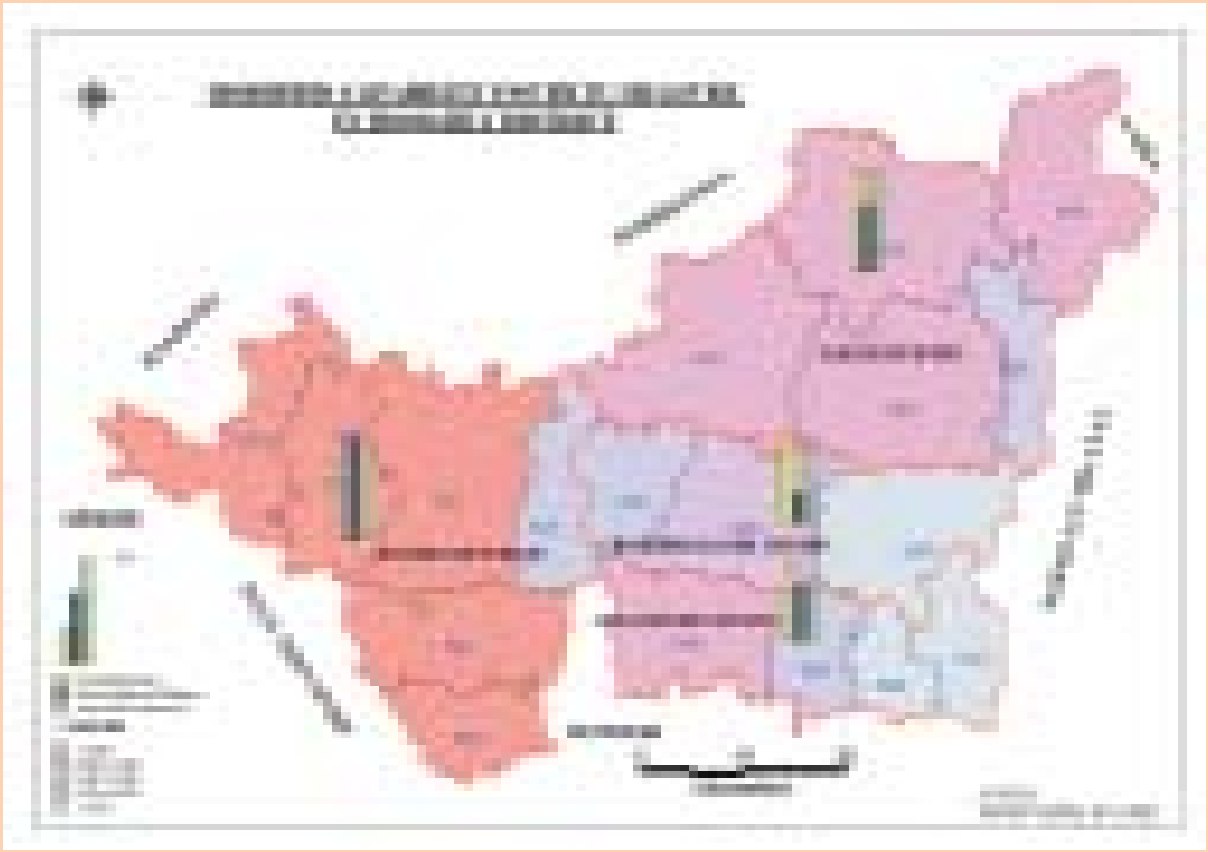
Block-level or municipality-level data on percentage of female illiteracy and percentage of non-institutional deliveries [an indicator of the first category of deprivation as suggested by Chatterjee and Ghosh (2003)] are available. But no reliable data at the disaggregated level is available on the second category of deprivation. In this study we have used a proxy variable, namely agricultural labourers as a percentage of total workers for the rural areas (and marginal workers as a percentage of total workers for the urban areas), which is supposed to represent the 'lack of capability to be well nourished and healthy' because here the incidence of poverty is expected to be high. Following the UNDP's recommendation and also the study of Chatterjee and Ghosh (2003) we have used simple arithmetic mean of the above-mentioned three indicators to obtain the, 'Modified Capability Poverty Measure' (MCPM).

Table 2.39: Modified Capability Poverty Measure (MCPM)

Block/MC/MP	Female illiteracy %	Non-Ist. Delivery%	Agricultural labourers %	MCPM	RANK
Sadar Sub-division	**46.93**	**30.40**	**46.97**	**0.41**	**2nd**
Dhaniakhali	49.55	25.24	55.40	0.43	7
Pandua	49.15	24.83	55.94	0.43	7
Balagarh	46.42	37.96	44.28	0.43	7
Chinsurah-Mogra	39.10	34.89	21.32	0.32	4
Polba-Dadpur	50.42	29.10	57.91	0.46	9
ChandannagarSub-dvn.	**41.97**	**14.68**	**37.33**	**0.31**	**1st**
Tarakeswar	43.22	8.56	39.80	0.31	3
Haripal	45.11	22.45	47.57	0.38	6
Singur	37.58	13.04	24.62	0.25	2
Serampur Sub-division	**37.87**	**25.75**	**28.71**	**0.31**	**1st**
Jangipara	46.95	39.96	46.69	0.45	8
Chanditala - I	40.11	24.61	33.17	0.33	5
Chanditala - II	35.12	20.85	17.78	0.25	2
Srirampore - Uttarpara	29.31	17.58	17.18	0.21	1
Arambagh Sub-division	**47.97**	**48.58**	**43.81**	**0.47**	**3rd**
Goghat - I	49.22	52.70	47.64	0.50	12
Goghat - II	50.31	52.70	52.60	0.52	14
Arambagh	47.69	63.12	43.61	0.51	13
Khanakul - I	49.63	56.31	39.95	0.49	11
Khanakul - II	47.76	51.33	45.69	0.48	10
Pursurah	43.19	15.31	33.39	0.31	3
Hooghly	**43.67**	**29.85**	**39.21**	**0.38**	

Source: Census, 2001

Map 2.5: Sub-division-wise Modified Capability Poverty Measure in Hooghly District



The results for MCPM are produced in Table 2.39 above. The results conform to our earlier finding. For example; Singur is the leading block in MCPM as was in the case of livelihood index. Similarly, Haripal is a close follower as was in the case of livelihood index. However, the laggardness of blocks such as Arambagh, Khanakul-I and II still continues. Sub-division-wise Chandannagar and Serampore are again the leaders.

2.10.3 The Extent of Human Poverty

UNDP's Human Development Report, 1997 established the necessity of constructing HPI (Human Poverty Index) along with HDI as an extension of the MCPM to derive a comprehensive broad-based idea on the state of deprivation of the human beings. The forms of deprivation that have been chosen for constructing HPI in the study are (i) knowledge deprivation, P1 [which is the weighted average of total illiteracy rate and proportion of children in the 5-13 years age group not attending schools when the weights are 2/3 and 1/3 respectively], (ii) health services deprivation, P2 [which is simply the proportion of non-institutional deliveries] and (iii) provisioning deprivation, P3 [which is the arithmetic mean of (a) the proportion of households having no electricity connection, (b) the proportion of households having no toilet facilities and (c) the proportion of households having no access to safe drinking water.

Next we have constructed the human poverty index, H for each block/municipality using the methodology suggested by Anand and Sen (2003). Here H is defined as:

$$H = [(1/3)\, p1 + (1/3)\, p2 + (1/3)\, p3\,]1/$$

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In this measure of poverty, the relative impact of the deprivation of each would increase as the level of deprivation becomes sharper. This property would be satisfied if ∝ is greater than 1, because if ∝ is equal to 1 H would be the simple average of three indicators of deprivation, P1, P2 and P3. It is to be noted that as ∝ tends to infinity, H approaches to maximum value of (P1, P2, and P3). The value of the parameter depends on social welfare function and here we have taken ∝ = 3 for constructing HPI as assumed in the Human Development Report, 1997.

Map 2.6: Human Poverty Index in Hooghly District

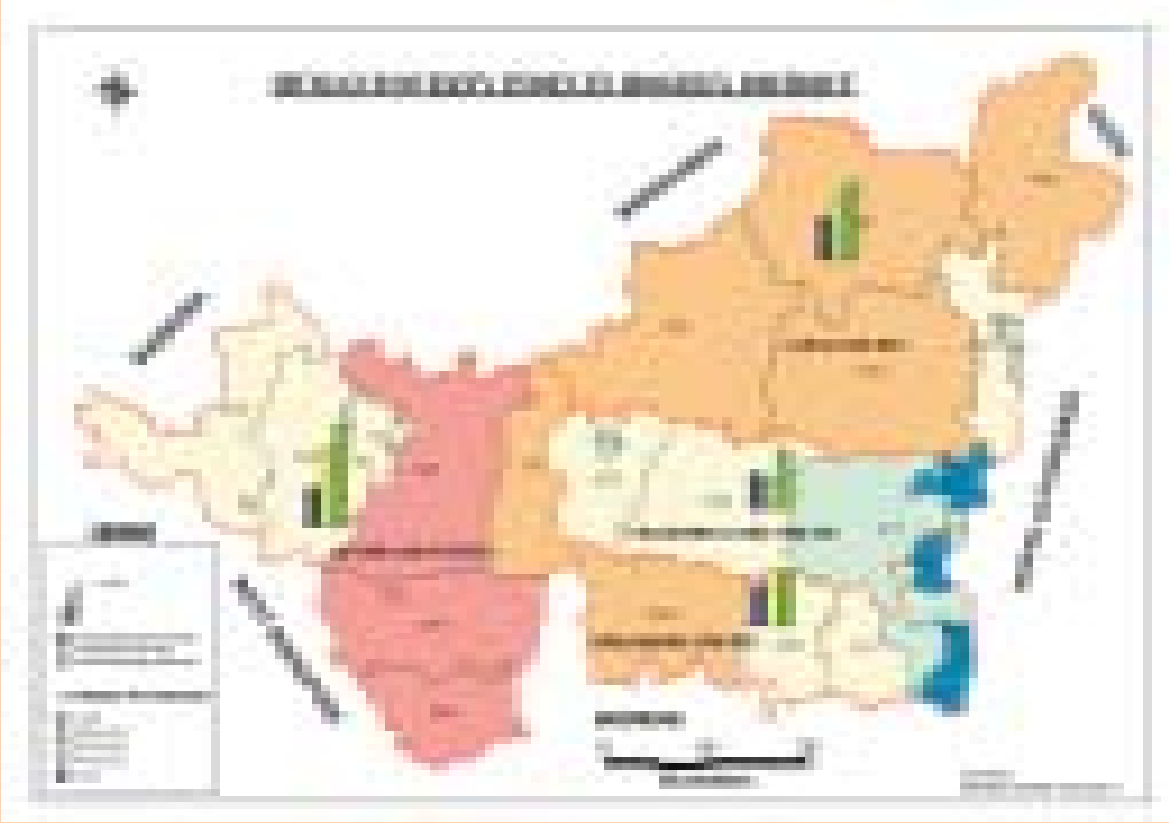

Table 2.40: Block-wise Human Poverty Index (HPI)

Sub-division/ Block/MC/MP	Knowledge deprivation Index	Index of Health services deprivation	Index of provisioning deprivation	HPI	Rank
Sadar Sub-div.	**0.20**	**0.30**	**0.37**	**0.32**	**3rd**
Dhaniakhali	0.19	0.25	0.44	0.33	6
Pandua	0.2	0.25	0.41	0.32	7
Balagarh	0.21	0.38	0.4	0.35	5
Chinsurah - Mogra	0.19	0.35	0.2	0.27	10
Polba-Dadpur	0.2	0.29	0.4	0.32	7
Chandannagar Sub-div.	**0.17**	**0.14**	**0.29**	**0.22**	**1st**
Tarakeswar	0.16	0.09	0.35	0.25	12

Contd.

Sub-division/ Block/MC/MP	Knowledge deprivation Index	Index of Health services deprivation	Index of provisioning deprivation	HPI	Rank
Haripal	0.19	0.22	0.31	0.25	12
Singur	0.16	0.11	0.22	0.17	15
Serampur Sub-div.	**0.19**	**0.26**	**0.27**	**0.25**	**2nd**
Jangipara	0.22	0.4	0.4	0.36	4
Chanditala - I	0.21	0.25	0.3	0.26	11
Chanditala - II	0.15	0.21	0.21	0.2	14
Srirampore - Uttarpara	0.18	0.18	0.15	0.17	15
Arambagh Sub-div.	**0.18**	**0.37**	**0.48**	**0.38**	**4th**
Goghat - I	0.16	0.18	0.5	0.28	9
Goghat - II	0.14	0.18	0.5	0.28	9
Arambagh	0.22	0.63	0.46	0.49	1
Khanakul - I	0.2	0.56	0.49	0.47	2
Khanakul - II	0.11	0.51	0.53	0.46	3
Pursurah	0.23	0.15	0.4	0.3	8
Bansberia (M) X	0.14	0	0.16	0.13	17
Tarakeswar (M) II	0.13	0	0.21	0.15	16
Bhadreswar (M) XVII	0.12	0	0.09	0.09	19
Champdani (M) XIX	0.16	0	0.12	0.12	18
Chandannagar (M Corp) XVI	0.1	0	0.09	0.08	20
Uttarpara Kotrang (M) XL	0.08	0	0.06	0.06	22
Konnagar (M) XXX	0.09	0	0.05	0.07	21
Baidyabati (M) XX	0.1	0	0.09	0.08	20
Rishra (M) XXIX	0.11	0	0.07	0.08	20
Arambag (M) I	0.17	0	0.29	0.21	13
Hooghly District	**0.158**	**0.192**	**0.292**	**0.23**	

Source: Census, 2001

In Table 2.40 above we give our estimate of HPI. The results are as expected except for a few blocks. Municipalities on the whole have the highest rank in HPI. Among the blocks, Singur and Serampore-Uttarpara are still the leaders while Arambagh is again the worst. Sub-division wise Serampore and Chandannagar share the least incidence of poverty.

2.10.4 A Comparison between Livelihood Index and Poverty Index

In Table 2.41, we compare livelihood index and various poverty measures across the sub-divisions.

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Table2.41: Comparison of Sub-divisions in terms of Livelihood and Poverty Index

Sub-divisions	Livlihood Index	BPL poverty	MCPM	HPI
Sadar Sub-division	0.30	0.24	0.41	0.32
Chandannagar Sub-division	0.43	0.21	0.31	0.22
Serampur Sub-division	0.39	0.14	0.31	0.25
Arambagh Sub-division	0.27	0.26	0.47	0.38

Source : Tables 2.37, 2.38, 2.39 and 2.40

It is clear that the poverty picture supports the livelihood picture. Chandannagar and Serampore are the dominant better performed sub-divisions in terms of all the parameters. The worst sub-division is Arambagh. Hence, we can say though livelihood opportunities are limited and highly iniquitous among the sub-divisions, the role of government policies mediated by the local self governance and people's participation should be instrumental in reducing poverty gaps in the district.

2.11 Poverty Alleviation and Rural Development

Poverty alleviation has been accepted as one of the major objectives of planning since fifth five year plan. It was only during the seventies the programmes like Small Farmer's Development Agency (SFDA), Marginal Farmers and Agricultural Labourers Development Agency (MFAL), Drought Prone Area Proramme(DPAP), Food for Work Programme(FWP) were introduced for benefiting the rural poor. Later on, the Integrated Rural Development Programme (IRDP) was introduced in 1978-79. To provide wage employment to rural poor, the National Rural Employment Programme (NREP) and Rural Landless Employment Guarantee Programme (RLEGP) were introduced during the sixth plan. In April 1, 1989, NREP and RLEGP were merged into a single wage employment programme under Jawar Rozgar Yojana (JRY). The objective of this programme was to assist poor families in developing skills and inputs to overcome their poverty. Other programmes like TRYSEM (Training for Rural Youth in Self Employment) was introduced in August 1979, the Employment Assurance Schemes (EAS), and the Prime Minister's Rozgar Yojana (PMRY) were introduced in 1993-94. Development of Women and Children in Rural Areas (DWACRA) and Prime Minister's Integrated Urban Poverty Eradication Programme (PMIUPEP) were introduced in 1995-96 with a specific objective of effective achievement of social sector goal, community empowerment, shelter and skill upgradation as a multipronged strategy. In 1999 April, Government of India launched SGSY (Swarna Jayanti Swarojgar Yojana) consolidating all the earlier poverty alleviation programmes. SGSY was designed to cover all aspects of self-employment such as organization of the poor into self-help groups, training, credit extension, technology upgradation, development of infrastructure and marketing. The objective of SGSY is to ensure that the assisted poor families have a monthly income of at least Rs. 2000/- so as to bring them above the poverty line. To provide employment to the rural poor National Rural Employment Guarantee Act (NREGA) was introduced in 2005. It aims at enhancing the livelihood security of people in rural areas by guaranteeing 100 days of wage employment in a financial year to every household.

Along with all the States and districts of India, Hooghly district of West Bengal has taken steps to implement the NREGS Programme in various blocks of the district to provide gainful employment to rural poor for increasing their economic well-being.

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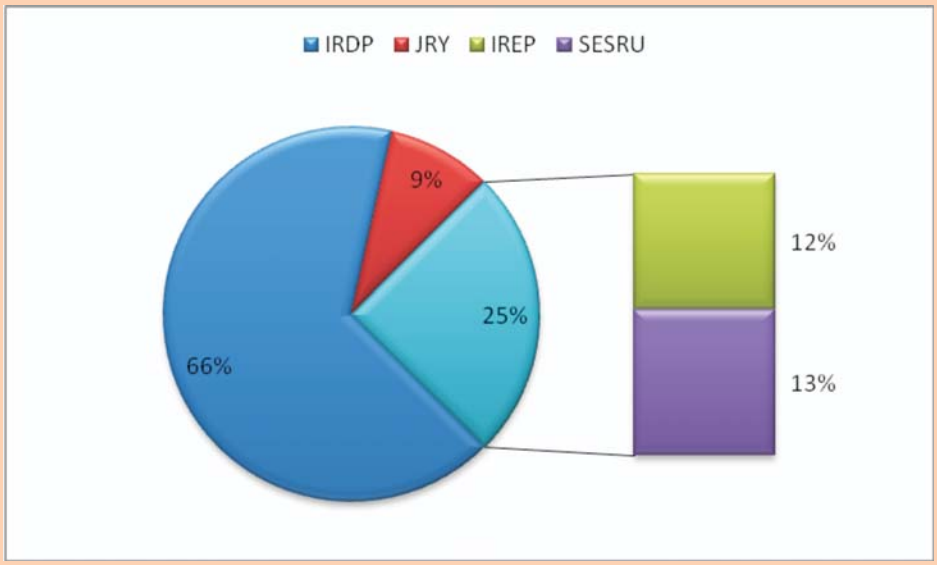
Figure 2.21: Beneficiaries of Rural Development Schemes in Hooghly District



Source: DHDR Primary Survey, 2009

Table 2.42: Fund and Expenditure Pattern of SGSY Programme in Hooghly District

Year	Total Fund Available (in Rs. Lakh)	Expenditure (in Rs. Lakh)	Achievement in %
2006-07	526.86	505.56	95.95
2007-08	731.38	661.78	90.48
2008-09	837.86	727.05	86.77

Source: Project Director, DRD Cell, Hooghly Zilla Parishad, 2009

Under SGSY programme several schemes like water conservation and water harvesting, drought management, micro irrigation, renovation of traditional water bodies, land development, flood control and protection and rural connectivity have been taken up by the district. The performances and physical achievements of these schemes are shown in Table 2.43 below for the financial year 2008-09.

Table 2.43: Performance and Physical Achievements of SGSY Programme in Hooghly District during 2008-09

Sl. Number	Name of the Scheme	Achievement during 2008-09	
		Expenditure made(in lakh)	Physical achievement
1.	Water conservation and water harvesting(digging of new tanks/ponds percolation tanks, small check dams etc)	748.59669	2009075 cu.m.
2.	Drought proofing(forestation and tree plantation and other activities)	91.06319	250.13 hector
3.	Micro irrigation works(minor irrigation canals and other activities)	142.08217	121.46 km.
4.	Provision of irrigation facility to land owned by scheduled castes and scheduled tribes, beneficiaries of land reforms and beneficiaries of Indira Awas Yojana.	26.14566	212.65 hector

Contd.

Sl. Number	Name of the Scheme	Achievement during 2008-09	
		Expenditure made(in lakh)	Physical achievement
5.	Renovation of traditional water bodies (desilting of tanks/ponds, desilting of old canals, desilting of traditional open well etc.)	907.27256	2421534 cum
6.	Land development (plantation, land levelling etc.)	150.84107	143.53 hectare
7.	Flood control and protection (drainage in water logged areas, construction and repair of embankment etc.)	459.52026	250.23 km.
8.	Rural connectivity	1381.66474	565.87 km.
	Total	**3907.18734**	

Source: Project Director, DRD Cell, Hooghly Zilla Parishad, 2009

2.12 Impact Assessment of NREGS in Hooghly District:

The National Rural Employment Guarantee Act, (NREGA) was notified on September 7, 2005.The objective of the Act is to enhance livelihood security in rural areas by providing at least 100 days' guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. An attempt has been made here to make an impact assessment of the NREGS programme in Hooghly district especially to analysis the nature of beneficiaries in 100 days work programme:

Table 2.44: Employment Generated through NREGS Programme in Hooghly District for Financial Year 2009-10 as on 21.12.2009

Attendence	No. of Households Employed	% of Beneficiary households	Person days generated	% of total person days generated
1-10 days	108136	71.08	502114	33.34
11-20 days	27129	17.83	391210	25.98
21-30 days	8754	5.75	215387	14.30
31-40 days	3644	2.40	127431	8.46
41-50 days	1804	1.19	80944	5.38
51 -60 days	1001	0.66	55181	3.66
61-70 days	600	0.39	39116	2.60
71-80 days	340	0.22	25568	1.70
81-99 days	433	0.28	38988	2.59
100 days	111	0.07	11100	0.74
Above 100 days	179	0.12	18819	1.25
Total	**152131**	**100**	**1505858**	**100**

Source: www.nrega.nic.in, Hooghly District

It is evident from the above Table (Table-2.44) that in Hooghly District the performance of NREGS programme is far below the target set in the NREG Act. Out of total beneficiaries of 152131 households, 71.08 per cent of the households got wage employment for average 1-10 days in the financial year 2009-10, while average 11-20 days of employment received by 17.83 per cent of the households. First three partially benefited groups of households contributed more than 70 per cent of total employment generated in this programme. A very insignificant proportion of households enjoyed wage employment more than 40 days in the financial year.

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Table 2.45: Household-wise Employment Generated through NREGS Programme in various Blocks of Hooghly District during 2009-10

Blocks	No. of Beneficiary Household	No. of employment generated	Per household employment generated	Rank
Arambag	16450	257839	15.67	5
Balagarh	8188	90542	11.06	11
Chanditala-i	3403	39820	11.70	8
Chanditala-ii	486	8418	17.32	3
Chinsurah-Mogra	2923	19597	6.70	16
Dhaniakhali	19916	81078	4.07	18
Goghat-i	4418	34000	7.70	13
Goghat-ii	9049	80959	8.95	12
Haripal	14087	85983	6.10	17
Jangipara	4053	47226	11.65	9
Khanakul-i	8652	103630	11.98	6
Khanakul-ii	4797	57242	11.93	7
Pandua	16846	116072	6.89	15
Polba-dadpur	13761	105418	7.66	14
Pursurah	10994	123160	11.20	10
Singur	4472	72157	16.14	4
Serampore-Uttarpara	659	22839	34.66	1
Tarakeswar	8977	159878	17.81	2
Total	**152131**	**1505858**	**9.90**	

Source: www.nrega.nic.in, Hooghly District

Over all performance of the district is also very unsatisfactory. For 152131 beneficiary households, only 1505858 person days of employment were generated. Thus, an average beneficiary household received only 9.9 person days of employment in the district during the financial year 2009-10 (as on 21.12.2009). The block wise analysis of the performance of NREGS programme in Hooghly District (Table 2.45) reveals that Serampur-Uttarpara block has enjoyed highest employment days (34.66 person days per beneficiary household), while it is least (4.07 person days) in Dhaniakhali block.

2.12.1 Nature of Beneficiaries in NREGS:

The assessment has also been made using the primary data collected through the sample survey technique covering twelve blocks under Hooghly District in 2009. It was observed that as per the provision of NREG Act, job cards were provided to the households belonging to the BPL categories of households. However, person days generated through this programme are far below the targeted level of employment. Out of 6500 households covered in the survey, 1640 numbers of beneficiaries have been identified.

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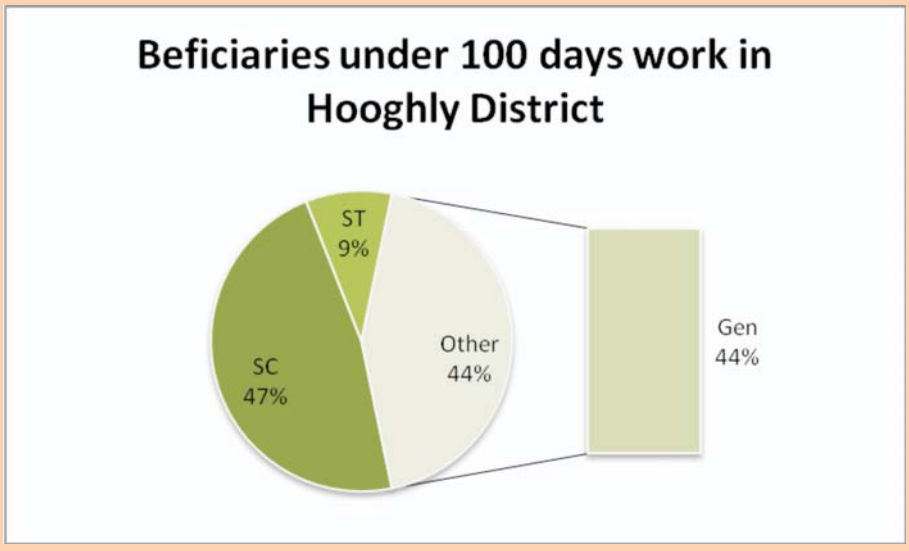
Table 2.46: Distribution of Beneficiary Families by Social Group and Religion under of NREGS Programme

Block/Mun.	No. of Hhs.	Beneficiary family				
		SC	ST	GEN	Muslim	Non-Muslim
Arambag	196	163	10	23	19	187
Balagarh	38	22	2	14	7	36
Chanditala I	68	54	1	13	8	65
Chanditala II	24	16	2	6	5	21
Dhaniakhali	231	80	41	110	30	221
Goghat I	157	95	21	41	16	151
Goghat II	164	83	8	73	37	127
Jangipara	135	56	14	65	22	133
Khanakual I	204	72	5	127	22	190
Khanakul II	149	50	13	86	26	143
Singur	107	27	6	74	30	77
Tarakeshwar	167	57	28	82	13	54
Total	**1640**	**775**	**151**	**714**	**235**	**1405**

Source: DHDR, Primary Sample Survey, Hooghly, 2009

The classification of beneficiaries of 100 days work programme under various social groups reveals that families belonging to Scheduled Castes Category benefited most from the programme (47 per cent) followed by General Category (44 per cent) and Scheduled Tribes (9 per cent).

Fig.2.22 Beneficiaries Under 100 Days Work Programme in Hooghly District, 2008-09



Source: DHDR, Primary Sample Survey, Hooghly, 2009

In terms of religion wise classification, 86 per cent of the beneficiaries belong to the Hindu religion, while remaining 14 per cent is under the Muslim religion.

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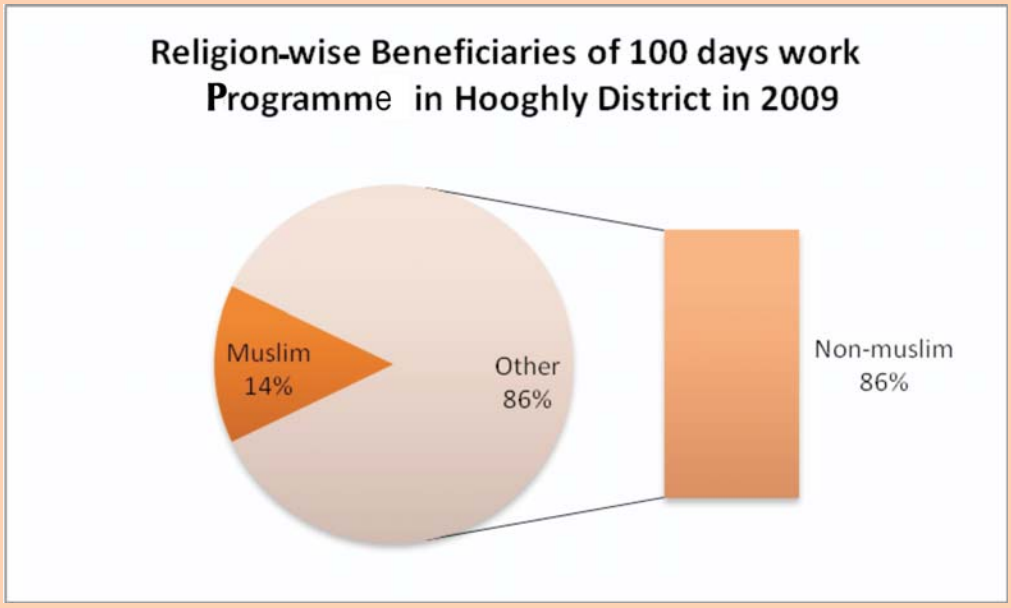
Fig. 2.23: Religion-wise Beneficiaries of 100 Days Work Programme in Hooghly District during 2008-09



Source: DHDR, Primary Sample Survey, Hooghly, 2009

2.12.2 Nature of Rural Development Works under NREGS:

Rural development schemes under NREGS programme are mostly concentrated in pond digging and renovation, rural road construction and repairing, irrigation projects in the form of canal construction and repairing, afforestation and other miscellaneous works like flood control measures, land development measures etc.

Table 2.47: Nature of Works under NREGS in Hooghly District

Block/Mun.	Pond (No.)	Road (Km.)	Nature of NREG Works		Other (Hectare)
			Irrigation (Hectare)	At forestation (Hectare)	
Arambag	137	31	28	0	0
Balagarh	27	7	4	1	1
Chanditala I	14	52	0	0	2
Chanditala II	3	14	0	3	4
Dhaniakhali	110	28	18	8	36
Goghat I	64	76	8	8	2
Goghat II	67	82	13	0	2
Jangipara	92	35	6	1	2
Khanakual I	29	143	2	6	24
Khanakul II	23	132	4	0	3
Singur	17	81	0	0	9
Tarakeshwar	91	52	11	3	14
Total	**674**	**733**	**94**	**30**	**99**

Source: DHDR, Primary Sample Survey, Hooghly, 2009

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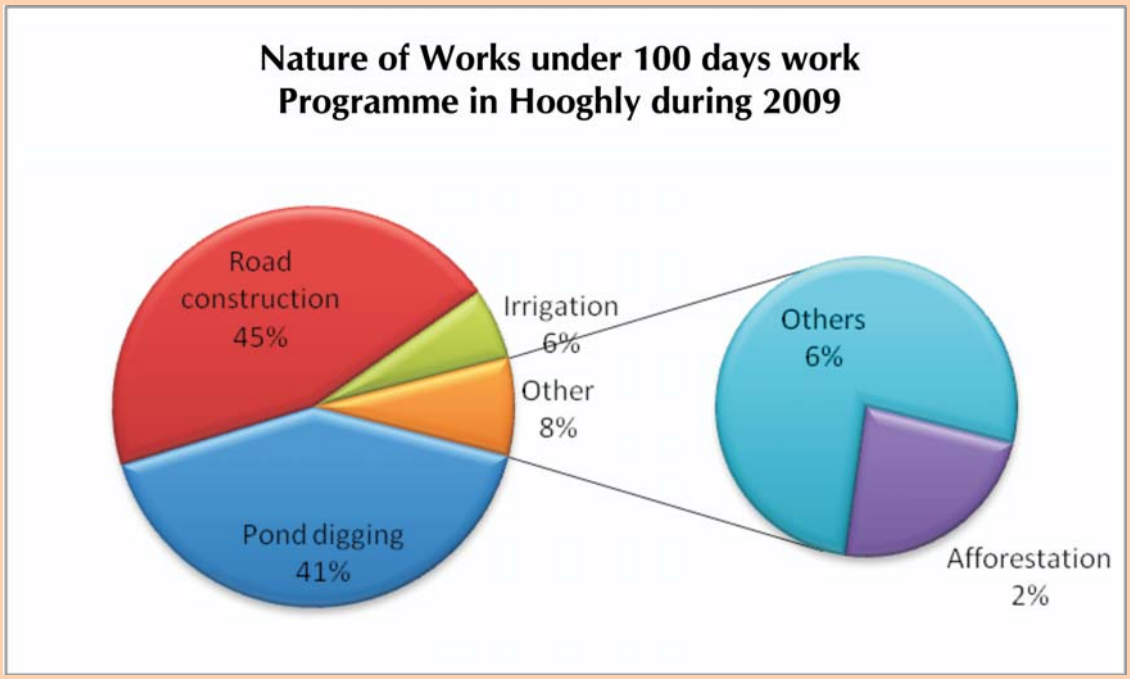
Fig. 2.24: Nature of Works under NREGS in Hooghly District



Source : DHDR, Primary Sample Survey, Hooghly, 2009.

The NREG programme is undoubtedly an effective programme to generate gainful employment for the rural poor and to bring out all round rural development in the district. The rural development schemes like road connectivity in the rural areas, pond construction, development of irrigation facilities, afforestation etc. are expected to act as engines of growth in the rural economy. But, utmost care needs to be given to providing 100 days work in a year to the rural poor, which is still a policy concept in the district. The poor should not be the victims of illiteracy and poverty.

Final Proof

Chapter 3

HUMAN DEVELOPMENT AND CAPACITY BUILDING : EDUCATION

"Capacity building encompasses human resource development (HRD) as an essential part of development. It is based on the concept that education and training lie at the heart of development efforts and that without HRD most development interventions will be ineffective. It focuses on a series of actions directed at helping participants in the development process to increase their knowledge, skills and understandings and to develop the attitudes needed to bring about the desired developmental change".

The Food and Agricultural Organization

3.1 Introduction

Education is one of the most important elements of human development. Education is vital not only in itself, but also because of the numerous positive externalities created by the spread of education, like human capacity building, human empowerment, and spread of awareness in all fronts. Befittingly, the Millennium Development Goals (MDG) adopted by the Government of India has advocated Universalization of Elementary Education and Promotion of gender equality in Education as two of their most important objectives. Therefore, let us now explore the various aspects of educational setup of Hooghly district.

3.2 Profile of the Educational System in the District

Hooghly has led the way in the State of West Bengal in the matter of education. The first seeds of Western education in the eastern region of India began with the formation of a school in Hooghly by the Portuguese Jesuit priests in 1598. Later, the French Jesuit priests established a college in Bandel, which is the first college in the entire eastern region of India. From the endowment of the trust named after Hazi Mohammad Mohsin, the Imambara Hooghly Madrasah, and more importantly the Hooghly College (at present known as Hooghly Mohsin College) was founded in 1856.

At present, the education infrastructure in Hooghly comprises Primary Schools (classes I to IV), Junior High Schools (classes V to VIII), High/Secondary Schools (classes IX and X), Higher Secondary schools (classes XI and XII), General, Vocational & Professional Degree colleges, and a University. The Primary schools are under the District Primary School Council. The remaining institutions are under the District Inspector of Schools. In addition, the Sarva Shiksha Mission is very much in action in the district. Apart from conventional teaching, there are several vocational training centres in the district including Polytechnics, Mining Training Institute, Junior Training Schools, and Industrial Training Institutes.

In this chapter, we focus on the educational infrastructure presently available in the district, educational achievements of the people, and the disparity of achievements across regions and social groups, the various programmes implemented in recent times to uplift Capacity Building of the people and the future Roadmap. Unlike the UNDP method, we concentrate not only on Literacy and Gross Enrolment, but also on the Retention of children in school, i.e. we take into account the Drop-Out syndrome, frequent in developing countries. The Educational Development Index (EDI) presented here is therefore more comprehensive and revealing than the UNDP index on Education.

We start by a thorough examination of the condition of educational infrastructure availability in the Hooghly district.

Final Proof

3.3 Educational Infrastructure available in the District

People's access to education depends crucially on the Educational Infrastructure in place. The number of schools & other institutions (including Sanskrit Tol-s, Madrasash etc.), their intake capacity, their spatial spread and distance from habitats, teacher strength, amenities available in the institutions, etc. are significant elements through which affordable education can be reached to the people. Therefore, we must explore the status of the district and its sub-regions in this regard.

3.3.1 Availability of Educational Institutions

The district is quite developed in terms of availability of educational institutions. There are 2987 Primary Schools, 278 SSKs, 99 Junior High Schools, 27 MSKs, and 513 High Schools run by the Government. In addition, private bodies run 350 Primary Schools, 69 Junior High schools, and 51 High Schools. Relative to population also, availability figures are quite satisfactory vis-à-vis national and state figures (Table 3.1). Blockwise, primary schools are widely available in Arambag, Haripal, Khanakul-I and II, whereas its availability is not so good in Bhadreswar (M), Chandannagore MC, Konnagar (M), Rishra (M) and Uttarpara-Kotrang (M). In terms of middle schools, the best performing blocks are Goghat -I, Goghat -II, Champdani (M) and Rishra (M). On the other hand, the blocks that are lagging behind the most are Balagarh, Arambag (M), Bhadreswar (M) and Tarakeswar (M).

Table 3.1: Availability of Educational Infrastructure - Educational Institutions per 1000 Population - 2008

Block / ULB	Primary Schools	Middle Schools	Block / ULB	Primary Schools	Middle Schools
Arambag	0.87	0.02	Arambagh (M)	0.46	0.00
Balagarh	0.79	0.01	Baidyabati (M)	0.38	0.04
Chanditala-I	0.76	0.03	Bansberia (M)	0.41	0.03
Chanditala-II	0.38	0.02	Bhadreswar (M)	0.28	0.01
Chinsurah-Mogra	0.37	0.03	Champdani (M)	0.42	0.09
Dhaniakhali	0.68	0.04	Chandannagore MC	0.28	0.03
Goghat-I	1.10	0.10	Hooghly-Chinsurah (M)	0.39	0.05
Goghat-II	1.06	0.09	Konnagar (M)	0.10	0.04
Haripal	0.88	0.03	Rishra (M)	0.27	0.07
Jangipara	0.81	0.02	Serampore (M)	0.31	0.02
Khanakul-I	0.89	0.04	Tarakeswar (M)	0.39	0.00
Khanakul-II	1.00	0.03	Uttarpara-Kotrang (M)	0.25	0.02
Pandua	0.68	0.04	Arambagh Sub-div	0.61	0.04
Polba-Dadpur	0.78	0.03	Chandannagore Sub-div	0.54	0.03
Pursurah	0.82	0.02	Chinsurah Sub-div	0.59	0.03
Serampore-Uttarpara	0.49	0.06	Serampore Sub-div	0.42	0.03
Singur	0.70	0.03	**District**	**0.63**	**0.03**
Tarakeswar	0.82	0.03			

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

Final Proof

Apart from gross availability, accessibility is also an important parameter. While urban centres contain educational institutions within their periphery, rural areas often do not, and substantial number of rural children drops out from the learning process because of the distance of schools and colleges. We have therefore needed to focus on the distance of educational institutions from the villages. It is observed that about 89 per cent of the villages have Primary Schools within the villages, 9 per cent have within 1 km, while only 0.33 per cent have it beyond 1 km. In the context of middle schools, about 42.55 per cent of villages have them within the periphery of the village, about 35 per cent have within 1 km range, and 22 per cent have it beyond 1 km (Table 3.2). Therefore, it seems that accessibility of institutions is quite satisfactory in the district.

Map 3.1: Primary School served area of Hooghly District (1 km. Radial Distance)

Table 3.2: Accessibility & Availability of Educational Facilities in Rural Areas

Indicator	Within Village	Within 1 km.	Beyond 1 km.
Distance of Nearest Primary School	89.0	9.0	0.33
Distance of Nearest Middle School	42.5	34.9	22.60

Source: Census of India, 2001, Village & Town Directories.

Final Proof

However, there exists a substantial regional variation in accessibility. To study these variations more carefully, an accessibility index have been composed based on the distance of different types of institutions from the villages. The greatest (negative) weightage has been given to (non) availability of Primary Schools, and progressively lesser importance to higher grades. It is found that the blocks that are doing best in terms of this Access Index (column 1 in Table 3.3) are Arambag (M), Baidyabati (M), Bansberia (M), Bhadreswar (M), Champdani (M), Chandannagar MC, Hoog-Chin (M), Konnagar (M), Rishra (M), Serampore (M), Tarakeswar (M) and Uttarpara-Kotrang (M). However, the blocks that are doing badly in terms of this index are Dhaniakhali, Goghat II, Jangipara and Polba-Dadpur. This suggests care should be taken to improve accessibility in these blocks.

In addition to availability and accessibility of institutions, one must also look at the infrastructure available in those schools - both physical (Pucca Building, Drinking Water, Sanitation Facilities, Blackboard in Classrooms, Average Floor Area per student, etc.) and human (Teacher Strength). It is found that 95% of the primary schools in the district have pucca buildings, 93.5% have drinking water facilities, 84.1% have sanitation, 100% have blackboards, and 54.06 students are in a single classroom. In the middle schools, 100% have pucca buildings, drinking water and blackboard, 88.9% have sanitation facilities and there are 51.39 students per classroom. These figures are better than the national and state figures.

Based on these 5 facilities, we have constructed a Facility Index for the district and each of the blocks (Table 3.3 second column). Regions ranked highest in terms of this index are Baidyabati (M), Bhadreswar (M), Tarakeswar (M) and Serampore-Uttarpara, while those ranked lowest are Bansberia (M), Champdani (M) and Pandua.

Final Proof

Let us now consider the very important matter of availability of teachers. The teacher availability per school (TPS) is found to be 3 in primary, about 4 in middle schools and 11 in secondary schools. This actually is higher than national and state average. Block wise, the blocks doing well in terms of this indicator is Chandannagore Corporation and Hooghly-Chinsurah (M) for primary, Balagarh and Uttarpara-Kotrang for middle and Tarakeswar (M), Chanditala-I and Arambag (M) for secondary. However, the blocks that are performing worst in this aspect are Serampur (M) for primary, Pursurah and Rishra (M) for middle, and Balagarh and Chandannagore (Corporation) for secondary.

Table 3.3: Educational Infrastructural Scores - 2008

Blocks/ ULB	Access Index	Facility Index	Teacher Index	EII	Blocks/ ULB	Access Index	Facility Index	Teacher Index	EII
Arambag	0.45	66.37	0.72	0.35	Arambag (M)	1.00	82.36	0.79	0.66
Balagarh	0.35	77.34	1.18	0.50	Baidyabati (M)	1.00	91.40	0.62	0.69
Chanditala-I	0.74	77.01	0.91	0.56	Bansberia (M)	1.00	53.35	0.95	0.48
Chanditala-II	0.89	81.76	1.04	0.68	Bhadreswar (M)	1.00	91.86	1.43	0.88
Chinsurah-Mogra	0.64	76.21	0.83	0.51	Champdani (M)	1.00	47.56	1.15	0.48
Dhaniakhali	0.07	80.58	1.14	0.42	Chandannagar MC	1.00	84.62	1.39	0.82
Goghat-I	0.37	86.46	1.61	0.67	Hoog-Chin (M)	1.00	85.96	1.12	0.77
Goghat-II	0.14	84.59	1.07	0.46	Konnagar (M)	1.00	88.09	1.44	0.86
Haripal	0.26	79.92	0.72	0.38	Rishra (M)	1.00	67.55	0.60	0.51
Jangipara	0.00	80.08	1.02	0.37	Serampore (M)	1.00	77.25	0.68	0.60
Khanakul-I	0.60	70.88	1.56	0.62	Tarakeswar (M)	1.00	89.04	0.61	0.67
Khanakul-II	0.75	69.28	1.06	0.54	Uttrpara-Kotrang (M)	1.00	86.56	1.63	0.89
Pandua	0.46	65.48	0.77	0.35					
Polba-Dadpur	0.19	77.46	1.10	0.43	**Arambag SD**	**0.66**	**78.54**	**1.04**	**0.58**
Pursurah	0.82	84.65	0.49	0.55	**Chandannagore SD**	**0.77**	**81.14**	**1.19**	**0.67**
Seramp-Uttarpara	0.90	89.02	0.88	0.70	**Chinsurah SD**	**0.53**	**73.77**	**1.01**	**0.49**
Singur	0.68	86.88	1.95	0.86	**Serampore SD**	**0.84**	**82.08**	**0.98**	**0.65**
Tarakeswar	0.42	88.09	1.07	0.58	***District***	***0.52***	***80.22***	***1.00***	***0.54***

Note : Indices prepared according to UNDP method of Relative Gap

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

Teacher Student Ratio (TSR: Teachers per 100 students) is 2.87 for primary, 0.19 for middle and 1.53, for secondary considering the district as a whole. Block wise, the best performing ones are Serampore-Uttarpara and Polba-Dadpur for primary, middle school as well as for secondary school. Blocks performing most poorly as par this indicator are Konnagar (M) and Bhadreswar (M) for primary, Arambag (M) and Baidyabati (M) for middle and Bhadreswar (M) and Bansberia (M) for secondary schools.

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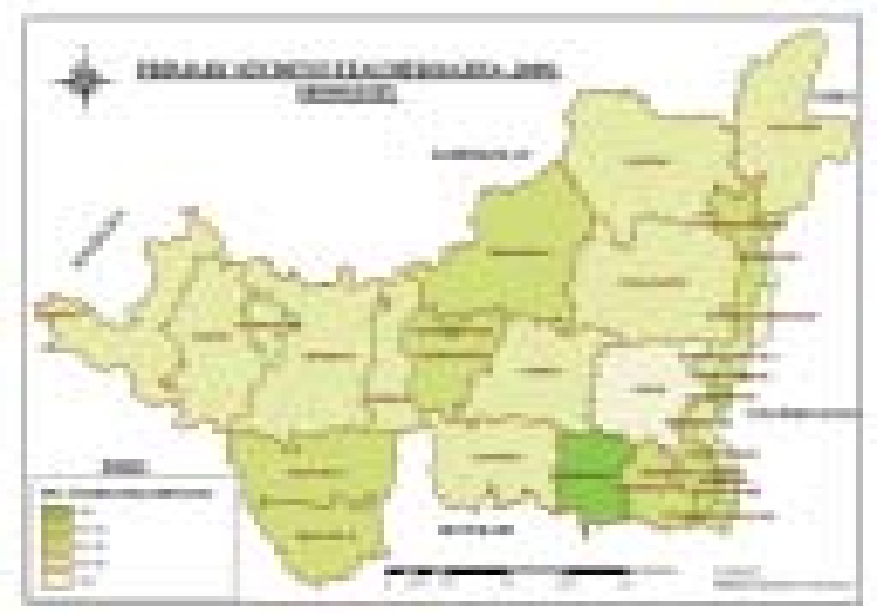
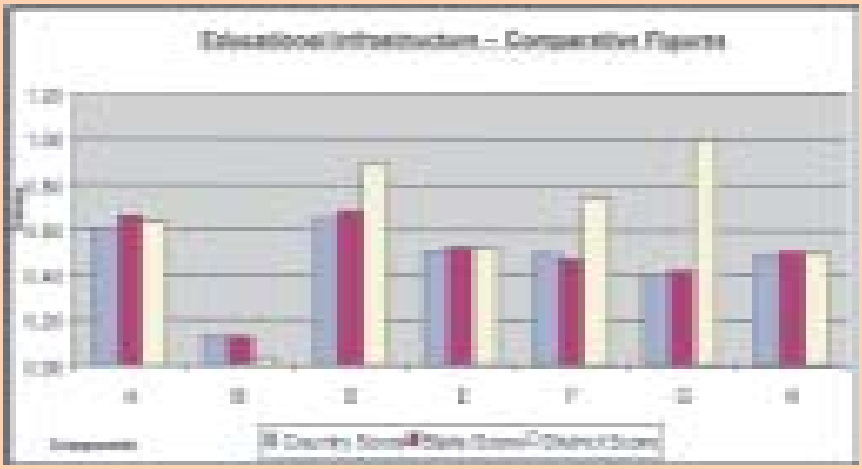
Map 3.2: Primary Student-Teacher Ratio in Hooghly district, 2008



Combining the TPS and TSR, a Teacher Availability Index is prepared which is also provided in Table 3.3. This index ranks Singur, Uttarpara-Kotrang, Goghat-I and Khanakul-I as the best and Pursurah, Rishra (M) and Tarakeswar (M) as the worst performing blocks.

Based on these three indexes discussed above, namely the accessibility index, the facility index and the Teacher Availability index, an Education Infrastructure Index (EII) is prepared (see Table 3.3). It is observed that the best regions in terms of this combined index are Uttarpara-Kotrang, Bhadreswar (M), Serampore-Uttarpara, Singur and Konnagar (M). The worst blocks in terms of the same index are Arambag, Haripal, Jangipara and Pandua (Table 3.3).

Fig-3.1: Educational Infrastructure - Comparative Figures



A - Primary Schools per 1000 pop; B - High Schools per 1000 pop; D - Proportion of Primary School within locality; E - Accessibility Index; F - School Facility Index; G - Teacher Availability Index; H - Educational Infrastructure Index.

Note : Indices prepared according to UNDP method of Relative Gap.

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

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The EII is also useful in the sense it helps us to pinpoint the position of the district vis-à-vis the national and state situation with respect to the various parameters of educational infrastructure that we have considered. Figure 3.1 shows that, with respect to primary school per thousand populations, the district score is slightly above the country score, but below that state score. The district has performed poorly compared to both the country and the state with respect to availability of high schools, suggesting this as an area that needs focussed intervention. With respect to the Accessibility Index, the district is slightly ahead of national score and at par with the state score. On the other hand, the district has performed significantly better than both the national and state scores with respect to the Primary School within locality, School Facility Index and Teacher Availability Index. Overall, in terms of EII, the district is slightly ahead of national score, but a bit below the state score.

3.4 Educational achievement of the people of the district

The present situation of human development of the district as far as education is concerned would be revealed by the educational achievement of the people of the district. Therefore, after studying the educational infrastructure of the district, we now focus on educational achievement. Commonly used measures of educational achievement are indicators of Literacy and Gross Enrolment rates. These however are only quantitative measures. To be more precise in our analysis, we also examine the qualitative feature of educational achievement. We do this by using indicators like the Net Enrolment Rates, Drop Out Rates, Mean Years of Schooling, and specifically designed indicators to serve our purpose like Completion Rates and Retention Rates.

3.4.1 Literacy

There has been significant development of literacy in India as a whole, from 5.3% in 1901 to 65.4% in 2001. The situation in Hooghly district is better than both the country and state average; it is 80.5% in 2008 (projected from 2001 census). Block wise, the ones faring best in terms of literacy are Uttarpara-Kotrang (M), Baidyabati (M), Konnagar (M), Chandannagore MC and Singur, while the worst performing ones are Jangipara, Arambag, Balagarh and Chanditala-I (Table 3.4).

While the literacy rates have improved significantly in India, much of the improvement has been restricted was concentrated to the male population, at least up to 1981. This can be seen from the fact that the gender gap (GG-difference between the % figures for the males compared to the females) in literacy soared from 9.2 points in 1901 to 26.8 points in 1981. However, the positive side is that it declined thereafter to 21.7 points in 2001. The reason for this can be traced to the Millennium Development Goals (MDG) followed by the initiative of Government of India as reflected in the Promotion of gender equality in Education, as stated in the beginning of the chapter.

Table 3.4: Educational Achievements - Literacy - 2008 (Projected from Census, 2001)

Blocks/ ULB	Male	Female	Total	Blocks/ ULB	Male	Female	Total
Arambagh	80.5	62.2	71.4	Arambag (M)	86.7	62.9	78.2
Balagarh	83.7	61.2	72.7	Baidyabati (M)	93.5	86.3	90.1
Chanditala-I	80.5	64.5	72.7	Bansberia (M)	89.9	75.6	83.2
Chanditala-II	88.7	73.2	81.2	Bhadreswar (M)	93.3	79.4	87.0
Chinsurah-Mogra	85.7	64.4	75.3	Champdani (M)	88.2	70.1	80.7
Dhaniakhali	85.6	64.0	74.6	Chandannagore MC	93.2	85.0	89.3
Goghat-I	86.4	72.6	79.4	Hooghly-Chinsurah (M)	91.5	83.3	87.8
Goghat-II	88.9	77.2	83.2	Konnagar (M)	94.2	87.0	90.8
Haripal	83.9	66.9	75.4	Rishra (M)	82.7	81.1	87.2

Final Proof

Contd.

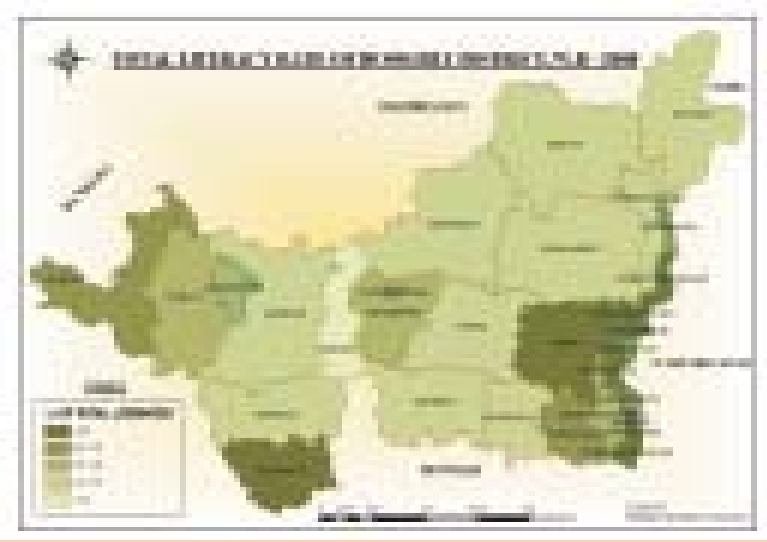
Blocks/ ULB	Male	Female	Total	Blocks/ ULB	Male	Female	Total
Jangipara	71.2	61.0	70.9	Serampore (M)	92.9	73.9	80.8
Khanakul-I	83.7	65.0	74.4	Tarakeswar (M)	90.8	77.2	84.5
Khanakul-II	94.8	83.6	89.4	Uttarpara-Kotrang (M)	95.9	87.9	92.1
Pandua	85.0	62.7	74.0				
Polba-Dadpur	85.5	62.6	74.3	**Arambagh Sub-div**	**87.4**	**72.0**	**80.3**
Pursurah	78.5	60.5	69.6	**Chandannagore Sub-div**	**90.3**	**75.8**	**83.5**
Serampore-Uttarpara	87.7	67.9	78.0	**Chinsurah Sub-div**	**86.8**	**67.7**	**77.4**
Singur	87.7	83.3	88.5	**Serampore Sub-div**	**86.9**	**75.9**	**82.6**
Tarakeswar	89.8	68.9	79.6	***District***	***87.4***	***72.4***	***80.5***

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

The district has performed much better in terms of gender gaps in literacy as well, with the overall male and female literacy rates being 87.4 and 72.4, and the gender gap being 14.3 for the district. Looking at different blocks, we find that gender gaps are least in Baidyabati (M), Konnagar (M), Uttarpara-Kotrang and Chandannagore MC, while it is highest in Arambag, Polba-Dadpur, Balagarh and Pandua (Table 4b). Interestingly, the blocks which have done best (worst) in literacy have done well (badly) in gender gap as well. Thus, the blocks like Arambag, Balagarh and Jangipur, that had fared badly in both fronts, needs special attention from the authorities to improve their situation.

While the gender gap in literacy in the district is less than national and state average, its presence, and other measures of educational attainment, has far reaching consequences. It has been empirically tested that social phenomena like Birth rates (CBR), Death rates (CDR), Infant Mortality Rates (IMR), and Population Growth Rates (PGR) decelerate with improvements in Literacy levels. Significantly, reduction in these parameters is associated with development and maturity of the country. Thus, improvement of the 'inclusion rate' has not only aggregate uplifting effect but also desired distributional consequences. Moreover, in all these cases the association is found to be stronger with female literacy than male literacy, thereby underlying the importance of female education in India (and correctly stated in the MDG). This also identifies gender gap as an important issue for exploration.

Map 3.3: Total Literacy Rate of Hooghly District, 2008



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Map 3.4: Female Literacy Rate in Hooghly District, 2008

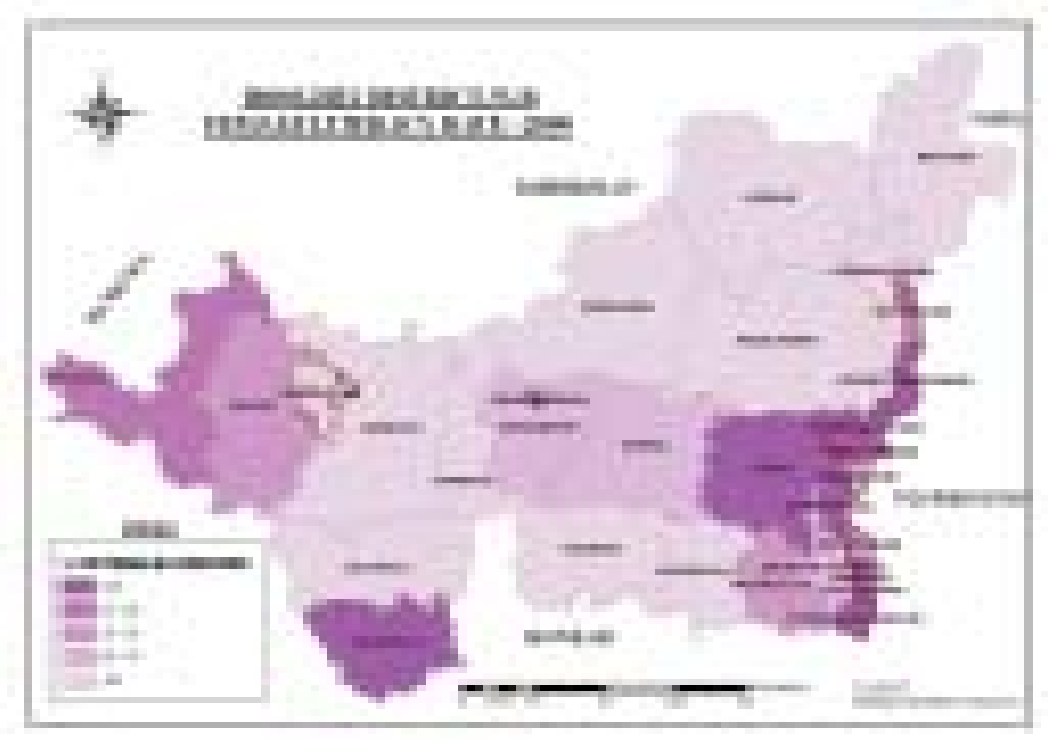

Table 3.5: Gender Gaps in Literacy - 2008 (Projected from Census, 2001)

Blocks/ ULB	Gender Gap	GG Adj Score	Blocks/ ULB	GG	GG Adj Score
Arambag	17.43	67.08	Arambag (M)	22.70	69.70
Balagarh	21.40	67.59	Baidyabati (M)	6.87	85.65
Chanditala-I	15.28	68.07	Bansberia (M)	13.70	78.63
Chanditala-II	14.78	76.52	Bhadreswar (M)	13.23	82.30
Chinsurah-Mogra	20.32	70.45	Champdani (M)	17.23	75.44
Dhaniakhali	20.61	69.85	Chandannagore MC	7.85	84.84
Goghat-I	13.12	75.31	Hooghly-Chinsurah (M)	8.66	83.55
Goghat-II	11.08	78.87	Konnagar (M)	6.83	86.35
Haripal	16.24	70.92	Rishra (M)	1.50	78.05
Jangipara	9.73	62.62	Serampore (M)	13.19	83.98
Khanakul-I	17.77	69.77	Tarakeswar (M)	12.97	79.90
Khanakul-II	10.61	84.55	Uttarpara-Kotrang (M)	7.65	87.54
Pandua	21.26	68.78			
Polba-Dadpur	21.81	68.96	**Arambagh Sub-div.**	**15.34**	**79.34**
Pursurah	17.19	65.28	**Chandannagore Sub-div.**	**14.48**	**82.61**
Serampore-Uttarpara	18.87	73.18	**Chinsurah Sub-div.**	**19.15**	**76.18**
Singur	9.15	76.44	**Serampore Sub-div.**	**11.03**	**81.23**
Tarakeswar	19.95	74.49	***District***	***14.30***	***75.60***

Note: Literacy Scores are prepared following the methodology described in Technical Appendix.

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

We have computed gender gap adjusted literacy rates for the district and sub-regions (Table 3.5). It is observed that the District score in this account is 76 per cent. The blocks that have done best in terms of this index are Uttarpara-Kotrang (M), Konnagar (M), Baidyabati (M), Chandannagore MC and Khanakul-II. The blocks that have fared badly in terms of this index are Jangipara, Arambag, Balagarh, Chanditala, Pandua and Polba-Dadpur. These areas need special focus for improvement of Female Literacy as well.

3.4.2 Enrolment:

The next step from literacy is to get admitted in schools and continue education. Therefore we next look at the enrolment rates of the children in schools in the district. To record how many children of the region get admitted in schools, Net Enrolment Ratio (NER) is the most commonly used measure. For India as a whole, the NER was 64% in 2000-01 for primary stages, and 45% for Junior High and Secondary levels.

Table 3.6 Enrolment Ratios in School-Stages - 2007

Blocks/ ULB	Enrolment in Primary Stages			Enrolment in Middle Stages			Enrolment Index		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Arambag	99.9	99.9	99.9	98.9	99.1	99.0	99.4	99.5	99.5
Balagarh	99.8	99.8	99.8	98.4	98.6	98.5	99.1	99.2	99.2
Chanditala-I	100.0	100.0	100.0	99.9	99.9	99.9	99.9	99.9	99.9
Chanditala-II	100.0	99.9	100.0	99.2	99.2	99.2	99.6	99.6	99.6
Chinsurah-Mogra	99.9	99.9	99.9	97.0	96.8	96.9	98.4	98.4	98.4
Dhaniakhali	99.9	99.8	99.9	99.3	98.7	99.0	99.6	99.3	99.4
Goghat-I	99.7	99.8	99.7	99.3	99.4	99.4	99.5	99.6	99.6
Goghat-II	99.9	99.9	99.9	99.3	99.1	99.2	99.6	99.5	99.6
Haripal	99.9	99.9	99.9	97.7	98.1	97.9	98.8	99.0	98.9
Jangipara	99.9	99.9	99.9	98.6	98.8	98.7	99.3	99.4	99.3
Khanakul-I	99.8	99.8	99.8	97.6	97.5	97.6	98.7	98.7	98.7
Khanakul-II	99.9	99.8	99.9	95.6	96.0	95.8	97.7	97.9	97.8
Pandua	99.9	99.8	99.8	98.0	97.3	97.6	98.9	98.6	98.7
Polba-Dadpur	100.0	99.9	99.9	96.5	95.9	96.2	98.2	97.9	98.1
Pursurah	99.9	99.9	99.9	98.2	98.5	98.3	99.0	99.2	99.1
Serampore-Uttarpara	99.7	99.7	99.7	92.7	94.4	93.6	96.2	97.0	96.7
Singur	99.9	99.9	99.9	99.1	99.2	99.1	99.5	99.5	99.5
Tarakeswar	99.9	100.0	99.9	98.7	98.9	98.8	99.3	99.4	99.4
Arambag (M)	100.0	100.0	100.0	99.9	99.9	99.9	99.9	100.0	99.9
Baidyabati (M)	100.0	100.0	100.0	98.4	98.6	98.5	99.2	99.3	99.3
Bansberia (M)	100.0	100.0	100.0	99.1	99.4	99.2	99.5	99.7	99.6
Bhadreswar (M)	100.0	100.0	100.0	99.4	99.5	99.4	99.7	99.7	99.7
Champdani (M)	100.0	100.0	100.0	99.3	99.0	99.1	99.6	99.5	99.6
Chandannagar MC	100.0	100.0	100.0	99.8	99.8	99.8	99.9	99.9	99.9

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Blocks/ ULB	Enrolment in Primary Stages			Enrolment in Middle Stages			Enrolment Index		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Hoog-Chinsurah (M)	100.0	100.0	100.0	99.8	99.8	99.8	99.9	99.9	99.9
Konnagar (M)	99.8	100.0	99.9	99.6	99.7	99.6	99.7	99.9	99.8
Rishra (M)	100.0	100.0	100.0	99.9	99.9	99.9	99.9	99.9	99.9
Serampore (M)	100.0	100.0	100.0	99.8	99.9	99.9	99.9	100.0	99.9
Tarakeswar (M)	99.9	100.0	99.9	97.7	97.7	97.7	98.8	98.9	98.8
Uttarp-Kotrang (M)	100.0	100.0	100.0	99.9	99.9	99.9	99.9	99.9	99.9
Arambagh SD	**99.9**	**99.9**	**99.9**	**98.4**	**98.5**	**98.5**	**99.1**	**99.2**	**99.2**
Chandannagore SD	**100.0**	**100.0**	**100.0**	**98.8**	**98.9**	**98.8**	**99.4**	**99.4**	**99.4**
Chinsurah SD	**99.9**	**99.9**	**99.9**	**98.3**	**98.1**	**98.2**	**99.1**	**99.0**	**99.0**
Serampore SD	**99.9**	**99.9**	**99.9**	**98.7**	**98.9**	**98.8**	**99.3**	**99.4**	**99.4**
District	***99.9***	***99.9***	***99.9***	***98.5***	***98.5***	***98.5***	***99.2***	***99.2***	***99.2***

Note: Enrolment Index is as per recent UNDP, HDI Methodology

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

In contrast, enrolment ratios are far superior in the Hooghly district, showing almost full (100%) enrolment in the primary stages, and 98.5% in the middle stages. Enrolment ratios are high in the municipal areas, as well as in most other blocks. However, there is some room for improvement in enrolment in the middle stages in Chinsurah-Mogra, Khanakul-II, Polba-Dadpur and Serampore-Uttarpara. It is particularly encouraging that enrolment of girls is as good as that of the boys, and in some cases even outperforms the latter.

3.4.3 Drop-Out Rates

In most of the less developed countries, it is found that for the Junior High school stages, the NER is lower compared to the primary stages consistently. This implies that in the schools, 100% retention is not attained. In other words, due to various reasons, a fraction of the enrolled students drop out from the schools, without completing their schooling. It is observed that the Drop Out Rates (DOR) are substantially high in India, in particular.

Table 3.7: Drop-Out Rates in Primary Stages - 2008

Blocks/ ULB	Boys	Girls	Total	Blocks/ ULB	Boys	Girls	Total
Arambag	7.0	4.9	6.0	Arambag (M)	1.5	0.6	1.0
Balagarh	10.6	10.0	10.3	Baidyabati (M)	7.3	0.6	4.0
Chanditala-I	13.0	4.4	8.8	Bansberia (M)	0.0	0.0	0.0
Chanditala-II	12.0	5.9	9.0	Bhadreswar (M)	0.0	0.0	0.0
Chinsurah-Mogra	7.8	4.1	6.0	Champdani (M)	4.5	7.5	5.9
Dhaniakhali	8.0	3.0	5.5	Chandannagore MC	20.6	22.5	21.5
Goghat-I	11.0	13.3	12.1	Hooghly-Chinsurah(M)	6.3	0.0	3.1
Goghat-II	1.0	3.7	2.3	Konnagar (M)	0.0	0.0	0.0

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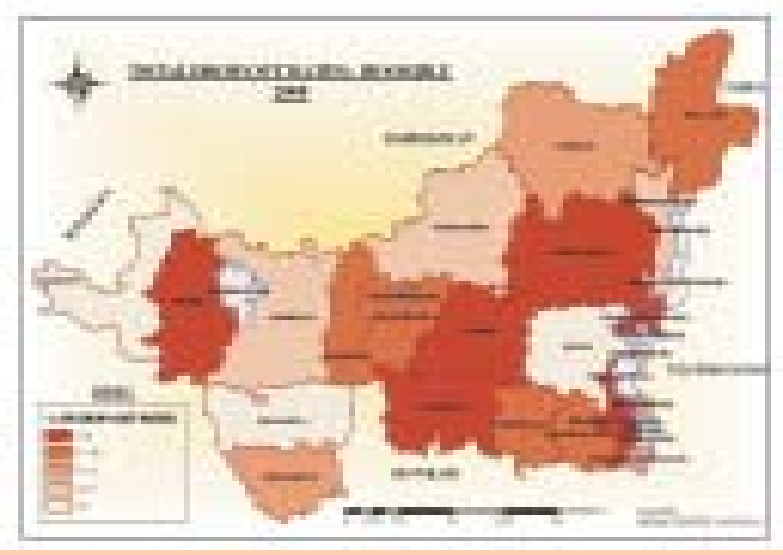
Blocks/ ULB	Boys	Girls	Total	Blocks/ ULB	Boys	Girls	Total
Haripal	9.7	12.7	11.2	Rishra (M)	0.0	0.0	0.0
Jangipara	13.8	8.7	11.4	Serampore (M)	9.4	5.8	7.6
Khanakul-I	5.2	2.0	3.6	Tarakeswar (M)	5.5	7.9	6.7
Khanakul-II	6.2	6.6	6.4	Uttarpara-Kotrang (M)	9.6	5.1	7.2
Pandua	9.9	2.9	6.5				
Polba-Dadpur	13.0	9.9	11.5	**Arambag SD**	**8.1**	**6.5**	**7.3**
Pursurah	9.0	8.6	8.8	**Chandannagore SD**	**7.4**	**6.2**	**6.8**
Serampore-Uttarpara	11.6	8.8	10.2	**Chinsurah SD**	**9.3**	**8.1**	**8.7**
Singur	5.4	2.7	4.0	**Serampore SD**	**6.6**	**4.4**	**5.5**
Tarakeswar	9.1	9.2	9.2	***District***	***9.1***	***5.1***	***7.2***

Source: Primary school served area of Hooghly District (1 km. Radial Distance)

The Drop-Out Rate in primary stages in 2000-01 was 40.3% in India. The DOR for the Junior High and secondary levels in the same time period were 54.5% and 68.3% respectively. This suggests that only about 32% of the enrolled students completed their secondary school education at the national level. Further, it is observed that the DOR is higher for the girls compared to the boys.

In contrast, in the Hooghly district, the situation is much better than the national situation. For the district, the DOR is 7.2%. Interestingly, contrary to the national picture, the DOR for the boys (9.6%) is significantly higher than that of the girls (5.1%). Block wise in the district, the dropout rates are low in Goghat-II, Khanakul-I, Singur and in the municipalities except Chandannagore MC. On the other hand, DOR is high in Balagarh, Goghat-I, Haripal, Jangipara, Polba-Dadpur and Chandannagore MC. In Chandannagore it is alarmingly high, over 20%, and suggests special care to be taken to reduce the drop-out rates closer to the district average.

Map 3.5: Drop-Out Rates in Hooghly District, 2008



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Map 3.6: Female Drop-Out Rates in Hooghly District, 2008

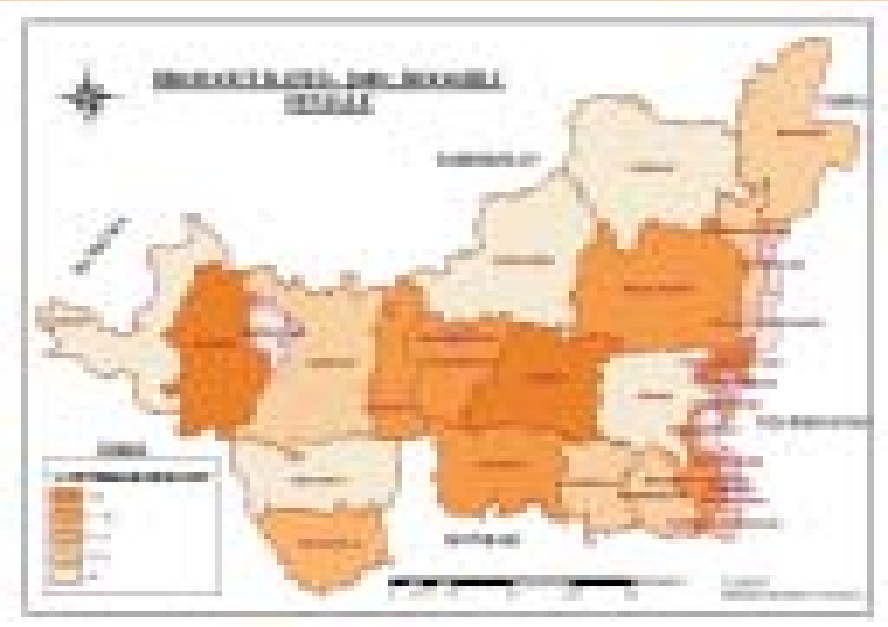

Table 3.8: Completion Rates in School-Stages - 2008

Blocks/ ULB	Boys	Girls	Total	Blocks/ ULB	Boys	Girls	Total
Arambag	92.9	95.1	94.0	Arambag (M)	98.5	99.4	99.0
Balagarh	89.3	89.8	89.5	Baidyabati (M)	92.7	99.4	96.0
Chanditala-I	87.0	95.6	91.2	Bansberia (M)	100.0	100.0	100.0
Chanditala-II	87.9	94.0	90.9	Bhadreswar (M)	100.0	100.0	100.0
Chinsurah-Mogra	92.1	95.9	93.9	Champdani (M)	95.5	92.6	94.1
Dhaniakhali	92.0	96.8	94.4	Chandannagore MC	79.4	77.5	78.5
Goghat-I	88.7	86.5	87.6	Hooghly-Chinsurah (M)	93.7	100.0	96.9
Goghat-II	98.9	96.2	97.6	Konnagar (M)	99.8	100.0	99.9
Haripal	90.2	87.2	88.8	Rishra (M)	100.0	100.0	100.0
Jangipara	86.2	91.3	88.6	Serampore (M)	90.6	94.2	92.4
Khanakul-I	94.7	97.8	96.2	Tarakeswar (M)	94.4	92.1	93.3
Khanakul-II	93.7	93.3	93.5	Uttarpara-Kotrang (M)	90.4	94.8	92.8
Pandua	90.0	96.9	93.3				
Polba-Dadpur	87.0	90.0	88.4	**Arambag SD**	**91.8**	**91.4**	**91.6**
Pursurah	90.9	91.3	91.1	**Chandannagore SD**	**92.5**	**91.8**	**92.1**
Serampore-Uttarpara	88.2	90.9	89.5	**Chinsurah SD**	**90.7**	**89.8**	**90.2**
Singur	94.5	97.2	95.9	**Serampore SD**	**93.4**	**93.5**	**93.4**
Tarakeswar	90.8	90.7	90.8	***District***	***90.8***	***94.8***	***92.7***

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

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3.4.4 Completion Rates

The DOR has some limitations, although it is a very important indicator of educational attainment. It only indicates what percentage of the enrolled students leave before completing a certain stage of schooling. While this is an important thing to note, we are also more interested in knowing what proportion of children of the relevant age group is really completing a certain level of schooling. To identify this, one should calculate the completion rate (CR) - obtained by multiplying Net Enrolment Ratio with complementary of drop out rate. For the country as a whole in 2000, the CRs were quite poor, only 53% of the relevant age group children are completing primary and 40% of the same are completing Junior High level education.

Compared to this, CR in the District is 92.7 per cent for the School stage (Table 3.8). Overall completion rate of the girls (94.8%) are higher than that for the boys (90.4%) - which is also a remarkable achievement of the district in terms of human development (Table 3.7). The sub-regions that have performed best are Goghat II and the municipalities of Arambag (M), Bansberia (M), Bhadreswar (M), Konnagar (M) and Rishra (M). The blocks lagging behind are Goghat-I, Haripal, Jangipara, Polba-Dadpur and Chandannagore (MC).

3.5 Indexing Educational Infrastructure and Achievement:

Based on what we have discussed so far on the infrastructure and achievement of the district in terms of Education and Capacity Building, we can prepare Composite scores of the two dimensions. This will help us to make a well-directed inspection of the better performing sub-regions and the ones that are performing poorly and hence need special attention. This will allow us to frame well directed policies aimed at reducing the inadequacies in the relevant sub-regions.

We have prepared two such indices - the Educational Infrastructural Index (EII) and the Educational Development Index (EDI). The first one has already been discussed earlier (See Table 3.3). The second index, EDI, is prepared from the Gender Gap adjusted Literacy Index, Combined Enrolment Index, and the Retention Rates (complementary of Drop-Out Rates) (Table 3.9). It is observed that the average EDI for the district is 0.65; signifying that the achievement of the district in terms of various dimensions of educational capacity building has been moderate, though better than State or National average. The success seems better than the infrastructural support index, indicating that available infrastructure are being adequately exploited and converted to educational success. One therefore has to expand the infrastructural support and utilize existing infrastructure in a better way. Also, more facilities, especially in the rural areas, are needed to bring and retain the children in schools.

EDI is substantially higher in Urban areas compared to Rural areas, as indicated by the higher scores for the Municipal areas compared to the CD Blocks. This indicates Town-centric nature of the development of our educational system. This has to be changed and capacity building process has to be dispersed over a wider regional space. The regions that have performed well in terms of EDI is the Municipal areas in general (except Chandannagore MC), and also the areas of Singur and Goghat II. On the other hand, the regions that have performed poorly in terms of this index are Balagarh, Haripal, Jangipara, Polba-Dadpur and Pursurah, with Serampur-Uttarpara performing very badly (Table 3.9).

Table 3.9: Educational Development Scores - 2008

Blocks/ ULB	Literacy Index	Enrolment Index	Retention Index	EDI	Blocks/ ULB	Literacy Index	Enrolment Index	Retention Index	EDI
Arambagh	0.18	0.86	0.72	0.59	Arambagh (M)	0.28	1.00	0.95	0.75
Balagarh	0.20	0.76	0.52	0.49	Baidyabati (M)	0.92	0.80	0.81	0.84
Chanditala-I	0.22	0.99	0.59	0.60	Bansberia (M)	0.64	0.90	1.00	0.85
Chanditala-II	0.56	0.90	0.58	0.68	Bhadreswar (M)	0.79	0.93	1.00	0.91

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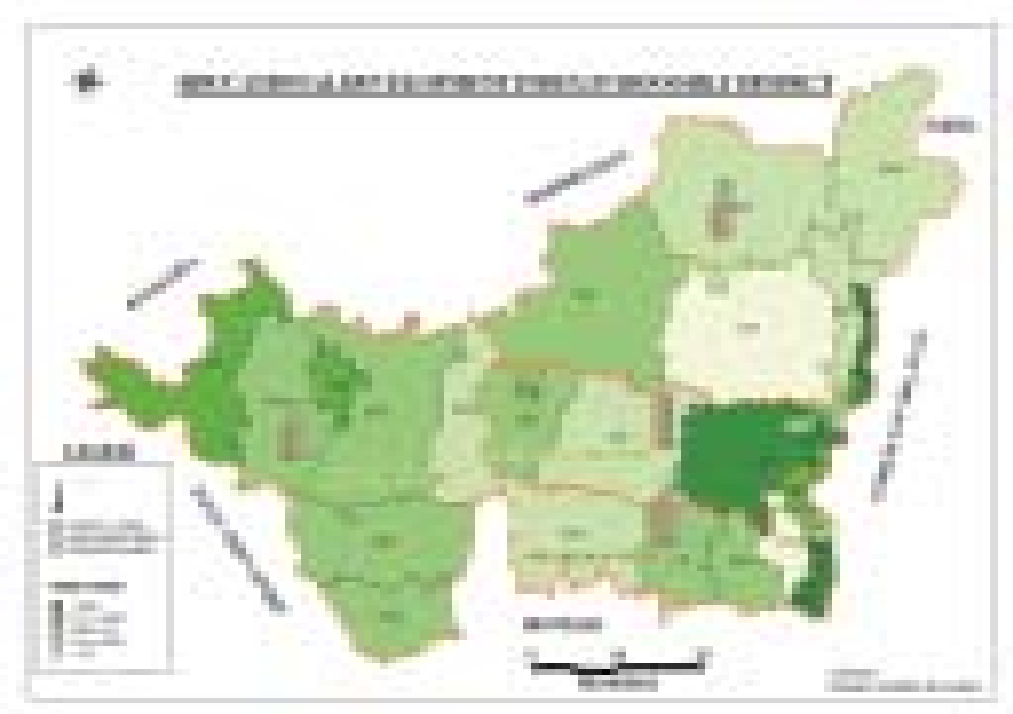
Blocks/ ULB	Literacy Index	Enrolment Index	Retention Index	EDI	Blocks/ ULB	Literacy Index	Enrolment Index	Retention Index	EDI
Chinsurah-Mogra	0.31	0.54	0.72	0.52	Champdani (M)	0.51	0.88	0.73	0.71
Dhaniakhali	0.29	0.85	0.74	0.63	Chandannagar MC	0.89	0.98	0.00	0.63
Goghat-I	0.51	0.88	0.44	0.61	Hoog-Chin (M)	0.84	0.99	0.86	0.89
Goghat-II	0.65	0.88	0.89	0.81	Konnagar (M)	0.95	0.95	1.00	0.97
Haripal	0.33	0.69	0.48	0.50	Rishra (M)	0.62	1.00	1.00	0.87
Jangipara	0.00	0.81	0.47	0.43	Serampore (M)	0.55	0.87	0.65	0.69
Khanakul-I	0.29	0.63	0.83	0.58	Tarakeswar (M)	0.69	0.66	0.69	0.68
Khanakul-II	0.88	0.37	0.70	0.65	Uttrpr-Ktrng (M)	1.00	1.00	0.67	0.89
Pandua	0.25	0.64	0.70	0.53					
Polba-Dadpur	0.25	0.44	0.46	0.39	**Arambag SD**	**0.51**	**0.79**	**0.70**	**0.66**
Pursurah	0.11	0.75	0.59	0.48	**Chandannagore SD**	**0.65**	**0.85**	**0.61**	**0.71**
Serampur-Uttarpara	0.42	0.00	0.53	0.32	**Sadar SD**	**0.40**	**0.73**	**0.71**	**0.61**
Singur	0.86	0.99	0.81	0.89	**Serampore SD**	**0.58**	**0.81**	**0.70**	**0.70**
Tarakeswar	0.48	0.83	0.57	0.63	***District***	***0.86***	***0.99***	***0.81***	***0.65***

Note: Methodology for preparing Retention Index is described in Technical Appendix. All Rates are Gender Gap Adjusted.

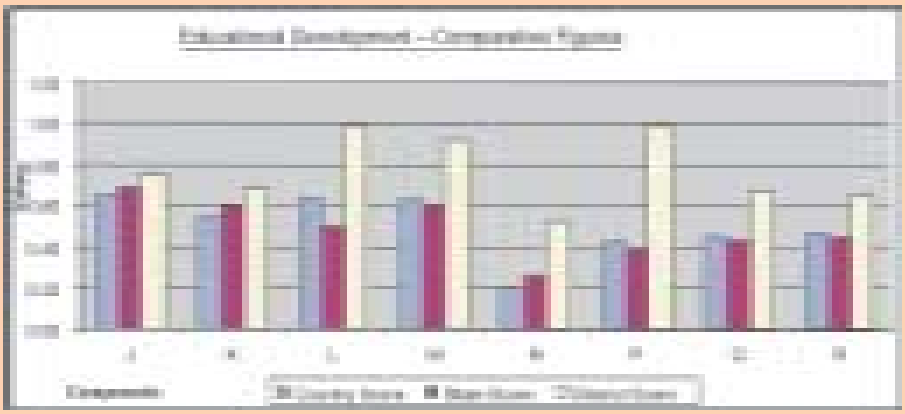
Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

Map 3.7: Education Development Index in Hooghly District, 2008



As we had done with the EII, we can compare the performance of the district vis-à-vis that of the State and the country as a whole, with respect to various parameters of educational achievement with the EDI. This is done in Figure 3.2 below.

Figure 3.2: Educational Development - Comparative Figure



J - Literacy; K - Female Literacy; L - Enrolment Ratio in Primary; M - Completion Rate in Primary; N - Literacy Index; P - Enrolment Index; Q - Retention Index; R - Educational Development Index.

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

As evident from Figure 3.2, the district is ahead of the State and the country in terms of all the parameters, namely Literacy, Female Literacy, Enrolment Ratio in Primary Schools, Completion Rate in Primary Schools, Literacy Index, Enrolment Index, Retention Index and finally the Educational Development Index itself. In contrast, the performance of the district was not so spectacular in terms of the EII. This suggests that the district is using its educational infrastructure very efficiently.

3.6 Other Dimensions of Education

The success and shortcomings in educational achievements have to be explored from various dimensions. We have already looked at gaps in Literacy and Enrolment as absolute shortfalls and observed that the district is doing relatively better than National/State performance. However, we must assess the performance in terms of some well-defined and accepted targets also. For that purpose, we have considered the Millennium Development Goals.

3.6.1 Where are we vis-à-vis the Millennium Development Goals?

As stated in the beginning of the chapter, two of the Millennium Development Goals (MDGs) are related to education, namely universalizing Elementary Education and promoting gender equality in education. From Table 3.10 it is evident that the district is quite near to achieving the MDGs and will do so shortly.

Table 3.10: District Performance relative to Millennium Development Goals

Millennium Development Goal	Achievements	Lags
Completion of Primary Schooling by all children: 100% Enrolment and Zero Drop Out	99.9% Enrolment Rate and 7.2% Dropout Rate in Primary Stages in Formal Schools. Another 6% in Alternate Schools.	Enrolment Target achieved. However, there is room for improvement in reducing dropout rates further.
Gender Equality in Education	99.9% Enrolment Rate for Girls and 5.1% Dropout Rate in Primary Stages; Enrolment is same as boys, and dropout is lower for Girls.	The district has succeeded in eliminating Gender Bias in enrolment and dropout in primary stages.

Source: Office of the SSM, Hooghly; District Information on School Education - 2008-09; Census of India, 2001.

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Box 3. 1: Education for All - Providing Education for the Disabled

Sarva Shikhsa Mission was started in Hooghly District with the objective of Universalization of elementary education by 2010 and imparting quality learning. The SSM programme is also an attempt to provide the opportunity for improving human capabilities to all children, through provision of community owned quality education in a mission mode. As a part of that the District Project Office took up the programme of Integrated Education for the Disabled (IED) in 17 of its 18 CD Blocks and in all the 12 Municipal areas. 11 DLROs were appointed to operationalise the programme. Surveys and Screening camps were held all over the district to identify the Children with special needs (CWSN). In all, 3312 schools going CWSN were identified and close monitoring were started for them. All of them have been provided with Books and Uniform. About 1800 Aids & Appliances were distributed among the CWSN. To create awareness and to impart training in handling CWSN, camps were held where 11000 teachers and 5000 supervisors were instructed. In addition, about 2500 Primary schools and 440 Upper Primary schools have been provided with Ramp and Rail for use by CWSN. Education for the disabled in Hooghly is no more an ordeal. They are having fun with their other classmates as well!

Source: Office of the Sarva Shikhsa Mission, Hooghly

3.7 Special Policy Interventions

Over the years, the District administration has taken several steps to improve the educational levels herein. Apart from general expansion of facilities and support to institutions, there have been special interventions in the form of ICDS, DPEP, SSA, SSKs & MSKs, and the Midday Meal Scheme. There have been Special schools in the Brick-Kiln Areas also. Administration has also run Special Bridge Courses for Over-Age Never Enrolled youth.

Box 3.2: Functioning of NCLP Schools in Hooghly

67 special schools are run under National Child Labour Programme (NCLP) Hooghly by the Nabadisha NCLP Society. In these schools, quality education is provided to the withdrawn child labourers through participatory learning methods with the aid of low cost Teaching Learning Materials. Of the 3400 children identified in the 2007 survey, almost 3350 have been brought to the NCLP Schools. These children were mostly Rag-pickers, Maid servants, Railway hawkers, or Workers in motor garages, hotels, and cycle repair shops. Being from poor families, they were forced into the labour market to supplement family income. Now that they have been brought to NCLP schools and given free TLM and midday tiffin they are eager to continue studies. Some vocational training is also being imparted which will help the children take up remunerative activities at home. Apart from formal studies, they also learn various handicrafts like Tailoring, Wool knitting, Soft-toys making, Jute products, Carpentry, Jari work, Food

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processing, etc. The children are getting stipend which is deposited to bank accounts and are withdrawable only when the child is mainstreamed. This is acting as a major incentive to the children as well as their family members and most of them now want to continue their studies. The schools are also providing wholesome cooked food to the students. As a result, in about three years, more than 750 students have been mainstreamed, and there is not a single case of drop-out from NCLP schools so far.

There is periodical visit by the three Project Doctors as well as by Block Medical Officers in all the schools. Children thus get benefits of free health check-up and treatment whenever necessary. To create awareness against child labour and to bring children back to school, awareness camps have been held throughout the district by the NCLP society where Rallies, Seminars, Cultural functions, Sports are held. The camps are addressed by members of local PRI members, guardians of children, and local children themselves. Documentary films on Health and Education have also been screened in all the 67 NCLP schools over the last year.

One of the NCLP schools is residential, and is run by Koikala Rural Development Society at Kanria in Tarakeswar Block. Located in a two-storied building, the school has 30 boys and 20 girls.

3.7.1 Sarva Shiksha Mission

Sarva Shikhsa Mission was started in Hooghly District with the objective of achieving Enrolment & Retention of all children of age group 5+ to 13+ in Primary and Upper Primary Schools, impart Quality learning, and Universalizing of elementary education by 2010. The SSM programme is also an attempt to provide the opportunity for improving human capabilities for all children, through provision of community owned quality education in a mission mode. The District Project Office has been operating 2364 VECs, 273 WECs, has imparted Re-Orientation Training to 15822 VEHC / WEC members in the year 2008-09. It undertakes the Maintenance /Updating of Child Register and Planning at VEC / WEC level and has taken up Vartikaran Karmasuchi -2009 so as to enrol all out of school children by 30th September 2009. 205 CRCs and 39 CLRCs have been constructed, 65 new Primary School buildings have been built, and 5716 additional class rooms have been provided in Primary and Upper Primary schools. Drinking -water facilities have been additionally provided in 194 schools, and separate toilet for girls have been constructed in 748 schools. Two Integrated Educational Complexes have been built in Haripal and Pandua. About 2700 Para-teachers, 522 additional Regular Primary Teachers, and 281 Shikhsa-Bandhus have been appointed under SSM. About 275,000 children have been provided with Free Text Books. These efforts have been instrumental in bringing down Drop Out Rates to just 7 per cent in 2009. It is expected that the full impact will be evident only in 2010.

3.7.2 Mid-day Meal Programme in Hooghly District:

Cooked Mid-day Meal Programme is continuing in the district of Hooghly since 2003. Target was to cover all the primary schools/ SSKs/ Madrashas etc. in the district both in rural and urban areas. Almost all the schools have been covered in rural areas under this programme to Class IV. The total achievement for introduction of Mid-day meal in rural and urban areas of this district is as follows:

Table3.11: MDM Programme in Hooghly District (Primary Stage) upto March, 2008-09.

	Number of Schools where MDM			Number of Students covered under this Programme		
Area	Primary Schools	SSKs	Total	Primary Schools	SSKs	Total
Rural	2565	279	2844	315042	21530	336572
Urban	482	46	528	74083	4157	78240
Total	3047	325	3372	389125	25687	414812

Source: DPLO, Hooghly, 2009

Final Proof

Out of 414812 students, 352591(85 per cent) students could be provided with mid-day meal up to March, 2009, in the district of Hooghly.

Mid-day Meal programme was also introduced in the district in the upper-primary stage since December, 2008. The status of the programme in Upper Primary stages up to March, 2008-09 is as follows:

Table 3.12: MDM Programme in Hooghly District (Upper-Primary Stage)

	Number of Upper-Primary Schools where MDM programme is continuing			Number of students covered under this programme		
Area	Total No. of Upper -Primary Schools	Mid day Meal has started	Total Mid day meal yet to be started	No. of Students in Upper Primary Schools	No. of working days	Total Mid day meal provided to the students
Rural and Urban	641	366	275	175651	57 days	149303

Source: DPLO, Hooghly, 2009

Initiative has been taken to introduce the MDM Programme in the rest of the schools.

Box 3.3: Mid-Day Meal: Performance of the District

In Hooghly district, the Mid-Day Meal Scheme was started from 2004-05 for nutritional support to the children under Universalization of Elementary Education Programme. In 2008, District Institute of Education and Training (DIET) in Gandhigram, Hooghly, conducted a study to make the impact assessment of Mid Day Meal in Hooghly District. It is found to be the most effective means specially in rural areas to bring the children of weaker sections of the society under the net of elementary education. Drop out rate has been reduced significantly after introducing the Mid-Day Meal Scheme in the district.

Mid-Day Meal is being served in a school of Hooghly District

For effective implementation of Mid-Day Meal Scheme in the district, the recommendations of DIET are as follows:

- To avoid the hampering of teaching learning process, special set-up for arranging and catering Mid-Day Meals should be formed in the locality of the School/SSK. Self Help Group may be the first choice forming special set-up. The head Teachers, VEC members and officers of different levels should regularly monitor the scheme in a planned way.
- Per head per student expenditure is Rs. 2.50. This is too less to arrange good quality cooked food at the present market price. Thus, it must be enhanced.
- Learners feel embarrassed to bring dishes/plates from home. To avoid it, dishes/plates should be supplied by the schools.
- Supply of fund should be regular.
- Dry food may be given as the substitute of cooked Mid-Day Meal to the students other than the economically backward class.
- Community participation in Mid-Day Meal Scheme should be ensured.
- Cooked food must be hygienic.
- Wages of cooking staff should be enhanced.
- Weekly food chart must be strictly followed.

3.7.3 Gender Focus

Sarva Shikhsa Mission had also taken up special programme in Six Blocks - Dhaniakhali, Khanakul-I, Goghat-I, Goghat-II, Polba-Dadpur & Pandua which exhibited relatively lower Female Literacy Rate in 2001 Census. As a part of the programme, 2977 Mother Teacher Associations were formed. The following steps were also taken over the last couple of years: Orientation of 8931 teachers of Primary schools; Arrangement of Video shows & 'Ma O Meye Mela' on Gender Equity at village level to create awareness; Observance of World Women's Day in VECs and WECs; Orientation of 29700 MTA members at Gram Panchayat and Municipal Level; Observance of 'Matri Sachetanata Dibas' at all CRCs and CLRCs on 26th September, 2008 to create awareness among mothers regarding the need to educate their daughters; Health Check-up programme in Primary & Upper Primary schools for Girls students so as to create another incentive for sending girl child to school. This has enabled the district to bring down gender gap in literacy in these Gender Focus blocks from around 25 percentage points to about 20 percentage points in three years.

3.7.4 Educational Schemes for Backward classes:

To remove illiteracy amongst the Scheduled Castes, Scheduled Tribes and Other Backward Classes, different educational schemes are under operation in the district. Most important among them are: book grant up to class IX, hostel grant up to class IX, Ashram Hostel up to class X and staying at (6) Ashram Hostels, Merit grant, Scholarship etc. The eligibility criteria of different Educational schemes for SC, ST and OBC and number of beneficiaries are shown in Table 3.13 below:

Table 3.13: Educational Schemes for Backward Classes in Hooghly District

Sl No.	Name of the Scheme	Beneficiaries (No. of students)	Class	Income Bar (in Rs. per annum)	Other criteria
1.	Book Grants and Examination Fee (SC)	1,20,000	V to X	36,000	If fails in final examination next year will be given
2.	Book Grants and Examination fee (ST)	22,200	V to X	36,000	If fails in final examination next year will be given

Final Proof

Contd.

Sl No.	Name of the Scheme	Beneficiaries (No. of students)	Class	Income Bar (in Rs. per annum)	Other criteria
3.	Hostel Charges (SC)	790	V to X	3600	Students of above 3 km. distance
4.	Hostel Charges (ST)	475	V to X	3600	Students of above 3 km. distance
5.	Maintenance Charges (SC)	9660	V to X	36,000	If fails in final examination next year will be given
6.	Maintenance Charges(ST)	20000	V to X	36,000	If fails in final examination next year will be given
7.	Other Compulsory Charges(ST)	18,100	V to X	3600	If fails in final examination next year will be given
8.	Ashram Hostel grant for SC/ST	130	I to IX	3600	Students of above 3 km. distance
9.	Merit Scholarship for Grils SC/ST Total = 162	21 SC per class and 6 ST per class	V to X	60,920	Pass in all subject in final exam and attendance at least 70 per cent
10.	Merit Scholarship for SC/ST Total = 68	IX-10 SC X-10 SC XI-15 SC XII-15 SC IX-3 ST X-3 ST XI-6 ST XII-6 ST			
11.	Post-Matric Scholarship(SC)	18,300	XI and above	1,00,000	Once for one class
12.	Post-Matric Scholarship (ST)	2,250	XI and above	1,00,000	Once for one class
13.	Pre-Matric Scholarship (OBC)	10,000	V to X	44,450	Once for one class
14.	Post-Matric Scholarship (OBC)	1000	XI to above	44,450	Once for one class

Source: P.O cum D.W.O, BCW, Hooghly, 2009

School hostel facilities have been extended to SC/ST dominated blocks like Polba-Dadpur, Balagarh, Dhaniakhali, Haripal, Goghat I & II, Arambag, Khanakul I and Khanakul II. Ashram Hostels are operating in Polba-Dadpur, Balagarh, Dhaniakhali, Goghat I and Arambag blocks.

Final Proof

3.8 PEOPLESPEAK SURVEY

The system of Education in the district is quite developed. Its contribution to Human Development is also substantial. Based on secondary data, it appears that except availability of teachers, the district is doing better than the state average in all other aspects. However, the subjective factors affecting Human Capability Formation have been evaluated through Field Visit and Interview of various Stakeholders. Following are some of the excerpts.

3.8.1 On difficulties in Access

Accessibility is no more a major problem. Over the last decade accessibility has improved a lot. More than 78 per cent of respondents are of the opinion that there are elementary education facilities within the village while another 20 per cent have the facilities within 3 kilometres. However, absence of proper roads makes school going difficult during the monsoons in rural areas. Facilities in the schools also need facelift, especially separate toilet facilities for girls in all the Junior High and High schools are necessary. The district also needs more NCLP Schools.

Table 3.14: Activity Status of Children of Various Social Groups

Group	Status	Hindu ST	Hindu SC	Hindu OBC	Hindu GEN	Muslim	Aggregate
Boys 6-9 Years	Going to School	97.6	92.5	93.4	94.5	93.8	93.9
	Wage Lab	0.0	1.2	1.6	0.9	0.0	0.9
	Hired Dom Lab	0.0	0.4	0.0	0.0	0.0	0.1
	Domestic Duty	0.0	2.0	3.3	2.3	3.1	2.2
	No-where	2.4	4.0	1.6	2.3	3.1	2.9
Boys 10-14 Years	Going to School	87.0	89.6	94.5	94.9	79.5	90.7
	Wage Lab	2.2	2.2	0.0	1.0	12.3	2.8
	Hired Dom Lab	0.0	1.6	0.0	0.6	0.8	0.9
	Domestic Duty	8.7	3.2	3.7	1.9	2.5	2.9
	No-where	2.2	3.5	1.8	1.6	4.9	2.7
Girls 6-9 Years	Going to School	91.7	89.1	97.6	93.9	86.3	91.7
	Wage Lab	4.2	1.3	1.2	0.4	4.9	1.6
	Hired Dom Lab	0.0	1.7	0.0	0.0	0.0	0.6
	Domestic Duty	4.2	6.6	0.0	3.9	4.9	4.4
	No-where	0.0	1.3	1.2	1.8	3.9	1.8
Girls 10-14 Years	Going to School	97.4	86.9	94.7	93.0	89.6	90.9
	Wage Lab	0.0	4.2	0.9	0.9	4.4	2.5
	Hired Dom Lab	0.0	1.1	2.7	0.0	0.0	0.7
	Domestic Duty	0.0	4.4	1.8	4.7	2.2	3.6
	No-where	2.6	3.3	0.0	1.3	3.7	2.2

Source: Field Survey, 2009

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3.8.2 On difficulties in Learning

Innovative teaching methods with less dependence on text books and more involvement with everyday events and stuff have been attempted in the non-formal schools. This method has been largely successful in retaining students and improving their learning skills. But the formal schools in the district are stipulated to follow the guidelines and syllabi adopted by various Boards and Councils. Therefore, studies in these schools must be made more interesting through innovative TLM and participatory and interactive sessions rather than the mostly followed chalk & talk method.

3.8.3 On difficulties in Continuation

Continuation is a problem in the country but not a major one in Hooghly district, at least in the urban areas. While a major percentage of drop-out children do so for economic reasons, irregularity in school attendance leading to continuous backlog in studies also play a major role. Recent efforts to involve parents in school administration may help in this regard. Economic advancement will also help to keep down drop-out from schools.

It is observed from Field data (Table 3.14) that many children are dropping out from educational institutions. The reasons are as diverse as doing domestic duties, sitting idle, and doing some remunerative work. Some socio-economic divide seems to be at work across religious and caste lines. Continuing in educational institutions is lower among STs and Muslims compared to other groups. Engaging in wage work is most prominent among Muslim boys of 10-14 years - as high as 12 per cent - indicating relatively lower schooling and early employment for these children. Sitting idle and doing domestic duties are more frequent among girls. These factors need to be kept in mind while drawing up plans for better educational attainment among these groups.

3.8.4 On the Special Programmes

The special programmes have really played a major role in achieving the current status. The programmes now need streamlining and targeting - both spatially and on specific demographic groups. Gender focus schemes, SSKs and MSKs, NCLP schools, etc. have played a major role in bringing the marginalized and the excluded groups of children under the umbrella of human development. People are happy with the functioning of these schemes and want more of such targeted schools/institutions where personal care and attention is taken of the wards.

3.8.5 Education among various Social Groups

There are substantial differences among socio-religious groups in terms of educational achievements in India. However, such gaps are relatively lower in West Bengal. The condition of various social groups in Hooghly district can be examined using the data obtained from Field Survey (Table 3.15). It is observed that there is not much difference among the two major religious groups in the district in terms of Literacy, though the STs and SCs are lagging behind. However, there are substantial differences between the General Caste and OBC Hindu families and the others in terms of schooling. The average years of schooling of the Head of the household is just 3.1 years for the STs and 4.3 years for the Muslims, compared to 6.9 years for the General caste Hindus. Similarly, more than 80 per cent of the STs, SCs and Muslims are discontinuing their schooling before passing the High School stage. Only about 12 per cent of them are completing High School and about 3-4 per cent of them are completing Higher Education. This is in sharp contrast to the Hindu general castes where more than 10 per cent have higher education and another 24 per cent have completed high school.

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Table 3.15: Educational Status of Various Social Groups

Indicator	Hindu ST	Hindu SC	Hindu OBC	Hindu GEN	Muslim	Aggregate
Literacy Rate (M)	74.6	79.3	91.9	91.5	82.3	85.9
Literacy Rate (F)	59.5	66.6	82.4	83.5	72.9	75.7
Literacy Rate (T)	68.0	76.1	93.5	93.3	77.5	84.8
Avg. Years of Schooling of						
Head of Hh.	3.1	3.1	6.6	6.9	4.3	5.2
All Hh. members	4.0	4.1	6.7	6.8	4.4	5.5
Among Hh. members with Schooling						
% Primary Passed	46.2	47.7	35.5	32.6	41.8	38.8
% Middle Passed	33.8	36.3	33.3	33.8	42.9	35.3
% High School Passed	16.5	12.2	22.9	23.6	11.8	18.7
% with Higher Degree	3.6	3.8	8.3	10.1	3.5	7.1

Source: Field Survey, 2009

Figure 3.3: Educational Situation in Hooghly - The RADAR

Source: Author's Calculation

3.9 Summary Findings

The broad discussions that we have had so far can be objectively summarized in terms of the Executive Summary that follows. Education Radar (Figure 3.3) depicts the situation of the district in terms of various parameters and compares the performance of the blocks of the district with that of the State. The district scores favourably in terms of both educational infrastructure and educational achievement relative to the State of West Bengal and the country average during 2001-07. While it is at par or slightly below that of the State or country average in terms of educational infrastructure, the performance is especially spectacular in educational achievement where its scores are significantly higher than both National and State figures in terms of each parameter. In terms of gender gap in the district, the enrolment rate and completion rate of

Final Proof

girl children are higher than that of boys in both Primary and Junior High school. This is in sharp contrast to both State and National situation where gender gap is quite significant. In literacy as well, Gender Gap in Literacy has been removed significantly in the district. There are substantial differences among socio-religious groups in terms of schooling and dropping out, though literacy rates are quite similar across these groups. STs and Muslims seem to be lagging behind.Urban (Municipal) areas are, on the whole, better placed than the rural areas in terms of both educational infrastructure and educational achievement. The areas lagging behind, and therefore need focused intervention in Arambag, Haripal, Jangipara and Pandua in terms of educational infrastructure and Balagarh, Haripal, Jangipara, Polba-Dadpur and Pursurah in terms of educational achievement. The regions than have done best in the district are Uttarpara-Kotrang, Bhadreswar (M), Serampore-Uttarpara, Singur and Konnagar (M) in terms of educational infrastructure and all municipal areas (except Chandannagore) and Singur and Goghat II in terms of educational achievement.

Technical Appendix

Accessibility Index / Access Index

The actual data obtained from Census of India 2001 indicate the distance (that too in an ordinal scale) between the corresponding village and the nearest educational institution of a given type. For the sake of quantification this distance in ordinal scale is quantified. Although presence of arbitrariness in the selection of weights cannot be ruled out, they should reflect the magnitude of deprivation because of non-availability of institutions. Being a measure of negativity, it is quite natural that the weights should decrease with the increase in distance and increase with advanced standard of learning (as primary goal of Human Development is literacy and education for the masses). The following weightage scheme is followed:

Classification of village	Within Village	Within 1 km.	Beyond 1 km.
For villages having primary schools and adult literacy centres	0	(-) 5	(-) 10
For villages having Junior High and secondary schools	0	(-) 3	(-) 5
For villages having colleges	0	(-) 2	(-) 3

The negative scores thus collected for villages are averaged across the block to yield a Block Average that might be considered as an indicator of non-availability of institutions. The maximum Block Average comes out to be (-) 8. As a result, the individual Block Score is obtained as: **[(Block non-availability Average) + 8] / 8** resulting in indicative score lying between '0' and '1'. It may be noted that score close to '0' indicates non-availability to a greater extent indicating deprivation than scores close to '1' indicating opportunity. This ordinality is followed for the other scores/indices also.

School Facilities Index / Facility Index

Geometric means of the Six Facilities Scores as discussed in the text are computed to give us Aggregate Facilities Score. This is converted to Facilities Index using the UNDP goalpost method.

Teacher Availability Index / Teacher Index

Geometric mean of Teachers-Student Ratio and Teachers per School is computed to give us Aggregate Teacher Availability Score. This is converted to Teacher Availability Index using the UNDP goalpost method.

Educational Infrastructure Index (EII)

EII is computed as simple average of Accessibility Index, School Facilities Index, and Teacher Availability Index.

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Gender Gap Adjusted Rates

Gender Gap Adjusted Rates (Literacy, Enrolment, Retention, and Completion) are computed as Harmonic Mean of Male and Female Rates, weighted by their respective population shares.

Literacy Index

Literacy Score is combined score of Gender Gap Adjusted Literacy, and Spread between Gender Specific Literacy Rates, converted to Literacy Index using the UNDP method.

Enrolment Index:

Enrolment ratios for Primary stages are obtained by dividing Number of students enrolled in Primary Stages by child population in 5-8 age groups, and Enrolment ratios for Middle (Junior High) stages are obtained by dividing Number of students enrolled in Middle Stages by child population in 9-12 age group. Enrolment Scores are obtained as combined Primary and Junior High School Enrolment Ratios - adjusted for Gender Gaps. This is then converted to Enrolment Index using the UNDP goalpost method (maximum being 100).

Drop-Out Rates

Drop-Out Rates are obtained as number of Students who leave school before completing a certain school stage as a percentage of those who had enrolled at the beginning of the stage. DOR for Primary school in 2007 would be number of students leaving primary school during 2004-2007 divided by number of students enrolled in Class I in 2004).

Retention Rates

Retention Rates are the complementary of the Drop-Out Rates, obtained as (1 - DOR/100).

Completion Rates

Completion Rates demonstrate what percentages of Age-group children are completing specific school stages, after taking into account both Non-enrolment and Drop-outs. So, Completion Rates = (Enrolment Rate) X (Retention Rate).

Retention Index

Retention Index is obtained by using the UNDP goalpost method on Retention Scores (maximum being 100).

Educational Development Index

EDI is computed as simple average of Literacy Index, Enrolment Index, and Retention Index.

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Chapter 4

HEALTH STATUS: LONGEVITY OF LIFE

> Good health is a state of physical and mental wellbeing necessary to live a meaningful, pleasant and productive life. Achieving 'good health for all' means promoting health care services, preventing diseases and helping people making healthy choices.
>
> **David Byrne**

4.1 Introduction:

Good health is the key to a happy and productive life and an important indicator of human development. Each and every step of life is recurrently exposed to state of helplessness if human being is prone to commonplace ailments. Long healthy life is the basic aspiration of human development. From the standpoint of both personal and social level a healthy person is an asset. Existence or the availability of conditions required for 'health for all' in a society ensures economic progress. It attaches a meaningful connotation to life. Good health promotes efficiency in workforce, enhances their skill and aptitude and is absolutely necessary for high life expectancy. On the other hand, poor health is capable of pushing the society to go ashtray through a vicious circle of incapabilities all around. But, health is not just the absence of disease. It represents both physical and mental capability to enjoy living. Health care is a social determinant as it is influenced by social policies .One of the objectives of the 11th five year Plan is to achieve good health for people, especially the poor and the underprivileged. In view of this, the Department of Health and Family Welfare has focused its attention on improving the primary health services by channelizing adequate financial and manpower resources for making the health services more accessible and affordable to the poor people. In the last few decades district of Hooghly has achieved a considerable progress in providing access to health care services to the people. In fact, after independence of the country, the health infrastructure of the district has expanded manifold, still the physical health infrastructures are inadequate to extend quality health services to the people of the district. Table 4.1 below gives a picture of health scenario of Hooghly district.

Table 4.1: Health Scenario of Hooghly District, 2008

1	I.M.R (Death of Children per 1000, below 1 - year age)	17.79
2	Maternal Mortality Rate at the time of Birth of Child per 1-lakh Mothers	196 (0.196%)
3	Total No. of Health Institutions (Hospitals, Health Centers, Clinics,Dispensaries)	813
4	Total No. of Beds	5515
5	Total No. of Beds per 10,000 Population	7.47
6	No of Doctors	406
7	Doctors per 10,000 Population	0.8
8	Total Sanitation Programme (2002-03 to 2006-07(Up to June,'2006)	
	Target	454136
	Achievement	265471
	% of Achievement	58.46

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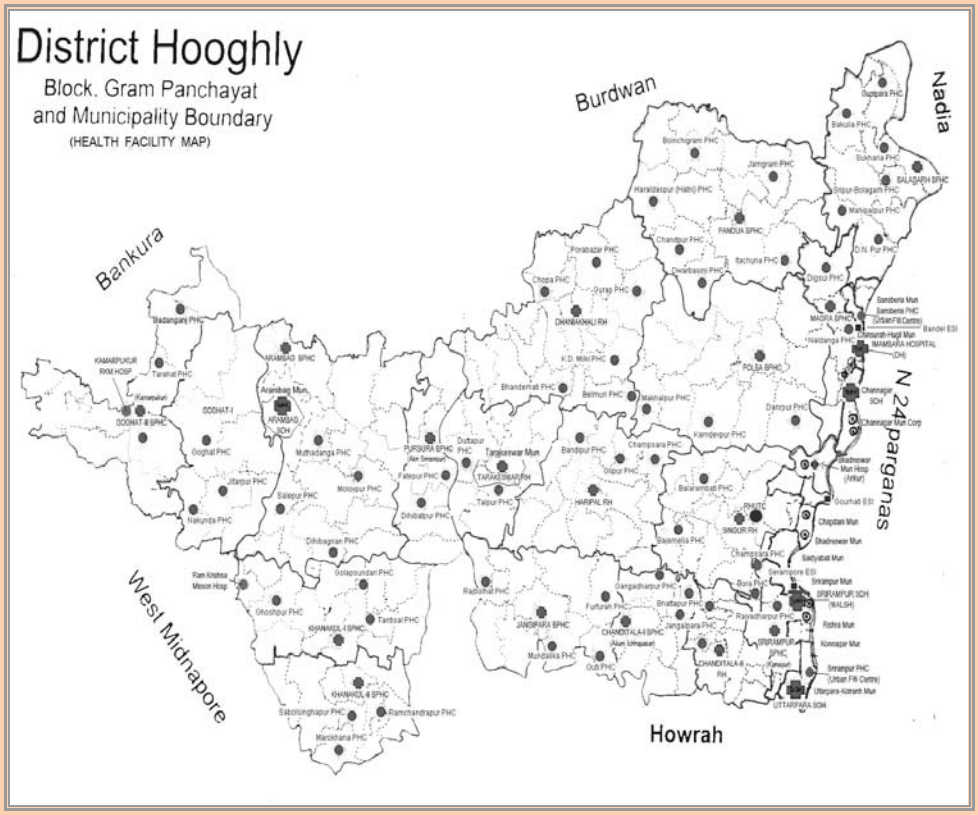
9	Target & Achievement of TSP in 2006-07(Up to June,'2006)	
	Target	117388
	Achievement	7171
	% of Achievement	6.11
10	Target & Achievement of TSP in Backward Villages 2006-07(Up to May,'2006)	
	Target	5388
	Achievement	1446
	% of Achievement	26.84

Source: CMOH, Hooghly, 2009

Map 4.1: Health Facility Map of Hooghly



4.2 Crude Birth Rates (CBR) and Crude Death Rates (CDR):

Crude Birth Rate (CBR) is a simple measure of fertility which is defined as the number of live births per 1000 population. It has been mentioned in the introductory chapter that the CBR as well as the CDR of Hooghly district are lower than both the State and the Country average and thus the natural rate of growth of population ,which varies inversely with economic development ,is also lower than the State and Country average. The district is thus experiencing relatively rapid demographic transition along with economic development. However, there are little variations at the sub-district levels in the level of CBR. As may be expected the CBR of rural areas (19.34) is higher than the urban areas of the district (16.99).

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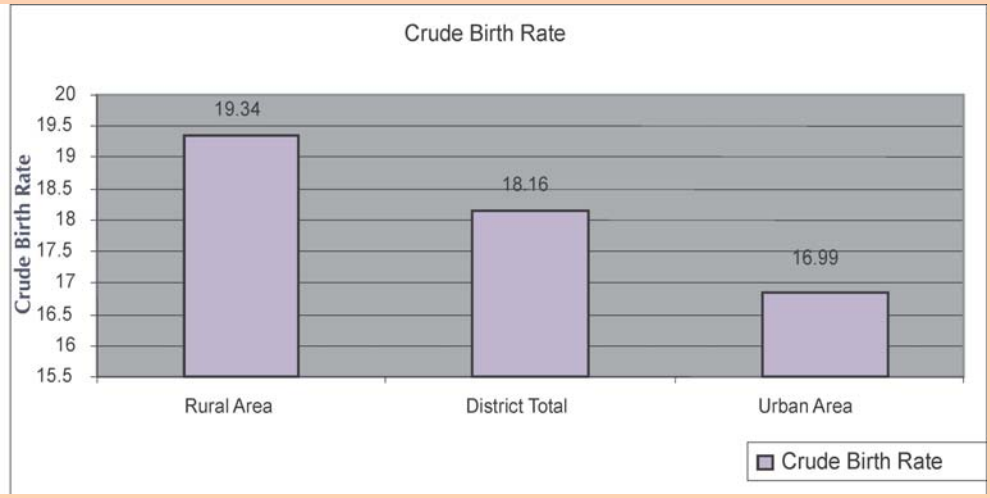
Fig. 4.1: Crude Birth Rate of Hooghly District



Source: CMOH, Hooghly

4.3 Health Status of the People of the District:

This section makes an assessment of the health status of the people of the district using indicators like preventive, curative and supportive health care facilities and identified some of the main areas that require attention. There is a wide range of indicators that are utilized to measure and ascertain the health status of the people. Four important measures are : Life Expectancy at Birth (LEB), Infant Mortality Rate (IMR), Child Immunization and Reproductive health status of mother. The state of these indicators is discussed below.

4.3.1 Life Expectancy at Birth:

Good health stands for a state of inclusive physical, mental and social well-being. Life Expectancy at Birth in that context works as the indicator of such state of health. It is a statistical measure of the average length of survival of human beings. Life Expectancy of an individual is the number of years the person is expected to live, given the prevailing age-specific mortality rates of the population to which he/she belongs. The preparation of Human Development Index of any district, state or a country is contingent on Life Expectancy at Birth. A large number of factors which include the general health status and hygiene, the status of maternal and child health, the extent of coverage of public health care delivery services available to the poorest of the poor, the incidence of morbidity and diseases and so on are likely to affect the Life Expectancy at Birth. In Hooghly district, the life expectancy of people for the period 2005-2009 is estimated as 69.88 years (68.68 years for males and 71.19 years for females) which is reasonably high compared to the state average of 68.2 years for males and 70.9 years for female over 2006-10.

Table 4.2: Life Expectancy at Birth in Hooghly District, 2009

Population	Life Expectancy at Birth (in years)
Male	68.68
Female	71.19
Person	69.88

Source: DHDR, Hooghly, Primary Survey, 2009

Final Proof

Table 4.3: Life Table for Hooghly district (for total surveyed Population), 2009

x	nPx	nDx	nMx	nqx	lx	ndx	nLx	Tx	ex
0	1286	46	0.04	0.04	100000.00	3514.13	98242.93	6988200.00	69.88
1	1984	19	0.01	0.01	96485.87	919.60	96026.06	6889958.00	71.41
2	2451	11	0.00	0.04	95566.26	3370.67	751047.40	6793931.00	71.09
10	2956	9	0.00	0.03	92195.59	2764.95	908131.20	6042884.00	65.54
20	5012	8	0.00	0.02	89430.64	1416.16	887225.60	5134753.00	57.42
30	3567	13	0.00	0.04	88014.48	3150.30	862818.20	4247527.00	48.26
40	4562	12	0.00	0.03	84864.18	2203.31	836523.60	3384709.00	39.88
50	2895	18	0.01	0.06	82660.87	4984.58	799193.60	2548185.00	30.83
60	1548	17	0.01	0.10	77676.30	8086.33	732288.20	1748992.00	22.52
70	946	48	0.05	0.40	69589.97	28164.57	540994.50	1016704.00	14.61
80	456	18	0.04	0.33	41425.40	13656.72	475709.20	475709.20	11.48

Note:

1. Where x is the exact age; nPx is the number of observed people between xand x+n; n is the age interval; nDx is the number of death between x and x+n; nMx is the mortality rate between x and x+n; nqx is the probalility of dealth between x and x+n, lx is the number of survivors at age x; ndx is the number of life table death during n and n+x; nLx is the person years lived between x and x+n, Tx is the total person year lived after x; and, ex is the expectation of life at x.

Source: DHDR, Hooghly, Primary Survey, 2009

Table 4.4: Life Table for Hooghly district (Female Population), 2009

X	nPx	nDx	nMx	nqx	lx	ndx	nLx	Tx	ex
0	624	18	0.03	0.03	100000.00	2843.60	98578.20	7119270.00	71.19
1	1099	9	0.01	0.01	97156.40	792.39	96760.20	7020692.00	72.26
2	1238	5	0.00	0.03	96364.00	3064.04	951383.90	6923932.00	71.85
10	1498	4	0.00	0.03	93299.97	2458.50	923165.70	5972548.00	64.01
20	2011	4	0.00	0.02	90841.47	1789.10	901258.30	5049382.00	55.58
30	1768	6	0.00	0.03	89052.37	2971.71	878636.80	4148124.00	46.58
40	2341	7	0.00	0.03	86080.66	2536.05	850662.40	3269487.00	37.98
50	1685	10	0.01	0.06	83544.61	4815.25	816185.10	2418825.00	28.95
60	615	9	0.01	0.14	78729.36	10735.82	744350.30	1602640.00	20.36
70	486	30	0.06	0.47	67993.54	32072.42	551645.70	858289.30	12.62
80	201	9	0.04	0.37	35921.11	13141.87	306643.70	306643.70	8.54

Note: As in Table 4.3

Source: DHDR, Hooghly, Primary Survey, 2009

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Table 4.5: Life Table for Hooghly District (Male Population), 2009

X	nPx	nDx	nMx	nqx	lx	ndx	nLx	Tx	ex
0	662	28	0.04	0.04	100000.00	4142.01	97928.99	6868354.00	68.68
1	885	10	0.01	0.01	95857.99	1077.06	95319.46	6770425.00	70.63
2	1213	6	0.00	0.04	94780.93	3677.84	743536.10	6675106.00	70.43
10	1458	5	0.00	0.03	91103.09	3071.58	894137.30	5931569.00	65.11
20	3001	4	0.00	0.01	88031.51	1165.59	873904.40	5037432.00	57.22
30	1799	7	0.00	0.04	86865.92	3315.49	850424.00	4163528.00	47.93
40	2221	5	0.00	0.02	83550.43	1859.98	825274.40	3313104.00	39.65
50	1210	8	0.01	0.06	81690.44	5228.19	788149.40	2487829.00	30.45
60	933	8	0.01	0.08	76462.26	6286.72	730045.60	1699680.00	22.23
70	460	18	0.04	0.33	70175.53	22966.54	575439.40	969634.50	13.82
80	255	9	0.04	0.30	47209.00	14162.70	394195.10	394195.10	8.35

Note: As in Table 4.3

Source: DHDR, Hooghly, Primary Survey, 2009

Table 4.3, Table 4.4 and Table 4.5 show the abridged life tables for Hooghly district in 10 year age intervals including first two years of age for 2009 based on Age specific death rates derived from the DHDR field survey data for total population, female population and male population respectively. It is evident from the tables that a life expectation at birth of 68.68 is noted for males, against 71.19 years for females in Hooghly during 2005-09 , while the combined life tables of both sexes, for the same period shows a life expectation at birth of 69.88 years. As expected, the average expectation of life for both males and females increases by almost two years after crossing the crucial period of infancy, and thereafter the average expectation of life for males and females reduces with age. Moreover, the life expectancy at all ages is relatively higher for females than that for males. The column also indicates the better survival chances of females, particularly at the older ages. As stated earlier the life expectancy at birth is found to be higher in Hooghly district compared to the State average indicating better health care facilities available in the district than the State on an average.

4.3.2 Infant Mortality Rate:

Infant Mortality Rate (IMR) refers to the number of death per'000 live birth in the first year of child's life. It measures the probability of a child dying before attaining the age of one year. This is an important indicator of the quality of health services available to the people. The higher is the incidence of IMR poor is the level of health infrastructure and health care services and vice-versa. IMR of rural Hooghly is much lower than the State average, indicating better health facilities available to the people than the West Bengal average. Table 4.6 below shows the incidence of IMR of Hooghly district and its various blocks.

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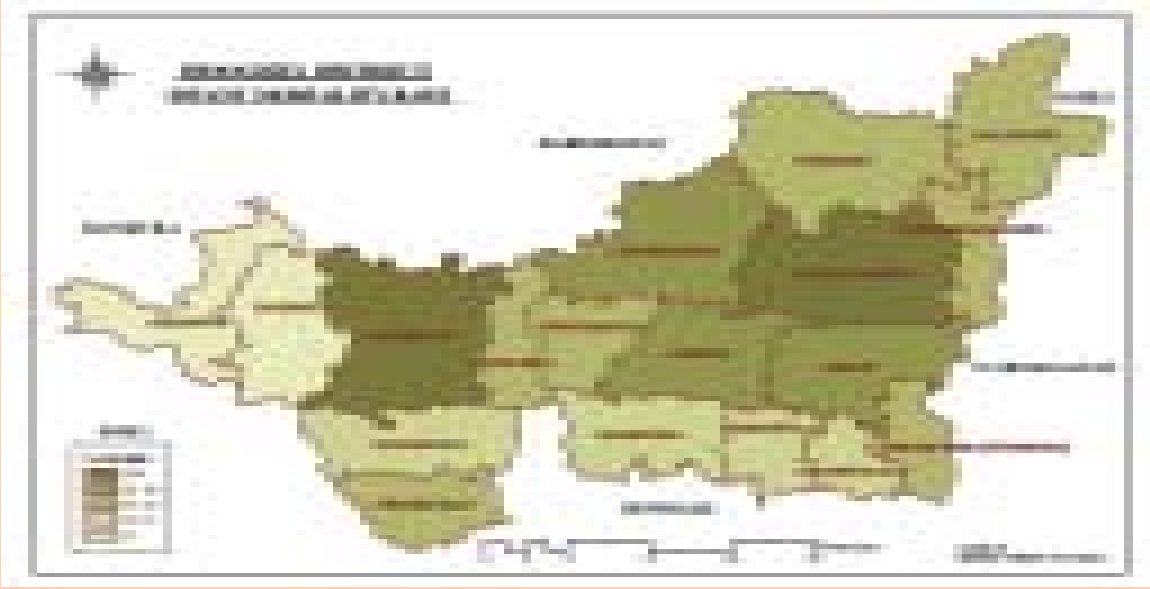
Table 4.6: Infant Mortality Rate in Hooghly, 2008-09

Sl. No.	Name of the Units	Infant Mortality Rate	Sl. No.	Name of the Units	Infant Mortality Rate
1	Chinsurah-Mogra BPHC	31.03	13	Khanakul RH	9.55
2	Pandua RH	19.92	14	Natibpur BPHC	16.11
3	Polba-Dadpur BPHC	32.38	15	D/Naryanpur BPHC	33.89
4	Ahmedpur BPHC	16.30	16	Akri Serampur BPHC	19.50
5	Dhaniakhali RH	25.33	17	Kamarpukur BPHC	14.10
6	Singur RH	26.88	18	Singur RHUTC	5.95
7	Haripal RH	21.69	19	District Hospital	32.53
8	Tarakeswar RH	20.81	20	Chandannagar SDH	0.00
9	Jangipara RH	29.82	21	Serampore SDH	0.00
10	Akuni Ichhapasar BPHC	13.00	22	Arambag SDH	10.17
11	Chanditala RH	9.39	23	Uttarpara SGH	7.05
12	Kanaipur BPHC	14.71		**Total**	**17.79**

Source: F.W. Wing of CMOH, Hooghly, 2009

Map 4.2: Infant Mortality Rate of Hooghly District, 2009



In spite of concerted efforts of the government, available public health facilities could not ensure adequate health services especially to the economically poor households of the district, thus failing to achieve equity in health care distribution. There is wide variation in health status among poor and non-poor as well as among various social categories of households. It is evident that the Infant Mortality is much higher among the BPL (Below Poverty Level) category than the APL (Above Poverty Level) category of households. In the district, out of total cases of Infant Mortality, 62 per cent of the cases have been found in the economically poor households.

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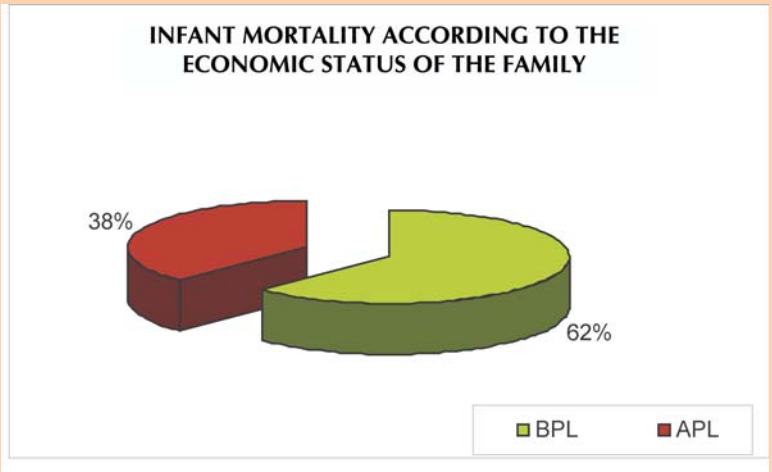
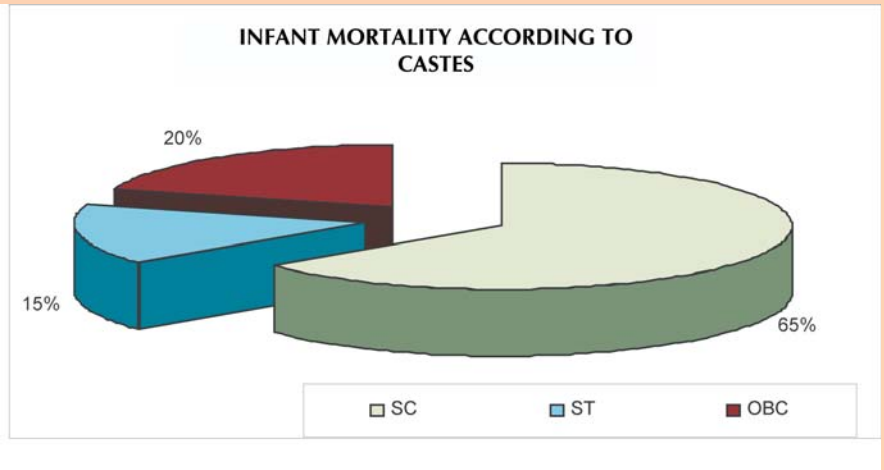
Fig. 4.2: Infant Mortality according to Economic Status of the Households



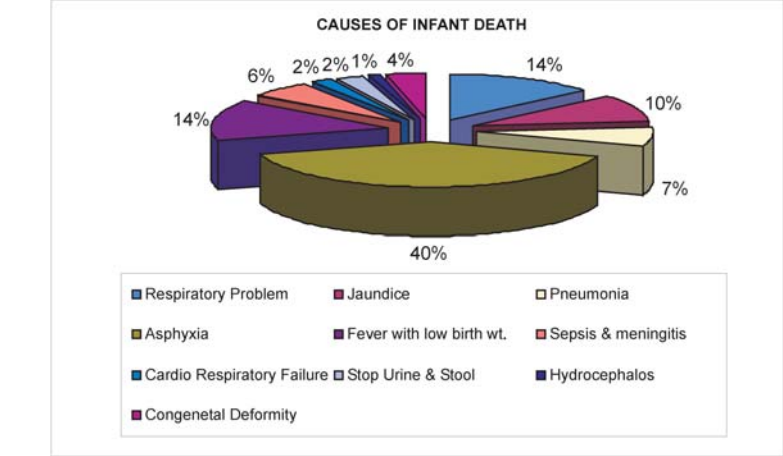
Source: CMOH, Hooghly, 2009

Fig. 4.3: Infant Mortality according to Caste



Source: CMOH, Hooghly, 2009

Fig. 4.4: Causes of Infant Death in Hooghly District, 2009



Source: CMOH, Hooghly, 2009

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Among the economically weaker section of the people, the incidence of infant mortality is higher among Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBC). Among these three social classes of households, poorest health status afflicts the SC category of households, followed by OBC and ST. Among the causes of infant death in the district, Asphyxia is found to occur with highest frequency (40 per cent of the cases), followed by respiratory problems (14 per cent), Hydrocephalus (14 per cent) and Jaundice (10 per cent). The index of the incidence of child and maternal death over the period 2006-2009 in various health centers of the district is given in the Table 4.7 below:

Table 4.7: Index of Area-wise Maternal and Child Death over the Period 2006 to 2009

Rural Areas			DH/SDHs/SGHs			Urban Areas		
Name of the Centres	Mater-nal Death	Child Death (0-1yr)	Name of the Centres	Mater-nal Death	Child Death (0-1yr)	Name of the Centres	Mater-nal Death	Child Death (0-1yr)
Ahamedpur BPHC	0.55	0.24	District Hospital	1.00	1.00	Hooghly-Chinsurah	0.00	0.00
Panduah RH	1.00	1.00	Chandannagore SDH	0.29	0.19	Chandannagar	0.50	0.51
Mogra BPHC	0.18	0.40	UttarparaSGH	0.00	0.00	Bansberia	1.00	0.51
Polba BPHC	0.45	0.62	Serampore SDH	0.18	0.10	Bhadresh-war	0.00	0.21
Dhaniakhali RH	0.18	0.58	Arambagh SDH	0.18	0.77	Champdani	0.50	0.05
Singur RH	0.27	0.41				Baidyabati	0.50	0.26
Haripal RH	0.36	0.44				Serampore	0.00	1.00
Tarakeswar RH	0.09	0.00				Rishra	0.00	0.46
Jangipara RH	0.55	0.62				Konnagore	0.50	0.38
Akuni Ichapasar BPHC	0.73	0.76				Uttarpara-Kotrung	0.00	0.00
Chanditala RH	0.55	0.81						
Kanaipur BPHC	0.09	0.08						
Ankri Serampore BPHC	0.18	0.43						
Khanakul RH	0.45	0.54						
Natibpur BPHC	0.82	0.31						
Deb Narayan - pur BPHC	0.36	0.74						
Kamarpukur BPHC	0.27	0.63						
Singur RHUTC	0.00	0.02						

Source: Statistical Section, CMOH Office (PH Wing), Hooghly

In the rural areas over the period 2006 to 2009 both the maternal and child deaths are found to be highest in the Panduah RH. In Akuni Ichapasar BPHC both these cases are also very high. Infant deaths in Jangipara RH, Akuni Ichapasar BPHC, Chanditala RH, Khanakul RH, Deb Narayanpur BPHC and Kamarpukur BPHC are very much alarming. In the urban areas the maternal death is highest in Bansberia and child death is highest in Serampore. Both these are lowest in Uttarpara-Kotrung.

4.3.3 Child Immunization :

Delivering effective and safe vaccination through an efficient delivery system is one of the most effective public health interventions in India. Immunization programme aims to reduce mortality and morbidity due to vaccine preventable diseases. Universal Immunization Programme(UIP) was launched in India in 1985 to control diseases like Measles, diphtheria, pertussis, tetanus, poliomyelitis and childhood tuberculosis. The broad objectives of UIP were to provide vaccines to all infants with the primary immunization schedule and all women with tetanus toxoid immunization. The UIP envisages achieving and sustaining universal immunization coverage in infants with three doses of DPT and OPV and one dose each of measles vaccine and BCG; and, for pregnant women, with two primary doses or one booster dose of TT. In 1992, the UIP became a part of the Child Survival and Safe Motherhood Programme (CSSM), and in 1997, it became an important component of the Reproductive and Child Health Programme (RCH). Intensified polio eradication activities were started in 1995-96 under the Polio Eradication Programme, beginning with National Immunization Days (NIDs) and active surveillance for acute flaccid paralysis (AFP). The Polio Eradication Programme was set up with the assistance of the National Polio Surveillance Project.

The analysis of National Family Health Survey III reveals wide differences in level and distribution of childhood immunization between and within the States. In West Bengal, 54.4 per cent of children age of 12-35 months received full immunization (Health on March, 2007-08). So, the performance of the State is far below the target of the UIP. Moreover, there is wide variability in the performance of UIP across various districts and sub-districts level. The performance of Hooghly district (73.6 per cent) is much above the State average (54.4 per cent).

Table 4.8: Routine Immunization for the year 2008-09 in Hooghly District

	TT (P.W.) 2nd/Booster	BCG	Measles	DPT-III	OPV-III
Rural	67.8	74.3	79.5	72.4	81.0
Urban	76.6	146.3	62.1	58.1	60.8
Hooghly District	70.5	90.1	76.2	69.3	76.8

Source: Office of the CMOH, Hooghly

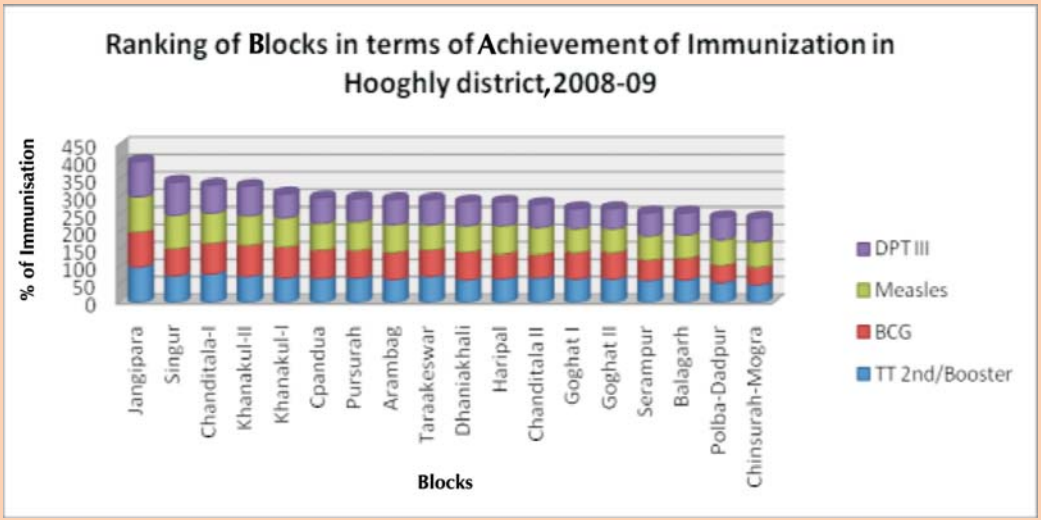
Among TT, BCG, Measles, DPT-III and OVP-III s, the overall performance of BCG is much above the other forms of vaccines. Moreover, the performance of rural Hooghly is better than the urban Hooghly in respect of application of measles, DPT-III and OPV - III, while the performance of urban Hooghly is better than the rural Hooghly in respect of the application of TT and BCG vaccines.

Table 4.9: Achievement of Immunization across Blocks of Hooghly District, 2008-09

Blocks	TT 2nd/Booster	BCG	Measles	DPT III
Jangipara	100.0	100.30	101.50	100.20
Singur	75.7	76.61	96.12	95.03
Chanditala-I	80.8	87.70	86.50	79.90
Khanakul-II	73.0	89.60	83.70	86.00
Khanakul-I	68.0	89.60	83.30	69.20
Pandua	66.9	80.30	77.90	73.10
Pursurah	68.8	78.00	82.90	66.80
Arambag	64.3	76.50	81.20	71.90
Tarakeswar	73.0	75.00	73.30	72.20
Dhaniakhali	62.8	79.40	76.60	68.90
Haripal	66.0	71.10	81.40	68.60
Chanditala II	68.0	66.90	78.70	67.00
Goghat I	65.5	75.10	68.80	58.50
Goghat II	65.5	75.10	68.80	58.50
Serampur	60.8	58.40	69.10	67.30
Balagarh	62.6	61.70	66.70	64.50
Polba-Dadpur	55.4	48.10	74.30	65.40
Chinsurah-Mogra	49.5	49.00	74.40	67.80

Source: CMOH, Hooghly, 2009

Fig. 4.5: Ranking of Blocks in terms of Achievement of Immunization in Hooghly District, 2008-09



Source : Table above.

In immunizing the child, 100 per cent achievement is observed in Jangipara block in the application of DPT III, Measles, BCG and TT 2nd/Booster vaccines. Other good performing blocks are Singur, Chanditala-I, Khanakul II, Khanakul I whereas Chinsurah-Mogra, Polba-Dadpur, and Serampur are found to be the worst performing blocks. It is to be noted that Municipality wise segregated data is not available in the district but overall performance of urban Hooghly is found to be poorer than the district average. One of the reasons may be that people of urban Hooghly have greater access to private health centres specially for immunizing their children which are not adequately reported in the public health documentation.

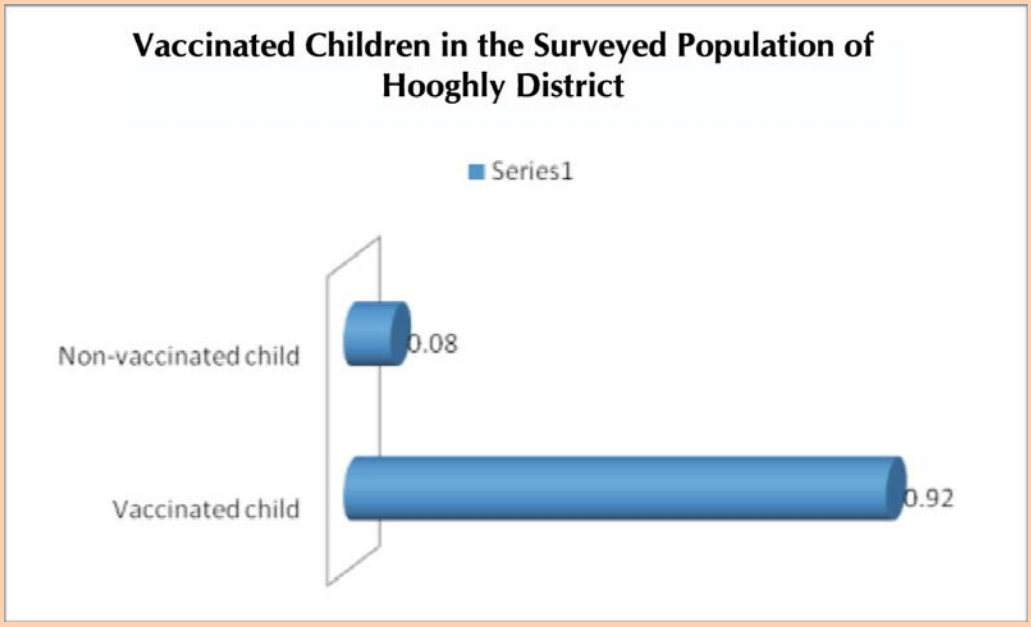
Box 4.1

Immunization Performance of Hooghly District: DHDR Primary Data, 2009
Vaccination of under five year Children (%)
Community-wise District Average

Vaccination	Muslim	Non-Muslim	Total
Polio(Pulse)	88.76	96.01	92.30
DTP	76.23	89.40	85.80
BCG	89.46	94.20	92.30
Measles	82.36	92.40	90.50
Total	**84.20**	**93.00**	**91.71**

Source : DHDR, Primary Survey, 2009

Proportion of Vaccinated Children in the Surveyed Population of Hooghly District



Source: DHDR Primary Survey, Hooghly ,2009

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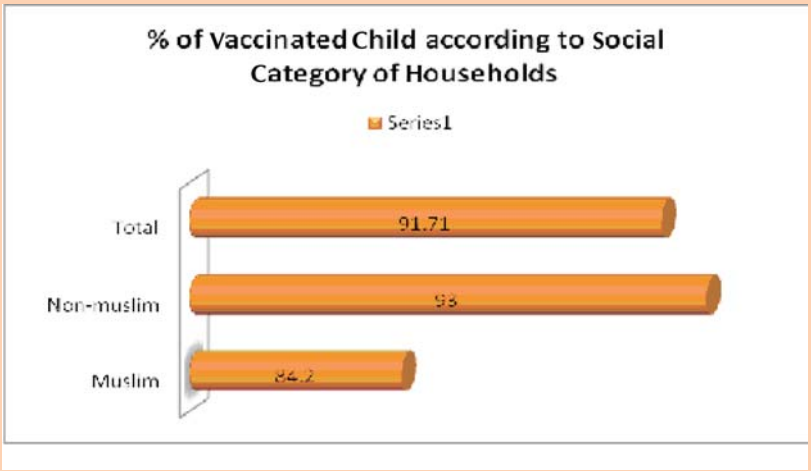
Block/Municipality	Immunized Child (No.)	Non-Immunized Child (No.)	Total Child (No.)	% of Immunized Child (No.)
Arambag	383	14	397	96.47
Balagarh	168	27	195	86.15
Chanditala-I	148	18	166	89.16
Chanditala-II	200	2	202	99.01
Dhaniakhali	198	37	235	84.26
Goghat-I	143	14	157	91.08
Goghat-II	264	0	264	100
Jangipara	157	6	163	96.32
Khanakul-I	301	59	360	83.61
Khanakul-II	189	45	234	80.77
Singur	290	0	290	100
Tarakeshwar	159	39	198	80.3
Arambag(M)	337	39	376	89.63
Baidyabati(M)	232	15	247	93.93
Bansberia(M)	246	22	268	91.79
Bhadreswar(M)	330	12	342	96.49
Serampur(M)	203	8	211	96.21
TOTAL	3948	357	4305	91.71

Source: DHDR Primary Survey, 2009

In terms of social categories of household it is found that Muslim households are lagging behind the non-muslim households in the application of vaccines to the child. Overall, 91.71 per cent of the surveyed children were vaccinated, the application of vaccines was found to be higher among the non-muslim households (93 per cent) compared to the muslim households (84.2 per cent).



Source : DHDR, Primary Survey, 2009

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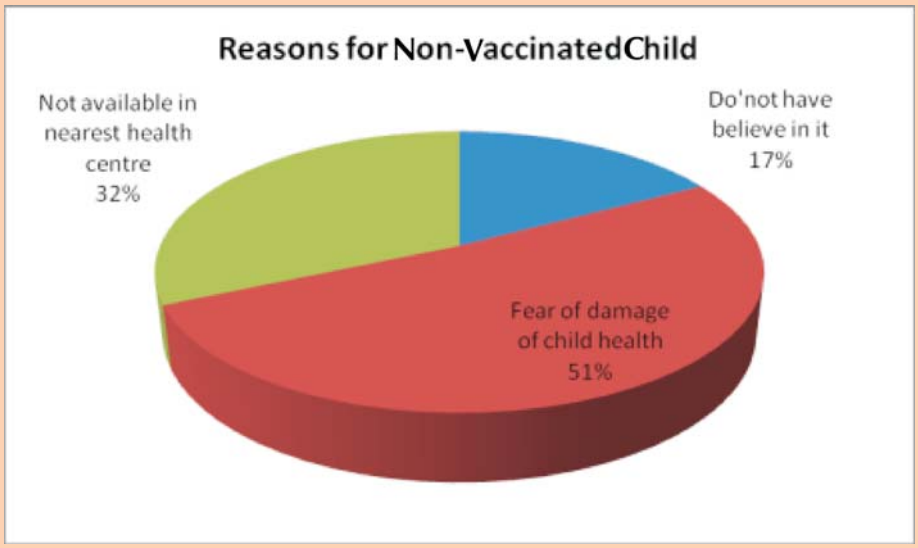
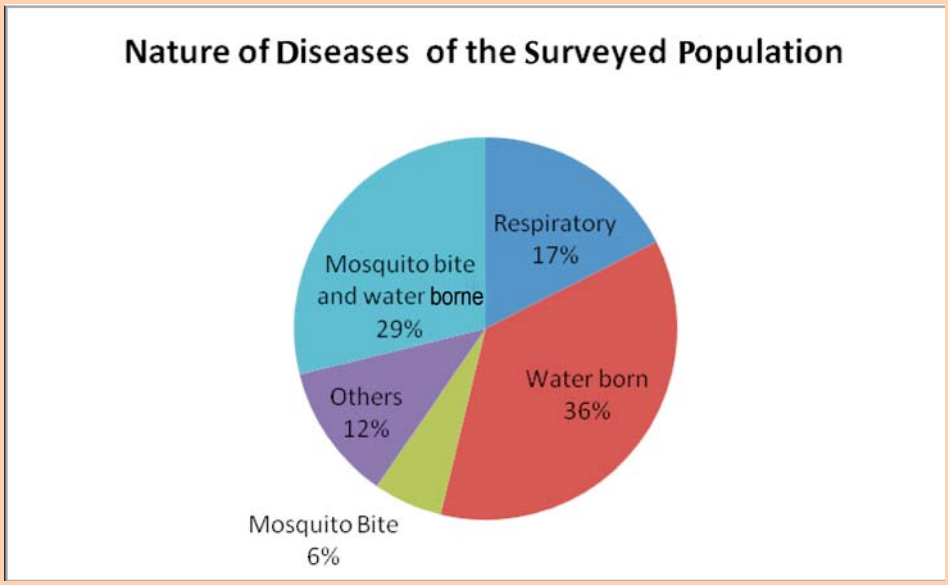
Out of total children (4305 in numbers), 357 numbers of children (i.e 8.29 per cent) have not been vaccinated. Attempts have been made to explore the reasons of not providing vaccines to the children.



Source: DHDR Primary Survey, Hooghly ,2009

It is surprising to observe that more than fifty per cent of the cases, the fear of damages of child health have been cited as the cause for not applying vaccines to the children. Guided by their traditional belief and customs, a good chunk in almost 17 per cent of the cases vaccination has not been provided to the children.

In 32 per cent of the cases, it has been found that the distance of health centres, and lack of awareness are responsible for non-application of vaccination to the children.In 5384 households, 4658 cases of diseases have been identified in the survey. The major types of the diseases that have been identified are: respiratory problems, water borne diseases, disease out of mosquito bite, others including cardiac disease, nerve problem etc.



Source: DHDR Primary Survey, Hooghly ,2009

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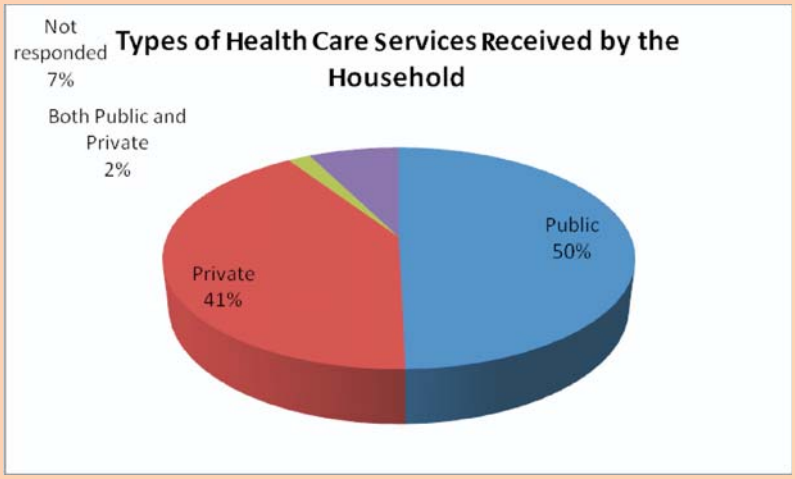
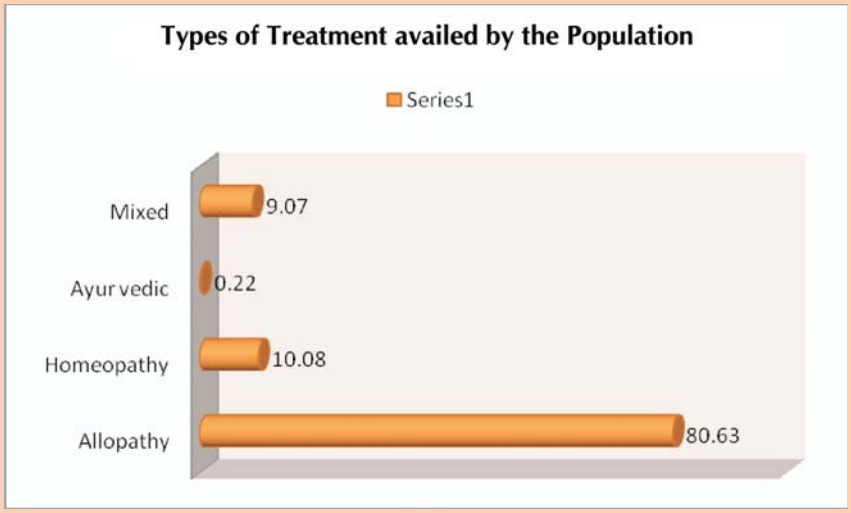
Thirty six per cent of the patients is stated to have suffered from water borne diseases, 17 per cent from respiratory problems, others 12 per cent, mosquito bites in 6 per cent and 29 per cent from both water borne diseases and the diseases caused by mosquito bites. As regards the types of health care sevices received by the households, it is revealed that half of the total surveyed households depends exclusively on the public health care services



Source: DHDR Primary Survey, Hooghly ,2009

W.B. 7% of the surveyed Population did not respond to the question.



Source: DHDR Primary Survey, Hooghly ,2009

Only 0.22 per cent of the households follow the Ayurvedic forms of treatment, while 9.07 per cent follow mixed types of treatment.

4.3.4 Reproductive Health of Mother:

The indicators of Safe Motherhood reflect the strength and capability for bearing and rearing healthy children. It is a form of human capital and an important dimension of human development which is necessary to achieve a healthy society. The reproductive health of mother depends more on social phenomena than the biological determinants. Two important indicators of safe motherhood at the district level are the extent of Institutional Delivery and the pre and post-natal cares of mother.

4.3.4.1 Institutional Delivery in Hooghly District:

In respect of institutional delivery the district has achieved considerable success in recent years; the percentage of institutional delivery in the district is as high as 80.8, which is again higher than the State average (54.1). Still, the district is far behind the target of 100 per cent institutional delivery. Moreover, there are substantial variations in the extent of institutional delivery across the blocks of the district. The performance of the rural areas (68.9 per cent) is lagging much behind the urban areas (90.2 per cent). In rural Hooghly, Tarakeswar block occupies first rank with 91.4 per cent institutional delivery, while Arambag block has achieved lowest rank with only 36.9 per cent institutional delivery.

Box 4.2

Janani Suraksha Yojana (JSY):

- All BPL/SC/ST enlisted pregnant women who have attained 19 years of age and up to two live births will be eligible for an amount of Rs. 500/- after 3rd ANC Check-Up.·
- An additional benefit of Rs 200/-(RCH-II) will be given to those women, if her delivery takes place in any Government Health Facility.·
- Another additional benefit of Rs 300/- (HSDI) will be disbursed to women after Institutional delivery under Government Health Facility.·
- Recently Ayushmati Scheme has been introduced in this district where all BPL/SC/ST women will get free services for delivery in empanelled Pvt. Facility. ·
- Distribution of Hypothermia kits has started from the year 2008-09.

Source: CMOH, Hooghly, 2009

Table 4.10: Institutional Delivery in Rural Areas of Hooghly

Name of the units	Percentage of Institutional Delivery	Rank
Dhaniakhali	74.8	9
Pandua	75.2	8
Balagarh	62.0	12
Chinsurah-Mogra	65.1	11
Polba-Dadpur	70.9	10
Tarakeswar	91.4	1
Haripal	77.5	6
Singur	88.9	2
Jangipara	60.0	13
Chanditala-I	75.4	7
Chanditala-II	79.1	5
Serampur-Uttarpara	82.4	4
Goghat-I&II	47.3	15
Arambag	36.9	17
Khanakul-I	43.7	16
Khanakul-II	48.7	14

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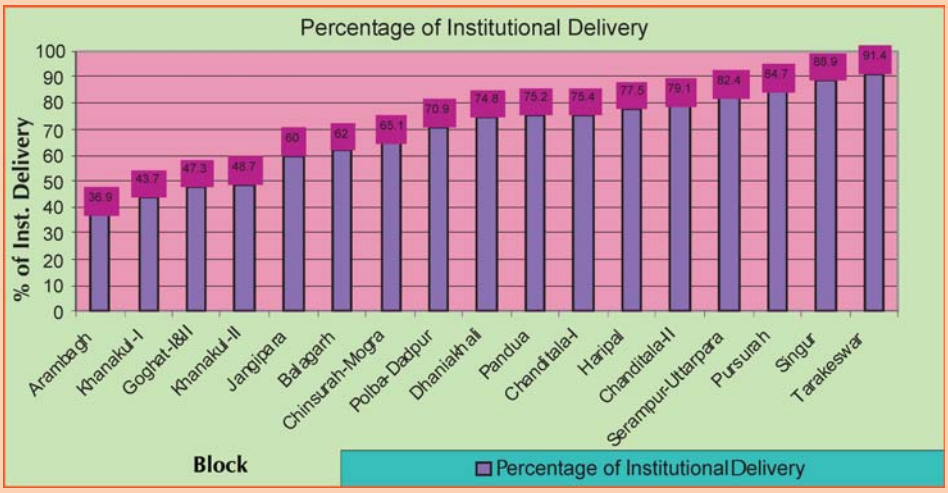
Name of the units	Percentage of Institutional Delivery	Rank
Pursurah	84.7	3
Rural Total	**68.9**	**-**
Reported by Municipalities	**90.2**	**-**
District Total	**80.8**	**-**

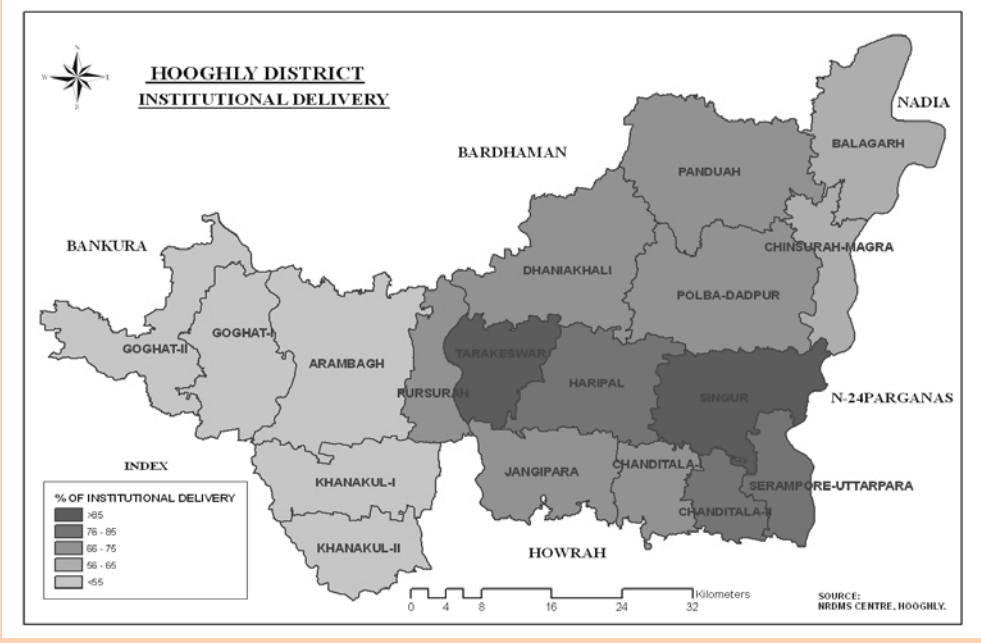
Source: CMOH, Hooghly, 2008-09

Fig. 4.6: Ranking of Blocks in terms of Percentage of Institutional Delivery, 2008-09



Source : CMOH, Hooghly, 2008-09

Map 4.3: Institutional Delivery in Hooghly District



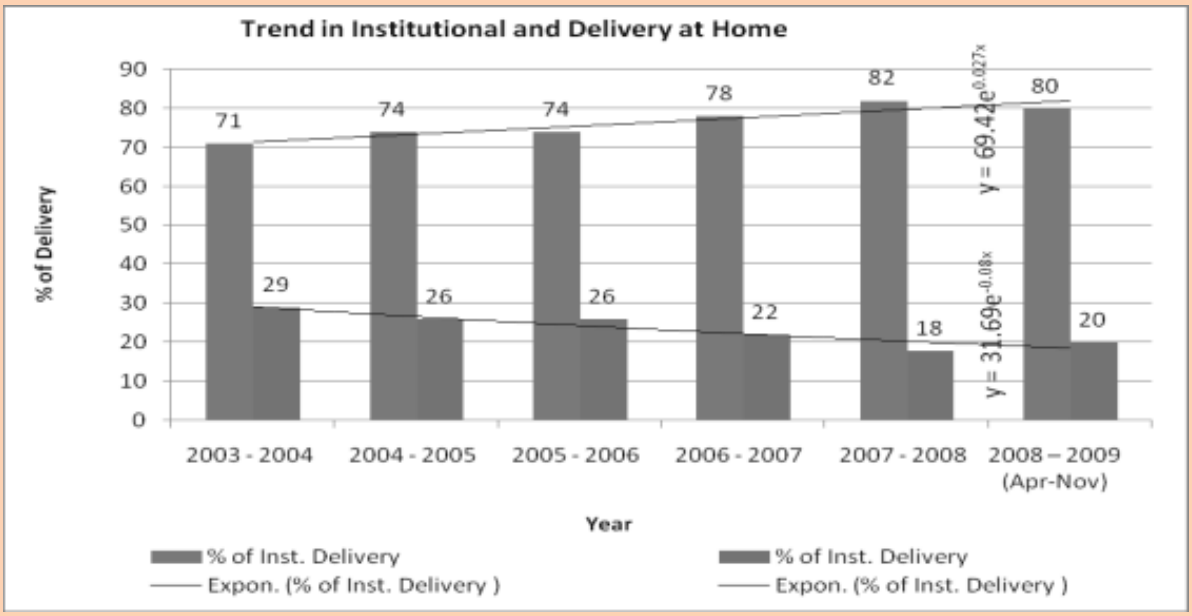
The trend in institutional delivery and delivery at home over the period 2003 to 2009 is given in Table 4.11 and Fig 4.7. As illustrated in the Fig. 4.7, it is clear that the institutional delivery is increasing over time at the rate 0.027 and the delivery at home is declining at the rate 0.08. In every year the percentage of institutional delivery is greater in magnitude than the delivery at home.

Table 4.11: Trend in Institutional Delivery and Delivery at Home

Year	Antenatal Registered (Preg. Women)	ANC- 3 Check-ups	Total Inst. Delivery	Home Delivery	Total Delivery	% of Inst. Delivery	% of Home Delivery
2003 - 04	94636	64075	49637	19816	69453	71	29
2004 - 05	91981	64073	53437	19120	72557	74	26
2005 - 06	93336	66244	51800	18036	69836	74	26
2006 - 07	97550	71808	61892	17219	79111	78	22
2007 - 08	90991	70896	68389	14827	83216	82	18
2008 - 09 (Apr.-Nov.)	61176	44723	31986	8219	40205	80	20

Source: Statistical Section CMOH Office (PH Wing), Hooghly

Fig. 4.7: Trend in Institutional and Home Delivery in Hooghly District, 2003-04 to 2008-09



Source : CMOH, Hooghly, 2008-09

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Box 4.3: Rural Health of Hooghly: Lack of Medical Facility Shortening the Life Span

PEOPLE SPEAK SURVEY, DHDR SURVEY TEAM, 2009

In the district of Hooghly one general hospital, 4 Sub-divisional hospitals, 8 rural hospitals, 9 block primary health centres, 61 primary health centres and 660 sub-centres are operating to extend health services to the people. Many primary health care centres operating in the rural areas with lack of adequate infrastructural facilities. Tragic incidents of untimely death are frequently observed in rural areas. Few primary health centres in the district are non-functional due to the absenteeism of Doctors, Compounders, Nurses, life saving drugs and modern instruments of medical services. Moreover, few Government Doctors find it more lucrative to engage themselves in private practices rather than to spend time and extend services to the PHCs. There is absolutely nothing to blame the Doctors because the non-availability of sophisticated medical instruments and life saving drugs at the PHCs are impairing the moral of the Doctors to take up any critical cases and extend appropriate medical services. DHDR survey team heard many narratives of untimely deaths which some could have been avoided by extending timely proper medical aids. The people dying in rural areas by snake bites, diarrhoea, typhoid and specially women dying of pregnancy related complicacy are frequently occurring in rural areas out of such problems.One incidence of tragic termination of life establishes the fact that inadequate medical services resulted in the shortening of life span. Mr. M. Ali, a fisherman of Dhaniakhali block of Hooghly District lost his wife Ms. Amina Khatun at the time of their first issue. Ms Amina Khatun, a 25 years old woman, gave birth to a male child as a normal delivery. After the delivery some gynaecological complicacy arose. She needed

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immediate operation which required two bottles of A- blood. When Mr.Ali approached his neighbours, some of them voluntarily agreed to donate blood to save the life of his wife. But all of them had bloods with different groups. Since there was no blood bank in the PHC to exchange blood, the Doctor immediately transferred the case to the district hospital which was almost 40 km. away. It was like a thunderbolt to Mr. Ali. He had to borrow money from the neighbours to hire an ambulance for transferring his wife from PHC to district hospital. When he proceeded towards the District hospital, it was too late. A kid after seeing light of the world became motherless. Whom should we blame? Poverty? Or Inadequate health services in rural areas? Anyway we need better health care facilities tomorrow.

4.3.4.2 Ante-Natal Care and Post-Natal Care over the period 2006 to 2008:

Other than institutional delivery, other factors that act as determinants of safe motherhood are the ante-natal and post-natal medical cares. The ante-natal care and the post-natal care over the period 2006 to 2008 for the rural and urban areas have been shown in Table 4.12and Fig. 4.8. As expected the ante-natal care is greater than the post-natal care everywhere. In the rural areas 64.14% and 58.02% of the mothers have got the ante-natal care and the post-natal care. These figures in the urban areas are much smaller.

Table 4.12: ANC and PNC over the period 2006 to 2008

Types of Health care units	ANC-3 Check-up in (% to total)	PNC-3 Check-up in (% to total)
Health care units in Rural Areas	64.14	58.02
DH/SDHs/SGHs	24.98	33.19
Health care units in Urban Areas	9.76	8.35
Others	1.13	0.44
District	**100.00**	**100.00**

Source: Statistical Section CMOH Office (PH Wing), Hooghly

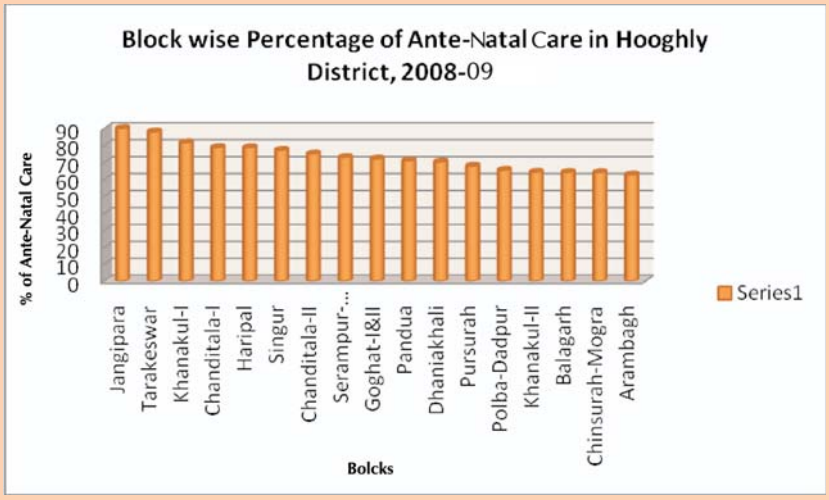
In the rural areas the highest ante-natal care and post-natal care are received in Jangipara RH followed by Kamarpukur BPHC. The status of antenatal care and postnatal care in Panduah RH, Dhaniakhali RH, Haripal RH, Khanakul RH and Akuni Ichapasar BPHC are good. In hospitals run by the government the position of ante-natal care and post-natal care for the mothers are satisfactory. In this respect Serampore SDH holds the first rank in the discharge of ante-natal care and District hospital holds the first position in the disbursement of post-natal care. In the case of ante-natal care the status of the District hospital is also very good. In the urban areas, Hooghly-Chinsurah hospital provides ante-natal care to 13.58% of mothers. But, no postnatal care is given here. The health care unit in Bansberia provides both antenatal care and postnatal care to the extent of about 10% of the mothers in the urban areas. In Chandannagore 7.26% of mothers receive antenatal care and 7.73% receive postnatal care. In Serampore both the antenatal care and the postnatal care are received by the highest per cent of mothers. In Rishra there was no provision of postnatal care, though 8.73% of mothers received the antenatal care. The extent of ante-natal care is considered to be the most important determinants of the reproductive health of mother. The block wise ante-natal care of mother is given in table below:

Table 4.13: Block-wise Performance of Ante-natal Care of Mothers in Hooghly District

Name of the Units	Percentage of ANC-3 Check-Up	Rank
Dhaniakhali	70.23	11
Pandua	70.95	10
Balagarh	64.16	15
Chinsurah-Mogra	64.05	16
Polba-Dadpur	65.54	13
Tarakeswar	88.07	2
Haripal	78.73	5
Singur	77.27	6
Jangipara	89.99	1
Chanditala-I	78.80	4
Chanditala-II	75.10	7
Serampur-Uttarpara	72.97	8
Goghat-I&II	72.14	9
Arambag	62.76	17
Khanakul-I	81.57	3
Khanakul-II	64.30	14
Pursurah	67.83	12
Rural Total	**73.27**	**-**
Reported by Municipalities	**70.84**	**-**
District Total	**74.68**	**-**

Source : CMOH, Hooghly, 2008-09

Fig4.8: Ante-Natal Care in Various Blocks in Hooghly District



Source : CMOH, Hooghly, 2008-09

The highest 89.99 per cent of mother received ante-natal care in Jangipara block followed by Tarakeshwar, Khanakul-I and Chanditala-I. The poor application of ante-natal care was observed in Arambag block (62.76 per cent) followed by Chinsurah-Mogra, Balagarh and Khanakul II. It is to be noted that in the urban areas ANC and PNC are often obtained in private health care units of different types. Government provided facilities are seldom used.

Several Health programmes of the Government of West Bengal are in operation in the district to improve the reproductive health status of the economically weaker sections of the district. Janani Suraksha Yojana(JSY) scheme provides financial support to encourage the pregnant women of BPL, SC and ST categories for accepting the norms of pre and post-natal cares and institutional delivery. Under Ayushmati Scheme, (Referral Transport Scheme (RTS)), BPL, SC, ST women are in a position to avail free services for delivery in empanelled Private facility. Moreover, Gram Panchayat (GP) based Mobile Health Camp schemes is under operation in the district for ante-natal /post-natal check-up, immunization of children including vitamin-A supplementation, Promotion of contraceptive services including IUD insertion, Prophylaxis and treatment of Anaemia with IFA Tablets, IEC & counseling, appropriate referral, services related to different public health programmes, treatment to minor ailments and minor injuries including supply of drugs.

Box 4.4:

Referral Transport Scheme(RTS):

- Benefit to women be Rs. 150/- within 0-10 km., Rs. 250/- within 10-20 km. and Rs. 350/- for more than 20 km.

Year (April to March)	No. of Beneficiaries
2006-07	1118
2007-08	7782
2008-09	11335
2009-10 (for Apr,'09)	546

Source: Statistical Section, CMOH, Hooghly, 2009

Box 4.5:

Gram Panchayat based Mobile Health Camp

- GP camp shall provide Ante-natal/Post-natal check-up, Immunization of children
- Vitamin-A supplementation, promotion of contraceptive services including IUC insertion. Prophylaxis and treatment of Anaemia with IFA Tablets, IEC and Counseling, appropriate referral services related to different public health programmes, treatment to minor ailments and minor injuries including supply of drugs.

Year (April to March)	GP Planned	Total No. of Camps	No. of Beneficiaries
2006-07	123	1586	106770
2007-08	137	5270	417270
2008-09	127	5000	337985

Source: Statistical Section, CMOH, Hooghly, 2009

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4.3.4.3 Safe Motherhood Index:

A simplest measure of reproductive health of mother is the simple average of the percentage of institutional delivery and the percentage of ANC-3 check up. In respective reproductive health of mother the district is showing satisfactorily improving performance over the period 2000-01 to 2008-09 as evident in table 4.14 and Fig 4.9.

Table 4.14: Safe Motherhood Index in different year in Hooghly District

Year	Percentage of ANC-3 Check-up	Percentage of Institutional Delivery	Safe Motherhood Index
2000-01	57.38	68	62.87
2001-02	61.24	69	64.90
2002-03	65.37	70	67.52
2003-04	67.71	71	69.59
2004-05	69.66	74	71.65
2005-06	70.97	74	72.57
2006-07	73.61	78	75.92
2007-08	77.92	82	80.05
2008-09	74.69	84	79.57

Source: F.W. Wing of CMOH, Hooghly, 2008-09

Fig. 4.9: Trends of Safe Motherhood Index, 2001-02 to 2008-09

Source: CMOH, Hooghly, 2008-09

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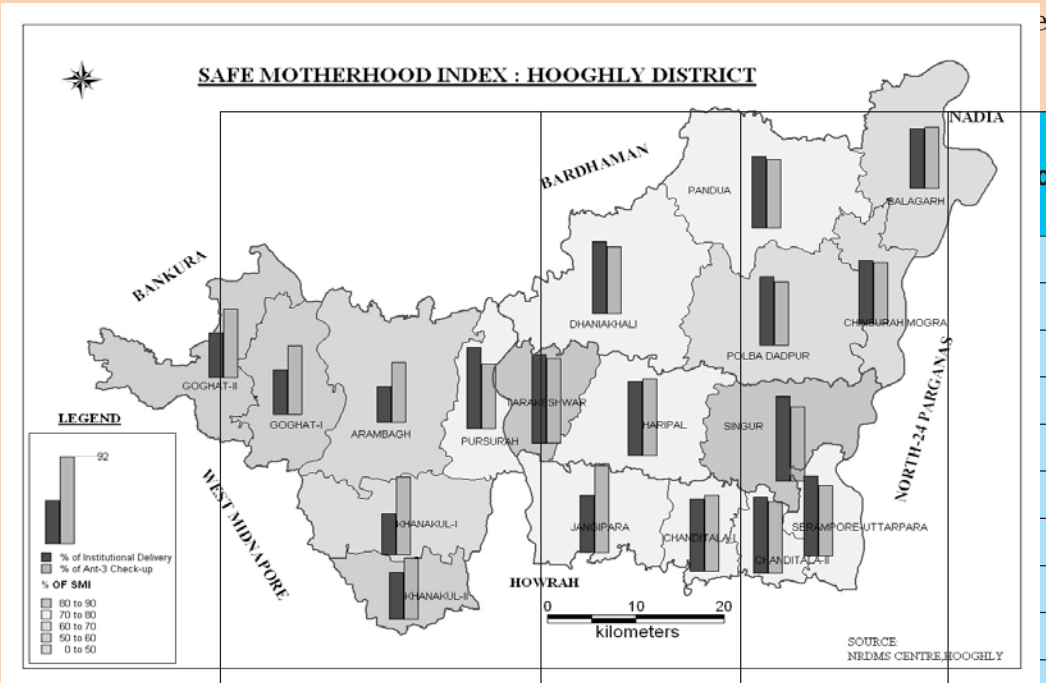
Map 4.4: Block-wise Safe Motherhood Index in Hooghly District

However, there are significant variations across the blocks of the district in attaining the criteria of safe motherhoods. In urban Hooghly the performance of institutional delivery is better than the rural Hooghly, -3 check-up.



			otherhood Index	Rank
			72.49	10
			73.06	9
			63.10	13
			64.58	12
			68.22	11
			89.76	1
			78.14	3
			83.08	2
			75.02	8
			77.10	6
Chanditala-II	79.1	75.10	77.12	5
Serampur-Uttarpara	82.4	72.97	77.69	4
Goghat-I&II	47.3	72.14	59.72	15

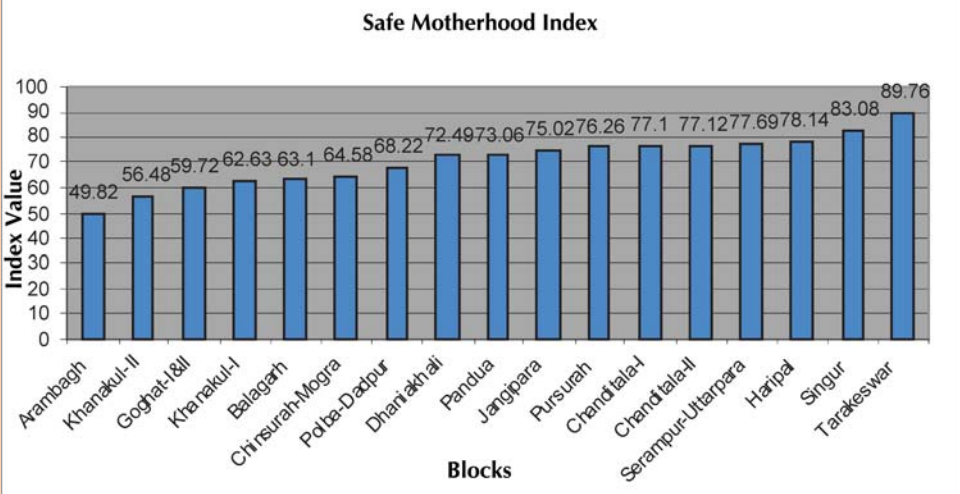
Contd.

Name of the units	Percentage of Institutional Delivery	Percentage of ANC-3 Check-up	Safe Motherhood Index	Rank
Arambag	36.9	62.76	49.82	17
Khanakul-I	43.7	81.57	62.63	14
Khanakul-II	48.7	64.30	56.48	16
Pursurah	84.7	67.83	76.26	7
Rural Total	**68.9**	**73.27**	**71.09**	**-**
Reported by Municipalities	**90.2**	**70.84**	**80.52**	**-**
District Total	**80.8**	**74.68**	**77.74**	**-**

Note: Range is the difference between maximum value and the minimum value.

Source: F.W. Wing of CMOH, Hooghly, 2008-09

Fig.4.10: Block-wise Ranking of Safe Motherhood Index, 2008-09



Source: CMOH, Hooghly, 2008-09

The combined impact of institutional delivery and the ante-three check up has been reflected on the index of safe motherhood. Fig. 4.10 shows the ordering of blocks in terms of Safe Motherhood Index. Tarakeshwar block occupies the top most position in the district in terms of Safe Motherhood Index, followed by Singur, Haripal and Serampur-Uttarpara. On the other hand, the three blocks namely Arambag, Khanakul-II, and Goghat I & II have been identified as the most vulnerable blocks in terms of health status of reproductive mothers.

4.4 Health Infrastructure and Health Services in Hooghly District:

Health infrastructure is the resources needed to deliver the essential public services to the people. Sound health infrastructure ensures efficient and effective utilization of essential public health services. The totality of the public health infrastructure includes all governmental and non-governmental entities that provide public health services to the people. The available physical health infrastructures of the district comprise

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one District hospital, three Sub-divisional hospitals, one State General hospital. The numbers of rural hospitals, BPHCs, PHCs are respectively 8, 9 and 61. There are 660 Sub-centres. The total number of beds in these rural health care units is 1956 which is likely to increase to 2656 after the NRHM project.

4.4.1 Bed Strength, Bed Turn-over Rate, Bed Occupancy Rate:

Population served per bed is an important indicator of health infrastructure. Total number of available beds in the district is 5515. On an average, one bed served 993 persons in a year in the district during 2007-08. In rural Hooghly one single bed served 3711 person while 409 persons in urban Hooghly. It clearly indicates that the rural health infrastructure is inadequate compared to the urban Hooghly. The situation of Hooghly district is slightly better than the West Bengal average as it is evident from the following table.

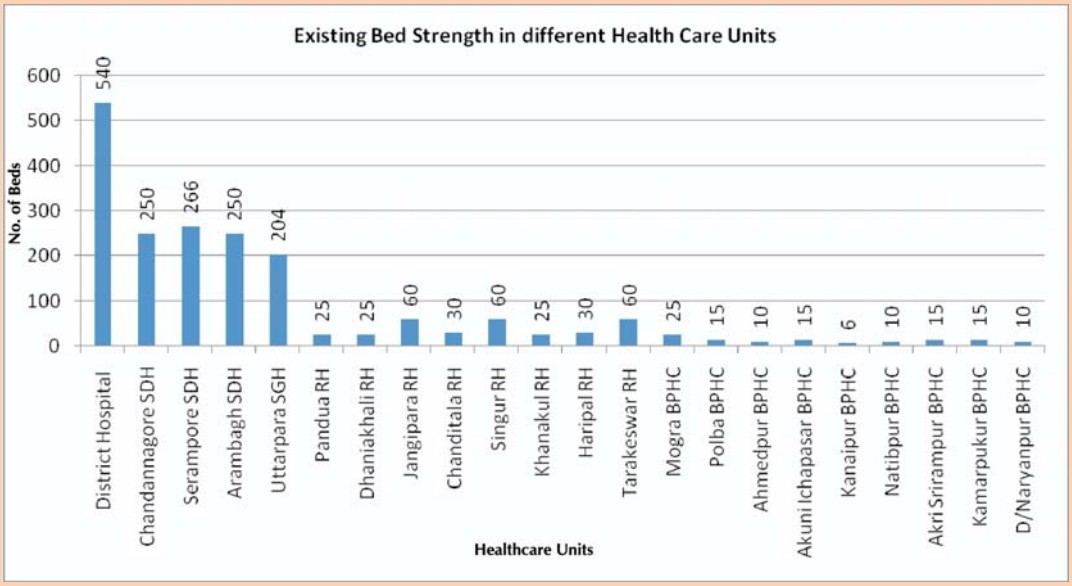
Table 4.16: Population served per bed in Hooghly District, 2007-08

	Estimated Population,2008			Total No. of Beds			Population served per bed		
State/District	Rural ('000)	Urban ('000)	Total ('000)	Rural	Urban	Total	Rural	Urban	Total
West Bengal	62353	24642	86995	15091	84828	100019	4105	290	870
Hooghly	3621.64	1854.42	5476.06	976	4539	5515	3711	409	993

Source: Health on the March, 2007-08

The hospital and health centre-wise data reveals that the highest number of beds are available in the District hospital followed by Chandannagore SDH, Serampore SDH, Arambag SDH and Uttarpara SGH. Amongst the rural hospitals, the number of beds in Pandua RH, Dhaniakhali RH and Mogra BPHC has only 25 each. Jangipara RH, Singur RH and Tarakeswar RH - each have 60 beds. Kanaipur BPHC has the lowest (6) number of beds. Polba BPHC, Akri Srirampur BPHC and Kamarpukur BPHC - each have 15 beds.

Fig. 4.11: Existing Bed Strength in different Health Care Units



Source : CMOH, Hooghly, 2008-09

The bed turnover rate is a measure of hospital/health centre utilization. It includes the number of times each hospital/health centre bed changes occupants. It is measured by the ratio of total number of discharge (including death) for a given period of time to average bed count for the same period. On the other hand, in-patient bed occupancy rate is the percentage of official beds occupied by hospital/health centres in-patients for a given period of time. The bed turnover rate and bed occupancy rates of various health centres of Hooghly district is shown in Table 4.17 below. Among the health centres of Hooghly district, bed turn-over rate is found to be highest in Pandua RH followed by Dhaniakhali RH and Singur RH. In Jangipara RH bed turn-over rate is the lowest. District Hospital, Chandannagore SDH and Serampore SDH have the moderate bed turn-over rate. The bed occupancy rates for District Hospital, Pandua RH, Dhaniakhali RH and Arambagh SDH are almost identical. The health care units like Polba BPHC, Ahmedpur BPHC, Akuni Ichapasar BPHC have the lowest bed occupancy rate. The bed occupancy rate is highest in Singur RH.

Table 4.17: Beds and their Uses in Hospitals in the District of Hooghly during 2006 to 2008.

Name of the Hospitals	Number of Beds	Index of Number of Beds	Bed Turnover Rate	Index of Bed Turnover Rate	Bed Occupancy Rate	Index of Bed Occupancy Rate
District Hospital	540	1.00	76	0.17	94	0.81
Chandannagore SDH	250	0.46	71	0.14	77	0.61
Serampore SDH	266	0.49	56	0.07	75	0.58
Arambagh SDH	250	0.46	94	0.26	93	0.80
Uttarpara SGH	204	0.37	48	0.03	70	0.52
Pandua RH	25	0.04	245	1.00	91	0.77
Dhaniakhali RH	25	0.04	189	0.72	91	0.77
Jangipara RH	60	0.10	42	0.00	57	0.37
Chanditala RH	30	0.04	100	0.29	82	0.67
Singur RH	60	0.10	173	0.65	110	1.00
Khanakul RH	25	0.04	100	0.28	90	0.76
Haripal RH	30	0.04	86	0.22	106	0.95
Tarakeswar RH	60	0.10	56	0.07	101	0.89
Mogra BPHC	25	0.04	93	0.25	49	0.27
Polba BPHC	15	0.02	104	0.31	37	0.13
Ahmedpur BPHC	10	0.01	65	0.11	26	0.00
Akuni Ichapasar BPHC	15	0.02	57	0.07	27	0.01
Kanaipur BPHC	6	0.00	69	0.13	41	0.18
Natibpur BPHC	10	0.01	52	0.05	54	0.33
Akri Srirampur BPHC	15	0.02	89	0.23	71	0.54
Kamarpukur BPHC	15	0.02	183	0.70	85	0.70
Deb Naryanpur BPHC	10	0.01	119	0.38	55	0.35

Source: Statistical Section, CMOH Office (PH Wing), Hooghly

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4.4.2 Clinical Attendance of Patients

The clinical attendance of patients and the use of medical facilities is another important indicator which reflects the utilization of public health services. The clinical attendance of patients has been analysed in Hooghly district in terms of indoor patients, outdoor patients, emergency admission rate and the patients referred to other health centres.

Table 4.18: Clinical Attendance of Patients in the District of Hooghly, 2006-2008.

Name of the Hospitals	% of Outdoor Patients to Total	% of Emergency Patients to Total	% Indoor Patients to Total	Emergency Admission Rate	% of Emergency Patients Referred in to Total	% of Emergency Patients Referred out to Total
District Hospital	9.38	15.53	23.24	71	41.55	5.01
Chandannagore SDH	5.21	14.70	9.88	38	1.56	7.87
Serampore SDH	5.22	7.98	11.14	66	6.52	13.55
Arambag SDH	6.36	6.82	16.09	113	43.81	13.52
Uttarpara SGH	3.93	7.35	7.82	52	1.92	1.44
Pandua RH	4.51	4.95	3.90	38	0.00	9.92
Dhaniakhali RH	3.69	2.42	4.12	85	1.84	4.56
Jangipara RH	7.47	0.85	1.98	113	1.05	1.18
Chanditala RH	4.66	3.92	2.63	32	0.81	3.51
Singur RH	4.11	3.15	4.06	63	0.00	8.63
Khanakul RH	2.73	7.23	1.70	11	0.00	2.70
Haripal RH	5.06	0.71	2.69	179	0.18	5.93
Tarakeswar RH	2.83	2.14	3.62	81	0.00	6.68
Mogra BPHC	5.88	4.13	1.44	17	0.42	2.34
Polba BPHC	3.97	1.27	0.94	73	0.27	0.48
Ahmedpur BPHC	4.73	2.48	0.40	8	0.00	4.84
Akuni Ichapasar BPHC	5.00	5.48	0.58	5	0.03	0.69
Kanaipur BPHC	1.96	2.60	0.28	5	0.00	4.09
Natibpur BPHC	1.54	1.18	0.40	18	0.00	0.03
Akri Srirampur BPHC	5.76	2.41	0.99	19	0.05	0.81
Kamarpukur BPHC	3.67	2.09	1.32	30	0.00	1.36
D/Naryanpur BPHC	2.34	0.59	0.79	62	0.00	0.85

Source: Statistical Section, CMOH Office (PH Wing), Hooghly

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Table 4.18 gives the picture of clinical attendance of patients in different health care units in the district of Hooghly over the period 2006 to 2008.The numerical figures in the table are expressed in terms of percentage - the percentage of attendance of patients of any particular health care unit to the total for the district. The percentage of Outdoor Patients, percentage of Emergency Patients and percentage of Indoor Patients are highest in the District hospital. In the case of percentage of Emergency Patients Chandannagore SDH holds the second position. After the district hospital, the outdoor patients attend more in the Arambag SDH. In Serampore SDH, 5.22, 7.98 and 11.14 are the percentage of Outdoor Patients, percentage of Emergency Patients and percentage of Indoor Patients respectively. Arambag SDH in respect of the admission of patients for indoor treatment holds the second position (16.09) after the District hospital.

Amongst the rural hospitals, the outdoor patient is highest in Jangipara RH (7.47%) followed by Haripal RH (5.06%). In the case of BPHC Mogra BPHC attends highest outdoor patients followed by Akri Srirampur BPHC. In respect of indoor admission of patients Kanaipur BPHC stands in lowest position. So is true for Deb Naryanpur BPHC in respect of emergency patients. The clinical attendance of outdoor patients is lowest in Natibpur BPHC. The Emergency Admission Rate amongst all health care units in the district of Hooghly is highest in Haripal RH followed by Arambag SDH and Jangipara RH. The per cent of patients referred in the district hospital from different places is 41.55. The corresponding figure for Arambagh SDH is 43.81 and this is the highest one amongst all health care units in the district of Hooghly. The health care units like Pandua RH, Singur RH, Tarakeshwar RH, Ahmedpur BPHC, Akuni Ichapasar BPHC, Kanaipur BPHC, Natibpur BPHC, Akri Serampur BPHC, Kamarpukur BPHC and Deb Naryanpur BPHC get the lowest referred in emergency patients. Serampore SDH, Arambag SDH refer patients out to the extent of 13.55% and 13.52% respectively. From the above picture of clinical attendance of patients it is evident that a sizable proportion of emergency patients are referred out to other health centre for appropriate medical aid. It is indicative of inadequate public health infrastructure in various health centres of the district. It is thus desirable to enhance the appropriate health infrastructures especially in rural health centers to extend required health facilities to the people.

4.4.3 Infrastructure for Surgical, Radiological and Pathological facilities:

Modern medical aids are crucially dependent on the availability of surgical, radiological and pathological infrastructures. In Hooghly district, these modern medical aid services are mostly available in urban health centres, the rural health centres predominantly lacking these facilities. During 2006-2008, the major surgery done in the District hospital was 29.09% of the total cases. The corresponding figures for Chandannagore SDH, Serampore SDH, Arambag SDH and Uttarpara SGH were 19.34%, 22.81%, 13.78% and 7.46% respectively. In all, the rural hospitals and BPHCs the cases of surgery are negligible. The District hospital stands in the highest position in respect of the Radiological and Pathological Cases. These cases are also significant in the health care units like Chandannagore SDH, Serampore SDH, Arambag SDH and Uttarpara SGH. X-ray facility was not available in the health care units like Mogra BPHC, Polba BPHC, Ahmedpur BPHC, Akuni Ichapasar BPHC, Kanaipur BPHC, Natibpur BPHC, Akri Srirampur BPHC, Kamarpukur BPHC and Deb Naryanpur BPHC. The facility of laboratory test was found to be lowest in Kamarpukur BPHC and Deb Naryanpur BPHC. Overall, though the public health infrastructures of the district are expanding over time still they are found to be inadequate in extending quality health services to the people. The situation is precarious in rural areas of the district. Basic modern health facilities are almost non-existent in rural health centres.

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PEOPLESPEAK SURVEY- 2009

Emerging Trends of Public-Private Partnership in Health Services

Public-Private Partnership in health care services is an emerging trend in Hooghly district. In view of the inadequate health infrastructure in PHCs, government is allowing private collaborations in health services through various Memorandums Of Understanding (MOU). One such collaborative attempt was found in Dhaniakhali Rural Hospital. CMRI (Calcutta Medical Research Institute), a private health care organization, has been allowed to extend health care services in Dhaniakhali Rural Hospital especially in respect of pathological tests and ambulance services.Services of CMRI are subsidized for the patients of rural hospital but non-subsidized for the outside patients. The Public-Private Partnership is a welcome move to bridge the gaps of medical facilities at the rural PHCs and Hospitals. But proper monitoring needs to be ensured so that private health care agency acts only as a facilitator, it should not be a substitute for public health care services; otherwise, health care facilities may become a nightmare for the rural poor.

4.5 Incidence of Diseases

Almost every year the district is affected by flood in major areas of Khanakul II, Khanakul I, Arambag, Goghat I, Goghat II blocks of Arambag, Tarakeswar block of Chandannagar & some pockets of Balagarh block of Sadar sub-division. These areas are cut-off from road communication, and vulnerable and prone to diarrhoeal and other water borne diseases. The health services are also inaccessible during the period of flood. Balagarh block has an Arsenic prone area in Chandrahati and Dumurdaha Gram Panchayat. The diseases like Diarrhoea, Malaria etc occur in largest frequencies in the district. The common diseases and its extent of prevalence in the district are shown in the table below:

Table 4.19: Incidence of diseases in Hooghly District vis-a-vis West Bengal, 2007

Cases of death in	Hooghly				West Bengal			
	No. of Cases	Death	AR	CFR	No. of Cases	Death	AR	CFR
Diarrhoel diseases	14594	61	2.69	4.18	2826256	915	34.82	0.32
Acute Respiratory Infection(ARI)	124175	58	22.91	0.47	2218739	702	27.34	0.32
Malaria (+ve)	71	2	0.01	28.17	87754	96	1.08	1.09
Dengue	3	0	0.00	0.00	1817	9	0.02	4.95
Kala-azar	7	0	0.00	0.00	150	1	0.00	6.67
Leprosy	383	.....	0.07	.....	9358	.....	0.12	.....

Source: Health on March, 2007-08

Note: AR (Attack Rate): No. of cases reported per thousand populations (projected population of 2007 has been considered, CFR (Case Fatality Ratio): No. of deaths reported per thousand cases.

National Leprosy Elimination Programme(NLEP) is effectively in operation in the district. After the implementation of Millennium Development Target (MDT) programme the caseload of Leprosy has declined in the district significantly both in terms of Prevalence Rate (PR) and Annual New Case Detection Rate (ANCDR).

4.5.1 Diarrhoea and ARI:

Diarrhoea and Acute Respiratory infection are most frequently observed diseases in the district. In table Attacking rate (AR) of Diarrhoea is found to be 2.69 indicating on an average three persons are affected by Diarrhoea in the district. However, this rate is very much comfortable compared to the West Bengal average of 35 persons per thousand population. However, the incidence of death of Diarrhoea cases as indicated by CFR ratio (4.18) is much higher in Hooghly district than the West Bengal average (0.32). Acute Respiratory Infection is another commonly observed disease in the district. In 2007, 23 persons per thousand population were found to be affected by ARI. The case fatality rate for ARI is found to be higher than the State average. The case fatality rate for Malaria (28.17) indicates high risk of death in case of Malaria infection in the district compared to West Bengal average (1.09). Thus, there is a need to develop adequate health infrastructure to combat Diarrhoea and Malaria in the district. Health centre-wise treatment of Diarrhoea and ARI in the district is given in Table 4.20 below:

Table 4.20: Percentage of Patients in Diarrhoea and ARI over the Period 2006 to 2008

Name of the Units (Rural Area)	DIAR-RHOEA	ARI	Name of the Units (DH/ SDHs/SGHs)	DIAR-RHOEA	ARI	Name of the Units (Urban Area)	DIAR-RHOEA	ARI
Ahmedpur BPHC	4.17	2.88	District Hospital	1.43	2.03	Hooghly-Chinsurah (M)	0.00	0.00
Pandua RH	5.66	6.74	Chandannagore SDH	0.74	0.39	Chandannagore (M/C)	1.25	0.97
Mogra BPHC	6.98	4.91	Uttarpara SGH	1.04	1.32	Bansberia (M)	0.32	0.13
Polba BPHC	4.47	8.96	Serampore SDH	0.51	0.30	Bhadreshwar (M)	1.20	0.72
Dhaniakhali RH	4.18	5.03	Arambagh SDH	1.00	1.63	Champdani (M)	0.19	0.14
Singur RH	7.43	7.39				Baidyabati (M)	0.06	0.00
Haripal RH	6.26	4.70				Serampore (M)	1.45	0.09
Tarakeshwar RH	3.87	2.60				Rishra (M)	1.03	0.39
Jangipara RH	2.16	3.15				Konnagore (M)	1.81	0.18
Akuni Ichapasar BPHC	3.87	4.42				Uttarpara -Kotrung (M)	0.67	0.01
Chanditala RH	3.48	4.59						
Kanaipur BPHC	1.79	1.98						
Ankri Srirampore BPHC	4.88	5.15						
Khanakul RH	9.48	9.16						
Natibpur BPHC	6.86	2.80						
D/Narayanpur BPHC	1.68	5.62						
Kamarpukur BPHC	7.28	7.79						
Singur RHUTC	2.79	3.81						
Rural Total	**87.30**	**91.70**	**DH/SDHs/SGHs**	**4.71**	**5.67**	**Urban Total**	**7.98**	**2.63**

Source: Office of Dy CMOH-III, Hooghly

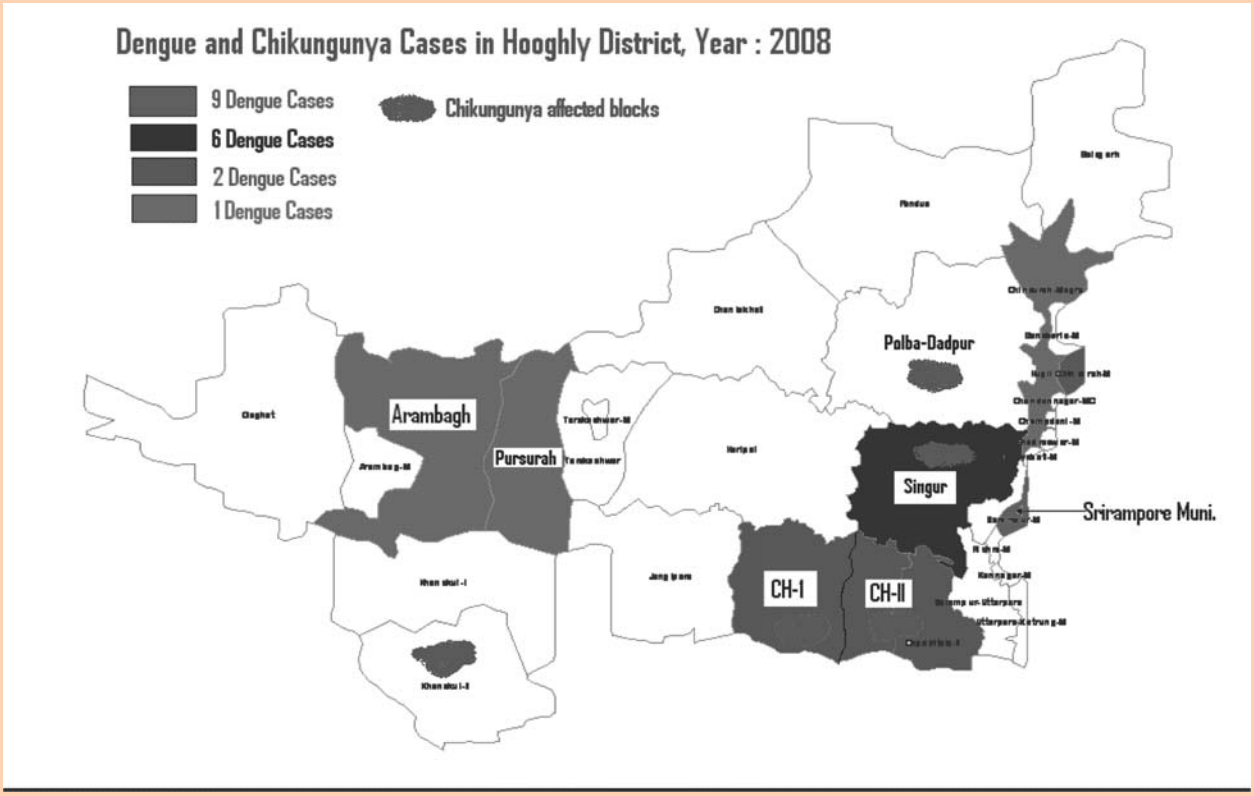
Final Proof

Note that in the rural areas 87.30% of total patients suffering from diarrhoea were treated in the rural hospitals during 2006 to 2008. In comparison the health care units of the urban areas treated only 7.98% of the diarrhoea patients. In the DH/SDHs/SGHs 4.71% of the patients came for treatment. When ARI is Considered, the picture is same as in the case of diarrhoea. The rural hospitals got 91.70% of patients suffering from ARI, whereas in the case of DH/SDHs/SGHs the figure was 5.67% and in the case of health care units in the urban area it was 2.63%. Compared to the urban areas, the attack of diarrhoea and ARI is acute and stronger in the rural areas. In the Khanakul RH, highest number of patients suffering from diarrhoea and ARI come for treatment. Kamarpukur BPHC, Natibpur BPHC, Haripal RH, Mogra BPHC and Pandua RH are the health care units in the rural area getting a large number of patients of diarrhoea. Kamarpukur BPHC, Deb Narayanpur BPHC, Singur RH, Polba BPHC and Pandua RH have got a good percentage of ARI suffering patients. Apart from the District Hospital, the patients of diarrhoea and ARI are significant in number in Uttarpara SGH and Arambag SDH. There is no such patient reported to be treated in Serampore SDH during the period under study. In the urban areas, the cases of diarrhoea and ARI are reported to be nil in Hooghly-Chinsurah (M) hospital. But, in Konnagore (M) the case of diarrhoea is highest followed by Serampore (M), Chandannagore (M/C) and Bhadreshwar (M). ARI patients are lowest in Baidyabati (M).

4.5.2 Dengue and Chikungunya:

Dengue and Chikungunya were observed to occur in the district. High risk areas related to Dengue & Chikungunya have been identified as: i) Srirampore Municipality, ii) Singur iii) Chanditala-I iv) Chanditala-II v) Polba vi) Chinsurah Municipality and Vii) Khanakul-II

Map 4.5: Dengue and Chikungunya Cases in Hooghly District, 2008



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There is no specific drug or vaccine available for both the diseases and treatment is done symptomatically. Though Chikungunya is self limited, management of post chikungunya sequel especially residual arthralgia is found to be a matter of concern. Dengue could be fatal in its severe forms if not managed timely.

4.5.3 HIV/AIDS:

Since the detection of first AIDS case in the Southern City of Chennai, Tamil Nadu (almost 20 years back), and Government of India has been launching several programmes to control and eliminate AIDS from the country. According to National AIDs Control Organization (NACO), in 2007; 3.1 million people were living with deadly HIV virus in the country. West Bengal does not belong to 'high prevalence States' in the incidence of HIV. But, unless given priority attention to this deadly health issue there can be larger HIV/AIDs problems in the State in future due to lack of proper health infrastructure to combat HIV.

According to Health on March 2007-08, among the districts of West Bengal, the percentage of highest prevalence of HIV positive cases(except pregnant women) was found in Midnapur(West) district (13.5 per cent), followed by Howrah(10.3 per cent), Darjeeling(9.2 per cent), Kolkata(8.7 per cent) , Malda(7.5 per cent) and Murshidabad(6.1 per cent). The lowest incidence was found in Purulia(0.8 per cent). Among the pregnant women, the HIV positive prevalence rate is found to be maximum in Murshidabad(1.585 per cent), followed by Darjeeling(1.099 per cent), Coochbehar(0.343 per cent) and Kolkata(0.299 per cent). The incidence of HIV among the pregnant women is non-existent in Birbhum district.

In Hooghly district, 3.3 per cent of HIV positive cases were identified among total tested cases in 2007-08., the prevalence rate of HIV positive cases among pregnant women was 0.13 per cent of the total cases. It is observed that there is an increasing burden of disease especially that of HIV/AIDS in the district. Both the prevention and cure of diseases related to HIV/AIDS needs greater attention in terms of the policy as well as funds.

Source: Office of CMOH, Hooghly

It is thus desirable to create more awareness among the people about the causes and syndromes of these fatal diseases for adopting precautionary measures. Non-Government Organization (NGO) and Panchayat level institutions can play a vital role in capacity building for fighting against AIDs/HIV.

4.5.4 Disability:

Disability is another issue of health disorder leading to social exclusion of the people with disability. The comparative figures to the extent of disablpeople in the district of Hooghly and that of West Bengal as per 2001 census are given in the Table 4.21 below:

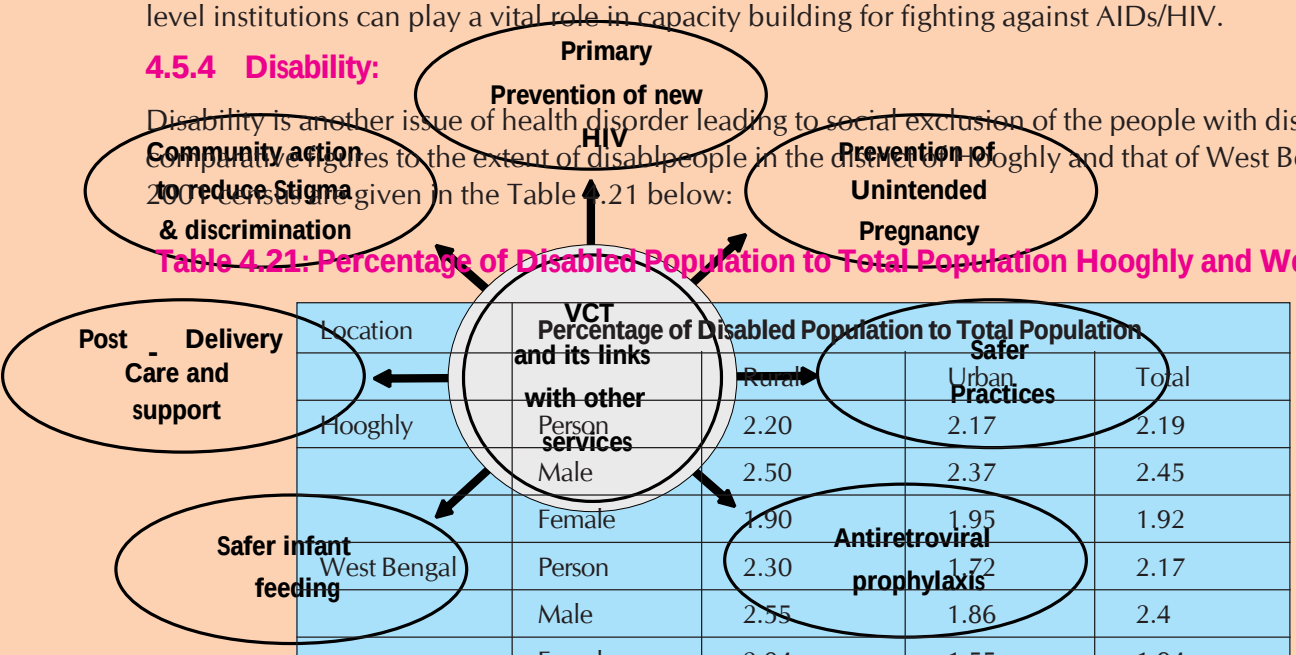


Table 4.21: Percentage of Disabled Population to Total Population Hooghly and West Bengal

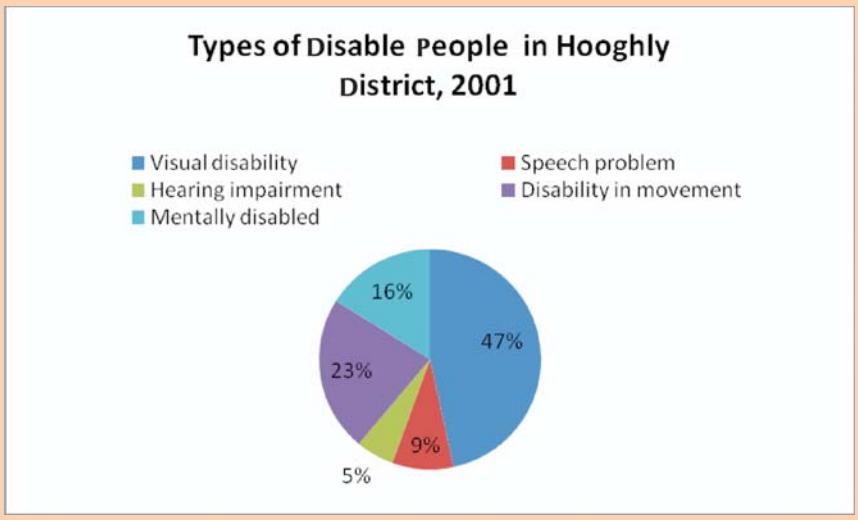
Location	Percentage of Disabled Population to Total Population			
		Rural	Urban	Total
Hooghly	Person	2.20	2.17	2.19
	Male	2.50	2.37	2.45
	Female	1.90	1.95	1.92
West Bengal	Person	2.30	1.72	2.17
	Male	2.55	1.86	2.4
	Female	2.04	1.55	1.94

Source: Census, 2001, Govt. of India

2.19 per cent of total population of the district according to 2001 census is found to be disabled which is even higher than the State average of 2.17 per cent of total population. Sex wise classification of data reveals both in rural and urban areas disability is dominant among males compared to females.

Final Proof

Fig. 4.12: Types of Disabled People in Hooghly District, 2001

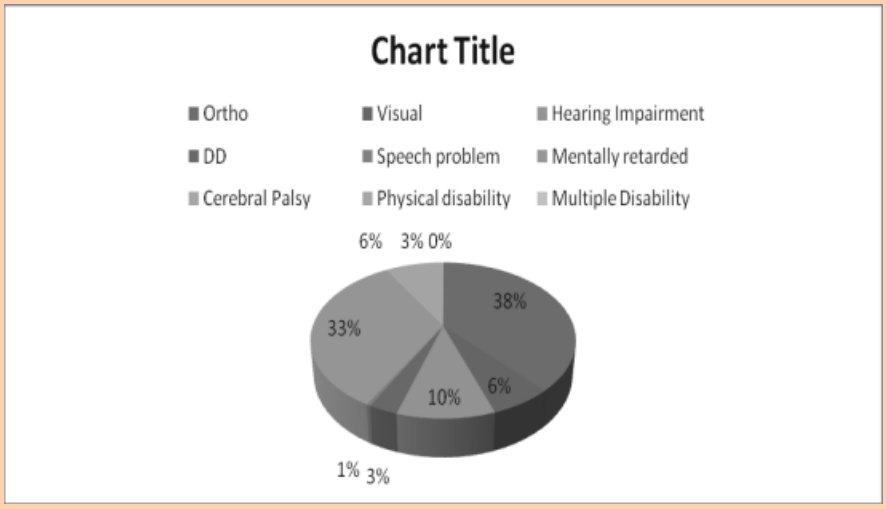


Source: Cemsus, 2001, Govt. of India

Among the types of disability, visual disability is found to be the most dominant one (47 per cent of the total cases) in the district. Disability in movement is found in 23 per cent of the cases and 16 per cent are mentally disabled. The lowest incidence of disability is found in the form of hearing impairment (5 per cent), followed by speech problem (9 per cent).

Under National Rural Health Mission (NRHM), which was launched by the Government of India in 2005 for the period 2005-2012 for improving the health care facilities in rural areas, district is fighting against disability for social inclusion of the disable person in the developmental network. Attempts have been made to identify the disabled persons in the district by organizing disability camps for the distribution of disability certificates and identity cards. In the district, 2620 disable persons were identified during 2008-09. Among the selected people, the disability is mostly found in the forms of orthogonal disorder, mentally retarded, hearing impairment, visual handicap, cerebral palsy and physical handicap.

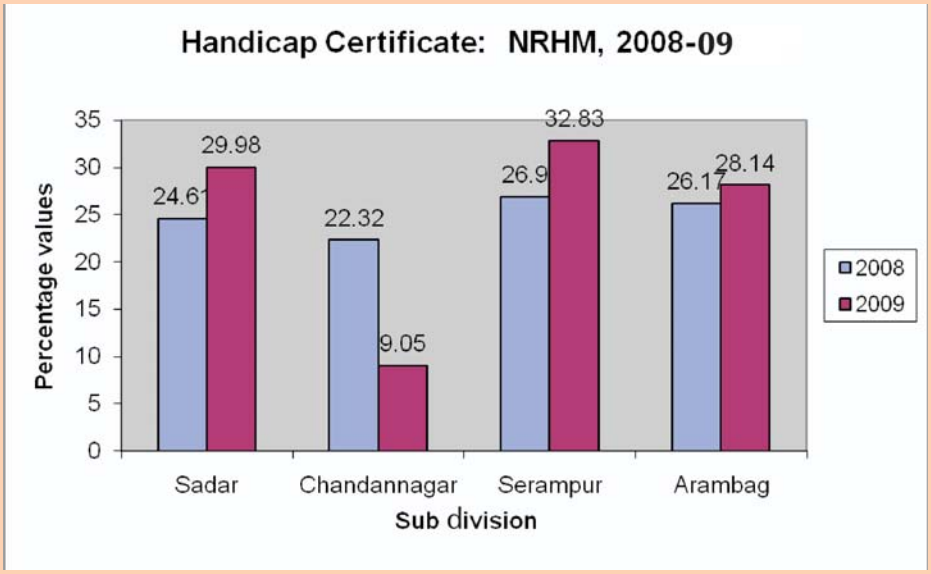
Fig. 4.13: Types of Beneficiaries in Disability Camps, 2007-08



Source:-District Social Welfare Officer, Hooghly, 2009

The highest frequency of disability is found in the form of orthogonal disorder (38 per cent), followed by mentally retarded (33 per cent) and multiple disability (10 per cent).

Fig. 4.14: Sub-division-wise Beneficiaries in Disability Camps, 2007-08



Source: Disttrict Social Weafare Officer, Hooghly, 2009

The performance on the distribution of handicap certificates in the Sub-divisions of the district is shown in the above figure. In 2009, the highest number of handicapped certificates were distributed in Serampur Sub-division followed by Sadar, Arambag and Chandannagore.

4.6 Towards a Health Index:

The longevity of life, which is the most important indicator of health well-being, is measured by the Life Expectation at Birth (LEB). LEB measures the probability of survival of child at birth. The higher value of LEB indicates better health status of the people and vice-versa. In the district of Hooghly, LEB as measured using primary survey is found to be satisfactorily high compared to the State average. But, health performance and the health services available to the people varies widely across various blocks of the district. It is thus necessary and desirable to examine the health status of the people across various blocks/sub-divisions of the district. LEB would have been the appropriate measure to examine the health status of people in various blocks of the district. However, due to the non-availability of representative age-specific mortality rates at the sub-district levels, LEB could not be measured at the blocks/sub-division levels. Under the circumstances, we have used surrogates of LEB and accordingly we have constructed health index to rank various blocks of the district in terms of health status of the people.

Three important indicators for examining the health status of the people are: preventive health care indicator, curative health-care indicator and the promotional health care indicator. The index of curative health care facilities (11) has been constructed using the indicators like (1) percentage of households having latrine facility (2) percentage of households having separate bathroom (3) percentage of households having safe drinking water facility, (4) percentage of immunized children, and (5) percentage of mother facilitated with ante-natal care. For the construction of preventive health care index we have utilized the data driven weights of these indicators using Principal Component Method. For the construction of curative health care index (I2) two indicators have been chosen (1) Number of beds per 1000 population, and (2) number

of doctors per 1000 population. Again, the curative health care index (I2) has been constructed using Principal Component analysis following data driven weightage system. Similarly, the promotional health care index (I3) has been constructed using indicators like (1) the percentage of institutional delivery, and (2) the percentage of immunized children. The index of combined health care (CLI) has been constructed using preventive (11) and curative (I2) health indices with appropriate weights given by PCA method.

The performance of various blocks in respect of various health indices is shown in Table 4.22 below.

Table 4.22: Preventive, Curative and Promotional Health Index in Hooghly District

Blocks	Preventive health index(I1)	Rank	Curative Health index(I2)	Rank	Promotional Health Care index(I3)_	Rank
Dhaniakhali	0.338	11	0.37	7	0.67	5
Pandua	0.418	9	0.25	10	0.57	9
Balagarh	0.329	13	0.28	8	0.37	14
Chinsurah-Mogra	0.592	2	0.72	1	0.7	4
Polba-Dadpur	0.325	14	0.25	10	0.78	2
Tarakeswar	0.527	7	0.4	5	0.73	3
Haripal	0.479	8	0.25	10	0.62	8
Singur	0.541	5	0.45	4	0.83	1
Jangipara	0.570	4	0.62	2	0.63	7
Chanditala-I	0.538	6	0.56	3	0.43	12
Chanditala-II	0.580	3	0.39	6	0.39	13
Serampur-Uttarpara	0.598	1	0.00	14	0.53	10
Goghat-I and II	0.335	12	0.27	9	NA	NA
Arambag	0.323	15	0.06	13	0.5	11
Khanakul-I	0.387	10	0.15	11	0.07	16
Khanakul-II	0.265	17	0.12	12	0.25	15
Pursurah	0.321	16	0.28	8	0.64	6
Hooghly	**0.440**		**0.32**		**0.54**	

- Source : Computed from Census, 2001 & CMOH, Hooghly, 2008-09

N.B: Due to data problems curative health index for Serampur-Uttarpara has worked out as zero. This is unrealistic because it is an advanced block of the district with sizable achievements in curative health care facilities.

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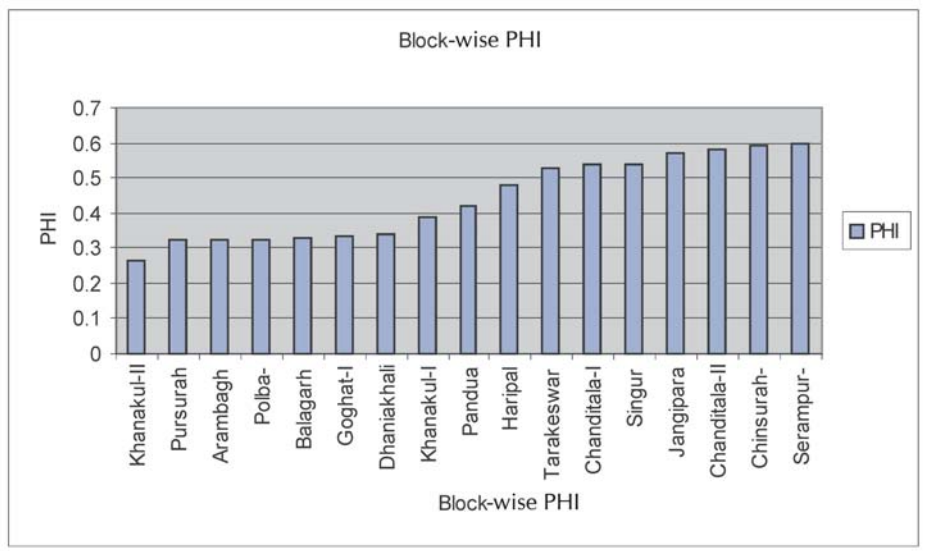
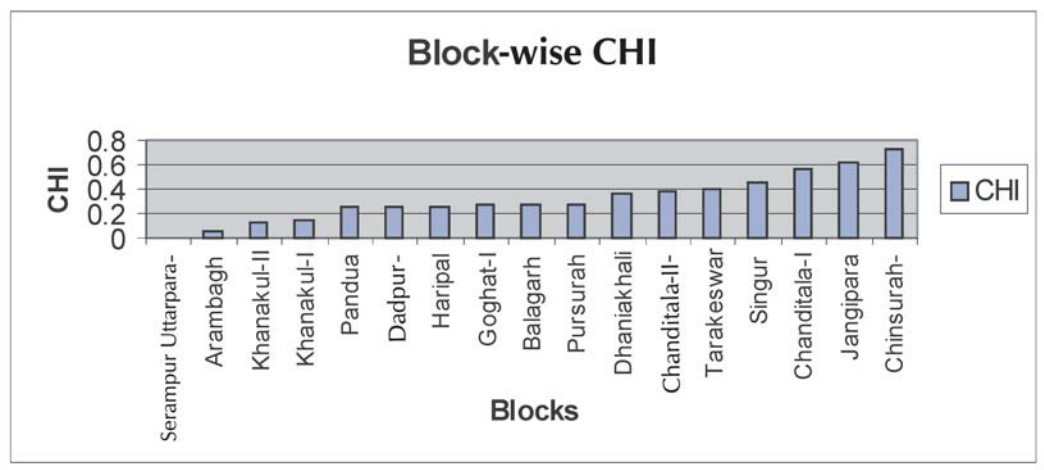
Fig. 4.15: Block-wise Ranking of Preventable Health Index (PHI) in Hooghly District



Source : Table 4.22

In the index of preventive health care facilities Serampur-Uttarpara block has achieved the highest rank, followed by Chinsurah-Mogra, Chanditala II, Jangipara, Singur, Chandital I, Tarakeshwar and Haripal. The blocks those have been identified as vulnerable in terms of preventative health care facilities are: Khanakul II, Pursurah, Arambag, Palba-Dadpur and Balagarh. In curative health care index, Chinsurah-Mogra block has achieved the highest rank, followed by Jangipara and Chanditala I. The worst performer blocks are: Arambag, Khanakul II and Khanakul I. In promotional heath care facilities, Singur, Palba-Dadpur and Tarakeshwar have achieved considerable success while Khanakul I and Khanakul II are the worst performer blocks.

Fig. 4.16: Block-wise Ranking of Curative Health Index (CHI) in Hooghly District



Source : Table 4.22

The composite health index, which is based on the indices of preventive and curative health care facilities, is shown in Table 4.23 below for various blocks of the district. In composite index, Chinsura-Mogra block has occupied the top most rank in the district followed by Jangipara, Chanditala I and Singur.

Table 4.23: Combined Health Index (Preventive + Curative)

Block	PHI	CHI	Combined Index	Rank
Dhaniakhali	0.338	0.37	0.35	8
Pandua	0.418	0.25	0.33	9
Balagarh	0.329	0.28	0.30	12
Chinsurah-Mogra	0.592	0.72	0.65	1
Polba-Dadpur	0.325	0.25	0.29	14
Tarakeswar	0.527	0.40	0.47	6
Haripal	0.479	0.25	0.36	7
Singur	0.541	0.45	0.49	4
Jangipara	0.570	0.62	0.60	2
Chanditala-I	0.538	0.56	0.55	3
Chanditala-II	0.580	0.39	0.48	5
Serampur-Uttarpara	0.598	0.00	0.30	12
Goghat-I and II	0.335	0.27	0.30	12
Arambag	0.323	0.06	0.19	17
Khanakul-I	0.387	0.15	0.27	15
Khanakul-II	0.265	0.12	0.19	17
Pursurah	0.321	0.28	0.30	12
Hooghly	**0.440**	**0.32**	**0.38**	

Source : Computed from Census, 2001 & CMOH, Hooghly, 2008-09

Map 4.6 : Combined Health Index in Hooghly District

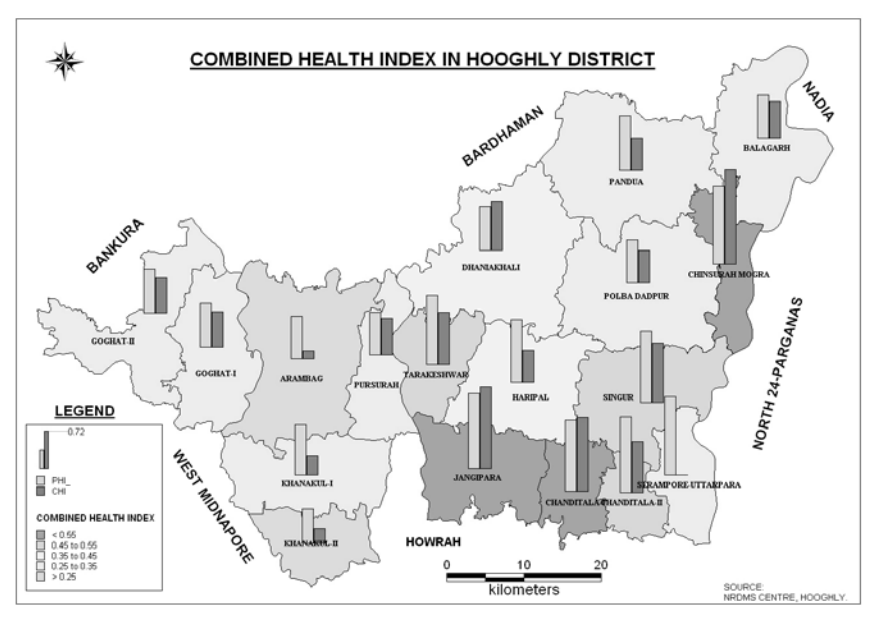
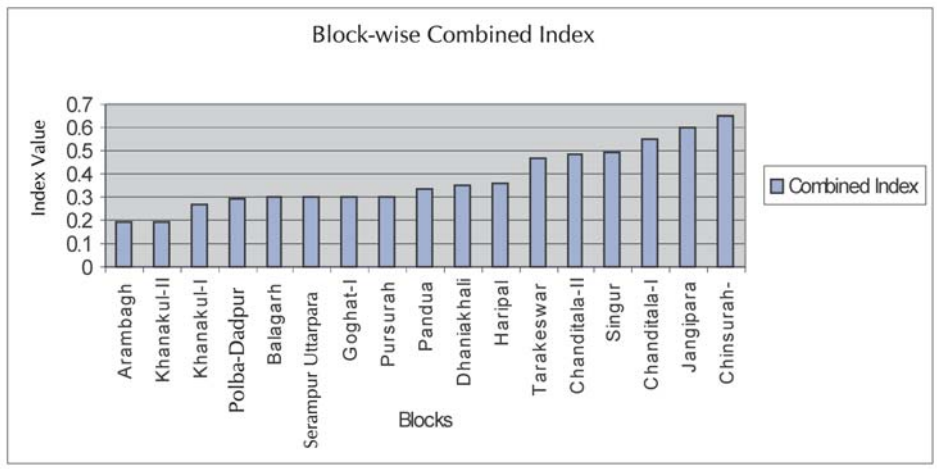


Fig. 4.17 Block-wise Combined Index



Source : Table 4.23

The most vulnerable blocks in terms of composite health index are: Arambag, Khanakul I and Khanakul II. It is evident that health infrastructure and health facilities of Arambag Sub-division are precarious and thus need immediate interventions to achieve a balanced, equitable and sustainable human well-being in the district.

4.7 Conclusion:

In terms of health infrastructure, there has been considerable improvement in the district; however, the health care facilities especially in rural areas are still inadequate. There is ample scope of improvement in overall progress of Hooghly district in terms of outcomes on RCH, Public Health and Diseases surveillance programme. The programme management that provides health cares and services must be improved at the Block and the District levels and to respond to the demand for basic services especially among women, children, socio-economically under-privileged people and population living in hardship. Due to increasing level of education and consequent rising level of awareness, there is found to be ever rising demand for health care facilities. As a fall out, the Private health centres have developed in the district in large number and wide coverages. But the inadequate health care facilities in the public health care centres and the rising cost of private health care is a cause for concern to the rural poor. Under the circumstances, the focus should be on large scale expansion of facilities in the public health care system. One of the observed features of public hospitals in the district is the non-availability of doctors and lack of modern medical equipments. The most important causes for Doctors' inertia to work in the public health institutions have been identified as low salary compared to private institutions, lack of medical infrastructures and overcrowding of patients in public health centres. To ensure better health care facilities to the poor there is no alternatives other than large scale investment in improving public health infrastructures and health services. Involvement of NGOs and other service providers can mitigate the problems to a great extent. The Public-Private Partnership, which is an emerging trend in socio-economic spheres of development, can be welcomed in the district with a caution that private sector should supplement but not supplant the public sector.

Chapter 5

Gender, Empowerment and Human Vulnerability

Gender equality in society implies a society in which women and men enjoy the same opportunities, outcomes, rights and obligations in all spheres of life. Despite many developmental efforts, women are still much more likely to be poor and illiterate than men. They usually have less access to medical care, property ownership, credit, training and in employment. They are far less likely to be politically active and far more likely to be victims of domestic violence compared to men. Women in Hooghly district are well placed in gender development ladder of West Bengal. The rising level of women's education, the growing SHG movements and Panchayat's participation in empowering women have been increasingly reducing the discriminatory practices against the women in the district. However, gender and other forms of vulnerabilities still persist in the district which warrants immediate policy intervention.

5.1 Introduction

The right to lead a long and healthy life irrespective of gender is fundamental to the idea of human development. The denial of access to productive resources, basic education, health care facilities to the women, is in effect, is the denial of the basic freedom to build a better future. Since 1995, UNDP has been measuring the gender disparities in human development to identify the extent of its variation across various regions, social groups and communities. In fact, while studying the level of development of a region, it is essential that one takes into account the fact that the development outcomes should spread evenly across all sections of the society. It is almost a well accepted notion that nowhere in the world do women enjoy equal opportunities compared to men. However, along with the progress of socio-economic development in some spheres and in many countries significant progress has been made towards achieving gender equality in development. Still, it is often observed that women, particularly, lag behind their male counterparts in many aspects. This creates a chink in the armour of development, because however developed a region may be, the development is not complete if the women lack proper education, health care and economic independence and are also socially less acceptable than men. Hooghly district occupies a prime position in the gender development ladder of West Bengal. As per West Bengal Human Development Report, 2004, the district attains third position in terms of gender development index, although, in overall human development ladder it ranks sixth among the districts of West Bengal. It indicates that along with economic development women in the district are marching forward almost equally with men in overall well-being compared to most of the districts of the State. However, it does not mean gender inequality is non-existent in the district. In fact, the existence of gender disparity is more visible at the sub-district level indicators of development.

5.2 Sex Ratio and Missing Women

The sex ratio (defined as the number of females per 1000 males) is an important indicator of health, nutrition and survival status of women. The lower number of women per thousand of men indicates the existence of gender disparity, which may be caused by female foeticide (girl child is less desired), dowry deaths, lack of proper maternal health care, nutrition etc. Gender disparity in the attainment of socio-economic indicators of development is a common phenomenon in the developing countries. Women in general are found to be ill-treated in relative terms with men, even within the same family. 'This is reflected not only in such matters as education and opportunity to develop talents, but also in the more elementary fields of nutrition, health and survival' (Sen, 2002). In 1992, Sen published an article titled *More than 100*

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Million women are Missing where it is argued that the parental preference for sons and unequal access to food and health care for husbands and wives in poor families are responsible for poor sex ratio in the developing countries. This is not just a matter of poverty but a serious gender bias. If women were treated by their families in the same way that men are treated, according to Sen, there would have been at least another 100 million women alive today.

According to 2001 census, Sex ratio of the district (947) is well above the State (934) and country average (933) and it is improving over the years. However, there is wide variation in sex ratio across various blocks and municipalities of the district. In Hooghly district, the sex ratio is high, above 1000 in Chanditala-I and Khanakul II, while it is a shocking 785 in Champadani (M). Also, the sex ratio is much lower in the municipalities and Municipal Corporation than in the blocks. Of the eleven, only two municipalities, Hooghly-Chinsurah (M) and Arambag (M) have a sex ratio higher than 950, while six municipalities, Bansberia, Tarakeswar, Serampore, Bhadreswar, Rishra and Champadani are below 900! That is, the sex ratio is worse in the urban areas than in the rural areas. One of the reasons for this might be the migration of men from rural to urban areas in search of work.

5.2.1 Measuring Gender-disparity and Missing Women:

The simplest measure of gender disparity is reflected in the uneven sex ratio. Perfect gender equality implies 50:50 sex ratios, in other words, 1000 females per 1000 males. The divergence of the number of females per 1000 males is a measure of gender disparity. Intuitively, the shortfall of the number of adult females per 1000 males can be considered as *gender parity missing women*. Another measure of missing women is the difference in the ratio of female child to total child between age 0-6 (RFT) and the ratio of adult female to the total population (AFR) including various age groups. The decline of AFR compared to the RFT is an indicator of the incidence of *missing women* .This can be called *Juvenile sex parity missing women*. The following Table 5.1 gives estimates of missing women in Hooghly district. Gender parity missing women is found both in urban and rural Hooghly but Juvenile sex parity missing women is mostly found in urban Hooghly.

Table 5.1: Gender Parity Missing Women and Juvenile Sex Parity Missing Women in Hooghly

Block/Municipality	Sex ratio	RFT	AFR	Gender parity Missing Women	Juvenile sex parity missing women (in Urban Hooghly)
Dhaniakhali	977	0.490	0.494	1693	————
Pandua	985	0.489	0.496	1064	————
Balagarh	948	0.484	0.487	2850	————
Chinsurah-Mogra	923	0.483	0.480	4199	————
Polba-Dadpur	975	0.490	0.494	1501	————
Tarakeswar	952	0.486	0.488	1989	————
Haripal	990	0.492	0.498	583	————
Singur	985	0.489	0.496	998	————
Jangipara	983	0.489	0.496	882	————
Chanditala-I	1031	0.494	0.508	1284	————
Chanditala-II	959	0.489	0.490	2211	————

Final Proof

Table 5.1: Contd.

Block/Municipality	Sex ratio	RFT	AFR	Gender parity Missing Women	Juvenile sex parity missing women (in Urban Hooghly)
Serampur-Uttarpara	935	0.481	0.483	2124	————
Goghat-I	952	0.488	0.488	1532	————
Goghat-II	949	0.487	0.487	1859	————
Arambag	950	0.488	0.487	3269	————
Khanakul-I	977	0.494	0.494	1297	————
Khanakul-II	1023	0.486	0.506	904	————
Pursurah	952	0.489	0.488	1921	————
Hooghly-Chinsurah(M)	961	0.490	0.490	1685	(-)35.69
Bansberia(M)	885	0.484	0.470	3183	1490.78
Tarakeswar(M)	882	0.486	0.469	883	500.85
Bhadreswar(M)	828	0.484	0.453	5005	3325.72
Champdani(M)	785	0.483	0.440	6219	4457.65
Chandannagar(M.C)	927	0.487	0.481	3088	1005.41
Uttarpara-Kotrung(M)	908	0.484	0.476	3627	1161.72
Konnagar(M)	904	0.478	0.475	1813	214.64
Serampore(M)	877	0.481	0.467	6487	2705.43
Baidyabati(M)	919	0.484	0.479	2280	554.95
Rishra(M)	810	0.478	0.448	5933	3424.87
Arambag(M)	954	0.488	0.488	659	12.11
Sadar Sub-div.	958	0.488	0.489	16173	200.41
Chandannagar Sub-div.	932	0.488	0.482	18763	9122.62
Serampore Sub-div.	931	0.486	0.482	24070	8518.67
Arambag Sub-div.	966	.489	0.491	9632	12.11
Hooghly	**947**	**0.488**	**0.486**	**68637**	**17979.01**

Note: Gender parity missing women: (0.5 * Total population – Female population)
Juvenile sex parity missing women: (RFT* Total population – Female population)
RFT: Ratio of female child to total child between age 0-6 years. AFR: Ratio of adult Female to total Population.

Source : Census, 2001

One striking observation that attracts our attention is that the fall in Juvenile male-female ratio turns out to be sharper in urban areas than in rural areas. So the problems of missing women are more visible in urban areas than in rural areas. The gender parity missing women in the district is estimated at the level of 68637. The incidence of missing women is predominant in urban Hooghly. It is highest in Serampur Municipality (6487) area and lowest in Haripal block (583). Among the sub-divisions of the district, the incidence of missing women is found to be the highest frequency in Serampur Sub-division and lowest in Arambag Sub-

division. On the other hand, the incidence of Juvenile sex parity missing women in the district is estimated at the level of 17979 with highest incidence in Champadani Municipality (4457.65) and lowest in Hooghly-Chinsurah Municipality(-35.69). Among the Sub-divisions of the district, the incidence of Juvenile sex parity missing women is highest in Chandannagar Sub-division (9122.62) and lowest in Arambag sub-division (12.11). In both the measures of gender disparity, Arambag Sub-division enjoys greater gender equality than the other sub-divisions of the district. It is to be noted in this regard that the sex ratios of Scheduled Castes (977) and Scheduled Tribes (1011) population of the district are much higher than that of the average population (947). Similarly, Juvenile sex ratios of SC and ST population are also found to be higher than that of the average population. Accordingly, the incidence of missing women is almost non-existent among Scheduled Tribes population while it is less acute for SC population.

5.2.2 Sex Ratio and Social Parity Index:

The difference in social status between men and women is judged through the sex ratio. Accordingly, a Social Parity Index(s) can be constructed in order to examine the extent of variation of social status between men and women across blocks and municipalities of the district.

$$S_{1i} = \frac{\text{Total female population}}{\text{Total male population}} * 1000 \qquad i = \text{block/municipality}$$

$$S_{1i}\ \text{Score} = \frac{S_{1i} - MinS_{1i}}{MaxS_{1i} - MinS_{1i}}$$

Table 5.2: Sex Ratio and Social Parity Index

Sub-division / C.D.Block / MC / M	F/M Sex Ratio	Social Parity Index(S)	Social Rank
Sadar Sub-division	958	0.70	2nd
Dhaniakhali	977	0.78	6
Pandua	985	0.81	4
Balagarh	948	0.66	13
Hooghly-Chinsurah(M)	961	0.72	8
Chinsurah-Mogra	923	0.56	16
Bansberia(M)	885	0.41	20
Polba-Dadpur	975	0.77	7
Chandannagar Sub-division	932	0.60	3rd
Tarakeswar	952	0.68	11
Tarakeswar(M)	882	0.39	21
Haripal	990	0.83	3
Singur	985	0.81	4
Bhadreswar(M)	828	0.17	23
Champdani(M)	785	0.00	25
Chandannagar(M.C)	927	0.58	15

Final Proof

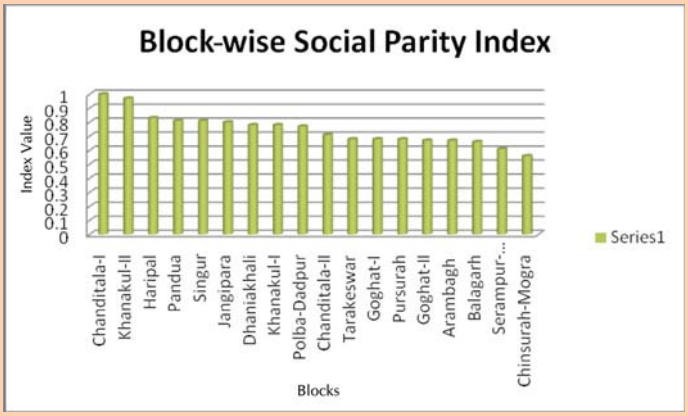
Table 5.2: Contd.

Sub-Division / C.D.Block / MC / M	F/M Sex Ratio	Social Parity Index(S)	Social Rank
Serampur Sub-division	931	0.59	4th
Jangipara	983	0.80	5
Chanditala-I	1031	1.00	1
Chanditala-II	959	0.71	9
Serampur-Uttarpara	935	0.61	14
Uttarpara-Kotrang(M)	908	0.50	18
Konnagar(M)	904	0.49	19
Serampur(M)	877	0.37	22
Baidyabati(M)	919	0.55	17
Rishra(M)	810	0.10	24
Arambagh Sub-division	966	0.74	1st
Goghat-I	952	0.68	11
Goghat-II	949	0.67	12
Arambag	950	0.67	12
Arambag(M)	954	0.69	10
Khanakul-I	977	0.78	6
Khanakul-II	1023	0.97	2
Pursurah	952	0.68	11
District Total	**947**	**0.66**	

Note: Social parity index is constructed by forming the dimension index of sex ratio: (Actual value – Minimum value)/ (Maximum Value – MinimumValue)

Source: Census, 2001

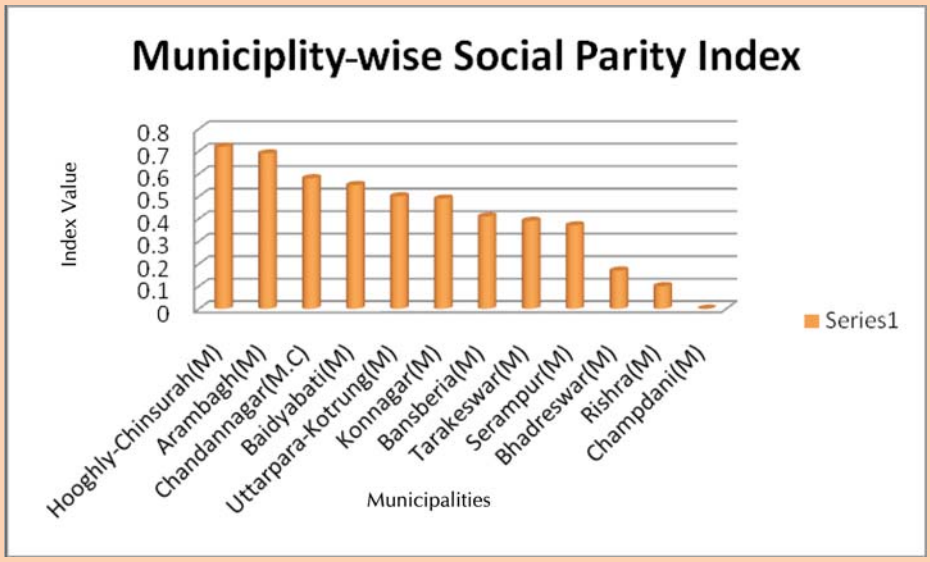
Fig. 5.1: Block-wise Social Parity Index



Source : Table 5.2

The ranking of blocks and municipalities has been made in ascending order of gender disparity. Under social ranking order blocks like Chanditala I, Khanakul II, Haripal and Pandua have acheieved higher degree of social parity between men and women, while Chinsurah-Mogra, Serampore, and Balagarh are suffering from greater gender disparity. In the district, broadly, there are not much significant variations across the blocks in terms of social parity index.

Fig. 5.2: Municipality-wise Social Parity Index



Source : Table 5.2

In municipality wise classification of social indicator of development it is found that gender parity is higher in municipalities like Hooghly-Chinsurah(M), Arambag(M) and Chandannagar(MC) while it is lower in Champdani(M), Rishra(M) and Bhadreshwar(M).

5.3 Access to Productive Resources and Gender Disparity:

Access to gainful employment and earnings is vital for control over resources as well as for participation in the decision making process, both within and outside the household. One of the fundamental aspects of gender discrimination, in almost all parts of the world, is the unequal access of women to gainful employment opportunities. A very substantial proportion of women remain outside the job market and even if they join the job market they normally get less remunerative and less secure informal jobs. However, the lower access to job market does not necessarily mean that women enjoy less work burden compared to men. In fact, women bear disproportionately high work burden within the family especially with respect to reproductive responsibilities, rearing children and other types of domestic works. Unfortunately, their contribution remains undervalued and unrecognized.

Workforce participation rate which is defined as the proportion of working population to total population can be used as an indicator of economic well-being. Disparity in workforce participation rate would reflect the degree of economic inequality between men and women. The workforce participation rate of Hooghly district (41.89 per cent of total population) is marginally lower than the State average (42.87 per cent of the total population). However, gender segregated workforce participation rate reveals that there is wide disparity in the access to productive resources for women in the District compared to the State average.

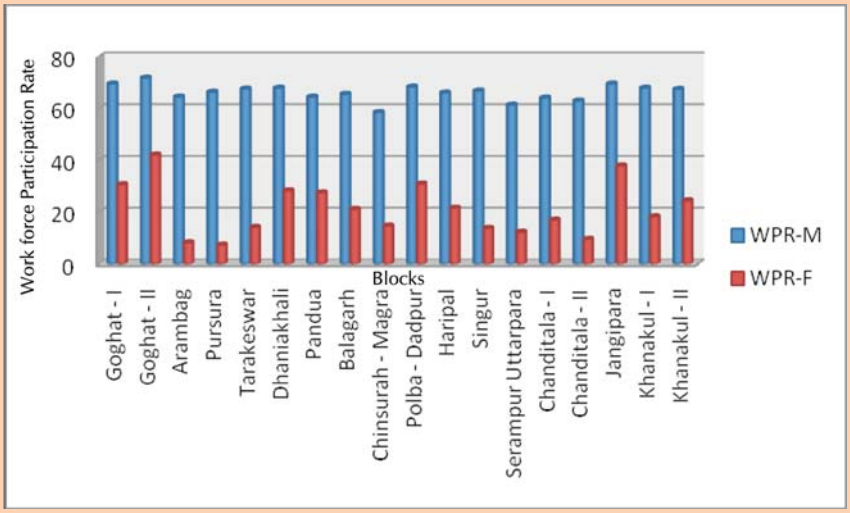
Final Proof

Table 5.3: Workforce Participation Rates in the Blocks of Hooghly District (Gender Break-up)

NAME	WPR	WPR-M	WPR-F
Goghat - I	50.55	69.49	30.65
Goghat - II	57.29	71.72	42.10
Arambag	37.04	64.43	8.18
Pursura	37.54	66.29	7.31
Tarakeswar	41.48	67.53	14.15
Dhaniakhali	48.27	67.83	28.30
Pandua	46.04	64.41	27.48
Balagarh	43.86	65.50	21.07
Chinsurah - Magra	37.46	58.49	14.65
Polba - Dadpur	49.79	68.28	30.87
Haripal	43.83	66.00	21.52
Singur	40.40	66.74	13.76
Serampur Uttarpara	37.61	61.33	12.26
Chanditala - I	40.01	64.05	16.92
Chanditala - II	36.77	62.91	9.53
Jangipara	53.79	69.47	37.89
Khanakul - I	43.31	67.84	18.20
Khanakul - II	45.49	67.39	24.35
Hooghly	41.89	64.16	18.36

Note: WPR is estimated excluding 0-5 years aged population
Source: Census, 2001

Figure 5.3: Disparity in Workforce Participation Rate (WPR) between Men and Women in the Blocks of Hooghly District



Source: Census, 2001

Final Proof

The workforce participation rate for male in the district is 64.16 per cent of total male population, but the female workforce participation rate is only 18.36 per cent of total female population. The female workforce participation rate of Hooghly district (18.36 per cent) is much lower than the State average female workforce participation rate (21.42 per cent). In other words, in terms of workforce participation rate the women in the district are lagging much behind the State average in enjoying access to productive resources. Moreover, there is wide intra-district variation in female workforce participation rate in Hooghly district. The female workforce participation rate is as low as 7.31 per cent for Pursura block while it is highest (42.10 per cent) in Goghat II block.

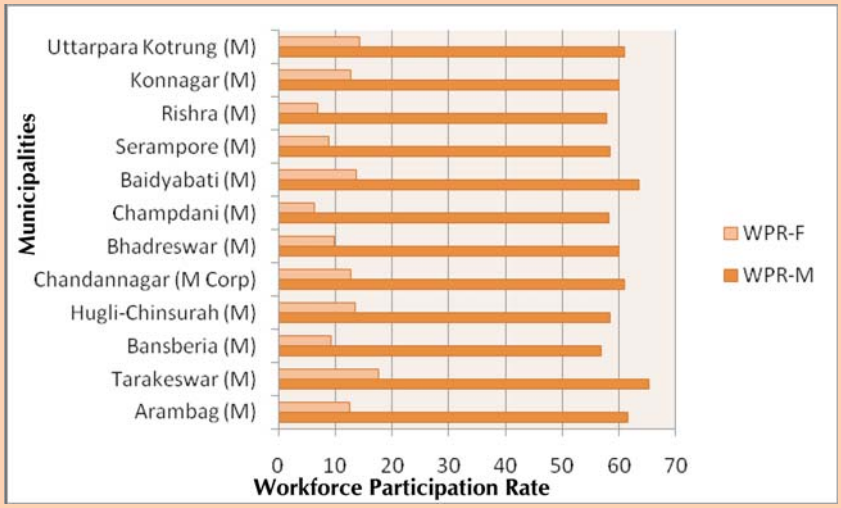
Table 5.4: Workforce Participation Rates in the Municipalities of Hooghly District (Gender Break-up)

NAME	WPR	WPR-M	WPR-F
Arambag (M)	37.70	61.68	12.56
Tarakeswar (M)	43.00	65.23	17.59
Bansberia (M)	34.56	56.82	9.25
Hooghly-Chinsurah (M)	36.41	58.42	13.51
Chandannagar (M Corp)	37.76	60.91	12.72
Bhadreswar (M)	37.52	60.08	9.83
Champdani (M)	35.64	58.19	6.17
Baidyabati (M)	39.74	63.57	13.76
Serampore (M)	35.25	58.37	8.75
Rishra (M)	35.23	57.94	6.77
Konnagar (M)	37.52	59.99	12.64
Uttarpara Kotrung (M)	38.83	61.10	14.23

Note: WPR is estimated excluding 0-5 years aged population

Source: Census, 2001

Fig. 5.4: Disparity in Workforce Participation Rate between Men and Women in the Municipalities of Hooghly District



Source: Census, 2001

Final Proof

It is interesting to note that female workforce participation rate of urban Hooghly (11.63 per cent) is much lower than the rural Hooghly (21.72 per cent). This can only be explained by the prevailing social stigma of restricting women to participate in availing economic opportunities outside the family. The municipality wise classification of female workforce participation rate reveals that access to productive resources is least in Champdani (M) while it is greatest in Tarakeswar (M).

5.3.1 Gender and Economic Parity Index

Women in Hooghly, lag behind men in terms of economic independence. According to 2001 census, overall 56.5% of men are workers, whereas only 16.16% of women are workers. The scenario is worse in the municipalities than in the blocks. It is found that only 5.97% of women in Rishra (M) are working compared to 51.89% of men. The situation is marginally better in the blocks, the best being Goghat II where 36.16% of women are working compared to 61.59% of men. To make matters worse, generally most of the working women are marginal workers, enjoying very low wage rates and are mostly casual workers.

Though there does exist a difference between the percentage of women and men who are working, this does not necessarily imply economic deprivation of women, as women are often unemployed by choice rather than by social compulsions. In fact, women often prefer to be homemakers when the family income is sufficient and this is reflected through the low work participation rates of women in some advanced municipalities where some other components of gender parity are high. What is more relevant is the fact that when women work, they are forced to work for low wages and that the percentage of marginal workers among women is far higher than the percentage among men. Under the circumstances, the economic parity component (M) is captured by the ratio between percentage of main workers among working women and percentage of main workers among working men. That is,

$$M_i = \frac{\%\text{ of main workers among working women}}{\%\text{ of main workers among working men}}$$, i for blocks and municipalities

$$M_i \text{ score} = \frac{M_i - MinM_i}{MaxM_i - MinM_i}$$

In Hooghly district, only 55.27% of the working women are working as main workers compared to 89.46% of the working men. Interestingly in the municipalities, where a very low percentage of women are working, the percentage of main workers among those working women is quite high. In Uttarpara-Kotrung (M), 84.47% of the working women are main workers compared to 95.48% of the working men. In Rishra (M) the ratio is 74.79 for working men and 93.75 per cent for working women. More striking is the fact that blocks where percentage of working women was higher, fare quite badly when we compare the percentage of main workers. In Goghat II, the percentage of main workers among working women is only 29.14% compared to 87.77% among working men. The worst offender in this case is Khanakul II where only 24.01% of the working women are main workers but 87.27% of the working men are main workers.

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Table 5.5: Economic Parity Components across Blocks and Municipalities of Hooghly District

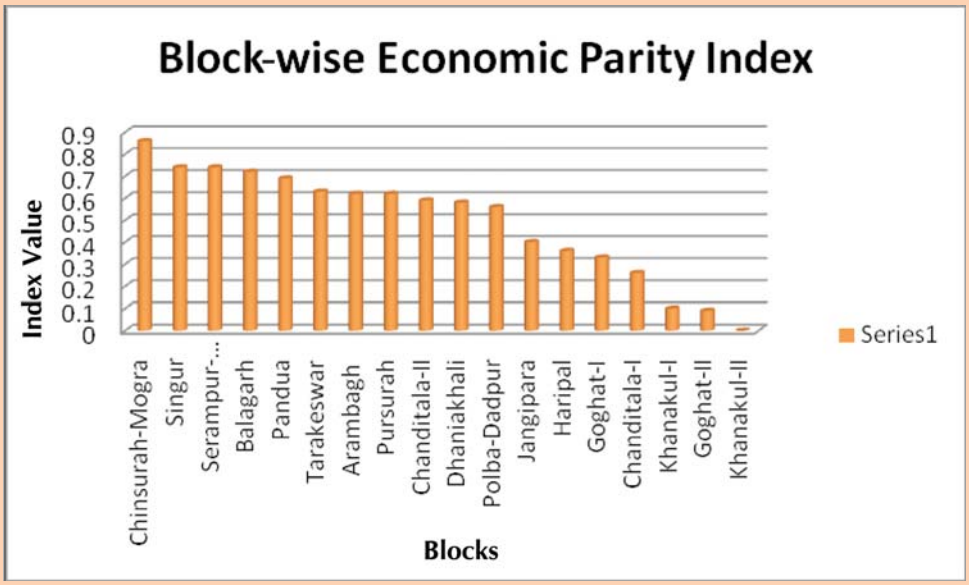
Sub-division / C.D.Block / MC / M	% of Population working			Main Worker (%)		Economic Parity Index		
	Total	Male	Female	Male	Female	Ratio	Score	Rank
District Total, 2001	36.88	56.50	16.16	89.46	55.27	0.62	0.54	
Sadar Sub-division								
Dhaniakhali	42.15	59.15	24.74	84.71	54.11	0.64	0.58	18
Pandua	39.89	55.68	23.86	81.99	58.17	0.71	0.69	14
Balagarh	38.47	57.42	18.49	90.18	65.91	0.73	0.72	13
Hooghly-Chinsurah(M)	33.46	53.68	12.41	93.72	83.64	0.89	0.98	2
Chinsurah-Mogra	33.03	51.61	12.91	89.35	73.35	0.82	0.86	9
Bansberia(M)	31.01	51.13	8.27	92.25	75.56	0.82	0.86	9
Polba-Dadpur	43.04	58.96	26.71	87.10	54.98	0.63	0.56	19
Chandannagar Sub-division								
Tarakeswar	36.53	59.45	12.47	89.76	60.18	0.67	0.63	15
Tarakeswar(M)	38.33	58.37	15.60	94.37	71.96	0.76	0.77	11
Haripal	38.30	57.57	18.83	82.93	41.66	0.50	0.36	21
Singur	36.03	59.40	12.29	92.80	68.72	0.74	0.74	12
Bhadreswar(M)	33.44	53.92	8.69	94.11	79.42	0.84	0.90	7
Champdani(M)	31.12	51.37	5.31	94.10	81.24	0.86	0.93	6
Chandannagar(M.C)	34.61	55.90	11.65	93.32	81.02	0.87	0.94	5
Serampur Sub-division								
Jangipara	46.43	59.84	32.78	88.12	46.64	0.53	0.40	20
Chanditala-I	34.44	54.87	14.63	90.85	39.73	0.44	0.26	23
Chanditala-II	32.53	55.66	8.44	91.86	59.19	0.64	0.59	17
Serampur-Uttarpara	33.66	54.86	10.98	89.86	66.68	0.74	0.74	12
Uttarpara-Kotrang(M)	35.47	55.90	12.98	95.48	84.47	0.88	0.97	3
Konnagar(M)	34.29	54.86	11.54	92.59	83.90	0.91	1.00	1
Serampur(M)	32.13	53.33	7.96	94.72	82.69	0.87	0.95	4
Baidyabati(M)	36.45	58.37	12.61	93.24	80.93	0.87	0.94	5
Rishra(M)	31.33	51.89	5.97	93.75	74.79	0.80	0.83	10
Arambagh Sub-division								
Goghat-I	43.52	59.83	26.38	91.28	44.23	0.48	0.33	22
Goghat-II	49.20	61.59	36.16	87.77	29.14	0.33	0.09	25
Arambagh	31.91	55.52	7.05	83.05	55.32	0.67	0.62	16
Arambagh(M)	33.24	54.39	11.07	88.97	74.40	0.84	0.89	8
Khanakul-I	36.89	57.79	15.51	89.82	30.33	0.34	0.10	24
Khanakul-II	39.05	57.47	21.03	87.27	24.01	0.28	0.00	26
Pursurah	32.87	58.07	6.40	90.62	60.57	0.67	0.62	16

Source: Census, 2001

N.B. % of working population has been estimated taking into consideration the total population (including 0-5 years aged population).

Final Proof

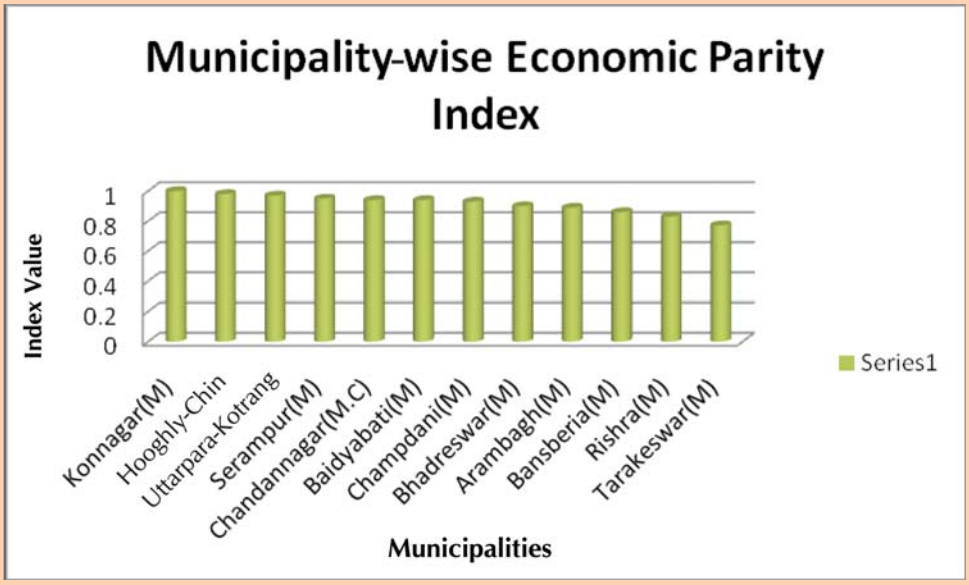
Fig. 5.5 Block-wise Economic Parity Index



Source: Census, 2001

The economic disparity in gender is found to be acute in blocks like Khanakul II, Goghat II and Khanakul I, while greater degree of gender related economic parity is observed in blocks like Chinsurah-Mogra, Singur and Serampur.

Fig. 5.6: Municipality-wise Economic Parity Index



Source: Census, 2001

The level of variation of gender related economic parity is found to be lower among the municipalities, compared to the block level variation. Konnagar(M), Hooghly-Chinsurah(M) and Uttarpara(M) enjoy greater degree of economic parity between men and women compared to worst performing municipalities like Tarakeswar(M), Rishra(M) and Bansberia (M).

5.4 Gender and Educational Attainment:

Formation of human capital is central to the notion of human development. It is considered as one of the fundamental means for expanding opportunities, building capabilities and safeguarding freedom. Access to education is essential for making informed choices and participation in political and economic process. Gender differences in educational attainment are one of the important indicators of relative well-being of women. In Hooghly, the general literacy rates are quite good. The average literacy rate for the district is 75.1%.[2] But there exists a difference in the rates between men and women. While the average literacy rate for men are 82.6% that for women is 67.2%. The lowest female literacy rate is recorded in Polba-Dadpur (57.3%), while the highest is in Uttarpara-Kotrung (M) (83.3%). As expected, the municipalities, in general have a higher rate of female literacy than the blocks. The enrolment rates and the retention rates of children are not very promising. However, in many areas, the enrolment and retention rates among girls are higher than boys! In Hooghly, only 49.73% of the boys are enrolled compared to 50.27% of the girls. This picture is prevalent in many blocks and municipalities, and the largest difference is in Chanditala I where 53.57% of the girls and 46.43% of the boys are enrolled. However, the retention rates are quite high, indicating that those who are enrolled complete at least six years in school. In Hooghly, the average retention rate is 92.83%. Girls score over boys in this respect, too. The retention rate among girls is 94.88% while that among boys is 90.86%. In Bansberia, Bhadreswar, Konnagar and Rishra municipalities, the retention rates are 100% among both boys and girls.

5.4.1 Gender and Educational Parity Index:

The difference in education between men and women is captured by the literacy rates (E_1), the enrolment ratios (E_2) and the retention rates (E_3). Since we are analyzing the disparity between boys and girls, the relative rates are more important than the absolute ones.

Let, $E_{1i} = \dfrac{\%\text{ of literates among females}}{\%\text{ of literates among males}}$, i = block/municipality

Then, E_{1i} score $= \dfrac{E_{1i} - MinE_{1i}}{MaxE_{1i} - MinE_{1i}}$

Again, let $E_{2i} = \dfrac{\text{Enrollment rate among girls upto the age of 8}}{\text{Enrollment rate among boys upto the age of 8}}$

Then, E_{2i} score $= \dfrac{E_{2i} - MinE_{2i}}{MaxE_{2i} - MinE_{2i}}$

Finally, let $E_{3i} = \dfrac{\text{Retention rate among girls up-to the age of 8}}{\text{Retention rate among boys up-to the age of 8}}$

Then, E_{3i} score $= \dfrac{E_{3i} - MinE_{3i}}{MaxE_{3i} - MinE_{3i}}$

Finally, let us define E_i score $= \dfrac{1}{3}(E_{1i}\text{ score} + E_{2i}\text{ score} + E_{3i}\text{ score})$

Final Proof

Table 5.6: Educational Parity Components And Ranking of Blocks And Municipalities of Hooghly District

	Lit Score	Enrol Score	Reten Score	Edu Score	Lit Rank	Enrol Rank	Reten Rank	Edu Rank
Sadar Sub-division								
Dhaniakhali	0.13	0.66	0.71	0.50	19	7	8	12
Pandua	0.23	0.84	0.68	0.58	16	2	9	9
Balagarh	0.36	0.29	0.61	0.42	12	17	13	14
Hooghly-Chinsurah(M)	0.93	0.76	0.71	0.80	3	5	8	3
Chinsurah-Mogra	0.48	0.56	0.49	0.51	11	9	19	11
Bansberia(M)	0.56	0.25	0.75	0.52	10	19	5	10
Polba-Dadpur	0.22	0.52	0.61	0.45	17	11	13	13
Chandannagar Sub-division								
Tarakeswar	0.23	0.24	0.65	0.37	16	20	11	17
Tarakeswar(M)	0.60	0.06	0.48	0.38	8	23	20	16
Haripal	0.33	0.00	0.60	0.31	14	26	14	19
Singur	0.56	0.47	0.77	0.60	10	14	4	8
Bhadreswar(M)	0.63	0.25	0.63	0.50	7	19	12	12
Champdani(M)	0.34	0.02	0.39	0.25	13	25	22	20
Chandannagar(M.C)	0.93	0.08	0.50	0.50	3	22	18	12
Serampur Sub-division								
Jangipara	0.24	0.70	0.63	0.52	15	6	12	10
Chanditala-I	0.58	1.00	0.92	0.83	9	1	2	2
Chanditala-II	0.73	0.78	0.72	0.74	6	4	7	4
Serampur-Uttarpara	0.78	0.49	0.78	0.69	5	13	3	5
Uttarpara-Kotrang(M)	1.00	0.63	1.00	0.88	1	8	1	1
Konnagar(M)	0.98	0.25	0.59	0.61	2	19	15	7
Serampur(M)	0.87	0.55	0.63	0.68	4	10	12	6
Baidyabati(M)	1.00	0.80	0.68	0.83	1	3	9	2
Rishra(M)	0.73	0.25	0.00	0.33	6	19	23	18
Arambagh Sub-division								
Goghat-I	0.01	0.05	0.56	0.21	23	24	16	21
Goghat-II	0.00	0.05	0.45	0.16	24	24	21	22
Arambag	0.11	0.43	0.63	0.39	20	15	12	15
Arambag(M)	0.34	0.32	0.51	0.39	13	16	17	15
Khanakul-I	0.03	0.51	0.73	0.42	22	12	6	14
Khanakul-II	0.09	0.22	0.68	0.33	21	21	9	18
Pursurah	0.19	0.28	0.67	0.38	18	18	10	16
District Total 2001	**0.45**	**0.64**	**0.60**	**0.56**				

Source: DISE data, 2008

N.B.: Literacy relates to population aged 7 years and above

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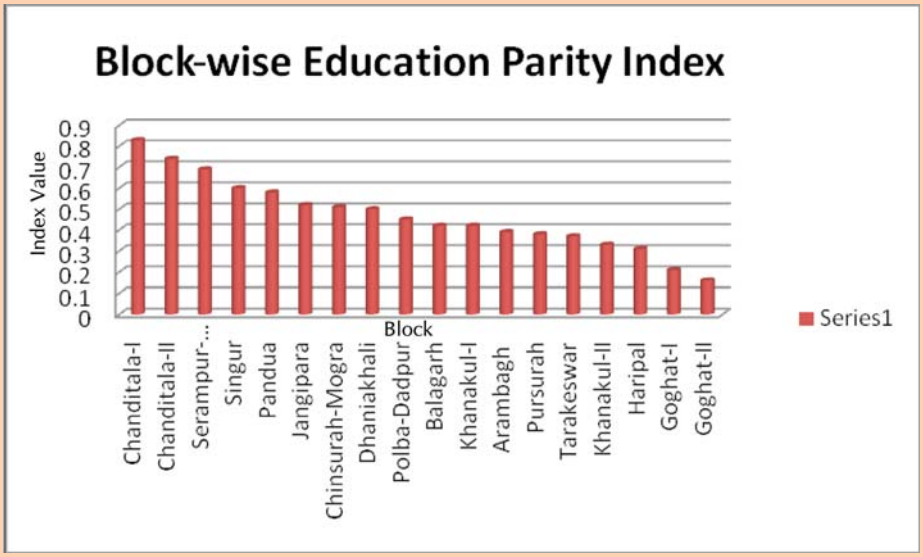
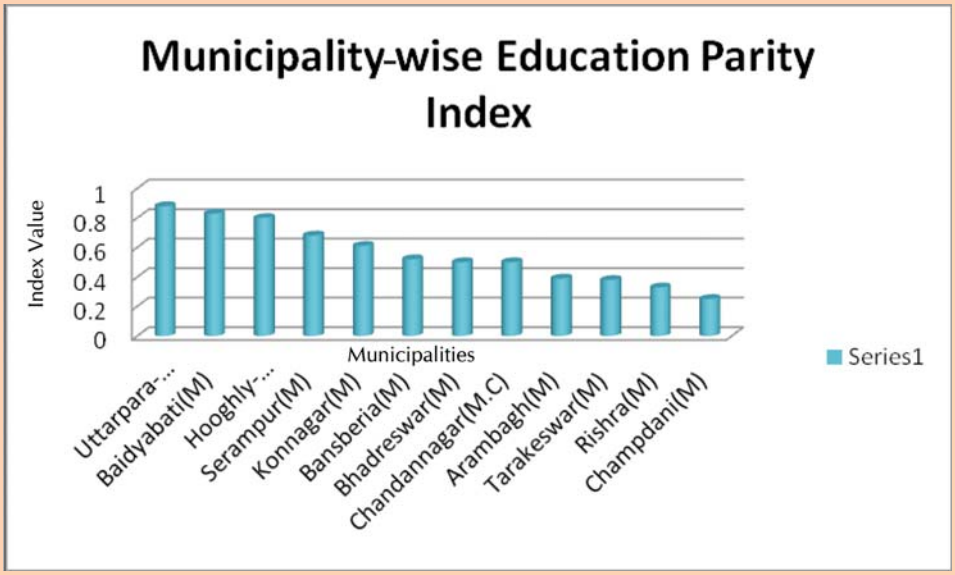
Girls fare best relative to boys in Pandua where the retention rates among girls and boys are 97.09% and 90.06% respectively. The worst is in Haripal where the rates are 87.3% and 90.31% respectively for girls and boys.

Fig. 5.7: Block-wise Education Parity Index.



Source: DISE Data, 2008

Fig. 5.8: Municipality-wise Education Parity Index



Source: DISE Data, 2008

Taking into account all these factors, we find that among all the blocks and municipalities in the district Uttarpara-Kotrung(M) has the highest level of parity between men and women so far as education is concerned, followed by Chanditala I,Baidyabati (M) and Hooghly-Chinsura(M). Most of the municipalities of the district fare better than the blocks in the educational disparity component, excepting Rishra (M) which ranks 26. Though the ratio of literates is not bad there, it falls behind in the retention rates and enrolment rates. In Goghat I & II, the disparity is the highest.

Final Proof

5.5 Gender and Health

Another area of concern is the nourishment and health care facilities that are available to women. While it is not possible to get data on how women are more prone to malnutrition and deficiency diseases, we have tried to estimate the maternal health care available to women in the blocks.

The outreach of maternal health is estimated by (i) the percentage of registered women who get 3 ANC s (H_1) (ii) percentage of institutional deliveries (H_2) and (iii) percentage of mothers who get PNC3 (H_3).

$$\text{Let, } H_{1i} = \frac{\text{No. of women who received three ANCs}}{\text{No. of women who were registered to receive three ANCs}} \quad \text{, i = blocks/municipalities}$$

$$\text{Define, } H_{1i} \text{ score} = \frac{H_{1i} - MinH_{1i}}{MaxH_{1i} - MinH_{1i}}$$

$$\text{Let, } H_{2i} = \frac{\text{No of institutional deliveries}}{\text{Total no. of deliveries}} * 100 \quad \text{and}$$

$$\text{Define, } H_{2i}score = \frac{H_{2i} - MinH_{2i}}{MaxH_{2i} - MinH_{2i}}$$

Further, let H_{3i} = (No. of mothers receiving 3 PNC/Total no. of births)*100

$$\text{And define, } H_{3i}score = \frac{H_{3i} - MinH_{3i}}{MaxH_{3i} - MinH_{3i}}$$

$$\text{Finally, let } H_i = \frac{1}{3}(H_{1i}score + H_{2i}score + H_{3i}score)$$

Table 5.7: Maternal Health and Health Care Index of Hooghly District

Blocks	% of ANC (H1)	ANC score Del	PNC 3/Tot (H3)	PNC score (H2)	% of Ins Delivery	ID score Index	Health Parity	Ranks
Dhaniakhali	65.79	0.32	0.49	0.36	75.22	0.50	0.39	18
Pandua	68.01	0.37	0.43	0.32	78.22	0.56	0.41	16
Balagarh	60.02	0.20	0.28	0.21	74.39	0.48	0.29	25
Hooghly-Chinsurah (M)	72.04	0.46	0.00	0.00	97.85	0.96	0.47	14
Chinsurah-Mogra	63.64	0.28	0.25	0.19	84.24	0.68	0.38	20
Bansberia (M)	73.80	0.50	0.48	0.35	100.00	1.00	0.62	5
Polba-Dadpur	64.26	0.29	0.36	0.26	81.37	0.62	0.39	19
Tarakeshwar	96.11	0.97	0.67	0.49	91.53	0.83	0.77	1
Haripal	74.61	0.51	0.81	0.59	78.36	0.56	0.56	9
Singur	78.80	0.60	0.35	0.25	92.31	0.84	0.57	7
Bhadreshwar (M)	78.26	0.59	0.64	0.47	81.83	0.63	0.56	8

Table 5.7: Contd.

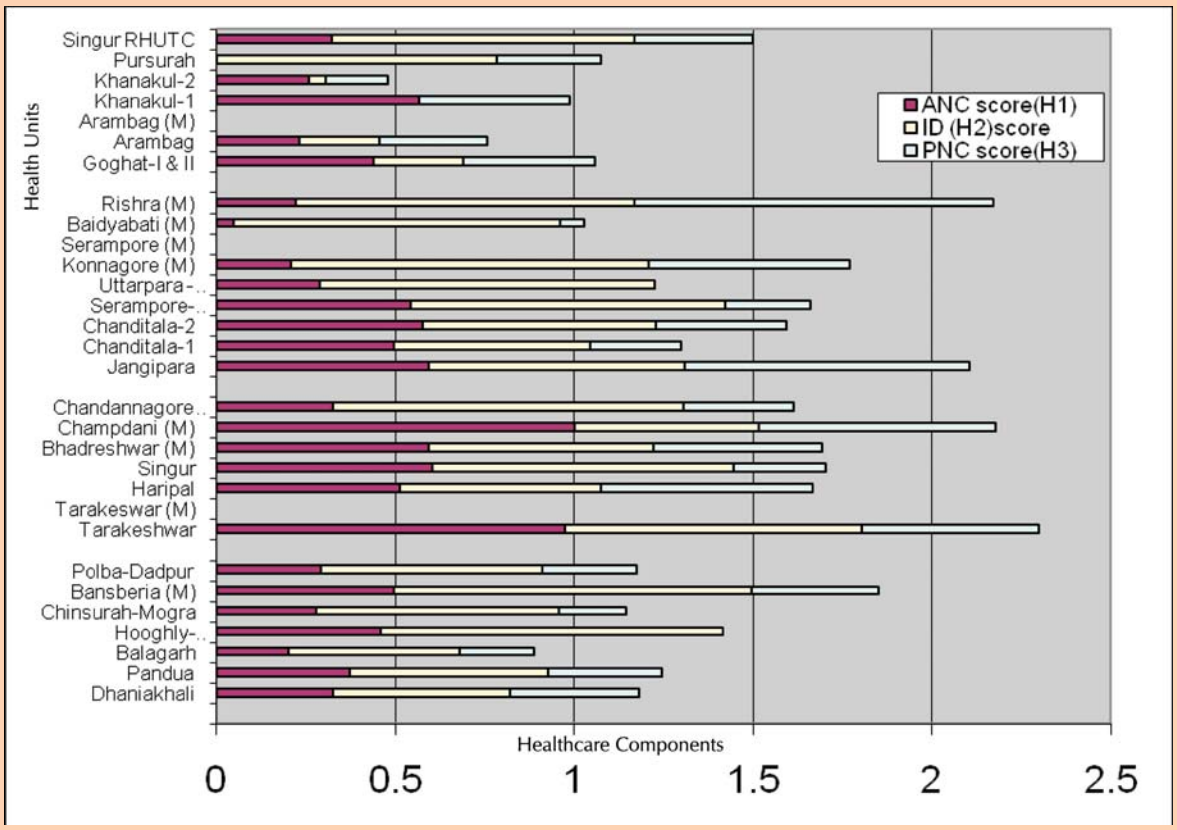
Blocks	% of ANC	ANC score (H1)	PNC 3/Tot Del	PNC score (H3)	% of Ins Delivery (H2)	ID score	Health Parity Index	Ranks
Champdani (M)	97.29	1.00	0.90	0.66	76.14	0.51	0.73	2
Chandannagore (M/C)	65.83	0.32	0.42	0.31	98.96	0.98	0.54	11
Jangipara	78.22	0.59	1.08	0.80	86.06	0.72	0.70	4
Chanditala-1	73.84	0.50	0.35	0.26	77.68	0.55	0.43	15
Chanditala-2	77.46	0.57	0.50	0.36	83.01	0.65	0.53	12
Serampore-Uttarpara	75.94	0.54	0.32	0.24	94.17	0.88	0.55	10
Uttarpara -Kotrung (M)	64.14	0.29	0.00	0.00	96.82	0.94	0.41	17
Konnagore (M)	60.42	0.21	0.76	0.56	100.00	1.00	0.59	6
Baidyabati (M)	52.85	0.05	0.09	0.07	95.80	0.91	0.34	23
Rishra (M)	61.05	0.22	1.36	1.00	97.39	0.95	0.72	3
Goghat-I & II	71.05	0.44	0.50	0.37	63.38	0.25	0.35	22
Arambag	61.44	0.23	0.41	0.30	61.93	0.22	0.25	26
Khanakul-1	77.02	0.56	0.58	0.42	50.91	0.00	0.33	24
Khanakul-2	62.77	0.26	0.23	0.17	53.15	0.05	0.16	27
Pursurah	50.72	0.00	0.39	0.29	89.38	0.78	0.36	21
Singur RHUTC	65.61	0.32	0.45	0.33	92.53	0.85	0.50	13
Rural Total	**70.08**	**0.42**	**0.77**	**0.57**	**77.12**	**0.53**	**0.51**	
Urban Total	**71.60**	**0.45**	**0.07**	**0.05**	**100.00**	**1.00**	**0.50**	
DISTRICT TOTAL	**73.17**	**0.48**	**0.63**	**0.47**	**84.45**	**0.68**	**0.54**	

Source: Office of CMOH, Hooghly, 2009

N.B: Relevant data for Tarakeshwar, Serampore and Arambag municipalities are not available.

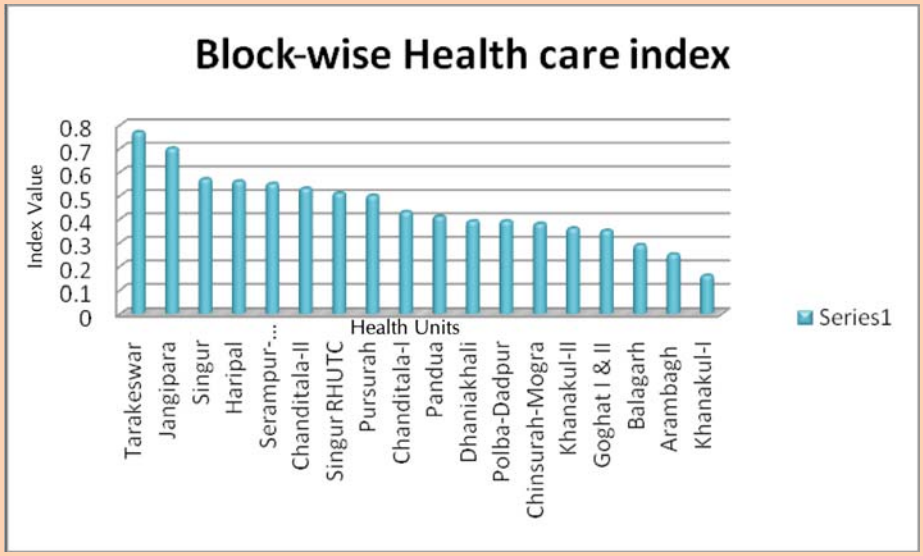
The percentage of institutional deliveries recorded is still quite low in many areas. And this does not take into account the deliveries at home which are unregistered. So, the actual percentages of institutional deliveries are much lower than they seem. The worst cases are Khanakul I & II where only 50.91% and 53.15% of the births are in institutions. The best are Konnangar (M) and Bansberia (M) where 100% of the births recorded are institutional. Another area of concern is the ante-natal care delivered to women. As proper estimates of pregnant women are not available, it is not possible to estimate the percentage of women receiving ante-natal and post-natal care. What we have observed is that even those who were registered for ANC, did not receive the stipulated three check-ups required. In Baidyabati (M), only 52.85% of the women registered received three checkups. The best performance was by Champadani (M) where 97.29% received 3 check-ups. The percentage of women given three post-natal cares after delivery was dismally low in most places. The lowest was in Hooghly-Chinsurah (M) and Uttarpara-Kotrang (M) where there are no records of anyone receiving 3 PNCs and the highest was in Rishra Municipality.

Fig. 5.9: Components of Maternal Health Care



Source: CMOH Hooghly, 2009

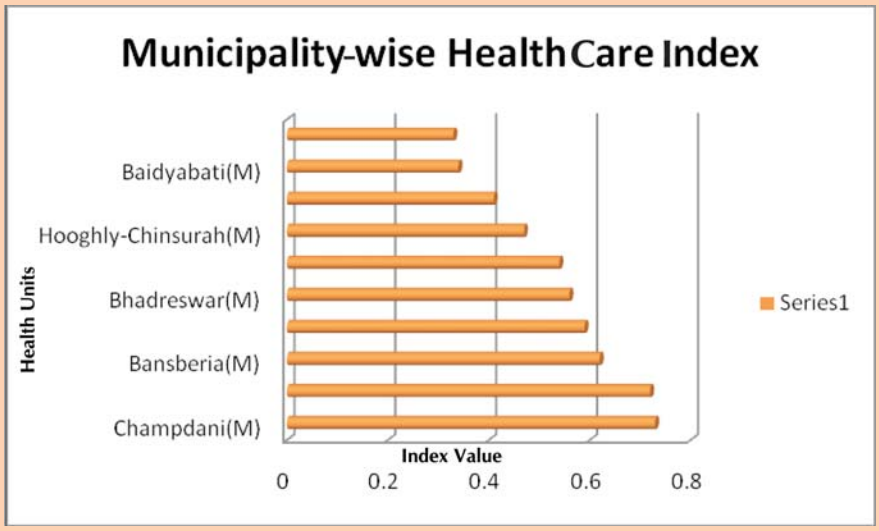
Fig. 5.10 Block-wise Health Care Index



Source: CMOH Hooghly, 2009

Taking into account all these aspects of maternal care, we observe that the best performance was by Tarakeswar, while the worst was by Khanakul I block.

Fig. 5.11: Municipality-wise Health Care Index



Source: CMOH Hooghly, 2009

Among the municipalities of the district, Champdani(M) experienced with best performing municipality in terms of maternal health care services while Baidyabati(M) is the worst performing municipality in the District in this regard.

Box 5.1

DHDR Hooghly, Primary Survey, 2009

Indoor Air Pollution and Health Hazard to Women

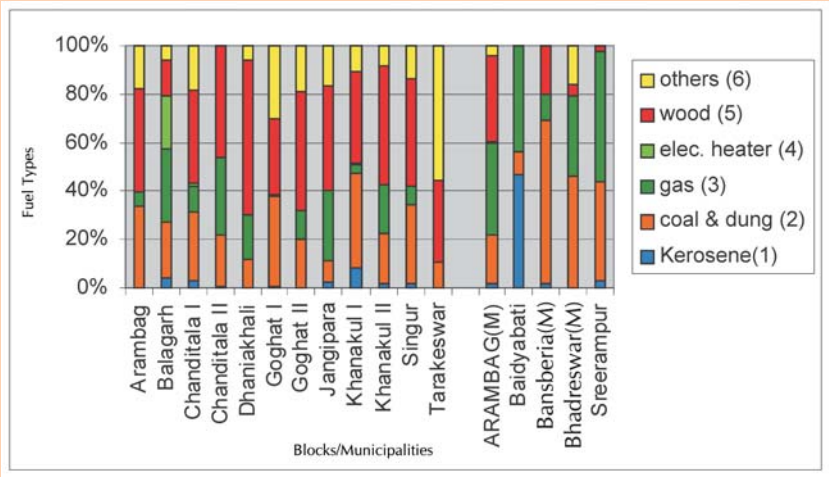
Indoor Air Pollution (IAP) generated while cooking with unprocessed bio-fuels is an important issue that needs to be addressed when discussing the gender bias in our society. Though this pollution was largely neglected for a long time, it now appears from various studies assessing the health impacts of IAP that this is as serious a problem, may be a greater one, than unsafe drinking water. Women and children below five years are the most affected by this pollution and this problem assumes alarming proportions in the backward and rural areas of the country. In India, more than 90 per cent of the households in small villages still rely on bio-fuels. Popular bio-fuels used are wood, coal, dung and crop residues. These generate pollutants like carbon monoxide, nitrogen dioxide, formaldehyde, benzene and carcinogens like benzopyrene. They pose serious health hazards and are potentially more dangerous as the victims are forced to live in very close proximity to the source of pollution. Parikh et al (2003) reports that IAP causes respiratory diseases like Acute Respiratory Infections (ARI), Chronic Obstructive Pulmonary Disease (COPD), lung cancer (mainly from coal), asthma, tuberculosis, low birth weight, cataract, etc. The long hours of cooking that women have to put in makes them extremely susceptible to these diseases.

A broad analysis of the different blocks and municipalities of the Hooghly district (Table below) reveal that the majority of the household still rely on wood, coal and dung instead of clean fuels gas, kerosene and electric heater that are used very rarely. Bansberia (M) report the highest use of polluting fuels (87.19%). Singur (76.97%), Khanakul II (76.94%), Chanditala II (75.58%) and Arambag (75.58%) also rank high in the use of dirty fuels. With the exception of Bansberia, the urban areas make lesser use of dirty fuels, so the urban women are less exposed to indoor pollution than the rural women. Baidyabati is extremely clean with only 10.31% households using polluting fules. In rest of the municipalities, the

use of dirty fuels is around 50%. The women put in two and half hours to three hours of cooking every day on an average. This implies that they are exposed to intense pollution continuously for this duration every day! That is, they are exposed to much more pollution than an average smoker and though we are regularly made aware of the hazards of smoking most of us are unaware of the much greater threat that women have to face everyday!!!

Table 1: Types of Fuel usage

Block/ Municipalities	Avg. hrs. of Cooking	Type of Fuel (%)					
		Kerosene (1)	Coal & Dung (2)	Gas (3)	Electric Heater (4)	Wood (5)	Others (6)
Arambag	2.40	0.00	33.02	6.28	0.23	42.56	17.91
Balagarh	2.89	4.09	23.05	29.74	22.30	14.50	6.32
Chanditala I	2.66	2.51	28.64	10.55	1.51	37.69	19.10
Chanditala II	3.25	0.43	21.21	31.60	0.00	46.75	0.00
Dhaniakhali	2.74	0.26	11.43	18.18	0.00	64.16	5.97
Goghat I	2.46	0.80	36.55	0.80	0.00	31.33	30.52
Goghat II	2.64	0.00	20.27	11.49	0.00	48.99	19.26
Jangipara	2.68	2.02	9.09	29.29	0.00	42.93	16.67
Khanakul I	2.86	8.27	39.10	3.01	0.75	37.84	11.03
Khanakul II	2.95	1.68	20.20	20.54	0.00	49.16	8.42
Singur	5.48	1.32	32.57	7.57	0.00	44.41	14.14
Tarakeswar	2.93	0.00	10.47	0.00	0.00	33.72	55.81
Arambag (M)	2.91	1.58	20.16	38.14	0.20	35.57	4.35
Baidyabati	2.74	46.25	10.31	43.13	0.00	0.00	0.31
Banshberia(M)	3.30	1.56	67.50	10.94	0.00	19.69	0.31
Bhadreswar(M)	3.38	0.00	45.69	33.50	0.25	4.57	15.99
Serampur (M)	2.97	2.51	41.38	53.61	0.00	2.51	0.00



Source : DHDR, Primary Survey, 2009

A major reason for this high use of polluting fuels is the lack of availability of clean alternatives and also perhaps the very low willingness to pay for them. Affordability also plays a major role in determining the fuel usage patterns. In the rural areas firewood and dung is cheap and easily available. That lack of availability is the predominant reason and it is clear from the fact that more households in the urban areas have switched to either kerosene or LPG. Also gathering wood from the surrounding forests is not an option available to the urban women.

The indoor air pollution can be reduced by improving ventilation in the cooking area, by using better stoves which require less fuel and generate less smoke and by switching to clean fuels for cooking. The government should step in to promote awareness regarding the hazards of using polluting fuels and also ensure that cleaner options are made available to the common people and less costly.

5.6 Gender Parity Index

While developing the District Human Development Index, one takes into account the average level of economic well-being, education level and health care available in a block/municipality and makes a comparative assessment among the blocks/ municipalities of a district. However, this index fails to capture the disparity in development between men and women. For that, we develop a Gender Parity Index which compares the difference in development between men and women in a block/municipality. A higher score implies that development is relatively more evenly spread across men and women in that block. The Gender Parity Index has four components: social, economic, educational and health care. The social component tries to capture the difference in social status between men and women, the economic component tries to capture the difference in the economic condition, the educational component captures the difference in the education level while the health component captures the gap between the desired and the actual level of health care available to women.[3]

The Gender Parity Index (GPI) has four components:

1. The Social Parity component (S)
2. The Economic Parity component (M)
3. The Educational Parity component (E)
4. The Health care facility component (H)

Each component has several sub-components and the performance of a block/ municipality with respect to any sub-component is evaluated by a sub-component score. The component score is then calculated as the average of all sub-component scores.

The Gender Parity Index

Taking into account the social, economic, educational and health disparities, the Gender Parity Index has been developed. Hooghly-Chinsurah (M) ranks first among all blocks and municipalities, i.e. there is least disparity between men and women in this town. Uttarpara-Kotrong (M) and Serampore (M) together occupy second position while Singur takes 3rd position. The worst performances are by Khanakul II and Goghat I & II.

3 For a more detailed explanation of the Index, see technical appendix.

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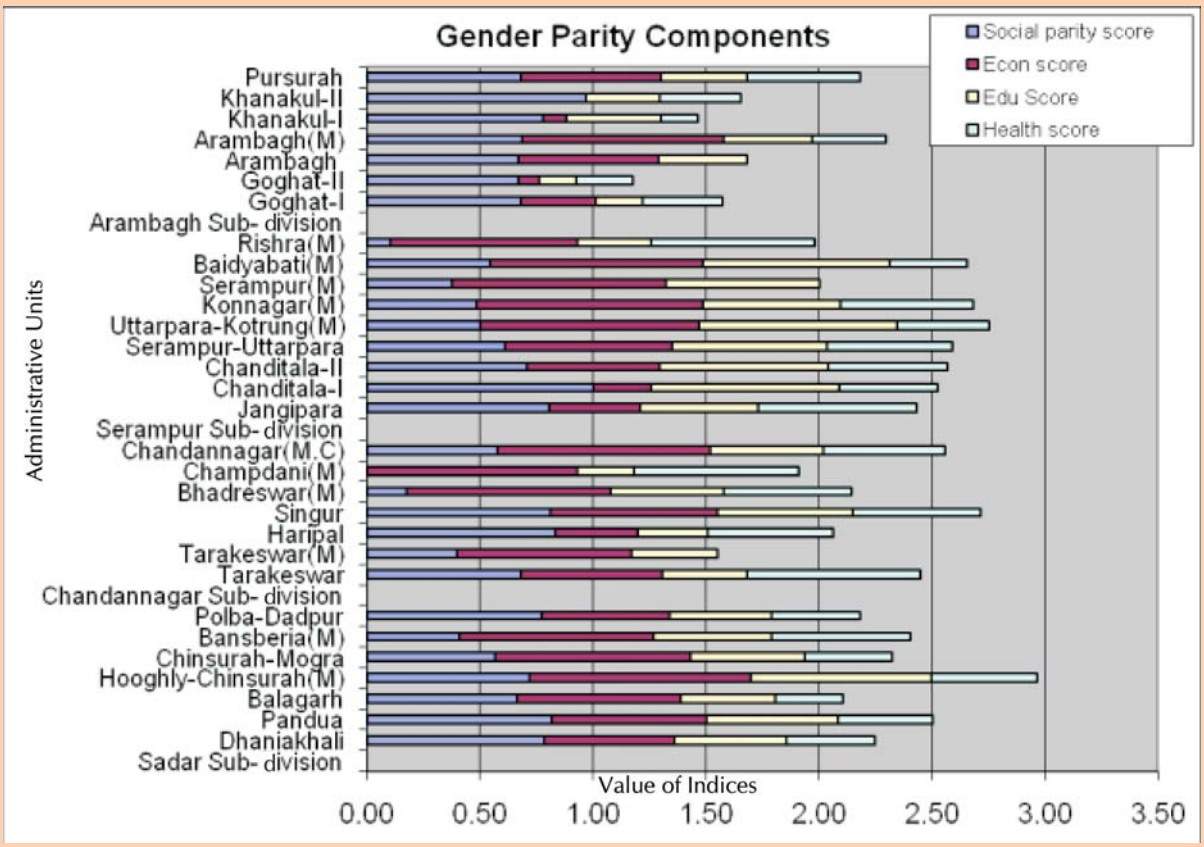
Table 5.8: Gender Parity Index of Hooghly District

	Social parity score	econ score	Edu score	H score	G score	Rank
Sadar Sub-division	0.70					
Dhaniakhali	0.78	0.58	0.50	0.39	0.56	17
Pandua	0.81	0.69	0.58	0.41	0.62	11
Balagarh	0.66	0.72	0.42	0.29	0.53	22
Hooghly-Chinsurah(M)	0.72	0.98	0.80	0.47	0.74	1
Chinsurah-Mogra	0.56	0.86	0.51	0.38	0.58	15
Bansberia(M)	0.41	0.86	0.52	0.62	0.60	14
Polba-Dadpur	0.77	0.56	0.45	0.39	0.54	20
Chandannagar Sub-division	0.60					
Tarakeswar	0.68	0.63	0.37	0.77	0.61	12
Tarakeswar(M)	0.39	0.77	0.38	NA	0.52	23
Haripal	0.83	0.36	0.31	0.56	0.52	24
Singur	0.81	0.74	0.60	0.57	0.68	3
Bhadreswar(M)	0.17	0.90	0.50	0.56	0.54	21
Champdani(M)	0.00	0.93	0.25	0.73	0.48	26
Chandannagar(M.C)	0.58	0.94	0.50	0.54	0.64	9
Serampur Sub-division	0.59					
Jangipara	0.80	0.40	0.52	0.70	0.61	13
Chanditala-I	1.00	0.26	0.83	0.43	0.63	10
Chanditala-II	0.71	0.59	0.74	0.53	0.64	8
Serampur-Uttarpara	0.61	0.74	0.69	0.55	0.65	7
Uttarpara-Kotrung(M)	0.50	0.97	0.88	0.41	0.69	2
Konnagar(M)	0.49	1.00	0.61	0.59	0.67	4
Serampur(M)	0.37	0.95	0.68	NA	0.67	5
Baidyabati(M)	0.55	0.94	0.83	0.34	0.66	6
Rishra(M)	0.10	0.83	0.33	0.72	0.50	25
Arambagh Sub-division	0.74					
Goghat-I	0.68	0.33	0.21	0.35	0.39	28
Goghat-II	0.67	0.09	0.16	0.25	0.29	30
Arambag	0.67	0.62	0.39		0.56	18
Arambag (M)	0.69	0.89	0.39	0.33	0.57	16
Khanakul-I	0.78	0.10	0.42	0.16	0.37	29
Khanakul-II	0.97	0.00	0.33	0.36	0.41	27
Pursurah	0.68	0.62	0.38	0.50	0.55	19
District Total 2001	**0.66**	**0.54**	**0.56**	**0.60**	**0.59**	

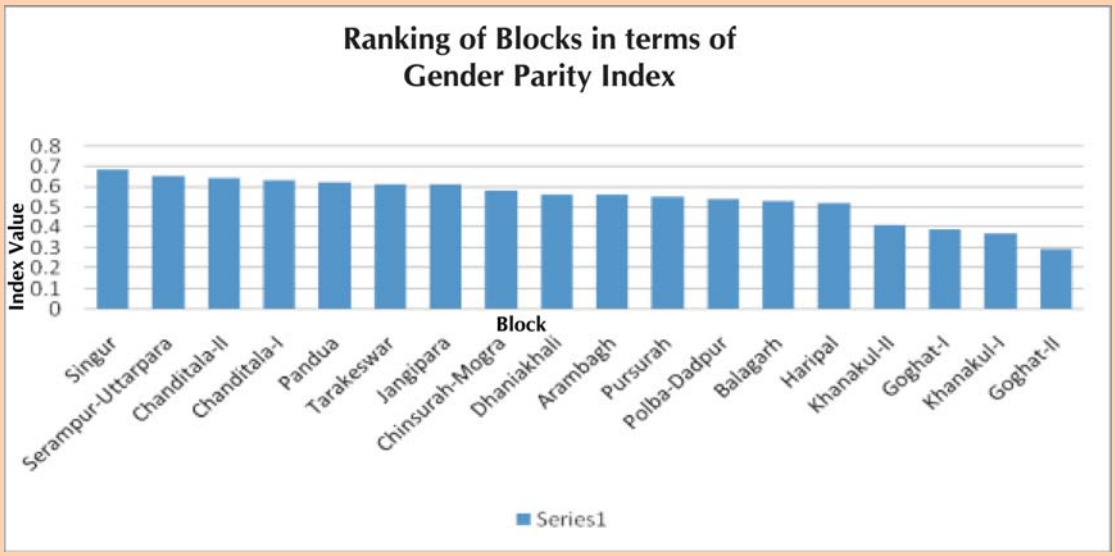
NA = Not Available. Source: Combined information of table 5.2, 5.5, 5.6 and 5.7.

Fig.5.12: Gender Parity Components of Blocks/Municipalities of Hooghly District



Source: Table 5.8

Fig. 5.13: Ranking of Blocks in terms of Gender Parity Index



Source: Table 5.8

The blockwise ranking reveals that Singur is the best block in terms of Gender Parity Index while Goghat II shows widest disparity between men and women in terms of Gender Parity Index.

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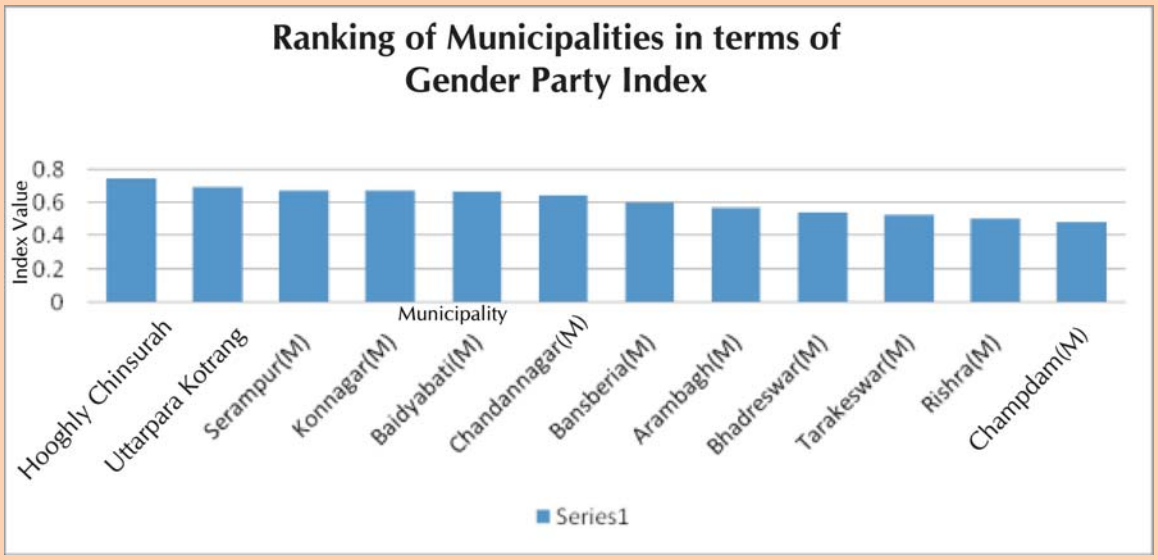
Fig. 5.14: Ranking of Municipalities in terms of Gender Parity Index



Source: Table 5.8

Among the municipalities, Hooghly-Chinsurah(M) has experienced greatest gender parity in socio-eonomomic indicators of development while in Champadani(M) disparity is the widest. It is to be noted in this regard that in terms of Gender Parity Index municipality level variations are much lower compared to block level variations

5.7 Self-Help Group and Women's Empowerment

Bangladesh Gramin Bank founded in 1975 by Mahammed Yunus is considered to be the pioneer of the origin of the concept of self-help groups and micro-finance to combat the problems of rural finance and rural poverty and to empower the vulnerable women. Since 1990's this concept has been acting as a wave to reduce rural poverty and to empower the women. Many countries of the world have started working on this concept to uplift the socio-economic conditions of the people in general and especially of the women. In India NABARD was set up in 1982, but, the real effort was taken after 1991-92 from the linkage of SHGs with the banks. An SHG is a small economically homogeneous affinity group of the rural poor voluntarily coming together to save small amounts regularly, which are deposited in a common fund to meet members' emergency need and to provide collateral free loans decided by the group. They have been recognized as a useful tool to help the poor and as an alternative mechanism to meet the urgent credit needs of the poor through thrift. SHGs enhance the equality of status of women as participants, decision-makers and beneficiaries in the democratic, economic, social and cultural spheres of life. The basic principles of the SHGs are: group approach, mutual trust, organization of small and manageable groups, group cohesiveness, spirit of thrift, demand based collateral free lending, women friendly loan, peer group pressure in repayment, skill training, capacity building and empowerment.

The movement of SHG and micro-finance based economic activities has emerged in a big way in the District of Hooghly. In recent years, the district witnessed an unprecedented interest in micro-credit and micro-finance in the form of group-lending. Hooghly district has taken a challenge and formed 27,550 SHGs covering 1,79,030 women under NABARD scheme exclusively with co-operative banking and disbursed Rs. 50.51 crore loans to improve the life of the rural poor. A number of NGO's all over the

Final Proof

district are actively involved in bringing the economically weaker sections of the population in the SHG net for meaningful participation in economic activities. With the instructions of the NABARD, commercial banks of the district are taking active role in forming effective SHGs to help the rural poor. Government sponsored rural development schemes like SGSY, PMRY, REGP etc. are being performed satisfactorily in the district in collaboration with the banking linkages. These schemes have generated meaningful employment to the weaker sections of people in the district especially to women.

Table 5.9: Women's Participation in SHGs

Blocks	Number of SHGs	% of Female Members	% of Male Members
Chinsurah-Mogra	44	83.2	16.8
Polba-Dadpur	82	72.2	27.8
Haripal	86	70.3	29.7
Tarakeswar	106	71.4	28.6
Balagarh	97	89.6	10.4
Goghat-I	124	85.0	15.0
Serampur-Uttarpara	143	87.7	12.3
Jangipara	134	94.1	5.9
Khanakul-II	137	88.6	11.4
Pursurah	163	82.8	17.2
Dhaniakhali	155	93.4	6.6
Pandua	180	82.7	17.3
Khanakul-I	203	77.7	22.3
Singur	222	84.1	15.9
Goghat-II	284	61.5	38.5
Chanditala-I	269	89.9	10.1
Arambag	427	80.5	19.5
Chanditala-II	175	90.7	9.3
Grand Total	**3031**	**82.3**	**17.7**

Source: DRDC, Hooghly, 2009

In Hooghly district, a large number of SHGs are present with a total of 3031. Most of these SHGs are run by female members (82.3%). This is very encouraging from the point of view of women empowerment. The participation of weaker sections in these SHGs is also quite high and that includes 55% of SC, 6% of ST, though the minorities are lagging behind. The average size of the groups is found to be 11 persons and SHGs have generated employment of 7201 persons.

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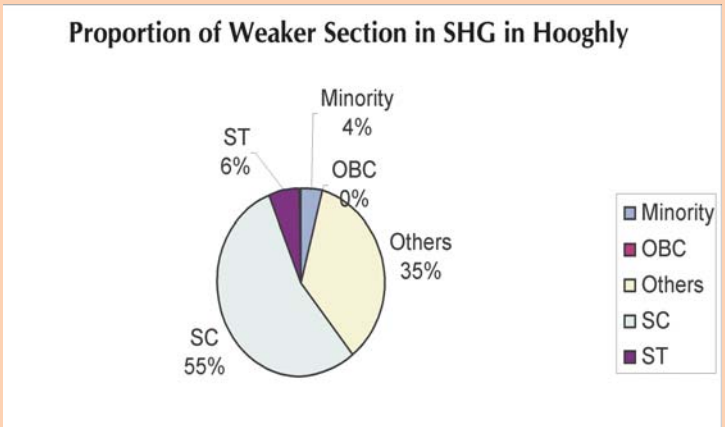
Fig. 5.15: Participation of Social Groups in SHGs in Hooghly District



Source: DRDC, Hooghly, 2009

Now if we look at the activities of these SHGs we find that among 3031 groups the major activity status of 2400 groups is not available which may be due to the fact that they are not presently in an operative stage. Most of the remaining 631 groups are engaged in activities like zori work, paddy processing, goatary, dairy, cultivation, poultry etc. details of which are given in Table 5.10.

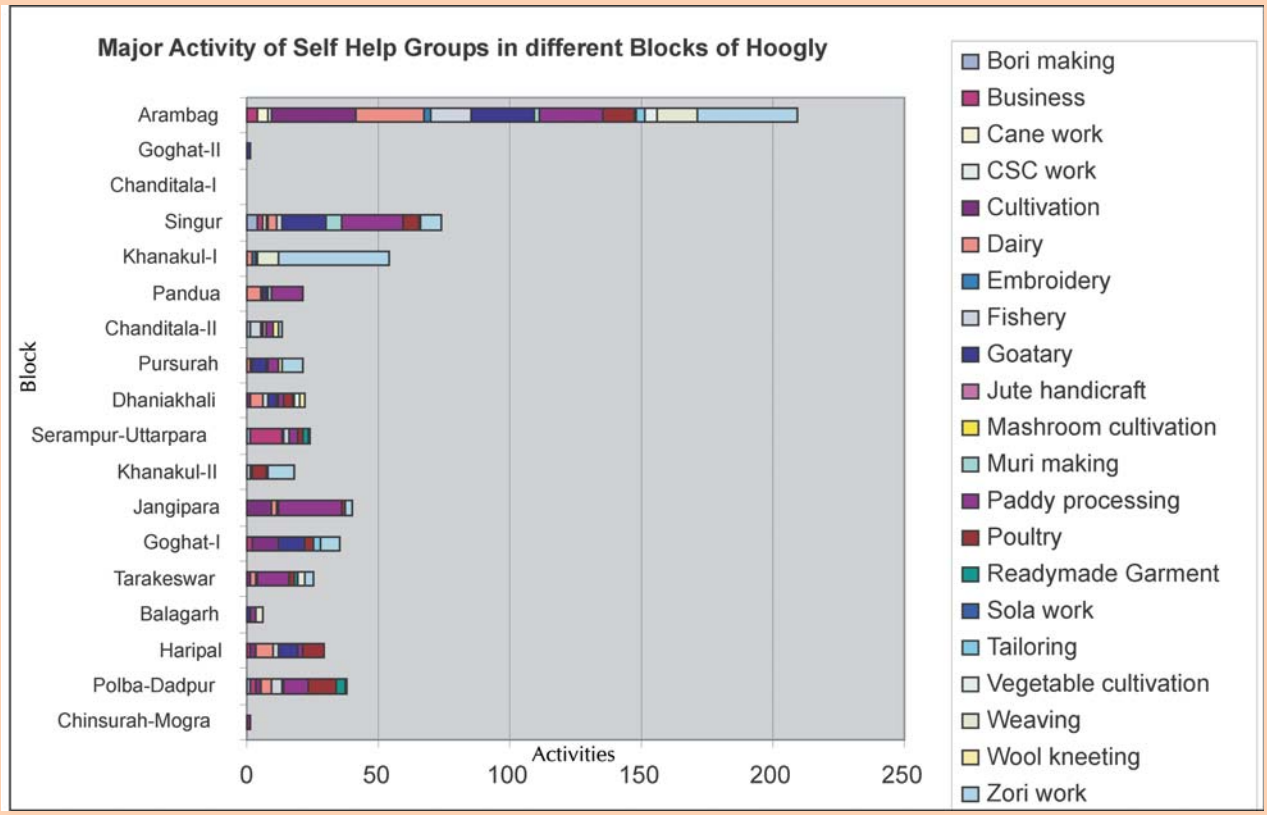
Table 5.10: Economic Activities of SHG Members

Major Activity	No. of SHGs	Percentage
Bori making	7	1.1
Business	23	3.6
Cane work	6	1.0
CSC work	1	0.2
Cultivation	59	9.4
Dairy	57	9.0
Embroidery	3	0.5
Fishery	35	5.5
Goatary	73	11.6
Jute Handicraft	1	0.2
Mushroom cultivation	3	0.5
Muri making	9	1.4
Paddy processing	121	19.2
Poultry	52	8.2
Readymade Garment	8	1.3
Sola work	1	0.2
Tailoring	9	1.4
Vegetable cultivation	8	1.3
Weaving	30	4.8
Wool knitting	5	0.8
Zori work	120	19.0
Total	631	100.00
Not Available	2400	
Grand Total	**3031**	

Source: DRDC, Hooghly, 2009

The SHGs help to spread the non-farm activities in the district. The highest number of active Self-Help Groups is found in Arambag where diary, goatary, poultry and paddy processing are the dominant economic activities of the SHG members. Next to Arambag is Singur where apart from above activities bori and muri making are very popular. However, the spread of non–farm activities through the formation of SHGs has not been found satisfactory in Chanditala-I, Chinsura-Mogra, Goghat-II, Bolagar blocks of the district where only a limited number of SHG activities are carried out.

Fig. 5.16: Major Economic Activities of SHGs in different Blocks of Hooghly District



Source: DRDC, Hooghly, 2009

5.7.1 The Promotion of Self-Help Groups by the Lead Bank of Hooghly (UCO Bank):

UCO Bank, the Lead Bank of Hooghly district, has been trying to establish linkages of the economically weak families with the banking networks through the formation of self-help groups specially under Swarnajayanti Gram Swarojgar Yojona(SGSY). Financing of self help groups is one of the most important activity of Lead Bank of Hooghly. Formation of self-help groups and financing thereof is being done mainly by Hooghly District Central Co-operative Bank. As on 31.03.2008, 27,550 groups have been formed and 24,620 have been credit linked involving 257 Primary Agricultural Credit Society(PACs) in 18 blocks. The total amount disbursed is Rs. 5,080.50 Lakh. The recovery is nearly 98 per cent. Non-government organizations (NGOs) have come up to form SHGs having credit linkage with nationalised banks. Around 4597 SHGs under SGSY have been formed in the district and out of them 3139 groups got revolving fund from DRDC as on 31.03.08.

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Table 5.11: Physical Achievement of Lead Bank in the Promotion of SHGs from 01.04.2007 to 31.03.2008

Sl. No.	Items	Total
1	No. of Self-Help Groups formed under SGSY programme (since 2000-01 to 2007-08 up to 31.03.2008)	5706
2.	Women Group formed under SGSY programme (since 2000-01 to 2007-08 up to 31.03.2008)	4063
3.	Passed Grade-I under SGSY programme (since 2000-01 to 2007-08 up to 31.03.2008)	4217
4.	Passed Grade-II under SGSY programme (since 2000-01 to 2007-08 up to 31.03.2008)	4217
5.	Loan application of SHGs submitted to different Banks (from 01.04.2007 to 31.03.2008)	116
6.	Subsidy disbursed to number of SHGs (from 01.04.2007 to 31.03.2008) (Total 889 members involved out of which SC: 480, ST 0 and Minorities 51 Women 667)	84
7.	Total No. of beneficiaries (from 01.04.2007 to 31.03.2008) (Primary sector 175, secondary sector 704, and tertiary sector 10)	889
8	No. of total SHG members trained out of (SC: 3994, ST 0 and Minorities 439 and Women 15186)	15429

Source: Hooghly District Credit Plan 2008-09, Lead Bank Hooghly

The following initiatives have been undertaken by the Lead Bank for the promotion of SHGs in Hooghly district:

A. Formation of Cluster and Sub-cluster of SHGs

Cluster is an organization of the rural women through which they can establish a network of linking the SHGs with other Government and Local Bodies and in the process engage themselves in income generating activities as well as in solving their own problems. Efforts have been made to form clusters with 15-25 female SHGs in order to strengthen the group activities in a more concentrated and cohesive manner. 6 clusters have been formed in 4 GPs of the pilot block of Serampur-Uttarpara. 49 clusters have been formed in 41 GPs of 14 non-pilot blocks. During 2007-08, 107 sub-clusters have been formed in 30 GPs of 17 blocks.

B. Kitchen Garden Training

Training on formation and maintenance of kitchen garden along with a kit containing vegetable seeds and fertilizers are provided to all members of all SHGs once in a year.

C. Poultry Training

Poultry training along with a training kit, containing 5 numbers of 285 days old chicks, were given to all members of all Grade-I passed groups.

D. Training on vermi-compost and mushroom Products

Special drives are initiated to encourage the SHG members to take up Vermi-compost and Mushroom production.

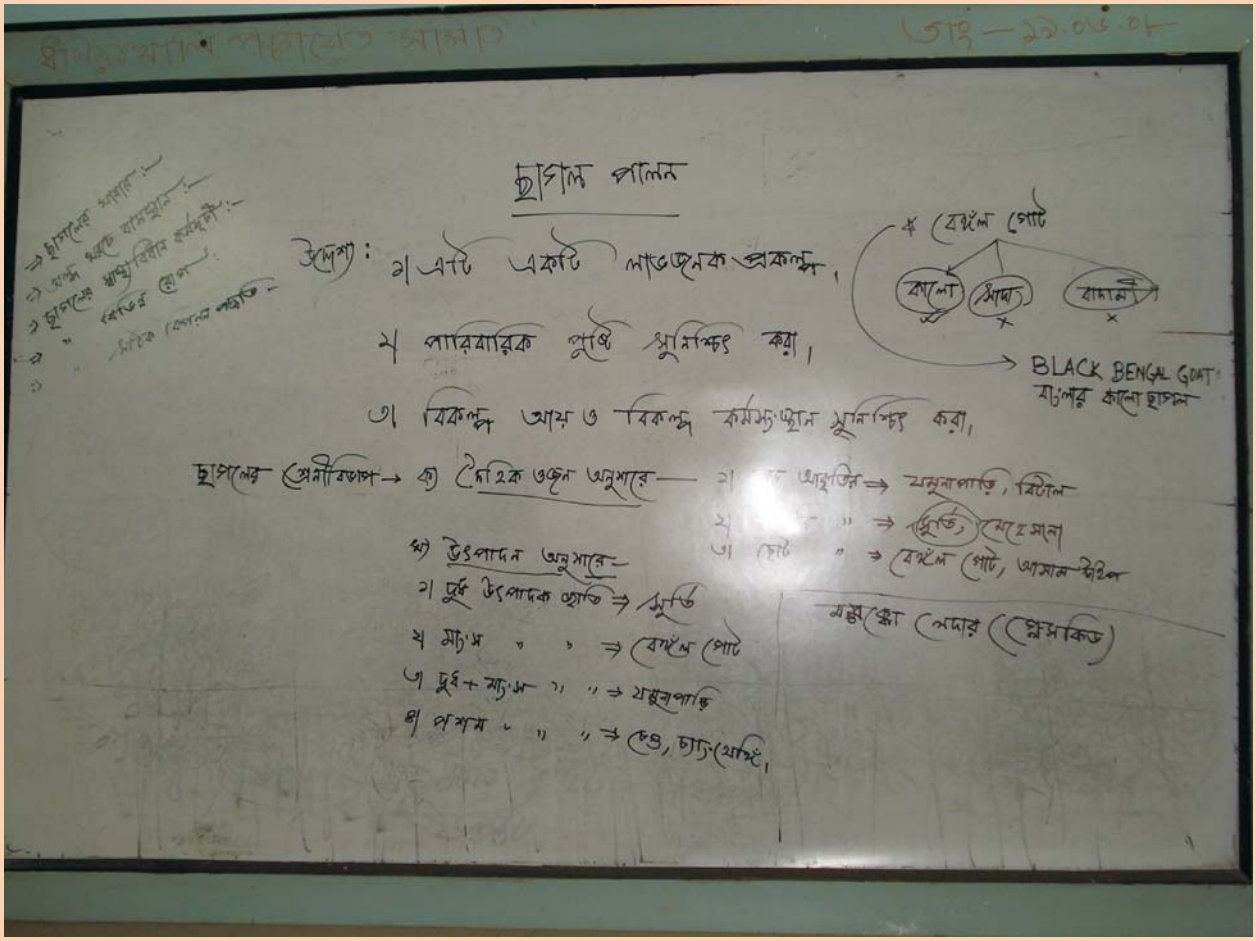
E. GP Level Trainers

420 number of SHG members from 170 GPs have been selected as Gram Panchayet level Trainers. They are imparted Trainer's training once in every two months at the District Level. They, in turn impart training on group management, record-keeping, credit utilization etc. to all SHGs within their respective Gram Panchayets.

F. Nursing-aid, Computer and Physiotherapy training for SHG members

Different types of professional training were also imparted to the SHG members like Nursing-aid Training, Physiotherapy Training, Training for Pathological-Lab Assistant and Computer Training. 161 SHG members have taken Nursing Training, 32 members have taken physiotherapy training, 17 members have taken Pathological-Lab Assistant Training and 59 members have taken Computer Training.

Box 5.2 : SHG and Women's Empowerment in Hooghly District



Empowerment of poor women is a process that enables individuals and groups to realize their full identity and powers in all spheres of their lives. This process provides opportunities for greater access to knowledge, skills and resources. Empowerment at individual level is assessed by the increase in

knowledge, skills and attitude effecting in better self-esteem and self-confidence. Poor women need more than income to improve the quality of life of their families and communities: they need increased information/knowledge, self-respect, self-confidence, skills and capacities, recognition from their family members and the community at large; their contribution to the family and the community be acknowledged and they be given opportunity to participate in decision making at various forum. Sri Sirshendu Paul and Sri Pankaj Kumar Paul two scholars of the Department of Economics of the University of Burdwan have made a study in 2008 in the Dhaniakhali Block of Hooghly district covering 130 women of 13 groups to assess the role of SHGs in empowering women belonging to Schedule caste and Schedule Tribe communities. The broad findings of the study can be summarized as follows: Formation of SHG in the region has brought about significant changes in the quality of life of the women belonging to SC/ST community especially in respect of three dimensions of empowerment namely social, economic and political empowerment.

SHG and Social empowerment of Women: Decision-making was one of the most important aspects looked into while studying the SHGs and empowerment of women through SHGs. The table below shows the level of enhancement of decision making power of the SC/ST women after joining the SHGs.

Participation in decision making		SC	%	ST	%	Total	%
Education of Children	Increased	18	67.00	74	71.84	92	70.77
	No Change	09	33.00	29	28.16	38	29.23
	Total	27	100.00	103	100.00	130	100.00
Investment/Loan	Increased	19	70.37	69	66.99	88	67.69
	No Change	08	29.63	34	33.01	42	32.31
	Total	27	100.00	103	100.00	130	100.00
Health Care	Increased	17	62.96	85	82.52	102	78.46
	No Change	10	37.04	18	17.48	28	21.54
	Total	27	100.00	103	100.00	130	100.00
Mobility	Increased	22	81.48	80	77.67	102	78.46
	No Change	05	18.52	23	22.33	28	21.54
	Total	27	100.00	103	100.00	130	100.00

Source: Field Survey, 2008

There is significant improvement in the decision making power of the women specially after joining the SHGs in respect of taking decision of sending children to the schools, making investment plans, taking decision in health care measures for children and to moving out from the family for availing economic and social opportunities .

Level of Knowledge of members about Legal Rights: SHGs in the district have helped the women to create a knowledge base of their legal rights.

Sl No	Statement	Known		Sources of Information			
		Number	%	SHG	%	Others	%
1	A daughter, widow and mother can inherit paternal property as equal to sons	92.0	70.77	45	48.91	47.00	51.09
2	Widows and divorced women are entitled to remarry	98.0	75.38	65	66.32	33.00	33.67
3	Marriageable age for girls is eighteen years and for boys is 21	109.0	83.85	78	71.56	31.00	28.44
4	Dowry giving and acceptance are prohibited	89.0	68.46	62	69.66	27.00	30.34
5	Women also have the right to divorce on the same ground as admissible for men	88.0	67.69	52	59.09	36.00	40.91
6	Immoral trafficking of women and girls is legally punishable	82.0	63.08	50	60.97	32.00	39.02
7	Women are entitled to get equal wage with men for same type of work	112.0	86.15	102	91.07	10.00	8.93
8	Right to education is a right for the child	97.0	74.62	42	43.29	55.00	56.7
	Average	95.6	73.75	62	63.86	33.87	36.13

Source: Field Survey, 2008

On an average a great majority (73.75 %) of respondents has the awareness on the legal rights relating to women and children. The source of this information is largely from the SHGs (63.86 %). It clearly indicates that even the poor women from the backward classes have a clear idea about their rights. In other words, SHGs in the region have played a significant role in enhancing the knowledge base of their legal rights.

Level of Information about Government Programmes and Schemes:

The following table shows the knowledge of the respondents about the Government Programme:

Sl No	Statement	Known		Sources of Information			
		Number	%	SHG	%	Others	%
1	Development programmes of the Government	56.0	43.08	34.00	60.71	22.0	39.28
2	National Rural Employment Gurantee Act	42.0	32.31	23.00	54.76	19.0	45.23
3	Integrated Child Development Schemes	58.0	44.62	28.00	48.27	30.0	51.72
4	Sampoorna Gram Swarojgar Yojana	69.0	53.08	53.00	76.81	16.0	23.18
5	Prime Minister's Rojgar Yojana	61.0	46.92	44.00	72.13	17.0	27.86
6	Average	57.2	43.99	48.41	62.41	20.8	31.74

Source: Field Survey, 2008

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Only 43.99 per ent of the women are aware of the selected developmental schemes of the Government. There is a need to create greater awareness in this regard.

Political Empowerment: Participation in Gram Sabha:

Participation in Gram Sabha is an indicator of political empowerment. SHGs are found to be an effective means to encourage poor women to participate in the Gram Sabha. The table clearly indicates that there is a marked increase in the participation of women in Gram Sabha specially after joining SHGs.

Caste	Participation in Gram Sabha					
	Before joining SHGs			After joining SHGs		
	Yes	No	Total	Yes	No	Total
SC	8.00	19.00	27	16.00	11.00	27
%	29.63	70.37	100	59.30	40.74	100
ST	33.00	70.00	103	88.00	15.00	103
%	31.04	67.96	100	85.40	14.45	100
Total	41.00	89.00	130	104.00	26.00	130
%	31.54	68.46	100	80.00	20.00	100

Source: Field Survey, 2008

Around 80 per cent respondents participated in Gram Sabha after joining SHGs. This percentage was as low as 31.54 per cent. The participation of ST members is found to be much higher than the SC community. Around 20 per cent of women did not participate in the Gram Sabha even after having three years of experience as an SHG member. Some members replied that uncomfortable sitting arrangements, time constraints and unsatisfactory discussion mode of Gram Sabha were the main reasons for not participating in the Gram Sabha Meetings.

Economic Empowerment and lesser dependency on Informal Sources of Credit:

The formations of SHGs and associated economic activities have brought about economic empowerment through the generation of productive employment and income avenues. This has led to reduce the dependency of the members to the informal sources of credit. The following table gives a picture about the sources of credit of the respondents before and after joining SHGs.

Sources of Credit	Before Joining SHG	%	After Joining SHG	%
Money Lenders	69	53.07	14	10.76
Informal Borrowing from friends and relatives	38	29.23	18	30.84
Banks	9	6.92	11	8.46
SHG's	-	-	79	60.76
Not taken	14	10.76	8	6.15
Total	130	100.00	130	100.00

Source: Field Survey, 2008

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From the above table it is clear that the dependency on money lenders is reduced by a significant level. Moreover, SHGs have become a major source of rural credit to the rural poor. Thus, the degree of exploitation of rural poor by the money lenders has been reduced to a significant extent. Still, 10.76 per cent of the respondents had to depend upon the money lenders for their credit needs. This is mainly because of the fact that they could not get sufficient amount of required credit from the SHGs in times of needs.

SHG and Capacity Building:

SHGs play a significant role in capacity building to the women belonging to the weaker sections of the society. GP level resource persons and NGOs play leading roles for capacity building and skill development of the SHG members through various training programmes.

General skills	After Joining SHGS				
	Increase		Remain Same		Total
	SC	ST	SC	ST	
Speaking in public meetings	18 (13.64)	90 (69.23)	9 (6.92)	13 (10.00)	130 (100.00)
Presenting programmes in public meeting	15 (11.53)	87 (66.92)	12 (9.23)	16 (12.30)	130 (100.00)
Freely and frankly speaking in SHGs meetings	23 (17.69)	98 (75.38)	4 (3.07)	5 (3.84)	130 (100.00)
Taking leadership position in SHGs	8 (6.15)	36 (27.69)	19 (14.62)	67 (51.53)	130 (100.00)
Writing minutes in SHGs meetings	6 (4.61)	32 (24.61)	21 (16.15)	71 (54.61)	130 (100.00)
Keeping of accounts of SHGs	9 (6.92)	35 (26.94)	18 (13.84)	68 (52.30)	130 (100.00)
Operating bank transactions	9 (6.92)	30 (23.07)	18 (13.84)	73 (56.15)	130 (100.00)
Going to Government Departments	22 (16.92)	86 (66.15)	5 (3.86)	17 (13.07)	130 (100.00)
Talking to Government Officials	16 (12.30)	77 (59.23)	11 (8.46)	26 (20.00)	130 (100.00)
Average	(10.78)	(48.80)	(10.00)	(30.42)	(100.00)

Note: figures in the bracket indicate percentage of the total.

Source: Field Survey

The above table shows the picture of capacity building of the respondents. Good response is found in the case of speaking in public meeting, presenting programmes in the public meeting, freely and frankly speaking in the SHG meetings, going to government departments and talking to the government officials. The average response in these cases is above 59 per cent for the ST communities and for SC the

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percentage is around 11 per cent. Regarding skills for taking leadership position in SHGs, the result is not found satisfactory. Only 33.84 per cent of the respondents are found to be capable of taking the leadership role in SHG activities while remaining 66.15 per cent are lacking confidence of performing the leadership role in the SHGs. The access to Bank has increased significantly to the respondents after joining SHGs. Moreover, the members of the SHGs in the district have received various training programmes to enhance their capabilities like agriculture based training like goatery, piggery, etc., training on organic farming, land and watershed management training, aquaculture etc. Undoubtedly, the movement of SHGs in the district has brought about significant changes in the lives of women belonging to the weaker sections of the society.

PEOPLESPEAK SURVEY, 2009:

Box 5.3 ***SHG: a success story***

Almost a Perished Heart seen the Light of Life

Suk Tara, a 35 years old widow, lost her husband when she was only 30. Her husband, a marginal farmer, died out of Diarrhoea in 2004. After the death of her husband, Suk Tara fell into the mid-sea with her two sons and one daughter. She could not even provide two square meals a day to her sons and daughter leaving aside their education and health care measures. In the meanwhile she had to sell out half acre of cultivable land, which was the only property of the family, for the treatment of her

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youngest son. Subsequently, her destiny made her a house maid. But her earnings were insufficient to run a family of four members. Even to meet the daily consumption needs she had to take loan in kind, from a village trader-cum-money lender, which she used to repay after getting the monthly payment from the lady of the house where she used to work as maid. The trader-cum-money lender used to charge Rs. 5/- per month per 100 rupees of loan in kind. This amounts to 60 per cent interest rate per annum. Imagine the nature of exploitation. In many a time, she defaulted to repay the debt and she had to work in his land for repaying the same. A time came when even her neighbours used to overlook and bypass her on the apprehension that she would seek assistance (either in kind or in cash) from them. She lost her self respect. Her life became full of struggle for earnings livelihoods for her children.

One day when she was threshing paddy in the field as wage labour , a ZP level SHG promoting resource person approached her to join an SHG. Suk Tara hesitated and finally refused to join the SHG because she did not have any assured income earning opportunity to contribute Rs. 50/- per month which was the bare necessity of joining the SHG. The next week the same resource person again approached Suk Tara along with other group members and convinced her about the future socio-economic prospects of SHG members. With a patient hearing, Suk Tara reluctantly accepted to join the group with a condition that she would pay the monthly contribution in installment at the rate of Rs. 12.50 per week. She joined an SHG. In the beginning she used to do *Zori* work after doing her normal daily activities. Accordingly, she used to earn additional Rs. 35-50 per week. Within six months the SHG came under Bank Linkage programme and she took a loan of Rs. 2000/- from the group. After taking training from the group, she started the business of paddy processing and husking. At first she purchased a bag of paddy of 60 kilograms and after the process of boiling, drying etc. she husked the paddy in the nearby mill and sold rice in the local market. In her first effort, she earned Rs. 60/- plus the paddy residue (known as *Kunra*) which she sold out as cow fodder. This profit of Rs. 60/- within 4 days acted as an incentive to work hard. In the first month altogether she earned Rs. 450/-.This brought about a new hope of life to Suk Tara. Gradually, she increased her economic activities with constant encouragement from the group members. Being a part of SHG and its associated economic activities she made herself economically self-reliant. Suk Tara now can give two square meals a day to her sons and daughter without much hurdle. She sent her children to schools. Now her eldest son studies in class IV, second son in class II and she is planning to send her daughter to school. The neighbours no longer overlook and bypass her. On the contrary, other economically vulnerable women of the locality come to her for financial support. Such is the economic and social empowerment made possible through a SHG. Almost a perished heart has seen the light of life and the journey for a better tomorrow begins.

5.8 Crimes against Women in Hooghly:

Although women may be the victims of any of the general crimes such as murder, robbery, cheating etc, only the crimes which are directed specifically to women are characterized as *crimes against women*. The incidence of crimes against women reflects the degree of insecurity of women in the society and thus acts as hindrance to freedom of movement. It also manifests the law and order situation of a society. Rape, kidnapping, abduction, dowry death, torture, molestation, eve teasing, sexual harassment, immoral trafficking etc. are the commonly observed crimes against women.

Final Proof

Incidence of registered crimes against women in the district is showing a slightly rising trend during 2007-2009. In 2007, 795 cases of crimes against women were registered in the district which increased to 802 cases in 2008 and 825 cases in 2009.

Table 5.12: Reporting Cases of Crime Against Women in Hooghly District (2007-08)

Sl. No.	Year	2007		2008		2009	
	Section under IPC	Cases registered	Disposal of cases (including the balance of the previous year)	Cases registered	Disposal of cases (including the balance of the previous year)	Cases registered	Disposal of cases (including the balance of the previous year)
1.	498A/304B	14	69	17	21	23	02
2.	408A 306	59	69	55	64	54	50
3.	498A	549	559	557	553	580	523
4.	376	57	44	55	64	44	50
5.	363/365/366	42	31	51	38	73	72
6.	354	22	23	20	22	20	19
7.	Other IPC section	52	37	37	38	31	23
8.	Immoral Traffick Act	–	–	02	00	–	–
Total		**795**	**773**	**802**	**802**	**825**	**739**

Source: Superintendent of Police, Hooghly, 2009

Note: IPC Act:—

498A :- Husband or relative of the husband of a woman subjecting her to cruelty.

304 :- Punishment for culpable homicide not amounting to murder.

306 :- Abetment of suicide.

376 :- Punishment for rape.

363 :- Punishment for kidnapping.

365 :- Kidnapping and abducting with intent to secretly and wrongfully confine person.

366 :- Kidnapping, abducting or inducing women to compel her marriage.

354 :- Assault or criminal force to women with intent to outrage her modesty.

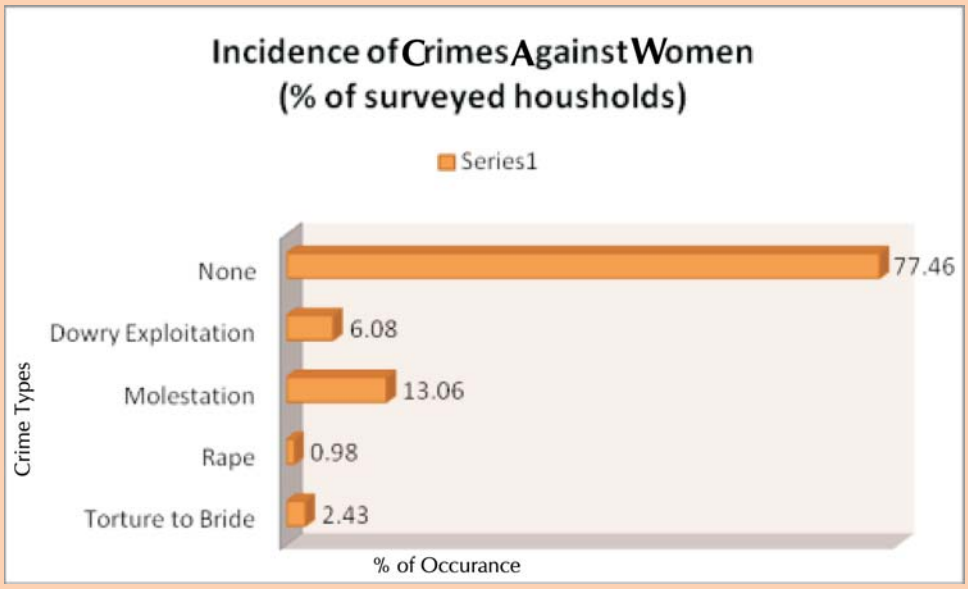
The majority of the cases of crimes against women (70.30 per cent) came to trial under section 498A of Indian Panel Code Act where husband or relative of husband of a woman subjected her to cruelty. Kidnapping was found to be the next frequent form of crime reported in the district.

Table 5.13: Incidence of Crime in various Social Groups in Hooghly District (% of total households) during last five years

Incidence	SC	ST	Muslim	Non-Muslim	Total
Torture to bride	1.56	0.72	1.46	2.97	2.43
Rape	1.25	0.45	0.84	0.87	0.98
Molestation	14.07	9.5	11.92	14.21	13.06
Dowry / Exploitation	6.25	2.97	6.69	5.85	6.08
None	76.86	86.29	79.08	76.11	77.46
Total	**1279 (100)**	**138 (100)**	**557 (100)**	**3435 (100)**	**5409 (100)**

Source: DHDR Primary Survey, 2009, Hooghly

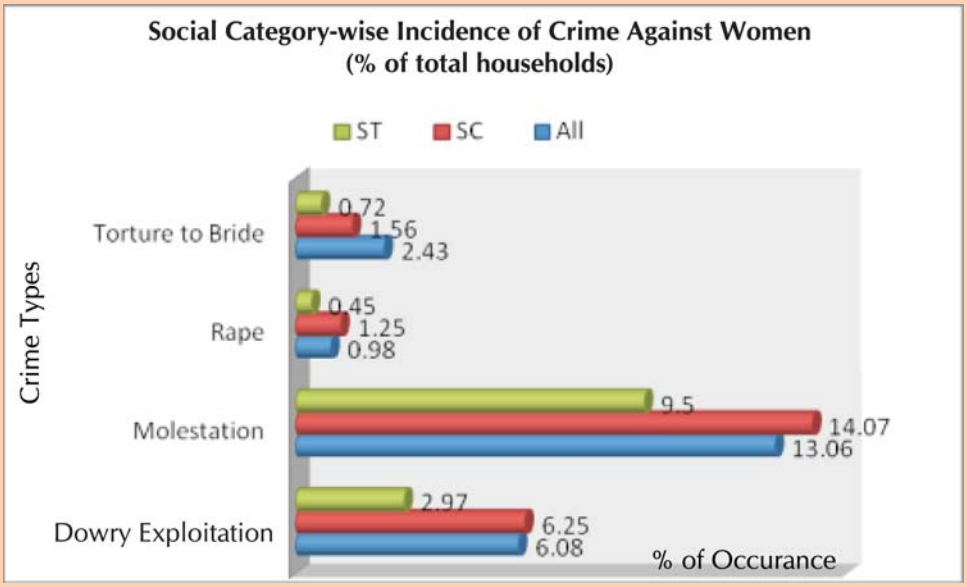
Figure 5.17: Incidence of Crime Against Women (% of surveyed households)



Source: DHDR Primary Survey, 2009, Hooghly

In Hooghly district, out of 5409 number of surveyed households, 77.46 per cent of the households did not experience any kind of crimes against women. The remaining 22 per cent of households experienced crimes against women in any of the forms like dowry exploitation, eve teasing or molestation, rape or killing of brides. The highest incidence of crimes occurs in the form of eve teasing and molestation (13.06 per cent), followed by dowry exploitation (6.08 per cent), torture to brides (2.43 per cent) and rape (0.98 per cent).

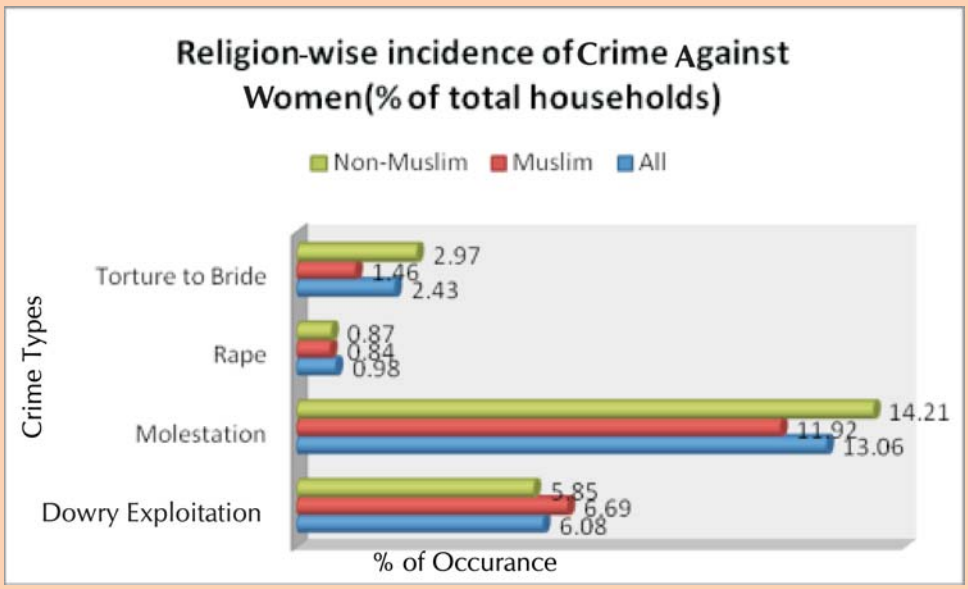
Fig. 5.18 Social Category-wise Incidence of Crime (% of total households)



Source: DHDR Primary Survey, 2009, Hooghly

The classification of crimes in terms of social category of households reveals the fact that the households belonging to the SC category witnessed the highest incidence of crimes against women while the ST category witnessed the least number of incidences of crimes against women.

Fig. 5.19 Religion-wise Incidence of Crime (% of total households)



Source: DHDR Primary Survey, 2009, Hooghly

The religion wise classification of crimes against women reveals that incidence of crimes against women was more frequent in non-Muslim households than in Muslim hoseholds especially in respect of molestation, rape and torture to brides. The incidence of dowry exploitation is found to be little higher in Muslim households than in non-Muslim households.

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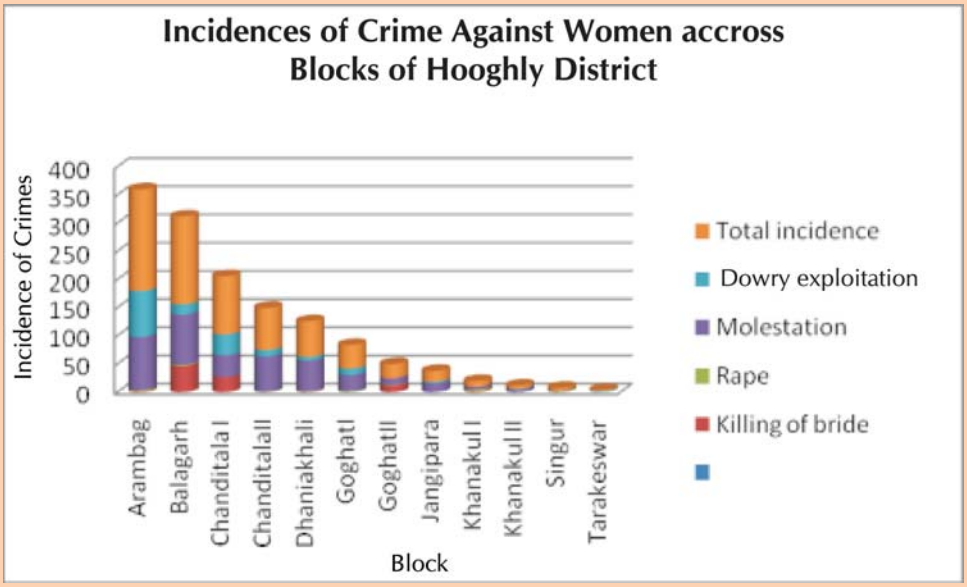
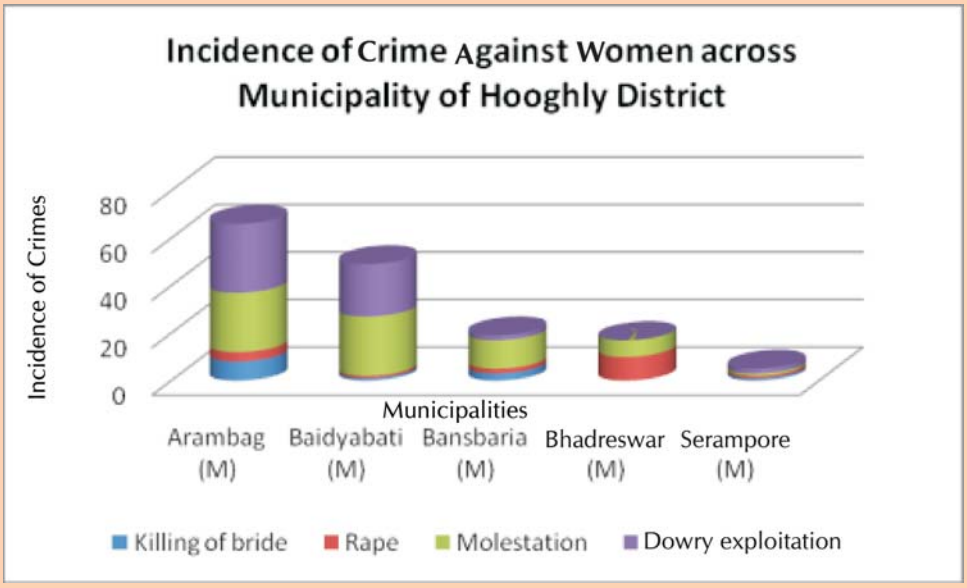
Figure 5.20 : Incidence of Crime Against Women across Blocks of Hooghly District (% Of Surveyed Households)



Source: DHDR Primary Survey, 2009, Hooghly

The highest incidence of crimes against women was noticed in Arambag block followed by Balagarh and Chanditala I, while least incidence was observed in Tarakeswar, Singur and Khanakul II.

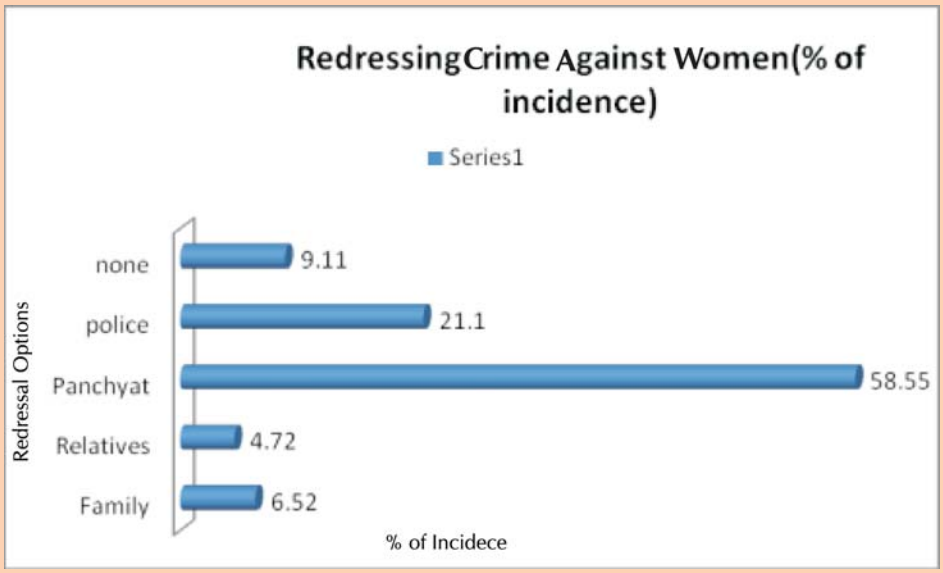
Figure 5.21: Incidence of Crime Against Women across Municipalities of Hooghly District (% Of Surveyed Households)



Source: DHDR Primary Survey, 2009, Hooghly

Among the surveyed municipalities, the highest incidence of crimes occurred in the Arambag Municipality while Serampore Municipality witnessed the least incidence of crimes against women.

Fig.5.22: Redressing Crime Against Women in Hooghly District



Source : DHDR Primary Survey, 2009, Hooghly

It is obvious from Fig. 5.22 that out of total cases of incidence, in 9.11 per cent of the cases the victims did not refer the crime to any legal platform for redress because of fear of defamation. In remaining 90.89 per cent of the cases the victims referred the crime either to the family /relatives or to any legal forums for redressal. Undoubtedly, the Panchayat has emerged as the dominant platform to redress the crimes against women. The society is changing. Despite the trauma, women across all classes are reporting crimes and do not feel helpless or abandoned by the family or society as was prevalent in the past.

5.9 Child Marriage

Child marriage is stigma on the forehead of our society. Women in India get married and begin childbearing at a young age. Marriage at a very young age carries grave health consequences for both the girl and her children. India introduced laws against child marriage and set the limits for minimum age at marriage for girls 18 years and for boys 21 years. In spite of the enactment of laws, the incidence of child marriage is found to occur with a very high frequency in the country as well as in West Bengal.

Table 5.14: Child Marriage in different Districts of West Bengal, 2002-04

Districts	Currently married Women (0-4 duration)				Rural Women who got married below 18 years		Mean age of marriage and Ranks of Female age at marriage		
	Total	< 18	%	Rank	%	Rank	M	F	Rank
Purulia	75848	32637	43.03	5	44.76	7	23.70	18.30	7
Birbhum	106494	50133	47.10	3	48.18	5	23.60	17.60	2
Bankura	106573	40617	38.11	10	39.03	12	26.00	18.10	5
Burdwan	230056	81250	35.32	12	39.95	11	25.30	18.00	4
Medinipur	341708	134817	39.45	9	40.71	10	24.60	17.60	2
Howrah	135265	33650	24.88	16	29.52	15	25.60	19.80	12
Hooghly	168863	49136	29.10	14	33.33	14	25.60	19.50	10

Table 5.14: Contd.

Districts	Currently married Women (0-4 duration)				Rural Women who got married below 18 years		Mean age of marriage and Ranks of Female age at marriage		
	Total	< 18	%	Rank	%	Rank	M	F	Rank
North 24 Parganas	293565	95732	32.61	13	48.42	3	24.90	19.60	11
South 24 Parganas	263093	95808	40.58	8	43.92	9	24.00	18.20	6
Kolkata	119864	18310	15.28	18	0.00	18	27.90	21.50	14
Nadia	160402	68274	42.56	6	46.36	6	24.50	18.40	8
Murshidabad	201204	106343	52.85	1	54.71	1	22.40	18.10	5
Uttar Dinajpur	73957	26373	35.66	11	37.23	13	24.60	17.80	3
Dakshin Dinajpur	50959	23194	45.51	4	48.30	4	26.90	17.80	3
Malda	108621	53170	48.95	2	50.52	2	23.70	17.20	1
Jalpaiguri	111000	31410	28.30	15	29.43	16	25.20	19.00	9
Darjeeling	51979	10799	20.78	17	22.31	17	23.90	20.90	13
Coochbehar	81716	34664	42.42	7	44.53	8	25.10	18.20	6
West Bengal	**2681167**	**986317**	**36.79**		**38.96**		**24.86**	**18.64**	

Source: DLHS, 2002-2004

It is clear from Table 5.14 that among the currently married women, child marriage took place in as high as 36.79 per cent cases. The prevalence of child marriage is found to be higher in rural areas than the urban areas. In rural areas the incidence of child marriage occurred in 38.96 per cent cases. The percentage of child marriage i.e. that of married women below 18 years was highest in Murshidabad followed by Maldah, the lowest percentage being registered in Kolkata. Mean age of marriage was lowest in Maldah(17.2). Hooghly belongs to the top five districts having lower incidence of child marriage but still among currently married women child marriage occurred in as high as 29.10 per cent cases. The district is well placed compared to the State average in the incidence of child marriage. Child marriage is undoubtedly an evil. The child marriage prevention programmes need to be broadened to stop this evil practice. However, laws are not enough to control it. Social awareness and shared responsibility from all sections of the society can minimize its occurrence to a great extent.

5.10 Old Age Vulnerability

We live in an era defined by many challenges. But none is as certain as ageing. The whole world is ageing. For most of history the elderly –here defined as adults aged 60 and over- comprised only a tiny fraction of the population, never more than 5 per cent in any country. Today in the developed countries, they comprise 20 per cent. Forty years from now, the share will reach roughly 35 per cent (Jackson and Howe, 2003). In the developing countries the problems are somewhat different from the developed countries but the issue of the ageing population features frequently in public debate in recent years. Social thinkers and policy makers are concerned about the consequences of the growing number of vulnerable older people. Vulnerability in old age can be defined as the aggregate of all the factors that negatively affect independent functioning in daily life. The concept is multi-dimensional and takes account of cumulative effects. The most important factors occurring at the same time which are expected to result in a vulnerable position of older people are: personal functional dependency and household resources. Personal functional dependency

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can be viewed from the health status of the old people especially in terms of ability to do household work, shopping, walking without help, preparing meals and getting dressed. The potential negative effects can be compensated for by the use of resources within the household. Two important characteristics are relevant in this respect: first, the presence of other people within the household and second the adequacy of household income. In the absence of household level old age security measures, old people become vulnerable to problems in this world. Social security measures in the form of old age pension, allowances, travelling concessions, subsidies etc. act as compensatory measures to reduce the hardship of old age vulnerability. The situations of old people belonging to unorganized sector are more acute as many government sponsored social security programmes are not applicable to them. The aged and the infirm are most vulnerable sections of the society. In the absence of social security measures, the unorganised workers who form the major part of our population are frequently found to be neglected in their sunset years.

The Rural Household Survey, 2005, of Hooghly district, identified 26247 aged people without any assistance from family or friends which is about 3.22 per cent of total households. These people are also part of the vulnerable sections of the society. The incidence of such vulnerability is highest in Khanakul-II block followed by Jangipara, Goghat, Pandua and least in Balagarh.

Table5.15: Aged People without Assistance in Hooghly District

Block	Total Household	No. of Aged people without Assistance	Aged without Assistance (percentage of total households)
Dhaniakhali	67164	2088	3.11
Pandua	66251	2910	4.39
Balagarh	47367	590	1.25
Chinsurah-Mogra	40108	578	1.44
Polba-Dadpur	55339	2117	3.83
Tarakeswar	36451	913	2.50
Haripal	52236	1859	3.56
Singur	59962	1854	3.09
Jangipara	46044	2470	5.36
Chanditala-I	33305	812	2.44
Chanditala-II	44490	878	1.97
Serampur-Uttarpara	31006	433	1.40
Goghat-I	28638	1366	4.77
Goghat-II	31229	840	2.69
Arambagh	57420	1694	2.95
Khanakul-I	47048	730	1.55
Khanakul-II	34891	2663	7.63
Pursurah	36115	1452	4.02
District Total	**815064**	**26247**	**3.22**

Source: Rural Household Survey, Hooghly, 2005

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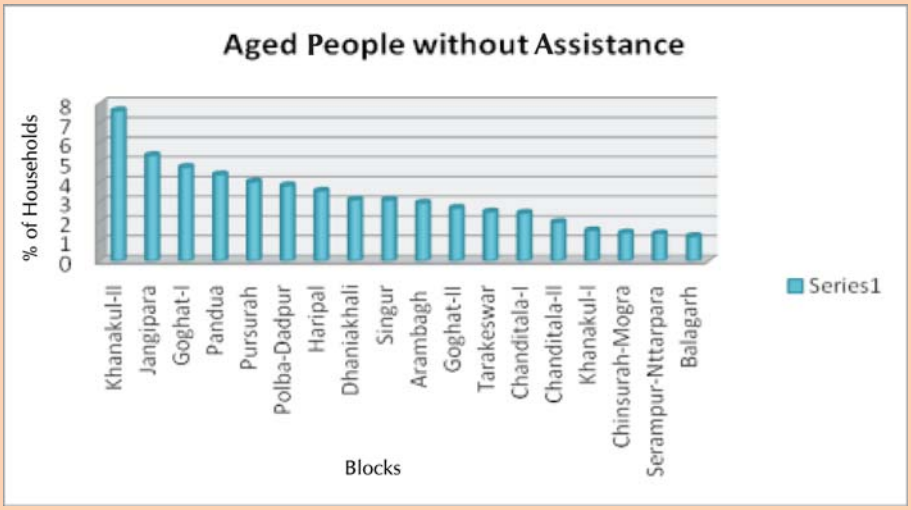
Figure 5.23: Ranking of Blocks in terms of Aged Population without Assistance



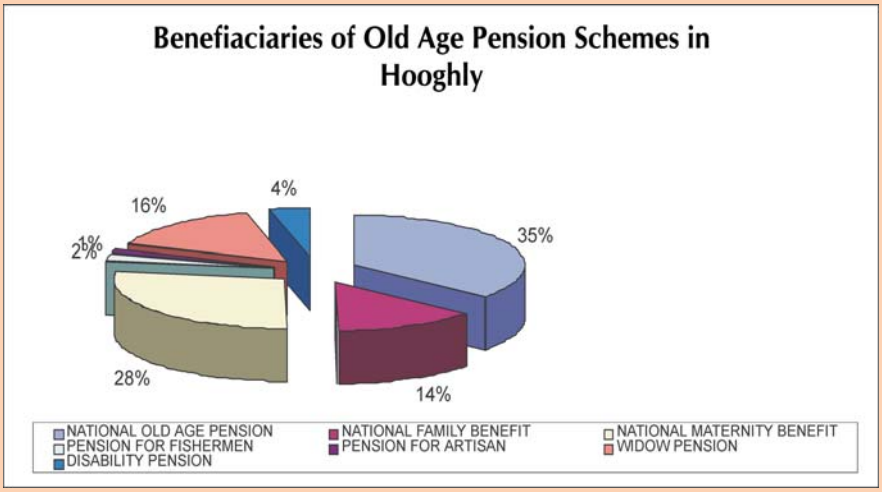
Source: Rural Household Survey, Hooghly, 2005

The objective of the National Old Age Pension Scheme is to provide financial assistance to old person who are destitute in the sense of having no regular means of subsistence from their own sources of income or through financial support from family members or other sources. Under National Old Age Pension Scheme, Central Assistance is available for the older people on the fulfillment of the following criteria

- The age of the applicant (male or female) should be 65 years or more.
- The applicant must be a destitute in the sense that he/she has no regular means of subsistence from his/her own source of income or through financial support from family members or other sources.

The amount of old age pension is Rs 75 per month. This scheme is implemented in the State and Union Territories through panchayats and municipalities. Both panchayats and municipalities are encouraged to involve voluntary agencies as much as possible to provide benefits to the destitute elderly for whom this scheme is intended. The pension amount is Rs 150 per month for widows below the poverty line. For widows, there is no age bar.

Fig.5.24: Beneficiaries of Old Age Pension Schemes in Hooghly



Source: DHDR, Primary Survey, Hooghly, 2009

In the district of Hooghly, several pension schemes with Central and State assistances are in operation. The noted among them are National Old Age Pension, National Family Benefit, National Maternity Benefit, Pension for Fishermen, Pension for Artisans, Widow Pension and Disability Pension. Among the identified 225 pension beneficiaries in the surveyed population, 35 per cent enjoyed the benefit of national old age pension, 28 per cent received national maternity benefit and 16 per cent enjoyed widow pension, 14 per cent got artisans pension, 4 per cent got disability pension and one per cent received national family benefit.

Table 5.16: Beneficiaries of Old Age Pension Schemes in Hooghly, 2009

Blocks / Municipalities	NOAPS	NFB	NMB	PFF	PFA	Widow Pension	Disability Pension
Arambag	5	3	3	0	0	1	0
Balagarh	0	0	0	0	0	0	0
Chanditala –I	0	0	1	0	0	1	0
Chanditala –II	10	2	4	1	1	1	1
Dhaniakhali	14	0	6	0	1	8	1
Goghat –I	11	6	13	0	0	6	4
Goghat –II	1	6	0	0	0	0	0
Jangipara	8	7	2	3	0	1	0
Khanakul –I	14	5	12	1	0	1	2
Khanakul –II	0	0	0	0	0	0	0
Singur	0	0	0	0	0	0	0
Tarakeswar	3	0	0	0	0	0	0
Arambag(M)	3	0	0	0	0	0	0
Baidyabati (M)	7	0	5	0	0	9	1
Bansberia(M)	2	2	0	0	0	6	0
Bhadreswar(M)	2	0	13	0	0	1	0
Serampur(M)	1	0	3	0	0	0	0
Total	**81**	**31**	**62**	**5**	**2**	**35**	**9**

Note: NOAPS: National Old Age Pension, NFB: National Family Benefit, NMB: National Maternity Benefit, PFF: Pension for Fisherman, PFA: Pension for Artisans

Source: DHDR Primary Survey, Hooghly, 2009

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Box 5.4 : Backward Class Welfare, Hooghly

Old Age Pension Schemes for Scheduled Tribes

Criteria: age 60 years and enlisted in BPL list

Amount: pension @ Rs. 500/- per month excluding money order charges

Year	Amount Sanctioned (Rs.)	Amount Utilized (Rs.)	No. of Beneficiaries
2006-07	1,91,73,726	1,91,73,726	3042
2007-08	5,84,69,779	5,84,69,779	7931
2008-09	4,15,85,618	4,15,85,618	8252

Note: Expenditure on pension includes M.O. charge of Rs. 303/- per beneficiary per annum. Larger beneficiary with fewer amounts than previous year is due to cumulative adjustment of fund.

Source: P.O. Cum D.W.O, BCW, Hooghly, 2009

The block-wise beneficiaries in Old Age Pension Scheme for ST population in Hooghly district is presented in table 5.17 below.

Table 5.17: Beneficiaries of ST Old Age Pension in Hooghly District, 2008-09

Sl No	Name of Panchayat Samiti	Sub-division	Number of Beneficiaries
1.	Balagarh	Sadar	700
2.	Chinsurah-Mogra	Sadar	150
3.	Dhaniakhali	Sadar	2226
4.	Pandua	Sadar	1969
5.	Polba-Dadpur	Sadar	902
6.	Haripal	Chandannagar	658
7.	Singur	Chandannagar	150
8.	Tarakeswar	Chandannagar	330
9.	Chanditala-I	Serampur	05
10.	Chanditala-II	Serampur	01
11.	Jangipara	Serampur	425
12.	Arambag	Arambag	100
13.	Goghat-I	Arambag	290
14.	Goghat -II	Arambag	286
15.	Khanakul-I	Arambag	32
16.	Pursurah	Arambag	28
17.	Serampur-Uttarpara	Serampur	0
18.	Khanakul-II	Arambag	0
Total			**8252**

Source: P.O.Cum S.W.O, BCW, Hooghly, 2009

In the district during 2008-09, 8252 persons belonging to ST category benefited through Old Age Pension Scheme. The higher percentage of beneficiaries is found in Dhaniakhali block followed by Pandua.

5.11 Disabled without Assistance

Disability normally implies incapability of leading a normal life due to physical or mental disorder. However, it is more of a social phenomenon than only a physical or mental disorder. The situation of disabled people provides a microcosm of the whole development debate and process (Coleridge, 1993, p.4) .Disability was included in the Census of India for the first time in 2001, following a sustained campaign by the Indian disability movement. The Census found that 2.2 per cent of the population was disabled.

Table 5.18: Disability in India, 2001

Total Disabled	Male	Female	Urban	Rural
21,906,769	12,605,635	9,301,134	5,518,387	16,388,382

Source: Census. 2001

The higher extent of disabled people is found in States like West Bengal, Madhya Pradesh, Andhra Pradesh and Orissa. West Bengal is the home of 8.43 per cent of total disabled people in India.

Table 5.19: Nature of Disability in some major destination of Disabled People in India

	Andhra Pradesh	Madhya Pradesh	Orissa	West Bengal
Total Disabled	1,364,981	1,408,528	1,021,335	1,847,174
In seeing	581,587	636,214	514,104	862,073
In speech	138,974	75,825	68,673	170,022
In hearing	73,373	85,354	84,115	131,579
In movement	415,848	495,878	250,851	412,658
Mental	155,199	115,257	103,592	270,842

Source: Census, 2001

Illiteracy, unemployment and poverty are high among the disabled. Children with disability are more likely to be out of school than average. Disability without support and assistance makes the life more and more precarious and vulnerable. Rural Household survey conducted in Hooghly district of West Bengal in 2005 captured the extent of disabled person in the district without any assistance.

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Table 5.20: Disabled Person without any Assistance in Hooghly District

Block	Total Household	Disabled Person without Assistance	% of Disabled to total Households	% to total Disabled	Rank
Dhaniakhali	67164	2497	3.72	7.96	5
Pandua	66251	2933	4.43	11.09	1
Balagarh	47367	1171	2.47	2.25	16
Chinsurah-Mogra	40108	1789	4.46	2.20	17
Polba-Dadpur	55339	2871	5.19	8.07	4
Tarakeswar	36451	1747	4.79	3.48	11
Haripal	52236	2998	5.74	7.08	6
Singur	59962	1968	3.28	7.06	7
Jangipara	46044	2034	4.42	9.41	3
Chanditala-I	33305	779	2.34	3.09	14
Chanditala-II	44490	845	5.13	3.35	12
Serampur-Uttarpara	31006	343	1.90	1.65	18
Goghat-I	28638	1458	1.11	5.20	10
Goghat-II	31229	798	5.09	3.20	13
Arambagh	57420	2429	2.56	6.45	8
Khanakul-I	47048	1338	4.23	2.78	15
Khanakul-II	34891	1791	2.84	10.15	2
Pursurah	36115	2525	6.99	5.53	9
District Total	**815064**	**32314**	**3.96**	**100.00**	

Source: Rural Household Survey, Hooghly, 2005

In Hooghly, 32,314 numbers of disabled persons without assistance were identified which is nearly 4 per cent of total households of the district. In other words, in 100 households in the district around four disabled persons were identified. Among the blocks of the district, Pandua block experienced highest numbers of disabled persons without assistance in the district. This block accommodated 11.09 per cent of total disabled people of the district who are surviving without any assistance.

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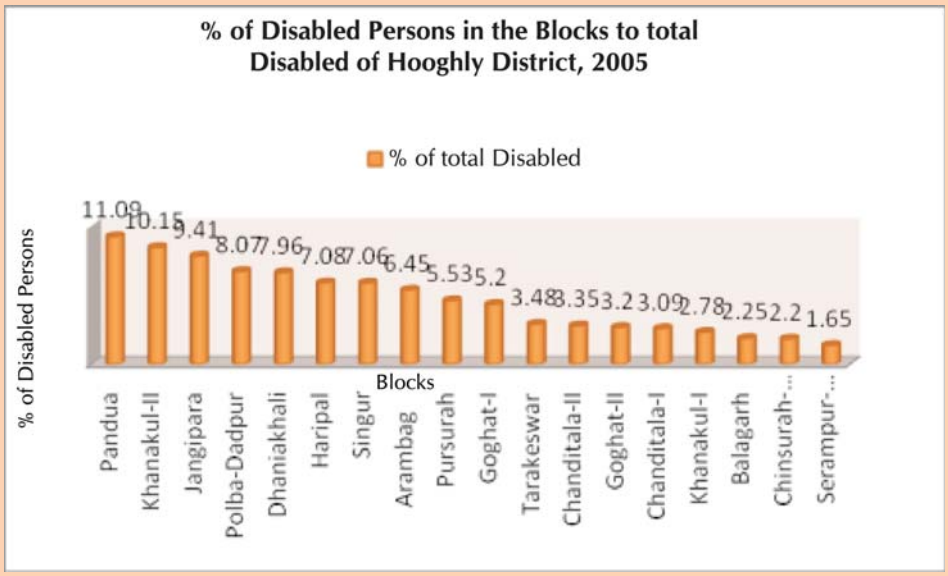
Figure 5.25: Ranking of Blocks in terms of availability of Disabled Persons without Assistance



Source : DHDR Primary Survey, 2009, Hooghly

The lowest incidence of disabled persons in the district is found in Serampore-Uttarpara block which accommodated 1.65 per cent of total disabled person.

Causes of disability

Poverty is the biggest cause of disability. The people who live below the poverty line are the most vulnerable to disability. This is because they are more likely to:

- suffer from malnutrition
- live in crowded and poor sanitary conditions, making them more at risk of catching infectious diseases
- have limited access to medical care
- consult traditional healers
- be poorly educated and lack basic knowledge of health and hygiene
- not immunise their children
- lack proper care during pregnancy and birth, and have multiple pregnancies

Though centrally sponsored anti-poverty programmes have reservations for people with disabilities, the numbers who have benefited are well below the minimum laid down. The new National Rural Employment Guarantee Act has dropped reservations for the disabled entirely, though some States (e.g. AP) are making efforts to include disabled people. Few people with disabilities are aware of such programmes and many States lack focus on social protection for people with disability. Despite having one of the most progressive policy frameworks for persons with disabilities, India falls short in implementation. The Persons With Disabilities Act of 1995 is the cornerstone of India's policy framework, but its enforcement faces many challenges. There is, therefore, a need to strengthen Ppublic-Private Partnerships with NGOs to combat with disabilities. The persons with disability need to be treated more like active participants than clients to augment their human capabilities and to ensure their broad based social inclusion.

5.12 Homelessness:

The word homeless is used for people who do not live in a 'census house', such a house being described as a 'structure with a roof'. According to Census 2001, India has about two million homeless people. Extreme poverty is the primary reason for homelessness. So, homelessness can be considered as an indicator of vulnerability. In Hooghly District of West Bengal, 32229 homeless people were identified in Rural Household Survey conducted in 2005.

Table 5.21: The Homeless People in Hooghly District, 2005

Block	Total Household	Homeless People	Homeless as % of total Households	% of Homeless as % of total Homeless	Rank
Dhaniakhali	67164	2318	3.45	7.19	8
Pandua	66251	3250	4.91	10.08	2
Balagarh	47367	482	1.02	1.50	18
Chinsurah-Mogra	40108	2654	6.62	8.23	5
Polba-Dadpur	55339	2581	4.66	8.01	6
Tarakeswar	36451	1453	3.99	4.51	9
Haripal	52236	2826	5.41	8.77	4
Singur	59962	1447	2.41	4.49	10
Jangipara	46044	3394	7.37	10.53	1
Chanditala-I	33305	705	2.12	2.19	15
Chanditala-II	44490	1351	3.71	4.19	12
Serampur-Uttarpara	31006	516	3.04	1.60	17
Goghat-I	28638	1353	1.66	4.20	11
Goghat-II	31229	797	4.72	2.47	14
Arambag	57420	2386	2.55	7.40	7
Khanakul-I	47048	530	4.16	1.64	16
Khanakul-II	34891	1295	1.13	4.02	13
Pursurah	36115	2891	8.00	8.97	3
District Total	**815064**	**32229**	**3.95**	**100.00**	

Source: Rural Household Survey, Hooghly, 2005

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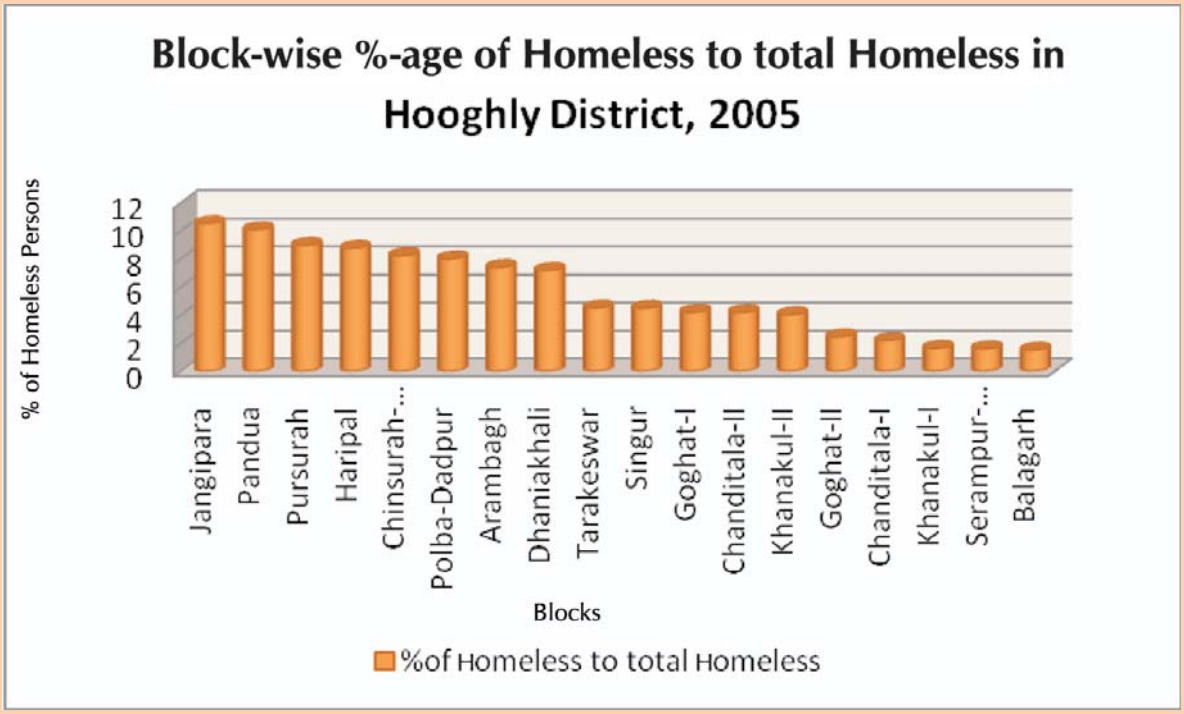
Figure 5.26: Block-wise %-age of Homeless to total Homeless in Hooghly District, 2005



Source: Rural Household Survey, 2005, Hooghly District

The incidence of homelessness is found to be the highest in Jangipara block which accounted for 10.53 per cent of total homeless people of the district followed by Pandua and Pursurah block. The lower incidence of homelessness is observed in Balagarh and Serampore-Uttarpara blocks. It is thus desirable to implement the centrally sponsored schemes like 'home for homeless' in the district to reduce the extent of homeless vulnerability.

5.13 Human Vulnerability Index

A Human Vulnerability Index can be prepared to reflect each block's position regarding prevalence of vulnerable sections of people. Such an index may consider the following groups of people as vulnerable:

a) those without access to even one square meal a day;

b) those who are homeless;

c) those who are without 2 garments to wear;

d) those with no earning members in the household or with all members either infirm/old/children

e) those who need loans from money-lenders to meet daily needs;

f) those who have to migrate to other places even in search of temporary employment;

g) those who are disabled and not getting any government / social assistance; and,

h) those who are aged without any kind of assistance.

Proportions of such households are reflected in Table 5.22.

Table 5.22: Percentage of Households with different Vulnerabilities in Hooghly, 2005

Block	Percentage of Households with different Vulnerability								
	Total Household	Homeless	Scant Garments	Hungry	No Earning Member	Loan for Daily Needs	Migrate for Temp. Jobs	Disabled without Assistance	Aged without Assistance
Dhaniakhali	67164	3.45	4.22	2.14	47.32	26.65	15.46	3.72	3.11
Pandua	66251	4.91	10.33	5.15	51.80	28.62	19.32	4.43	4.39
Balagarh	47367	1.02	5.81	1.64	49.66	10.81	5.38	2.47	1.25
Chinsurah-Mogra	40108	6.62	6.14	3.61	42.06	16.61	17.47	4.46	1.44
Polba-Dadpur	55339	4.66	8.78	5.06	49.57	24.89	15.79	5.19	3.83
Tarakeswar	36451	3.99	4.11	2.33	44.79	13.34	14.02	4.79	2.50
Haripal	52236	5.41	7.38	4.64	45.62	21.71	15.38	5.74	3.56
Singur	59962	2.41	3.33	1.62	40.88	24.63	15.80	3.28	3.09
Jangipara	46044	7.37	7.45	6.23	40.67	22.94	17.00	4.42	5.36
Chanditala-I	33305	2.12	4.52	2.15	32.71	7.43	8.66	2.34	2.44
Chanditala-II	44490	3.71	5.26	4.84	26.53	12.59	10.84	5.13	1.97
Serampur-Uttarpara	31006	3.04	3.38	2.49	26.52	11.30	6.35	1.90	1.40
Goghat-I	28638	1.66	2.13	0.96	34.11	12.42	12.42	1.11	4.77
Goghat-II	31229	4.72	4.92	3.99	39.65	21.86	15.35	5.09	2.69
Arambag	57420	2.55	3.21	1.75	35.55	17.39	8.04	2.56	2.95
Khanakul-I	47048	4.16	5.56	3.23	5.76	18.92	10.47	4.23	1.55
Khanakul-II	34891	1.13	2.49	1.99	39.22	15.23	5.55	2.84	7.63
Pursurah	36115	8.00	9.37	6.15	41.96	26.11	21.59	6.99	4.02
District Total	**815064**	**3.95**	**5.67**	**3.37**	**39.16**	**19.49**	**13.32**	**3.96**	**3.22**

Source: Rural Household Survey, Hooghly

Based on above indicators of vulnerability, the Human Vulnerability Index (HVI) for the blocks has been constructed by selecting appropriate weights using Principal Component Analysis. The resulting index of human vulnerability for the blocks of Hooghly district is presented in Table 5.23 below:

Table 5.23: Human Vulnerability Index (HVI) for Blocks of Hooghly Districts

Block	HVI	Rank	Block	HVI	Rank
Dhaniakhali	0.53	11	Chanditala-I	0.22	3
Pandua	0.82	15	Chanditala-II	0.35	6
Balagarh	0.00	1	Serampur-Uttarpara	0.15	2
Chinsurah-Mogra	0.28	4	Goghat-I	0.58	12

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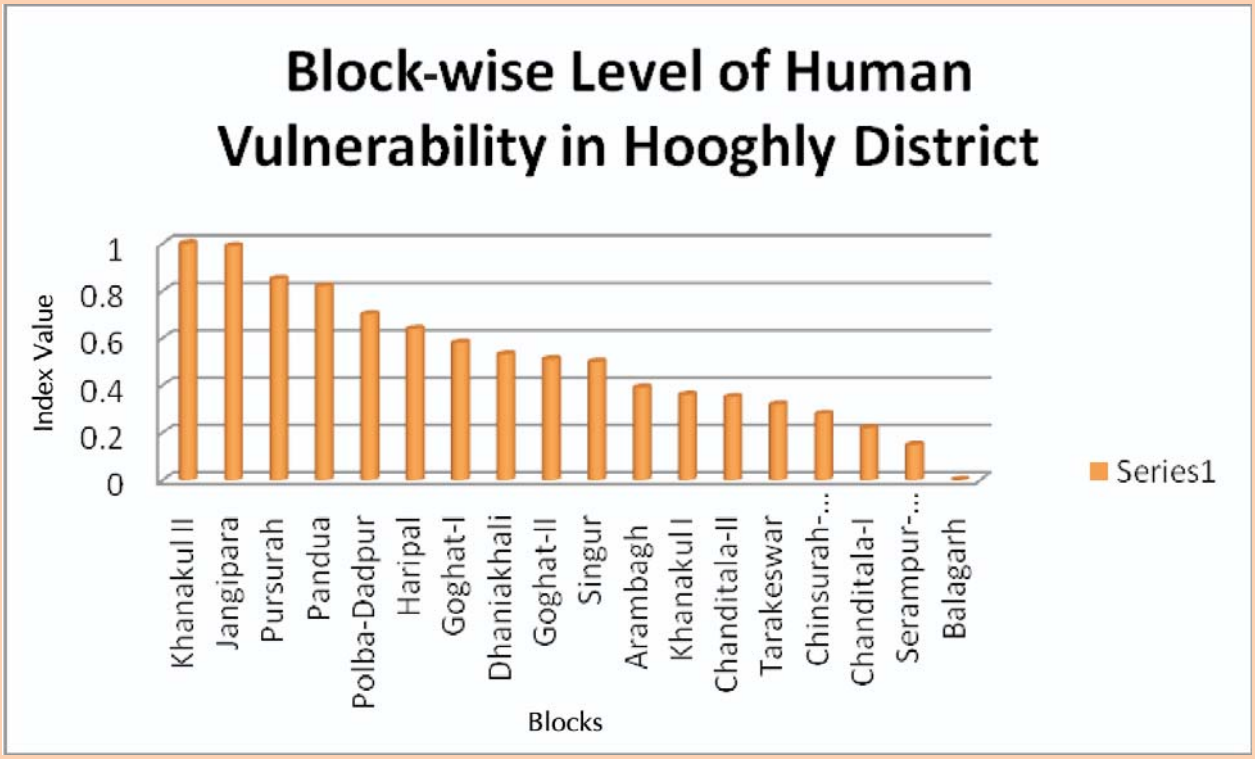
Table 5.23: Contd.

Block	HVI	Rank	Block	HVI	Rank
Polba-Dadpur	0.70	14	Goghat-II	0.51	10
Tarakeswar	0.32	5	Arambag	0.39	8
Haripal	0.64	13	Khanakul-I	0.36	7
Singur	0.50	9	Khanakul-II	1.00	18
Jangipara	0.99	17	Pursurah	0.85	16
District Total	**0.52**				

Source: Estimated using Rural Household Survey, 2005, Hooghly

Fig. 5.27: Ranking of Blocks in Terms of Human Vulnerability Index



Source: Table 5.24

It is observed that vulnerability score is high among Khanakul-II, Jangipara, Pursurah, Pandua and low among Balagarh, Serampur-Uttarpara, Chanditala-1 and Chinsura-Mogra. It should be noted that a lower HVI indicates better situation compared to a higher HVI.

Chapter 6

RESOURCE, ENVIRONMENT AND NATURAL VULNERABILITIES

Human well-being depends upon the services provided by eco-system and its components. Income and services derived from environmental resources, including land, forests and woodlands, wetland, and wild life (flora and fauna) are central to livelihoods of the people. Ever increasing pressure on natural environment is increasingly degrading the eco-system services, causing natural vulnerabilities and thus diminishing the prospects for sustainable human development. Human well-being can be enhanced through sustainable human interaction with eco-systems with the support of appropriate instruments, institutions, organizations and technology. The effective use and management of environmental resources can ensure the sustainability of present as well as future generations. In this context, this chapter looks into the state and problem of maintenance of various natural resources in Hooghly district of West Bengal, which have a direct bearing on the eco-system services related to the well-being of the inhabitants in the district.

6.1 Introduction:

Human well-being depends on the capability to access multiple dimensions, including the basic material for a good life, freedom and choice, health, good social relations, and security. Well-being is at the opposite end of a continuum from poverty, which has been defined as a "pronounced deprivation in well-being." Sustained well-being of people depends on maintenance or increased availability of diverse sort of capital goods including physical, human and natural capital. The importance of natural capital in the sphere of production meant for provisioning various material goods and services has long been neglected in the literature. The interaction of natural capital with various biotic and a-biotic resources as well as micro-organisms generates the well known eco-system services so important for sustaining life on this planet.

In all contexts, however, appropriate eco-systems are essential for human well-being through their provisioning, regulating, cultural, and supporting services. Provisioning services are the products people obtain from eco-systems, such as food, fuel, fibre, fresh water, and genetic resources. Regulating services are the benefits people obtain from the regulation of eco-system processes, including air quality maintenance, climate regulation, erosion control, regulation of human diseases, and water purification. Cultural services are the nonmaterial benefits people obtain from eco-systems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences. Supporting services are those that are necessary for the production of all other eco-system services, such as primary production, oxygen cycle, carbon cycle, hydrological cycle and soil formation etc. These constituents of well- being are, in turn, influenced by and have an influence on the freedoms and choices available to people.

This combination of ever-growing demands being placed on increasingly degraded eco-systems seriously diminishes the prospects for sustainable development. Human well-being is affected not just by gaps between eco-system service supply and demand but also by the increased vulnerability of individuals, communities, and nations. Productive eco-systems, with their array of services, provide people and communities with resources and options they can use as insurance in the face of natural catastrophes or social upheaval. While well-managed eco-systems reduce risks and vulnerability, poorly managed systems can exacerbate them by increasing risks of flood, drought, crop failure, or disease. Eco-system changes affect human well-being in the following ways:

Access to basic material for a good life is strongly linked to both provisioning services such as food and fibre production and regulating services, including water purification.

Health is strongly linked to both provisioning services such as food-production and regulating services, including those that influence the distribution of disease-transmitting insects and of irritants and pathogens in water and air. Health can also be linked to cultural services through recreational and spiritual benefits.

Social relations are affected by changes to cultural services, which affect the quality of human experience.

Security is affected both by changes in provisioning services, which affect supplies of food and other goods and the likelihood of conflict over declining resources. Apart from this, security is also affected by changes in regulating services, which could influence the frequency and magnitude of floods, droughts, landslides, or other catastrophes. It can also be affected by changes in cultural services as, for example, when the loss of important ceremonial or spiritual attributes of eco-systems contributes to the weakening of social relations in a community. These changes in turn affect material well-being, health, freedom and choice, security, and good social relations.

Freedoms and Choice are largely conditioned by the existence of the other components of well-being and are thus influenced by changes in provisioning, regulating, or cultural services from eco-systems. Human well-being can be enhanced through sustainable human interactions with eco-systems supported by necessary instruments, institutions, organizations, and technology. Creation of these networks through participation and transparency may contribute to freedoms and choice as well as to increased economic, social, and ecological security. By ecological security, we mean the minimum level of ecological stock needed to ensure a sustainable flow of eco-system services. Yet the benefits conferred by institutions and technology are neither automatic nor equally shared. In particular, such opportunities are more readily grasped by richer as compared to poorer countries and people; some institutions and technologies mask or exacerbate problems of environment.

Human intervention in eco-systems can amplify the benefits to human society. However, evidence in recent decades of escalating human impacts on ecological systems raises concerns about the spatial and temporal consequences of eco-system changes detrimental to human well-being, specially the poorer sections in the society who have a regular interaction mostly with renewable type resources for their survival.

These resources are mostly of Common Property Resources (CPR) type and direct human dependence on these resources require that improved land quality, quantity and extent of these resources be sustained for maintenance of well-being for future generations as well. Inadequate and inefficient management of land and these resources often lead to untoward and vitiating impact on the environment and human well-being. For instance, excessive toxic emissions, unscientific waste disposal, water quality deterioration, inadequate infrastructure to control flood, high rate of exploitation of the resources etc. are related to gradual alteration in the eco-system and uncertainties in human survival and their betterment. The nexus between eco-system and human well-being is complex but certain. In this context, it seems imperative to look into the state and problem of maintenance of various natural resources in Hooghly district of West Bengal, which have a direct bearing on the eco-system services related to the well-being of the inhabitants in the district.

6.2 Basic Geographical Features of Hooghly District

The district of Hooghly is mostly located in alluvial soil and is considered fit for agriculture, industry and allied activities. Considering the agro-climatic factors, the district can broadly be divided into two regions (a) Gangetic alluvial region (b) Bindhya alluvial region. Further, depending on the locational status of underground resource, topography, rainfall, weather conditions and problems in soil quality it has been subdivided into three Agro- Economic Site (AES). The identified status of each AES is stated below:

(i) Some part is permanently flood prone. Severe crop damage occurs almost each year. Land is highly fertile and suitable for growth of all types of crops.

(ii) The soil of this AES is highly fertile and varieties of crops are grown here. It is the major potato growing region in the district. Damodar basin areas of the district are prone to flood.

(iii) In this sector, mostly mono-cropping is practiced due to lack of irrigation facility, undulating terrain and less cropping intensity.

The division of the blocks in the three AES is given in the Table 6.1 below.

Table 6.1: Geographical Division of the Blocks in Hooghly District

Sl no.	Name of the Block	Geographical arear (Sq. Km.)	No. of GP
AES - I			
1	Balagarh	202.15	13
2	Chinsurah-Mogra	81.86	10
3	Polba-Dadpur	285.69	12
4	Singur	164.85	16
5	Chanditala -I	93.45	09
6	Serampur -Uttarpara	44.80	06
AES - II			
1	Pandua	276.43	16
2	Dhaniakhali	275.68	18
3	Haripal	184.42	15
4	Jangipara	164.23	10
5	Tarakeswar	119.93	10
6	Chanditala -II	70.34	12
7	Pursurah	100.42	08
8	Arambag	269.31	15
9	Khanakul -I	171.92	13
10	Khanakul -II	121.83	11
AES - III			
1	Goghat -I	186.32	07
2	Goghat -II	90.03	09

Source: Directorate of Agriculture, Hooghly, Govt. of W.B, 2008

It is observed that most of the blocks fall in the category of AES II covering a large part of area in the district. Further, this is the major potato belt with highly fertile area suitable for its production. AES I area although highly fertile, is subject to frequent flood in some parts and consequent crop damages. AES III area is relatively less productive and unsuitable for high agricultural yield. Following Table 6.2 provides a view of the land use pattern in Hooghly district. Area wise Polba-Dadpur is the largest block while Serampore-Uttarpara is the smallest. Interestingly although Goghat-I is agriculturally less productive, cultivated area is highest in this block. Forest area is also highest here, followed by Khanakul-I and Arambag blocks in 2nd and 3rd position respectively. Cultivable waste land is mostly available in Chanditala -I followed by Jangipara and Singur in 2nd and 3rd position respectively.

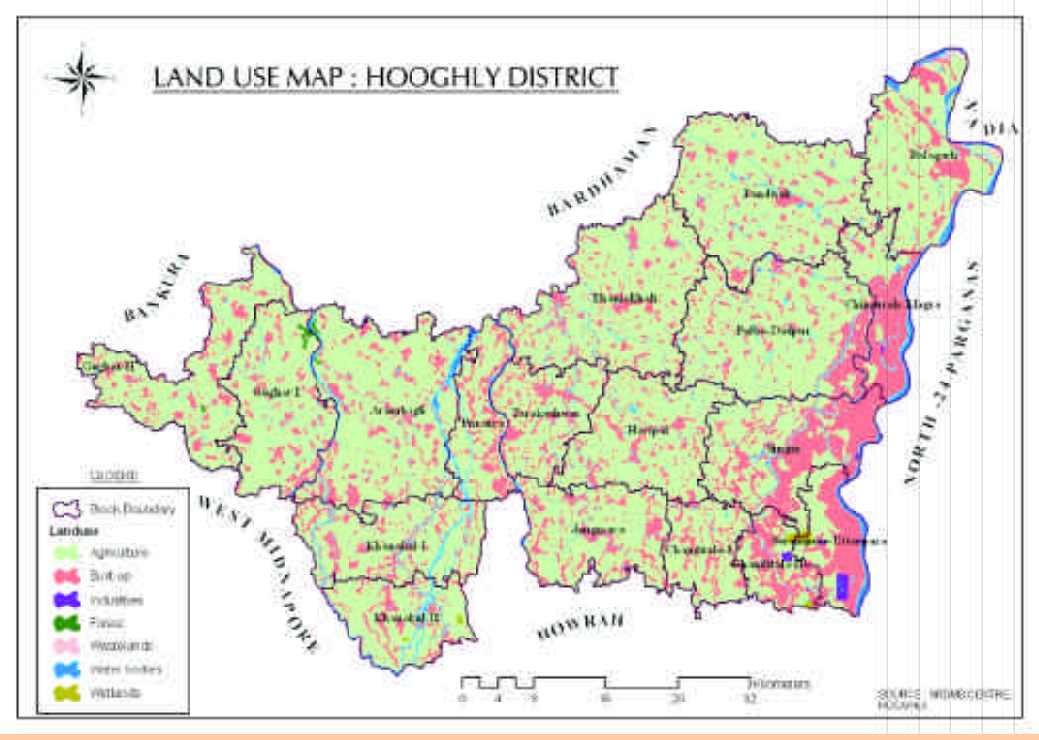
Table 6.2: Land Use Pattern in Hooghly District

INFORMATION ON LAND USE PATTERN IN THE HOOGHLY DISTRICT

Sl no.	Name of the Block	Geographical area(sqkm)	Cultivated area (ha.)	Cultivable waste (ha.)	Forest (Along with social forest) in Ha.	Land under misc. plantation in Ha.
1	Balagarh	202.15	16000	400		1300
2	Chinsurah-Mogra	81.86	3637	50		400
3	Polba-Dadpur	285.69	20779	50	14	1707
4	Singur	164.85	8670	199		1762
5	Chanditala -I	93.45	7461	300	02	200
6	Serampur-Uttarpara	44.80	1995	165		150
7	Pandua	276.43	22762	-		257
8	Dhaniakhali	275.68	22860	50		242
9	Haripal	184.42	14480	61	20	445
10	Jangipara	164.23	12430	261	40	305
11	Tarakeshwar	119.93	7658	11		33
12	Chanditala-II	70.34	3930	125		200
13	Pursurah	100.42	7000	15	01	34
14	Arambagh	269.31	21200	59	55	10
15	Khanakul-I	171.92	12342	18	83	133
16	Khanakul-II	121.83	9200	20	06	18
17	Goghat-I	186.32	25772	70	174	520
18	Goghat-II	90.03				

Source: Directorate of Agriculture, Hooghly, Govt. of W.B, 2008

Map 6.1: Land Use Map of Hooghly District



However, the area of agricultural land in each block is divided into three types: high, medium and low land. In all the blocks excepting Khanakul -II, Chanditala -I, Serampore- Uttarpara ,and Polba-Dadpur, the land quality is mostly medium type as revealed in the following Table 6.3.

Table 6.3: Land Situation of Hooghly District

Name of Block	Agricultural Land (Ha.)	High Land (Ha.)	Medium Land (Ha.)	Low Land (Ha.)	Drought Prone Area (Ha.)	Flood Prone Area (Ha.)
Balagarh	15982	2870	10050	3062	1100	3050
Panduah	22614	2440	14860	5314	2000	707
Chinsurah - Mogra	4408	1317	1791	1300	450	200
Polba-Dadpur	21979	4960	8499	8520	3500	5051
Dhaniakhali	21572	3792	11280	6500	1000	1580
Sub-division Total	**86555**	**15379**	**46480**	**24696**	**8050**	**10588**
Tarakeswar	7783	1970	4430	1383	300	500
Haripal	14426	2086	8450	3890	1700	3000
Singur	11134	2688	5576	2870	1700	3000
Jangipara	12668	2860	5923	3885	1900	5000
Chanditala-I	7328	1900	2350	3078	1250	2000
Chanditala-II	4215	1033	1700	1482	1000	3000
Serampur-Uttarpara	2339	400	943	996	400	1500
Sub-division Total	**59893**	**12937**	**29372**	**17584**	**8250**	**18000**
Pursurah	7665	965	4000	2700	200	3500
Arambag	20633	1637	13790	5206	2384	4500
Khanakul-I	11958	2000	6308	3650	350	4300
Khanakul-II	8927	1067	1780	6080	200	6000
Goghat-I	13867	1700	7611	4556	2500	2554
Goghat-II	13668	1500	9889	2279	3500	1253
Sub-division Total	**76718**	**8869**	**43378**	**24471**	**9134**	**22107**
District Total	**223166**	**37185**	**119230**	**66751**	**25434**	**50695**

Source: Directorate of Agriculture, Hooghly, Govt. of W.B, 2008

Greatest drought prone area to the tune of 3500 ha. is observed in two blocks viz. Goghat-II and Polba-Dadpur. Other blocks have comparatively lower areas prone to drought, where water levels run low during summer. There is also sizable flood prone area in majority of the blocks. The highest flood prone area is in Khanakul-II (6000 ha.) followed by Polba-Dadpur (5051 ha.) and Jangipara (5000 ha.) in 2nd and 3rd positions respectively. Other blocks have relatively lower flood prone area with smallest at Chinsurah-Mogra (200 ha). Prudent flood control planning in perspective sense is urgently required.

6.3 Rainfall Scenario in Hooghly District

The following Table 6.4 reveals that monthly rainfall in the district has changed erratically over the years. There is hardly any month-wise trend in the intervening years except that total rainfall over the years has shown a rough tendency of decline. Compared to the months of June, August, October, November in 2002 there has been lower rainfall in the corresponding months of 2006. There has been more than normal rains in April, May, July, Sept. in 2006. Overall, decline in rains is indicative of likely imminent shortage in the storage of water for multiple purposes like, agricultural use, industrial use, drinking purpose, domestic use, aquaculture etc. With further likely rise in population and increased demand for water in the district, this type of a fall in the amount of rainfall is likely to have an untoward impact on agriculture and hence human lives, unless immediate measures are taken for rainwater harvesting, checking misuse of water, domestic water rationing schemes etc.

Table 6.4: Monthly Rainfall in the District of Hooghly (millimetre)

Month	Normal 2006	Actual				
		2002	2003	2004	2005	2006
1	2	3	4	5	6	7
January	14	23	0	2	11	0
February	11	0	3	0	16	0
March	49	4	88	7	94	0
April	52	81	17	40	49	68
May	110	106	65	65	42	117
June	206	285	199	234	108	143
July	269	284	205	191	222	303
August	211	233	151	220	224	208
September	245	214	154	249	121	259
October	134	86	230	110	309	29
November	19	45	2	0	0	2
December	3	0	15	0	2	0
Total	**1323**	**1361**	**1129**	**1118**	**1198**	**1129**

Source: Bureau of Applied Economics and Statistics, Govt. of West Bengal , 2008

6.4 River Bank Erosion

One of the most commonplace problems related to environmental hazard in alluvial river bank erosion associated with meandering or braided river systems. Usually the factors controlling river and stream formation are diverse and related in a complex and often in an unpredictable manner. These factors combine the amount and rate of supply of water and sediment into stream systems, catchment geology and the type and extent of vegetation in the catchment. The bank erosion control structures usually involve huge expenses and not compatible with local environmental sustainability unless it involves whole hearted peoples' participation for the upkeep of the structure. The irrigation system in Hooghly has developed mainly on the basis of five rivers like Bhagirathi, Damodar, Mundeswari, Darakeswar and Sankari. A number of areas in

Hooghly district have been exposed as vulnerable to bank erosion of any of these rivers. The following fragmented Table 6.5 (arranged so for convenience of exposition) displays the specific areas and corresponding police station afflicted by such erosion. It is observed that Khanakul is the most affected PS by erosion in both banks of Mundeswari and Darakeswar river. Several places of Pursurah, Arambag, Jangipara, Jamalpur, and Ghatal P.S are the other greatly affected regions by erosion of any of the aforesaid rivers except Bhagirathi. Balagarh, Mogra, Chandannagar and Serampore P.S have several regions exposed to erosion of the river Bhagirathi which has erosion on only one side relevant for Hooghly district. Erosion of river Sankari affects relatively small number of areas. However, the intensity of erosion is important which exposes the people in the neighbourhood to severe threats of eviction, dismantling of homestead and subsidence of agricultural land into the depths of water. The following Table reveals the specific areas subject to the erosion of various river banks in Hooghly district.

Table 6.5: River Bank Erosion in Hooghly District

Bhagirathi at Right Bank	1. At Mathurpur. 2. At Lower Chandra. 3. Near Bandel Thermal Power Station. 4. Near Chandrahati from Kuntighat to Nayasarai B.B. Colony. 5. At Gournagore & Raninagore. 6. At Shibpur, Bansberia. 7. At Uttar Chandannagar. 8. At Baidyabati Khal Outfall to Chatra Ghat. 9. From Up-stream of Rishra H.S.School to Premmandir Ghat.	P.S. Balagarh. P.S. Balagarh. P.S. Mogra. P.S. Balagarh. P.S. Mogra. P.S. Balagarh. P.S. Mogra. P.S. Chandannagar. P.S. Serampore. P.S. Serampore.
Damodar at Left Bank	1. Hariharpur. 2. Senpur. 3. Brindaban Chak. 4. Pospur.	P.S. Jangipara. P.S. Jangipara. P.S. Jangipara. P.S. jangipara.
Darakeswar at Left Bank	1. Chandur. 2. Salepur. 3. Manikpat. 4. Pratiharpara. 5. Raghunathpur.	P.S. Arambag. P.S. Arambag. P.S. Arambag. P.S. Arambag. P.S. Khanakul.
Darakeswar at Left Bank	6. Chandur. 7. Salepur. 8. Manikpat. 9. Pratiharpara. 10. Raghunathpur.	P.S. Arambag. P.S. Arambag. P.S. Arambag. P.S. Arambag. P.S. Khanakul.

Table 6.5: Contd.

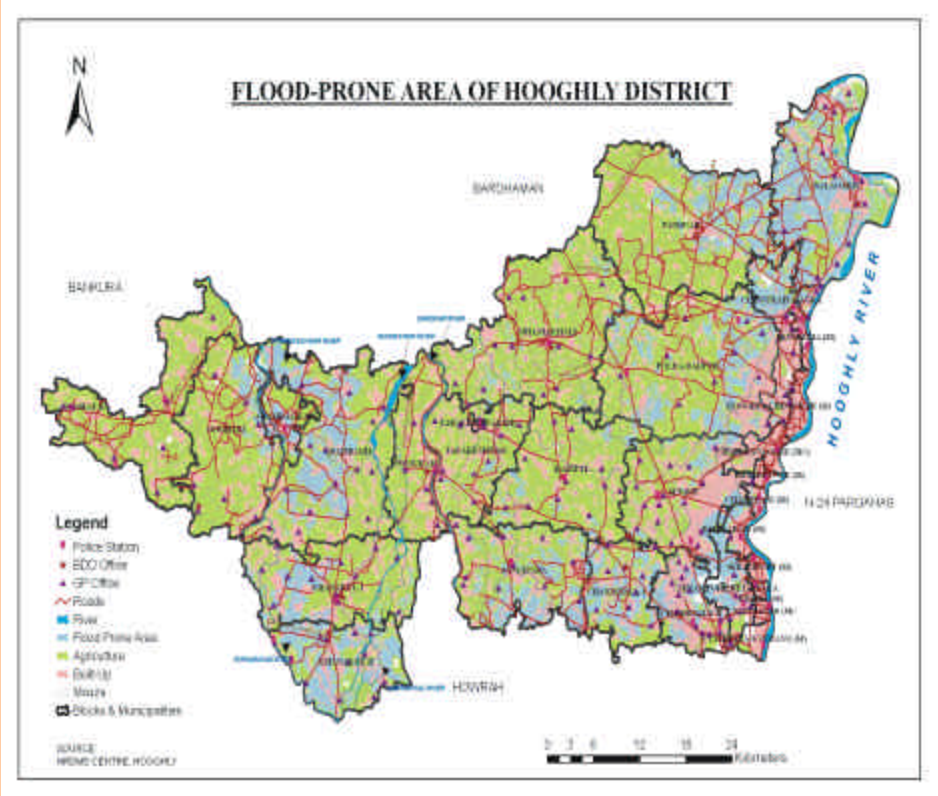
Damodar at Right Bank.	1. Begua.	P.S. Jamalpur.
	2. Senpur.	P.S. Jamalpur.
	3. Siali.	P.S. Jamalpur.
	4. Baikunthapur.	P.S. Pursurah.
	5. Mirzapur.	P.S. Pursurah.
	6. Junglepara.	P.S. Pursurah.
	7. Harihar.	P.S. Pursurah.
	8. Akna fatepur.	P.S. Pursurah.
Mundeswari at Left Bank	1. Markunda.	P.S. Pursurah.
	2. Balipur.	P.S. Khanakul.
Mundeswari at Right Bank	1. Tantisal.	P.S. Khanakul.
	2. Madanpur.	P.S. Khanakul.
	3. Durgapur.	P.S. Khanakul.
	4. Amarpur.	P.S. Khanakul.
	5. Unda.	P.S. Khanakul.
	6. Dhonpota.	P.S. Pursurah.
Darakesear at Right Bank.	1. Haripur & kalipur.	P.S. Arambag.
	2. Udayrajpur.	P.S. Goghat.
	3. Mahisgot.	P.S. Khanakul.
	4. Gujrat & Bandipur.	P.S. Khanakul.
Sankari at Left Bank	1. Basantabati.	P.S. Arambag.
	2. Srimantapur.	P.S. Ghatal.
	3. Balarampur.	P.S. Ghatal.
	4. Anandapur.	P.S. Ghatal.
	5. Komra.	P.S. Ghatal.
Sankari at Right Bank	1. Khasbar.	P.S. Ghatal.

Source: Directorate of Irrigation, Hooghly, Govt. of West Bengal, 2006

Impacts of bank erosion:

- Ecological issues: Loss of habitat and biodiversity, loss of agricultural land
- Loss of infrastructure and property
- Obliteration of property and/or political boundary demarcations
- Other physiological, socio-cultural and economic changes
- Stress and anxiety: change in livelihood

Map 6.2: Flood -Prone Area of Hooghly District



6.5 Arsenic Pollution in Ground Water

For the last twenty years arsenic pollution in ground water has become a matter of grave concern. A large number of people living in deltaic regions of West Bengal use water with arsenic in excess of the limit prescribed for human health. In fact, the arsenic contamination in ground water has created additional burden to the rural water supply management demanding water treatment and surveillance. It is a naturally occurring geological phenomenon that is found in different depths in different concentrations underground. Usually overexploitation of ground water is deemed to be the factor behind arsenic pollution.

Intake of drinking water having arsenic concentration beyond the permissible limit of 0.05 mg/lt. has deleterious effects on human health viz.,cardiovascular (heart failure) problem, gastrointestinal (burning lips, painful swallowing, thirst, nausea, and severe abdominal pain), hematological effects (anemia and leucopoenia), hepatic effects, renal effects, neurological effects, carcinogenic effects (lung cancer etc.).

The problem of groundwater pollution by arsenic is found in the interfluvial region of the Bhagirathi-Hooghly and the Jalangi-Ichamati rivers lying mostly in the eastern part of the Bhagirathi-Hooghly river of West Bengal. The arsenic contamination in ground water beyond permissible limit of 0.05mg/lt. has been found within the shallow aquifer (20-60m below ground level). Apart from this area, other areas of the State where higher incidence of Arsenic has been reported are four blocks (adjacent to the river Ganga) in Malda district, Purbasthali block of Bardhaman district and Balagarh block of Hooghly district. Principal source of arsenic is the arsenic sulphides minerals deposited along with clay, peat, with iron in the relevant environment.

In several places in Balagarh block of Hooghly district, Arsenic contamination in tubewell water has been detected at levels and above the aforesaid permissible limit. The list of such places is indicated below. It is deemed important in order to make people alert about the hazard of drinking water in those specific places.

Table 6.6 : Tube-well Water Analysis Report

Village Name	Habitation Name	Location details	Depth(m)	Iron Mg/l	Nitrate Mg/l	Arsenic Mg/l	Chloride Mg/l
Sultanpur	Sultanpur	Kuthir para, beside ashram	21.35	1.58	3.72	0.08	21.28
Sultanpur	Sultanpur	Kuthir para, beside ashram fencing	15.25	2.28	1.88	0.05	21.28
Sultanpur	Sultanpur	Path mahal, beside math	21.35	0.4	7.26	0.11	14.18
Sultanpur	Sultanpur	Path mahal, pranaba nanda mission high school	21.35	0.34	4.12	0.16	127.66
Badhagachi	Badhagachi	Palpara, near tarak pals residence	21.35	2.96	1.92	0.12	28.37
Badhagachi	Badhagachi	Near Amar bhowmick res	21.35	2.14	3.66	0.26	14.48
Aida kismat	Aida kismat	Anganwari school	12.30	1.25	3.15	0.17	10.64
Aida kismat	Aida kismat	Gobinda haldar residence	24.40	1.00	2.45	0.05	14.18
Aida kismat	Aida kismat	Arjunnagar F.P school	18.30	1.7	3.45	0.05	17.43
Aida kismat	Aida kismat	Arjunnagar Dukhu karmakar residence	18.30	2.98	4.23	0.05	28.37
Arji Guptipara	Arji Guptipara	Milon ghosh residence	30.50	0.48	3.48	0.06	14.18
Krishnabati	Krishnabati	Charabagan N. Bairagya residence	18.30	2.98	4.23	0.05	17.73
Natun Char K.B	Saktipur	Near ahutosh sarkar residence	36.58	0.50	4.21	0.05	14.18
Natun Char K.B	Saktipur	Near Balai Mondal residence	42.67	0.12	3.25	0.07	7.73
Natun Char K.B	Char Rampur	Near Sashi Mohan Haldar residence	54.86	0.71	3.56	0.09	14.18
Paigachi	Paigachi	Natun Maszid	18.30	5.13	4.16	0.13	10.64
Paigachi	Paigachi	Muslim Para, Near Nur Islam res	48.80	3.02	3.21	0.17	10.64
Ilampur	Adibasi para	Near Bhim Majhi's res	85.34	0.76	4.32	0.18	17.73

Contd.

Village Name	Habitation Name	Location details	Depth(m)	Iron Mg/l	Nitrate Mg/l	Arsenic Mg/l	Chloride Mg/l
Ichhapur	Ichhapur	Adibasi para	91.50	0.54	3.21	2.18	14.18
Ichhapur	Ichhapur	balirdanga	91.50	4.40	3.27	0.21	21.27
Ichhapur	Ichhapur	Near Susanta ajumdar's res	91.50	0.90	3.21	0.12	14.18
dahartiomai	dahartiomai	Bagan para Sitala Tola	85.40	1.26	2.68	0.11	21.28
Sarenda	Ghoshpara	Near Sankar Ghosh's res	88.39	0.16	3.21	0.05	21.28
Malancha	Malancha	Saktipada Baul Das res	76.25	0.08	3.26	0.05	28.37
Malancha	Malancha	Muslim para, near Maszid	106.75	2.13	3.25	0.07	24.82
Valki	Valki	Charui Danga Balanadi Hembram res	221.35	1.52	2.48	0.05	28.37
Valki	Valki	Valki F.P School	95.40	0.40	3.28	0.08	21.27
Itagarh	Itagarh	Argare Para, Gopal Baul Das res	67.10	0.65	2.18	0.05	21.27
Ahmadpur	Ahmadpur	Battala	103.70	0.60	2.70	0.05	17.73
Sukharia	Punui	Utter para Chandi Das res	67.10	3.78	3.56	0.22	14.30
Sukharia	Sukharia	Beside river pump	61.00	3.60	1.89	0.05	14.80
patui	patui	Near Tapas Manik res	91.50	0.29	3.27	0.06	21.37
Jirat	Jirat	Near Kartik Das res	97.60	0.12	2.45	0.05	28.37
Jirat	Jirat	Beside dolmancha	91.50	0.16	3.27	0.21	10.63
Jirat	Jirat	Infront of Shyama prasad Smriti Sangha	91.50	0.13	3.21	0.05	10.64
Gouranga	Gouranga	Khairamary, Bibhuti Mandal res	15.25	2.91	7.15	0.05	28.37
Gouranga	Gouranga	Khairamary, Ranjit Mandal res	15.25	1.48	2.44	0.09	31.91
Gouranga	Gouranga	Khairamary, Sunil Kulu res	15.25	1.43	1.77	0.09	24.82
Raninagar	Raninagar	Khairamary, Sudhir Mandal res	15.25	2.28	3.56	0.06	31.91

Source: Executive Engineer, Hooghly Division, P.H.E. Dte, 2009

The surface water schemes viz., Lift Irrigation Schemes etc., for irrigation and drinking water on location specific basis may be encouraged in the district. In addition to this, rain water can be harvested by construction of water harvesting tank (Farm Pond) in the command areas of the farmers and can be utilized in the water stress period. There is a need to popularize such scheme to minimize the stress over the ground water and further contamination of arsenic in ground water.

Some measures that may be undertaken to increase the recharge of ground water and thus mitigate the arsenic related problems are as under:

- Massive recharge of ground water in Goghat I and Goghat II block
- Regulation of sand mining in Pundua, Mogra, Singur, Haripal and Tarakeswar while taking decision about excavation of potential aquifers.
- Steady but regulated development on both sides of Darakeswar and Mundeswari river thus providing scope for induced recharge of Damodar river
- Excavation of Saraswati- Behula palaeo channel thus providing greater scope for ground water recharge.

6.6 Waste Management :

With proliferation of economic activities and spread of the culture of consumerism there arises the environmental problem relating to proper disposal of huge industrial and municipal wastes. This include discharge of waste from domestic living and industry as well as bio-medical waste matters that are broadly associated with spill-over effects of urbanisation and population growth. With expansion of cities, open lands for disposal of waste are located further and further away from urban centres. Problem in the way of rationalizing worker and vehicle performance for extending regular disposal service to city dwellers result in spread of health hazards.

Proper management of solid waste requires a planned intervention in the waste sink service of the environment. Unless the rate of assimilation of solid waste by the environment exceeds the rate of its disposal, there is likely to be unsustainability in the tempo of flow of service of the environment as a giant receptacle. For sustaining human well-being it is henceforth essential that proper measure of waste disposal be undertaken so as to allow the continuity in improved and enhanced environmental sink service. In this context, it is thought imperative to critically analyse the condition and problems of solid waste management in selected municipalities in Hooghly district while also to suggest palliative measures.

6.7 Hooghly-Chinsurah Municipality

Solid waste management is posing a severe problem in the Hooghly-Chinsurah Municipality (HCM). The existing arrangement for solid waste disposal is grossly inadequate. There is a great need of improving the present method of Municipal Solid Waste disposal, in order to avoid unbridled contamination of land and water.

The District Domestic Product (DDP) of the HCM should incorporate the objective of achieving segregation of solid waste from all households and adopting scientific and sustainable ways of disposal of Municipal Solid Waste.

Better attainment of this objective should stress on i) regular collection and transportation and ii) proper disposal and treatment of the waste. About 20% of the municipality has been brought under the facility of door to door collection while its extension needs can no more be set aside. Although solid waste from the

remaining part of the municipality is collected through vats located at strategic points, its irregularity in nature can be checked only when door to door collection system be introduced. The families concerned can themselves then monitor its regularity and complain in case of gaps in the system.

6.7.1 Current Operational Problem Requiring Improvement

Improvement of existing garbage disposal system through dumping in the dustbin, vat, bin and movable bin must be improved, providing door to door garbage collection system.

Two bins, one green and other black @ 10 ltr. capacity each will be provided to individual household for collection of degradable and non-degradable waste separately. New rickshaw vans filled with bins will be procured for transporting. The domestic solid waste to secondary transfer points where containers will be placed for receiving the waste. From these points solid wastes will ultimately be shifted to Kodalia trenching ground.

Time required for this changed operations to stablise since its beginning in 2007 is 5 years.

6.7.2 Benefits of Proposed Project:

About 14 thousand holdings are supposed to be benefited and local environment shall be improved through implementation of new door to door collection. Linkage with surrounding major nursing homes, Health clinics, Medical units etc. are also contemplated in the plan.

6.8 Champdani Municipality

Solid waste management is one of the major concerns for maintaining a hale and disease free environment in the Municipality. Ward wise solid waste generation of Champdany Municipality is presented in the following diagram. It is based on considering the entire population in the municipality and on the assumption that every person generated 250 gm of solid waste per day.

Fig. 6.1: Ward-wise Waste Generation in Champdani Municipality

Source: Chairman, Champdani Municipality, Hooghly, 2009

It is found that maximum amount of waste is generated from Ward no. 10 and it is minimum in Ward no. 18. Wastes generated from the markets and industries are however not accounted for here. The other important issues related to the solid waste management in Champdany are stated below:

The Municipality generates about 25 MT. of solid waste per day. The solid waste generated from this Municipality is collected from bin or vat and finally disposed off by crude dumping method using 23 paddle tricycle with container, 5 tractors and 4 trailors. The dumping site is situated in the Ward No. 8. There are no specific sites for organic solid waste treatment at present. There is a separate system of collection of Bio Medical Waste (BMW). But no separate system exists for disposal and treatment of BMW. Some of the key findings related to the solid waste management system of this municipality are stated here.

Table 6.7: Key Features of Solid Waste Management System

SWM SYSTEM	House-to-House Collection system	No
	House-to-House Collection system (100%)	No
	Segregation of Sources of Domestic Waste	No
	Sanitary/ secured land filling practiced	No
	Dumping/ Trenching ground available	Yes
	Adequate Landfill site available	Yes
	Mechanized Transport Vehicles available	No
	Vermicomposting/ composting practiced	No
	Rag-pickers working in tandem with ULB	No
	Littering of Waste in slum areas	Yes
	Plastic Carry Bags banned	No
BIO-MEDICAL WASTE	Clinical Waste collected separately	Yes
	Autoclave/ Incinerator facilities available	No
	Segregation of Clinical Waste carried out	No
	Unsafe disposal of Bio- medical waste	Yes
	Risk of health hazards caused by Clinical Waste	Yes

Source: Chairman, Champdani Municipality, Hooghly, 2009

The perceived specific problems of solid waste collection, disposal and management of Champdani Municipality are summarized below.

- House-to-house collection system of solid waste is non existent in this Municipal area. Citizens are prone to dispose of the wastes in the road side, vats, any empty places or directly in to the drains. This scattered dumping of wastes creates a lot of problem during the collection of the garbage.
- The solid wastes, which are collected from the roadsides or from the vats, are directly dumped in the dumping site. No method of Vermi composting/ composting of the solid wastes is in practice. Segregation of wastes is also not yet practiced thus creating lot of environmental hazards.
- The machineries and other equipments which are used for SWM work is inadequate obstructing the process of full removal of wastes. Due to improper maintenance of the machines and equipments, full utilization of these materials is not always possible.
- Due to improper supervision and frequent exposure to health hazards the efficiency of the manpower often remains below the full potential.

- The budget allocation of SWM work is inadequate. Major portion of the expenditure is made for salary of the workers. So there is no room for improvement in the technology used for the SWM work.
- The Municipal authority ignores the solid waste management work. They have taken it just as a component of basic service delivery. They are concerned only about the collection and disposal of the wastes. Treatment of this waste is completely ignored. Only crude dumping process is practiced here. Due to certain administrative barriers the planning and implementation of this system is also ignored. Apart from these there also exists great problem of lack of awareness among the people about the importance of following proper waste disposal practice.

6.9 Serampore Municipality

6.9.1 Sewerage and Sanitation

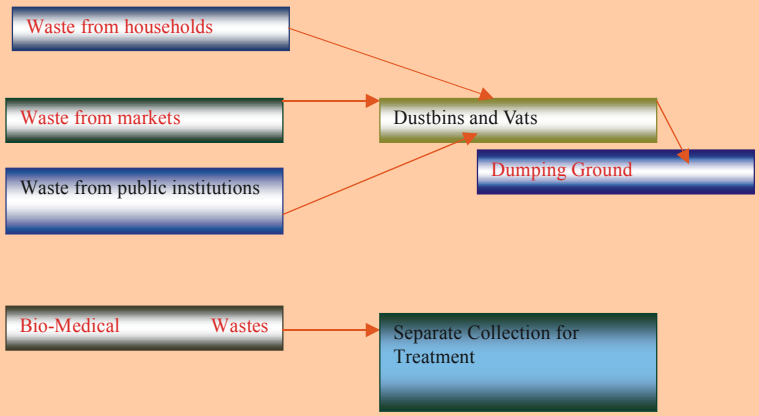
Serampore is one of the few municipalities having the record of earlier implementation of the sewerage system during the first part of eighties. However, certain problematic issues related with the sewerage system of this municipality, emerged from the feedbacks of the stakeholders. They are as below:

- There are no existing drawings demarcating the slopes and other details of the sewerage networks.
- At some locations the slope does not match with the technical requirements, hence there is backflow of the sewerage resulting in foul smell in the residences.
- Any type of maintenance is a big problem for the ULB as no drawings and other data are available denoting the slopes of the sewerage lines.
- In certain locations the past record shows that the sewerage lines have fouled with the water supply lines thus resulting into epidemics like diarrhoea. The sewerage networks in those areas are presently malfunctioning.
- About 60% of the total municipal area is having the sewerage network and the rest 40% needs to be done in a comprehensive manner.

6.9.2 Solid Waste Management (Serampore)

An efficient solid waste management system is essential for the sustainable development of the town or the municipal area. The system of solid waste management existing in this municipality is as follows:

Fig.6.2: System of Solid Waste Management in the Municipality



Source: Chairman, Serampur Municipality, 2009

- The dumping ground needs to be selected and this should be trans municipal in nature and the same should be in coherence with the trans municipal project.
- Provision of garbage vats at locations where still open dumping is prevalent.
- Time to time clearance of the garbage from the vats and the design of a proper routine system to optimise cost and time for the process of garbage clearance.
- New project of recycling of wastes through vermin compost plant or other methods as may be decided later with project viability test.

6.10 Bansberia Municipality

In Bansberia municipality total amount of solid waste is generated to the tune of about 42 metric ton per day. Total amount of waste collected per day amounts to approximately 35 metric ton. So still there is a gap between what is produced and collected for disposal. About 75% area has been covered for collection of waste. No. of House covered under door to door collection (covering 8 wards) is estimated at 11340.There is only one dumping ground and a SWM treatment plant is under construction.

It is usually the case that about 20 -60 per cent of all urban waste remains uncollected and less than 50 per cent of the population is covered. In specific cases open dumping and open incineration of wastes present uncalled for health hazards due to sheer callousness of the concerned municipality.

6.11 Phytoremediation of Sewage Water

In August 2007, a preliminary survey was carried out in the Hooghly district in order to verify the possibility of developing the phytoremediation method for the treatment of sewage and polluted waters. Phytoremediation is a new method for controlling and cleaning up polluted water and soils using green plants. It is well known that phytoremediation is an effective and economical process alternative to current method of soil and water treatment.

6.11.1 A brief Description of Phytoremediation

Phytoremediation is the process of using diverse type of plants to extract, contain, immobilize or degrade pollutants from soil and water. Some plants can remove contaminants from soil and water by direct uptake, followed by subsequent transformation, transport and accumulation in a non-phytoxic form.

Treatment wetlands are considered to be best alternative for superficial and flowing water. Constructed treatment wetlands are a logical solution for waste streams containing excess organic carbon, nutrients, particulate matter and metals, particularly where the waste stream is under control (i.e. in a pipe or canal) and land is available and cheap. The "Free-Water-Surface" (FWS) wetland and "Subsurface-Flow" (SF) wetland are the primary types of constructed treatment wetlands. In both types of wetlands, micro-organisms are thought to be responsible for waste treatment. Constructed wetlands offer great potential for the phytoremediation of toxins and pollutants. They combine the advantage of complete treatment of large volumes of polluted water at low cost. Their high capacity makes wetlands very different from terrestrial phytoremediation or conventional physical-chemical methods that deal with relatively small volumes of contaminated soils or water. No post-treatment such as filtration is needed for wetlands, differentiating them from algae-based systems.

Table 6.8: Summary of Known uses of Phyto-Remediation Wetlands

Pollutant or Toxicant remediated	Human problem	Environment problem
BOD	Drinking water quality,malodour	Fish killing, slime production
Nitrate	Blue baby disease	Eutrophication, Avian Botulism
Heavy metals	Drinking water standards	Toxicity
Bacterial pathogen	Microbial disease	none
Pesticides	Food chain toxicity, cancer	Non-targeted organic death
Phosphorus	Lake use	Eutrophication,

Source: UNTEGRA srl, Massimo Pietranteni, 2007 (www. humanwaveitalia)

6.11.2 Prospect of Phytoremediation in Hooghly District

The preliminary surveys carried out in the Hooghly district have shown that sewage waters are collected in a concrete micro-channels net that follows the road texture of the suburban area. The water flowing through the concrete channels arrives in larger channels, most of them not coated (earth channels).

At the moment the complete texture of the channels is not known. Further, it is not known which part of the sewage water goes into the treatment plant at Bhadreswar and which part is discharged directly into the Hooghly river. A concrete-coated channel discharges the water from the Bhadreswar plant to the Hooghly river , but at the same time untreated water, coming from other sites, flows through this channel and is discharged directly into the Hooghly river.

It is also not known which part of the water flowing through the channels is subject to ground infiltration before arriving in the treatment plant. It is probable that a large part of water flows through many ponds of the Hooghly district, increasing the ground infiltration rate of non-treated water. To complete the study, a survey of the sewage channel net is necessary. This data should be available in the technical office of the Municipality (or related offices) and should be upgraded with site surveys. While the situation remains to be further clarified, the following preliminary hypotheses of phytoremediation treatments can be mentioned:

a) construction of many small phytoremediation wetlands along the stream of the channels with the purpose of reducing the pollution of water before arriving in the treatment plant (the main purpose is to reduce the infiltration rate of polluted water and the pollution of the natural ponds, and also to reduce the contamination level of the water that arrives in the plant);

b) construction of a phytoremediation wetland site downstream the Bhadreswar treatment plant to reduce the pollution of the water discharging into the river;

c) construction of one or more complete phytoremediation wetland sites in other sites of the Hooghly district, actually not served by the Bhadreswar treatment plant.

The feasibility of one or more of these hypotheses should be investigated after a confirmation of the interest of the local authority for the project.

6.12 Irrigation Resources

The irrigation system in the district is served by tank, high density tube-well (HDTW), medium density tube-well (MDTW), low density tube-well (LDTW), shallow deep tube-well (STW) and river lift irrigation (RLI). While coverage by tank irrigation has multiplied by almost 2.5 times in the considered years (as in table below), that by STW has decreased. Coverage by LDTW has remained the same while that by others have increased only moderately.

Table 6.9: Sources of Irrigation in the District of Hooghly (Numbers / Area Irrigated)

Year	Tank	HDTW	MDTW	LDTW	STW	RLI	Others
1	2	3	4	5	6	7	9
2001-02	18636	353	37	74	24150	300	0
2002-03	18633	356	40	74	23134	336	0
2003-04	18633	360	43	74	23134	346	0
2004-05	41448	366	46	74	18988	380	0
2005-06	41449	366	46	74	18988	380	0

Source: Directorate of Irrigation, Hooghly, Govt. of W.B, 2009

6.13 Fishery in Hooghly District

Inland fish culture today serves multiple socio-economic and environmental purposes. It constitutes one of the rich and easily available source of animal protein for the people. Apart from that it also provides direct and indirect scope of employment to a multitude of rural people and a unique avenue for productive upkeep of environmental conditions of different types of water bodies. In Hooghly district there are several ponds, wetlands, tanks, rivulets etc. suitable for pisciculture. When scope of agro-employment is shrinking, it offers an alternative path towards diversifying the job for the poor rural folk. Several derelict and silted water bodies should also be brought under fish culture for enhancing fish production and creation of gainful employment.

The employment situation in inland fishery in Hooghly district during 2001 to 2005 is presented in Table 6.10 below. It decreased in Balagarh, while rose substantially in Chinsurah- Mogra, and Dhaniakhali. In case of other blocks the increase in employment has been rather moderate.

Table 6.10: Employment Scenario in Fishery Sector

Name of Blocks	No. of Persons Engaged in the Profession				
	2001	2002	2003	2004	2005
Chinsurah-Mogra	6300	6811	6820	6837	6842
Pobla-Dadpur	3360	3382	3397	3441	3474
Pandua	3150	3219	3234	3258	3259
Dhaniakhali	4200	7333	7308	7353	7354
Balagarh	6720	6148	6188	6184	6201
Serampur-Uttarpara	5250	5260	5268	5292	5308
Jangipara	4200	4203	4213	4238	4239
Chanditala-I	5250	5266	5283	5308	5311
Chanditala-II	5250	5280	5288	5244	5249
Tarakeswar	7140	7140	7186	7188	7180
Haripal	5250	5270	5283	5306	5316
Singur	3150	5299	3166	3190	3211

Contd.

Name of Blocks	No. of Persons engaged in the Profession				
	2001	2002	2003	2004	2005
Arambag	3675	3675	3738	3769	3733
Pursurah	3150	3200	3238	3264	3257
Goghat-I	7350	7388	7387	7405	7417
Goghat-II	8400	8411	8424	8511	8527
Khanakul-I	8425	8467	8478	8505	8495
Khanakul-II	6300	6308	6322	6323	6332

Source: Assistant director of fisheries, Hooghly, 2009

Block-wise annual production figures during 2001 to 2009 have been presented in the tables below.

Table 6.11:Block-wise Approx. Annual Production (Qtl.)

Name of Blocks	2001	2002	2003	2004	2005
Chinsurah-Mogra	34375.00	354.60	23625	23886.10	25321
Pobla-Dadpur	30937.00	147.87	47749	48747.20	51921.8
Pandua	34375.00	532.20	60320	60662.20	65253.5
Dhaniakhali	27500.00	580.64	100996	101557.60	100409
Balagarh	34375.00	63.00	20984	21123.40	23151.5
Serampur-Uttarpara	20625.00	72.30	43440	43597.80	45062.4
Jangipara	30397.00	92.70	21514	21719.40	22018.6
Chanditala-I	27500.00	326.90	12732	12993.40	14137.7
Chanditala-II	27500.00	428.54	10071	10311.90	12159.6
Tarakeswar	30397.50	490.66	22195	22484.40	22147.9
Haripal	30397.50	21.00	48287	48245.20	50031.5
Singur	30397.50	541.70	25431	25785.40	26280.2
Arambagh	30397.50	281.70	49306	50271.60	45233.4
Pursurah	34375.00	108.44	13073	13361.70	13056.1
Goghat-I	30395.00	257.24	23173	23401.60	25203.3

Contd.

Name of Blocks	2001	2002	2003	2004	2005
Goghat-II	30395	301.5	46784	46720.50	48300.80
Khanakul-I	30395	29.7	33227	33334.10	30012.00
Khanakul-II	30395	242	27218	27139.50	300120.00
	2006	**2007**	**2008**	**2009**	
Chinsura- Mogra	25500	26000	30000	30000	
Polba dadpur	45000	50000	60000	58000	
Pandua	48450	55000	65000	63000	
Dhaniakhali	82500	83000	85000	84000	
Balagarh	30000	32000	35000	34000	
Srirampur-Uttarpara	23000	24000	25000	25000	
Jangipara	30000	33000	35000	34000	
Chanditala-I	16000	20000	25000	25000	
Chanditala-II	15000	16000	20000	20000	
Tarakeswar	19000	18500	20000	20000	
Haripal	40000	45000	50000	48340	
Singur	16000	20000	30000	30000	
Arambag	40000	42000	45000	41000	
Pursurah	13420	15000	19000	19000	
Goghat-1	50000	48000	45000	42000	
Goghat-11	30000	24000	25000	2500	
Khanakul-I	25000	30000	35000	35000	
Khanakul-II	24000	26000	30000	30000	

Source: Assistant Director of Fisheries , Hooghly, 2009

If we compare annual production of fish in 2009 with that of 2001, it is found from the figures that number of blocks like Chinsurah-Mogra, Balagarh, Chanditala-I, Chanditala-II, Tarakeswar, Singur, Pursurah, Goghat-Iand Khanakul- II, there has been a decline while the rest have experienced a growth. The fall in the level of production in the aforesaid blocks does not augur well for the sustainability of livelihood of the fish farmers. Again, if we consider all the intervening years, it is observed that there has been an undulating pattern of change in the level of production in almost all the blocks over the considered period . This is indicative of some sort of lack of steadiness in the level of production. However, if we focus attention on the last two years, it is found that in several blocks like Polba-Dadpur, Pandua, Dhaniakhali, Balagarh, Jangipara, Haripal, Arambag, Goghat -I and Goghat-II, annual production has decreased in 2009 compared to the immediate preceding period. This is really alarming to the stable flow of protein rich products when demand and requirement for the same has been increasing commensurate with growing population. In Goghat-I and Goghat- II blocks the situation is even worse as is evidenced by the fact of more or less declining production of fish over the four years period. This indirectly reveals the growing neglect of the importance of pisciculture and possibly the apathy of fishermen to adhere to these age-old occupations in these areas.

Net area under effective pisciculture decreased in Chanditala- I, Chanditala -II ,and Goghat- I, while it rose rather tangibly in the blocks of Pobla- Dadpur, Pundua, Dhaniakhali, Serampore-Uttarpara, Chinsurah-Mogra etc. over the years 2001 -2005. The above tables suggest that extension of area under pisciculture has been associated with substantial production of fish in the respective blocks. In other cases, the increment in area under fish culture has been only moderate. What is important is that there are many culturable ponds that may be brought under fish cultivation and accordingly area under fish production may be expanded. In 2005 as the following table suggests, there were more than 500 ha. left unused for pisciculture in the blocks like Khanakul -II, Goghat- II, Pundua, Dhaniakhali as well as Serampore- Uttarpara. In all the blocks scope remains for extending pisciculture practices and this might partially lessen the shortfall between demand and supply.

Table 6.12: Net Area Available for Pisciculture (in ha.)

Name of Blocks	Years				
	2001	2002	2003	2004	2005
Chinsurah-Mogra	510.00	510	1040	1039.68	1039.68
Polba-Dadpur	765.00	765	1576	1576.08	1576.08
Pandua	1530.00	1530	2003	2002.61	2002.61
Dhaniakhali	2210.00	2210	3364	3364.00	3364.00
Balagarh	619.65	619	7999	798.08	798.08
Serampur-Uttarpara	425.00	425	1448	1448.00	1448.00
Jangipara	935.00	935	955	954.00	954.00
Chanditala-I	850.00	1954	551	551.05	551.05
Chanditala-II	765.00	765	448	447.59	447.59
Tarakeswar	765.00	765	728	728.00	728.00
Haripal	935.00	963	1605	1605.00	1605.00
Singur	807.50	807	847	847.00	847.00

Contd.

Name of Blocks	Years				
	2001	2002	2003	2004	2005
Arambag	1615.00	1615	1634	1633.76	1633.76
Pursurah	425.00	425	571	570.76	570.76
Goghat-I	1530.00	1530	768	768.26	708.26
Goghat-II	2125.00	2125	2067	2066.71	2066.71
Khanakul-I	1615.00	1630	1767	1776.97	1776.97
Khanakul-II	1530.00	1954	1444	1443.53	1443.53

Source: Assistant Director of Fisheries , Hooghly, 2009

The following table provides a comparative view of the area under pisciculture and persons engaged in it in the period 2006-07 and 2008-09.

Table 6.13: Comparative Block-wise Pisciculture Scenario in Hooghly District

Name of the block	No. of schemes operated in the Block	Net area available for pisciculture (ha.)	Net area under effective pisciculture (ha.)	No. of persons engaged in the profession	No. of schemes operated in the Block	Net area available for pisciculture (ha.)	Net area under effective pisciculture (ha.)	No. of persons engaged in the profession
	2006-2007				2008-2009			
Chinsura-Mogra	3	1039.68	728.78	7237	1	1005.68	723.32	6890
Polba-Dadpur	2	1576.08	1120.77	9302	2	1542.08	1043.48	3462
Pandua	2	2002.61	1445.30	4882	1	1968.61	1423.73	3275
Dhaniakhali	2	3364.00	2454.63	9623	1	3330.00	2450.63	7409
Balagarh	3	798.08	518.89	6484	1	764.01	518.46	6247
Serampur-Uttarpara	2	1448.00	926.13	5298	1	1414.00	926.13	5351
Jangipara	2	954.00	639.52	7016	1	920.00	635.52	4274
Chanditala-I	2	551.00	336.12	5376	1	517.00	336.12	5253
Chanditala-II	2	447.59	276.71	5239	1	413.59	276.71	5291
Tarakeswar	2	728.00	480.33	7675	1	762.00	473.76	7248
Haripal	2	1605.00	1120.77	5547	1	1571.00	1119.68	5361
Singur	2	847.00	565.64	4544	1	813.00	561.74	3227
Arambag	2	1633.76	1179.72	6786	1	1599.76	1173.30	3755
Pursurah	3	570.76	361.17	3278	1	536.76	360.74	3277
Goghat-I	2	708.26	507.46	10018	1	752.26	499.01	7477
Goghat-II	2	2066.71	1475.99	9843	1	2032.71	1470.69	8526
Khanakul-I	2	1776.97	1279.58	9413	1	1742.97	1275.62	8578
Khanakul-II	3	1443.53	999.62	6330	1	1409.50	999.81	6393

Source: Assistant Director of Fisheries, Hooghly, 2009

It is evident from the above table that net area available for pisciculture has declined over the years 2006-07 to 2008-09 in all the blocks excepting Tarakeswar and Goghat-I. Increasing tendency of real estate development , silting and lack of proper and timely reclamation of wetlands have resulted in diminution of areas that might otherwise be utilized for fish culture and capture. What is more unfortunate is that in all the blocks net area that is actually being used for pisciculture is far less than the full potential. Again excepting Chanditala I and II, Serampur-Uttarpara and Khanakul I, in all the other blocks, area effectively being used for fish production has undergone a decline during the aforesaid period. Further, there it is observed that a fall in the number of fishermen over the years , clearly indicates a tendency of exodus of people from traditional fishing occupation attributable to a variety of causes like lack of availability of adequate fishing area , timely supply of credit and other necessary inputs, lack of motivation, difficulty in marketing because of middlemen and income opportunities in other informal sector etc. In Polba-Dadpur, Arambag and Goghat-I blocks there is such a visibly sharp fall in the number of people associated with fish culture. It deserves administrative focus and attention to the fishermen's problem with due concern and ameliorative efforts to retain them in their traditional occupation so necessary for fishery development. Sometimes the functioning of the fishery cooperatives deviate from the desired or targeted goals and leave the fishermen in dire economic situation and apathetic to its development. Main purposes of fishery cooperatives are to utilize local water resource base for maintaining regular source of income for pond fishermen, generating investible revenue, involve fishermen in resource development activity through participatory cooperation and thus improve their socio-economic condition. Lack of timely and appropriate doses of quality seed, feed and fertilizer, high input cost, problem of aeration in water, conservation and storage problems, distance from market and problem of preservation during transportation, guarding problems etc. often stand in the way of good economic management of the co-operatives. These need to be given immediate attention for reversing the problems associated with fishery development and attracting resourceful persons for fish culture activity.

6.14 Forestry in Hooghly District

With an objective of offering a sustainable source of income to rural people and ensuring their participation in managing the forest resources in their vicinity, the Govt. of India introduced the Forest Policy Act in 1988 and advocated the implementation of Joint Forest Management (JFM) in different States with the involvement of local people coordinated by the efforts of Forest Department (FD). It is visualized that unless the rural people have access to and participation in managing the common pool resources they are unlikely to cater to their sustainability. There happens to be immense importance of participatory management of common pool resources like waste lands , forest resources. In fact there exists multiple benefits in proper management of common forest lands in the form of fuel wood, food items, fodder, non timber forest products (NTFP) medicine , timber etc. In coherence with the aforesaid importance , National Forest Policy proposed increased afforestation and community participation through formation of Forest Protection Committee (FPCs) (under the JFM Institution) not only for the protection of forest land but also non forest land resources associated with social forestry activities. Primary benefactors of this type of management are supposed to be small forest farmers and landless people in forest areas. The following Table 6.14 gives a synoptic view of the types of forest resources in Hooghly district.

Table 6.14: Classification of Forest Area, Out-turn of Forest Produce, Revenue and Expenditure of Hooghly District

Item	Unit	2001-02	2002-03	2003-04	2004-05	2005-06
1	2	3	4	5	6	7
Area by Class of Forest						
Reserved forest	hectare	211.92	211.92	211.92	211.92	211.92
Protect forest	"	117.26	117.26	117.26	117.26	117.26
Unclassed state forest	"	19.51	19.51	19.51	19.51	19.51
Khas forest	"	0.00	0.00	0.00	0.00	0.00
Vested wasted land	"	0.00	0.00	0.00	0.00	0.00
Forest owned by corporate bodies	"	0.00	0.00	0.00	0.00	0.00
Forest owned by private individuals	"	0.00	0.00	0.00	0.00	0.00
Forest owned by civil authorities	"	0.00	0.00	0.00	0.00	0.00
Total		348.69	348.69	348.69	348.69	348.69
Forest Produce						
Timber	thousand cu.metre	0.142	80.688	80.427	55.45	50.99
Fuel	"	0.025.00	2.52	3.98	2.51	3.37
Pole	(Number)	0.00	..	36.00	41.00	96.00
Revenue & Expenditure						
Revenue	Rs. In thousand	1915.00	1242.00	968.00	621.00	567.20
Expenditure	"	3750.00	1935.00	1244.00	2500.00	2000.00

Source: Department of Forest, Hooghly ,2008

Apart from the social forestry, small patches of forest land are located at Arambag range in Hooghly district. This forest area is richly endowed with variety of teak species as well as bamboo, Akashmani, Arjun, Menjiri, Sisoo etc. Total amount of forest land is 853.60 acres distributed over three blocks like Arambag, Goghat -I and Goghat– II. In terms of past history, it is observed that long back these areas were under Sal or riverine species crop. Later these areas were placed under the programme of " Teak conversion working circle". The impacts of this programme have fructified in the form of substantial regeneration of teak extending to about 70 to 80% of forest areas, combined with aforesaid variety of species.

6.14.1 Plantation Strategy

It has been decided that plantation would not be undertaken in a plot of more than 10 ha at a time. Plantation would be postponed to subsequent year in case of availability of greater amount of areas. A variety of species of plants have been contemplated in this area out of which the field level officials can choose a specific combination of plantation depending on various local, biotic, climatic and edaphic (relating to soil texture, fertility conservation aspects) factors. The list of species of plants that are found suitable in the area covers the following variety:

Sisoo, teak, amla, champ, panisaj, bahera, haritaki, simul, gamar, sidha, arjun, mehagony, chatian etc.

The forest region under plantation extends over three types of areas; these are

(a) Areas which are on the river bank, have sandy soil, are subject to inundation, as well as dry patch, high soil temperature during summer. Forest land located in Bhadur and Adra mouza on the bank of river Darakeswar fall in this category.

(b) Areas which are exposed to large scale inundation during rains, mostly in Paradra and Bhadur mouza.

(c) Highlands with established crops of Teak or other different species in areas like Paradra, Bhadur, Babla and Rangamati.

6.14.2 Assessment of Peoples' Participation in Arambag Forest Range:

A study of the Arambag forest range in the Hooghly district of West Bengal offers a scope to assess the problems and prospects of peoples' participation in managing forest resources. This district has also made significant progress in respect of social forestry programme. The villages located in and around the said forest range derive diverse benefits from it in the form of supply of not only timber, fuel fodder and leaves but also livelihood and job opportunities. It seems, therefore, imperative that people in these villages indulge in participatory development of the forest based resources which cater to their livelihood to a great extent. In order to get an index reflecting peoples' participation, we consider four representative samples viz.Bhadur, Chadur, Metul and Birompur that are considered important from the point of view of forest dependence. Here the villagers' participation mainly refers to planting trees, digging earth, putting fence, guarding and united decision in the management of forest resource.

There is no universally accepted measure or index that can be used to address a developmental programme in terms of people's participation. In the present context , the method used by Singh (1992),has been adopted to compute the People's Participation Index (PPI). The sample villagers were asked a set of ten questions that were framed as to have either a yes(1) or no (0) or an always (1),sometimes (0.5) or never (0) answer. Out of ten questions, eight followed a particular pattern and the remaining two another pattern. Each of the question was assigned a weight showing its relative importance as a measure of participation. The sum of the weights added up to 100. The weights were determined in consultation with the panchayat members. Following this method , we computed a participation score for each of the sample respondents and all the score thus computed were added up and then divided by the number of sample respondents in each of the sample villages to compute a PPI for each village (as given in the table below).

Table 6.15: Forest Participation Index in Arambag Range

QuestionNo.	Weight Assigned to the Question	Score of Response for Sample Forest Range			
		(1)	(2)	(3)	(4)
		Bhadur	Chandur	Metul	Birompur
1	5	14	30	20	30
2	12	10	19	18	08
3	12	12	30	14	10
4	15	10	18	20	15
5	10	10	30	14	12
6	5	02	04	08	02

Contd.

QuestionNo.	Weight Assigned to the Question	Score of Response for Sample Forest Range			
		(1)	(2)	(3)	(4)
		Bhadur	Chandur	Metul	Birompur
7	8	04	26	12	06
8	10	05	28	10	08
9	10	10	20	14	05
10	13	08	25	10	06
Total	**100**	**85**	**230**	**140**	**87**
No of respondents		14	30	20	15
Total Score of responses		880	2341	1430	977
PPI		62.9	78	71.5	65.1

Formula of PPI = Total score of Responses/ Number of Respondents

Source: Primary data collected through interview

Broad Findings:

The above table presents a summary of the responses of the sample villagers to the questions asked to them about their participation in the activities of maintenance of the Arambag range.

The PPI table reveals that the villagers of Chandur and Metul comparatively more intensively participated in the meetings called by the forest official than that of Bhadur and Birompur . Probable reasons behind this are that the villagers of Metul and Chandur benefited more from the use of forest resources by collecting fuel , fodder and grass and by grazing cattle in the forest compared to that of the other two villages. Besides this the villagers of Bhadur and Birompur attended the meetings very casually as they felt that their importance was predefined by the forest officials regarding expressing their opinion, performances and priorities in the decision making process and so stayed relatively passive and inactive. It is also disheartening to note that villagers of Birompur and Bhadur were greatly neglected regarding membership of Van- Raksha Committee. Most of the members of VRC were selected according to choice of Panchayat Pradhan and forest officers and in this selection casteism and religion gained much importance. However, these problems are not insurmountable in case of undertaking of certain steps for proper operationalisation of the scheme of participatory development. Forest resource development project should be formed on the basis of Gram Sabha and development project should be implemented from the Gram Sabha. Gram Sabha should ensure that opinions and proposals of villagers are heeded to and respected by the forest officials in case of joint action. The wealthy and powerful section of the community should be treated like that of the poor villagers in respect of joint management.

Information should be collected about the various strata and needs of population and needed infrastructure before grass root level of planning. Selection of FPC should be impartial and democratic and should be in consultation with the Gram Sabha. There need to be mass awareness campaign regarding the rights of villagers and the benefits of participatory management. It is often said that current JFM model does not fully recognize the unique needs and characteristics of forest dwellers, who are among the poorest groups in society. For meaningful participation of communities there need to be total revamping in the attitude of FD towards forest people, involve all in decision making process and extend their increasing access to forest resources embedded in a program of progressive reforms.

Block- wise Fuel Dependence:

The following Table 6.16 gives a view of block-wise fuel source dependence of sample villagers in Hooghly district. Majority of the villagers in almost all the blocks use fuel wood for cooking purposes. Electric heater and kerosene do not appear to be much important. Some well- to- do people ofcourse have taken resort to gas and some have been accustomed to combined use of coal and dung.

Table 6.16: Block-wise Fuel Source Dependence in Hooghly District

	Fuel Sources						
Blocks	Kerosene	Coal and Dung	Gas	Electric Heater	Fuel wood	Others	Average Fuel Collection Time (Minutes))
Arambag	0	142	27	1	183	77	66.28m
Balagarh	18	63	80	60	40	15	85.2m
Chanditala-1	8	62	25	4	78	43	90.42m
Chanditala -II	1	49	73		108		26.45 m
Dhaniakhali	1	44	70		247	23	63.6m
Goghat-I		60	34		147	57	112.14m
Goghat-II		60	34		145	57	92.46m
Jangipara	4	18	58	32	85	1	74.04m
Khanakul -I	240	203	73	3	300	67	100.92m
Khanakul-II	5	60	61		146	25	88.2m
Singur	4	99	23		135	43	61m
Tarakeswar		18	58			96	194.67m

Source: Field Survey Data, 2009

Average fuel collection time for the sample villagers appears to be highest in Tarakeswar block while lowest in Chanditala-II block. Here, time dimension takes care of both to and fro movement to the source of fuel. In a number of cases average collection time is quite long, almost 1 hour and 30 minutes. The locational distance of forest and other fuel sources from the residencial area of the sample villagers involves direct variation of collection time of fuelwood and associated health hazards. Since females are affected mostly by the distance factor , there is a great necessity of operationalising alternative fuel sources in the study localities. In this context, solar cooker or biomass based gasifier projects seem to have a great prospect.

6.15 Eco- System Services and Human well-being:

It cannot be gainsaid that the services provided by the eco-system in the biosphere has always supported the continuance of life on this earth. And natural resources constitute the main inputs in the production sphere for generating the flow of goods and services that cater to the satisfaction of various consumption needs. Derivation of utility or human well-being is deeply influenced by the supply of these material inputs from nature. Apart from this, well-being also depends on health aspects, access to knowledge, social capital, social security and freedom. Changes in eco-system services due to human intervention are directly

or indirectly interrelated with these aspects. The degree of well-being of human beings is to a great extent governed by the extent and nature of intervention in the environmental resources that also control the eco-system services. Similar to the benefits of improved education and health aspects, preservation, restoration and enhancement of eco-system services involve functionally related synergic benefits. The eco-system services are offered in the form of multiple benefits of wetland and forest resources, fishery, prudent management of mineral belt resource, waste assimilative capacity of environment, recreational and aesthetic benefits in the form of eco-tourism potential etc. Human well-being is greatly conditioned by a moderate dose of withdrawal of these services such that their regeneration is ensured. Although late, many Govts. have realized the importance of efficient management of these basic life support systems.

Most of the eco-system services emanate from the maintenance of renewable natural resources like air, water, soil, open access forest resources, certain amenity values etc. which do not have their markets and hence considered as bountiful in nature. But many such resources become polluted through overuse or may run the risk of extinction if their innate regeneration rate is exceeded by the current exploitation rate. The most glaring omission in conventional national accounts is that of depreciation of natural capital associated with depletion or degradation of eco-system services. This drawback has recently been tried to be avoided through the evolving of green accounting concept which takes into account of depletion and depreciation of natural resources and their regeneration issues. The issues of externality associated with many of the renewable type natural resources and their services gives rise to the free rider problem and its rapid depletion and degradation. Since there are various externalities and non market values associated with diverse eco-system services, the Govt. should come up with a managerial and caring role with steps to shed off the impurities that vitiate eco-system services and disturb well-being.

Poor masses mostly residing in rural and peri-urban areas usually have poor access to alternative services and are highly vulnerable to untoward changes in eco-system services manifest in the form of flood, drought, subsidence, ground water depletion, thinning of forest resources, soil erosion etc. The poor rural people, unlike their wealthy urban counterparts, generally reside in regions exposed to diverse form of environmental hazards and do not have adequate financial and institutional buffer to guard against such unpredictable calamities. For instance, degradation of forest resources results in decline in forest products, threatening to the subsistence of forest dependent people who may not have easy access to alternative jobs and earn their subsistence level of living. Efficient management of basic life support systems on the part of Govt. involving the local communities cannot be neglected any further.

Suitable aforestation should be done in massive scale in uncultivable fallow land of the district. Proper compensation should be arranged with due regard to the traditional right and cultural pursuits of forest based people who might be uprooted for private industrialisation purposes. The eco-system benefits and livelihood prospects of poor people can be integrated through planned and Govt. supported promotion of more and more eco-tourism sites. More and more derelict wetlands should be increasingly reclaimed for pisciculture with grant of lease right to traditional fishermen. Easy access to credit and input facilities need to be arranged for improving their work conditions.

In some municipalities /blocks there are no proper scientific waste disposal facilities. In many cases neither there is adequate waste disposal infrastructure nor people are well aware of the importance of proper disposal acts. There is a great need of launching proper waste disposal campaign in order to generate peoples' sense of keeping their environment clean through regular disposal in specific places.

So, we see that there are diverse types of local resources available that can be developed to provide better livelihood of local people. The dependence of poor people on eco-system services is rarely measured and thus typically overlooked in national statistics and in poverty assessments. Maintenance of productive capacity of natural resources and carrying capacity of environment is important for sustainability of eco-system services. There is need for exercising prudence with respect to long term conservation goals of eco-system services. For instance eco-system changes that involves little impact on human well-being over short run (i.e soil erosion, silting of river bed etc.) may be a matter of grave concern in the longer run over years or decades in terms of fall in agricultural productivity, exposure to flood etc . again changes at a local scale with little impact on some services at that scale(local impact of forest loss on water availability) may involve major impacts at large scale (forest loss in a river basin changing the time and magnitude of downstream flowing).

Level of intervention in eco-system services disproportionate to its carrying capacity is likely to result in irreversible impacts across intra and intergenerational levels in terms of morbidity and health hazards, extinction of animal and plant species, the deterioration of waste-sink services of environment, damages to air and water quality, soil fertility etc. Gradual recognition and grant of customary rights of local people to the natural resources surrounding their habitats, with little bit of Govt. control if necessary, seems to be of utmost importance to preserve the eco-system and its services. Local knowledge, local involvement and community participation need to be given proper recognition and stress for the aforesaid purpose.

Chapter 7

CULTURAL TOURISM & HUMAN RESOURCE DEVELOPMENT

Hooghly is a culturally affluent district in West Bengal. It occupies an important place in the tourist map of the State. Exploring the cultural tourism potentialities and its likely impact on Human Resource Development, this chapter advocates for an integrated participatory tourism planning for sustainable development of tourism in the District.

7.1 Introduction:

Tourism is one of the fastest growing industries of the world in the 21st century. It has emerged as one of the major sources of employment and foreign exchange earning for many developing countries, including India. In the past few years, there has been a record increase in the number of foreign tourists visiting India. During the year 2006, India's International tourist arrivals increased 13.6% over the last year. The Tourist Satellite Accounting for India has brought out that contribution of tourism to GDP of the country has been 5.9% in 2003-04. Employment in tourism sectors both directly & indirectly has been 41.8 million in the same year and this is contributing 8.78% of total employment in the country. It is estimated that by the end of 2006-07 the employment generated in the tourism sector both directly and indirectly would be around 51.9 million. Thus, tourism emerges to be an important engine of growth for the economy. West Bengal has different types of tourism products like mountain range at Darjeeling, sea beaches at Digha, Mandarmani and cultural and historical sites, like Shantinikatan, Kolkata, Vishnupur, Chinsurah and Chandannagar but it has remained in a poor position compared to many Indian States and Union Territories. The major objective of this chapter is to find out the core elements for developing the cultural tourism potentialities of the major tourist sites of the district, and thereby to ensure the development of human resources there. Human resource development through tourism is comparatively a new issue in India. But it has many interrelated and interdependent dimensions with respect to the system of tourism and related roles and responsibilities of various components. The Government of India's role in tourism development is 'to facilitate, to create a climate and to act as a catalyst'.

Under the backdrop, the report examines the potentialities of cultural tourism in the district of Hooghly. In this direction, an emphasis is given to promote human resource development in an effort to explore the alternative potentialities of tourism in the study area. As the secondary source of data is relatively scanty in this regard, the report draws some important empirical observations based on a primary survey of some selected tourist sites in the district of Hooghly. However, the report seeks to show some light on the following economic, social, and environmental issues as mentioned below.

Economic

- Cultural tourism as an important means of income and employment opportunity in and around cultural tourist sites.
- Promotion of tourism entrepreneurship.
- Educate and aware the local community including the most vulnerable section of the society regarding alternative economic benefits derivable from tourism.
- Motivation of the young people by providing them with alternative economic and socio-cultural benefits.

Social

- Maintenance of local socio-cultural secular fabric of the district.
- Increase opportunity to stay in homeland and hence reduced migration and urban-rural disparities.
- Preserving the local traditions, culture values etc.

Environmental

- Protection of socio-cultural and natural heritage of the district.
- Setting up a linkage between tourism and resource planning.

The outline of the chapter is as follows. The next section deals with the methodological framework to consider the relationship between cultural tourism and human resource development in the context of Hooghly district. First, a brief analysis is made about the elements of cultural tourism resources in the district of Hooghly in section 7.3 by assessing tourism potentialities of the respective sites. In section 7.4 an explanation is given on the relation between cultural tourism and human resource development in the district. Section 7.5 deals with the marketing and promotional strategies that need to be taken in an effort to formulate the desired policy in this regard. The concluding remarks have been presented in section 7.6

7.2 Approach & Methodology

A stepwise approach was adopted to assess for the cultural tourism potential development of the District. The basic approach to the problem consisted of following steps.

Step I : Search for information

↓

Step II : Transformation of information into new ideas of tourism development and a discussion on various aspects of tourism system based on demands and supply

↓

Step III : Identifying key points of destination planning and development and its management

↓

Step IV : Converting ideas into actions keeping in view the convergence of different welfare schemes and how to ensure maximum benefits to the local community

The discursion on Cultural Tourism and Human Resource Development in the district of Hooghly is based on both descriptive and analytical approaches. The section citing the site of tourist attractions important in the district is essentially based on descriptive views. In this context, attempt has been made to comment on

the potentialities of the development of tourism which has hitherto been left unexplored. On the other hand, the next two sections rest on analytical perspective where an attempt has been made to utilize the information on tourism already available, and analyze these to make a critical evaluation of the marketing and promotional strategies that need to be undertaken in an effort to search for an alternative tourism avenues.

The empirical part of the study is based exclusively on the data generated by primary survey. From the district, 473 tourists, both domestic and international, were purposively chosen. The survey was carried out with a structured questionnaire relating to infrastructure of tourism, potentialities of tourism and nature of tourism attractions. The reference period for field survey of this study is 2009.

7.3 Analysis and Assesment of the Elements of Cultural Tourism Resources in the District of Hooghly

Cultural tourism resources of a destination is the sum total of historical building, religious places, cultural places, cultural events etc. inclusive of the activities centred around natural resources like river, forest, lakes/ponds, villages and eco-parks; that attract both domestic and foreign visitors. In this regard, Hooghly is an important district in the tourist map of West Bengal .The district is situated on the banks of the river Hooghly (the Ganges). It has all reasons to flourish as a commercial hub. Chinsurah is the district Headquarter and it has also the importance of being the Divisional Headquarter of Burdwan Division. By the passage of time Hooghly has emerged as an important district with advanced agricultural practices and centre of small and medium scale industries.

Evaluation of cultural tourism in some of the important tourism site in the district reveals the following scenario.

7.3.1 Places of Cultural Tourism Resources in Chinsurah

It is the District Headquarter of Hooghly; which is situated 40 km. away from Kolkata on the mainline of Eastern Railways. The town is richly endowed with cultural heritage sites, but poor in respect of accommodation. A few medium budget hotels are there, but not suitable for overnight or weekend stays for domestic tourists. Star category hotels are also non-existent that basically cater to the demand of foreign tourists. Only State Government run accommodation for officials like Circuit House, P.W.D or Forest Department guest houses are available. Even Holiday Homes are not well maintained for visitor stay. A few eateries are available but good air condition restaurants are not present. So is the pathetic condition in relation to accommodation facilities in nearby towns of Bandel and Chandannagar. Poor accommodation facilities act as a hindrance to tourism development in the area.

However, the cultural tourism sites of Chinsurah are well focused since the period of medieval Bengal.

1. Hooghly Mohsin College

It is an important place of historical importance. This place is known as the residence of the Dutch General Peron. The Dutch handed over Chinsurah to the British East India Company in lieu of Sumatra in 1825.

2. Watch Tower

It is situated at the middle of Chinsurah town, the four faces of which indicate the directions. In 1914, 'British' Emperor the Edward the VII th made the steel made hollow clock tower resembling a tomb. On the top of the tomb there is a flag hoisting point. On the four sides of the clock are four beautiful lampshades. The clock is situated in the middle portion of the tomb, which still ticks and gives accurate time.

3. Literary Cultural Sites of Chinsurah

Two most important cultural sites in Chinsurah are situated on the banks of the river Hooghly (Ganges). One of these is the residence of famous Bengali novelist Shri Bankim Chandra Chattopadhyay at Joraghat, where he wrote his famous novel 'Anandamath'. The place has been renovated recently but much renovation is still needed to attract tourists, like gardens and sound and light show on the bank of the river Hooghly. The place is known as 'Bandemataram Bari'.

Nearby there is the Hooghly Reformatory (Previously Hooghly Jail); where revolutionary Bengali poet Kaji Nazrul Islam was imprisoned. There is a plaque at the entrance of the reformatory which describes about poets revolutionary zeal and activities against the British rule. This place too, can be developed by the Hooghly Zilla Parishad as an important tourist destination.

4. Debanandapur

Another place of literary cultural tourism is the birth place of famous Bengali novelist Shri Sarat Chandra Chattopadhya at Debanandapur village. This is situated 5 km. away from the town of Chinsurah. A museum in memory of the great novelist has been built up. The museum contains his spectacles, walking stick, writing table and chair, writing materials and manuscripts of his stories and novels. The museum remains closed on Wednesday. This museum is known as 'Sarat Smrithi Pathaghar'. An old 'DOLOMANCHA' also found in the museum premises which has rare archeological importance. Four 'Atchala' temples of 19th century are also present in the village.

5. Shandeswar Temple

Another religious cultural site of the Hindus in Chinsurah is the Shandeswar Siva temple. It is situated at the bank of the Hooghly (Ganges) river at the north of Duttaghat. In the 16th century, Digambar Haldar placed the Lingam of Lord Shiva, and afterwards the temple was established by Sidheswar Roychowdhury. The Dutch Governor of Chunchura presented a 'Dhak' made of brass to the temple, which is still used. There is also a Durga temple, which was established on 1845.

6. Hooghly Imambara

The Immabara Building of Hooghly, which is a masonary wonder situated on the bank of the river Hooghly near Chinsurah. The nearest station is Hooghly, and rickshaw and auto rickshaw are available to reach there. The building was started in the year 1841 by the great muslim social reformer and philanthropist Hazi Mohammad Mohsin and was completed in the year 1861 at the cost of Rs. 2,17,413/- including a clock purchased from England at the cost of Rs. 11,721/-. The two storied building consists of raged rooms having a wide entrance of main gate flanked by two giant towers measuring 80 feet tall and a massive clock tower in between them. The main mason of the Immambara was Mir Keramat Ali.

There is a mosque at the north side the building. The walls of the mosque are decorated by the texts from the Holy Koran and the interior of the mosque is enriched with marble, candle and lanterns. There is a wooden platform like throne where male folks used to sit during the recital of Koran by 'Maulavis' and women folks sit on the marbled 'Verandah' surmounting the wooden throne inside the mosque. At the south there is an enclosed compound where the graves of Md. Mohsin and his family members are present. There is a 'Sun clock' on the banks of the river Hooghly besides the mosque. The dial of the clock is made of 12 hrs. starting from 6 A.M. to 6 P.M. and engraved on a stone pillar.

However, the Imambara should be declared as a protected monument, and need to be maintained by the Archaeological Survey of India or State Archaeological Survey, as the condition of the building is not well and heavy damages have occurred on the main walls.

7.3.2 Places of Cultural Tourism Resources in Bandel

Bandel junction is the main station, which is connected with Howrah Burdwan main line. From the station rickshaw and auto rickshaws are available to visit major tourist spots of Bandel. However, good small bus services for the tourists should be developed and the roads within Bandel and to its nearby places need to be widened and properly maintained.

1. Bandel Church

The name Bandel came from the Bangali word 'bandar' which means port. The place is considered to be port of the Hooghly district during the Mughal and Portuguese periods in Bengal. The only remnants of the Portuguese period are the church (Basilica) and the Monastery. The present church and monastery are said to be built by Gomez De Solo in 1660. Many paintings depicting the life of the Lord Jesus Christ adorn the inside walls of the church. The place is an important religious site of the Christians. It can attract a number of domestic and foreign tourists from the different states of India and the world.

2. 'Hangseshwari' Temple at Bansberia

Bansberia is situated at a distance of 21 km. from Bandel. The place is famous for two types of temple, which are of unique nature in West Bengal.

One of the famous temples of this place is the Ananta Basudeb temple built by Rameswar Datta in 1679.

Next to this temple is the 20 meter high, five storeyed Hangseshwari temples. It has 13 domes shaped like lotus buds. The structure has similarities with St. Basils Cathedral in Moscow, Russia; which is also known as onion dome church.

There is a large pond adjacent to the temple which is not well maintained. This place can the developed for boating by tourists. Also on the banks of the pond and around the temple kiosks for souvenir, flower and sweets for offering to deity in the temples can be made and local youths may be employed to run them.

3. Temples in Balagarh

About 20 kms away from Bandel is the temple of Balagarh. Here, the Brindavan Jew temple, in Guptipara, is actually 17th century terracotta temple. Local legend tells that Rober Clive visited this temple before the Battle of Plassey and presented one of his swords to the chief priest of the temple. There is another cluster of three temples 'Anandamoyee', 'Horosundari' and 'Nistarini' at village Somra. The temple of Dakshineswar is modeled on these. The 'Rass Mancha' at Sripur Bazaar has unique wood carvings.

4. Tribeni

This place is situated at a distance of 5 km. from Bandel. Every year during 'Maghi Purnima', 'Dussehra', 'Pausa Sankranti' Hindu Saddus, saints and pilgrims come to the Benimadhav ghat to take a dip at this holy place. Big fairs are organized during special occasions.

Apart from this place in Tribeni there is a 'Mazar' of the ruler of Saptagram Jaffar Khan (1313). It has five minarets. This place is worth seeing. There are also remains of Buddhist architecture of the Pala and the Sena dynasties of Bengal.

7.3.3 Places of Cultural Tourism Resources in Chandannagar

Nagar Chandan is situated at a distance of 3 kms from Chinsurah. Although In recent years these two towns have come closer with the gradual expansion and development of residential and commercial complexes. This town is situated on the Howrah–Bardhaman main line of the Eastern Railways. Main mode of transport within the town is rickshaws and auto rickshaws.

1. Chandannagar Museum

The museum at Chandannagar is one of the major attractions of Hooghly district. The library and reading room of the museum was started with the donated books of Harihar Sett, a prominent citizen of Chandannagar; The museum also contains exhibits connected with local history of Chandannagar, personal belongings of Duplex including his marble bust, various arts and crafts alongwith different archaeological remains which have been discovered from the various places of the district since the Gupta period. The library of the museum also throws light on the different aspects of administrative information of one of the last French colonies in India.

2. Chandannagar Strand

This is the most beautiful tourist spot in Nagar Chandan along the banks of the river Hooghly (The Ganges). It has a superbly decorated pavement studded with lights surrounded by lush green trees. Along the strand

there is Vivekananda Mandir and a meditation centre. This is supposed to be the best decorated bank of the river Hooghly. However, this place has not achieved fame due to the lack of marketing and promotion by the Tourism Department of the Government of West Bengal. The District administration of Hooghly should take initiatives to develop this site as one of the major tourist sites of the district. Apart from these, are several sites like Chandannagar Church, Patal Bari, Nandadulal Temple, Nritya Gopal Smriti Mandir etc. which are worth mentioning.

7.3.4 Places of Cultural Tourism Resources in Serampur

This place is situated along Howrah Bandel main line. The old G.T. Road runs though this town. The town has some of the important tourist spots of the colonial age in India. The important sites that merit visitors interest an attraction are Serampur College,The Church of St. Olaf, Church of Sacre Coeur De Jesu .

7.3.5 Fur Fura Sharif

In Jangipara of Hooghly district a Sufi Settlement was established during the Mughal Emperor Akbars Reign. The main Sufi reformer of that period was Maulana Abu Bakkar Saheb, one of the most respected Muslim Pir of the period. His Mausoleum is visited by the Muslim faithful from different parts of India and the world. The place has a beautiful mosque predating in settlement, which was built by Muqlish Khan in 1375.

This place is now a famous muslim pilgrimage site during the 'Pir Fair', which is held between February and March every year. Fur Fura Sharif can be reached either from Serampur or from Kolkata via a place called Shiakhala.

7.3.6 Places of Cultural Pilgrimage Sites in Hooghly:

Apart from the famous Christian and Muslim religious sites, the district of Hooghly can boast of two important Hindu religious sites of great Hindu preacher and reformer Shri Ramkrishna Pramahansa, at Kamarpukar and Antpur.

1. Kamarpukur

This small but internationally famous village is the birth place of great Indian religious leader and reformer Shri Ramkrishna Paramhansa. The village is strategically situated at the tri-junction of Hooghly, Bankura and West Midnapur districts. Here, pilgrims not only from Bengal or India, but from different places of the world come during winter season. Thus, this place attracts both domestic and international tourists.

In this village the birthday of Ramakrishna Paramahansa on 17th February is celebrated every year by the Ramkrishna Mission, which is worth visiting. The temple statue of Sri Ramkrishna is based on a white marble made lotus. The temple is 45 feet in height and was planned by famous painter Sri Nandalal Bose. The Ramakrishna temple was completed in 1951. At the top of temple there is a 'Shiva linga' and in front of the temple is an open hall or ***'Nat-Mandir'***, where religious discussions are held in the evening.

On the left side of the Ramakrishna temple is the Raghubir Mandir. This temple of Raghubir was built by Ramkrishna Paramhansa's father Shri Khudiram Chattopadhya. Other then the deity of Raghubir, there are Rameswar, Shiva, Sitala and Gopal deities and 'Narayani Shila' in the temple. Next to this temple is three roomed thatched residence of Ramkrishna. Adjacent to the temple is a Mango tree, which is said to be planted by Shri Ramkrishna himself.

At the entrance of the Ramkrisnana Mission is 'Yogi-Shiva' temple. Near the Ramkrishna Math is the house and primary school (pathasala) of the Laha's, the then Zamindar of Kamarpukur. In this primary school Ramkrishna studied in his childhood. There are 'Vishnu' and 'Durga' temples of the Lahas in the village. On the walls of the Vishnu temple are the terracotta figurines of Hindu Gods and Godesses, which are 20 in number. In the eastern side of the Ramkrishna Math is the famous Shiva temple known as 'Gopeswar Shiva Temple'. Near the Ramakrishna Mission college and opposite to Yatri-Niwas' is a children's park known as the 'Gadhadhar Children Park'. Gadhadhar was the childhood name of Shree Ramkrishna. Every year during birthday of Shri Ramkrishna in the month of February a big fair is organized in Kamarpukur.

2. Aantpur

Aantpur is situated at a distance of 47 km from kolkata. Regular buses of CSTC run between Kolkata and Aantpur but the state Highway is not well maintained. There are lack of good hotels in Aantpur. Even good eateries are also not available there.

Aantpur is famous for the Radha-Gobinda Jiu temple, the Terracotta temple of the Dewan of Bardhaman Raj late Shri Krishnaram Mitra. The temple was built between 1786-87. The temple is 100 feet in height, 47 feet long and 39 feet in width. Most attracting are the terracotta panels on the front sidewalls of the temple. The panels have the figures of the *Pauranic* gods and goddesses and also the contemporary lifestyle of the period. The main temple is having constructed in 'Bengal Aatchala' formation. However, the front of the temple has Dochala style with an additional Verandah or Dalan attached to it. Nearby to this temple is the 'chandimandap' for the worship of goddess 'Chandi' another form of Goddess 'Durga'. Other then this temple there are from terracotta temple of 'Baneswar', 'Rameswar', 'Jaleswar' and Phuleswar.

Near Aantpur market is the temple of Parameswar Das Thankur of Chaintanya Gaudiya Math. Here the deity of Lord Krishna is being worshiped; as 'Shyamsundar'. The deity is worth seeing. There is a three hundred year old Bakul tree near this temple.

In Aantpur is situated the ancestral house of one of the disciples of Shri Ramkrishna Paramhansa Deva, Swami Premananda or Balaram Ghsoh. This house is known as Durgabari. It is stated that in the night of 24th December 1826, nine disciples of Shri Ramkrishna Paramahansa Deva including Swami Vivekananda took a vow before *yagna* fire that they would work for the welfare of the mankind, and also spread the preaching of Shri Ramkishna Deva throughout the world. They also took a vow of celibacy and to lead the life of Hindu saints or sanyasis, and establish Ramkrishna Math or Mission all over the world. Thus, this place is also a famous religious site associated with the lives of Shri Ramkrishna and Swami Vivekananda. Recently, Aantpur has been selected as one of the important places for rural tourism by the Ministry of Tourism, Government of India.

3. Tarakeswar

The story of Hooghly district as a place of religious tourism, will remain incomplete, if mention is not made of Tarakeswar. More than 25 pairs of local trains operate between Tarakeswar and Howrah daily. Further, from Kolkata this place is connected by CSTC bus service. There are a number of Dharmasalas and budget hotels in Tarakeswar. However, in view of growing popularity of this Saivaite religious tourism, there is a perceived need of good number of hotels here. A large number of domestic tourists from different places of West Bengal and neighboring states of Bihar, Jharkhand and Orissa come here during the Hindu months Chaitra Sankranti and Shravana to pour the Holy Ganges water on the Shiva lingam on Taraknath.

The temple of Tarakeswar was built by Raja Bharamalla in the year 1729. The legend is that the shivalingam was discovered by Mukunda Ghosh, who happened to be the cowherd of Ramnagar palace. Later on the temple was renovated by Raja of Bardhaman. Adjacent to this temple is a temple of Lord Krishna; but it is known as Brahma Mandir in Tarakeswar. There is a pond near the Tarakeswar temple, which is known as 'Dudhpukur'. Devotees take a dip in this pond before pouring water on 'Shivalingam'. In Tarakeswar the 'Math' or mission of Dasanami Shaivite sect is situated, which was set up in the year 1729.

7.3.7 Picnic Spots and Eco-Parks in the District of Hooghly:

There are a number of sites having eco-tourism potential, that have been developed around spot like Suakhal and Moyur mahal, Garh Mandaran, and Sabuj Dweep New Digha Tourist complex Dhania Khali etc. people can derive creational pleasure, historical treasure while spending the time in hours of leisure by visiting these sites.

1. Suakhal and Moyur Mahal

These are two picnic spots at the side of the Delhi road near the Bandel station. People can enjoy the ambience of these spots by paying a nominal entry fee. In addition to other facilities, boating can be enjoyed in both places. In Suakhal, there is an interesting small science museum for children, here a few attractions are like talking Robot, danger cave etc. This place can be of great importance of youth and children segments from the point of view of knowledge dissemination and educational purposes. These no places are maintained by Hooghly Zilla Parishad.

2. Garh Mandaran

Mention of this place can be found in Shri Bankim Chandra Chattopadhya's famous novel 'Durgesh Nandini'. Hooghly Zilla Parishad has developed a picnic spot with a lake and boating facility here. Social forestry has been done extensively here. Here deer park, orchid house etc. have been developed. In the winter season migratory birds from far away places visit this lake. This is a place for picnic and environment education. Garh Mandaran, which is 6 km. away from Kamarpukur, has historical importantce too. It was the capital of Bengal's Sur King dynasty, before the Pala and Sen dynasties. Here, it is stated to have seven Garh's (Forts). However, only the remains of one can be found at present. Another important site is to the Tomb of Ismail Gazi, who happened to be the General of the Army of Gaud King Hussein Shah.

3. Sabuj Dweep

The Hooghly Zilla Parishad has built up an eco-park and picnic spot in the midst of an island in river Hooghly ; known as Sabuj Dweep. It is 10 minutes walk from Somrabazar station on Bandel -Katwa line. To reach the island one has to come to the bank of the river to take a boat; which costs Rs. 10 per person and there is concession for children. The place has a beautiful flower garden full of Eucalyptus, Sal, Palash, Coconut trees etc. There is a small children park too. Civic amenities are good. There are four cottages for night stay; which are named as Meghna, Koyel, Riyas and Palpala. Unfortunately, this place is not being promoted extensively.

4. New Digha Tourist Complex

This place is situated in Baghdanga village of Singur P.S. and 15 km. from Nagar Chandan. This place has been built by the Hooghly Zilla Parishad. In New Digha tourist complex there are children Park, rock garden and a water fall. In the lake boating facility is available. A stage has been erected inside the park for local folk artists to make performance. Civic amenities are good here. Even for night stay four cottages like

Kunti, Ghia, Sarswati and Kedarmati are there, which can be booked on rent. There is a facility of toy train for children. But this place, which is hardly 60 km. from Kolkata, is not being promoted extensively for attracting tourists. It has remained only a seasonal picnic spot.

5. Dhania Khali

This place on the Howrah-Bardhaman cord line is famous for its Handloom saris in India and abroad. Here, during Rathayatra in the month of July a big fair is organized. This place alongwith Antpur can be promoted among domestic and foreign tourists alike to come and see how handloom saris with different kinds of colour, motif and prints made in the homes of wavers. These two places, that is Dhaniakhali and 'Antpur' can be developed for Special Interest Tourism in the district.

However, the cultural tourism resources of the Hooghly district can be summarized under following heads for the development purpose.

- **Historical Sites, Monuments and Religious Places**

After visiting the various tourist sites of the district, it can be said that Hooghly district is the best example of Secular Fabric of India. Here, one can sec the religious places of the Hindus, the Muslims, the Christains and the Buddhist in places like Kamarpukur, Tarakeswar temple, Aantpur; Bandel, Serampur. Furfura Sarif, Pandua, etc. Even remains of medieval and modern Bengal can be witnessed at Pandua, Triveni, Bandel, Nagar Chandan and Chinsurah.

- **Handicraft and Handlooms**

The handloom or 'Tant' saris of Aantpur and Dhaniakhali can be marketed extensively in India and abroad through cottage industries and big retailers. The cooperative of weavers can be formed so that they can earn more profit from the trade and improve their lifestyle rather than being falling prey to middleman. Even these places can be made into places of tourist attractions for 'special interest tourists'. Moreover, like the 'sandesh' of Kamarpukur or '(Jalbhara of Nagar Chandan or 'Moah' of Dhaniakhali) can be exported like the K.C Das Rasagolla of Kolkata. The district administration and the department of Tourism, Government of West Bengal should take initiative in this direction.

- **Rivers, Eco-park & Picnic spots**

The district of Hooghly abounds in this sphere. The eco-parks and picnic spots can be developed as knowledge and education dissemination hubs for children and youth alike; and this new generation of tourists can be attracted to the district; who on getting old can become potential tourists for religious and other cultural spots of the district in future. Near Nagar Chandan strand along the river Ganges 'Yoga and Meditation' or 'Ayurveda wellness centre' can be developed and middle aged and older tourists, both domestic and foreign, can be attracted.

- **Fairs and Festivals**

The district of Hooghly is rich in fairs and festivals. The most important is the light festival of Nagar Chandan during Jaggadhatri Puja in the month of October and November. On this occasion the major 'Mandaps' and throughout Nagar Chandan are decorated with colour bulbs, tubes and even laser lights. The acumen of Nagar Chandan lightmen and artists have become well known in all over India and in USA and UK., where these artists are invited to Lighting decoration frequently. This can be developed as a trade and livelihood of local youths of Nagar Chandan extensively.

Further fairs, during birthday celebration of Shri Ramkrishna Deva, or at Furfurah sarif or Ratha Yatra of Serampur and DhaniaKhali or the Maghi festivals of Tribeni and Pandua can become popular tourist attractions of the district along with local fairs of Chandan Nagar, Chunchura and Bandel.

- **Museums**

Museums play vital roles in imparting education, disseminating knowledge and attracting people towards documents and objects having heritage value. The museums of French occupation at Nagar Chandan, museums of Shri Sarat Chandra Chattopadhya at Devanandapur, museum of Shri Bankim Chandra Chattopadhya at Chinsurah or the Carey Museum in Serampur will be of great significance in this direction.

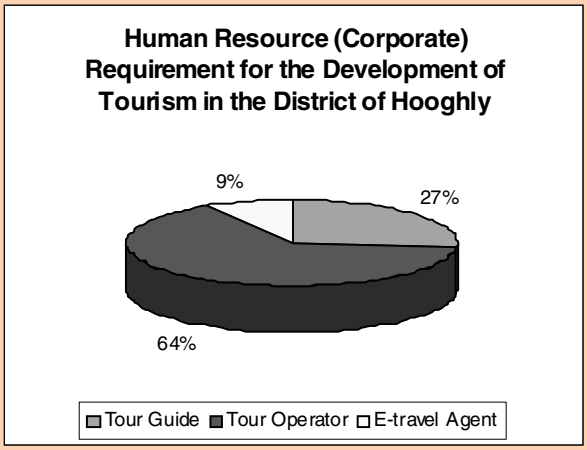
7.4 The Relationship between Cultural Tourism and Human Resource Development in Hooghly

The human resource dimension is one of the most important elements of any industry sector, none more so than in a service sector such as tourism, which is characterized by high levels of human involvement in the development and delivery of services or vacation experiences. Whatever means are employed to deliver tourism services to the customer, the role of human intervention (as individuals and groups) is almost universal. The contribution of tourism to human resource development is comparatively a new issue that essentially maximizes economic and socio-cultural benefits to all stakeholders. In this context, we have divided the human resources required for culture tourism in Hooghly into three categories. These are

- **Directly engaged human resources**
- **Indirectly engaged human resources like employees or self-employed people of other informal and subsidiary sectors who are fully or partially dependent on tourism**
- **Entire population, though may be not fully related, but contributing to the overall hospitality of the destination**

The first one is determining the corporate workers who are highly skilled and competent enough to deal with international travellers. But in Hooghly, the possibility is so far limited as at this exploration and involvement stages the district is dependent more on domestic tourists with comparatively less duration of stay. The requirement of human resources for the institutionalized part of the tourism sector, that has been given here, is based on a primary survey. Surveyed tourists have given more importance to the travel operators (64 per cent) to obtain required information and assistance and it is followed by tour guides (27 per cent) and e-travel agents (9 per cent) respectively in the district.

Fig.7.1 Human Resources (Corporate) Requirements for the Development of Tourism in the District Of Hooghly



The second aspect consists of large informal and subsidiary sectors including semi skilled and unskilled laborers. Recently, the Government of India and State Tourism Boards have been interested to maximize the benefits that are supposed to accrue to these large masses.The third issue embodies the entire population and its development through equity, social justice, equal right to hosts and their responsibility towards tourists, tourism resources, industry development etc.

Based on the empirical study of different destinations in Hooghly, it has been identified that most of the destinations are lacking suitable tourism related infrastructure though general infrastructure is at par with the desired standard in many destinations. The need for an integrated tourism planning, coordination among destinations, identification of different weekend and week-long circuits, convergence of different welfare schemes with tourism are important aspects for tourism development in Hooghly district. Again, an increasing emphasis on alternative tourism/ special interest tourism/ ecotourism development and analysis of destination life cycle stages are practically helping Hooghly district to follow the tourism planning and policy issues of the Ministry of Tourism and Culture, Government of India.

Analyzing the roles and responsibilities of the public sector and private sector in India a paradoxical nature of human resource development for cultural tourism in Hooghly has been identified, that is 'large volume-less competent' human resources by the government organizations including tourism boards to the 'small volume-highly competent' industry-workers by the corporate sectors.

Table7.1: Relationship between Cultural Tourism and Human Resource Development in Hooghly

Site/Destinations Resources	Potential For	Origin & Category of Tourists		
Religious Places	Religiously inclined tourists	Domestic (Neighboring states of Bihar, Jharkhand, Orissa, and North-East Region, Foreign (France, U.K.) Dutch & Portuguese, NRI Bengalies)	Alternative tourism to ,Mass tourism	Requirement of "Large volume less competent human resources" to "Small volume -highly competent" human resources
Cultural Sites (Historical Sites Monuments & Museums)	Interested in History & Culture Sight seeing Knowledge Enhancement	Both Domestic and Foreign (Specially from U.K., France & other European countries, Middle East and SAARC countries)		
Special Interest Tourists	Those interested in Painting Visit to Handloom weavers of Aantpur & Dhaniakhali Visit to the places other sweets to the district made & Handicrafts are made	Both Domestic & Foreign (Specially those from U.K., France and European Nation and Begali NRI's		
Eco-Parks and Picnic Spots	Day visitorsTourists (interested in Eco-tourism & Nature loving) Interested in recreation & Entertainment	Both Domestic & Foreign (specifically from U.K., USA an other European nations)		

So, considering the various supply side aspects and types of tourism and tourists, it has been noticed that the district needs to identify and assess the roles of all public and private players for tourism development. At initial stage, the need for an integrated tourism planning comprising the involvement of government authorities and local bodies has been recognized for increasing the level of participation of industry and local bodies in almost all destinations. An integrated tourism planning with a collaborative and participatory approach leading to sustainable tourism development will not only explore the economic opportunities of tourism but also significantly contribute to the overall socio-cultural development of tourist destinations. In most of the destinations of the district the emphasis is given on how to find out new avenues of alternative job opportunities and how to supplement income of the local people or how to stimulate other sectors (informal and subsidiary) with cultural tourism as a driving force. Here, the target group of human resource is distinctive in that they are poor artisans, marginal farmers interested in supplementing income or any other vulnerable section of the society. After gaining confidence of the private players with the increasing number of tourist arrivals, duration of stay, per-capita tourist expenditure etc. adjustments in human resources seem to be important with required changes in skill and competence.

In this backdrop following can be some of the proposed measures:

- Guide and Information Services at different levels e.g. licensed or local guiding training programme to the local youth by the district administration or State Tourism Department.
- Long and short term training program can be imparted to the students/ existing employees/ potential entrepreneurs for setting up and operating hotels, restaurants and travel agencies with all possible technical, professional and financial support with a single window clearance facility.
- Training program can also be imparted to the artisans, drivers, marginal farmers etc. for increasing their income.
- Local youth can also be trained in the games like **Boating, Cycling, Heritage Walk and Marathon**

Private entrepreneurs and tourism business houses should be encouraged to establish tourism related enterprises at different tourist sites of the Hooghly district. They should be persuaded also to make provision for expenditure on training of local youth and especially young women for this sector.

7.5 Marketing and Promotional strategy

Destination marketing strategy broadly considers almost all demand and supply related aspects which are based on marketing management. However, there are typically oriented to the distinctive characteristics of tourism elements contributing to the overall destination imagery. Marketing strategies revolve round the mix of each element with a typical orientation of the destination environment and its market areas. As the positive changes in product features and other supply side elements are comparatively difficult or capital intensive, the marketing and promotional efforts are broadly divided into two aspects viz. infrastructure development and destination marketing.

But destination marketing focuses more on the tourist generating areas to identify and analyze market demand and how to satisfy the needs better to the targeted segments. Based on the observation and primary opinion survey following was the typology of tourists.

International Tourists:

i) Young **Knowledge Seeking** and **Adventure Gathering** tourists.

ii) Couples- both old **'Empty Nest'** and young couples like **Full Nest I** or **Full Nest II** stages of life cycle from U.K, France, Portugal and from Holland (Dutch) will be interested in visiting colonial places of their ancestors.

iii) People from the Middle East and European countries, followed by people from other regions of the world, interested in visiting religious places

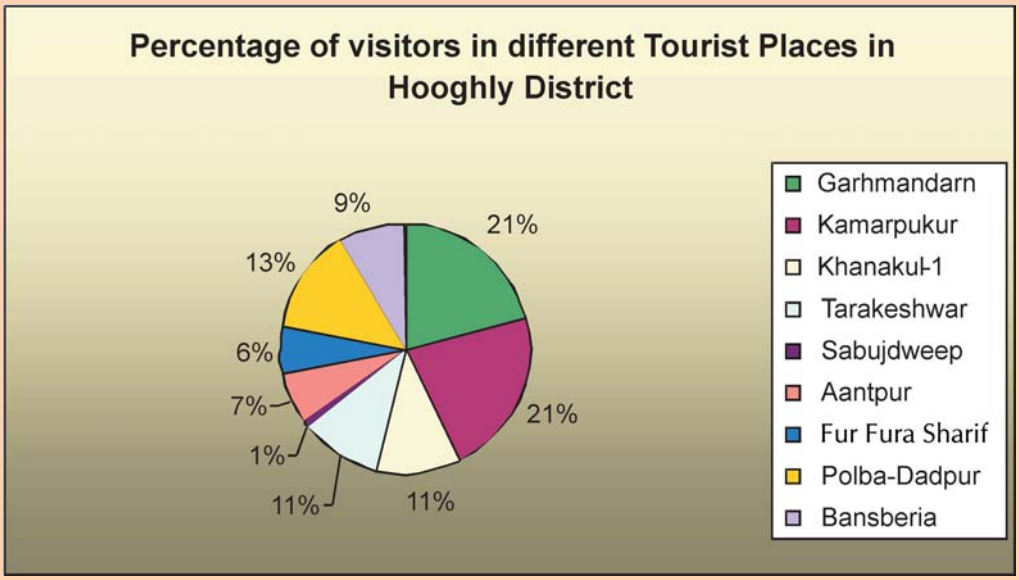
Domestic tourists:

i. Group and Family Type from within the State, and

ii. Similarly Group and Family type from outside the State

Based on a primary data survey tourist households are further segregated by their choice of a particular location over another. A tourist can have multiple choices regarding the selection of tourist attractions in the district of Hooghly. But here we concentrate only on a particular tourist attraction by examining his / her present stay in a particular location. The following figure represents the distribution of visitors in different tourist places.

Fig. 7.2: Percentage of Visitors in different Tourist Places in Hooghly



Source : DHDR, Hooghly, Primary Survey, 2009

The report broadly classified tourists into three distinct categories: educational tourists, tourists coming from neighboring districts and those coming from neighboring States. Figure illustrates an overall representation of three categories of tourists on the basis of their purpose of travel, length of stay and those related issues.

Again, considering the different motivational issues and related choice of attractive features, segment specific categorization of tourists is given as below.

Table 7.2: Tourist Segments, Motivation(s) and Tourism Resources of Hooghly

Tourist Segments	Motivation(s) for Visit	Tourist resources of Hooghly
• Domestic Tourist	• Recreation Eco-Parks picnic spots, • Wander lust and Sight Seeing • Education and knowledge enhancement • Religious Purposes and Special Interest	• Eco-Parks picnic spots, the places along the river Hooghly, temples monuments, and weavers and ethnic. Weavers and ethnic villages for special interest tourist.
• International Tourists	• Recreation • Adventure and special Interest • Research and knowledge Enhancement • Visit to past heritage and linkages	• Parks, historical monuments, religious places, Museum Heritage walks, events etc.

Once the segment(s) of the tourist is/are identified; the government need to proceed through a **Marketing strategy for a specified period of time .** The related promotional strategy is also one of the most vital issues for bringing the sites into the Tourism Map of India.

The recommended promotional strategies for the district administration and Zilla Parishad of Hooghly are:

- Initially Information Centres are to be established at all the Gate Points like Bandel, Chinsurah, Nagar Chandan , Kolkata, Howrah, Bankura, Bardhaman and Durgapur.
- To grab the attention of the tourists printed materials need to be prepared by considering the Unique Selling Proportion and basic rules of product mix and its promotion
- An elaborate and effective distribution system should be implemented to ensure distribution of brochures through information centres and internet.
- As a new approach the Hooghly district administration can ensure a coordinated effort with the State and Central level tourism promotional agencies to promote the tourist sites of the district through their tourist offices, both in India and abroad. This will ensure the flow of both domestic and foreign tourists to Hooghly.
- To create awareness campaigns, advertisements may be designed and telecasted /broadcasted in different print/electronic media.
- In electronic media specific programs like 'Chalo Jaiee' or documentary in the television channel like 'Travel and Living' should be used for this purpose
- A strong Tie-Up with Travel Agencies and Tour Operators should be established, so that they can act as marketing agents for the tourist sites of the district.
- The aspect of availability of wayside amenities along the roads connecting various tourist spots needs particular attention with the participation of the private players.

Representatives from travel agencies, tour operators, reporters from Print and Electronic Media, travel writers, novelists, celebrities like people from T.V., or films world, player and sports personnel should be brought to these places by the District Administration of Hooghly by conducting 'Familiarization Tours (FAM TOUR).

7.6 Concluding Remarks:

The visit to the different cultural sites of Hooghly has brought to the light a glaring flaw in **5A's (Attraction, Accommodation, Accessibility, Amenities and Activities)** of destinations in the district. First **A**, attraction of the sites is competitive with other cultural destinations of West Bengal like Shantinikatan or Murshidabad. But most of the hotels are of poor quality and need immediate upgradation. There is no accommodation facility for higher income group of tourists especially in towns like Chinsurah or Nagar Chandan or even in Bandel. The hinterland roads connecting Chinsurah, Nagar Chandan, Bandel and Hangseswari temple at Bansberia are narrow and over crowded. Good quality restaurants are not available in major towns and even in Tarakeswar, Kamarpukur or Aantpur. In almost all Eco-parks, tourists depend on their own resources. Recreation facilities also the bank of the river Hooghly (the Ganges) along the towns of Chinsurah, Nagar Chandan are lacking. Water related activities like rowing, sailing and boating are not available there. The Nagar Chandan Strand, which reminds one about Gateway of India in Mumbai lacks proper tourism related activities. In and around this strand are the Nagar Chandan French Institute, Patal Bari and a Church. There is an immense potentiality for **Heritage Tourism Walk, bicycling, and light and sound show** and the local Government has to be sensitive enough to exploit this opportunity.

Integrated Area Development Programme as an important part of the integrated planning and circuit development has been initiated to strengthen and apply scientific process of tourism development in the district. But this program is lacking without proper assistance from various public and private sector bodies. The following Table 7.3 is exhibiting the opinion of tourists about non-availability of basic infrastructure.

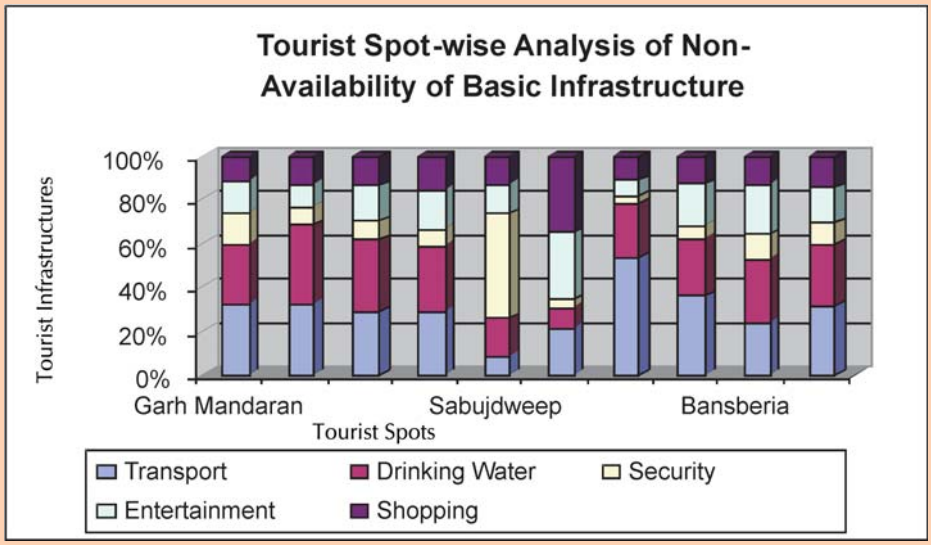
Table 7.3: Responses of Visitors regarding Non-Availability of Basic Infrastructure in Different Tourist Places of Hooghly District

Tourist spot	Visitors	Transport	Safe Drinking Water	Security	Entertainment	Shopping
Garhmandarn	97	47	40	22	21	16
Kamarpukur	101	20	22	5	6	8
Khanakul-1	50	48	55	14	27	22
Tarakeswar	49	19	20	5	12	10
Sabujdweep	4	2	4	3	3	3
Aantpur	31	11	5	2	16	18
Fur Fura Sarif	30	15	21	3	6	9
Polba-Dadpur	61	32	23	5	17	11
Bansberia	40	15	18	7	14	8
All	**473**	**209 (44.19)**	**208 (43.97)**	**66 (13.95)**	**122 (25.79)**	**105 (22.20)**

Source : DHDR, Hooghly, Primary Survey, 2009

In the study, the infrastructure relating to tourism can be broadly classified into five categories, namely, transport, safe drinking water, security, entertainment and shopping. The Table presents tourist spot wise analysis of perceptions of basic tourism infrastructure prevalent in the district of Hooghly. Transport and safe drinking water constitute the major concern of our sample tourist. It is followed by entertainment and shopping whereas security remains not so important matter of concern of the surveyed people. This concern for tourism infrastructure is more or less uniform across all the surveyed tourist spots.

Fig 7.3. Tourist Spot-wise Analysis of Non-Availability of Basic Infrastructure



Source : DHDR, Hooghly, Primary Survey, 2009

Basic Infrastructure and Intervention in the Improvement of Accessibility includes the upgradation of Nagar Chandan and Chinsurah bus stands, auto-stands and such other bus stops. Private operators should be encouraged in travel and tourism businesses. Young people of the area can be encouraged to form cooperative to operate such transport agencies. The network of national and state highways as well as district roads be strengthened for all tourist destinations scattered throughout the district and there is a need for introduction of tourism related signage to indicate approach to tourist sites.

Essential **visitor amenities** like **snacks bar, drinking water, public telephone** are required at the major tourist sites. In important tourist places like Nagar Chandan or Chinsurah these amenities do exist to some extent but, they are not well maintained. It also lacks in public convenience facility. Ordinary type of eateries abounds in major sites, but good restaurants with air conditioners are required in tourist destinations of Hooghly. Even resting places have not been provided at tourist sites for **Day Visitors.**

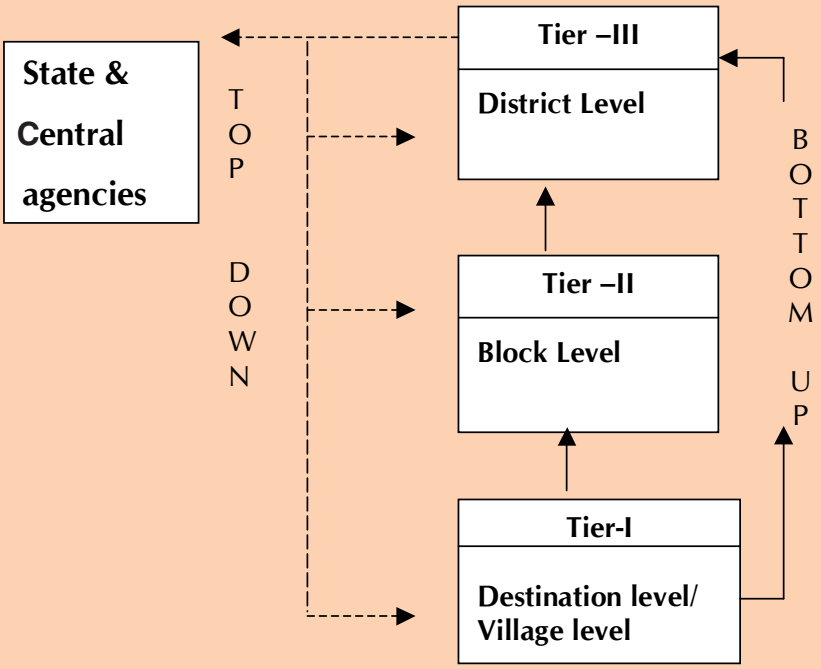
Visitor Management System through Visitor Reception, Orientation Facility and overall hospitality at the important tourist sites, like Nagar Chandan, Chinsurah, Hangseswari or Aantpur needs to be further developed as there is no information centres or kiosks, where tourists can be provided with the printed materials, information and guiding facility. **Shopping, Entertainment and Recreation** facilities need to be developed as tourists always like to carry some souvenir from the place of visit. It has been observed that no shopping facility relating to local handicrafts is available even at major sites. Some good shops are there in Chinsurah, Nagar Chandan, Sreerampore or Bandel but good shopping malls or good entertainment places like Forum or Inox in Kolkata are missing in these towns. However, souvenir shops can be found in abundance at religious sites of the district like Tarakeswar and Kamarpukur.

Tourists also want to experience the culture of places they visit through local arts, music, songs and dance. In the evening local and folk music, dance and songs can be organized at the Chinsurah and Nagar Chandan along the course of the river Hooghly for tourists. It can be supplemented by ***'Light and Sound'*** show to have a glimpse of the French culture particularly at the ***French Museum.***

The Hooghly District Administration and the Zilla Parishad can be considered as an amalgamation of institutional and management structure to coordinate and monitor the different activities required for implementing an Integrated Tourism Action Plan for the Culture sites of the District. For this the structure must have representation from all the institutions involved in the development of cultural tourism activities and Human Resources Development. Representative from industry like travel agents, hoteliers and tour operators may also be included.

A Three Tier tourism development forum in the district may be developed. The first **Tier-I**, will consist of the tourism resources at different destinations. This tier will be looked after by the local bodies and the active participation of the local people at the destinations. In **Tier-II**, the tourism service providers will be operating, and they will be monitored and coordinated by the block level tourism cells set up for the purpose. The **Tier-III**, will be the District level Tourist Information Centre at the Zilla Parishad level. This **Tier- III**, will be the Apex Organization in the district. It will coordinate among the Service Providers, District Administration and State and Central level Tourism Departments for the best utilization of tourism resources in the area. There will be both 'Inward' and 'outward' flows of information relating to maintenance of tourism resources among these three tiers. Thus, both a combination of **Bottom-Up** and **'Top-Down'** approach of communication and development of tourism resources seem to be essential for faster and effective spread of tourism in the district.

Figure 7.4 : Co-ordination Frame-work among Tiers



Finally, in view of the present and future requirements for employment and income generation, tourism development offers an opportunity to meet these economic needs. The people of the district would, thus, derive benefits, both directly and indirectly from the expansion of tourism.

Chapter 8

SUMMARY AND POLICY RECOMMENDATIONS

This Chapter summarises the major findings of the report and discusses the challenges for improving the level of human development in Hooghly district. Human development of a district depends on the historical legacy of development experience, macro policy of the Central Government and the policies of the State Government regarding sectoral allocation of funds and effective governance. The process of human development in Hooghly district was started way back in 15th century along with the establishment of schools in the district by the Portuguess Priests in 1598. 'The highlights of the history of the Hooghly during the 19th century consisted of a great resurgence of learning, an impressive spread of educational and cultural activities initiated both by foreign missionaries and eminent local persons, the emergence of new religious ideas and movements and the great strides in the field of social reforms'(Banerjee, 1972). The introduction of planning in India in 1951 which aimed at balanced socio-economic development of the country by emphasizing sector specific development strategy created enormous impact on the socio-economic spheres of development and hence on human development at the district level. Coupled with planning process, the liberalization, strategy followed by the Government of India since 1991 has also created a significant impact on the level of human development in the district. Moreover, at the State level, two most successful policy initiatives of the Left Front Government in 1980's which have created significant impact on the socio-economic development of the people of the district are: Land Reform in the form of Operation Barga and the introduction of 3-tier Panchayat Raj Institutions specially to ensure people's participation in the developmental process and to empower the vulnerable sections of the society.

In economic front, the district has achieved a moderate rate of growth in its contribution to Net State Domestic Product of West Bengal. The trend in sectoral contribution to NSDP reveals that the district has been marching forward in the development of tertiary sector of the economy. However, in respect of distribution, growth process is found to be skewed, inequitable and non-inclusive. The presence of several divides in socio-economic features of the people are visible in the district. The socio-economic divides are glaringly visible in rural-urban segregation of the district especially in terms of the existence of poverty, disparity in quantity and quality of employment, in the indicators of health care system, educational achievements and in social and gender disparities. This report identifies the areas of strength and weakness at the sub-district level to specify the interventions needed to achieve a balanced and sustainable human development for the district of Hooghly.

8.1 The Executive Summary: The State of Human Development in Hooghly District

Per capita income which is an important indicator of standard of living of the people has been showing a sustained rising trend in the district over the last one decade indicating a rising level of economic well-being of the people of the district. Per capita monthly consumption expenditure, also an indicator of economic well-being, is observed to be substantially higher in rural areas of the district than the corresponding State average. The livelihood opportunities of the district are found to be varied and diverse. Agriculture as well as non-agricultural activities provide the income earning opportunity to the people. However, agriculture, which used to occupy a place of pride in terms of production and productivity especially in rice and potato cultivation, has been showing deceleration in the years of recent past. On the other hand, non-agricultural activities have been growing at a faster pace. Due to growing marginalization of operational holdings,

agriculture has lost its supremacy to provide livelihood security in recent years and as a result people are switching over to non-agricultural activities. There is a sharp rural-urban divide in workforce composition in the district. The rural workforce is mostly engaged in agriculture and allied activities, while in urban areas the workers are mostly engaged in secondary and tertiary activities. The district offers diverse scopes for the development of micro and small scale enterprises as well as medium and large scale industries. The expanding economic opportunities of the district are found to be inversely related to rural poverty and human deprivation. However, there are several divides in terms of attaining economic opportunities especially among various social groups. Undoubtedly, land reform policy of the Government of West Bengal has benefited most the weaker sections of the society specially the SC/ST community who have enjoyed almost 67 per cent of total distributed ceiling surplus land. Notwithstanding that, the economic condition of scheduled caste and scheduled tribe population isfound to be weaker than the district average. Achievements in respecte of implementing rural development and poverty alleviation programmes especially National Rural Employment Generation Scheme is not found to be satisfactory.

In the field of education, the district scores favourably in terms of both educational infrastructure and educational achievement relative to the state of West Bengal and the country average during 2001-07. While it is at par or slightly below that of the state or country average in terms of educational infrastructure, the performance is especially spectacular in educational achievement where its scores are significantly higher than both national and state figures in terms of each parameter. In respect of gender status, the enrolment rate and completion rate of girl children are higher than that of boys in both Primary and Junior High school. This is in sharp contrast to both state and national situation where gender gap is quite significant. Gender Gap in Literacy has been removed significantly in the district. There are substantial differences among socio-religious groups in terms of schooling and dropping out, though literacy rates are quite similar across these groups. Scheduled Tribes and Muslims seem to be lagging behind. Urban (Municipal) areas are, on the whole, better placed than the rural areas in terms of both educational infrastructure and educational achievement. The areas that are lagging behind, and therefore need focused intervention can be clubbed as Arambag, Haripal, Jangipara and Pandua in terms of educational infrastructure and Balagarh, Haripal, Jangipara, Polba-Dadpur and Pursurah in terms of educational achievement. The regions that have done better in the district are Uttarpara-Kotrang, Bhadreswar (M), Serampore-Uttarpara, Singur and Konnagar (M) in terms of educational infrastructure and all municipality areas (except Chandannagore) and Singur and Goghat II in terms of educational achievement.

In health sector the district is found to have done better than the state average. However, there are wide sub-district level variations in health infrastructures and services. Rural areas are lagging much behind the urban areas of the district. The quality of health of the people as measured by the life expectancy at birth is found to be above the state as well the national average. In other words, people of the district have better survival chances. Similarly, Infant Mortality Rate (IMR) of the district is lower than the state as well as the country average. The IMR is found to be higher among the BPL category than APL category of households. Moreover, the incidence of IMR is observed to be higher among scheduled castes, scheduled tribes and other backward classes. The district has achieved considerable success in immunizing the children. However, gap exists in achieving the target of Millennium Development Goals. Social stigma prevails in immunizing the children. The reproductive health of mother has been improving in the district both in terms of increasing rate of institutional delivery and the application of pre-natal and post-natal cares to mothers. However, twenty per cent of deliveries still take place at home with untrained nurse. The health infrastructure of the

district has improved considerably in the last three decades but it is still inadequate to extend quality health services to the people especially in the rural areas of the district. Diarrhoea and Acute Respiratory Infection (ARI) are found to occur with large frequencies in the district. The incidence of Dengue, Chikungunya and AIDs are also found to be prevalent in the district. In respect of preventive, curative and promotional health care facilities, there is wide variation in the district. Arambag, Khanakul I and Khanakul II blocks have been identified as the laggard blocks in terms of health infrastructure and health care services. To ensure better health care facilities to the people there is no other alternative than to undertake large scale investment in improving public health infrastructures and health services. Involvement of NGOs and other service providers can mitigate the problems to a great extent. The public-private partnership, which is an emerging trend in socio-economic spheres of development, can be introduced in the district with a caution that private sector should supplement but not supplant the public sector.

Women in the district have less access to productive resources as is reflected in the lower workforce participation rate. Gender disparity prevails in the attainment of education. But in enrollment and retention rates the girls have outnumbered the boys. Gender parity as is manifest in sex ratio, is well above the state and the country average. The fall in juvenile sex ratio turns out to be sharper in urban areas than in rural areas. In consequence, the incidence of missing women is visible in urban Hooghly. In terms of social categories of households, the incidence of missing women is non-existent among scheduled tribe population while it is a less acute problem for scheduled caste population. The district has witnessed' unprecedented growth in the formation of SHGs in recent years and that has led to engendering benefit and empowerment of the weaker section of the society specially the women folk. The Banks and the NGOs of the district are playing active roles in bringing the economically vulnerable women in the banking network and thus promoting financial inclusion. Formation of SHGs in the district has brought about significant changes in the quality of life of the women belonging to SC/ST community especially in respect of three dimensions of empowerment namely social, economic and political empowerment. The incidence of registered crimes against women in the district is showing a rising trend in recent years. Importantly, an increasing numbers of victims are coming forward to redress the crimes either to the family/relatives or to any legal forums. Undoubtedly, Panchayat has emerged as the dominant platform to redress the crimes against women in the rural areas. Despite the trauma women across all classes are reporting crimes and do not feel helpless or abandoned by the family or society as was the case in the past. Human vulnerability in the form of old age helplessness, disabilities, starvations, are visible in the district which warrants immediate interventions to achieve an inclusive society.

Some areas of the district are subject to natural vulnerability in the form of river bank erosion, arsenic contamination in ground water and chronic floods. The arsenic contamination in ground water is found in the interfluvial region of the Bhagirathi-Hooghly and the Jalangi-Ichamati rivers lying mostly in the eastern part of the Bhagirathi-Hooghly. Principal source of arsenic is the arsenic sulphides minerals deposited along with clay, peat, with iron in the reducing environment. In several places of Hooghly district Arsenic contamination in tube well water have created a sense of fear among the people. To mitigate the arsenic related problem it is desirable to undertake measures to recharge of ground water. Moreover, several areas of Hooghly district are vulnerable to river bank erosion. Khanakul I & II are most affected with erosion in both banks of Mundeswari and Darakeswar rivers. Several places of Pursurah, Arambag, Jangipara, Jalampur and Ghatal P.S, Balagarh, Mogra, Chandernagar and Serampore P.S are affected by erosion of rivers. The

river erosions are causing loss of habitat and bio-diversity, loss of agricultural land & crops and property; and, stress and anxiety among the people almost every year. The increasing level of urbanization in the district is putting pressure on the environment in the form of disposal of huge industrial and municipal wastes. For sustaining human well-being it is essential that proper measures of waste management be undertaken.

The district has tremendous potentialities in the development of cultural tourism that are expected to create a far reaching impact on human resource development in the region encompassing socio-cultural values of the people in the district. Despite the district being rich in cultural heritage, it has failed to establish itself as an important tourist destination in Bengal. This is mainly due to the lack of adequate tourism related infrastructures in the district. To tap the cultural tourism potentialities, it is now desirable to adopt an Integrated Tourism Action Plan for the development of cultural sites of the district. A Three Tier tourism development forum in the district may be developed. In the first, Tier-I, the tourism resources at different destinations will be explored. This tier will be looked after by the local bodies with the active participation of the local people. In Tier-II, the tourism service providers will be operating, and they will be monitored by the block level tourism cells set up for the purpose. The Tier-III, will be the District level Tourist Information Centre at the Zilla Parishad level. This Tier- III, will be the Apex Organization in the district. It will coordinate with the Service Providers, District Administration and State and Central level Tourism Departments for the best utilization of tourism resources in the area. There will be both 'Inward' and 'outward' flows of information relating to maintenance of tourism resources among the three tiers. Thus, a combination of Bottom-Up and 'Top-Down' approaches of communication and development of tourism resources are essential for faster and effective spread of tourism in the district.

8.2 Area of Intervention

Broadly, Serampur Sub-division of the district is at the top and Arambag Sub-division is at the bottom of the Human Development Ladder of the district. In between lie the Chandannagar and Sadar Sub-divisions. Serampur and Chandannagar Sub-division are very close in terms of human development indicators. So, at the Sub-divisional level more intensive development programmes need to be implemented in Arambag and Sadar Sub-divisions so as to achieve a balanced socio-economic development of the district. However, various blocks and municipalities under a sub-division do not stand at a uniform level of development. Thus, it is also desirable to implement the target oriented development programmes at the sub-district levels viz blocks and municipalities to bridge the gaps of internal development disparities in Hooghly district. Different regions of the district have different problems. Since, problems are different, so should be the interventions specific problems that have been identified at the sub-district level are cited below along with desired government interventions so as to provide a road map of development for equitable human development of the district of Hooghly. We can identify the areas requiring context specific interventions as follows:

8.2.1 Education and Capacity Building:

The development of education is the brighter side of the development of the district. However, in some areas, gaps have been identified for government interventions to achieve more equitable and inclusive development.

Table 8.1: Area of Intervention in the Field of Education
Interventions Necessary in Different Blocks

Interventions Necessary	Problem Areas Identified
Improving Access / Availability New school buildings; Ensuring accessibility	Arambag, Bansberia (M), Champdani (M), Jangipara, Goghat-II, Balagarh, Polba-Dadpur
Increasing availability of Teachers - Increased use of Shikhsa Samprasaraks	Pursurah, Baidyabati (M), Rishra (M), Serampore (M), Tarakeswar (M)
Literacy Drive	Jangipara, Arambag, Balagarh and Chanditala-I
Special drive for Female Literacy	Arambag, Polba-Dadpur, Balagarh and Pandua
Enrolment Drive (in middle stages) Sarva Shikhsha Mission; Bridge Course Centres;	Chinsurah-Mogra, Khanakul-II, Polba-Dadpur and Serampore-Uttarpara
Improving Retention Rates Socio-economic measures; Identifying laggards and conducting remedial coaching	Balagarh, Goghat-I, Haripal, Jangipara, Polba-Dadpur and Chandannagore MC
Improving Completion Rates Same as Retention Measures	Goghat-I, Haripal, Jangipara, Polba-Dadpur and Chandannagore (MC)

Source : Chapter 3

We can see while there are some blocks that are lagging in terms of most parameters like Arambag, Jangipara and Polba-Dadpur and thus need overall intervention, there are other blocks which needs focused and specific intervention.

8.2.2 Livelihood Opportunity, Poverty and Inequality:

The district Hooghly provides a peculiar profile of semi-urban nature where agricultural activities are found to be least dominating in recent years. The district is surely moving towards increasing urbanization and greater livelihood opportunities in non-farm sectors for its populace. Land use pattern indicates that the district is experiencing a gradual shift from agricultural to non-agricultural activities. It appears that, by and large, the expansion of non-agricultural area came at the cost of the agricultural land. Truly, a new direction of development and livelihood enhancement these days in the district is the emerging non-agricultural, small industrial sector described as non-farm sectors. However, the workforce participation rate, which is an important livelihood indicator, is less than the state average. More interestingly, urban workforce participation rate is found to be much smaller than the rural workforce participation rate in the district. The

gender wise segregation of work force reveals that female workforce participation of the district is very low and far below the state average. This is causing concern in relation to economic empowerment of women of the district. The district follows advanced agricultural practices by the use of HYV technology. As a fall out, the cropping intensity of the district is found to be much higher than the state average. But the district has been experiencing a deceleration in the trend in growth rate of agricultural productivity in recent year. Another grave concern relating to livelihood opportunity of the people of the district is the growing marginalization of cultivable land and the problems of landlessness. Overwhelming majority of the operated land (97.18) in the district is under the category of small and marginal holdings, which constitute around 87.01 per cent of total cultivable land. Marginal farmers are unable to get livelihood security from cultivation and thus they are forced to move in search of off-farm activities.

The growing economic opportunities of the people are found to be inversely related to the level and extent of economic deprivation and poverty. Three measures of poverty namely BPL poverty, human poverty and the modified capability measures of poverty clearly establish the inverse relationship between livelihood opportunity at the sub-district level and the incidence of poverty. Thus enhancement of livelihood opportunities is considered to be an effective means to reduce rural poverty in the district. But, livelihood opportunities are limited and highly iniquitous at the sub-district levels. Table 8.2 below identifies the problem areas in respect of livelihood and poverty indicators where appropriate government interventions are necessary to uplift the living standard of the people of the district.

Table 8.2: Area of Intervention in the Field of Livelihood and Poverty Interventions Necessary in Different Blocks

Interventions Necessary	Problem Areas Identified
Low female workforce participation rate	Urban(Hooghly), Pursura, Chanditala II, Arambag, Singur, Bhadreshwar,
Lack of employment opportunity	Arambag, Khanakul -II, Goghat II, Khanakul I, PursurahChanditala I and II, Bansberia(M), Arambag(M), , Bansberia (M), Chamdani(M).
Lack of entitlement(measured in asset index)	Khanakul-II, Goghat II, Goghat I, Khanakul I, Jangipara, Dhaniakhali, Pandua, Balagarh, Arambag, Chamdani(M)
Lack of livelihood opportunity	Pandua,Khanakul II, Goghat II, Goghat-I, Khanakul-I, Dhaniakhali, Balagarh, Champdani(M), Bansberia(M).
High incidence of BPL poverty	Arambag, Pandua, Jangipara, Dhaniaklhali, Pursura, Goghat-I, Polba-Dadpur.
High incidence of Human Poverty	Arambag, Khanakul, Khanakul-II, Jangipara , Arambag(M).
High incidence of Modified Capability Measures of Poverty(MCPM)	Goghat -II, Arambag, Goghat-I, Khanakul I, Khanakul-II, Polba-Dadpur, Jangipara

Source : Chapter 2

It is expected that the roles of government policies mediated by the local self governance and people's participation should be instrumental in reducing poverty gaps in the district.

8.2.3 Health and Human Well-being:

The district has achieved a considerable success in terms of prime indicators of health like LEB, IMR, Immunizing the children etc, but there are substantial variations in the availability of public health care facilities in rural-urban locations and in various blocks of the district. The people located in rural areas continue to be the most disadvantaged in terms of access to public health care facilities. The inadequate public health care services in rural areas compelled the people to choose alternative service providers, unqualified medical practitioners. Thus, the public health infrastructures have to be made stronger in the district to protect and promote the general health of the people of the district.

Table 8.3: Area of Intervention in Health Sector

Interventions Necessary	Problem Areas Identified
High Infant Mortality	Arambag, Polba-Dadpur, Jangipara, Khanakul I, Khanakul II, Goghat I, Goghat II
Lower achievement in Children's Immunization	Polba-Dadpur, Goghat I, Goghat II, Tarakeshwar, Balagarh, Chanditala II
Lower Incidence of Institutional Delivery	Arambag, Khanakul I, Khanakul II, Goghat I, Goghat II, Jangipara, Balagarh
Lower incidence of Ante-natal cares	Arambag, Chinsurah-Mogra, Balagarh, Khanakul II, Polba-Dadpur, Pursurah, Dhaniakhali
Unsafe Motherhood	Arambag, Khanakul II, Khanakul I, Balagarh, Chinsurah-Mogra, Polba-Dadpur
Lack of preventive health care facilities	Khanakul II, Pursurah, Arambag, Polba-Dadpur, Balagarh, Goghat I, Goghat II
Lack of curative health care facilities	Arambag, Khanakul II, Khanakul I, Pandua, Polba Dadpur, Haripal
Overall poor health performance	Arambag, Khanakul II, Khanakul I, Balagarh, Polba-Dadpur, Goghat I, Goghat II

Source : Chapter 4

The table above identifies the major problem areas in health indicators along with the least performing blocks for undertaking appropriate action plans to achieve the goals of 'Health for All' in the district.

It is apparent from the summary findings of the study that the socio-economic conditions of the people belong to SC/ST/OBC are much below the district averages. To bridge these internal development disparities of the district it is necessary to undertake special programmes to uplift the socio-economic conditions

Table 8.4: List of Backward Villages Of Hooghly District

Sl. No.	Name of Block	Name of Villages	J.L. No.	ITDP / SC Villages
1	Arambag	Bhabapur	01	SC
2	Arambag	Parabbatichak	40	*
3	Balagarh	Debipur	42	SC
4	Balagarh	Hamjampur	60	ITDP
5	Chanditala-II	Dankuni Bill	83	*
6	Chinsurah-Mogra	Jatrasudi	30	SC
7	Chinsura-Mogra	Kabihati	14	SC
8	Dhaniakhali	Itachona	151	ITDP
9	Goghat -I	Bara Kumursa	112	*
10	Goghat -II	Naraharbati	37	*
11	Jangipara	Chak Barada	108	SC
12	Jangipara	Radhaballavpur	32	SC
13	Khanakul I	Chak Jalkar	131	SC
14	Khanakul I	Jayaram Chak	92	SC
15	Khanakul I	Sarda	130	SC
16	Pandua	Mallickpur	08	*
17	Pandua	Shyamsundarpur	131	*
18	Polba-Dadpur	Anantapur	24	SC
19	Polba-Dadpur	Nonadanga	155	ITDP
20	Polba-Dadpur	Shibrampur	161	SC
21	Goghat-II	Jitarpur	09	SC
22	Balagarh	Sadhu Bangali	79	SC
23	Balagarh	Sargaria	72	ITDP
24	Balagarh	Telinipara	84	ITDP
25	Chinsurah-Mogra	Fatepur	05	SC
26	Dhaniakhali	Baidyapur	09	*
27	Goghat -I	Goalpara	195	SC

Contd.

Sl. No.	Name of Block	Name of Villages	J.L. No.	ITDP / SC Villages
28	Goghat -II	Arazi Kirtibaspur	128	*
29	Goghat -II	Gauripur	06	SC
30	Goghat -II	Jharikhanda	26	SC
31	Goghat -II	Purba Chakla	15	*
32	Haripal	Sirazpur	32	SC
33	Haripal	Sodpur	26	SC
34	Jangipara	Mahestikuri	117	SC
35	Pandua	Sadhat	10	ITDP
36	Polba-Dadpur	Damurpur	16	*
37	Polba-Dadpur	Kagnan	29	*
38	Polba-Dadpur	Paschim Naray	71	SC
39	Polba-Dadpur	Radhanagar	132	*

Note: ITDP stands for Integrated Tribal Development Project

* Indicates non-SC/ST Concentrated Village.

Source: P.O. Cum D.W.O, BCW, Hooghly, 2009

of the backward classes. Department of Backward Classes Welfare, has already identified 39 backward villages in the district dominated by SC/ST population of the district as given in Table 8.4 above. It is thus desirable to advocate the target oriented programmes in these backward villages to enhance the level of human development of the under privileged sections of the society.

8.3 To Sum Up

The district of Hooghly has achieved a considerable degree of social development during the planning era especially in the last three decades of development planning. However, intra-district variations in the achievements of human development are evident from sub-district level variations in social development indicators. To achieve a balanced and inclusive society, it is now imperative to deal with the challenges like lower productivity in agriculture, poverty alleviation and employment generation, social sector development and reduction in regional, gender and social disparities. The identification of gaps in social development indicators and the action plans as suggested in the report are expected to provide a planning guide to bring about a more inclusive human development in the district.