

**DISTRICT
HUMAN
DEVELOPMENT
REPORT
SOUTH 24 PARGANAS**

**DEVELOPMENT & PLANNING DEPARTMENT
GOVERNMENT OF WEST BENGAL**

i

District Human Development Report: South 24 Parganas

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Government of West Bengal

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Foreword

Development is basically a dynamic process about people and their expansion of choices to live their lives creatively, with freedom and dignity. It has been the constant effort of the West Bengal Government for the past three decades and more to translate this very concept of development into discernible and measurable action.

It is keeping this approach at the centre of all our programmes that the State Human Development Report was brought out in 2004. This Report which won appreciation for its clarity and transparency, suggested a series of activities to bring about positive changes in the human development scenario of West Bengal. One such activity is the preparation and publication of District Human Development Reports as sequel to the State Human Development Report. So far we have been able to publish the reports of Bankura, Malda and Birbhum districts. We hope to publish the reports of three to four other districts by December, 2009.

The District Human Development Report of South 24 Parganas is one of these. This district, with its multi-dimensional variety is one of the more challenging areas of developmental activities in our State. The challenges are multi-layered. In almost equal proportions, the district places before us a wide arena of opportunities. The district level team and their counterparts at the State level have really done a commendable job in collating the areas of attention and earmarking the agenda of action.

I avail this opportunity to thank the peoples' representatives, the academicians the administrators and all those whose collective efforts have brought about this publication. I also record my appreciation to the HDRCC Unit of the Development and Planing Department and to the esteemed Members of the State Planning Board for their contribution in this regard.

I am hopeful that this Report will provide to all concerned a better understanding of South 24 Parganas, both as a district, as well as a centre of development related activites. It will also help to extend and ensure our objectives of inclusive growth, sustained development and equitable distribution of resources.

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Preface

All development initiatives aim to improve the quality of life of the human being. This improvement can not be brought about simply by a growth in national production. Improvement of quality of life will happen only when people are provided with a range of choices and an enabling environment where they can explore their potential to the fullest.

Preparing the Human Development Report of South 24 Parganas was an exercise in identifying the most pressing developmental constraints in the district and putting together a document that would serve as a base for policy formulation and strategies. We have explored the state of education and health-care in the district, looked at the changing employment trends, calculated a standard of living index. Given the geographical position of the district which comprises one of the largest estuarine deltas in the world, we have examined the people's capacity to cope with natural calamities and computed a vulnerability index. A chapter has been devoted to the Sunderbans, which with its mangroves, other flora, ecology and fauna, gives the district its unique and distinctive character. Gender issues have been discussed in a separate chapter.

When we were assigned to the responsibility of preparing a Human Development Report for our district, we formed a Core Group consisting of the Sabhadiipati of the Zilla Parishad, the District Magistrate, the Members of Parliament from Jadavpur and Diamond Harbour Parliamentary Constituencies, the Additional District Magistrate (General), the District Planning Officer, and Shri Sukanta Bhattacharya, the Lead Coordinator. This Core Group would act as the decision maker and coordinator. A district level workshop was arranged with the Panchayat functionaries, line departments, government officials and NGOs. At this workshop, which was the first of many brainstorming sessions, the various sectors which would form part of the report, were identified. Core Groups, one for each sector, were formed. The Core Groups had government officials, NGOs, academicians and public representatives and were led by the Group Coordinators. Over the next few months, the Core Groups collected and analysed data, held discussions, did case studies and collated the material. The District Core Group sat in with the Sectoral Groups severally, and also arranged for joint sessions where findings could be shared and validated. The chapters were presented at district level workshops at various stages of preparation, and the draft report was presented at the state level several times.

For us, preparing the DHDR was like embarking on a journey of discovery of South 24-Parganas. The largest district in the state is a huge, populous landmass characterized by heterogeneity, with the teeming urban metropolis Kolkata in the northern fringes giving way to the uninhabited forested islands of the world's largest prograding delta, the Sunderbans. The smallest unit of study was the development block : there are 29 such blocks in the district, each with its individual problems and policy requirements. Given the differences in topography, resources and demands of the people, ideally, policies should have been prescribed for each block separately.

However, while we were comparing the performances of these blocks in various developmental indices, we found that that blocks were resolving themselves into three distinct regions : 1) the north-west, which was the highly urbanized area surrounding Kolkata, 2) the Sunderbans in the south, and 3) the north-east and mid-west region which was really a buffer zone between the other two regions and which was a region in transition. Analysis of data and findings pertaining to the individual blocks held good when looked at from the perspective of these three regions. While we deliberately desisted from making macro level policy recommendations for the district as a whole, the emergence of these distinct regions in the course of the study helped us to make some necessary generalisations.

Overall coordination of the DHDR exercise was maintained by the DHDR Core Committee under the chairmanship of Shri Bimal Mistri, Sabhadiipati, South 24 Parganas Zilla Parishad, who

was always ready with his kind advice and support. Shri Sukanta Bhattacharya, Reader, Department of Economics, University of Calcutta, was the Lead Coordinator of the Project. From preparing the concept note, to coordinating with the sectoral group coordinators, to himself writing the introductory and concluding chapters as well as the chapters on “Human Development Indicators” and “Material Conditions and Standard of Living”, Shri Bhattacharya’s involvement was complete. This report would not have materialized without him. The Group Coordinators handled their sectoral reports independently, collecting data, consulting and interacting with stakeholders, conducting surveys etc. Smt. Piyali Sarkar, Sr. Lecturer, Fakir Chand College, Diamond Harbour, was the leader of the group which studied “Employment Trends and Livelihood Patterns”. Shri Chirodip Majumder, Sr. Lecturer, Barjora College, Bankura, surveyed the “Literacy and Education” scenario in the district. The chapter on “Health Status in South 24-Parganas” was put together by Smt. Mousumi Datta, Reader, Presidency College, Kolkata. Shri Prasenjit Sarkhel, Lecturer, Lalbaba College, Howrah led the group which examined the issue of “Human Security and Vulnerability”; Shri Priyam Sengupta, Lecturer, Bankura Sammilani Mahavidyalaya, also participated actively in preparing this chapter. Smt. Pampa Sengupta, Reader, Vivekananda College, South 24-Parganas, wrote the chapter on “Gender and Development”, with Smt. Chandreyee Das of “Inspiration” providing valuable inputs on Women Trafficking. The chapter on “Sunderbans and the Remote Islanders” was written by Shri Santadas Ghosh, Reader, Visva Bharati University, Shantiniketan. Mention must also be made of the contribution of Shri Rajkumar Chakraborty, Sr. Lecturer, Jhargram Raj College, for preparing the historical profile of the district. I put on record our deep gratitude to all these representatives from academia, whose handiwork this report is. I would also like to thank all the officers of the line departments: Land, Labour, Education, Health, Public Health Engineering, Disaster Management, Police, Fisheries, Agriculture, Forest, Food and Supplies, Bureau of Applied Economics and Statistics, District Industries Centre, Literacy : for providing the data which formed the basis of all the studies and analysis. The Karmadhyakshas of the Zilla Parishad participated freely in the discussions, as did many local NGOs. The Members of Parliament, Shri Sujan Chakraborty and Shri Samik Lahiri, put us in touch with various resource persons and offered us valuable insights. Shri P. B. Salim, IAS, Additional District Magistrate (General) and Shri Surojit Bose, WBCS (Executive), District Planning Officer, as members of the District Core Group, worked quietly in the background, liaising between the coordinators and the government departments, arranging for meetings, sitting in on discussions of the sectoral groups, making presentations. I put on record my appreciation for their dedication and hard work. Finally, we are grateful to the Development & Planning Department, Government of West Bengal, for their constant guidance and support.

Preparing the Human Development Report for South 24 Parganas has helped crystallize our vision for the district. In this report, we have tried to present frequently required data, analyses, comparisons of achievements in various sectors and regions and policy indications. We have intended it to be easily comprehensible and usable – we hope we have succeeded. We believe that the Report will fulfil its objective of acting as a ready reckoner, and as the base document, for any development planning exercise in the district.

Sanghamitra Ghosh, IAS

District Magistrate

South 24-Parganas

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South 24 Parganas: An Overview

1.1 South 24 Parganas: An Overview

The district of South 24 Parganas came into existence on March 1, 1986. Prior to that date, it was a part of undivided 24 Parganas. The large undivided district of 24 Parganas was bordered by the Bhagirathi channel in the West, Bangladesh in the East, the district of Nadia in the North and the Bay of Bengal in the South. This huge and populous landmass was under the same administrative jurisdiction from the beginning of the British rule in Bengal. After the fall of Nawab Siraj-ud-Daulah, Mir Jafar, the new Nawab, concluded a treaty with the English East India Company on the 15th July 1757, by which the former ceded to the Company the Zamindari rights of 24 mahals. It was recorded that 'all the land lying to the south of Calcutta as far as *Kulpi*, shall be under the Zamindari of the English company; and all the officers of this Zamindari shall be under their jurisdiction.' These 24-mahals, or 24 parts, were given the name 24 Parganas. By the time of the Permanent Settlement in 1793, the Sundarbans had been included

in the 24 Parganas' administration. Finally, in 1986, the district of 24 Parganas was divided into two separate parts mainly for reducing the administrative burden. The southern part came to be known as South 24 Parganas.

South 24 Parganas encompasses the moribund, mature as well as the active parts of the Gangetic delta. The rich arable lands of the South 24 parganas district consists of the southern plains to the south of Calcutta between the old and present courses of the Hooghly. Due to its peculiar geographical location and the dictates of geography, the means of transport and communication in this region are not well developed, with all the attendant consequences. Lack of irrigation has meant mono-cropped agriculture. Breaches in earthen embankments and cyclonic storms mean loss of life and destruction of crops and property on a regular basis. Any development strategy in this ecologically fragile environment must be carefully designed and implemented.

1.2 South 24 Parganas in Historical Perspective

The present South 24-Parganas district forms the southern-most part of the deltaic plains of Bengal. This is a relatively new land, emerged from the alluvial deposits of the Ganges and its various tributaries. In the very recent period, the archaeologists have found some pre-historic artifacts from the surface of this region. But these evidences are still not sufficient to write a definite pre-history of this particular area. This is also true for the early historical period of this region. From the first century B.C. we have found some foreign literary accounts about this region, which indicate the existence of a land of prosperous people in this part of Bengal. But this is a land where there have been constant shifts in the courses of rivers. Therefore, it is unlikely to find the supportive detailed archaeological evidences, in absence of which the early history of this part of Bengal remains speculative.

The Greek writers, from the first century B.C. onward, mentioned the people of this region, often referred to as the *Gangaridae*, *Gangaridai*, and *Gangaridi* etc. According to Ptolemy, the famous second century geographer, the country near the mouth of the Ganges was occupied by the *Gangaridai*. He also mentioned that they were different from the people of the

territory of *Tamrolipta*, called Tamalites. It may be assumed that the whole deltaic Bengal between the Bhagirathi-Hooghly in the west, the Padma-Meghna in the east and the Ganga-Padma in the north became the land of the *Gangaridai* people. The district of South 24 Parganas as of now falls within these limits.

From the Greek sources, we know that the country of the *Gangaridai* was a prosperous one and this prosperity was largely depended upon its profitable foreign trade. There was a famous port-city, called Ganges. This city was situated on the confluence of the Ganges with the sea. Through this port, according to *The Periplus of the Erythraean Sea*, a travelogue written by an anonymous Greek sailor of the first century A.D., a considerable amount of trade used to be carried out in betel, spikenard, pearl and *maslin*. In this profitable foreign trade, gold coins were used as the medium of exchange.

Where was the city of Ganges located? Historians are confused. It might have been in the present Sagar island, or at Chandraketugarh of Deganga (Deganga means *dwi* or *dwitya* Ganga, second mouth of Ganges) which presently is in the district of North 24 Parganas. Another possible place is Atghara near Baruipur, situated on

the east bank of the old course of the Bhagirathi, called Adiganga.

The establishment of the Gupta Empire marks the end of the political isolation of the various independent states that flourished in Bengal. This part of Bengal, also, got incorporated in the Gupta Empire, though the actual effectiveness of their rule in this area remains uncertain. From indirect archaeological evidence it seems that the Gupta rule made a deep cultural impact on the district. The imperial Guptas were the patrons of Puranic Brahmanism. Through them Puranic Brahmanism and its associated culture spread over this region. A large number of terracotta icons of Puranic Brahmanical Gods and Goddesses have been found from the Berachampa-Deganga-Chandraketugarh region and from Atghara. Some Buddhist icons have also been found.

This part of Bengal remained outside the effective hegemony of the Gauda kingdom of Sasanka. It was under the sway of the Pala Empire. During the reign of Gopala II and Vigrahapala II (circa A.D. 940-988) the Palas lost a large portion of their territory in Vanga to the Chandras, who started their career as a feudatory of the former. There is still a brick temple, popularly known as *Jatar Deul*, standing at the village of Uttar Jata of Mathurapur, which was constructed by a certain king

named Jayanachandra in 975 A.D., which confirmed the fact that this area was under the sway of the Chandra rulers. It is interesting to note that all the remnants found from the surrounding area represent Puranic Brahmanical tradition, not Mahayani Buddhist tradition, which indicates that the Palas were unable to imprint their own image onto the culture of this region. In the Sena period this tradition is not only continued, but strengthened. It is well known that the Senas were the patrons of Brahmanism. By issuing land grant to the Brahmanas, they wanted to extend their hegemony over the rural folk. This kind of activities from the part of Senas had other consequences also. As a result of the regular settlements in the Sundarban regions, the agricultural economy was spreading more and more towards the south.

From the ancient times till the sixteenth century at least, there were many *janapadas* which emerged on the banks of old Bhagirathi channel. Kalighat, Boral, Rajpur, Mahinagar, Baruipur, Bahadu, Joynagar, Majilpur, Chatrabhog were some among them. Bipradasa Pipalai's *Manasavijaya*, composed in A.D. 1495, provides us with a list of names of some important villages and towns of this region. Baruipur was a populous city in the late fifteenth and early sixteenth century. Chandsadagar, a merchant character of *Manasavijaya*, reached

Baruipur, from Kalighat, through the old Bhagirathi channel. From there he proceeded towards Chatrabhog, and then traveling through Hatigarh pargana reached the open sea. Chaitanyaadeva (1486-1534), according to his contemporary biographies, also went through this route. In his journey towards Puri, through the Bhagirathi channel, he halted at the village of Atisara, near Baruipur. His last stoppage in 24 Parganas was at Chatrabhog, now a village within the jurisdiction of Mathurapur police station. Chatrabhog seems to have been an important river-port on the old Bhagirathi Channel. The zamindar of Chatrabhog, Rama Chandra Khan, helped Chaitanyaadeva in his onward journey to Orissa. Chaitanya's journey along the east bank of Bhagirathi, and this kind of association with the influential landlords boosted the spread of *Gaudiya Vaisnava Bhakti* movement, at least on the riparian tracts of the 24 Parganas district.

A retrogressive process might have been started from the middle of the sixteenth century onward. These hitherto burgeoning centres of northern Sundarban areas and the Bhagirathi-Hooghly received setbacks. There were two reasons. The first was the rampant activities of the Portuguese free-booters and others. The second was geographic, the eastward trend of the Ganges dramatically intensified after the

late sixteenth century, and hence it gradually abandoned the old Bhagirathi channel, presently known as Adiganga. So long as the river flowed smoothly, the life of the surrounding areas also flowed. When the river became moribund, the thriving centres of life were affected by the diseases associated with the stagnant water.

In 1538, the Portuguese had obtained from Sultan Ghiyasuddin Mahmud, the last Ilyas Shahi king of Gaur, the permission to build settlement in Santgaon on the confluence of the river Saraswati and Bhagirathi-Hooghly. From this time onwards, the Portuguese slowly but steadily became the masters of the water of these riparian tracts. They had a secondary naval station at Tardaha on the confluence of Bidyadhari in South 24-Parganas. In this period Bengal's political geography was dominated by the so-called *Baaro Bhuniyas* (twelve landed Chiefs). The Portuguese free-booters became the allies of these independent *Bhuniyas* against the Mughals and in return got freedom of action in this lower part of Bengal. They went on with their business of piracy with impunity. For nearly a century or so this part of region remained under the effective control of the Portuguese pirates and free-booters. As a consequence, the hitherto populated centres of this region of Bengal got depopulated and jungles of the Sundarbans extended.

The present district of South 24-Parganas was within the kingdom of Pratapaditya (1590-1612), one of the most powerful Bhuniyas of Bengal. In 1612 he was defeated by the Mughal army. The Mughals established a fauzdari at Jessore and the present district of South 24-Parganas came under this jurisdiction. Now, the Mughal Subadar of Bengal turned their attention towards the problems created by the Portuguese. They sacked Hooghly in 1632. It is not clear when the Portuguese were forced to give up *Tardah*. But, with the waning of the power of the Bhuniyas the Portuguese had lost an important source of patronage.

By this time the Portuguese menace was controlled, but not finally ended, especially in the areas of the southern-most part of Bengal, which were full of rivers, creeks and tiger-infested jungles. The arms of the Mughal Emperor or of the Nawab of Bengal did not effectively reach these areas. Besides the Portuguese, there were Magh or Arakanese pirates operating in the same areas. They would come all of a sudden and swoop down on a river side mart on a market day and looted the merchandise brought for sale. This lawlessness, uncertainties and insecurities became the part of everyday life of the people living in this area throughout the eighteenth and for the better part of the

nineteenth centuries.

Then the English appeared. The 24-Parganas were one of the earliest places of their colonial subjugation. The treaty of 1757 between Mir Jafar and the East India Company ceded to the Company the Zamindari rights of 24 Parganas. The British colonial rule continued uninterrupted till India's independence in 1947.

As the present district of the South 24 Parganas is adjacent to Calcutta, the capital of early colonial rule in India, it had received some enlightening touches of the British rule, like the spread and extension of modern education, and social and religious reform movements etc. However, it has to be remembered, the present South 24-Parganas has a rich cultural heritage. There were many renowned centres of Sanskrit learning in the *medieval* and late *medieval* periods. Majilpur was called the 'second Navadwip' for its profound studies and culture of the Hindu *sastras*. Harinavi, Rajpur, all were famous centres of learning. So, when in the nineteenth century the modern western education was beginning to penetrate in this region, a complex interaction was going on between the old and the new.

According to the Annual report on the Public Instruction for 1871-72 by Mr. Woodrow, Inspector of Schools, quoted in W. W. Hunter's *Statistical Account of Bengal*: 'Nine-tenths of the education given in this

district are found on the banks of the old Ganges. The country thus favoured with schools extends from Halisahar to Rajpur, Baruipur, Boral, Govindapur, Bahru, and Joynagar, all populous villages with flourishing English schools under Hindu management.' There were many important journals published within the district in the nineteenth century. Dwarakanath Vidyabhusan's *Somprokas* held the foremost place among them. This weekly journal, published regularly on the morning of every Monday, first appeared from Calcutta in 1858 and from April 1862 from Harinavi. Mohanlal Vidyabagish and Sibnath Sastri also edited the journal for some times respectively between 1865 and 1874. The journal discussed literature, philosophy, science, politics and social matters. It agitated on the cause of the peasants and expressed itself boldly against the zamindars, and indigo-planters.

Many of the stalwarts and leading men of nineteenth-century Bengal were either born or had worked in this district at one time or the other. Rajnarayan Basu was born in Basu family of Boral. He was one of the leading figures of the *Brahmo* movement and was the forerunner of the *swadeshi* movement of later days. Rajnarayan formed a secret society on the Italian Carbonary model also, although nothing much came out of it till his grandsons Arabinda and

Barin Ghose and nephew Satyen Bose appeared on the scene.

Sibnath Sastri had his ancestral home at Majilpur, but was born in the maternal home at Changripota (now Subhasgram). At an early age he joined the social reform movements. He formally joined in Keshab Sen's *Brahmo Samaj* in 1869. From 1873 he shifted his centre of activities to Calcutta. In 1878 Sibnath Sastri parted ways from Keshabchandra and established *Sadharan Brahmo Samaj*. One of his compatriots, Umesh Chandra Dutta had established *Harinavi Brahmo Samaj*, and the big figures of the Brahmo movement, like Maharshi Debendranath Tagore, Keshabchandra Sen, Rajnarayan Basu, Dr. Protap Majumder, had frequent contacts with this Samaj.

South 24-Parganas was one of the active centres of *Hindu Mela* also. The first ever Hindu Mela in rural Bengal, was held in Baruipur in 1870. The concept of *Swadeshi* was an outcome of the activities of Hindu Mela, though the ideas of *Swadeshi* attained a commanding height at the time of the Anti-Partition movement in Bengal in the first decade of the twentieth century. During this time secret revolutionary movements gained momentum as well.

The present district of South 24-Parganas was a fertile soil of the revolutionary nationalist movement. The

Jugantar Party had a strong base in the district. In 1907, two *swadeshi* dacoities were held at railway stations on Sealdah Divisional Southern Section line. The first was at *Netra* station and the second was in *Changripota*, now called Subhasgram station. Some of the members of the Jugantar Party were involved in these incidents. Narendranath Bhattacharjee, later earned world-wide fame under the pseudonym - Manabendranath Roy - as a member of the Jugantar Party, were involved in these dacoities. Among the others members, there were Kuntal Chakravarti of Joynagar, Saileshwar Basu, Bholanath Chattopadhyay, Makhan Chakravarti and Aloke Chakravarti of *Changripota*. All of them were sentenced to varying terms of imprisonment. The Jugantar Party continued its hold on the locality. Satkari Bandyopadhyay, Harikumar Chakravarty and Aswini Ganguly were the prominent figures of the revolutionary activities in this region. During the First World War, they were involved in the arms deal with the Germans, under the leadership of Jatindranath Mukherjee (Bagha Jatin). But the plan was not successful. Satkari Bandyopadhyay and Harikumar Chakravarty had good organizing skills. In the middle of the 1920s, they formed a new group called *Sadhan Sangha* in this

district. Openly, they began to establish gymnasias and libraries, and from the users of gymnasias and libraries they secretly recruited the political activists, giving them special training in use of arms and ammunitions. They established gymnasias and libraries at Baruipur, Kalyanpur, Boral, Garia, Dhakuria, Diamond Harbour, Sarisha, Joynagar, Majilpur, Barisha, Behala and Bashirhat. Another group, the *Bengal Volunteers*, had its centres at Kodalia, Mahinagar and Malancha. Dinesh Majumder, the martyr, had a close link with these groups and it is noteworthy that his main area of operation was South 24-Parganas.

It needs to be mentioned that Subhas Chandra Bose and Sarat Chandra Bose's ancestral home was at Kodalia in the present South 24-Parganas district. Both of them were the members of the first 24-Parganas District Committee of the Congress, which was formed in 1921. This district took an active part in the first Non-Co-operation Movement and later in Civil Disobedience Movement, led by the Congress.

In general, the revolutionary activists and the leftists of the Congress dominated the field of politics in South 24-Parganas. Although their social base was extending significantly, it did not reach the peasantry. That turning point came in the 1940s, but not through the people of the Congress organization. It was the workers of the

Communist Party of India (CPI), who established the link with the peasantry of the Sundarban area in the 1940s. The peasant movement that broke out in Kakdwip, Sonarpur, Bhangar and Canning areas of the Sundarbans in 1946 and continued till 1950 was qualitatively different in character. It was guided by an all-India Party. During the famine of 1943, the functionaries of the CPI had rendered the relief work to the peasantry of this area and established a firm hold in the region. After the famine, they started to organize the peasant masses. The *jotedari* system had taken roots in the area, and the sharecroppers, marginal peasants and the landless labourers were the worst sufferers. In September 1946, the *Bangiya Pradeshik Kishan Sabha* (BPKS) decided to launch the *Tebhaga Movement*, the aim of which was to secure for the sharecropping peasants a better position within the existing land relation structure.

Kakdwip and Namkhana were the storm-centres of the movement. The movement saw the forging of a remarkable unity between the Hindu and Muslim sharecroppers and small peasants, quite contrary to the general mood of that time. The prominent leaders of BPKS, who were taking the active part to organize the peasantry, were Kangsari Haldar, Asoke Bose and Ras Behari Ghosh; and among

participating peasants leaders like Gajen Mali, Manik Hazra, Jatin Maity, Bijoy Mondal and others rose to prominence.

By January 1950, the Tebhaga and its following peasant movements had come to an end. The direct consequence of the movements was the enactment of Bargadari Act of 1950, which later got incorporated as the Chapter III of the West Bengal Land Reform Act 1956. The act recognized the sharecropper's right to two-thirds of the produce where he supplies usual necessary inputs. The actual realization of the rights granted by the Act was still a far cry. So, another wave from the part of the deprived section of the peasantry was needed. And, this started in the 1960s.

In 1967, the whole of West Bengal saw a peasant uprising on an unprecedented scale. The epicentre of the movement – essentially an organized and militant protest against the non-implementation of land reform legislation – was the Kheyadaha Gram Panchayat of the Sonarpur block. Despite the proliferation of land reform legislations in the post independence period, property relations in rural West Bengal remained virtually unchanged until 1967. Large tracts of agricultural land in excess of ceiling had been either kept by the large landlords in the name of others or had been transformed into illegal fisheries to avoid the land

ceiling act. Led by the local leftist leaders, the peasants and landless agricultural labourers in Sonarpur forcibly occupied the land illegally kept by the landlords and distributed them among the poor peasants. The movement brought into focus the almost semi-feudal land relations of the rural West Bengal and kept the promise of implementation of land reform legislation on leftist agenda. This paved the way for successful land reform in West Bengal after the Left Front came to power in 1977.

Before ending this section, an observation on the cultural heritage of South 24 Parganas may be of particular interest. South 24 Parganas comprises an area which was mostly covered by dense forest in not so distant past. For survival, the settlers had to fight with Nature day

in and day out. The same goes on in the Sundarbans even at present time. The hardships of daily existence have given rise to fraternal feelings and non-communal traditions. Members of both Hindu and Muslim communities worship the same Gods and Goddesses, Gazis and Pirs. The two most famous among them are *Dakshin Ray* and *Banabibi*. *Dakshin Ray* is worshiped as the God of tiger and all those who enter the forests for subsistence worship *Dakshin Ray* irrespective of their caste, creed and religion. *Banabibi*, on the other hand, is considered as the protector of the inhabitants of the forests. She is popular both amongst Hindus and Muslims. These Gods and Goddesses are not recognised by either religion, but are local deities created and worshipped by local people.

1.3 The Topography

Spreading over an area of 8165 sq. km with a population of 69.09 lakhs in 2001, the district of South 24 Parganas covers almost 9 per cent of the total landmass of the state of West Bengal. Located between latitudes 20°20' N and 20°06' N and longitudes 88°20' E and 88°60' E, the district is bounded to its due south by the Bay of Bengal, by Bangladesh across the

Raimangal and Kalindi rivers to its east, by Kolkata and North 24 Parganas districts to its north-west and north-east respectively and by the districts of Howrah and East Medinipur across the Bhagirathi river to its west.

Two distinct physiographic zones are discernible in the terrain presently known as South 24 Parganas. The northern part of the

district bordering Kolkata and North 24 Parganas belongs to what is known as *the Marine-riverine Delta*. In the sub-recent geological period, the sea receded southwards. As a result, a large area as plain land of very low altitude covered with fine clay of variable thickness and subjected to tidal ingresses got exposed. This required the then existing rivers to extend their courses to meet the receded sea.

The recession of the sea face was due to upliftment of the basement complex. To regain their profiles of equilibrium, the earlier river channels started getting exhumed afresh. However, the deepening of the channels proceeded faster along the course of the Padma river, because of higher volume of water flow, than its western distributaries. Land building activity through these fluvial channels further south also dwindled away. This became pronounced in the early decades of the current century. As a consequence, the physiographic zone under discussion continues to experience the joint impacts of fluvial and marine geomorphological processes, since the rate of land building by the rivers declined. All rivers in this zone experience tidal surges.

Presently this exposed continental shelf is getting covered by sediments carried by tidal inflows as well as by the rivers. These are forms of sediments brought by the tides

and the rivers. The tracts between the river channels continued to contain brackish water wetlands until filled up by sediments arriving through the collapse of the natural levees. Such collapses take place periodically as the channel beds rise due to confined sedimentation. Man-made flood jacketing embankments laid close to the tidal channels also collapse periodically with every reduction of the channel cross section. The inflowing sediments through the collapsed structures fill up the depressions containing the brackish water wetlands. This process is now manifesting with many parts of the Wetland of the North Eastern part of the district of South 24 Parganas. Some parts of this wetland are still preserved to raise fish. But these are gradually changing their brackish nature.

Filling up of the inter-fluvial brackish water wetland progressed more extensively in the northern part of this physiographic zone than in the south. The reason is easy to comprehend. Sedimentation from flowing water happens faster with the reduction of water velocity.

In the southern part of the District of South 24 Parganas, *the Marine Delta* zone is formed of inter-lacing tidal channels. The source of sedimentation is the tidal influx, which is scouring the shallow continental shelf. On the sea face, sand dunes have formed.

Under normal circumstance, the sediments get deposited between the inter-lacing river channels. But this condition has been largely altered by human action. To expand agriculture on this newly forming land mass, embankments have been created along the banks of the channels to prevent incursions of saline tidal water. These embankments enclose a tract to permit cultivation of rice with the help of rain water. As a result, features of the geomorphic processes have been altered.

In the first instance, sedimentation has been confined within the river channels. This is raising the levels of the river beds, requiring periodic strengthening of the enclosing embankments. Once the embankment collapses, tidal incursions extend into the protected agricultural land and expand the area under sediment accumulation. Until such disasters happen, the agricultural fields lose their nutrients. The accumulated rain water enhances leaching process. When the water is drained out during low tide, loss of nutrients also happens.

Rains constitute the major source of potable water. The non-saline aquifers occur at great depth, which is expensive to tap for the generally poor farmers. Shallow tube-wells accelerate the penetration of saline prisms into the so

exploited sweet water aquifers. This remains one of the most important reasons behind the backwardness of agriculture of the district. For a vast part of the district, the sources of non-saline water required for irrigation are few and very expensive to tap making agriculture mostly monsoon dependent.

Most parts of this zone have been brought under agriculture by destroying the mangrove vegetation. In the south-eastern part of this zone, some of the mangroves have been preserved, which has been declared as a Bio-sphere Reserve and is used for preserving tigers.

The district of South 24 Parganas can be divided into two distinct agro-ecological zones. The northern part of the district belongs to the *hot moist sub-humid agro-ecological sub region*. The soils have been formed from the alluvium deposited by Ganga and its tributaries and sub tributaries. The soils are intensively cultivated for rice, potato and oilseed crops. Frequent inundation of low lying areas result in stagnation of water for certain times of the year. Besides, flood hazards also affect the normal dry land crop yields. The soils of this sub-region have high nutrient content and mineral resource with a high potential for a large variety of agricultural and horticultural crops.

The coastal parts of the districts of South

24 Parganas comprising mostly Sundarban areas belong to *moist sub-humid agro-ecological sub-region*. The alluvium deposited by the rivers have gradually developed into deep, fine loamy to fine textured soils, by and large salt impregnated due to tidal flow of sea water

through creeks and sub-tributaries. These soils are imperfectly to poorly drained with moderate to very high salinity hazards. The soils remain wet and saline for considerable period of the year and are suitable particularly for salt resistant crops.

1.4 The Administrative Profile

From its inception in 1986, the district of South 24 Parganas has its district headquarters in Alipore which itself is in Kolkata¹. It then comprised of two sub divisions—Alipore(Sadar) and Diamond Harbour consisting of 30 blocks. Presently there are five sub divisions Alipore(Sadar), Baruipur, Canning, Diamond Harbour and Kakdwip, 29 blocks consisting of 312 Gram Panchayats and 7 Municipalities. South 24 Parganas is, indeed, a complex district, stretching from the metropolitan Kolkata to the remote riverine villages in the south upto the mouth of Bay of Bengal. The Alipore(Sadar) sub division lies very close to the Kolkata metropolis, with a well connected network of roads and railway link with Kolkata. The locational advantage of

the Alipore(Sadar) subdivision has translated into the development of the region so that the level of development in the Sadar subdivision far outweighs the development of any other region of the district. In the other end of the spectrum are Kakdwip and Canning subdivisions. Some of the blocks in these subdivisions are remote island blocks with very bad transportation facilities and connectivity to mainland. These obstacles definitely proved to be hindrance in development of these areas.

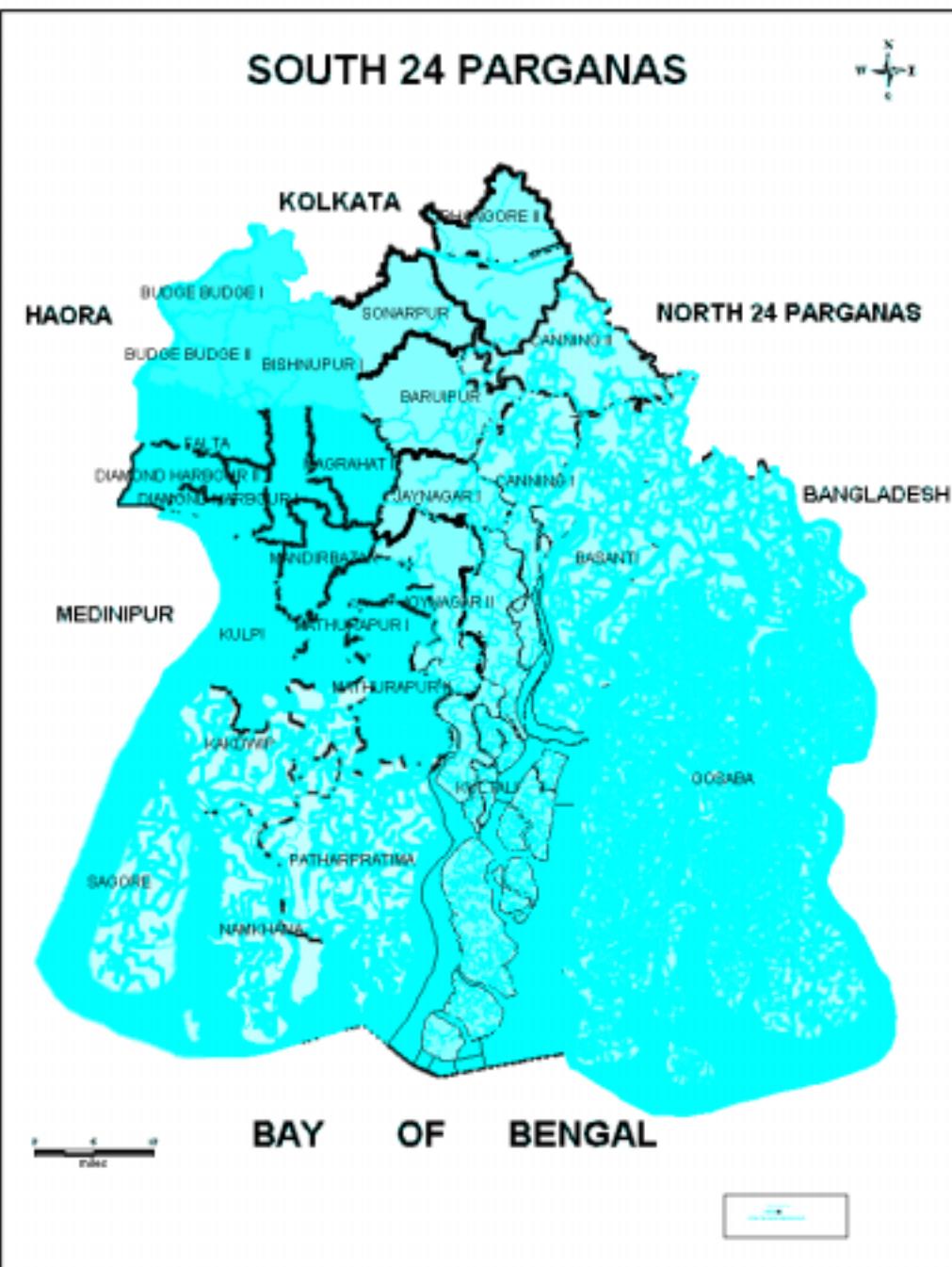
At the helm of the district administration is the District Magistrate who is responsible for the overall governance of the district including law and order. The District Magistrate is assisted by five

1. A decision has been taken to relocate the district headquarter to Baruipur – a more or less centrally located town of the district. The process of land acquisition has started and foundation stone for the district headquarter has been laid at the proposed spot.

Additional District Magistrates and a number of district level officers in discharging the responsibility towards the management of the administration. At the sub divisional level, this responsibility lies with the Sub Divisional Officer. At the

lowest rung of administrative ladder, each of the twenty nine blocks has a Block Development Officer who is assisted by block level officers and staffs for smooth running of block level administration.

Figure 1.1: South 24 Parganas (Administrative)



In the spirit of the decentralized governance, as elsewhere in West Bengal, any policy decision regarding the development of an area of the district is taken by the relevant elected representatives. The responsibility for implementing the decisions and overseeing the progress of the project rests

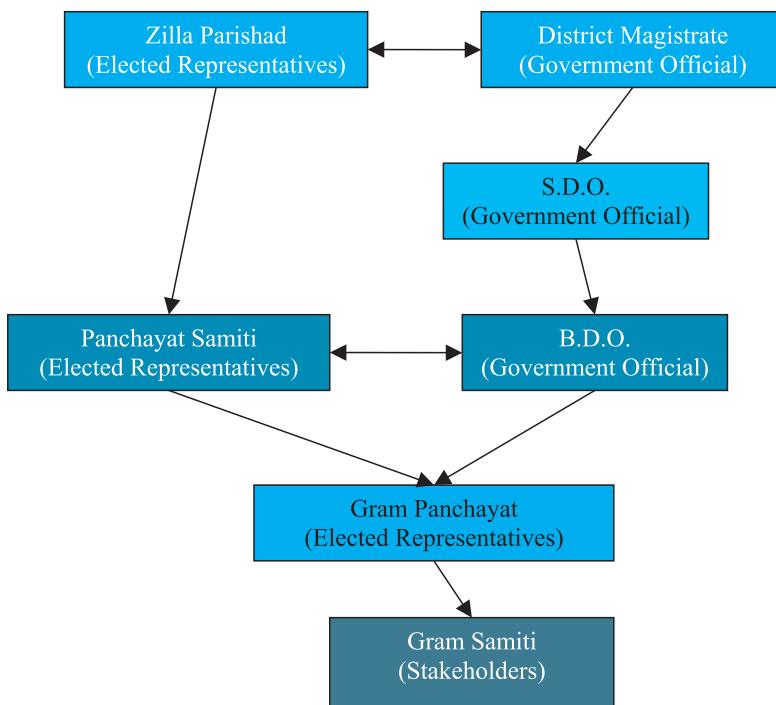
Table 1.1: Administrative Profile: South 24 Parganas

Sl.	Name of the Sub-division	Blocks	No. of GPs	Name of Municipalities
1	Alipore (Sadar)	Bishnupur-I	11	Budge Budge, Pujali, Maheshtala.
		Bishnupur-II	11	
		Budge Budge-I	6	
		Budge Budge-II	11	
		Thakurpukur-Maheshtala	6	
		Total	45	
2	Baruipur	Baruipur	19	Baruipur, Rajpur - Sonarpur, Joynagar - Majilpur.
		Bhangar-I	9	
		Bhangar-II	10	
		Joynagar-I	12	
		Joynagar-II	10	
		Kultali	9	
		Sonarpur.	11	
		Total	80	
3	Diamond Harbour	Diamond Harbour-I	8	Diamond Harbour.
		Diamond Harbour-II	8	
		Falta	13	
		Kulpi	14	
		Mograhat-I	11	
		Mograhat-II	14	
		Mandirbazar	10	
		Mathurapur-I	10	
		Mathurapur-II	11	
		Total	99	
		Kakdwip	11	Nil
		Namkhana	7	
3	Kakdwip	Patharpratima	15	
		Sagar.	9	
		Total	42	
4	Canning	Canning-I	10	Nil
		Canning-II	9	
		Basanti	13	
		Gosaba.	14	
		Total	46	

with the administration of the relevant level.

The apex institution for local governance of the district is the Zilla Parishad (District

Council). For each of the 29 development blocks, the corresponding local governance institution is the respective Panchayat

Figure 1.2: The Administrative Setup

Samiti, the jurisdiction of which is similar to that of the block authority. At grassroots level, there are 312 Gram Panchayats, covering areas that fall within the jurisdiction of the Zilla Parishad. Urban governance rests upon the municipal authorities at seven municipalities and Kolkata Municipal Corporation for part of the area adjacent to Kolkata.

The three-tier Panchayat system in the district has a decentralized mechanism for drawing up and implementing development plans. The central elected council of the Zilla Parishad headed by the Sabhadhipati is assisted in its working by some *Sthayee Samitis* or standing committees that supervise the development programmes of the Zilla Parishad. The Sabhadhipati and

Sahakari Sabhadhipati of the Zilla Parishad are ex-officio members of all *Sthayee Samitis*, each Samiti being headed by the designated Karmadhyaksha. All plans and programmes initiated by the respective *Sthayee Samitis* and approved by the majority of their members at a formal meeting of the Zilla Parishad are considered as decisions of the Zilla Parishad. The Zilla Parishad sanctions funds for the

developmental schemes that are taken up at block level by the Panchayat Samitis within its jurisdiction. All block level schemes sent up by the Panchayat Samitis that require larger funding support as well as any works that may need to be implemented jointly by more than one Panchayat Samiti are also taken up by the Zilla Parishad. The Zilla Parishad also arranges for technical assistance of the schemes executed by the Panchayat Samitis. Additionally, the Zilla Parishad may also directly execute developmental schemes through its own machinery in the block areas.

The District Magistrate functions as the ex-officio Executive Officer of the Zilla Parishad. Like the Zilla Parishad at the district's helm, each Panchayat Samiti at the

second tier of the panchayat system in the district also has *Sthayee Samitis* led by designated Karmadhyakshas. The Sabhapati and Sahakari Sabhapati who preside over the functioning of each Panchayat Samiti are also ex-officio members of all *Sthayee Samitis* at block-level. In each development block, the Block Development Officer [BDO] functions as the ex-officio Executive Officer of the concerned Panchayat Samiti. All schemes and decisions approved by the Panchayat Samiti are implemented by these Executive Officers.

At the third level within the panchayat system, each Gram Panchayat is headed by the respective Panchayat Pradhan. The Panchayat Samiti allots periodic funding for various development schemes to the Gram Panchayats under its jurisdiction, and also monitors and evaluates the functioning of these Gram Panchayats through the Executive Officer and other Panchayat Samiti members and officials. Within the 3 tier panchayat system, involvement from the local people in the developmental initiatives is drawn through their

participation in public hearings, consultations and meetings. At village level, the local stakeholders also attend Gram Sansad or village council meetings and participate actively in the activities of *Gram Unnayan Samitis*.

In the municipal areas of the district, elected Municipal Boards oversee the overall development of urban areas through several municipal committees. The main functions of each Municipality is to secure potable drinking water, arrange for the lighting of streets and public places, as well as to supervise the development and maintenance of civic drainage systems, provide urban conservancy services, and to develop market and commercial institutions within the urban limits. Each Municipality is led by an elected Chairperson, who is assisted by the elected Municipal Councillors in implementing various urban development works within the Municipality. At the urban grassroot level, each municipal ward has a Ward Committee that formulates urban development schemes for the ward and supervises and monitors their execution.

1.5 The Demography

The district of South 24 Parganas had a population of more than 69 lakhs in 2001.

The decadal growth rate of population between 1991 and 2001 had been 20.85

Table 1.2: Population in South 24 Parganas (2001)

	Total Population	Male	Female	Sex Ratio
RURAL	5820469	2997270	2823199	942
URBAN	1086220	567723	518497	913
TOTAL	6906689	3564993	3341696	937
Density of Population (2001)				694

Source: Census (2001)

per cent which is higher than the state average of 17.77 per cent. Historically, the population growth in the district had been higher than the state average. In the last century, except in the decades of 1950s and 1970s, the population growth in South 24 Parganas had always exceeded the state average.

Though the district is still largely rural

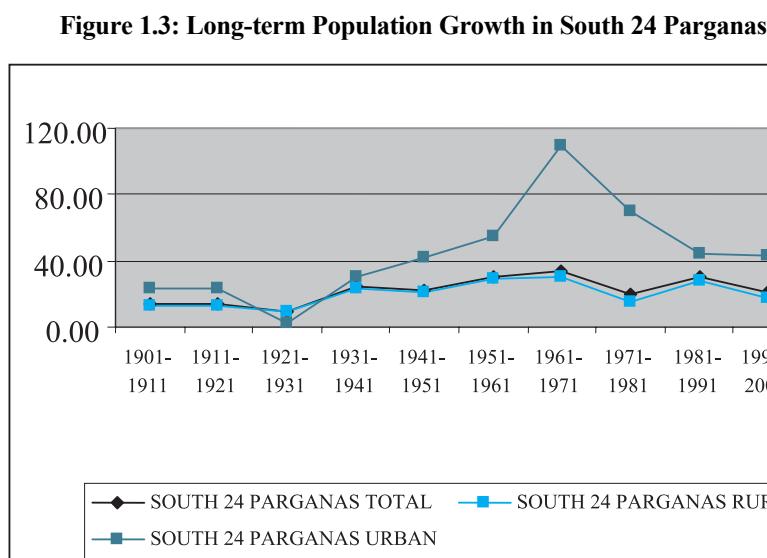
during 1991-2001 had been 42.85 per cent which is more than double of the state average of 19.88 per cent. The proximity to Kolkata –the largest

metropolis in Eastern India—is largely responsible for this phenomenon. This has created a unique problem for the district administration. The aspirations and demand of the people living close to Kolkata and commuting each day for their livelihoods are very different from those people living in rural areas or even in distant muffassil cities. Thus, apart from the staggering size

and population of the district, the administration has to contend with problems typical of metropolitan living in the urban area — such as high population density and overloaded civic infrastructure — and in complete contrast, in the rural areas the lack of transport and

communication facilities and weak delivery systems.

South 24 Parganas is a district with varying population density. Though a large part of landmass of the district is classified as



with 84 per cent of the population living in rural areas, the rate of urbanization in South 24 Parganas has been very high, particularly after independence. The decadal growth rate of urban population

Table 1.3: Demographic Profile of the District, 2001

Sub Division/ Municipality/Block	AREA (in sq. km.)	Population			Scheduled Caste Population			Scheduled Tribe Population			Population Density (popn per sq. km.)
		Person	Male	Female	Person	Male	Female	Person	Male	Female	
Alipore (Sadar) S.D.	427.43	1301955	678692	623263	307890	158902	148988	3366	1747	1619	3046
Mahestala (M)	44.18	385266	202304	182962	56964	29336	27628	2131	1122	1009	8720
Budge Budge (M)	9.06	75531	41165	34366	6577	3479	3098	63	29	34	8337
Pujali (M)	8.49	33858	17665	16193	5936	3081	2855	509	238	271	3988
Thakurpukur Mahestala	63.08	136903	70517	66386	53027	27300	25727	110	57	53	2170
Budge Budge – I	26.55	99945	52332	47613	20760	10794	9966	45	26	19	3764
Budge Budge – II	78.00	173446	89998	83448	35551	18232	17319	369	189	180	2224
Bishnupur – I	116.36	206370	106680	99690	98828	51107	47721	36	24	12	1774
Bishnupur – II	81.71	190636	98031	92605	30247	15573	14674	103	62	41	2333
Baruipur S.D.	1355.43	1951966	1008172	943794	688018	355969	332049	17317	8833	8484	1440
Rajpur Sonarpur (M)	55.30	336707	174140	162567	77518	40147	37371	2358	1206	1152	6089
Baruipur (M)	9.07	44913	23025	21888	11161	5632	5529	209	100	109	4952
Joynagar Mazilpur (M)	5.18	23315	12024	11291	4250	2203	2047	29	15	14	4501
Sonarpur	120.63	167408	86078	81330	97036	49833	47203	2683	1351	1332	1388
Joynagar – I	131.01	219090	113352	105738	89739	46773	42966	145	74	71	1672
Joynagar – II	186.25	209145	108294	100851	76761	39849	36912	974	537	437	1123
Kultali	306.18	187989	97356	90633	88851	46368	42483	4844	2488	2356	614
Baruipur	226.16	351439	181636	169803	150338	77614	72724	843	458	385	1554
Bhangar – I	153.62	204380	104584	99796	46360	23927	22433	3124	1560	1564	1330
Bhangar – II	162.04	207580	107683	99897	46004	23623	22381	2108	1044	1064	1281
Canning S.D.	1103.72	942008	482112	459896	422932	218045	204887	52751	26725	26026	853
Canning – I	187.86	244627	125097	119530	123936	63868	60068	3075	1536	1539	1302
Canning – II	214.93	195967	100397	95570	48173	24911	23262	11654	5900	5754	912
Basanti	404.21	278592	142705	135887	107602	55820	51782	17462	8973	8489	689
Gosaba	296.73	222822	113913	108909	143221	73446	69775	20560	10316	10244	751
Diamond Harbour S.D.	1264.68	1836769	947702	889067	551798	285423	266375	5156	2640	2516	1452
Diamond Harbour (M)	10.36	37234	19209	18025	4176	2195	1981	209	123	86	3594
Magrahat – I	119.04	228335	117870	110465	49704	25772	23932	103	57	46	1918
Magrahat – II	136.93	262092	135194	126898	94748	49015	45733	59	31	28	1914
Mandirbazar	118.07	183131	94620	88511	79504	41197	38307	274	143	131	1551
Kulpi	210.83	242752	124836	117916	77380	39915	37465	141	88	53	1151
Falta	130.68	221695	114232	107463	54897	28275	26622	73	24	49	1696
Diamond Harbour – I	68.43	133366	69094	64272	27048	13990	13058	133	50	83	1949
Diamond Harbour – II	95.59	165233	84722	80511	44709	22776	21933	267	122	145	1729
Mathurapur – I	147.30	164650	84894	79756	60904	31685	29219	589	317	272	1118
Mathurapur – II	227.45	198281	103031	95250	58728	30603	28125	3308	1685	1623	872
Kakdwip S.D.	1389.94	873991	448315	425676	247738	126971	120767	6176	3156	3020	629
Kakdwip	252.74	239326	122815	116511	86042	44404	41638	1941	1028	913	947
Namkhana	370.61	160627	82301	78326	41797	21303	20494	710	357	353	433
Sagar	282.11	185644	95547	90097	51588	26543	25045	691	383	308	658
Patharpratima	484.47	288394	147652	140742	68311	34721	33590	2834	1388	1446	595
South 24 Parganas	9960.00	6906689	3564993	3341696	2218376	1145310	1073066	84766	43101	41665	693

Source: Census of India, 2001



Table 1.4: Literacy (7+ persons) and Work Participation Rates by Religious Communities

Religious Community	Percentage of population	Literacy Rate	Work Participation Rate
Hindus	65.86	73.81	34.86
Muslims	33.24	59.83	27.71
Christians	0.76	76.05	33.84
Sikhs	0.02	82.64	33.69
Buddhists	0.03	88.90	30.35
Jains	0.00	87.70	30.52
Others	0.02	62.64	39.05
Religion not stated	0.07	68.15	29.82
Total	100.00	69.45	32.47

Source: Census of India, 2001

forest area and falls under the Sundarban Tiger Reserve, the population density is staggeringly high in Sadar, Diamond Harbour and Baruipur subdivisions with the highest concentration expectedly in Sadar Sub Division and the lowest in Kakdwip Sub Division. Among the blocks, Budge Budge-I has the highest population density at 3764 per square kilometre while Namkhana has the lowest at 433. The high population pressure in most areas of the district puts enormous burden on the amount of land available for cultivation and existing infrastructure, and thus adversely affects the quality of life in the district.

Almost 33 per cent of population in the district belong to the Scheduled Caste and another 1 per cent belong to the Scheduled Tribe communities. More than 50 per cent of the people living in Canning Subdivision belong to the Scheduled Caste

or Scheduled Tribe communities. Among the blocks, Canning-I, Sonarpur and Gosaba have a majority of the population belonging to these communities. Interestingly, the literacy rate among the Scheduled Caste population in the district is almost at par with the overall literacy rate and far exceeds the literacy rate among the Scheduled Caste population in the state.

A significant portion of the population in district belongs to the minority communities. While 65.86 per cent of the population adhere to Hinduism as their religious belief, another 33.24 are Muslims. Unfortunately, the literacy and work participation rates among the Muslims are lower than the district average, though the numbers are indicative of a better performance of the district in terms of development of minority communities than elsewhere in the state.

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The Way Ahead

The preparation of District Human Development Report for a district with multi-dimensional complexities like South 24 Parganas is a considerably complicated exercise in itself. Apart from its sheer size and large population, the varied topography with urban metropolitan living at one end of the district bordering Kolkata and people's struggle for coping with very uncompromising nature at the other end in Sundarban makes the task a highly difficult one. The expectations of the people of different regions are different; the threats they face are entirely different from one region to another or for that matter even from one block to another. It is thus almost impossible to make policy recommendations at the macro level for the district as a whole.

It is expected that a Human Development Report would identify the problems associated with human development in the reference area and offer some suggestions towards rectifying those problems. In South 24 Parganas - a district characterized by heterogeneity - an ideal policy framework would require prescribing policies for each block separately, given the differences in the topography, threats, scope and aspirations of the people. The measures

required for Thakurpukur-Maheshtala – an almost entirely urban block located on the fringe of Kolkata Metropolis – cannot be and should not be same as those required for Gosaba – a block comprising islands with no direct road connectivity to mainland. Unfortunately, such a disaggregated micro level analysis is beyond the scope of this report.

The objective of this concluding chapter is to reflect on some general guidelines that we hope will help the district in traversing the future path. This is an unenviable task, knowing fully well that without more detailed policy recommendations at the block level taking into account the characteristics and problems faced by each individual block, any general policy is bound to have limited impact on the human development of the individual blocks, at least in the short-term. To make this exercise a successful one, it is imperative to arrive at an integrated participatory coordinated plan of development of each different area, based on the general guidelines found in this report. An essential step in this direction is to ensure consolidation from the grassroot level.

Though a large section of people in

South 24 Parganas still depend on agriculture for their livelihoods, in the post-liberalization era agriculture has become relatively unremunerative after the gradual withdrawal of farm subsidies. This is particularly so in South 24 Parganas with majority of its agricultural land being monocrop in absence of proper irrigation facilities. The ground water irrigation that has been so successful elsewhere in the state did not succeed here because of high salinity. The lack of irrigation facilities also has limited the labour absorbing power of agriculture denying rural people very important employment opportunities. This needs to be taken care of immediately. Large amounts of rainwater run off to sea through different river channels during the monsoon, while in the Rabi season water for irrigation is scarce. A major irrigation project with large water storage tanks and inter connected network of canals can change the agricultural landscape of the district permanently – particularly for the mainland blocks. Rainwater can be stored during monsoon and later used during dry season, enabling multicropping and significant crop diversification. This would be a major step forward towards creating additional employment potential in agriculture as well as making agriculture remunerative.

Horticulture offers considerable

potential for employment generation and productivity growth in the district. Bishnupur I and II blocks are well known for their nurseries. Guava and lichee of Baruipur, mango of Bhangar, watermelon of Kakdwip and Sagar, chilli of Patharpratima are widely known for their good quality. But absence of local processing industries and poor storage and marketing facilities due to lack of rural infrastructure sometimes lead to huge loss on the part of the cultivators. Development of infrastructure and promotion of local agro-based industries are required to provide the farmers with incentives to cultivate these crops. Amtala Food Park is one such initiative in the right direction. But, similar projects need to be promoted on an urgent basis.

Being a riverine district with almost a third of the population living in islands of the southern Sundarban blocks, fishing is a natural occupational choice for a large part of the population. Besides river and sea fishing activities carried out by a large number of fishermen, the district has had both saline and sweet water fisheries for a long time. But unfortunately, only about 40 percent of the area available for pisciculture in the district is presently being utilized for the purpose. This is a serious under-utilization considering the natural propensity and specialization of the people of the district in this particular

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profession. This needs to be improved upon by providing appropriate incentives. Fishermen's cooperatives may be formed and linked with other government sponsored schemes to provide these cooperatives with easy access to technology, bank loans and training for members. This has a very large employment potential in the district not just for male but also for female job-seekers. One such success story in the district is in the case of ornamental fisheries. Many self help groups in Bishnupur I and Bishnupur II blocks have very successfully taken up ornamental fishing activities with encouragement from the district administration. One advantage of fishing as a livelihood choice is that there is no dearth of demand. But care must be taken to develop appropriate infrastructure like refrigerated storage facilities and fishing ports for promoting sea and river fishing. In Sundarbans, women and children are involved in large numbers in prawn seed collection from the rivers for the inland fisheries. This is a very hazardous occupation with high degree of associated physical risk. Moreover, environmentalists have pointed out that this activity, if goes on unchecked, may seriously damage the marine biodiversity of Sundarbans besides eroding embankments of the islands rapidly.

This is a very serious concern and needs to

be addressed immediately, possibly by identifying a window within the year during which the prawn seed collection from the river would be legally prohibited.

Though South 24 Parganas is presently a predominantly rural district, it enjoys a strong manufacturing presence in the eastern bank of Hooghly river from Maheshtala - Budge Budge upto Falta. The growth of industrial output in the district has been higher than that of the state by a significant extent in the recent past. If infrastructure – particularly good roads and industrial power - can be properly developed, the district has the potential to become a very attractive destination for new industrial investment given its proximity to Kolkata. That the district has easy access to the main waterway of the state – the Hooghly river – can only help the matter further. Presently, the state of West Bengal is going through a process of industrialization. New investments – both domestic as well as foreign – are coming to the state. It is thus imperative that the advantages of the district are promoted aggressively to attract investment. Potential areas for industrial establishments need to be identified and developed as quickly as possible. Otherwise, a very good opportunity to alter the livelihoods of many may go begging.

Our analysis shows that beyond any

degree of reasonable doubt the standard of living in an area is determined by its infrastructure – both physical as well as financial. It is unfortunate that the district as a whole is lagging behind in this aspect. The state of infrastructure worsens as one moves farther away from Kolkata. This has increased the regional disparity in the quality of life. This requires immediate attention with specific geographical targeting for infrastructural development to properly utilize the limited resources available to the Government. Sundarban region, where the existing infrastructural facilities are in a precarious state must be given top priority.

The achievement of the district in education is encouraging. But there is no scope of complacency and much is yet to be done. This is the time to consolidate and to make sincere efforts to improve upon aspects that were not properly attended to. The achievement of the district in reducing illiteracy and promoting female literacy is commendable. But the gender gap is still alarmingly high for many blocks. Literacy rates for some backward pockets and for some underprivileged communities are still unacceptably low. Thus there is need of geographical, community-based targeting of literacy programmes. Gender friendly non formal institutions and literacy centres should be established to reduce

gender gap in literacy.

The performance in school enrolment clearly gives a sign that the district in near future will achieve the target of universal enrolment. But drop out rates at all stages of education are alarmingly high. Female enrolment falls drastically when the age of marriage is approached. Thus there is need to provide some incentive to retain girl students. The system of mid day meal has well known positive impact on retention. Now that the programme is extended to the upper primary level, a positive impact on retention can be expected. Introduction of financial grant can be effective to retain girls at a higher level of education. The importance of female literacy in human development cannot be overemphasized. Increase in female literacy has significant positive impact on aggregate literacy, dropout, and on maternal and child health. The involvement of community and local Panchayat can be effective in reducing drop out of girl children.

Proliferation of educational infrastructure at the primary level is better compared to educational institutions at a higher level. Student teacher ratio and number of students per school increase substantially in secondary and higher secondary schools when compared to a primary school. Unavailability of college level infrastructure in the district is a well

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known obstacle to higher education particularly in remote blocks of Sundarban. Thus along with consolidation of achievement at the primary level, proliferation of higher level institutions should be sincerely targeted. The quality aspects of education by improving physical infrastructure, full time teaching personnel should get attention.

Government programmes on education aim at improvement of educational scenario of the district. The successful running of adult education centres has resulted in eradication of adult illiteracy to a large extent in recent years. These programmes cannot be sustained if they are not linked with employment generation opportunities. Continuing Education Centres provide such employment opportunities. But there is need to converge the literacy programmes with other developmental programmes, particularly those geared towards employment generation.

The analysis of the health situation in South 24-Parganas shows that there is scope for considerable improvement in almost all areas. The existing health infrastructure in most blocks does not satisfy existing national norms. This creates a tremendous pressure on blocks where the local population relies heavily on public health facilities. A rather disturbing feature associated with public health in the district

is that the reliance on public health facilities is low except in Sundarban. This particular feature indicates the lack of faith of the people in public health facilities wherever alternatives are available even if they are more expensive. In Sundarban, absence of private health facilities compel the people to flock to the state-run health centres. This is a very serious issue. Underutilization of public health facilities in a district like South 24 Parganas means a large wastage of public funds. To restore people's faith in public health, measures towards quality improvement in public health centres are urgently required. These include manning of the health centres with doctors and trained para-medical personnel, adequate supply of life-saving drugs, maintenance of a certain degree of cleanliness etc. It may also be necessary to explore how Private-Public Partnerships can be effectively utilized.

Apart from health care infrastructure and its accessibility, problems relating to maternal and child health also require serious attention, particularly in view of their implications for subsequent generations. These problems cannot be solved through a 'top-bottom' approach, but require building community awareness and involvement. NGOs can play an important role in this respect. The ICDS also has a major potential role. Gram panchayats have

to be involved more actively. The scarcity of Female Health Assistants and trained Dais, and their non-availability in the locality on a 24-hour basis are institutional impediments to improving the situation with respect to maternal health. This problem must be addressed by the Health Department. The state Government must also realize the economic importance of health and release financial resources accordingly.

There must also be regular review and evaluation of existing programmes in the area of child and maternal health. Unfortunately, the lack of a Universal Surveillance Data System renders the task of evaluation difficult. This is an institutional reform that should be given high priority by the State.

Sundarban blocks – specifically the island blocks - are very vulnerable to natural disasters. Idiosyncratic risks arising from embankment damages are on the rise despite huge mitigation expenditures. Conditions of Basanti and Gosaba are fast deteriorating. Community institutions for collectively managing embankments are missing in Sundarban. The building up of such institutions for embankment management and linking them with other government programmes to provide the proper incentives may help people in more effectively coping with embankment

erosion. After all, the mud embankments for the islands were built and maintained for decades by the ancestors of the present population. Thus the effective use of the indigenous technology and local knowledge of the rivers and the tides may actually help in sustaining the ecological balance. The forest protection committees and eco development committees should be involved in creating mangrove cover for the embankments which is absolutely essential for sustenance.

Even among thirteen Sundarban blocks, Basanti, Gosaba, Kultali, Patharpratima and Sagar should be treated differently from the others. These blocks are primarily island blocks with hardly any surfaced road network and electricity for the majority of areas. Recently, there has been some improvement in mainland connectivity in Basanti and Kultali with building of a couple of bridges, but overall the situation is still grim. The poor state of infrastructure in the island blocks has increased the people's forest dependence in absence of alternatives. As a result, the ecological balance in Sundarban – a UNESCO World Heritage Site – gets adversely affected. The stakes here are much higher. The development of livelihoods in these blocks is essential for sustainability of Sundarban. The funds required need to be provided by the State

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and the Central Governments. Even global funding may be arranged in conserving the Sundarban in a sustainable way. The role of the Non Governmental Organizations must be recognized and they may be given a space to work side by side the state agencies in this endeavour.

Given the limited resources at the disposal of the state, involvement of NGOs and other civil society organisations in the process of human development becomes inevitable. In South 24 Parganas, NGOs have a long history of working side by side the state in extending development to the most vulnerable. The Tagore Society for Rural Development started its operation in Rangabelia island of Gosaba in 1969 and its success in changing the scenario of the village is internationally recognized. In recent times, a very large number of NGOs have begun functioning in the district

particularly in the fields of disaster relief, and capacity building in health and education. Trafficking of women and high incidence of child labour are two areas of real concern for the district. The NGOs have played a commendable role in addressing these issues. The NGOs are also involved in building of social consensus against dowry and child marriage practices, as well as in the rehabilitation of victims of crimes against women, with minimal funding support from the state. There is nevertheless considerable social space for the involvement of NGOs in evaluation and monitoring activities relating to the developmental programmes administered by the Panchayats and the State Government and in building and nurturing community groups like forest protection committees and eco development committees in Sundarban areas.



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Human Development Indicators

2.1 Introduction

Human development in South 24 Parganas presents a mixed picture. As can be expected, there are substantial variations in human development across regions. Even within a single region, the levels of human development in different blocks are very different. In this report, an attempt has been made to quantify the levels of human

development in the blocks of the district. It should be noted that due to unavailability of compatible data—particularly in constructing the indices for standard of living, human development indicators for the seven municipalities of the district could not be constructed.

2.2 Human Development Index for South 24 Parganas

As reflected in the State Human Development Report (2004), South 24

Parganas is a middle ranked district. Out of the 17 districts in the state, it is ranked

Table 2.1: Human Development Indices for West Bengal by District

District	Health Index	Income Index	Education Index	HDI	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
Burdwan	0.74	0.47	0.71	0.64	5
Hooghly	0.77	0.46	0.67	0.63	6
Midnapore	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
Bankura	0.67	0.26	0.62	0.52	11
Coochbehar	0.50	0.41	0.65	0.52	11
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: State Human Development Report, 2004

eighth in terms of the Human Development Index. Even for the component indices, it is ranked seventh in terms of Health and Education indices and tenth in terms of the Income index.

The HDI value for South 24 Parganas is 0.60 which is marginally below the state HDI value of 0.61. In an ideal scenario, the HDIs calculated for blocks should be compared to these values to understand the

position of the blocks of South 24 Parganas vis-à-vis the district and the state. However, we are handicapped by data unavailability. Hence, the methodology we are compelled to follow in calculating the HDIs for the blocks is different from the one used in the State HDR. Therefore, the numbers we report later in this chapter are not comparable with the numbers in Table 2.1.

2.3 Methodology and Data Source

In calculating the Human Development Index (HDI), we have attempted to follow the methodology suggested by UNDP as far as possible. But unavailability of block level data for many important parameters proved a hindrance here. The HDI attempts to capture in summary form the three basic dimensions of standard of living, education and health. Each of these indicators is defined as a dimension with value between 0 and 1 with reference to minimum and maximum value. The general formula for calculating each dimension index is:

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

The HDI is then calculated as a simple average of the three different dimension values.

As a proxy for the standard of living of an average person in a region, UNDP has proposed the average per capita income of the region. A major problem of accepting

the same for a measure of standard of living in the DHDR arises from the fact that no block level measure of per capita income is available from any official source. The lowest level for which NSSO collects and publishes data on per capita consumption expenditure is the district; this is clearly unsuitable for use in the DHDR which focuses on block level variations. No official block or municipality level statistic for a variable that may be taken to be a sufficiently close approximation to the per capita income is available.

In calculating the block level index for standard of living we have used the household level data for each block from the Rural Household Survey (RHS) for the district of South 24 Parganas undertaken by the Government of West Bengal in 2005. The RHS data gives information on the households in the district based on the

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following parameters: (a) landholding, (b) housing condition, (c) clothing, (d) food security, (e) educational status, (f) consumer durables, (g) earning capability, (h) livelihood, (i) child education, (j) indebtedness, (k) migration, and (l) special types of vulnerability. Each of the above parameters is further sub-divided into five levels of achievement from worst to best. The households are ranked with a minimum score of 1 to a maximum score of 5 according to their achievement level on each of the above-mentioned parameters. So each of these parameters has five levels representing scores 1 to 5. Thus, every household can score a maximum of 5 in the achievement scale for each of the 12 parameters. So the maximum score in the achievement scale of a household can be 60. On the other hand, a household with the worst condition in a particular parameter has a score of 1. So a household being deprived in all 12 parameters has a minimum score of 12 on the achievement scale.

For the construction of the standard of living index, we have considered achievement of each household in five dimensions - (a) food security, (b) housing (c) clothing (d) livelihood and (e) ownership of consumer durables. Food, housing and clothing are the basic needs of life in which achieving higher

score implies better standard of living. Use of consumer durables over and above the basic needs can indicate higher purchasing power and better standard of living for the household. Together with this, the main source of income for the household is likely to give an indication to the living condition of the household.

In the Rural Household Survey, each household is assigned a score between 1 and 5 in each of these dimensions. For any arbitrarily chosen block, the number and percentage of households at each score are used to generate a score for the block in a particular dimension. This block level score indicates the score a randomly chosen household in the block is likely to achieve in the said dimension. Then the block level achievement index for that dimension is computed using the general formula for calculating the dimension index with the maximum and minimum values being taken to be 5 and 1 respectively. Finally, standard of living index for a block is a simple average of the achievement indices across five dimensions of food security, housing, clothing, livelihood and ownership of consumer durables.

The education index consists of a weighted average of the projected Census literacy rate (two-thirds weight) and the school enrolment rate for the 5-8 age groups (one-third weight). The maximum and minimum values for both these dimensions are taken to be 1 and 0 respectively. This

is in accordance with the UNDP methodology.

In absence of any block level data on life expectancy at birth, the health index takes into account the following aspects:

- Health Infrastructure,
- Safe Delivery,
- Immunization of children,
- Safe Drinking Water, and
- Sanitation facilities.

The sub-indices have been prepared to reflect the block level situation for each of these aspects. For instance, the infrastructure sub-index is based on the estimates of doctors per lakh persons and beds per 10,000 persons. Indices have been estimated for these two parameters, and then combined using equal weights. The safe delivery sub-index is based on estimates for percentage of safe deliveries – when safe delivery is defined as deliveries occurring in a medical institution or at home attended by a trained medical attendant. Four types of

immunization – BCG, Measles, OPV and DPT – have been considered in preparing the immunization sub-index. The immunization sub-index is based on a simple average of percentage of children given their full dose of each of these four vaccines. Safe drinking water sub-index is based on the percentage of households with access to either tap, hand pumps and tube-wells either within their home or nearby (within radius of 200 meters of their residences). Finally, the sanitation sub-index is constructed using estimates of the proportion of households with latrine facilities within their residences out of total households. The sub-indices are then combined using equal weights to calculate health index for the block.

The data on the first three sub-indices was provided by CMOH, South 24 Parganas, while the estimates for safe drinking water and sanitation are based on projections of figures available in Census, 2001.

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2.4 The Indices

The analysis of block level human development indicators brings about many interesting observations. There exists very high degree of variations across blocks in terms of achievement in the standard of living and health dimensions. The achievement in education dimension is more uniform across the blocks

highlighting the success of the Government programmes for achieving universal literacy and primary school enrolment. While the Standard of Living and the Health Indices have coefficients of variation of 17 and 16 per cent respectively, the coefficient of variation for the Education Index is only 4 per cent.

Table 2.2: Human Development Indices for South 24 Parganas

Block	Standard of Living		Education		Health		Human Development	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank
Thakurpukur-Maheshtala	0.60	1	0.89	5	0.66	2	0.72	1
Budge Budge-I	0.57	2	0.89	4	0.56	8	0.67	2
Budge Budge-II	0.45	11	0.87	10	0.48	20	0.60	16
Bishnupur-I	0.50	4	0.89	8	0.56	9	0.65	6
Bishnupur-II	0.56	3	0.89	7	0.54	12	0.66	3
Sonarpur	0.50	5	0.84	20	0.59	5	0.64	7
Baruipur	0.48	6	0.85	15	0.52	14	0.62	10
Bhangar-I	0.45	12	0.81	25	0.39	28	0.55	26
Bhangar-II	0.47	8	0.85	17	0.52	15	0.61	11
Falta	0.47	7	0.87	11	0.49	18	0.61	12
Diamond Harbour-I	0.44	14	0.82	23	0.55	11	0.61	14
Diamond Harbour-II	0.47	9	0.85	13	0.64	4	0.65	4
Magrahat-I	0.45	10	0.85	19	0.51	16	0.60	15
Magrahat-II	0.45	13	0.85	18	0.57	7	0.62	9
Kulpi	0.36	23	0.85	16	0.51	17	0.57	20
Mandirbazar	0.44	15	0.83	21	0.41	26	0.56	22
Canning-I	0.41	16	0.80	27	0.70	1	0.64	8
Canning-II	0.32	28	0.76	29	0.44	23	0.51	28
Basanti	0.30	29	0.78	28	0.43	24	0.50	29
Gosaba	0.38	21	0.86	12	0.39	29	0.54	27
Joynagar-I	0.41	17	0.83	22	0.59	6	0.61	13
Joynagar-II	0.39	20	0.80	26	0.46	21	0.55	25
Mathurapur-I	0.40	19	0.81	24	0.49	19	0.57	21
Mathurapur-II	0.37	22	0.85	14	0.56	10	0.59	17
Kultali	0.35	25	0.89	6	0.53	13	0.59	18
Patharpratima	0.35	24	0.90	3	0.43	25	0.56	23
Kakdwip	0.41	18	0.88	9	0.66	3	0.65	5
Namkhana	0.34	26	0.93	1	0.46	22	0.58	19
Sagar	0.34	27	0.91	2	0.41	27	0.55	24

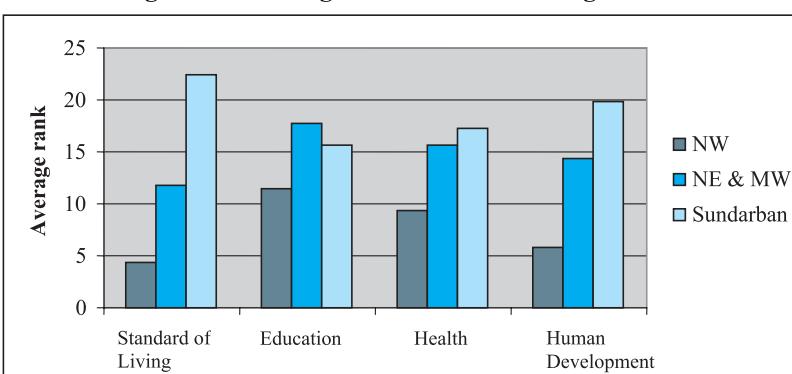
Source: Own calculation based on Rural Household Survey, GoWB for the standard of living index, data provided by the Office of the CMOH, South 24 Parganas the Office of the District Project Officer, Sarva Siksha Avijan, South 24 Parganas and Census of India, 2001 for health and education indices.

As one may expect, the Sundarban region is worst performing among the three regions. Four among the five worst performing blocks in terms of overall

human development index are located in the Sundarbans. On the other hand, three among the top five performers are from the North West (NW) region. Eleven out of thirteen Sundarban blocks have HDI values below 0.60, while all six blocks of the North West region have HDI values above 0.60 with four of them having HDI values exceeding 0.65. In comparison, in North East and Mid West (NE & MW)Region, seven out of ten blocks have HDI values above 0.60. This indicates the high degree of regional disparity in human development.

A component wise analysis helps us understand the problem better. In terms of standard of living, the top five blocks are all from the North West region. While the average rank of a block in terms of standard of living is below 5 in the North West region, the same is above 22 for the Sundarban region. This clearly indicates the large disparity in the standard of living between the regions. In terms of education and health index, the inter regional variation is more moderate. While the average block ranks for elementary education are 9, 17.8 and 15.6 in North West, North East and Mid West regions respectively, the same for healthcare facilities are 9.3, 15.6 and 17.2. It is indeed heartening to see that Sundarban outperforms the North East and Mid West

Figure 2.1: Average Rank of a Block: Region-wise



region in educational achievement. In fact the top three performers in education in the district are all Sundarban blocks. Even in terms of healthcare achievement, two among the top five blocks in the district are from the Sundarban region.

Apart from the high degree of inter-regional variation, wide disparity in performance among the blocks within the Sundarban region is also very prominent in the district. This is not so much for the standard of living, but typical for performance in education and health. The standard of living which is largely dependent on remunerative livelihood opportunities is more homogeneous within a region. But performances in education and healthcare to a large extent depend on people's consciousness, administrative expediency and political will which are again highly correlated. Hence, one observes significant variations in terms of these indicators among blocks.

In the district of South 24 Parganas, the top three performers in education are Namkhana, Sagar and Pathar Pratima in

that order, while the worst performers are Canning-II, Basanti and Canning-I. All six are Sundarban blocks. Similarly, Canning-I is the top performer in the district in terms of provision of healthcare, but Gosaba remains at the bottom rung of the ladder. The intra-regional variation is relatively muted for all three indicators in case of the other two regions. Overall, it seems that, except Canning-I, the blocks in Canning sub-division in the Sundarban region are most underdeveloped in every aspect of human development.

It is evident that in South 24 Parganas, the variation in the level of human development is explained to a large extent by variations among the blocks in terms of standard of living. This becomes clear once one looks at the range of index values for different components as well as the overall human development. The worst performing block in terms of overall human development, Basanti, has an index value of 0.50, while the same for the best performer Thakurpukur- Maheshtala is 0.72. Thus, the attainment of Basanti in terms of human development stands at 69 per cent of that of Thakurpukur-Maheshtala. In case of the three components of human development, the achievement of the least developed block stands at 50 per cent, 82 per cent and 56 per cent of the achievement of the best performer for standard of living,

education and provision of healthcare respectively.

Before we end this discussion, one note of caution needs to be added. The numbers representing the index values – particularly for education and health – are of suggestive nature. For example, to calculate the education index we used enrolment data for state-run educational institutions only. Sonarpur – a block located very close to Kolkata and of primarily urban nature – has obtained a rank equal to 20 in our calculation. This has happened because of low primary school enrolment rate in Sonarpur. We suspect that one factor that may be responsible for this phenomenon is the substantial enrolment in private primary schools in urban blocks like Sonarpur. The education index values for such blocks may improve to a significant extent if the children going to private schools can be accounted for in calculation of enrolment rates. Unfortunately, we do not have access to that information. A similar story is true for healthcare provision as well. With present proliferation of private nursing homes and healthcare infrastructure in areas close to urban centres, the pressure on state run health care system is much lower. This may have affected our calculation of the healthcare indices in these areas.

Material Conditions and Standard of Living

3.1 Introduction

The West Bengal Human Development Report 2004 recognized West Bengal as a middle income state – ranked ninth among the fifteen major states in terms of both per capita income as well as per capita consumption expenditure at the turn of this millennium. The district of

South 24 Parganas portrays a less impressive scenario among the districts of West Bengal. It ranks eleventh among the eighteen¹ districts of the state in terms of per capita income in 2000-01. In 2000-01, an average person living in the district earns 88 per cent of the per capita income of the state, 68 per

Table 3.1 : Estimates of Per Capita Income by Districts of West Bengal at Current Prices

District	1993-94		2000-01		2003-04	
	Per capita income (in Rs.)	Per capita income rank	Per capita income (in Rs.)	Per capita income rank	Per capita income (in Rs.)	Per capita income rank
Kolkata	10464.88	1	31986.66	1	46833.85	1
Darjeeling	7715.18	4	20996.60	2	23967.49	2
Burdwan	8726.05	2	18136.68	3	23769.90	3
Howrah	6910.56	5	17123.41	4	22565.69	4
Hooghly	7806.88	3	16682.20	6	22397.81	5
Medinipur	6789.38	6	17040.37	5	20914.35	6
Nadia	6494.00	9	16334.30	7	19980.67	7
Jalpaiguri	6512.35	8	15960.37	8	19103.63	8
Malda	5493.04	15	14485.46	11	18643.99	9
Bankura	6130.52	11	15459.48	9	18236.17	10
Dakshin Dinajpur	5389.39	16	14793.98	10	17895.20	11
South 24 Parganas	6230.73	10	14204.78	12	17759.77	12
Murshidabad	5788.67	12	13375.86	13	17486.22	13
Coochbehar	5564.27	14	13093.14	15	16657.68	14
North 24 Parganas	6526.61	7	12832.88	16	16502.79	15
Birbhum	5668.10	13	12823.18	17	16466.24	16
Purulia	5262.84	17	13128.74	14	16182.38	17
Uttar Dinajpur	4825.01	18	11264.34	18	14046.26	18
West Bengal	6755.95	–	16145.87	–	20895.64	–

Source: BAE&S, GoWB

¹ The data for per capita income is available only for the combined Medinipur district in 2000-01.

cent of the per capita income of the highest ranked district (Darjeeling) in the state other than Kolkata and 44 per cent of the per capita income of Kolkata. The situation is not encouraging at all to say the least. Over the last few years the relative position of the district vis-à-vis the other districts remains almost the same (Table 3.1).

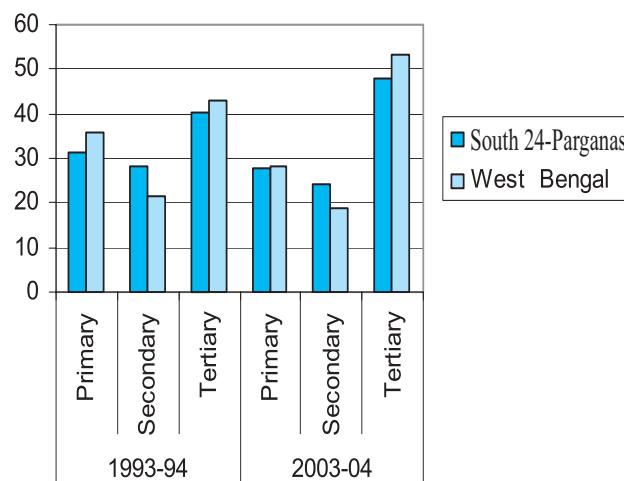
Table 3.1 reflects a picture that does not speak well for the district. From 1993-94 to 2003-04, the relative position of the district in the state has worsened, even though marginally. Even predominantly

rural districts - located far from Kolkata-like Malda and Dakshin Dinajpur have performed much better than South 24 Parganas in terms of achieving higher per capita income. The Bureau of Applied Economics and Statistics (BAE&S), Government of West Bengal, reported that the average annual growth rate of per capita income at constant price in South 24 Parganas between 1996-97 and 2003-04 was 5.68 per cent, which, while not bad, is by no account remarkable.

3.2 Sectoral Composition of Output

The share of primary sector in net domestic product declined both in the state of West Bengal as well as in the district of South 24 Parganas between 1993-94 and 2003-04. One observation that is particularly

Figure 3.1: Sectoral Shares of Net District Domestic Product at Current Prices



Source: BAE&S, GoWB

heartening for the district is the healthy rate of growth of output in the secondary sector. According to the report published by BAE&S on the state and district domestic products of West Bengal, the secondary sector output at constant prices has doubled between 1993-94 and 2003-04, with the growth evenly spread among the manufacturing, construction and electricity, gas and water supply. The annual average compound growth rate in the secondary sector was 7.18 per cent over this period; this outstrips the state average for the same by more than one percentage point. If the construction of the proposed Kulpi port takes off, it will give great impetus to the manufacturing sector in the

Table 3.2: Annual Average Compound Growth Rate of Net Domestic Product between 1993-94 and 2003-04 at Constant Prices

District	Annual average compound growth rate of net domestic product		
	Primary	Secondary	Tertiary
South 24 Parganas	3.79	7.18	8.98
West Bengal	3.64	5.95	9.91

Source: BAE&S, GoWB

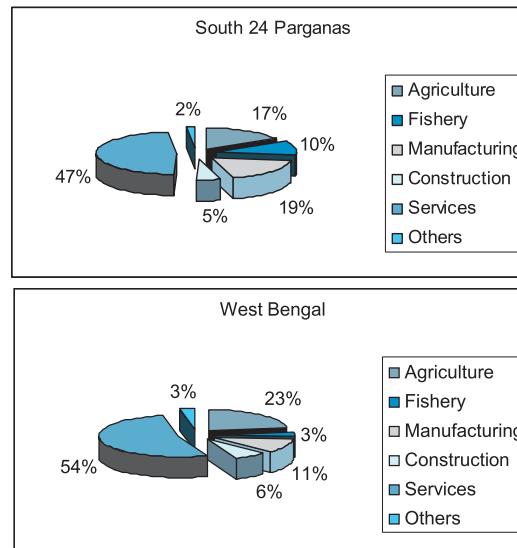
district for generating productive employment and improving the standard of living in the district. Having an already established industrial base in the Budge Budge – Maheshtala industrial belt and Falta Export Processing Zone and being located close to Kolkata geographically can only help its cause in becoming a first-choice location for manufacturing investment. The share of registered and unregistered manufacturing in the net domestic product of the district was 19 per cent in 2003-04 compared to 11 per cent for the state as a whole.

Agriculture and pisciculture continue to be two very important sources of livelihood in the district of South 24 Parganas. According to 2001 census, 49 per cent of rural workers were then engaged in agriculture, while in 2003-04 agriculture has contributed only 16 per cent of net domestic product of the district. This shows the enormous labour-absorbing power of agriculture. Agricultural output has grown by 3.40 per cent per year on average during the decade 1993-94 to 2003-04. This is

marginally lower than what the state as a whole experienced over the same period. The population pressure on land has been historically very high in West

Bengal and the district of South 24 Parganas is no exception. The amount of cultivable

Figure 3.2: Sectoral Composition of Net Domestic Product of South 24 Parganas and West Bengal in 2003-04



land per agricultural worker is only 0.41 hectare in the district. Moreover, while one of the reasons behind the progress of agriculture in the districts like Hooghly and Burdwan is the enhancement of ground-water irrigation thus inducing more intensive cropping pattern and cropping diversity, the irrigation facilities in South 24 Parganas have not been extended to a satisfactory scale. In fact, in 2001-02 only 29 per cent of the cultivable area was irrigated. As a result, agriculture in the district mostly

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remains a mono-crop activity. The agricultural employment in a large part of the district is thus of seasonal nature.

In 2003-04, almost 10 per cent of net domestic product of South 24 Parganas is generated in pisciculture. Being a riverine district with almost a third of the population living in islands of the southern Sundarban blocks, fishing is a natural occupational choice for a large portion of the population. Historically, the district has both saline and sweet water fisheries. As reflected in the district statistical handbook published in 2005, only about 40 per cent of total area available for pisciculture is being put to effective use

in the district presently. This is a serious under-utilization, particularly considering the natural propensity and specialization of the people of the district in this particular profession. In 2005, almost 3.75 lakh persons were engaged in the professions related to pisciculture and this number is about 17-18 per cent of total rural workers.

The service sector has grown rapidly in South 24 Parganas over the decade spanning 1993-94 to 2003-04. The share of services in NDP was 47 per cent at 2003-04 as against 40 per cent in 1993-94. The major contributory services are trading, banking and insurance and real- estate.

3.3 Structure of Landholding

South 24 Parganas is a land scarce economy just like the rest of West Bengal. Though the population density for the district is lower than the average for the state, 44 per cent of the reported area of the district is forest area, making the effective density of population much higher. With 85 per cent of the total population living in rural areas with limited livelihood opportunities other than agriculture, the pressure on land is immense.

Availability of cultivable land is a critical determinant in the choice of livelihood in rural areas of the district. While per capita

cultivable land for rural population is the lowest at 0.019 hectare in Thakurpukur-Maheshtala block, the same is 0.126 hectare in Patharpratima block and 0.106 hectare in Kultali block. Consequently, while only 19.48 per cent of total workers depend on agriculture for their livelihood in Thakurpukur-Maheshtala, this per centage is more than 60 in many Sundarban blocks including Patharpratima and Kultali. Generally, the settlement density is lower in the Sundarban region, thereby making the land availability scenario better than the rest of the district. On the flip side,

many of the Sundarban blocks are close to the Bay of Bengal and being enclosed by rivers with saline water have very limited irrigation facilities. Thus, Sundarbans remain mostly a mono-

cropped area making earning a proper livelihood from land more difficult.

The scope for generating additional employment in land is also very limited unless the cropping intensity of the district

Table 3.3: Land and Agricultural Workforce Relations in Blocks of South 24 Parganas, 2001

Block	Net Area under Cultivation (in ha)	Rural Population	Total Agricultural Workers ^a	Relative availability of cultivable land (ha per capita)	Cultivable land per agricultural worker (in ha)	Agricultural workers as % of total workers
Thakurpukur-Maheshtala	2030	109134	7439	0.019	0.273	19.48
Budge Budge - I	2193	48936	3786	0.045	0.579	25.03
Budge Budge - II	5187	152086	16528	0.034	0.314	33.82
Bishnupur - I	9363	191645	27280	0.049	0.343	43.34
Bishnupur - II	6720	177369	14115	0.038	0.476	24.18
Sonarpur	8532	167408	15483	0.051	0.551	29.37
Baruipur	16705	351439	35373	0.048	0.472	33.78
Bhangar - I	12272	199369	33060	0.062	0.371	53.53
Bhangar - II	12026	207580	31655	0.058	0.380	53.77
Falta	10531	221695	30522	0.048	0.345	41.78
Diamond Harbour - I	3340	133366	13689	0.025	0.244	35.53
Diamond Harbour - II	7248	165233	18469	0.044	0.392	37.23
Magrahat - I	10316	228335	22228	0.045	0.464	30.79
Magrahat - II	11288	250901	25975	0.045	0.435	38.95
Kulpi	17665	242752	31981	0.073	0.552	44.74
Mandirbazar	10212	183131	19153	0.056	0.533	34.30
Canning - I	15862	244627	29359	0.065	0.540	37.13
Canning - II	15748	195967	43863	0.080	0.359	73.93
Basanti	26151	278592	66004	0.094	0.396	74.02
Gosaba	17000	222822	63277	0.076	0.269	73.53
Joynagar - I	9402	214026	22209	0.044	0.423	33.78
Joynagar - II	15539	209145	36698	0.074	0.423	54.08
Mathurapur - I	11980	164650	21303	0.073	0.562	46.73
Mathurapur - II	17878	198281	40558	0.090	0.441	62.54
Kultali	19923	187989	42135	0.106	0.473	71.61
Patharpratima	36429	288394	80887	0.126	0.450	65.84
Kakdwip	15973	239326	44487	0.067	0.359	53.26
Namkhana	16910	160627	43895	0.105	0.385	63.81
Sagar	17436	185644	55683	0.094	0.313	73.95

Note:a) Total number of agricultural workers is sum of cultivators and agricultural workers.

Source: BAE&S, GoWB and Census of India, 2001

changes significantly. Already, 2-4 agricultural workers are employed per hectare of cultivable land in most of the blocks though many of them are mono-cropped areas. In South 24 Parganas, the major crop is Kharif paddy with only some pockets of cultivation for other produces. Over the last few years, the price of food-grain, particularly rice, has increased at a relatively much lower rate to prices of purchased inputs. Post liberalization

withdrawal of input subsidies has reduced the return from cultivation significantly, thus making agriculture a less preferred choice of livelihood. The district is thus poised for a great degree of occupational diversification which is already in evidence in some blocks where alternative livelihood opportunities present themselves. The pattern and trend of occupational diversification towards non-farm sector is discussed in detail in a separate chapter of this report.

3.4 Land Reforms

It has been well recognized and documented by eminent social scientists that one of the major successes of the Left Front Government was the implementation of land reforms in the state after 1977. This not only changed the agrarian relations and the organization of agricultural production in the rural economy, but also went a long way in creating a democratic environment in the rural society where the peasantry became more conscious of their duties and rights. As rightly pointed out in the West Bengal Human Development Report 2004, land reforms represented the outcome of a long period of struggle by the peasantry and the social and political mobilization of the landless and the share-croppers in the countryside. At least two major peasant

movements that the state of West Bengal witnessed in the post-independence period had originated from the district of South 24 Parganas. The historical movement of the share-croppers in 1948 for three-fourth share of the produce – popularly known as '*Tebhaga Andolan*'- had started in the Kakdwip block. In 1967, the peasants of Sonarpur block started re-acquiring land which were rightfully theirs but were forcibly acquired and registered under false names by the landlords. It is not surprising, therefore, that the district of South 24 Parganas has done well in this front.

The process of land reforms took shape in the form of (i) acquisition of excess land over that permitted by land ceiling and redistribution of vested land and

(ii) securing of tenancy rights through a programme of universal registration of tenants called 'Operation Barga'. According to the latest available information from the Office of the District Land and Land Reforms Officer, 126818 bargadars are registered in South 24 Parganas. As on 2001, the extent of such registration as proportion of total cultivators in the district is 31.7 per cent which is slightly higher than the state average. So far 1.02 lakh acres of land have been identified as vested land in the district out of which 70 per cent have been distributed among 164670 pattadars giving each beneficiary 0.43 acre of land on an average.

Though overall 70 per cent of the total amount of vested land has been distributed in the district, a look at the more disaggregated data reveals that there is yet scope for improvement here. Even after accounting for the fact that some amount of vested land may be kept aside for other uses,

Table 3.4: Block-wise Distribution of Vested Land

Block	Amount of vested land (in acre)	Amount of land distributed (in acre)	Land distributed as percentage of vested land	Total no. of patta holders
Thakurpukur-Maheshtala	98.96	19.20	19.40	47
Budge Budge - I	231.58	15.06	6.50	83
Budge Budge - II	61.97	55.83	90.09	548
Bishnupur - I	205.92	87.77	42.62	565
Bishnupur - II	111.03	84.81	76.38	424
Sonarpur	3020.43	1245.06	41.22	2992
Baruipur	1512.20	1409.09	93.18	3309
Bhangar - I	2223.47	1292.81	58.14	4364
Bhangar - II	969.24	884.72	91.28	3240
Falta	742.19	395.71	53.32	2256
Diamond Harbour - I	480.93	211.67	44.01	1304
Diamond Harbour - II	692.65	236.96	34.21	1244
Magrahat - I	564.10	452.21	80.16	3294
Magrahat - II	407.19	287.23	70.54	1582
Kulpi	3855.09	1187.58	30.81	4769
Mandirbazar	1097.89	413.42	37.66	2116
Canning - I	3452.16	2831.61	82.02	9254
Canning - II	8190.21	4928.54	60.18	11125
Basanti	10057.41	5538.93	55.07	9397
Gosaba	13608.34	13084.98	96.15	26176
Joynagar - I	735.35	568.02	77.24	957
Joynagar - II	2264.39	2034.12	89.83	1342
Mathurapur - I	979.38	607.37	62.02	1787
Mathurapur - II	5107.33	4526.53	88.63	8310
Kultali	5859.51	5621.97	95.95	10375
Patharpratima	14660.14	8604.22	58.69	13246
Kakdwip	6277.82	3497.88	55.72	12021
Namkhana	6838.12	5757.18	84.19	15193
Sagar	7926.42	5680.89	71.67	13350

Source: Office of the DL&LRO, South 24 Parganas

large area of land is still available for distribution in blocks like Sonarpur, Kulpi, Canning-II, Basanti, Patharpratima, Kakdwip and Sagar. This should be immediately taken care of, particularly so in the blocks of the Sundarban region where agriculture still

remains the only source of livelihood for a majority of the people.

The success of the district of South 24 Parganas in implementing the land reforms, however, lies elsewhere. The district has been extremely successful in ensuring that the benefits of land reforms reach the most underprivileged sections of the society. Though only 32.12 and 1.23 per cent of the total population belong to the Scheduled Castes and the Scheduled Tribes

respectively, the persons belonging to these groups comprise 39.22 and 7.94 per cent of the total number of pattadars. While in West Bengal the single female and joint patta holders consist of only 15.6 per cent of total number of patta holders, the corresponding number for the district is 51.1 per cent. This is indeed a very laudable effort and has very positive implication for the cause of gender empowerment.

3.5 Distribution of Landholdings

The distribution of landholdings is extremely fragmented in South 24 Parganas. In all the blocks, even in the distant and almost completely rural blocks, more than 85 per cent of households are either landless or marginal farmers. This is not at all surprising, given the immense population pressure on land in absence of alternative livelihood opportunities. The successful implementation of land reforms in the district also played its part in fragmenting the land ownership structure. There are relatively few medium and large farms in the district.

According to 2000-01 Agricultural Census, only about 2 per cent of the farms in South 24 Parganas operate land larger than 2 acres. The total area under operation of these farms is about 9 per cent of the

Figure 3.3: Number and Area of Operational Holdings under Different Size Classes

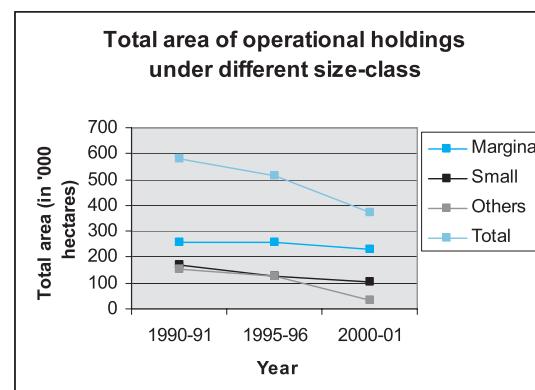
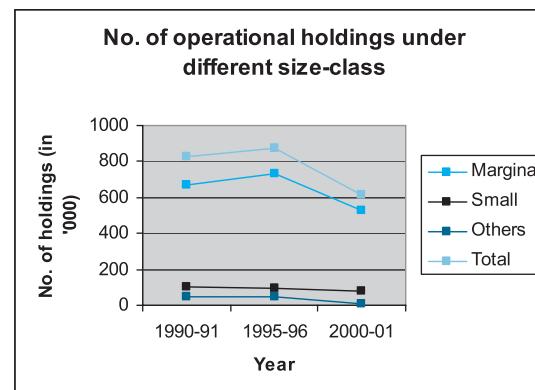


Table 3.5: Block-wise Distribution of Households based on Operational Land Holdings in South 24 Parganas

Block	No land	Percentage of households with			
		Irrigated land less than one acre or non-irrigated land less than two acres	Irrigated land between one and two acres or non-irrigated land between two and four acres	Irrigated land between two and four acres or non-irrigated land between four and six acres	Irrigated land more than four acres or non-irrigated land more than six acres
Thakurpukur-Maheshtala	69.42	25.84	2.72	0.93	1.09
Budge Budge - I	71.51	25.74	2.09	0.35	0.32
Budge Budge - II	74.34	19.89	2.92	1.18	1.67
Bishnupur - I	70.36	24.08	3.45	0.91	1.19
Bishnupur - II	74.41	19.85	3.19	1.05	1.50
Sonarpur	63.78	27.41	5.37	2.29	1.15
Baruipur	65.68	24.14	6.44	2.43	1.31
Bhangar - I	54.54	33.04	7.64	2.99	1.78
Bhangar - II	56.49	32.52	8.33	1.92	0.74
Falta	73.95	21.45	3.59	0.54	0.47
Diamond Harbour - I	76.76	18.96	3.07	0.65	0.56
Diamond Harbour - II	74.20	21.69	2.70	0.64	0.77
Magrahat - I	74.67	19.98	2.86	0.61	1.88
Magrahat - II	67.69	26.55	4.02	0.75	0.99
Kulpi	68.89	23.19	5.34	1.41	1.17
Mandirbazar	65.83	26.01	6.01	1.22	0.94
Canning - I	58.92	31.43	6.68	2.53	0.44
Canning - II	55.86	34.38	7.26	1.68	0.82
Basanti	43.97	44.80	7.15	2.91	1.17
Gosaba	35.59	48.28	11.67	3.22	1.23
Joynagar - I	69.38	23.20	4.88	1.79	0.74
Joynagar - II	52.09	37.48	7.78	2.17	0.49
Mathurapur - I	61.65	29.60	5.83	1.37	1.55
Mathurapur - II	51.70	38.55	6.66	2.14	0.95
Kultali	31.25	53.45	11.50	3.23	0.57
Patharpratima	30.66	53.99	10.50	3.06	1.80
Kakdwip	56.58	32.78	6.72	2.95	0.97
Namkhana	39.00	51.22	7.41	1.99	0.38
Sagar	31.61	55.61	10.11	2.08	0.59

Source: Rural Household Survey, 2005, Office of the District Magistrate, South 24 Parganas

total area operated in the district. On the other hand, almost 86 per cent of the holdings are marginal holdings less than one acre of land in size. This is a clear

indication of how fragmented the distribution of land is in the district.

A disturbing feature becomes evident once one looks at number and area-wise

distribution of holdings under different size classes over time. Even in the early nineties, there has been increasing marginalization of landholdings. From the early to mid nineties, the number of marginal holdings increased whereas the total area of operation under marginal holdings remained more or less stagnant. During the same period, there has been a fall in the area operated by other types of holdings. One can attribute this event to increasing population pressure on land when there are few other livelihood opportunities. But from the mid nineties onwards, both the number of holdings and area under operation fell across all size classes, indicating an increasing alienation from land. One possible reason for this is the steep rise in the cost of purchased inputs after post-liberalization withdrawal of agricultural subsidies without any compensating increase in either farm productivity or in the price of output. As a result, the marginal farmers are either forced to put their

small pieces of land into alternative uses wherever the opportunities present themselves, or in some cases may even be involved in distress sale of land.

Looking at a more disaggregated level, in no block of South 24 Parganas more than 5 per cent of households have more than two acres of irrigated land or more than 4 acres of non-irrigated land. Even among the Sundarban blocks where hardly any alternative exists only Gosaba and Patharpratima have more than 15 per cent of the households with larger than one acre farms. Given the present state of agriculture in the country as a whole and the state in particular, it is extremely difficult for tillers of such small plots of land to maintain a living in a district with relatively backward agriculture. Consequently, diversification into non-agriculture has become a prominent phenomenon whenever an opportunity presents itself. But in areas where such opportunities are missing, there is rising impoverization of people dependent on agriculture.

3.6 Agricultural Production and Yield

South 24 Parganas, unfortunately, is a district where the potential in agriculture is severely underutilized. The district represents mostly mono-crop cultivation with kharif paddy being the dominant one. With only about 30 per cent of net

cultivable area having irrigation facility, increasing cropping intensity and crop diversification remain difficult for the farmers. As a result, the employment opportunities in agriculture become limited, besides, decreasing the return from land for

the cultivators. The following table shows the meagre amount of land put into use for cultivating crops other than rice and their levels of production in the district.

It is clear that except for *aman* rice and to a little extent oil seeds, area and production of all other principal crops in the district have declined over the five year period between 2000-01 and 2004-05. Oil seeds cultivation in the district is mainly limited to Bhangar-I and Bhangar-II blocks where almost 100 per cent of the agricultural land are irrigated. Blocks like Sonarpur and Bishnupur-I have satisfactory irrigation facilities, but being close to Kolkata, are consequently subjected to rapid urbanization and corresponding shrinking of agricultural activity. The

Boro rice cultivation which is more dependent on irrigation because of its intensive use of water has suffered a dip both in terms of area under cultivation and level of production.

It is interesting to note that yield rate of rice in South 24 Parganas has always

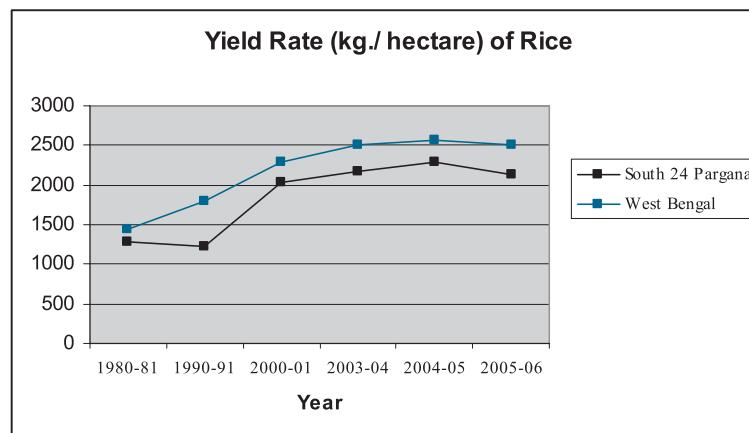
been lower than that in the State. There has been a tendency towards catching up in the 1990s, but unfortunately since 2000-01 the productivity growth of rice has been stagnated in the state. South 24 Parganas

Table 3.6 : Area ('000 hect.) and Production ('000 mt.) of Principal Crops in South 24 Parganas

Crop	Area		Production	
	2000-01	2004-05	2000-01	2004-05
Aman Rice	335.5	338.3	628.2	721.0
Boro Rice	83.5	55.9	226.2	184.2
Total Foodgrains	437.8	410.0	879.5	924.5
Oil seeds	5.7	8.1	4.0	10.3
Fibres	3.0	1.6	20.8	15.8
Other Crops	18.6	4.9	88.1	79.7

Source: BAE&S, GoWB

Figure 3.4: Rice Yield in South 24 Parganas vis-à-vis the State



is no exception. What is more worrying is that lately productivity of rice seems to be falling in the district, even if slightly. In near future, the performance of the district in agriculture will crucially depend on whether this trend of falling rice productivity is a transitory or permanent one.

3.7 Infrastructural Facilities

The extent of economic development and the opportunity for employment for the common people in an area

significantly depend on the development of basic infrastructural facilities. The development of physical infrastructure like

roads, electricity, banking etc. plays a very crucial role not only in enhancing the productivity and marketability of agricultural products, but also is immensely important for development of small business enterprises on which a very large section of rural population depends for their livelihoods. In the industrial map of South 24 Parganas, organized manufacturing sector has a very small presence except for in some pockets in Sadar sub-division and the export processing zone in Falta. A vast majority of the rural workers outside the agricultural sector are employed in micro business enterprises. The difference in the physical infrastructural facilities across the blocks is an important determinant of the

Table 3.7: Irrigated Area in the Blocks of South 24 Parganas in 2003-04

Name of Block	Total irrigated area (2003-04) (in hectares)	Net area under cultivation (2001-02) (in hectares)	Irrigated area as percentage of net area under cultivation
Thakurpukur Maheshtala	1510	2030	74.38
Budge Budge - I	934	2193	42.59
Budge Budge - II	1947	5187	37.54
Bishnupur - I	5639	9363	60.23
Bishnupur - II	1447	6720	21.53
Sonarpur	6228	8532	73.00
Baruipur	2351	16705	14.07
Bhangar - I	13124	12272	106.94
Bhangar - II	9648	12026	80.23
Falta	5678	10531	53.92
Diamond Harbour - I	1635	3340	48.95
Diamond Harbour - II	3191	7248	44.03
Magrahat - I	1944	10316	18.84
Magrahat - II	5056	11288	44.79
Kulpi	4657	17665	26.36
Mandirbazar	2788	10212	27.30
Canning - I	1859	15862	11.72
Canning - II	2362	15748	15.00
Basanti	6950	26151	26.58
Gosaba	6400	17000	37.65
Joynagar - I	1311	9402	13.94
Joynagar - II	2732	15539	17.58
Mathurapur - I	1753	11980	14.63
Mathurapur - II	3411	17878	19.08
Kultali	1822	19923	9.15
Patharpratima	6720	36429	18.45
Kakdwip	2500	15973	15.65
Namkhana	3440	16910	20.34
Sagar	2410	17436	13.82

Source: BAE&S, GoWB

Note: The total irrigated area in Bhangar-I is higher than the net cultivable area in the Table. Notice that while the data on irrigated area is for the year 2003-04, the data on net cultivable area is for 2001-02. This has caused the discrepancy.

variation in the livelihood patterns of the people, and thus in the standard of living.

Since agriculture continues to remain a major livelihood for a large number of people in rural South 24 Parganas, the lack of irrigation remains a major infrastructural bottleneck, specially for the rural areas of the district. Only about 30 per cent of the cultivable area in the district is irrigated with the two major sources of irrigation being canal irrigation and irrigation from stored rain-water in the tanks. The rapid expansion of minor irrigation with shallow and deep tube-wells that brought about almost revolutionary change in agriculture elsewhere in West Bengal, specifically in the districts like Burdwan and Hooghly, did not take place in this district. In fact, only about 10 per cent of the total irrigated area of the district is covered by shallow and deep tube-wells. Lack of access to electricity in many areas is possibly an important reason behind failure of minor irrigation facilities in the

district.

A block level analysis of the irrigation facilities available highlight the precarious scenario even more (Table 3.7). Out of the total twenty-nine blocks, twelve blocks have

Table 3.8: Physical Infrastructure in the Blocks of the District

Block	Percentage of households with access to electricity*	Length of surfaced roads (in km.) per sq. km. area ^{\$}	Number of bank branches per 10000 population ^{\$}
Thakurpukur Maheshtala	67.37	3.43	0.71
Budge Budge - I	55.16	10.34	1.00
Budge Budge - II	42.00	4.97	0.45
Bishnupur - I	28.79	1.74	0.53
Bishnupur - II	39.44	4.82	0.48
Sonarpur	37.24	2.61	0.67
Baruipur	34.26	0.86	0.45
Bhangar - I	20.16	0.70	0.34
Bhangar - II	14.51	1.05	0.38
Falta	28.30	1.01	0.31
Diamond Harbour - I	22.52	2.32	0.59
Diamond Harbour - II	22.95	1.04	0.30
Magrahat - I	14.52	2.09	0.48
Magrahat - II	15.59	2.04	0.34
Kulpi	11.03	0.48	0.42
Mandirbazar	15.60	1.95	0.32
Canning - I	13.80	0.73	0.29
Canning - II	3.09	0.26	0.30
Basanti	0.44	0.46	0.18
Gosaba	0.92	0.13	0.27
Joynagar - I	15.21	1.75	0.50
Joynagar - II	5.80	0.64	0.29
Mathurapur - I	11.18	2.06	0.24
Mathurapur - II	5.75	0.60	0.20
Kultali	0.15	0.41	0.21
Patharpratima	0.72	0.23	0.34
Kakdwip	12.82	1.21	0.29
Namkhana	5.80	0.31	0.27
Sagar	1.29	0.59	0.32

Source: * Census of India, 2001;

\$ District Statistical Handbook, 2005, BAE&S, GoWB

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less than 20 per cent of their net area under cultivation are irrigated, while only six blocks enjoy irrigated area of more than 50 per cent of their area under cultivation.

Table 3.9: Block-wise Infrastructure Development and Standard of Living Ranking

Block	Infrastructure development index	Infrastructure development rank	Standard of living rank
Thakurpukur Maheshtala	0.59	2	1
Budge Budge - I	0.73	1	2
Budge Budge - II	0.38	4	11
Bishnupur - I	0.36	6	4
Bishnupur - II	0.34	8	3
Sonarpur	0.48	3	5
Baruipur	0.20	14	6
Bhangar - I	0.38	5	12
Bhangar - II	0.32	9	8
Falta	0.25	10	7
Diamond Harbour - I	0.34	7	14
Diamond Harbour - II	0.21	12	9
Magrahat - I	0.20	13	10
Magrahat - II	0.23	11	13
Kulpi	0.16	17	23
Mandirbazar	0.18	16	15
Canning - I	0.09	21	16
Canning - II	0.06	26	28
Basanti	0.06	28	29
Gosaba	0.11	20	21
Joynagar - I	0.19	15	17
Joynagar - II	0.08	22	20
Mathurapur - I	0.11	19	19
Mathurapur - II	0.06	27	22
Kultali	0.02	29	25
Patharpratima	0.08	23	24
Kakdwip	0.11	18	18
Namkhana	0.08	24	26
Sagar	0.07	25	27

Out of the worse performing twelve blocks, ten are located in the Sundarban area while none of the Sundarban blocks have more than 50 per cent of their net area under

irrigated-cultivation. Lack of access to irrigation is a major problem in most of the blocks of South 24 Parganas, but the Sundarban region calls for a special mention here. Agriculture is the most important source of livelihood for the people in the predominantly rural Sundarban region where there is hardly any employment opportunities outside the primary sector. Underdeveloped irrigation facilities there - not just in absolute terms but also relative to the other regions of the district - besides, denying the people of the Sundarbans access to the most important source of livelihood, also increase the regional disparity within the district.

Availability of electricity, access to good quality roads and formal banking and financial institutions are other important indicators of physical infrastructure in the

area. For any entrepreneurial activity - small or large – either in primary, secondary and tertiary sectors, these three are important ingredients. Thus, the development of these

infrastructural facilities has important implications for the livelihood of the people and their standards of living. These obviously have very important contributions towards provision of a range of basic services and utilities including health and education.

A blockwise analysis of physical infrastructure reveals many interesting observations (Table 3.8). According to 2001 Census, 258 persons per thousand population had access to electricity in the district. At the same time, only one person in Kultali, four persons in Basanti, seven persons in Patharpratima, nine persons in Gosaba out of one thousand enjoy the benefit of electricity. The district has about one kilometre of surfaced road per square kilometre area. The same figure is 0.13 kilometre in Gosaba, and 10.34 kilometres in Budge Budge-I. These are examples of striking regional imbalances.

Based on the available data on physical infrastructure and irrigation facilities presented in the last two tables, it is possible to construct an infrastructure development index for the blocks of the district. The rank correlation of the standard of living index and the infrastructure development index is very high at 0.90. It appears to be the case that a significant amount of variation in the

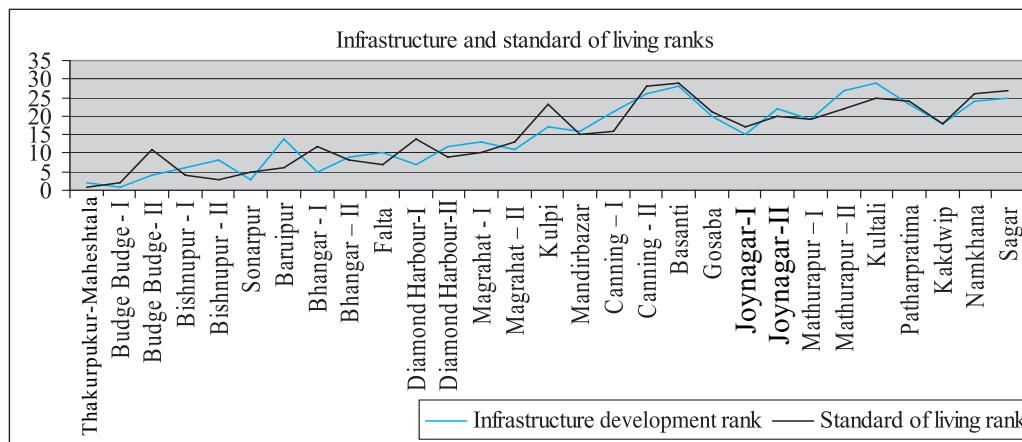
standard of living in the district can be explained by variation in development of infrastructure. This leads to very important policy conclusions.

The top five blocks in terms of infrastructural achievement are all close to Kolkata except Bhangar-I. Bhangar-I moves up the ranking ladder in terms of available infrastructure because of its very good record in irrigating the agricultural land. If we reconstruct the infrastructure development index by excluding the index for irrigation, the rank of Bhangar-I drops significantly to 16. On the other hand, the bottom five blocks are all from the Sundarban region in terms of infrastructure development either including or excluding the irrigation index. In fact, the differences in available infrastructure even in absolute terms are huge. While only three blocks have an infrastructural development index above 0.45 – the highest being 0.73 for Budge Budge-I, nine out of 13 blocks in the Sundarban region have this index below 0.10. The worst performers here are Kultali, Basanti and Canning-II. Overall, there is definitely a strong case for immediate prioritization of the development of infrastructure in the Sundarban region.

The infrastructure development index is computed using the same procedure used to compute the HDI. Using the data presented in Tables 3.8 and 3.9, first the four component

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Figure 3.5: Correlation between Block-wise Infrastructure Development and Standard of Living Ranks



indices for irrigation, electricity, roads and banking services are computed from the general formula:

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

For irrigation and electricity, the maximum and minimum values are chosen to be 1 and 0 respectively to represent the best and the worst possibilities and the relative

achievement of the block in the target scale. For roads and banking services, the maximum and the minimum values are the corresponding values of the best and the worst achievers in each dimension. Once the index for each component is computed, a simple average of four component indices is taken to constitute the infrastructure development index for each block.

3.8 Poverty Scenario in South 24 Parganas

The performance of South 24 Parganas in poverty reduction is very ordinary. As estimated from the Rural Household Survey 2005, more than 4 lakhs of households have been identified as Below Poverty Line households, pushing the poverty ratio in the district up to 34.11 per cent. This is way above the state as well as the national poverty ratio. Despite directed attempts at poverty reduction for a long time, the achievement is far from

satisfactory.

An examination of block-wise poverty ratios (Table 3.10) reveals that in Basanti 65 per cent of households are poor in 2005, making Basanti one of the poorest block in the whole country. Kulpi and Canning-II do not fare much better with poverty ratios of 53 per cent and 50 per cent respectively. The poverty rates are very high in the Sundarban region with all thirteen blocks registering poverty ratios

Table 3.10: Poverty in Blocks of South 24 Parganas

Block	Poverty Ratio (% of Households)	Poverty Rank	Standard of living rank
Thakurpukur-Maheshtala	6.44	1	1
Budge Budge – I	14.78	3	2
Budge Budge – II	34.04	16	11
Bishnupur – I	16.59	4	4
Bishnupur – II	10.82	2	3
Sonarpur	23.36	7	5
Baruipur	26.04	9	6
Bhangar – I	28.22	11	12
Bhangar – II	17.20	5	8
Falta	21.56	6	7
Diamond Harbour - I	24.27	8	14
Diamond Harbour – II	27.30	10	9
Magrahat – I	28.41	12	10
Magrahat – II	29.26	13	13
Kulpi	52.64	28	23
Mandirbazar	29.90	14	15
Canning – I	31.05	15	16
Canning – II	50.32	27	28
Basanti	64.89	29	29
Gosaba	38.03	19	21
Joynagar – I	39.57	20	17
Joynagar – II	42.60	22	20
Mathurapur – I	34.43	17	19
Mathurapur – II	39.59	21	22
Kultali	46.36	24	25
Patharpratima	49.13	26	24
Kakdwip	34.91	18	18
Namkhana	48.17	25	26
Sagar	44.46	23	27

Source: Rural Household Survey, 2005

above 30 per cent and eight blocks having more than 40 per cent of households in the BPL category. In the North East and Mid Central region, all the blocks except Kulpi have poverty ratios below 30 per cent. In the North West region, Budge Budge-II has a relatively high poverty

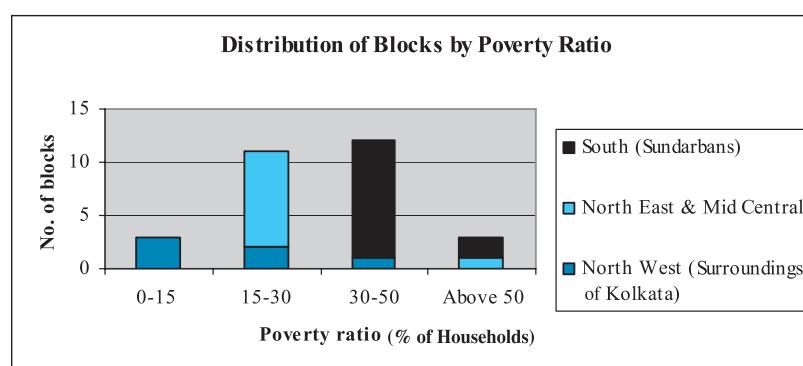
households living below the poverty line. The rest have poverty ratios below 20 per cent (Figure 3.6).

In Table 3.10, the last two columns show excellent agreement. This suggests that the poverty ratio and the standard of living index across blocks are very closely related. In fact, the rank correlation coefficient between these two is equal to 0.96. However, one thing needs to be mentioned here. Both in terms of eradication of poverty and improvement in the standard of living of its inhabitants, the best and worst performing blocks are

Thakurpukur-Maheshtala and

Basanti respectively. The standard of living

Figure 3.6: Regional Distribution of Blocks by Poverty Ratios



ratio at 34 per cent and Sonarpur is a mediocre performer with 23 per cent for an average person - captured by the standard of living index, in Thakurpukur-

Maheshtala is almost doubly better than that of an average person living in Basanti. At the same time, the poverty ratio in Basanti is ten times more than that in Thakurpukur-Maheshtala. This implies that improvement in material conditions has

disproportionately benefitted the relatively well off, particularly for the less developed blocks. The last observation calls for targeted intervention in the form of specific programmes or schemes for helping the poor come out of the shackles of poverty.

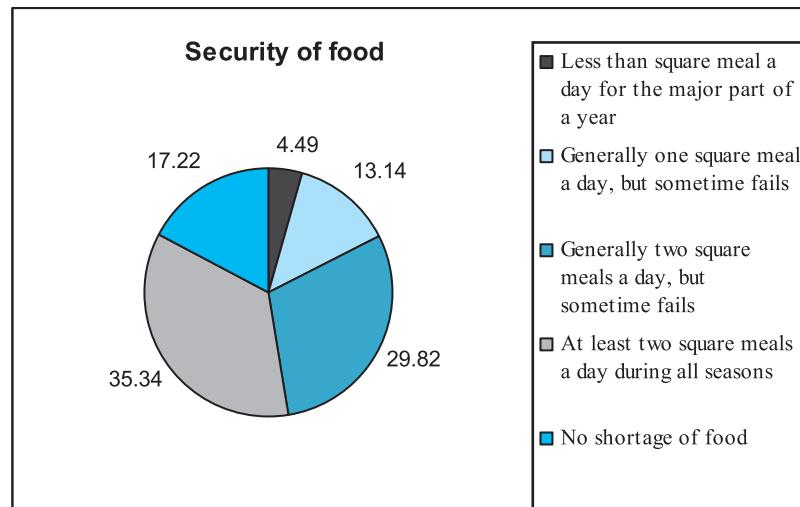
3.9 Basic Requirements of Human Life: Food, Clothing and Housing

The most common indicator used as a proxy for standard of living is per capita income. In absence of reliable block level data for per capita income, we looked at several household specific parameters that closely depend on the income of the households. We have mostly focussed on

and how much intra-district variations exist in them. We believe that the households' preferences are hierarchical. This means that the households spend their incomes on these items in the said order. Once the households meet their basic requirements in these items, they start spending their

extra incomes on other durable items. Hence, we also looked at the ownership pattern of the consumer durables for getting a better idea of the standard of living of the households across blocks. It may not be out of context to mention here that we have included these four parameters along with the livelihood patterns of the households in computation

Figure 3.7: Percentage of Households reporting Different Levels of Food Security in South 24 Parganas (2005)



the basic necessities of life – that is food, clothing and housing. It is interesting to note how the households fare in accessing these basic necessities in different areas

of standard of living index for each block.

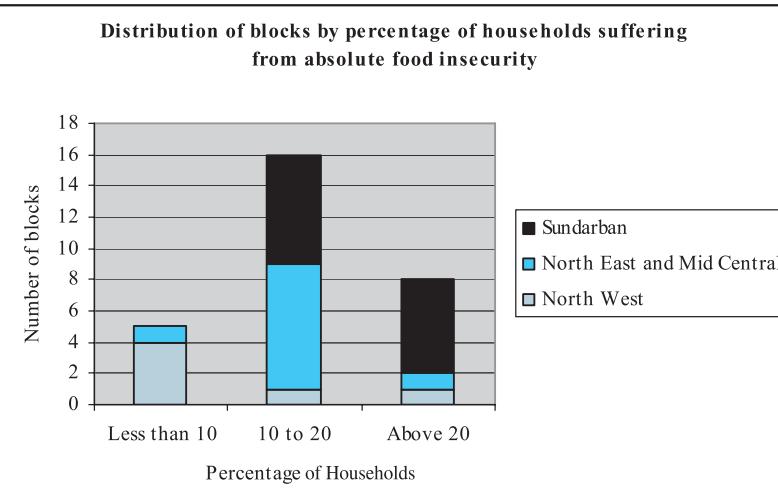
Though there are some doubts regarding the dependability of the Rural Household Survey 2005, the estimates on various

parameters obtained from it are truly alarming. The RHS data suggest that 2.18 lakh rural households in the district cannot manage to have even one proper meal everyday year round. The number is close to 18 per cent of total number of rural households in the district. The finding is very sobering for all concerned not just

for the level of underdevelopment in the district, but also on humanitarian grounds. The farthest point of South 24 Parganas is less than 100 kilometres away from Kolkata, one of the largest, and fastest developing metro cities in India. Yet, a large section of the population in the adjacent district cannot fulfil the most basic human requirements – food. Even in Sonarpur block which is literally a stone's throw away from Kolkata, about 14 per cent of the households live in perennial hunger (Table 3.11).

A block wise analysis of the situation of affordability of food to rural households reveals that Sundarban is once again the worst hit region. In all the thirteen blocks of Sundarban, more than 10 per cent of rural households suffer from absolute food insecurity

Figure 3.8: Regional Distribution of Blocks by Levels of Food Insecurity



meaning that they cannot even manage one square meal everyday year round. There are six Sundarban blocks where more than 20 per cent people suffer from such acute crisis with Basanti being the worst affected block in the district with 37 per cent of the households suffering. Out of the six blocks in the North West region, Budge Budge-II is surprisingly a bad performer in this count with about 25 per cent of households suffering from food insecurity. Given its performance in terms of the other parameters we discussed so far, Bhangar-II has done quite well in terms of this parameter probably for its relatively well-developed agriculture.

As estimated from the Rural Household Survey, 36 per cent of the rural households do not own any winter garments. South 24 Parganas being a district with very mild and short winter and with most of the relatively underdeveloped blocks located close to sea,

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ownership of garments and proper clothing to remain prepared for the winter weather is not a major problem for the district. In fact, more than 57 per cent of the households in Basanti and 49 per cent in Patharpratima do not own any winter garments at all. But this probably is more a matter of choice for the households rather than access. The priorities of the people in the district are likely to be very different from a region where the weather is so harsh that proper clothing is an absolute necessity for survival and as a result the expenditure patterns also vary. Clothing probably is at a lower step in the priority-ladder of the people in South 24 Parganas.

It is unfortunate but true that even after sixty years of independence and thirty years of Panchayati system

of administration, every four in hundred households do not have a shelter to sleep at night in the district of South 24 Parganas.

Table 3.11: Distribution of Households according to Differential Access to Food

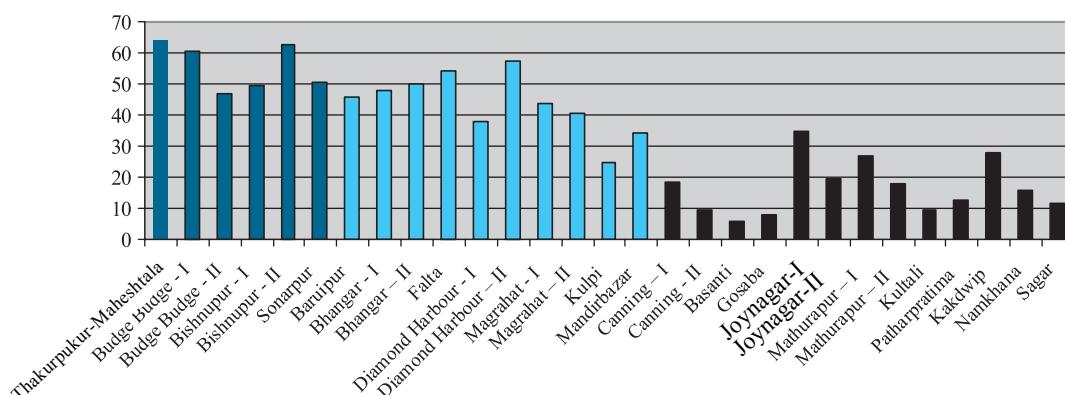
Block	Percentage of households with				
	Less than square meal a day for the major part of a year	Gener-ally one square meal a day, but sometime fails	Gener-ally two square meals a day, but sometime fails	At least two square meals a day during all seasons	No shortage of food
Thakurpukur-Maheshtala	1.61	4.63	13.26	52.13	28.37
Budge Budge - I	2.52	4.93	17.80	42.62	32.13
Budge Budge - II	10.01	14.17	22.55	32.84	20.42
Bishnupur - I	1.79	7.22	22.39	48.78	19.82
Bishnupur - II	1.29	6.09	20.29	44.73	27.61
Sonarpur	3.68	10.22	24.74	36.16	25.20
Baruipur	4.34	12.99	25.86	34.71	22.11
Bhangar - I	5.78	12.24	32.56	33.61	15.80
Bhangar - II	0.85	8.53	31.69	36.64	22.29
Falta	3.52	9.41	25.77	40.18	21.12
Diamond Harbour - I	3.76	11.61	25.29	38.93	20.41
Diamond Harbour - II	2.59	9.72	26.87	36.37	24.45
Magrahat - I	2.74	9.15	24.46	45.14	18.51
Magrahat - II	4.05	11.96	30.56	34.57	18.86
Kulpi	5.38	16.41	34.68	30.35	13.19
Mandirbazar	2.42	10.97	27.30	40.52	18.79
Canning - I	2.71	11.02	31.29	37.35	17.63
Canning - II	6.02	14.75	38.76	32.87	7.60
Basanti	11.22	25.71	33.81	22.72	6.54
Gosaba	3.68	11.74	33.15	33.91	17.52
Joynagar - I	6.77	13.21	26.67	34.49	18.87
Joynagar - II	4.39	14.58	36.79	33.44	10.80
Mathurapur - I	3.66	13.30	31.41	41.23	10.41
Mathurapur - II	4.29	16.11	34.33	31.58	13.69
Kultali	3.89	11.32	30.71	43.00	11.08
Patharpratima	7.20	20.17	35.77	25.80	11.06
Kakdwip	4.27	12.08	29.24	36.27	18.15
Namkhana	5.44	17.11	42.64	24.90	9.91
Sagar	3.82	24.48	40.35	22.38	8.97

Source: Rural Household Survey, 2005

A further 50 per cent of the households live in a hut with only one room. A large part of South 24 Parganas, particularly the

Figure 3.9: Housing condition in Blocks of South 24 Parganas

Percentage of households living in pucca or partially pucca houses



Sundarbans, is very prone to natural disasters like tidal waves, storms and cyclones. Sadly, except in Joynagar-I, nowhere in the Sundarban areas more than 30 per cent households live in pucca or partially pucca houses. In blocks like Basanti, Gosaba, Canning-II and Patharpratima, even 10 per cent households do not enjoy the security of living in pucca or partially pucca houses. This is one area that requires urgent attention because it is associated with

security of human life and property. The situation though had been worse and has improved lately because of the importance the government has attached to housing for the poor. New houses though with very basic facilities have been built with direct assistance from the government and under the supervision of the local Panchayat under different government schemes, particularly the Indira Awas Yojana. But a lot is yet to be done (Figure 3.9).

3.10 Concluding Remarks

The analysis of the material conditions of the district reveals that lack of infrastructure in the rural areas remains

the major obstacle in the process of development in the district. The average standard of living in the blocks is significantly

correlated with the level of infrastructural development. In absence of irrigation facilities, agriculture in the district remains primarily mono-cropped. With the post-liberalization increase in the cost of purchased inputs, agriculture has become unremunerative in many areas. As a result, a significant decline in the number and area of different size classes of holdings have been observed in late 1990s. A major revamp of irrigation facilities is required to increase cropping intensity in agriculture.

However, given its proximity to Kolkata and the existing industrial base in the eastern bank of Hooghly river, the district has a real potential for industrial development. But, to achieve this end prompt action must be taken by identifying

potential areas for industries and developing these areas with appropriate infrastructure. Manufacturing growth in the district has exceeded the same for the state in the recent past. This needs to be maintained by encouraging small scale industries.

A high level of regional disparity is observed almost in all material aspects of life. The Sundarban remains the most backward region in terms of quality of life. This needs to be addressed urgently. Poverty remains a major problem in some blocks with poverty ratio exceeding 50 per cent. Targeted government intervention for eradication of poverty is earnestly required in these areas.

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Employment Trends and Livelihood Pattern

4.1 Introduction

Human Development is a multifaceted concept embodying not just quantitative improvement measured through increase in per capita income but also improvement in qualitative aspects of life such as increasing life expectancy and educational attainment. Nevertheless, per capita income alone is not a bad indicator of human development because it has been found in many developing countries that there exists high correlation between per capita income and other variables that describe "human development". Since per capita income is the manifestation of employment opportunities available, so while assessing human development it is important to examine the occupational trends and livelihood patterns of the population. The dynamics of employment trends and livelihood pattern is thus very closely related to the development of a society.

South 24 Parganas is, indeed, a complex district, stretching from the metropolitan Kolkata to the remote riverine villages in the south up to the mouth of Bay of Bengal. While the Alipore sub-division lies very close to the

Kolkata metropolis, Kakdwip, Canning and Diamond Harbour sub-divisions are in the southern part of the district. Baruipur sub-division is centrally located, being well connected with the urban centre of the district and also lying close to the blocks of Sundarbans. Sundarbans, the largest mangrove forests on earth, are spread over thirteen of the twenty-nine development blocks in the district. In 2001, about 86 per cent of the population in the district resided in the 29 blocks (out of which 84 per cent resided in the rural areas and 2 per cent in the urban areas) of the district, while 14 per cent resided in the municipal areas. Overall, it may be said that there exists wide topographic variation within the district. This variation often translates into differences in economic conditions across various regions of the district owing to the differences in the available employment opportunities based on the distribution of natural as well as man-made resources. Accordingly, inter-region as well as intra-region variation of employment trends and livelihood patterns within the district up to the block/municipality level need to be addressed.

Before an in-depth analysis of the employment situation of the district is made,

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we take a quick glance at the overall performance. In 2001, one-third of the district population were employed. Over the nineties, there has been growing marginalization of labour with a decline in the share of main workers. In fact, in this period, annual compound growth rate of population had been higher than the annual compound growth rate of the number of main workers. Thus the rate of growth of productive employment generated in the district had not been able to keep pace with the rate of growth of population in the district. Though the blocks of the district are predominantly rural in nature but agriculture is no longer the main source of livelihood for the people residing here. In 2001 only 36 per cent of the workers could depend on agriculture as their main source of livelihood compared to 58 per cent in 1991. It is indeed a matter of concern that the decline has been perceived not just in the per centage of agricultural main workers but also in the absolute number of such workers by about 2.6 lakhs. This implies that rural population in the district is more and more unable to take up agriculture as their main source of living. Such a phenomenon tallies with the observation that the blocks that have high dependence on agriculture as the main source of living are generally those very blocks that have registered high incidence of poverty. Thus there is a high correlation

between the dependence on agriculture and incidence of poverty at the block level. It is therefore no wonder that the rural households are diversifying away from agriculture in the district. In fact, a large percentage of the households are pushed into relatively more vulnerable uncertain activities. The Rural Household Survey (2005) reveals that the main sources of sustenance for as many as 51 per cent of the rural households are daily/ agricultural/ other physical labour with no more than 12 per cent households being involved in high return regular jobs in the organized or in production and services sector. Of course, dependence on income from regular jobs is positively associated with the closeness to Kolkata metropolis.

A detailed analysis of the employment trends, occupational diversification and livelihood pattern of the district both at the block level as well as the municipality level is reviewed in the sections 4.2, 4.3 and 4.4 respectively. In section 4.5 we look at the potential alternatives for enhancement of employment opportunities in the district. Section 4.6 concludes. The secondary data used in this chapter have been collected from various sources such as the Census of India decennial reports 1991 and 2001, Rural Household Survey data of the Government of West Bengal - 2005 for this district and data furnished by different departments of the district administration.

4.2 Employment Trends

4.2.1 The District Level

As a first step towards understanding the employment scenario in the district, it is important to look at the share of workers in the total population of the district. As is well known, Census of India while enumerating the number of workers in the decennial enquiries uses concepts of main workers and marginal workers. Main workers are those who have worked for the major part of the year preceding the date of enumeration, i.e. those who were engaged in economically productive activity for 183 days or more. Marginal workers are those who worked anytime at all in the year preceding the date of enumeration but did not work for the major part of the year, i.e. those who worked for less than 183 days. From Table 4.1 it can be seen that in 2001, out of the total population in the district only about one-third (32.47 per cent) worked either as main or as marginal worker. If we consider only main workers, then productive population is only about one-fourth of the total population (24.30 per cent) of the district.

Considering the share of male and female workers in the population separately, the discrimination in terms of working status is obvious. Female work participation rate is very low in the

district as compared to the male. From Tables 4.2 and 4.3, one can find that in 2001, while the worker population ratio for the male workers (main + marginal) was 51.82 per cent, only 11.83 per cent of the female population was engaged in any economic activity either as main worker or as marginal worker. If we leave out workers in the marginal capacity and consider only main workers i.e., those who work for more than 183 days in a year then gender discrimination becomes even more striking. Only 5 per cent of the total female population in the district worked as main worker as compared to 42 per cent in case of male workers. Rural-urban break up of employment in the population shows lower share of employment in the rural areas compared to the urban areas both for the male as well as the female.

Although minimal participation of female population in economic activity is striking, this is not surprising in the context of West Bengal because this state has one of the lowest recorded rates of female work participation in the country. Percentage of female main workers in 2001 was 8.87 in the rural areas and 8.82 in the urban areas of West Bengal. As has been rightly pointed out in the West Bengal Human Development Report, 2004 that such low work participation rate for women is an evidence of gender discrimination not only because they reflect

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**Table 4.1: Total Workers as Percentage of Total Population
in the District of South 24 Parganas in 1991 and 2001**

Sector	2001			1991		
	Main Workers	Marginal Workers	Total Workers	Main Workers	Marginal Workers	Total Workers
Rural	23.66	8.91	32.57	26.01	2.46	28.47
Urban	27.71	4.23	31.93	26.65	0.50	27.15
Total	24.30	8.18	32.47	26.09	2.20	28.29

Source: Census of India : 1991, 2001

**Table 4.2: Male Workers as Percentage of Male Population
in the District of South 24 Parganas in 1991 and 2001**

Sector	2001			1991		
	% of Main Workers	% of Marginal Workers	% of Total Workers	% of Main Workers	% of Marginal Workers	% of Total Workers
Rural	41.46	10.13	51.58	47.78	1.27	49.05
Urban	47.27	5.82	53.08	46.87	0.69	47.55
Total	42.38	9.44	51.82	47.65	1.19	48.84

Source: Census of India : 1991, 2001

**Table 4.3: Female Workers as Percentage of Female Population
in the District of South 24 Parganas in 1991 and 2001**

Sector	2001			1991		
	% of Main Workers	% of Marginal Workers	% of Total Workers	% of Main Workers	% of Marginal Workers	% of Total Workers
Rural	4.77	7.62	12.39	2.79	3.73	6.52
Urban	6.29	2.49	8.77	3.59	0.30	3.89
Total	5.01	6.82	11.83	2.89	3.28	6.18

Source: Census of India : 1991, 2001

resistance to women working outside their home but also it may reflect under-reporting due to social invisibility and lack of recognition of women's unpaid work.

Even when we look at the proportion of

female workers in total workers of the district we once again find their dismal representation. Genderwise distribution of workers in the district (Table 4.4) reveals that in 2001 only 17.62 per cent of total

**Table 4.4: Female Workers as Percentage of Total Workers
in the District of South 24 Parganas in 1991 and 2001**

Sector	2001			1991		
	% of female workers in main workers	% of female workers in marginal workers	% of female workers in total workers	% of female workers in main workers	% of female workers in marginal workers	% of female workers in total workers
Rural	9.78	41.47	18.45	5.19	73.34	11.08
Urban	10.83	28.07	13.12	6.29	27.61	6.68
Total	9.97	40.38	17.62	5.34	71.94	10.52

Source: Census of India 1991, 2001

Figure 4.1: Annual Growth Rates of Total Population and Total Workers between 1991 and 2001

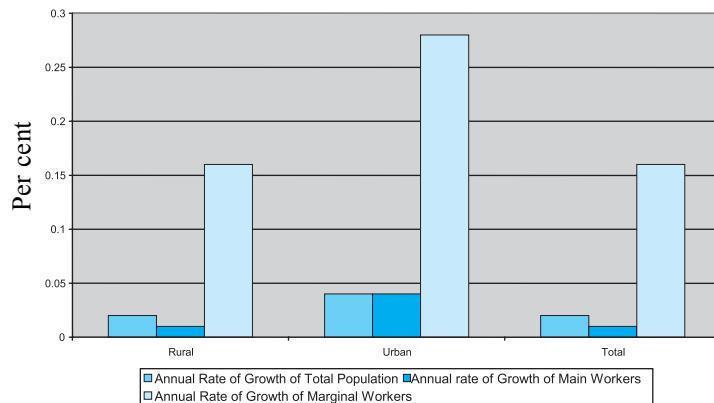


Figure 4.2: Annual Growth Rates of Male Population and Male Workers between 1991 and 2001

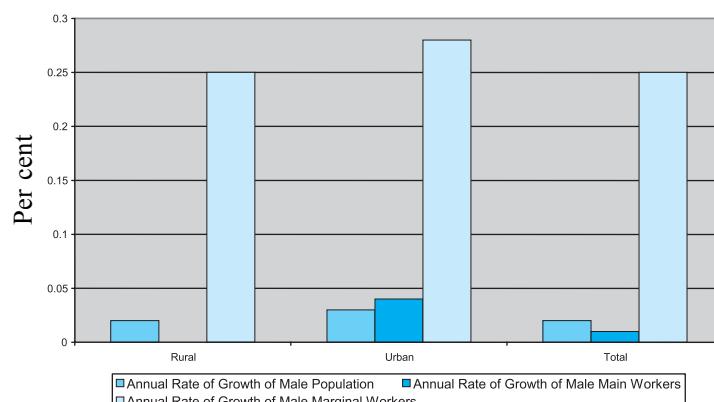
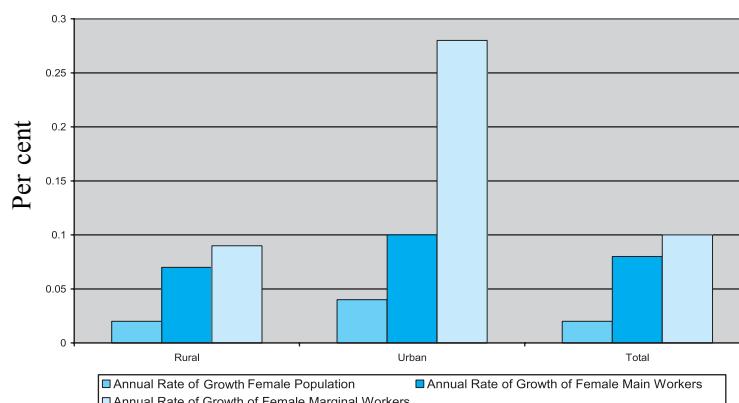


Figure 4.3: Annual Growth Rates of Female Population and Female Workers between 1991 and 2001.



(main + marginal) workers were female. However, female participation has somewhat improved in the decade of nineties. In 1991 female main workers formed only one-twentieth of the total main workers. The ratio has at least increased to about one-tenth of the workers in 2001.

Comparing the employment situation of 2001 over 1991, share of workers in the population of the district has increased by 4.18 percentage points in a period of ten years. Apparently the change signals an enhancement in the achievement level of the district in terms of employment creation. A closer examination, however, reveals that the increase in worker population ratio has been brought about by growing marginalization of labour, particularly in the rural areas. In fact, a notable point is that the percentage of main workers has actually dropped from 26.09 per cent in 1991 to 24.30 per cent in 2001. But the percentage of marginal workers increased from 2.20

per cent to 8.18 per cent in this period. So

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the increase in share of workers is attributable to the increase in the share of marginal workers rather than main workers.

It is a matter of concern indeed that the percentage of male main workers in South 24 Parganas has dropped by about 6 percentage points between 1991 and 2001 particularly in the rural areas from 47.78 per cent to 41.46 per cent. This trend is similar to what has been happening in the state as a whole. As has been reported in West Bengal Human Development Report 2004, the ratio of male main workers to total male population in the rural areas fell quite significantly over the decade from 51.18 per cent in 1991 to 46.00 per cent in 2001.

If one looks at the annual compound growth rate of the total population vis-à-vis employment generation in the district then one can easily identify the shortfall of additional employment generated in keeping pace with the growing population (Figure 4.1). This is more so for the rural areas as compared to the urban. Gender wise break-up of this difference in growth rate of population and employment further reveals that the shortfall in the rate of employment generation has been more prominent for the male workers as compared to the females (Figures 4.2 and 4.3).

4.2.2 The Sub-district Level

As has been mentioned earlier there exists wide variation in the topography of the district. Accordingly, for a better insight of

the employment scenario in the district we further consider the disaggregated block/municipality wise distribution of workers. In 1991, the district had 30 administrative blocks and 5 municipalities. There had been administrative redistribution between 1991 and 2001 so that in 2001 there were 29 blocks and 7 municipalities. Areas of the Mahestala and Thakurpukur-Metiabruz blocks in 1991 were redistributed to form Thakurpukur-Mahestala block in 2001 and two other municipalities namely Mahestala and Pujali. So it is difficult to compare the performance of the blocks/municipalities with one to one correspondence over time. However, one can always study the variation over the cross section of blocks/municipalities at a particular point of time.

Using data published by Census of India 1991 and 2001 it can be seen from Tables 4.5 and 4.6 that there has been wide variation in the worker population ratio across blocks. The inter-block variation in worker population ratios has been more prominent among female workers compared to the male. Of course, female participation in all the blocks is much lower compared to the male. Out of the 29 blocks in the district, in 2001, male worker population ratio was a minimum at 48.44 per cent in Mathurapur I with a maximum of 55.96 per cent in Namkhana. In case of female workers Mathurapur I had lowest female work participation rate at 5.60 per cent, while blocks such as Patharpratima,

Table 4.5 : Block-wise Percentage of Total Workers in the Population by Gender in South 24 Parganas in 1991: (Rural + Urban)

Block	Male			Female		
	%of Main Workers	%of Marginal Workers	%of Total Workers	%of Main Workers	%of Marginal Workers	%of Total Workers
Thakurpukur-Maheshtala	46.96	0.40	47.36	2.68	0.11	2.79
Metiabruz	47.61	0.55	48.16	4.20	0.46	4.66
Budge Budge I	45.24	3.05	48.29	3.87	0.77	4.64
Budge Budge II	46.22	1.97	48.19	1.84	1.40	3.24
Bishnupur I	49.22	0.68	49.91	3.87	1.63	5.50
Bishnupur II	49.33	0.39	49.73	3.29	3.32	6.62
Sonarpur	47.39	0.27	47.66	4.69	0.50	5.20
Region I	47.55	0.84	48.39	3.56	1.13	4.69
Baruipur	47.63	0.71	48.34	3.00	1.33	4.33
Bhangar I	50.65	0.25	50.90	2.95	1.75	4.70
Bhangar II	47.54	0.31	47.85	1.24	0.57	1.81
Falta	51.12	1.56	52.67	3.94	3.42	7.36
Diamond Harbour I	46.44	0.77	47.22	2.85	0.87	3.72
Diamond Harbour II	47.04	2.12	49.17	2.58	1.78	4.36
Magrahat I	44.60	1.00	45.59	1.66	1.04	2.70
Magrahat II	47.01	0.45	47.46	2.71	2.83	5.55
Kulpi	45.57	2.62	48.19	1.40	1.93	3.32
Mandirbazar	44.29	1.34	45.63	1.84	0.87	2.71
Region II	47.22	1.11	48.33	2.43	1.71	4.14
Canning I	48.05	1.15	49.20	2.95	1.81	4.76
Canning II	49.06	0.25	49.31	2.81	1.00	3.81
Basanti	49.23	1.13	50.36	2.82	5.48	8.30
Gosaba	51.55	1.73	53.28	4.91	12.59	17.50
Joynagar I	45.70	1.20	46.91	2.00	1.65	3.65
Joynagar II	45.27	0.67	45.94	1.89	1.34	3.22
Mathurapur I	45.21	1.57	46.77	2.08	1.95	4.04
Mathurapur II	48.90	1.02	49.92	2.48	3.50	5.98
Kultali	46.75	0.80	47.55	1.31	2.45	3.76
Patharpratima	48.44	2.84	51.28	3.09	9.85	12.94
Kakdwip	48.36	1.37	49.73	2.55	5.57	8.12
Namkhana	49.70	5.38	55.08	5.36	28.11	33.47
Sagar	46.70	1.15	47.86	1.58	3.83	5.41
Region III	48.01	1.54	49.54	2.78	5.97	8.75

Source: Census of India 1991

Table 4.6 : Block-wise Percentage of Total Workers in the Population by Gender in South 24 Parganas in 2001: (Rural + Urban)

Block	Male			Female		
	% of Main Workers	% of Marginal Workers	% of Total Workers	% of Main Workers	% of Marginal Workers	% of Total Workers
Thakurpukur - Maheshtala	47.04	7.15	54.18	8.05	4.40	12.45
Budge Budge I	36.79	14.64	51.43	2.97	3.71	6.68
Budge Budge II	39.97	13.72	53.69	3.17	5.18	8.35
Bishnupur I	45.33	8.07	53.40	5.99	4.91	10.90
Bishnupur II	45.15	8.52	53.67	5.51	5.03	10.53
Sonarpur	45.23	7.32	52.55	6.67	2.53	9.20
REGION I	43.67	9.59	53.26	5.50	4.38	9.88
Baruipur	43.04	6.80	49.85	5.25	3.10	8.34
Bhangar I	44.82	6.05	50.87	4.93	5.38	10.31
Bhangar II	43.25	6.39	49.64	2.95	2.48	5.42
Falta	42.24	12.44	54.68	3.87	5.98	9.85
Diamond Harbour I	42.40	7.62	50.02	3.22	2.95	6.17
Diamond Harbour II	39.74	11.92	51.65	3.61	3.65	7.26
Magrahat I	39.78	9.60	49.37	3.81	3.88	7.69
Magrahat II	41.41	7.03	48.44	4.10	3.63	7.73
Kulpi	36.08	14.77	50.85	2.87	3.92	6.79
Mandirbazar	39.00	10.11	49.11	4.74	5.85	10.60
REGION II	41.22	9.16	50.39	4.03	4.04	8.07
Canning I	40.58	10.56	51.14	6.68	5.96	12.64
Canning II	40.40	8.08	48.48	4.11	7.05	11.16
Basanti	39.19	11.53	50.73	3.97	8.38	12.35
Gosaba	41.03	15.01	56.04	3.99	16.41	20.40
Joynagar I	41.00	8.34	49.33	6.12	4.74	10.85
Joynagar II	40.06	9.19	49.25	5.10	9.30	14.40
Mathurapur I	34.26	14.18	48.44	2.96	2.64	5.60
Mathurapur II	42.36	10.48	52.84	4.20	6.72	10.92
Kultali	40.35	11.01	51.36	2.92	6.84	9.75
Patharpratima	43.73	11.26	54.99	8.73	20.87	29.60
Kakdwip	41.39	11.22	52.61	4.52	11.72	16.24
Namkhana	44.74	11.21	55.96	6.14	22.89	29.03
Sagar	40.86	11.86	52.72	4.51	23.16	27.66
Region III	40.85	11.05	51.90	5.06	11.34	16.40

Source: Census of India 2001

Namkhana and Sagar had nearly one-third of the female population engaged in some form of economic activity. It is no mere coincidence that the blocks with high female work participation rates are the blocks which have very high percentage of female marginal workers. This implies that in these blocks more and more women are getting involved in income earning activities over and above their household responsibilities even for a smaller part of time in a day. Patharpratima, Sagar and Namkhana which are indicating high work participation rate for the female are also the three blocks in South 24 Parganas which rank first, fourth and fifth in terms of number of persons engaged in pisciculture (see Table 4.20 in section 4.5.2 of this chapter). The most likely activity that these women are getting more and more involved into is collecting shrimp fry from streams which are later sold in the market. These marginal activities help the women to contribute to the family income thereby enhancing their family earning in addition to their contribution in household work.

As in other chapters of this report, the 29 blocks of the district are further classified into three regions, depending on the perceived notion of development that is likely to have taken place: Region I representing the blocks closer to the metropolitan centre with better

infrastructure, Region III covering mainly the Sundarbans consisting of the riverine blocks of the district in extreme South and Region II locationally representing the central region of the district.

The regionwise break up of workers shows that in 2001 all the three regions on an average had no less than half of the male population engaged in some form of economic activity with region I registering the highest share of employment. In case of female workers however, Region III has almost double work participation rate (16.40 %) compared to Region I (9.88 %) and Region II (8.07%). The phenomenon of high female participation in Region III can probably be explained to a certain extent by the rising prospect of pisciculture in the region where the women members of the family are being engaged on marginal basis.

Table 4.8 shows that in the municipal areas no less than 52 per cent of the male population were engaged in economic activity in 2001. Very little variation is registered in male work participation rate across municipalities. In case of women, work participation rate is once again low varying between 4.46 per cent in Budge Budge to 12.17 percent in Rajpur-Sonarpur municipality. The gender gap in work participation rate is evident even in municipal areas. In fact, female work participation rate in many blocks of rural Sundarbans is much higher than the participation rate of women in the municipal areas.

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Table 4.7: Municipality-wise Percentage of Workers in the Population by Gender in South 24 Parganas in 1991

Municipality	Male			Female		
	% of Main Workers	% of Marginal Workers	% of Total Workers	% of Main Workers	% of Marginal Workers	% of Total Workers
Budge Budge (M)	51.49	0.25	51.74	2.21	0.61	2.81
Rajpur (M)	47.27	0.05	47.33	4.79	0.04	4.83
Baruipur (M)	44.42	0.42	44.84	4.73	0.16	4.89
Diamond Harbour (M)	47.68	1.08	48.76	5.76	1.06	6.82
Joynagar Mazilpur (M)	44.79	0.74	45.53	4.98	0.55	5.53

Source: Census of India 1991

Table 4.8 : Municipality-wise Percentage of Workers in the Population by Gender in South 24 Parganas in 2001

Municipality	Male			Female		
	% of Main Workers	% of Marginal Workers	% of Total Workers	% of Main Workers	% of Marginal Workers	% of Total Workers
Maheshtala (M)	48.34	5.03	53.37	4.67	1.72	6.39
Budge Budge (M)	49.81	4.12	53.93	3.62	0.84	4.46
Pujali (M)	39.25	13.52	52.77	5.58	5.85	11.43
Rajpur Sonarpur (M)	48.47	5.47	53.94	9.07	3.11	12.17
Baruipur (M)	49.91	2.44	52.35	8.52	1.20	9.72
Diamond Harbour (M)	48.30	3.67	51.97	9.17	1.85	11.02
Joynagar Mazilpur (M)	47.70	4.40	52.10	7.22	2.66	9.88

Source: Census of India 2001

4.3 Occupational Diversification

4.3.1 The District Level

Given the work participation trends of the district, it is important to identify the type of employment in which the workforce is absorbed. In the labour market, the obvious source of employment is either the agricultural sector or the non-agricultural sector. Predominantly rural economies are characterized by large dependence on agriculture as the main source of employment if not the main source of income. On the other hand, increasingly greater dependence on non-agricultural

sector i.e. the structural transformation of employment from the agricultural sector to the non-agricultural sector is often seen as a precursor of development in the economic literature. However, it is important to identify whether such structural transformation is due to progressive labour saving technique of productive agriculture releasing labour which can be readily absorbed in the modern industrial sector, or it is the distress in agriculture that is pushing workers out of it into a semi-saturated non-agricultural

Figure 4.4: Sectoral Distribution of Main Workers in South 24 Parganas

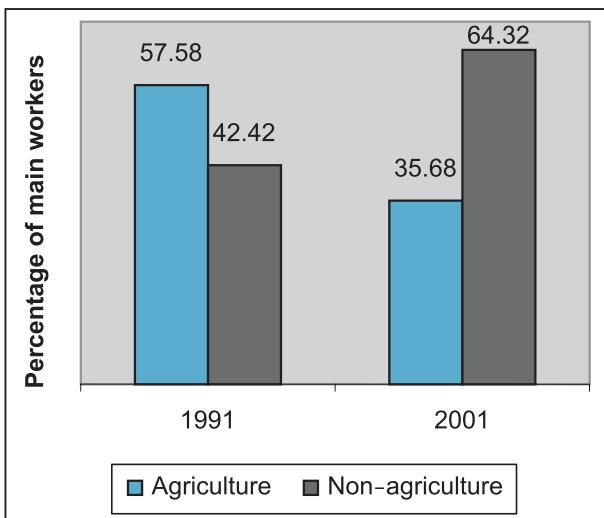


Figure 4.5: Sectoral Distribution of Total Workers (Main + Marginal) in South 24 Parganas

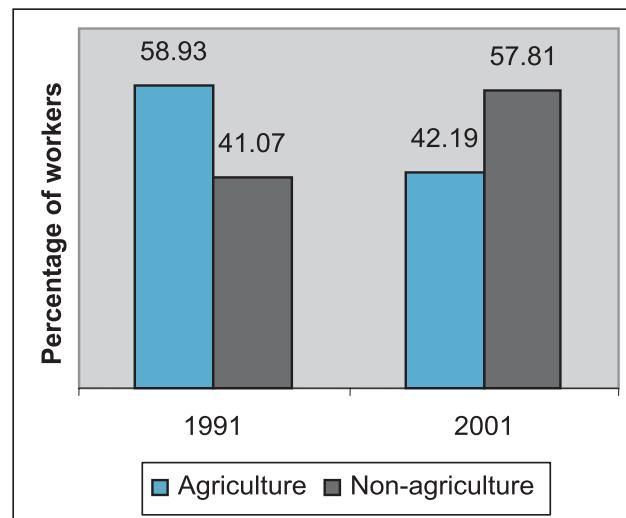


Table 4.9: Percentage Distribution by Occupation of Male Main Workers by Sector in South 24 Parganas

Sector	Cultivators		Agricultural Labourers		Household industry workers		Other workers	
	1991	2001	1991	2001	1991	2001	1991	2001
Rural	32.47	20.31	33.73	24.66	3.00	4.16	30.79	50.87
Urban	2.32	0.44	7.24	1.18	7.73	5.49	82.72	92.88
Total	28.42	16.78	30.17	20.49	3.63	4.40	37.78	58.33

Source: Census of India 1991, 2001

Table 4.10: Percentage Distribution by Occupation of Female Main Workers by Sector in South 24 Parganas

Sector	Cultivators		Agricultural Labourers		Household industry workers		Other workers	
	1991	2001	1991	2001	1991	2001	1991	2001
Rural	18.78	11.93	27.23	14.02	15.02	15.49	38.98	58.57
Urban	1.51	0.92	4.78	1.00	9.03	4.99	84.68	93.09
Total	16.01	9.78	23.63	11.48	14.06	13.44	46.29	65.29

Source: Census of India 1991, 2001

Table 4.11: Percentage Distribution by Occupation of Main Workers (Male + Female) by Sector in South 24 Parganas

Sector	Cultivators		Agricultural Labourers		Household industry workers		Other workers	
	1991	2001	1991	2001	1991	2001	1991	2001
Rural	31.76	19.49	33.40	23.61	3.62	5.27	31.22	51.63
Urban	2.27	0.49	7.08	1.16	7.81	5.44	82.84	92.91
Total	27.75	16.09	29.82	19.59	4.19	5.30	38.23	59.03

Source: Census of India 1991, 2001

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Table 4.12: Occupational Diversification of Male (Main + Marginal) Workers (in percentage) in the District of South 24 Parganas

Sector	Cultivators		Agricultural Labourers		Household industry workers		Other workers	
	1991	2001	1991	2001	1991	2001	1991	2001
Rural	32.75	19.14	33.71	30.74	3.05	4.16	30.49	45.97
Urban	2.39	0.47	7.70	2.15	7.76	5.57	82.15	91.81
Total	28.70	16.09	30.25	26.08	3.68	4.39	37.37	53.44

Source: Census of India 1991, 2001

Table 4.13: Occupational Diversification of Female (Main + Marginal) Workers (in percentage) in the District of South 24 Parganas

Sector	Cultivators		Agricultural Labourers		Household industry workers		Other workers	
	1991	2001	1991	2001	1991	2001	1991	2001
Rural	35.90	18.43	27.85	29.01	11.34	14.64	25.41	37.92
Urban	2.51	0.82	5.96	1.69	10.23	8.59	81.30	88.91
Total	33.19	16.40	25.61	25.87	11.25	13.94	29.95	43.79

Source: Census of India 1991, 2001

Table 4.14: Occupational Diversification of (Main + Marginal) Workers (in percentage) in the District of South 24 Parganas

Sector	Cultivators		Agricultural Labourers		Household industry workers		Other workers	
	1991	2001	1991	2001	1991	2001	1991	2001
Rural	33.09	19.01	33.01	30.42	3.97	6.09	29.93	44.48
Urban	2.40	0.51	7.58	2.09	7.93	5.97	82.09	91.43
Total	29.17	16.15	29.76	26.04	4.48	6.07	36.59	51.74

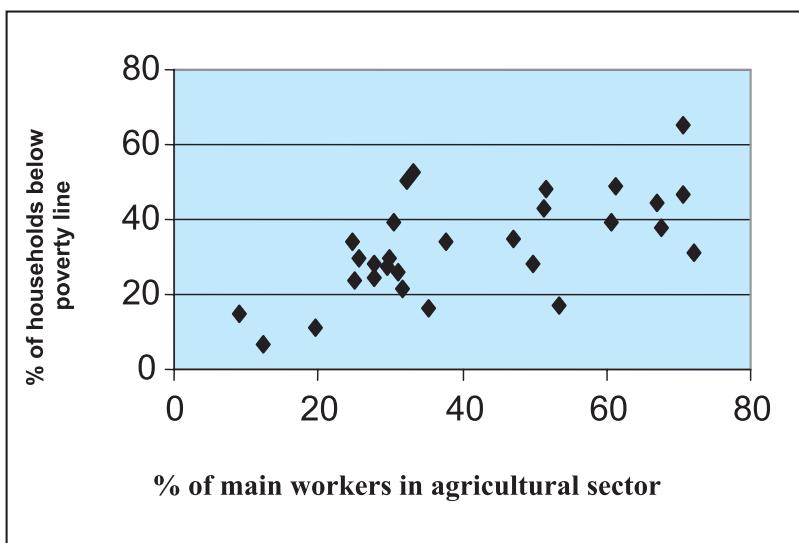
Source: Census of India 1991, 2001

sector often characterized by low return.

In the district of South 24 Parganas, about 84 per cent of the population resided in the rural areas in 2001. So the district is predominantly rural in nature. As is expected in a rural economy, agriculture had been the main source of employment in the district over time. The scenario has, however, changed completely by the turn of this century. Agriculture is no longer the main source of employment or earning in the district. In 2001, majority (about 58 per cent) of the total workers (main + marginal)

were employed in the non-agricultural sector. The situation was just the reverse in 1991, when majority (nearly 59 per cent) of the workers in the district were engaged in the agricultural sector (Figure 4.5). So there has been a decline in the share of agricultural workers (i.e. cultivators and agricultural labourers) by 17 percentage points over the decade of nineties. Considering main workers only, the decline in percentage of agricultural workers has been far more striking. In 1991 nearly 58 per cent of the workers had agriculture as

Figure 4.6: Scatter Diagram depicting the Relationship between Incidence of Agricultural Workers and Percentage of Households below Poverty Line



their main occupation. Compared to this, in 2001, only 36 per cent of the workers could depend on agriculture as their main source of livelihood (Figure 4.4). This current trend of relatively less dependence on agriculture holds both for male and female workers. Thus by 2001 agriculture was no longer the main source of employment in the district as it was till 1991 – neither for the men nor for the women.

If decline in the percentage of agricultural workers is precursor to development, then no doubt that the district of South 24 Parganas has seen such occupational diversification away from agriculture. However, a note of caution that needs to be sounded here is the fact that together with a drop in the percentage of agricultural workers,

absolute number of agricultural workers (both for main and main plus marginal workers) in the district dropped between 1991 and 2001. For the main workers only, the number of agricultural workers dropped drastically by about 2.6 lakhs from 858567 in 1991 to 598661 in 2001.

Considering marginal workers in addition to main workers, the shrink in absolute number of agricultural workers is relatively less as the drop in number of cultivators in this period is largely compensated by the increase in the number of agricultural labourers. So it is obvious that instead of taking agriculture as the main source of employment, a large section of the workers are increasingly considering it as a marginal occupation to supplement income from some form of non-agricultural employment and income as the main source of living.

Agriculture is no longer able to provide a sustainable year round income to a large part of the working population. This can partly be explained by the constraints faced by agriculture in the district. Out of the 4,06,215 hectares of cultivable area in the district only 1,60,217 hectares of land is cropped more

than once resulting in a low cropping intensity (141.20%) in the district. The mono-cropping pattern of cultivation is followed largely because of poor irrigation facilities and high soil salinity. Being close to the Bay of Bengal, the river waters are saline and are mostly unsuitable for the purpose of irrigation. As a result, minor irrigation particularly canal and tank irrigation remains the most important source of irrigated water in the district. Moreover, frequent floods is a major problem in a large part of the district – particularly so in the islands located in the Sundarban region. The major crop grown in the district is Aman Paddy. Although rice is the principal crop, cultivation of other crops such as cereals, oilseeds, cotton, jute, watermelons and other fruits and vegetables is steadily on the rise.

A pertinent question that arises at this juncture is that while the absence of intensive cultivation owing to constraints of low cropping intensity followed by poor irrigational facility had always been there in the district, the rapid occupational diversification towards the non-agricultural sector is a relatively new phenomenon. This can perhaps be explained by changes in broader macroeconomic perspective that has been taking place in the country as a whole. The shift from agriculture in the post-liberalization era particularly after the

macro-economic policies like withdrawal of subsidies from agriculture has become a common feature in many Indian states. Such policies have resulted in increasing cost of agricultural production. But the market prices of crops, particularly food-grains, did not escalate to the extent of rise in the cost of production. As a result, return from agriculture began to decline. Following this, a large section of the existing cultivators faced with constraints in agriculture were unable to derive their livelihood from only agriculture. As a result, not just the percentage of agricultural workers but the absolute number of agricultural workers in the district is also declining. So in the rural areas, agricultural employment is no more the prime economic source of sustenance. It is largely acting as a supplementary income to some form of non-agricultural income.

The likely explanation of occupational diversification away from agriculture thus points towards low return from agriculture, sole dependence on which often leads to poverty. Thereby comes up the hypothesis that greater dependence on agriculture is positively associated with higher incidence of poverty. The hypothesis needs to be tested empirically. The hypothesis is tested by identifying the relationship, if any, between the level of poverty and the

Table 4.15: Block-wise Percentage of Main Workers by Gender in Different Occupations in 1991 in South 24 Parganas

Block	% of Cultivators	% of ag. Labourers	% of hh. Ind. Workers	% of other workers	% of Cultivators	% of ag. Labourers	% of hh. Ind. Workers	% of other workers
	M	M	M	M	F	F	F	F
Maheshtala	2.56	8.77	13.03	75.64	4.35	18.27	8.59	68.78
Thakurpukur-Metiabruz	3.68	11.16	16.73	68.42	2.62	17.42	15.78	64.18
Budge Budge I	3.02	23.15	2.97	70.87	1.25	9.38	20.72	68.65
Budge Budge II	9.71	29.80	2.69	57.80	9.29	23.84	10.91	55.96
Bishnupur I	28.98	34.28	4.96	31.78	18.85	38.48	14.71	27.97
Bishnupur II	19.32	28.63	8.76	43.28	8.39	22.37	37.71	31.54
Sonarpur	15.04	20.20	1.29	63.47	6.84	26.01	3.05	64.10
Region I	12.50	21.75	7.19	58.56	7.60	23.60	14.06	54.75
Baruipur	27.90	29.42	2.71	39.96	9.13	18.76	12.79	59.32
Bhangar I	42.53	28.09	4.09	25.30	16.00	46.66	18.12	19.22
Bhangar II	45.72	34.40	1.90	17.99	24.88	32.67	11.89	30.57
Falta	18.44	28.85	3.96	48.75	15.76	22.14	20.44	41.67
Diamond Harbour I	15.50	28.25	4.47	51.77	7.31	4.07	34.75	53.88
Diamond Harbour II	17.28	33.34	4.09	45.29	9.95	14.06	23.90	52.08
Magrahat I	22.81	36.68	4.80	35.72	12.76	21.95	22.08	43.20
Magrahat II	30.22	27.55	7.53	34.70	24.86	29.00	17.48	28.66
Kulpi	26.47	37.60	2.81	33.12	12.35	6.70	33.50	47.45
Mandirbazar	20.51	32.52	3.97	43.00	10.56	3.38	30.54	55.52
Region II	27.22	31.56	4.03	37.19	14.35	21.36	20.96	43.32
Canning I	31.28	35.09	0.86	32.76	8.80	10.04	6.78	74.39
Canning II	47.54	41.70	0.35	10.42	13.70	69.00	1.87	15.43
Basanti	41.35	43.29	0.90	14.46	19.56	44.36	3.91	32.17
Gosaba	49.96	37.23	0.80	12.01	24.30	54.89	1.40	19.40
Joynagar I	26.35	35.55	2.99	35.11	12.54	12.77	22.62	52.07
Joynagar II	32.43	44.44	3.63	19.51	14.53	17.67	33.19	34.61
Mathurapur I	28.13	34.91	4.68	32.27	12.59	6.01	33.15	48.25
Mathurapur II	36.99	41.52	2.70	18.79	26.31	16.20	30.98	26.51
Kultali	41.54	48.02	0.36	10.09	30.99	37.31	3.11	28.59
Patharpratima	55.26	30.45	1.05	13.24	50.81	26.22	3.35	19.62
Kakdwip	36.97	32.70	0.69	29.65	20.64	8.22	17.59	53.54
Namkhana	44.97	18.85	1.36	34.82	40.10	11.50	6.85	41.55
Sagar	53.58	25.85	0.81	19.76	28.02	18.31	7.43	46.24
Region III	40.96	36.32	1.55	21.17	25.12	28.04	10.72	36.11

Source: Census of India 1991

Table 4.16: Block-wise Percentage of Main Workers by Gender in Different Occupations in 2001 in South 24 Parganas

Block	% of Cultivators	% of ag. Labourers	% of hh. Ind. Workers	% of other workers	% of Cultivators	% of ag. Labourers	% of hh. Ind. Workers	% of other workers
	Male	Male	Male	Male	Female	Female	Female	Female
Takurpukur–Maheshtala	5.65	6.88	8.52	78.95	5.33	6.49	7.56	80.62
Budge Budge I	2.35	6.76	2.34	88.55	2.97	3.47	6.86	86.70
Budge Budge II	7.18	18.27	6.70	67.86	5.48	9.60	20.38	64.54
Bishnupur I	17.06	19.20	10.23	53.51	8.55	17.99	25.49	47.98
Bishnupur II	7.05	13.74	12.63	66.58	3.10	5.49	40.07	51.33
Sonarpur	14.45	11.47	1.55	72.53	8.78	11.19	4.63	75.41
Region I	9.96	13.63	7.65	68.76	6.24	10.08	18.75	64.92
Baruipur	15.22	17.72	3.94	63.12	7.87	8.21	13.21	70.71
Bhangar I	26.09	24.97	3.83	45.11	11.49	27.04	16.00	45.48
Bhangar II	30.30	24.70	3.32	41.67	10.81	20.22	16.76	52.21
Falta	11.67	21.18	6.62	60.53	7.25	12.11	26.84	53.80
Diamond Harbour I	9.43	21.16	4.01	65.40	6.87	9.04	15.09	69.00
Diamond Harbour II	9.36	19.82	3.47	67.35	5.91	6.02	12.76	75.31
Magrahat I	11.09	17.48	8.55	62.88	6.86	11.65	33.59	47.90
Magrahat II	14.29	16.56	10.21	58.94	7.00	11.52	25.51	55.97
Kulpi	12.79	22.32	3.69	61.21	6.30	2.66	18.38	72.65
Mandirbazar	10.17	17.24	3.15	69.44	7.79	3.79	15.62	72.80
Region II	15.50	20.11	5.24	59.15	7.91	11.33	19.29	61.47
Canning I	16.20	19.64	2.48	61.68	4.46	6.32	16.85	72.36
Canning II	27.91	45.54	1.03	25.52	12.49	47.81	5.54	34.16
Basanti	33.35	39.74	1.33	25.57	20.50	25.24	6.83	47.43
Gosaba	34.36	34.67	1.23	29.75	19.24	32.71	2.64	45.40
Joynagar I	13.16	19.38	3.90	63.55	7.85	7.60	17.88	66.66
Joynagar II	19.85	34.85	5.19	40.11	10.91	10.60	39.50	38.99
Mathurapur I	14.87	25.24	4.91	54.98	4.49	5.00	22.02	68.49
Mathurapur II	25.62	37.82	3.11	33.44	14.96	13.86	17.81	53.38
Kultali	35.95	37.06	1.14	25.85	13.38	21.21	7.98	57.43
Patharpratima	35.34	30.95	1.51	32.19	21.00	13.12	3.69	62.20
Kakdwip	21.13	27.65	1.91	49.30	18.89	11.90	12.09	57.11
Namkhana	31.91	20.99	1.23	45.87	27.39	14.70	5.70	52.20
Sagar	36.81	31.18	1.34	30.67	31.66	26.21	5.35	36.78
Region III	26.96	31.23	2.25	39.56	16.15	16.67	12.02	55.16

Source: Census of India 2001

Table 4.17 Block-wise Percentage of Main Workers in Different Occupation in 1991 in the District of South 24 Parganas

Block	% of Cultivators	% of ag. Labourers	% of hh. Ind. Workers	% of other workers	% of agrl workers	% of non-agrl
	(1)	(2)	(3)	(4)	(1+2)	(3+4)
Maheshtala	2.85	9.23	12.82	75.31	11.87	88.13
Thakurpukur-Metiaabruz	3.61	11.61	16.66	68.12	15.22	84.78
Budge Budge I	2.89	22.15	4.26	70.71	25.04	74.96
Budge Budge II	9.70	29.59	2.97	57.74	39.29	60.71
Bishnupur I	28.29	34.56	5.63	31.52	62.95	37.15
Bishnupur II	16.68	26.27	10.46	42.59	46.95	53.05
Sonarpur	14.36	20.68	1.44	63.52	35.04	64.96
Region I	12.19	21.86	7.83	58.32	34.05	65.95
Baruipur	26.87	28.83	3.27	41.03	55.70	44.30
Bhangar I	41.14	29.06	4.82	24.98	70.20	29.80
Bhangar II	45.21	34.36	2.14	19.29	79.57	20.43
Falta	16.28	26.41	5.08	49.29	48.88	53.34
Diamond Harbour I	15.06	26.94	9.11	51.89	42.00	58.00
Diamond Harbour II	16.02	32.40	5.06	45.62	49.32	50.98
Magrahat I	22.47	36.18	5.38	35.97	58.55	41.35
Magrahat II	29.95	27.83	8.04	34.39	57.57	42.43
Kulpi	26.07	36.74	3.67	33.52	62.91	37.19
Mandirbazar	20.14	31.43	4.96	43.47	51.57	48.43
Region II	26.53	31.09	4.61	37.47	57.72	42.28
Canning I	30.05	33.71	1.19	35.08	63.76	38.24
Canning II	45.77	43.12	0.43	10.68	98.99	11.11
Basanti	40.23	43.36	1.05	15.37	93.58	16.42
Gosaba	47.85	36.68	0.85	12.62	96.53	13.47
Joynagar I	25.61	34.86	3.78	35.78	60.47	39.53
Joynagar II	31.75	43.43	4.74	20.08	75.16	24.92
Mathurapur I	27.49	33.72	5.86	32.93	61.21	38.79
Mathurapur II	36.51	40.39	3.96	19.13	76.90	23.10
Kultali	41.28	47.74	0.43	10.57	99.01	10.99
Patharpratima	55.00	30.21	1.19	13.61	95.21	14.79
Kakdwip	36.19	31.53	1.49	30.79	67.72	32.28
Namkhana	44.52	16.17	1.87	35.45	62.69	37.31
Sagar	52.79	25.82	1.01	20.58	78.40	21.90
Region III	40.14	35.89	2.02	21.95	76.03	23.97

Source: Census of India, 1991

Table 4.18 Block-wise Percentage of Main Workers in Different Occupation in 2001 in the District of South 24 Parganas

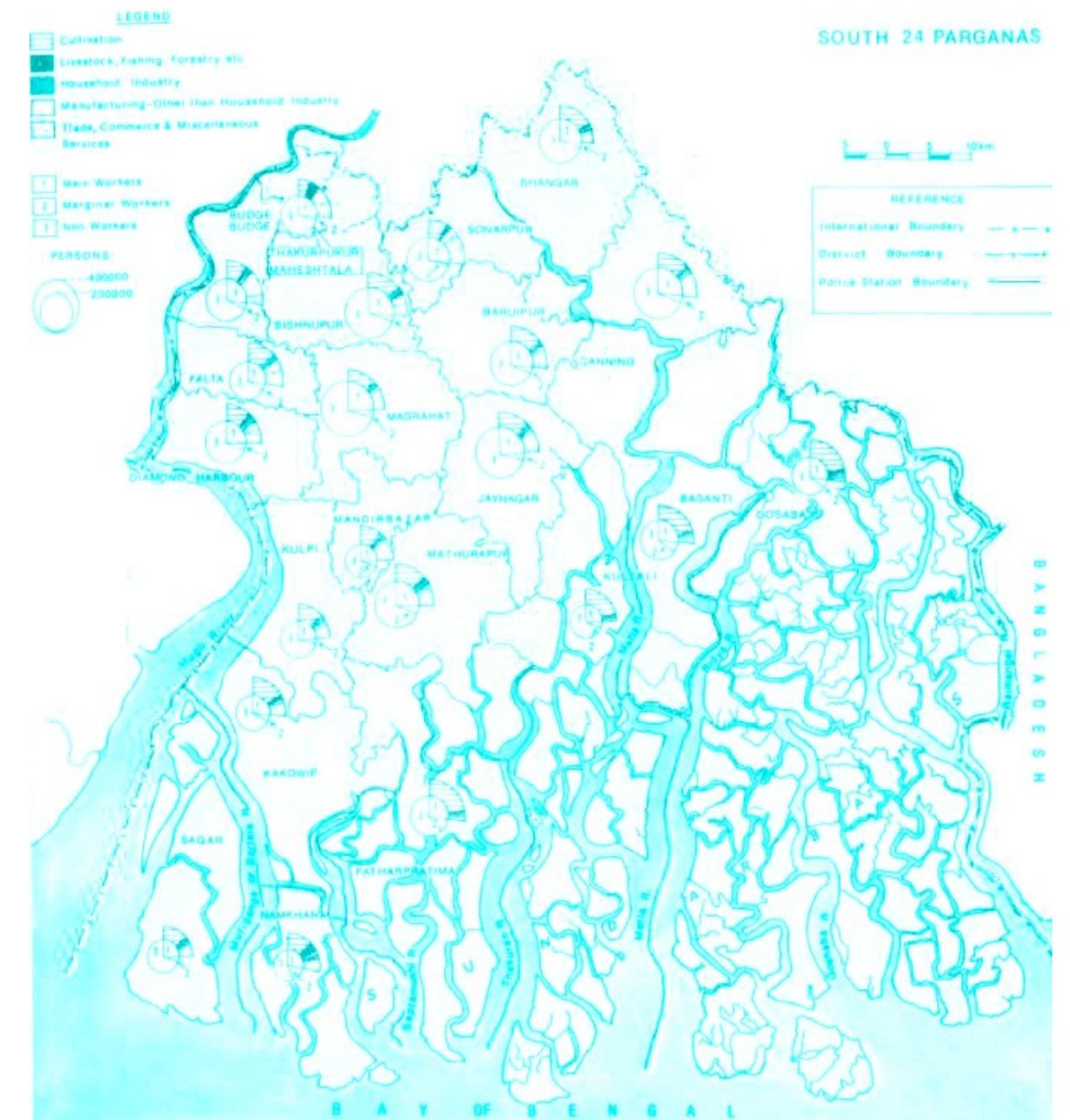
Block	% of Cultivators	% of ag. Labourers	% of hh. Ind. Workers	% of other workers	% of agrl workers	% of non-agrl workers
	(1)	(2)	(3)	(4)	(1+2)	(3+4)
Thakurpukur-Maheshtala	5.81	6.82	8.39	79.18	12.43	87.57
Budge Budge I	2.40	6.54	2.65	88.42	8.93	91.07
Budge Budge II	7.06	17.67	7.64	67.63	24.73	75.27
Bishnupur I	16.12	19.07	11.91	52.90	35.19	64.81
Bishnupur II	6.84	12.89	15.47	65.00	19.53	80.47
Sonarpur	13.76	11.44	1.93	72.88	25.19	74.81
Region I	9.57	13.26	8.82	68.35	22.83	77.17
Baruipur	14.47	16.74	4.88	63.90	31.22	68.78
Bhangar I	24.70	25.16	4.99	45.15	49.87	50.13
Bhangar II	29.15	24.43	4.12	42.30	53.58	46.42
Falta	11.32	20.46	8.22	60.00	31.78	68.22
Diamond Harbour I	9.26	20.36	4.74	65.64	29.62	70.38
Diamond Harbour II	9.08	18.73	4.21	67.99	27.81	72.19
Magrahat I	10.74	17.00	10.62	61.64	27.74	72.26
Magrahat II	13.67	16.13	11.51	58.68	29.80	70.20
Kulpi	12.33	20.94	4.72	62.01	33.28	66.72
Mandirbazar	9.93	15.87	4.43	69.78	25.79	74.21
Region II	14.86	19.37	6.42	59.35	34.23	65.77
Canning I	14.61	17.83	4.43	63.13	32.43	67.57
Canning II	26.55	45.74	1.43	26.28	72.29	27.71
Basanti	32.22	38.47	1.82	27.50	70.69	29.31
Gosaba	33.07	34.50	1.35	31.08	67.57	32.43
Joynagar I	12.51	17.95	5.61	63.93	30.46	69.54
Joynagar II	18.91	32.28	8.83	39.99	51.18	48.82
Mathurapur I	14.09	23.72	6.19	56.00	37.81	62.19
Mathurapur II	24.73	35.81	4.35	35.12	60.54	39.46
Kultali	34.53	36.06	1.57	27.84	70.59	29.41
Patharpratima	33.05	28.10	1.86	36.99	61.15	38.85
Kakdwip	20.92	28.17	2.87	50.04	47.09	52.91
Namkhana	31.39	20.26	1.74	46.60	51.65	48.35
Sagar	36.33	30.72	1.72	31.24	67.04	32.96
Region III	25.83	29.70	3.28	41.19	55.53	44.47

Source: Census of India, 2001

percentage of agricultural workers at the block level. In order to test the hypothesis over the cross section, data on poverty at the block level is required. Now the

conventional measure of poverty is based on the existence of a threshold level of per capita income. Failure in achieving this minimum level of income is said to signify

Figure 4.7 Occupational Diversification in South 24 Parganas



poverty. Then a head-count measure is commonly made to identify the percentage share of poor in the population. Since it is well known that income data required for the head-count ratio is unavailable at the block level, so

a proxy measure is used to calculate poverty of the households at the block level. The estimation is based on data from Rural Household Survey (RHS) undertaken by the Government of West Bengal in 2005. The parameters on which information are available

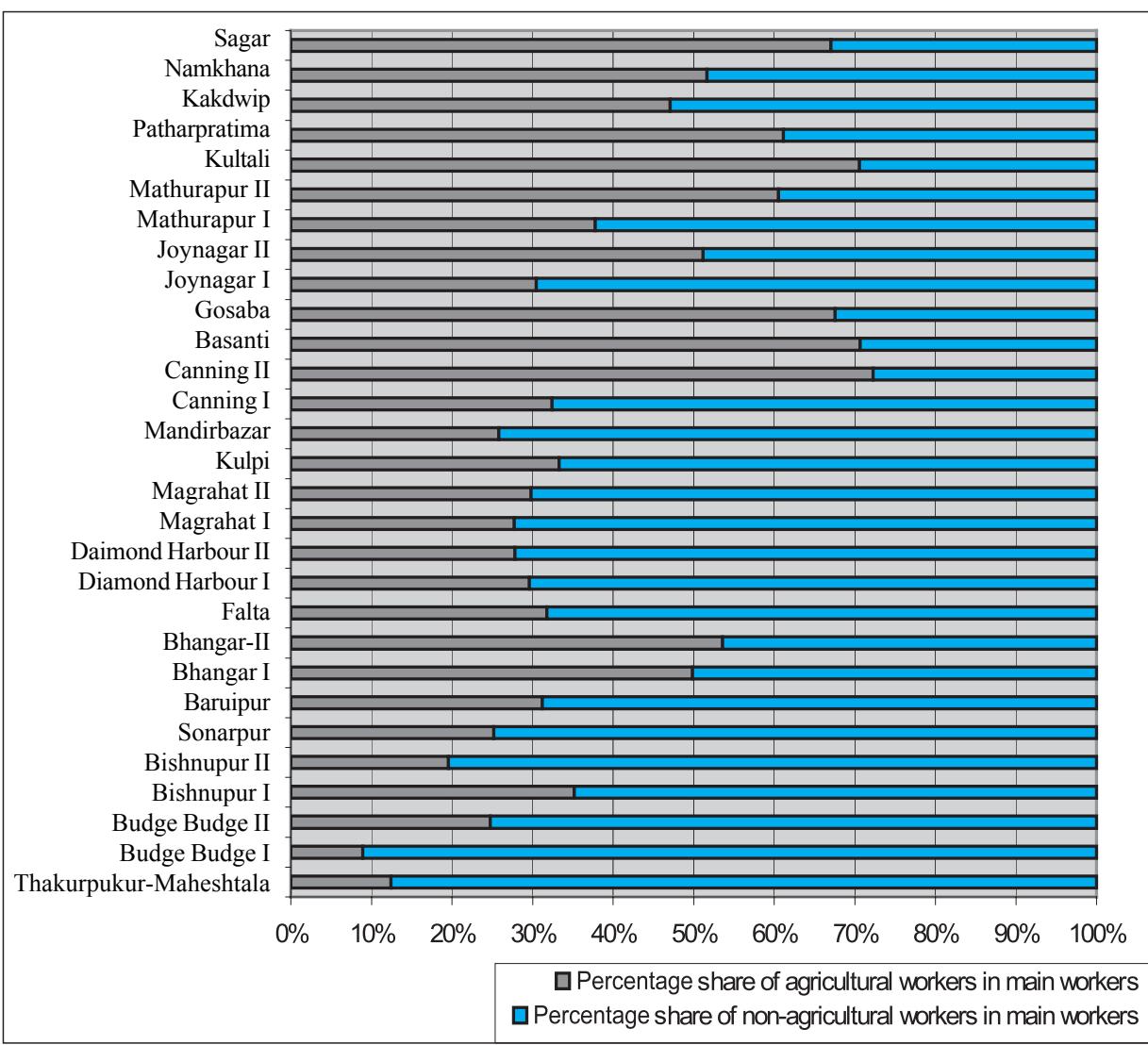
in the RHS and the nature of that information are discussed in Chapter 2 of this report.

A distinction between the poor and non-poor households is made on the basis of the score they achieve out of a possible maximum of 60. A household getting less than or equal to 33 (determined by the Planning Commission of India) on the achievement scale is considered to be a

poor household. In this way the total number of households scoring less than or equal to 33 out of the total number of households in each block can be found out. The details of percentage of households lying below the poverty line are discussed in the previous chapter.

Finally, after obtaining the information on household level poverty across the blocks, we try to identify if there is at all

Figure 4.8: Percentage Shares of Main Workers in Agriculture and Non-agriculture in different Blocks



any observable correlation between the dependence on agriculture and incidence of poverty among households in 29 blocks. For this we calculate the rank correlation coefficient between percentage of agricultural main workers and percentage of households below poverty line in the blocks. The result found is a positive relationship (Figure 4.6) between the two variables with statistical significance at 1 per cent. In fact, the rank correlation coefficient between percentage of agricultural workers and percentage of households below poverty line is 0.627. The hypothesis is thus accepted implying greater dependence on agriculture is associated with higher incidence of poverty.

Figure 4.6 depicts the relationship between incidence of agricultural main workers and percentage of households below poverty line. It can be seen in the diagram that, on the whole, the blocks that have high incidence of agricultural workers are mostly the blocks that are associated with higher incidence of poverty among households.

If we consider distribution of workers in the agricultural and non-agricultural sectors by blocks, obviously wide variation can be seen though the trend of transformation towards the non-agricultural sector holds everywhere. In

fact the regionwise classification of blocks with regard to dependence on agriculture gives distinctly different pictures of the three regions (Tables 4.15 and 4.16). Expectedly in the blocks of Region I situated in the close proximity of the Kolkata metropolis, overwhelming majority are involved in the non-agricultural sector for their livelihood. Percentage of non-agricultural main workers increased from 66 per cent to 77 per cent in the decade of nineties in this region (Tables 4.17 and 4.18). In Budge Budge I as many as 91 per cent of the population were engaged in non-agricultural activities in 2001 (Table 4.18). Also large areas of Mahestala and Thakurpukur-Metiabruz have high dependence on non-agricultural sector. So this region shows the characteristics of a *semi-transformed or semi-urban economy*.

The situation in Region III is just the reverse. Here majority of the working population draws their livelihood from the agricultural sector though the structural transformation in favour of non-agricultural sector is also in progress in the blocks of this region covering the Sundarbans. In 1991, 76 per cent of the working population depended on agriculture here (Table 4.17). The same figure came down to 56 per cent in 2001 (Table 4.18). Although blocks like Canning-I, Joynagar-I and Mathurapur-I have greater dependence on non-agricultural sector, the blocks like Canning-II, Basanti,

Kultali in this region had more than 70 per cent of the main workforce engaged in agriculture even in 2001 (Table 4.18). So in a way region III is *predominantly rural and backward* in nature.

In the blocks of Region II there is once again pre-dominance of non-agricultural employment. Though these blocks are not necessarily very close to Kolkata, a large number of them are well connected with the urban centers. As a result, some medium and large scale industries including a special economic Zone has developed in the areas of Falta and Diamond Harbour block of this region. Also being well connected through roads and railways from many blocks of this region, on the one hand it becomes easier to commute regularly for employment to the urban centres while residing in the rural areas; on the other hand, better road connection leads to better marketing channels for homegrown products. As a result 66 per cent of the main workers in this region depended on the non-agricultural sector in 2001 (Table 4.18). This region may be identified as the *transforming region of the district*.

Overall, dependence on agriculture in the district is on decline irrespective of distance from Kolkata metropolis. Of course, the extent of transformation varies across regions. As a corollary to decline

in the percentage of employment generated in the agricultural sector obviously there has been expansion of non-agricultural activities in the district. The increase in non-agricultural employment is evident not only in percentage terms but also in absolute number. The number of non-agricultural workers in the main plus marginal category almost doubled from 663908 to 1296634 between 1991 and 2001 in the district. The Census of India further classifies non-agricultural workers as household industry workers and other workers. According to the census data, shifting towards the non-agricultural sector in this district has been more for other workers with a nominal increase in the share of household industry workers. So far as employment in quantitative terms is concerned, no doubt non-agricultural sector has absorbed greater number of labourers into it than it could do before. Whether this increased absorption of work force into the non-agricultural sector is the outcome of a vibrant “pull effect” of this sector or it is the “push effect” from agriculture which is dominating in the process of transformation, needs to be identified. In addition to the increase in quantity of employment generated in the non-agricultural sector, it is very important to identify the quality i.e., sustainability of the type of employment generated. Given

unavailability of any further break-up of Census data on exactly the type of employment generated based on the return from such employment, further

probe in to the process of diversification of employment is done in the following section of livelihood strategies using RHS (2005) data for the district.

4.4 Livelihood Patterns

Contrary to the prototypical image of being purely dependent on either agriculture or non-agriculture, in reality the rural households rely on many activities and income sources for their livelihood. The rural economy is highly diversified depending on a range of activities from agriculture and allied activities i.e., from farm to the non-farm sector. The non-farm sector may include a variety of activities starting with those that are allied and complementary to agriculture or those that are not related to agriculture at all. It may be one of high return jobs requiring skill or a low return job which people are forced to pursue owing to their distress conditions. Within this diversified rural economy, a large part of household income comes from combined incomes from the different household members, each often specializing in one occupation. In case of low return activities particularly in the non-agricultural sector individuals even pursue different activities at the same time to smooth their income. The

return on many of these activities is low and the diversity of occupations does not always transform into income diversification implying that one activity may be the dominant source of income.

In the Rural Household Survey of this district, the dominant income sources of the households have been used to classify rural households according to five different livelihood strategies. Some households derive the larger part of their incomes from wage work as daily labourer in the agricultural or non-agricultural sector which is seasonal and volatile in nature (*daily / agricultural / other physical labourer*). There are some landed households whose livelihood depends primarily on farming though they may use majority of their produce for home consumption (*cultivators*). There are others who are neither cultivators nor daily labourers but are self-employed in the rural non-farm sector like artisans or hawkers. They may include family members in the work but as such do not employ others (*self-employed rural artisan / hawker who do not employ others*). There are still others who derive

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Figure 4.9: Livelihood Patterns of Rural Households in South 24 Parganas

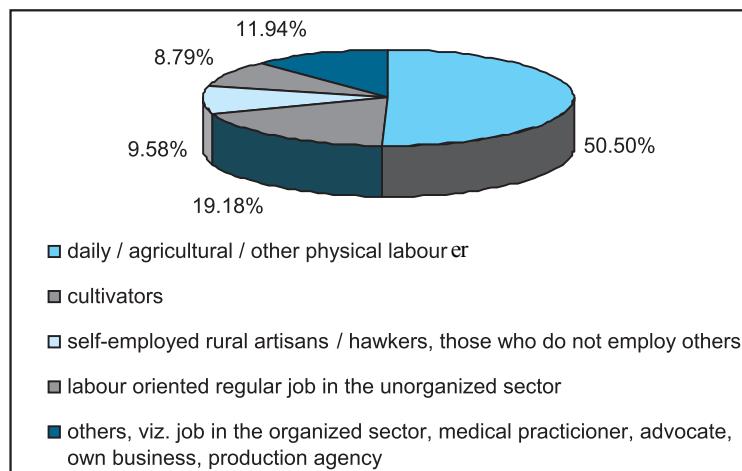
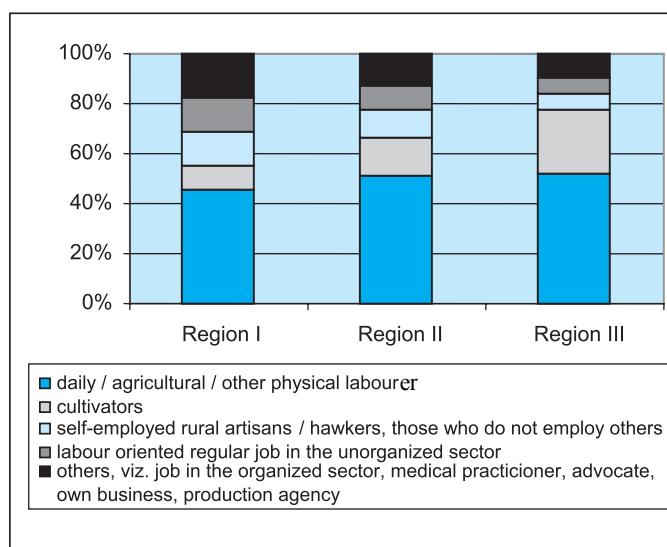


Figure 4.10: Region-wise Livelihood Patterns of Rural Households in South 24 Parganas



their main income through their employment as labour in the unorganized non-agricultural sector which is fairly regular in nature (*labour oriented job in the unorganized sector*). Finally, some households have members in the family who are either employed in the formal organized sector or are established as a medical practitioner or advocate or in own

business or production agency (*others*).

Based on the above-mentioned five-way classification of livelihood, the major income generating activity database of the households in the district of South 24 Parganas reveals that for 51 per cent of the households, wage labour in the agricultural sector or in the informal non-agricultural sector is the main source of livelihood (Figure 4.9). Given the seasonality of agriculture and volatility of daily wage activities in the informal sector the return from this particular livelihood strategy is supposed to be least stable among the five strategies. Thus one might say that no less than half of the households in the

district are economically vulnerable. Only 20 per cent of the households depend primarily on cultivation for their living. Not more than 12 per cent households in the district were involved in high return regular jobs in the organized sector or in some form of activities like business or production or services that fetch relatively high income. So, the fact that there has

Table 4.19: Livelihood Patterns of Rural Households at the Block Level

Block	Percentage of households				
	daily / agricultural / other physical labourer	cultivators	self-employed rural artisans/ hawkers, those who do not employ others	labour oriented regular job in the unorganized sector	others, viz. job in the organized sector, medical practitioner, advocate, own business, production agency
Takurpukur - Maheshtala	37.12	8.51	9.47	18.64	26.25
Budge Budge I	43.12	7.16	11.15	15.09	23.49
Budge Budge II	52.64	9.65	9.71	13.47	14.52
Bishnupur I	44.65	13.20	18.22	10.17	13.77
Bishnupur II	43.28	6.50	14.90	16.91	18.41
Sonarpur	49.22	11.34	10.79	13.81	14.85
Region I	45.66	9.86	13.02	14.147	17.32
Baruipur	50.25	13.68	8.81	10.94	16.33
Bhangar I	47.12	20.40	9.60	7.97	14.92
Bhangar II	46.85	29.06	8.68	5.53	9.88
Falta	51.20	10.55	11.02	14.48	12.74
Diamond Harbour I	57.66	8.94	6.80	11.41	15.19
Diamond Harbour II	58.08	8.47	8.75	11.78	12.92
Magrahat I	45.82	12.78	17.33	12.01	12.06
Magrahat II	45.09	15.91	19.47	8.14	11.40
Kulti	67.74	11.00	6.07	6.31	8.88
Mandirbazar	43.04	19.45	19.40	6.83	11.27
Region II	51.22	15.09	11.47	9.54	12.69
Canning I	49.93	19.76	10.53	7.93	11.85
Canning II	61.56	24.81	5.11	3.63	4.89
Basanti	49.44	32.69	5.98	4.69	7.20
Gosaba	41.54	36.19	5.05	6.26	10.95
Joynagar I	53.51	14.57	10.24	9.24	12.46
Joynagar II	44.45	23.31	13.39	11.01	7.83
Mathurapur I	55.97	16.77	9.58	6.12	11.56
Mathurapur II	58.42	21.47	6.46	4.00	9.66
Kultali	47.45	36.67	5.76	4.92	5.19
Patharpratima	48.84	30.56	4.05	5.43	11.10
Kakdwip	54.93	20.39	4.72	8.80	11.16
Namkhana	58.54	23.64	5.42	3.87	8.52
Sagar	54.97	29.45	3.86	4.15	7.58
Region III	51.64	25.91	6.80	6.26	9.39
South 24 Parganas	50.50	19.18	9.58	8.79	11.94

Source: Rural Household Survey 2005, Government of West Bengal

been considerable amount of occupational diversification towards the non-agricultural sector in the district does not necessarily mean that the surplus labourer in agriculture is pulled into a flourishing non-agricultural sector. Otherwise, 51 per cent of the households in the district would not have derived their living from low return daily wage labour.

Region-wise break up of the livelihood pattern of the households shows some variation with similar trend of large dependence on daily physical labour either in the agriculture or in the non-agriculture and less dependence on regular jobs either

in the unorganized sector or in the organized sector (Figure 4.10). Deriving livelihood from the earnings of wage labourer or of a cultivator is relatively more common in Region III. On the other hand, accessing income from some form of regular jobs is relatively more common in region I compared to Region II or Region III, mostly due to its closeness to the urban centres where more job opportunities are expected to be available. Though the livelihood patterns show similarity across regions, it is easy to perceive wide variation across blocks from Table 4.19.

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4.5 Potential Alternatives

Rural households design livelihood strategies to suit their asset endowments and account for the constraints imposed by market failures, state failures, social norms and exposures to uninsured risks. But their strategies compensate for only part of the constraints they operate under, leaving important roles for improvements in their access to assets and in the contexts for using these assets. The key, then, is to enhance collective action and mobilize public policy to maximise the livelihood of success for rural households. The daunting challenge for the policy makers is, therefore, to design public policies that can improve the living conditions of the

rural households. In this context we highlight some of the potential alternatives of the district where policy intervention can lead to further employment generation and thereby improve the livelihood condition of the people.

4.5.1 Agriculture

We, first of all, emphasize the need for tapping the potential of agriculture to the fullest. As has been discussed earlier, dependence on agriculture in the district is on decline. Agricultural work-force in the district has declined not only relatively but also absolutely. This is mostly due to low return followed by mono-cropping

pattern in agriculture of the district. Policies need to be taken for making agriculture more remunerative. For this, further technological percolation, particularly better irrigational facilities in rural areas, is required. This can increase the cropping intensity by allowing multiple cropping. Multiple cropping will, first of all lead to higher employment opportunities in the farm sector and to increase farm income, which, in turn, is likely to create a further consumption linkage into the non-farm sector by creating higher demand for locally produced goods and services. Expectationally there will be a 'demand pull' growth of the rural non-farm sector.

Facilitating irrigation would also promote intensive farming through agricultural crop diversification. In addition to increasing farm employment and income by ensuring year round employment opportunities and more remunerative prices, crop diversification can lead to forward production linkage into the non-farm sector too. A big share of non-farm jobs in the rural areas is very unproductive and unremunerative. Rural workers have to take up these jobs as a result of the lack of sufficient year-round jobs in the farm sector. Multiple cropping and crop diversification would allow the rural workers to get higher employment days in the farm sector and reduce distress

diversification. This will also lead to a more productive non-farm employment through various linkage effects.

Horticulture including floriculture activities offer considerable potential for employment generation and productivity growth in the district. For example, sunflower is being successfully cultivated in some areas of the district. Such cultivation is particularly made after boro cultivation in those areas where there is availability of irrigation. Enhancement of irrigational facility can spread the cultivation of such crops in addition to the major crops like paddy grown in the district.

To reap the fruits of such crop diversification, however, development of agro-based industries in the rural areas is a necessity. Very little has been done in this regard. The development of rural infrastructure with proper marketing and storage facilities is a necessary prerequisite for successful rural agro-based industries. Moreover, the conditions of rural roads are often so bad that proper transportation of the output to export even to the neighbouring states is not feasible. The problem is more acute in the island blocks of the Sundarbans. The lack of infrastructure sometimes leads to huge loss on the part of the cultivators. For example, guava and lichee produced in Baruipur, mango in Bhangar, watermelon in

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Kakdwip and Sagar, chilli in Patharpratima are widely known for their good quality. With good storage, transport and marketing facilities these non-foodgrain crops could be sold in distant places and could be highly remunerative.

4.5.2 Non-agriculture

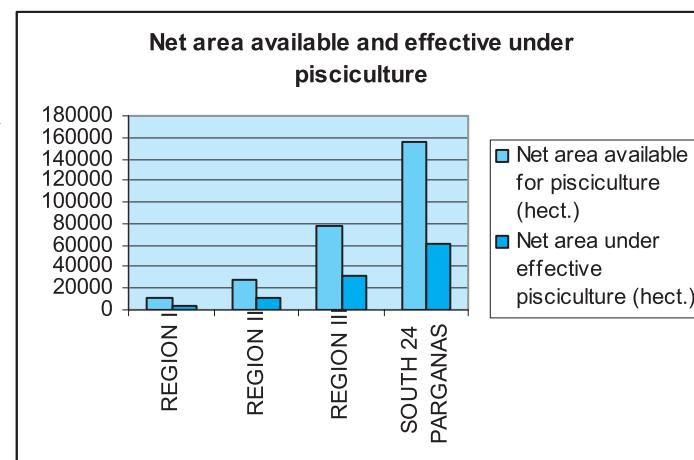
(i) *Pisciculture*

Within the non-agricultural sector an important source of employment which is worth-mentioning, particularly in the district of South 24 Parganas, is pisciculture. This is the natural outcome of the closeness of the district to the Bay of Bengal. The confluence of river Hooghly with the sea here is congenial to pisciculture. A large area of the district is riverine in nature. So the basic economics of the rural people residing particularly in delta islands and the areas near the Sundarbans are mainly based upon prawn seed collection and production and also fishing. Culture of coloured and ornamental fish has become popular in some parts of the district. The prospect of pisciculture in the district is excellent.

According to the District Statistical Handbook, 2004, for South 24 Parganas not less than 4.5 lakh persons in the district are engaged in pisciculture. Out of this, 2.57 lakhs are from the 13 blocks of the

Sundarbans. Even though a large number of persons are engagd in pisciculture, the capacity is far from being fully utilised. As can be seen from Table 4.20, only 39 per cent of the net area available for pisciculture in the district have been utilised so far. A region-wise break up of the same shows that area available for pisciculture are 11778, 27483 and 77063 hectares in Regions I, II and III respectively. But only 36 per cent, 38 per cent and 40 per cent of the area available respectively for pisciculture in these three regions has

Figure 4.11: Net Area under Pisciculture



been effectively utilised.

The maximum area available for pisciculture are in the blocks of Canning I and II followed by Patharpratima, Sagar, Gosaba, Kultali, Namkhana and Kakdwip in the Sundarbans. Canning is the gateway to the Sundarbans. It is situated on the south bank of the Matla River. Being part of the Kolkata Suburban Railway system and connected to Sealdah station as also to

Box 4.1: How life has changed for Swarup Patra!

Life has changed for Swarup Patra. When he looks back at the struggling old days of his and his family he wishes that those who are struggling today be inspired with his way of life now. Swarup had to struggle a lot to complete his studies as a graduate while staying in their mud house near Dighirpar Bazar at Daulatpur village of Falta. His father was the only earning member with unstable income supporting a family of five. He being the elder son of the family tried his best to go on with his studies so that he could do something in the near future to help his family. After graduation he became a private tutor to earn about Rs. 2000 per month. Though this income was unstable even then it gave some amount of stability to their struggling family. When he came to know about ornamental fishery i.e., culture and marketing of fish that are kept in aquarium, he thought of starting a business with the same to supplement his unstable income that supported his family.

Swarup started ornamental fish culture in 2003 with four varieties of coloured fish. Then he got training on ornamental fish culture and breeding etc. from the District Fisheries Department. This technical assistance, together with financial support through government subsidy and bank loan, has made him successful and established ornamental fish farmer at the age of thirty today. At present, he cultures about ten varieties of coloured fishes of which four varieties are produced in his own farm. In addition to culture and production he procures fishes from local farmers (individuals and co-operative societies) and supplies to bigger market at Howrah and Jabalpur. His present income from fish culture even after repaying installments of loan regularly and other cost of production is Rs. 7000 to Rs. 8000 per month. Now they have a pucca house to stay. He has his own breeding farm which is just about to be converted into a bigger one with MPEDA assistance. His entrepreneurship has forced him to undergo a Certificate Course on ornamental fish culture which will help him to grow his farm even bigger. Swarup is happy to say that he employs two other boys of his locality in his farm whose families depend on their income too. He wishes that not just increasing his own farm income but the growth of his farm may help his locality by creating a source of livelihood for many others also.

Kolkata by road, Canning has emerged as a major market for supply of fish to Kolkata. The fishermen of the area bring their catch to the all-night fish market at Canning. Here the commission agents receive the fish and auction them. It is bought by the wholesalers and transported to Kolkata for sale to retailers, who sell it in different markets. However, as greater part of Kolkata's fish now come from South India and Madhya Pradesh, local wholesale trade at Canning has been lost out in the competition. There is, of course, scope of reviving this market once again. A large part of the area available for

pisciculture in the district particularly in the Sundarbans can be brought into effective use. Proper policies to enhance employment generation in this sector need to be taken. Such policies together with orientation for sustainable development to ensure renewal of natural resources can benefit the rural population to a large extent in the district.

Livestock and animal husbandry, poultry hatching, farming and processing, meat processing, fish processing (frozen and dehydrated fish), dairy farming and milk processing can be some other alternatives.

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Table 4.20: Block-wise Employment from and Area under Pisciculture in South 24 Parganas: 2004

Block	Net area available for pisciculture (hect.)	Net area under effective pisciculture (hect.)	% of effective area under pisciculture	No. of persons engaged
Thakurpukur-Maheshtala	590	204.05	34.58	2316
Budge Budge I	600	202.18	33.70	1694
Budge Budge II	3000	1021.25	34.04	8009
Bishnupur I	810	290.05	35.81	2811
Bishnupur II	3000	1061.40	35.38	8529
Sonarpur	3778	1409.06	37.30	10603
Region I	11778	4187.99	35.56	33962
Baruipur	3000	1065.67	35.52	10603
Bhangar I	2080	730.30	35.11	7290
Bhangar II	3922	1933.42	49.30	15497
Falta	1600	566.76	35.42	5532
Diamond Harbour I	4420	1550.30	35.07	15920
Diamond Harbour II	2000	724.86	36.24	7182
Magrahat I	2456	863.67	35.17	7836
Magrahat II	2800	996.59	35.59	8833
Kulpi	4205	1628.55	38.73	1714
Mandirbazar	1000	350.00	35.00	3000
Region II	27483	10410.12	37.88	83407
Canning I	10660	4040.85	37.91	31316
Canning II	10800	4291.30	39.73	31922
Basanti	4355	1655.10	38.00	16283
Gosaba	6637	2577.38	38.83	2698
Joynagar I	3000	1100.00	36.67	9025
Joynagar II	3500	1419.00	40.54	11548
Mathurapur I	1553	624.56	40.22	6303
Mathurapur II	4285	1883.40	43.95	18826
Kultali	6592	2685.00	40.73	21387
Patharpratima	8815	3914.02	44.40	39357
Kakdwip	5111	2187.36	42.80	20826
Namkhana	5355	2277.72	42.53	22900
Sagar	6400	2520.80	39.39	24898
Region III	77063	31176.49	40.46	257289
South 24 Parganas	155585	60372.71	38.80	492027

Source: District Statistical Handbook 2004 for South 24 Parganas published by BAE&S, Government of West Bengal

Box 4.2: Development of a remote low-lying area through Integrated Fish Farming:

Satyendranath Malik, Dibakar Dalui, Gurupada Bar, Tulsi Charan Mondal, Shyamal Pramanik like many others are residents of some of the remotely located villages such as Magurpukur, Purba Ramnathpur or Kamarpukur within Amratala Gram Panchayet of Magrahat II block. The nearest railway station Dhamua on the Sealdah – Diamond Harbour railway line lies at a distance of about 3 kilometres. The nearest bus route to Kolkata lies at a distance of 6 kilometres from this area. These villages fall under a low-lying area where water-logging is a common phenomenon every year. As a result, cultivation of Aman Paddy – the major crop of the district - is not possible in these areas. To overcome this problem, a few local fish farmers started Integrated Fish Farming some twenty years back. Later on, a section of the pisciculturists came under the purview of Inland Fisheries Project of the government. Grass-root-level fishery training was imparted to them through Magrahat-II Panchayat Samity. The method of integrated fish farming was extended to other fish farmers of the locality also. Integrated fish farming is going on in the area in a sustainable way with the plantation of banana trees on the embankment along with pisciculture in the water body with compost manure. Most of the farms are rectangular in shape having an area of 0.5 hectare to 1 hectare. Multiple stocking and multiple harvesting is being carried out in the farms. Liberation of fish fingerlings 4 to 6 inches is made 2-3 times and harvesting is done 2-3 times in a year. Production of fish is more than 5-6 metric tons per year per hectare of water body. This, together with the banana plantation on the embankment of the farms, is fetching no less than Rs. 25000 to Rs. 30000 per hectare per year to the farmers of the area. The fish farmers are now carrying out integrated fish farming successfully in the area. In fact, Satyendranath Malik, one of the poor villagers, who took initiative in integrated fish farming to overcome the problem of water-logging in the area some twenty years back has got the first prize in fish production in the district of South 24 Parganas in 2004-2005. The area as a whole has been uplifted socially and economically through the entrepreneurship of the villagers and the co-operation from Panchayat body, Government officers of the district as well as the concerned banks.

(ii) Tourism Industry

Presently the tourism industry has earned prominence in the southern pockets of South 24 Parganas. Tourism can be a supplement to a part of the financial set up of the district. The tourism industry centers round the places like the Sundarbans, Sajnekhali, Bakkhali, Frazerganj, Henry Island and Diamond Harbour.

The tourism in the Sundarbans focusses on the vast tract of forest and the swampy land forming the lower part of the Ganga delta. The Sundarbans is the largest river delta in the world and also the largest estuarine mangrove forest in the world. The

principal attraction of the Sundarbans is the network of estuaries and the Royal Bengal Tiger. The Sundarbans is named so because the area is infested with the “forest of sundari”. The shallow swampy coastal area is crocodile-infested and is virtually uninhabited. The world’s largest delta region, the Sundarbans, spreads over two countries (India and Bangladesh) and over 54 islands. The Sundarbans present a unique ecosystem in this part of the world. The Sundarbans is declared by UNESCO as a heritage site. It holds the largest number of wild tigers in its core. The Sundarbans is the key interest of tourism in South 24

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Parganas. The scenic beauty and the bird sanctuary is the primary attraction of the Sajnekhali division. The Mangrove Interpretation Centre is also of interest to the visitors. There are watch-towers in the Sajnekhali region and in the adjacent parts.

Bakkhali beach resort by the Bay of Bengal is only 132 kms from Kolkata. Very close to Bakkhali, there is Frazerganj beach resort, which is equally important as a tourist spot and also one of the fishing harbours of the district. Henry island near Bakkhali is also attracting tourists in the recent times.

Diamond Harbour located by the river Hooghly is a famous picnic spot because of its close proximity with Kolkata. The Diamond Harbour Road, which connects the town with Kolkata, has a number of lodges and resorts on the highway. Resort Radisson Fort is very close to Diamond Harbour and situated at Raichak, while the Export Promotion Zone of Falta is just 20 minutes away. This luxurious resort is located amidst 60 acres of landscaped greenery including artificial water bodies and a moat running around the resort to complement its fort theme and overlooks a dramatic bend of the river Hooghly.

Gangasagar is also a focus of tourist interest, specially on the occasion of Makar Sankranti. Thousands of devotees come to visit it and take a dip at the river-sea

confluence and offer worship in the temple of Kapil Muni on the occasion of Makar Sankranti. A big colourful fair, called Sagar Mela, is organized on that occasion.

(iii) Industry

Despite its proximity to Kolkata, the district has not been developed industrially. Except for the Budge Budge stretch and Metiabruz area, adjacent to Thakurpukur Mahestala block, there are no major industrial areas. However, some major industries have come up in the Falta export-processing zone. Falta Special Economic Zone is one of the eight Special Economic Zones of the Govt. of India, Ministry of Commerce & Industry, under the SEZ scheme. With a gross area of 280 acres in the Panchayat area of Falta block, the Falta Special Economic Zone is located in a pollution free environment, at a distance of about 55 kilometres from the heart of Calcutta city and about 45 kilometres from the southern suburbs. It is well connected by a developed network of roads including a state highway, two ports at Calcutta and Haldia and the International airport at Dum Dum. The units in the Zone have to export their entire production and are granted certain entitlements such as Duty Deferment on Import & domestic procurement, simplified operational regime, and access to the DTA market.

In 2004 there was another proposal to set up a special economic zone for leather and allied industries within the upcoming Leather Complex at Bantala, only 15 kilometres from the heart of Kolkata. The Rs. 350 crore complex, which is regarded as the largest of its kind in the world is spread over 1,100 acres. The leather complex was conceived in 1995-96 as a part of the Supreme Court directive against 500-odd highly polluting tanneries in the eastern fringes of Kolkata. Accordingly, a plan was made to shift the tanneries to an integrated complex containing common effluent treatment plants and other infrastructure facilities to avoid air and water pollution. In due course, however, the scope of the project was expanded towards attracting investment in leather and allied sectors from India and abroad. Out of a total of 1,100 acres about one half was used for providing infrastructure including roads, electricity, effluent treatment, processed water and other utility services. The rest of the space is used for industrial purposes. Of the same, about 320 acres is reserved for shifting the existing tanneries from Kolkata and new investments in the leather sector. The SEZ would occupy about 110 acres.

CESC Ltd. has taken up a 500 MW thermal power plant project at Pujali. A bottling plant at Budge Budge has started working. The Budge Budge stretch has five

jute mills on the banks of the Hooghly river and the famous Bata shoe factory. Some small and medium factories are located in Mahestala and Birlapur, while others are situated along the Garia-Baruipur Road, Diamond Harbour Road and Thakurpukur-Bakrahat Road.

(iv) Small Scale Industries and Handicraft Activities

The prospect of small scale industries and emerging handicraft activities in the district is immense. Different areas of the district are increasingly forming clusters of handicraft activities that are marketed not only within the state but also exported.

Some of the very popular clusters of handicraft activities in the district are those of surgical instruments, batik print, decorative palm leaf products, silver filigree, terracotta, embroidery works, kantha stitch, soft dolls, feather products (like magic flower, dusters, artistic products, cock neck etc.), dak foil, zari work, cane and bamboo products, jute products, different types of brush, sola pith, pottery, shaving brush handle, cane furniture, dry flowers, and turban (Arabian) which is an exportable item. These different types of handicraft activities are employing more and more local people and are increasingly taking the form of household industry in the district. The fact that the incidence of such activities, increasing can

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be verified through the large increase in the number of small units registered with the District Industrial Centre. Owing to lack of capital, however, there are often constraints in initiating new businesses by the rural households. The government has to take greater initiative here by providing financial assistance for start-up capital. Small industrial estates with different infrastructural facilities might be set up in some viable rural areas of the district, which can act as “growth poles” and stimulate local economic activities. The present spread of small scale industries in the district of South 24 Parganas is shown in Figure 4.12.

(v) Government Support Programmes

a. Self-employment through Self Help Groups

Reduction of poverty has been long emphasized strategy of the planners in India. Accordingly numerous target-oriented programmes have been undertaken from time to time by the Government of India for eradication of poverty. Mostly employment generation programmes for the poor persons have been the strategy taken for poverty reduction. Some of the earlier poverty alleviation programmes include Integrated Rural Development Programme (IRDP), Training Rural Youth for Self-employment (TRYSEM),

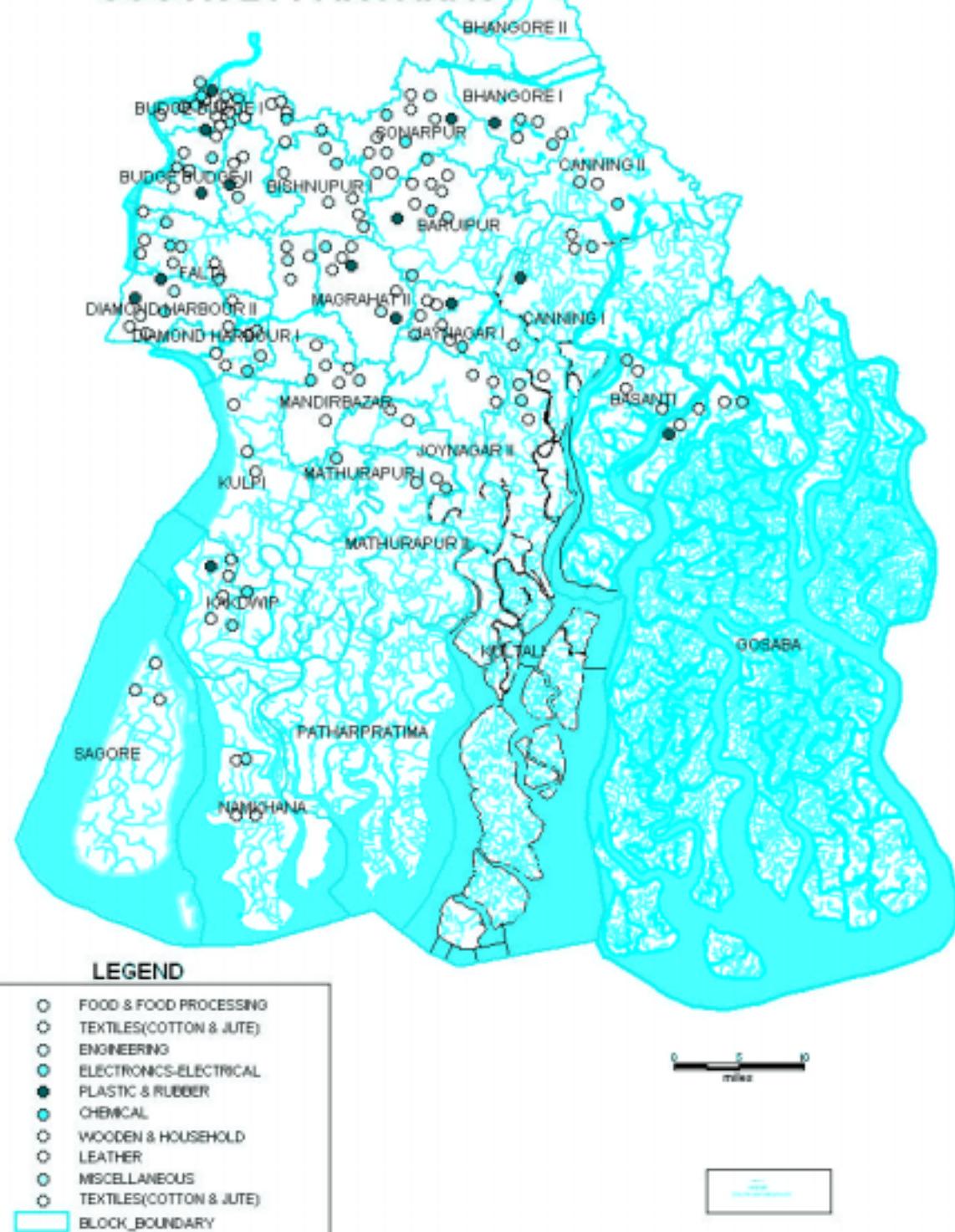
Development of Women and Children in Rural Areas (DWCRA), Supply of Toolkits in Rural Areas (SITRA), Ganga Kalyan Yojana (GKY), Million Wells Scheme (MWS) and others.

In recent times, however, providing credit to the poor persons, however small the amount might be, is considered as an important means to poverty reduction. The Indian microfinance has been trying for formal financial inclusion of poor households for quite a some time. Accordingly formation of self-help groups bank linkage programme (SBLP) is used as tool for advancing credit to start-up production. In addition to the SBLP model of progress in SHGs, the other most important form of self-help group introduced by the government that directly emphasizes creation of self-employment for the poor households is “Swarnajayanti Gram Swarozgar Yojana”, or SGSY. The previously existing poverty alleviation schemes are no longer effective since the initiation of SGSY in April 1999.

The core strategy of SHG – Bank Linkage Prgramme (SBLP) is building financial capabilities and self-confidence among the rural poor, through internal savings and lending from the owned funds of the SHGs as well as from formal financial intermediaries. The first official interest in informal group lending in India

Figure 4.12: Spread of Small Scale Industries in South 24 Parganas

SMALL SCALE INDUSTRIES OF SOUTH 24 PARGANAS



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took shape during 1986-87 in the initiative of the National Bank for Agriculture and Rural Development (NABARD). However, it was only in 1992 that legal obstacles were removed and subsidies made available so that SHGs could take bulk loans from banks that could be further lent to group members who could use them to take up or expand micro-business. The financial intermediaries, mainly the commercial banks, regional rural banks and cooperative banks were allowed to count such lending towards their legal obligations to direct a fraction of their loans to the poor, and they were given access to subsidized NABARD refinancing to do so. This marked the gateway of mainstreaming of Indian microfinance. Growth in the number of SHGs formed, and the scale of their interaction with banks, has been very fast particularly since the turn of this century.

According to the data published by NABARD in March 2006, out of the total number of SHGs linked to banks in India 6.09 per cent belonged to West Bengal.

However, the amount of loan received is fairly conservative at 2.13 per cent of total loan disbursed by banks in India. Within West Bengal about 9 per cent of SHGs have been credit linked to banks in the district of South 24 Parganas. As can be seen from Table 4.21, about 12487 SHGs were credit linked to banks in the district by March 2006. The number was only 1905 in March 2002. Thus the number of SHGs in the district increased by about 6.5 times in the period between 2002 and 2007. Though the share of credit disbursed in the district is 6.56 per cent of the total credit disbursed in West Bengal, the amount of loan received by the members of the SHG increased by about 12 times from Rs 12.96 million in 2002 to Rs. 159.08 million in 2006.

The SGSY is being implemented by District Rural Development Agencies (DRDAs) with the active involvement of Panchayats, Banks, the line departments and the NGOs. Under the SGSY, assistance is given to the poor families living below the poverty line in rural areas for taking up self-

employment. The persons taking up self-employment are called *swarozgaris*. They may take up the activity either individually or in groups, called Self-Help Groups. For successful Self-Employment, it is

Table 4.21 : Progress of SHG Bank Linkage in South 24 Parganas

upto 31st March	Number of SHGs			Amount of Bank Loan (in Rs. Million)		
	West Bengal	South 24 Parganas	% in South 24 Parganas	West Bengal	South 24 Parganas	% of South 24 Parganas
2002	17143	1905	11.11	127.19	12.96	10.19
2003	32647	3060	9.37	304.61	18.95	6.22
2004	51685	4903	9.49	604.57	41.54	6.87
2005	92698	9128	9.85	1262.77	109.67	8.68
2006	136251	12487	9.16	2424.52	159.08	6.56

Source: NABARD

necessary to take up the right activity. For this purpose, 4 to 5 activities are selected in each Block with the help of officials, non-officials and the Bankers. These are called 'Key Activities', and should be such that they may give the *Swarozgaris* an income of Rs. 2000 per month, net of Bank loan repayment.

The SGSY scheme of self-employment is well in progress in the district of South 24 Parganas. From the data given by the DRDC, South 24 Parganas Zilla Parishad there is sector-wise classification of key activities. The sectors are primary sector, secondary sector and the tertiary sector. Within the primary sector the key activities are projects related to irrigation, livestock and others. The secondary sector comprises village industries, handicrafts, handlooms and other activities. Activities related to tailoring, shops, bullock-carts and others are found in the tertiary sector. Out of these mentioned activities some of the SGSY programmes in the blocks emphasize some specific activities. The primary sector

Figure 4.13: Number of SHGs Linked with Bank Loans

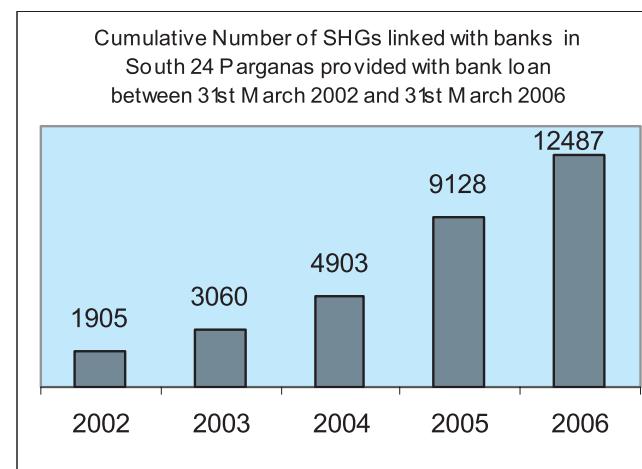
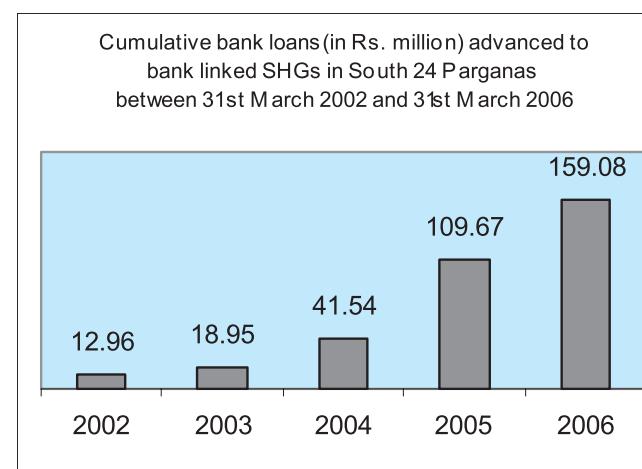


Figure 4.14: Amount of Bank Loans to Linked SHGs



activities are most common among the *swarozgaris*. Within the primary sector livestock related activities have been very popular in the blocks of Budge Budge-II, Canning-I, Gosaba, Thakurpukur-Mahestala, Diamond Harbour-I, Magrahat-I, Magrahat-II and Mathurapur I and II. Village industry is a key activity of *swarozgaris* in the blocks of Diamond Harbour-I, Magrahat-I, Magrahat-II and Namkhana. Handicrafts are very common in Magrahat-II. Tailoring is

popular in Thakurpukur-Mahestala, Diamond Harbour-I and Magrahat-II.

Effective self-employment not only means choosing the right activity but also carrying out the activity in the right manner. Self-employment involves procurement of raw materials, production, marketing of goods and dealing with finance. A single Swarozgari may not be able to do all this by himself/herself. It is, therefore, advisable for the Swarozgaris to form

Groups – the Self-Help Groups. SGSY actively promotes Self-Help Groups. A Self-Help Group (SHG) may generally consist of 10-20 persons. Generally, all members of the Group should belong to families below the poverty line. However, if necessary, a maximum of 20%, and in exceptional cases, where essentially required, upto a maximum of 30% of the members in a Group may be from families marginally above the poverty line if they are

Box 4.3 : Uttar Jafarpur Mahila Machhchas Samabaya Samity - a success story

Uttar Jafarpur is a village in Falta where misionary brush making had been the main source of non-agricultural income in most of the households for a long time. In recent times the main occupation of the households has changed to culture of ornamental fish. The change has been gradual and successful. We take a glance backward to know how and why it happened.

Being inspired by other groups in the locality and of course, the representative of the Fisheries Department, 15 women proceeded to a society that would practice ornamental fish culture. They got registered with the Department of Fisheries as Uttar Jafarpur Machhchas Mahila Samabaya Samity Limited. Since then the success story of the society has attracted not only other women of the village but has also became a model to have been visited, praised and complemented by Honourable Members of Standing Committee of the State Legislative Assembly, the Commissioner of Fisheries of the Government of Tripura, Honourable Members of the IFAD team as also by many researchers from different research institutes including Delhi University. At present, there are 28 members in the society.

The society was assisted technically, financially as well as in kind by the government. All the members got training on ornamental fishery under RSVY scheme from the Fisheries Department. Six managing committee members of the society got Co-operative Management Training. The members were provided with the first dose of loan amounting to Rs. 67150 each, of which Rs. 40290 was loan and Rs. 26860 was the state government share. After repaying the entire amount of the first loan they received the second dose of assistance of Rs. 30,000 as well. The society also received requisites and inputs like oxygen cylinders, dry-food making tools, dry-food etc. worth Rs. 52,000.

The outcome of all these forms of assistance is worth mentioning. First of all, the financial condition of the member households was very poor initially. In the last three or four years, the income level of each of the member households has changed from around Rs. 1000 to Rs. 5000 per month. In fact, all the members have opened individual bank accounts in at the local State Bank. Some of the members could even get their lives insured with LIC. In general, the living standard of each member woman and member households has developed. It is, therefore, no wonder that even the male members of the member households of the society are being attracted and gradually getting engaged in supplying products of ornamental fish farms to different markets and agencies.

acceptable to BPL members of the Group. In order to involve rural women in the process, 50% of the SHGs are exclusively for women.

Financial Assistance under the SGSY to individual *swarozgaris* or Self-Help Groups is given in the form of subsidy by the Government and credit by the banks. Credit is the critical component of the SGSY, subsidy being a minor and enabling element. SGSY promotes multiple credit rather than one-time credit injection. Subsidy under the SGSY is uniform at 30 per cent of the project cost, subject to a maximum of Rs. 7500/- . In respect of SC/ STs and disabled persons, however, these are 50 per cent and Rs. 10,000/- respectively. For groups of *Swarozgaris* (SHGs), the subsidy would be 50 per cent of the project cost subject to per capita subsidy of Rs. 10,000/- or Rs. 1.25 lakh whichever is less. There is no monetary limit on subsidy for Irrigation Projects. Subsidy is back ended. It is financed on 75:25 cost sharing basis between the Centre and the States.

About 5 per cent of the total SHGs formed in the State under SGSY till date since its inception belong to the district of South 24 Parganas. For the 11928 groups formed in the district till January 2008, credit has been disbursed to the amount of Rs134.192 million in addition to the

subsidy component amounting to Rs. 93.038 million. Of the self-help groups formed in the district, about 57 per cent have been operative in the blocks of the Sundarbans. Maximum number of groups (1217) has been formed in Patharpratima against a minimum (63) in Thakurpurkurn-Mahestala (Table 4.22). Such group formation is found to be comparatively lower in the blocks closer to urban centres. About 53 per cent of the groups formed in the district are groups formed by women.

Right from the beginning, it is necessary that the SHGs should be nurtured carefully. The objective is to identify the weaknesses, if any, and help the group to overcome the same through training and capacity building inputs, so as to develop into a good group. So it is necessary to subject each Self-Help Group to a test to assess whether it has evolved into a good group and is ready to go into the next stage of evolution. This is done through a grading exercise carried out at different stages.

The formation stage lasts for about six months or more depending upon the literacy, awareness levels, socio-economic background of the people being organised, as well as the capacity of the facilitator involved in the process of social mobilization and Group formation. At the end of the formation stage the groups are subjected to first grading immediately.

Indicators of evaluation considered for Grade I include regularity of meetings and attendance rate of the members in the meeting, transparency of rules of the group, regularity of savings and the share of savings forwarded as loan, repayment rate, maintenance of accounts, involvement in social activities, and presence in the meetings of assistants. A group scoring 60% in the evaluation process passes grade I. At this stage the group can open cash-credit account to the limit of four times the group corpus in the concerned bank. Also DRDC provides them with revolving fund of Rs. 5000. Small productive investments can be made by the group with credit obtained at this stage. Six months after the first evaluation, the group is liable to the second stage of evaluation called Grade II. For grade II, in addition to evaluation of indicators for Grade I, it is seen whether revolving fund has been rightly utilised, loan and repayment of loan is satisfactory or not, whether full knowledge has been obtained about the project and transactions with the bank. Groups scoring 80% or more pass Grade II and enters the third stage, wherein it receives credit from the bank as well as additional Revolving Fund to undertake major investment projects.

About 66 per cent of the groups in this district have passed Grade I. So 7876 number of groups were availing small credit

while 14 per cent passing Grade II could avail credit for major investment in production rather than consumption. However, only 9 per cent of the groups passing Grade I and 3 per cent of the groups passing Grade II have taken up economic activities. Though larger number of groups have been formed in the Sundarbans but in terms of taking up economic activities, Region II has been far more efficient. In fact 85 per cent and 47 per cent of the groups taking up economic activities after passing Grade I and Grade II respectively are from Region II. So, there is further scope of overcoming the problems of weak groups so that they can take up more and more economic activities successfully.

b. National Rural Employment Guarantee Act, 2005

NREGA, 2005 is an Act to provide for the enhancement of livelihood security of the households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work and for matters connected therewith or incidental thereto. Unlike any other government scheme, it gives a *legal guarantee of wage employment*. Every person who has done the work given to him under the Scheme is entitled to receive

Table 4.22: Block-wise Physical Progress of SGSY upto January 2008 since April 1999

Block	No. of SHGs formed	No. of SHGs passed Grade I	No. of SHGs passed Grade II	Number of SHGs taken up economic activities		No. of women SHGs formed
				Grade I	Grade II	
Thakurpukur Maheshtala	63	45	16	0	7	39
Budge Budge I	130	107	29	0	13	75
Budge Budge II	221	166	16	0	6	139
Bishnupur-I	376	280	19	0	1	187
Bishnupur II	218	204	54	0	22	137
Sonarpur	134	48	9	0	0	76
Region I	1142	850	143	0	49	652
Baruipur	423	304	25	142	13	243
Bhangar I	541	419	74	312	0	323
Bhangar II	233	79	3	32	0	127
Falta	374	209	11	0	2	228
Diamond Harbour I	353	360	90	32	48	188
Diamond Harbour II	281	238	80	0	49	181
Magrahat I	325	279	54	0	12	205
Magrahat II	868	670	135	355	38	503
Kulpi	449	437	95	0	16	276
Mandirbazar	121	30	14	0	0	52
Region II	3968	3025	581	873	178	2327
Canning I	348	145	47	0	17	201
Canning II	259	101	0	0	0	100
Basanti	432	168	11	85	5	151
Gosaba	681	353	95	0	13	389
Joynagar I	430	328	23	0	0	263
Joynagar II	628	430	57	14	29	302
Mathurapur I	419	177	16	0	13	142
Mathurapur II	419	298	10	0	6	195
Kultali	374	272	66	0	0	192
Patharpratima	1217	853	305	0	28	687
Kakdwip	614	321	96	0	6	281
Namkhana	592	319	187	33	27	262
Sagar	405	236	80	20	9	184
Region III	6818	4001	993	152	153	3347
TOTAL	11928	7876	1717	1025	380	6327

Source: DRDC, South 24 Parganas Zilla Parishad

Table 4.23 : Progress of NREGA in South 24 Parganas between April 2007 and January 2008

Blocks	No. of Applications Registered	No. of Job Cards issued	Demand for Employment		Employment Provided		No. of Works		Expenditure (in Rs. Lakhs)	No. of Man-days Created (in Lakh)
			No. of Households	No. of Individuals	No. of Households	No. of Individuals	Completed	In progress		
Thakurpukur-Maheshtala	4231	3847	642	657	642	657	17	7	8.42	0.087
Budge Budge I	6167	5907	1097	1106	1097	1106	21	4	10.57	0.092
Budge Budge II	21512	19051	7908	8514	7622	8189	46	106	58.84	0.638
Bishnupur I	17285	14365	1391	1555	1391	1555	16	45	16.94	0.159
Bishnupur II	16171	12764	2346	2346	2346	2346	29	33	30.26	0.315
Sonarpur	15082	12357	3736	4078	3736	4078	27	27	41.05	0.466
Region I	80448	68291	17120	18256	16834	17931	156	222	166.08	1.757
Baruipur	27895	26767	7719	12480	7719	12480	54	100	50.54	0.571
Bhangar I	16712	15049	4131	4258	4042	4172	34	40	41.34	0.439
Bhangar II	23024	21093	5802	5857	5802	5857	37	29	41.4	0.494
Falta	20284	19969	6316	15794	6316	15794	29	68	45.42	0.599
Diamond Harbour I	12352	12120	1914	3454	1914	3454	34	25	30.95	0.322
Diamond Harbour II	21285	21285	7328	7525	7253	7434	101	77	82.45	0.726
Magrahat I	22144	18237	4591	3969	3501	3289	21	22	37.49	0.368
Magrahat II	12591	12032	2510	2773	2351	2620	70	48	37.35	0.297
Kulpi	30824	29115	12029	20424	9329	17442	111	81	100.81	1.096
Mandirbazar	20757	20288	3855	4766	3625	4066	22	92	70.95	0.478
Region II	207868	195955	56195	81300	51852	76608	513	582	539	5.388
Canning I	19596	18341	6224	7492	6204	7443	30	11	61.25	0.741
Canning II	17241	12520	6992	10100	6611	6514	31	26	61.48	0.816
Basanti	33017	29382	7198	11578	7078	11485	35	44	41.83	0.579
Gosaba	40096	37737	15744	17625	15700	17581	78	57	93.3	1.297
Joynagar I	32031	25592	12420	12420	8143	8143	107	72	38.36	0.478
Joynagar II	26370	24126	6534	8169	6534	8169	76	20	73.1	1.041
Mathurapur I	23654	23114	15004	24899	15004	24899	60	35	85.51	0.894
Mathurapur II	34604	33711	17816	26983	10435	20970	135	51	149.35	1.256
Kultali	30338	28387	29267	57603	28466	46350	130	72	161.37	2.405
Patharpratima	52709	50083	32645	40563	31870	40330	430	317	630.94	8.331
Kakdwip	28495	27169	14175	17435	14054	17286	198	84	266.11	3.015
Namkhana	27922	26381	11038	12730	11038	12730	314	141	295.59	3.233
Sagar	25817	25817	12405	16271	12405	16271	72	73	175.46	2.034
Region III	391890	362360	187462	263868	173542	238171	1696	1003	2133.7	26.12
Total	680206	626606	260777	363424	242228	332710	2365	1807	2838.4	33.266

Source: NREGA Cell, South 24 Parganas

Box 4.4: Taramoni's day out

Taramoni Das of Bibir Chowk village is an illiterate middle-aged woman who lives with her husband, two children and mother-in-law. Bibir Chowk is a village in Langalberia Gram Panchayat of Sonarpur Block. Taramoni's husband is illiterate and works as a daily casual labour who doesn't have any year-round employment. Both the children go to school – the boy studies in Class VII and the girl in Class III in local government schools. Taramoni wants her children to get proper education. Fluctuation in her family income due to the casual nature of employment for her husband compels Taramoni to look for supplemental income to ensure her children's education. Without any specialized skill, the only opportunity for Taramoni is to work as a daily labourer in the guava orchards of the locality at wage as low as Rs. 50 per day. But, even this opportunity is seasonal and comes only when the guava crop is harvested.

When we met Taramoni on January 30, 2008, she was working along with her mother-in-law Gouri Devi and 300 others in a project taken up jointly by the Gram Panchayat and Panchayat Samiti under National Rural Employment Guarantee Scheme. A pond on nine bighas of vested land, locally known as Heduapukur, was being dug and renovated by 300 workers – all of whom were poor residents of the area. Forty per cent of the labourers were women. Both men and women worked at a daily wage of Rs. 75. Each male labourer was supposed to dig and clear 88 cubic feet of mud and soil daily to earn his wage while each female worker was made responsible for clearing 75 cubic feet of soil. When we turned up at Heduapukur, the elected Gram Panchayat members were present at the site and inspecting the work. A conversation with one of them revealed that the Panchayat was planning for beautification of the pond and the surrounding area. A sweet-water fishery organized on co-operative basis by the local Self-Help Groups for income generation was one of the objectives behind the project. In an adjacent plot which is also vested, the Panchayat planned to develop a picnic spot with all the necessary facilities for renting out. This, the Panchayat members hoped, would somewhat enhance the GP's own revenue collection.

When we asked Taramoni whether she would be talking to us for a minute, she came up from the pond being covered in mud. She was toiling hard and earning little, but her face revealed that she was happy with her work. She expected to continue with the work for at least thirty days. The Panchayat member seconded this by stating that Rs. 10 lakh had already been sanctioned for the project most of which would be spent in labour payment. The Gram Panchayat was trying to get more funds from the upper tiers. Taramoni said that winter is a lean season for guava crop and it was very hard to find other work. So it was very good that the Panchayat took the initiative for the project which provided many like her the opportunity to earn some money for the family. She hoped for more initiatives like this in future. Her peers - among whom there was her mother-in-law, Gouri Devi-called her back to work and she joined them carrying her *jhora* (a bamboo basket). They started carrying loads of soil on a relay basis while laughing and joking among themselves. It was indeed a happy sight that NREGS - a Government programme – was bringing smiles to poor women like Taramoni.

wages at the wage rate for each day of work on a weekly basis or in any case not later than a fortnight after the date on which such work is done. The Panchayats at district, intermediate and village levels are the principal authorities for planning and implementation of the Schemes made under this Act. Any adult living in rural areas can apply for work. That is, the benefits of the Act are not restricted to households living below the poverty line.

The two steps followed to apply for work are: first, a household has to register with the gram panchayat. Then the adult members of the household have to apply for work. While registration of the household must be done only once every five years, individual applications for work have to be submitted each time work is sought. After registration of the household, a job card is issued to the household. This card records details of the number of days a person has

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worked, wages received, unemployment allowances received, and so on. Applications for work are submitted to the applicant's gram panchayat or the state employment guarantee scheme's block-level programme officer. If an applicant for employment under the Scheme is not provided with such employment within fifteen days of receipt of his / her application seeking employment or from the date on which the employment has been sought in the case of an advance application, whichever is later, he is entitled to a daily unemployment allowance.

So far as the district of South 24 Parganas is concerned, much is yet to be achieved in terms of employment generation under this Act in this district. Only 2.6 lakhs of households in the district have demanded employment in a period of ten months between April 2007 and January 2008, whereas according to RHS 2005, there were about 4.2 lakhs households below poverty line in the district. Though NREGA is not meant for BPL households only but the number of households that are demanding such employment is not even equal to the number of BPL households in the district. Demand for employment and creation of employment through NREGA has been much higher in Region III compared to Region I or II. Per household

employment generated in Region III has been 15.05 mandays in the given period as compared to 10.44 mandays in Region I or 10.39 mandays in Region II.

A possible explanation for comparatively lower demand for employment under NREGA seems to be the fact that a minimum wage of Rs. 75 per manday would mean average yearly income of Rs. 7500 per household which is Rs. 625 per month per household at present minimum wage is Rs. 81 per manday. Such income can only be the supplement of the household income from some other form of stable income. It is instead natural for the household members to move in search of some form of regular income and smooth out the risk rather than wait and demand for such irregular type of employment. Perhaps that is the reason that only about one-third of the households registering their application have finally demanded such employment. Households from blocks of the Sundarbans have actually opted more for such employment due to the absence of other type of employment. Almost hundred per cent of the households demanding such employment have been provided with work though it was far below the targeted level of hundred mandays. This is where government intervention is strongly required so that the possibility of employment generation under this Act be fully exhausted.

4.6 Concluding Comments

The livelihood patterns in an area often depend on its prevailing economic, social and geographic characteristics. The district of South 24 Parganas is no exception and, due to the wide variation in topography of the district, the employment opportunities are different in different regions. Only 16 per cent of the district population resides in the urban areas. Among the rest, a large section, particularly in thirteen of the twenty nine blocks of the Sundarbans, lives in the riverine villages. While the blocks close to Kolkata metropolis have greater dependence on non-farm employment, dependence on agriculture and allied activities increases as one moves farther south.

Agriculture in the district is turning out to be gradually unremunerative, high dependence on which is often leading to poverty. As a result, decline in the agricultural workforce is observed in the district. This in no way means that the potential of agriculture is exhausted in the district. There are constraints in agriculture which can be overcome in the future. Emphasis needs to be given particularly on making irrigation facilities available. In the absence of any such initiative to improve the return from agriculture, people are shifting towards other means of income in the non-agricultural sector. So a process of structural transformation is taking place in the district. However, it is indeed a matter of concern that this process is mostly towards a vulnerable low return non-agricultural sector. This together with the

crisis in returns to agriculture poses serious challenge to the development process of the district. Of course, besides improving the condition of agriculture, there are other areas of prospect and potential which need to be tapped immediately.

The importance of better communication network between the rural areas and the urban centers in promoting rural employment has also been revealed by our study. The existence of such a network can, on the one hand, allow 'temporary migration' between the rural and urban areas and, on the other, can lead to better marketing channels of the rural products. We also found the successful existence of sub-contracting in the areas that were in the urban proximity. Such vertical integration of industries can be emphasized further only when the transport and communication network between the villages and the closest industrial centers are good enough.

Among alternative sources of employment and livelihood, pisciculture is an area which already employs a large number of people, but large unutilized capacity still remains. Horticulture is another area that can be developed into a very remunerative employment generating activity with proper infrastructure development. The Sundarbans being a World Heritage Site, there is a lot of interest and if proper facilities are developed in an eco-friendly manner, tourism industry with have a huge potential in the district.

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Literacy and Education in the District

5.1 Introduction

Education is a human right. Education is essential for human emancipation and social development. It contributes to better health, higher productivity, greater income, human freedom, capability and esteemed living, increased participation in community life. Education is the single best development investment and a powerful instrument to develop an economically prosperous society. The long term social and economic return from education is enormous.

Education, as articulated in National Policy on Education (1986), is a “dynamic, cumulative, life long process providing diversity of learning opportunities to all

segments of society.” The Human Development Reports (HDR) published by United Nations Development Programme (UNDP) stress upon the importance of education in human development. The basic underpinning behind the concept of human development is that the income centered understanding of human development cannot manifest the actual development scenario and needs to be attended by other aspects such as education. The Human Development Index (HDI) uses literacy rate and school enrolment rate to develop an index of education. The literacy rate is given a two-third and school enrolment rate a one-third weightage in formulating the index.

5.2 Education Scenario in South 24 Parganas vis-à-vis Other Districts of West Bengal: A Consistent Mediocrity

The literacy rate in South 24 Parganas as per Census 2001 is higher than the literacy rate of West Bengal. The literacy rate in the district fell short of the state literacy rate in 1991.

But an impressive decadal movement during 1991-2001 has raised the literacy

Table 5.1: Literacy Rate: The State and the District

State/District	Literacy Rate (Excluding 0-6 Population) in Percentage 1991			Literacy Rate (Excluding 0-6 Population) in Percentage 2001			Percentage Point Change in Literacy Rate (Excluding 0-6 Population) during 1991-2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
West Bengal	57.70	67.81	46.56	69.22	77.58	60.22	11.52	9.77	13.66
South 24 Parganas	55.10	68.45	40.57	70.16	79.89	59.73	15.06	11.44	19.16

Source: Census, 1991 and 2001

Table 5.2: Education Scenario of South 24 Parganas vis-à-vis Other Districts of West Bengal

District	HDI Rank for 2004	Education Scenario in the Districts of West Bengal							
		Literacy Rate (Excluding 0-6 Population) in Percentage *				School Enrolment Rate in Percentage **			
		Male Rank in ()	Female Rank in ()	Gender Gap Rank in ()	Person Rank in ()	Male Rank in ()	Female Rank in ()	Gender Gap Rank in ()	Person Rank in ()
Kolkata	1	84.07 (3)	77.92 (1)	6.15 (1)	81.31 (1)	77.80 (1)	66.80 (3)	11.00 (10)	72.30 (1)
Howrah	2	83.68 (4)	70.93 (3)	12.75 (4)	77.64 (3)	73.80 (3)	63.30 (5)	10.50 (9)	68.50 (5)
North 24 Parganas	3	84.35 (2)	72.13 (2)	12.22 (2)	78.49 (2)	72.60 (4)	66.50 (4)	6.10 (2)	69.60 (4)
Darjeeling	4	81.28 (6)	63.92 (6)	17.36 (7)	72.87 (6)	71.50 (5)	68.80 (1)	2.70 (1)	70.10 (3)
Burdwan	5	79.30 (8)	61.93 (7)	17.37 (8)	71.00 (7)	64.90 (12)	56.80 (8)	8.10 (5)	60.80 (9)
Hooghly	6	83.05 (5)	67.72 (4)	15.33 (6)	75.59 (4)	71.20 (6)	61.70 (6)	9.50 (7)	66.40 (6)
Medinipur	7	85.25 (1)	64.63 (5)	20.62 (14)	75.17 (5)	74.40 (2)	67.00 (2)	7.40 (3)	70.70 (2)
South 24 Parganas	8	79.89 (7)	59.73 (9)	20.16 (13)	70.16 (8)	69.60 (7)	56.40 (9)	13.20 (11)	63.00 (8)
Nadia	9	72.67 (14)	60.06 (8)	12.61 (3)	66.55 (10)	68.00 (9)	60.30 (7)	7.70 (4)	64.10 (7)
Jalpaiguri	10	73.64 (12)	52.90 (12)	20.74 (15)	63.62 (13)	60.60 (14)	43.20 (13)	17.40 (14)	51.90 (14)
Bankura	11	77.21 (9)	49.80 (14)	27.41 (17)	63.84 (12)	69.40 (8)	51.90 (11)	17.50 (15)	60.60 (10)
Coochbehar	11	76.83 (10)	57.04 (10)	19.79 (12)	67.21 (9)	65.70 (11)	51.90 (11)	13.80 (12)	58.80 (11)
Dinajpur	N	59.27 (17)	37.16 (17)	22.11 (16)	48.63 (18)	57.20 (15)	42.00 (14)	15.20 (13)	49.60 (16)
	S	73.30 (13)	55.12 (11)	18.18 (10)	64.46 (11)	N.A.	N.A.	N.A.	N.A.
Birbhum	14	71.57 (15)	52.21 (13)	19.36 (11)	62.16 (14)	62.50 (13)	52.50 (10)	10.00 (8)	57.50 (12)
Murshidabad	15	61.40 (16)	48.33 (15)	13.07 (5)	55.05 (16)	53.90 (16)	45.80 (12)	8.10 (5)	49.80 (15)
Purulia	16	74.18 (11)	37.15 (18)	37.03 (18)	56.14 (15)	66.20 (10)	42.00 (14)	24.20 (16)	54.10 (13)
Malda	17	59.24 (18)	41.67 (16)	17.57 (9)	50.71 (17)	45.90 (17)	37.20 (15)	8.70 (6)	41.50 (17)

Source: West Bengal Human Development Report 2004.

N: North, S: South, N.A.: Not Available

* Census 2001; **Derived from Central Sample data of the NSS for the 55th Round (1999-2000)

Ranks are calculated for a list of 17 districts of West Bengal. The highest in each case except gender gap is ranked 1. The lowest is ranked 1 in case of gender gap.

rate of South 24 Parganas above the state level in 2001. The most satisfactory development was in female literacy rate. Whereas female literacy rate in 1991 was far below the state average, an almost 20 percent point rise in female literacy rate in the district has pushed it near the state average in 2001. The decadal percentage point increase in male and female literacy rate in the district was higher than the increase in male and female literacy rate registered in the state during the same period. The district recorded a higher decadal percentage point increase in literacy from 55.10 per cent in 1991 to 70.16 per cent in 2001. The state literacy level increased from 57.7 per cent in 1991 to 69.2 per cent in 2001. The district observed a note-worthy decrease in gender gap in literacy during the decade.

The West Bengal Human Development Report (2004), following the UNDP HDR, used literacy and school enrolment rate as parameters of education to formulate education index for West Bengal. The performance of the district is near the average when compared to other districts of West Bengal. The district was ranked 8th in

terms of overall human development index. The district also stood 8th in respect of both the parameters of education i.e. the literacy rate and the school enrolment rate. Though the comparative position is not favourable, a ray of hope is seen, when the decadal performance of the district is analysed. A comparative study among 18 districts of West Bengal reveals that the decadal percentage point improvement in female literacy in South 24 Parganas ranks 4th highest. The change in overall literacy during the decade is also worth mentioning and is 5th highest amongst the districts of West Bengal.

The West Bengal Human Development Report (2004) found two aspects of education that needs careful policy intervention in the district. Both for literacy and enrolment, the gender gap measured by male female difference, is alarmingly high in the district. It is observed that gender disparity for these two parameters is wider

Table 5.3: Literacy Rates among SCs and STs of South 24 Parganas vis-a-vis Some Other Districts of West Bengal

District	Literacy Rate in Percentage among Scheduled Castes(2001)		Literacy Rate in Percentage among Scheduled Tribes(2001)	
	Male Rank in ()	Female Rank in ()	Male Rank in ()	Female Rank in ()
Kolkata	63.51	47.25 (1)	64.30 (1)	42.00 (1)
Medinipur	68.66 (1)	39.75	55.57	24.56
South 24 Parganas	64.99 (2)	33.44 (5)	36.43 (11)	12.14 (12)

Source: West Bengal Human Development Report 2004

Ranks are calculated for a list of 18 districts of West Bengal. The highest is ranked 1.

when compared to many other districts of West Bengal. Another alarming observation is the low rate of literacy among the underprivileged classes specially the STs.

The district is outperformed on the said two fronts by the contiguous districts e.g. Kolkata, Howrah, North 24 Parganas and Medinipur.

5.3 The State of Elementary Education: An Inter Regional Comparison

Literacy and basic schooling liberate people. They impart skills and confidence and change the lifestyle of learners. They are instrumental in reducing sense of insecurity carried by an illiterate person. Elementary education can be very important to get gainful employment. Literate people are more vocal and are more capable of invoking their rights. Basic education for women is vital as it has a multiplier effect on social development. Women's education influences women's ability to earn independently, to find employment outside the home, and, to gain decision making power within and outside family. Women's literacy and elementary education control fertility rate, mortality rate of children, gender disparity within the family. Educated women marry later and are more likely to send their own children to schools.

It is obvious that any district level development initiative is directed by the

policies taken at the state level. The state of West Bengal has long been spending a sizeable proportion of the budget on education. The central programmes on literacy and elementary education are earnestly implemented. The literacy movement has also been taken as a political movement in the state. Though there are variations across districts, this has led to increase in literacy at a rapid rate and the district of South 24 Parganas has really proved it.

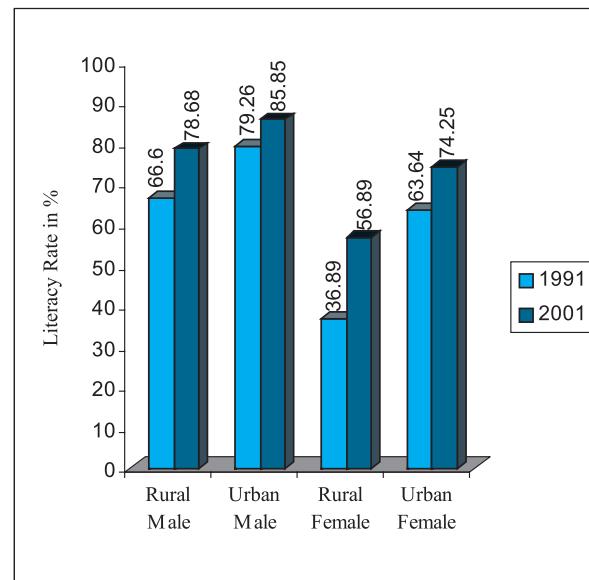
5.3.1. Literacy

The most authentic estimates of block and municipality level literacy are obtained from the Census reports. The latest Census report (2001) found the literacy rate in the district to be 70.16 percent. The male literacy rate of 79.89 percent, is predictably higher than the female literacy rate, which is 59.73 percent. The most spectacular improvement in literacy during 1991-2001

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was observed in respect of rural females (Figure 5.1). An analysis of the decadal growth (1991-2001) of literacy rate reveals that 21 among 29 blocks and 1 among 7 municipalities registered more than 15 percentage point increase in literacy rate (Table 5.4). Municipalities generally are far ahead than blocks in terms of literacy rate indicative of a substantial rural urban gap. Surprisingly, decadal performance in some municipal areas is not worth mentioning. Whereas Rajpur Sonarpur municipality registered only 1.63 percentage point increase during 1991-2001, literacy rate in Maheshtala municipality actually went downward. The administrative reorganisation of the municipality might be the cause of fall in literacy. No remarkable change in the relative position of the municipalities has been seen during 1991 and 2001. Whereas Baruipur, Rajpur-Sonarpur and Maheshtala municipalities were the forerunners in 1991, only Baruipur and Rajpur-Sonarpur retained their positions in 2001. The best percentage point increase of 21.74 percent in literacy rate among municipalities was achieved by Pujali municipality. But the achievement was not enough to raise the

Figure 5.1: Changes in Literacy Rate in the District during 1991-2001



relative position of the municipality. Pujali, among municipalities of the district, remained at the bottom in 1991 as well as in 2001.

So far as the blocks of the district are concerned, the blocks of the Sunderban region excepting Sagar and Namkhana are the worst performers in terms of literacy. The situation has not changed much during the decade of 1991-2001. All 5 worst performing blocks, in 1991 and 2001, were in the Sunderban region. Though literacy performance in blocks of Sunderban is poor, all blocks of Sunderban other than Sagar and Mathurapur-I registered a 15

Table 5.4: Changes in Literacy Rate in the Blocks and Municipalities of South 24 Parganas during 1991–2001

Region	Block/ Municipality (M)	Literacy Rate (Excluding 0-6 Population) in Percentage as per Census 1991							
		Male	Rank	Female	Rank	Gender Gap	Rank	Person	Rank
Region-I North West (Kolkata Surroundings)	Thakurpukur- Maheshtala	72.19	11	48.94	9	23.25	11	61.14	10
	Budge Budge -I	68.58	17	47.30	10	21.28	8	58.39	14
	Budge Budge -II	68.52	18	45.39	13	23.13	10	57.41	15
	Bishnupur-I	67.85	22	37.50	22	30.35	22	53.26	20
	Bishnupur-II	70.81	13	46.23	12	24.58	13	59.00	12
	Maheshtala (M)	87.60	3	72.05	3	15.55	5	80.36	3
	Budge Budge (M)	74.06	8	60.78	6	13.28	2	68.43	6
	Pujali (M)	54.88	34	41.17	17	13.71	3	48.61	29
	Sonarpur	73.09	9	50.08	7	23.01	9	62.25	8
	Rajpur Sonarpur(M)	90.23	2	77.38	1	12.85	1	84.05	2
Region-II North East and Mid West	Baruipur	67.63	24	40.31	18	27.32	17	54.54	17
	Baruipur (M)	90.93	1	77.11	2	13.82	4	84.33	1
	Bhangar-I	56.97	32	29.89	31	27.08	16	43.90	31
	Bhangar-II	56.27	33	32.44	30	23.83	12	44.82	30
	Falta	73.03	10	45.27	14	27.76	18	59.68	11
	Diamond Harbour-I	70.11	14	41.71	16	28.40	19	56.48	16
	Diamond Harbour-II	71.20	12	45.13	15	26.07	14	58.59	13
	Diamond Harbour(M)	82.23	5	63.26	5	18.97	7	73.09	5
	Magrahat-I	65.63	28	38.98	19	26.65	15	52.86	22
	Magrahat-II	66.17	27	34.52	26	31.65	27	50.99	28
	Kulpi	67.91	21	35.04	24	32.87	30	52.01	24
	Mandirbazar	68.10	20	33.60	29	34.50	33	51.50	26
Region-III South (Sunderbans)	Canning-I	59.21	30	25.38	32	33.83	31	42.81	32
	Canning-II	48.25	36	17.60	36	30.65	24	33.32	36
	Basanti	54.63	35	24.13	33	30.50	23	39.88	35
	Gosaba	67.69	23	38.47	20	29.22	20	53.61	19
	Joynagar-I	66.78	26	34.35	27	32.43	29	51.26	27
	Joynagar-II	59.44	29	22.80	34	36.64	35	41.81	33
	Joynagar Mazilpur(M)	83.88	4	66.48	4	17.40	6	75.51	4
	Mathurapur-I	68.42	19	33.93	28	34.49	32	51.79	25
	Mathurapur-II	69.44	16	34.67	25	34.77	34	52.87	21
	Kultali	58.93	31	22.01	35	36.92	36	41.16	34
	Patharpratima	69.67	15	37.80	21	31.87	28	54.15	18
	Kakdwip	67.22	25	36.14	23	31.08	25	52.14	23
	Namkhana	77.39	7	46.30	11	31.09	26	62.24	9
	Sagar	79.62	6	49.61	8	30.01	21	65.05	7
Total		68.45	—	40.57	—	27.88	—	55.10	—

Table 5.4 contd.

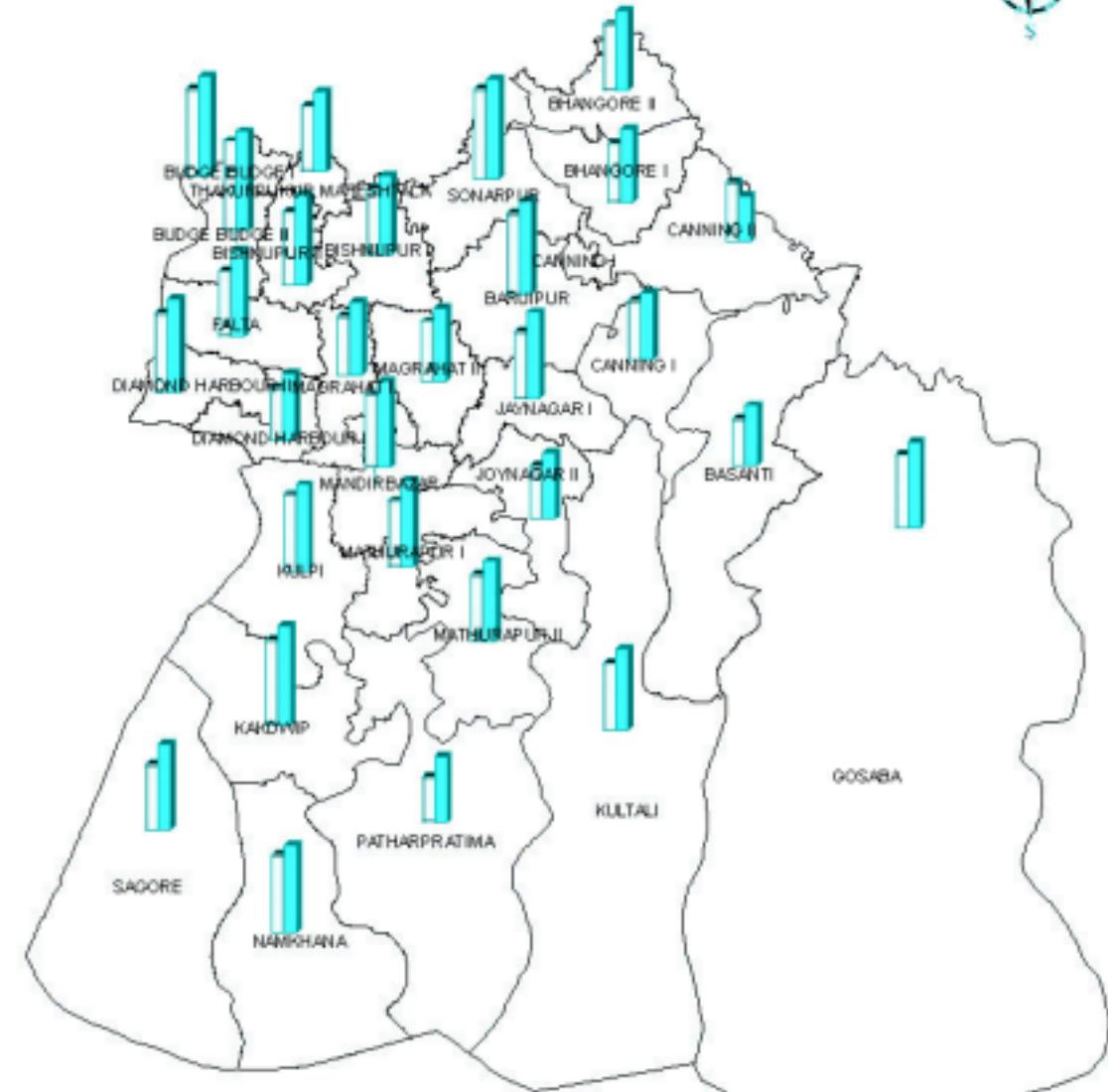
Region	Block/ Municipality (M)	Literacy Rate (Excluding 0-6 Population) in Percentage as per Census 2001								
		Male	Rank	Female	Rank	Gender Gap	Rank	Person	Rank	Percent- age Point Change over Decade in Aggre- gate Literacy Rate
Region-I North West (Kolkata Surroundings)	Thakurpukur Maheshtala	82.62	10	67.64	9	14.98	8	75.36	9	14.22
	Budge Budge -I	82.05	14	66.28	10	15.77	10	74.54	10	16.15
	Budge Budge -II	80.98	18	64.94	12	16.04	11	73.30	13	15.89
	Bishnupur-I	82.71	9	60.72	18	21.99	22	72.10	15	18.84
	Bishnupur-II Maheshtala (M)	82.62 82.78	10 8	65.39 70.98	11 6	17.23 11.80	12 5	74.27 77.21	11 8	15.27 -3.15
	Budge Budge (M)	82.46	12	71.81	5	10.65	2	77.69	7	9.26
	Pujali (M)	77.15	29	62.91	13	14.24	7	70.35	19	21.74
	Sonarpur	80.47	19	61.40	16	19.07	16	71.16	18	8.91
	Rajpur Sonarpur(M)	91.19	2	79.81	2	11.38	3	85.68	2	1.63
	Baruipur	78.79	22	60.09	19	18.70	15	69.77	20	15.23
Region-II North East and Mid West	Baruipur (M)	93.66	1	89.45	1	4.21	1	91.61	1	7.28
	Bhangar-I	70.59	34	52.04	31	18.55	14	61.57	31	17.67
	Bhangar-II	73.88	31	58.57	21	15.31	9	66.52	28	21.70
	Falta	81.98	15	62.57	14	19.41	17	72.61	14	12.93
	Diamond Harbour-I	77.17	28	57.69	22	19.48	18	67.81	25	11.33
	Diamond Harbour-II	79.91	20	62.04	15	17.87	13	71.20	17	12.61
	Diamond Harbour(M)	85.83	6	74.29	4	11.54	4	80.21	4	7.12
	Magrahat-I	78.49	23	57.50	23	20.99	21	68.35	24	15.49
	Magrahat-II	78.38	24	56.32	25	22.06	23	67.72	26	16.73
	Kulpi	79.85	21	56.16	26	23.69	27	68.38	23	16.37
	Mandirbazar	78.27	25	53.68	29	24.59	30	66.40	29	14.90
	Canning-I	73.24	32	48.53	32	24.71	33	61.23	32	18.42
	Canning-II	64.43	36	40.35	36	24.08	29	52.72	36	19.40
	Basanti	70.12	35	45.48	35	24.64	31	58.12	35	18.24
	Gosaba	81.39	16	57.43	24	23.96	28	69.67	21	16.06
Region-III South (Sunderbans)	Joynagar-I	78.01	26	54.40	28	23.61	25	66.67	27	15.41
	Joynagar-II	72.99	33	46.21	33	26.78	35	60.09	34	18.28
	Joynagar Mazilpur(M)	90.77	3	78.15	3	12.62	6	84.64	3	9.13
	Mathurapur-I	77.88	27	53.19	30	24.69	32	66.00	30	14.21
	Mathurapur-II	81.03	17	55.85	27	25.18	34	68.94	22	16.07
	Kultali	74.90	30	45.56	34	29.34	36	60.81	33	19.65
	Patharpratima	84.99	7	61.31	17	23.68	26	73.44	12	19.29
	Kakdwip	82.22	13	59.86	20	22.36	24	71.35	16	19.21
	Namkhana	89.55	4	68.69	7	20.86	20	79.38	5	17.14
	Sagar	88.87	5	68.31	8	20.56	19	78.92	6	13.87
Total		79.89	—	59.73	—	20.16	—	70.16	—	15.06

Source: Census Reports 1991 and 2001.

Ranks are calculated for a list of 29 blocks and 7 municipalities of the district of South 24 Parganas. The highest in each case except gender gap is ranked 1. The lowest is ranked 1 in case of gender gap.

Figure 5.2: Changes in Literacy Rate in South 24 Parganas : 1991–2001

CHANGES IN THE LITERACY RATE IN SOUTH 24 PARGANAS



Legend

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- █ CENSUS_91
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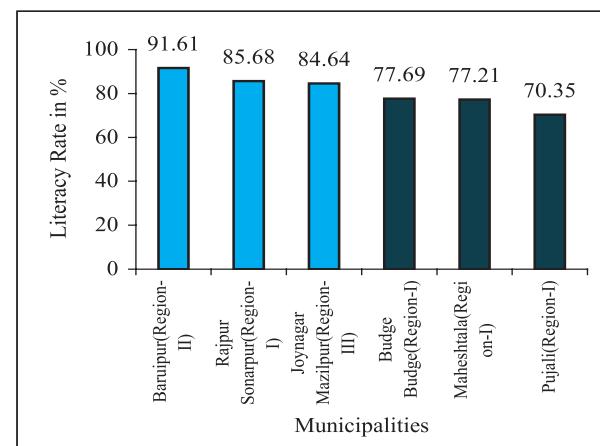
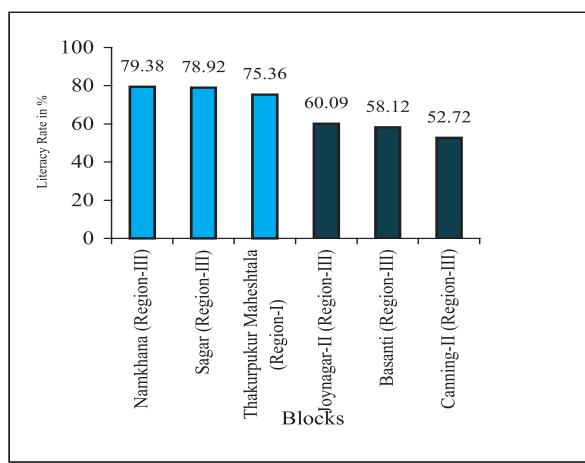
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percentage point increase in literacy during 1991-2001. Sagar and Namkhana were among the best five performing blocks amongst all blocks of the district as per both 1991 and 2001 census estimates. The two blocks ranked poorest in terms of standard of living are also positioned as worst two performers by literacy in 2001. These two blocks, Canning-II and Basanti, were the worst two performers by literacy in 1991 too. The Region of South 24 Parganas that surrounds the district of Kolkata, the district having the highest literacy rate in West Bengal, span between moderate to good performers. No block or

municipality in this region of South 24 Parganas is in the list of the last 15 in terms of literacy rate. One notable observation is that the blocks in the district are quietly catching up with municipalities in literacy achievement. Whereas there were no blocks in the best 5 performers list in 1991, Namkhana entered the list of best 5 in 2001 when all blocks and municipalities are considered together. Migration of a large section of people from the district of Medinipur to the blocks of Sagar and Namkhana and their positive attitude towards education may well be a reason for higher literacy rate in these areas.

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Figure 5.3: Literacy Rate (2001) in Blocks and Municipalities: Toppers and Backbenchers



Educationally Backward Blocks

Which?

- Canning-II, Basanti, Joynagar-II and Kultali.

Where?

- Sunderban.

Why?

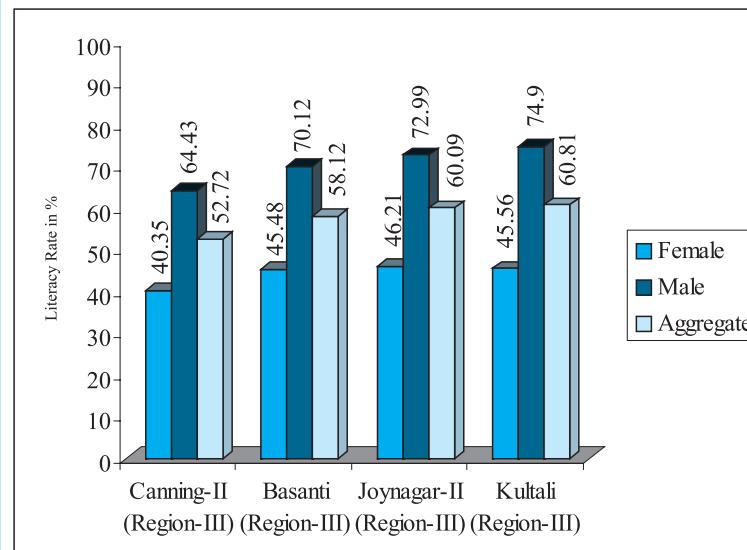
- Rural female literacy rate as per census estimate of 2001 is at most 46.21 per cent.
- Gender gap in literacy as per census estimate of 2001 is at least 24.08 per cent.

Not only in terms of rise in literacy rate, the district made considerable achievement in reducing inter-block/municipality variation in literacy rate. The difference in the maximum and minimum literacy rates achieved by different blocks and municipalities, represented by range of the estimates, fell from 51.01 in 1991 to 38.89 in 2001. The coefficient of variation, indicating the extent to which literacy rates in blocks and municipalities vary among themselves, fell from 21.32% in 1991 to 11.21% in 2001. This implies that areas having low literacy rate had been catching up with the areas having high literacy during 1991-2001.

5.3.2 Enrolment and Drop Out

Literacy improves enrolment. Literate parents are expected to send their children

Figure 5.4: Literacy Rate (2001) in Educationally Backward Blocks



for primary schooling. Primary schooling is almost free in the state and there has been improvement in support services for students such as free textbooks, uniforms, mid-day meal, health care facilities, etc. This has led to a substantial improvement in enrolment at the primary level. Enrolment data are often over-reported. There is also a chance that a particular student has enrolled in more than one institution. However, the achievement of the district in enrolling children cannot be disowned even though the data may be somewhat unreliable.

An indicator of enrolment at the primary level is the proportion of 5 to 8 age group children enrolled in schools. The enrolment of the age group increased from 91.91 percent in 2000-01 to 98.21 percent in 2006-07 (Table 5.5). Predictably enrolment rate for 9 to 14 age group children is lower

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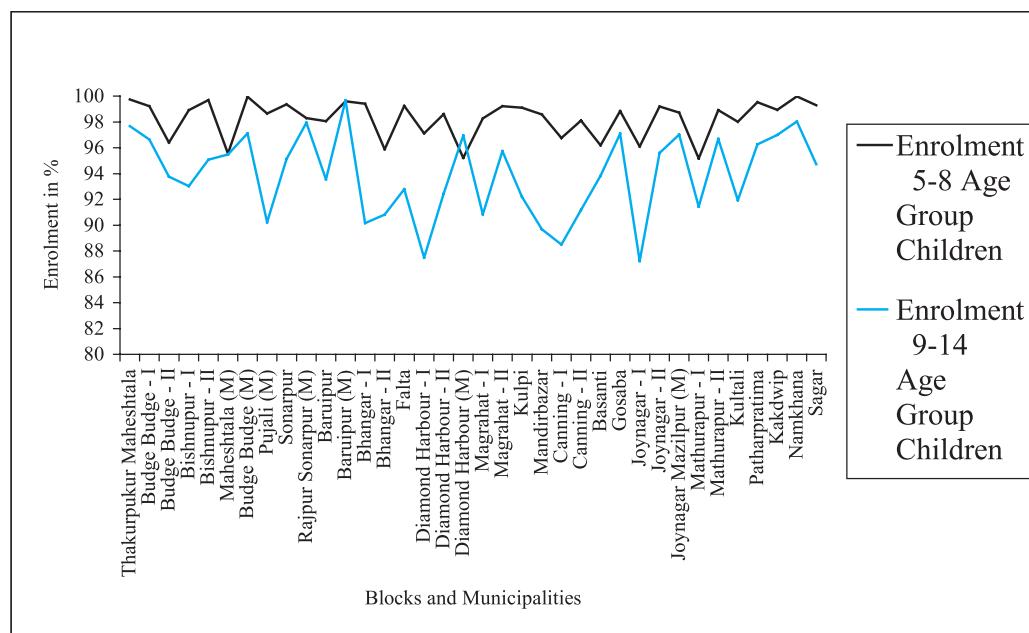
Table 5.5: Enrolment Rates in Percentage of 5-8 and 9-14 Age Group Children

Region	Block/ Municipality(M)	Enrolment Rate of 5-8 Age Group Children (2000-01)						Enrolment Rate of 5-8 Age Group Children (2006-07)		Enrolment Rate of 9-14 Age Group Children (2006-07)	
		Male	Rank	Female	Rank	Person	Rank	Person	Rank	Person	Rank
Region-I North West (Kolkata Surround- ings)	Thakurpukur Maheshtala	63.76	35	72.02	34	67.68	35	99.74	3	97.69	4
	Budge Budge -I	76.60	32	87.46	25	81.67	28	99.22	11	96.64	11
	Budge Budge -II	71.04	34	81.38	29	75.90	32	96.40	30	93.76	20
	Bishnupur -I	77.07	31	85.86	27	81.23	29	98.90	17	93.01	22
	Bishnupur -II	84.20	25	90.89	24	87.38	24	99.69	4	95.07	17
	Maheshtala (M)	84.74	24	78.43	30	81.82	27	95.56	34	95.49	15
	Budge Budge (M)	58.86	36	59.05	36	58.94	36	99.96	2	97.12	5
	Pujali (M)	81.96	27	77.88	31	80.05	30	98.66	20	90.22	31
	Sonarpur	75.69	33	76.10	32	75.89	33	99.37	8	95.12	16
Region-II North East and Mid West	Rajpur Sonarpur (M)	81.53	28	72.69	33	77.35	31	98.30	23	97.93	3
	Baruipur	91.26	20	95.84	22	93.42	20	98.06	26	93.53	21
	Baruipur (M)	83.75	26	85.42	28	84.55	26	99.59	5	99.66	1
	Bhangar-I	99.65	6	98.78	18	99.24	11	99.40	7	90.16	32
	Bhangar-II	95.77	18	99.47	9	97.52	16	95.87	33	90.82	30
	Falta	88.48	21	96.04	21	92.06	22	99.25	10	92.77	23
	Diamond Harbour -I	99.62	7	99.32	12	99.48	7	97.11	28	87.47	35
	Diamond Harbour -II	81.27	29	99.58	5	90.00	23	98.60	21	92.46	24
	Diamond Harbour (M)	79.28	30	71.22	35	75.45	34	95.22	35	96.94	9
	Magrahat-I	85.98	22	99.75	3	92.50	21	98.28	24	90.84	29
	Magrahat-II	99.81	1	99.52	7	99.67	4	99.21	12	95.75	13
Region-III South (Sunder bans)	Kulpi	99.43	10	98.98	17	99.22	12	99.10	14	92.18	25
	Mandirbazar	94.07	19	99.38	11	96.58	18	98.58	22	89.67	33
	Canning -I	95.81	17	95.35	23	95.59	19	96.75	29	88.50	34
	Canning -II	99.69	4	99.76	2	99.72	1	98.10	25	91.16	28
	Basanti	99.53	9	99.86	1	99.69	2	96.19	31	93.83	19
	Gosaba	85.36	23	86.10	26	85.71	25	98.85	18	97.10	6
	Joynagar-I	99.80	2	99.55	6	99.68	3	96.09	32	87.21	36
	Joynagar-II	99.79	3	99.28	13	99.55	5	99.20	13	95.60	14
	Joynagar	96.17	16	97.08	20	96.60	17	98.72	19	97.02	7
	Mazilpur (M)										
	Mathurapur-I	99.37	11	98.49	19	98.95	15	95.18	36	91.43	27
	Mathurapur-II	98.64	15	99.49	8	99.04	14	98.91	16	96.69	10

Source: Office of the District Project Officer, Sarva Siksha Abhiyan

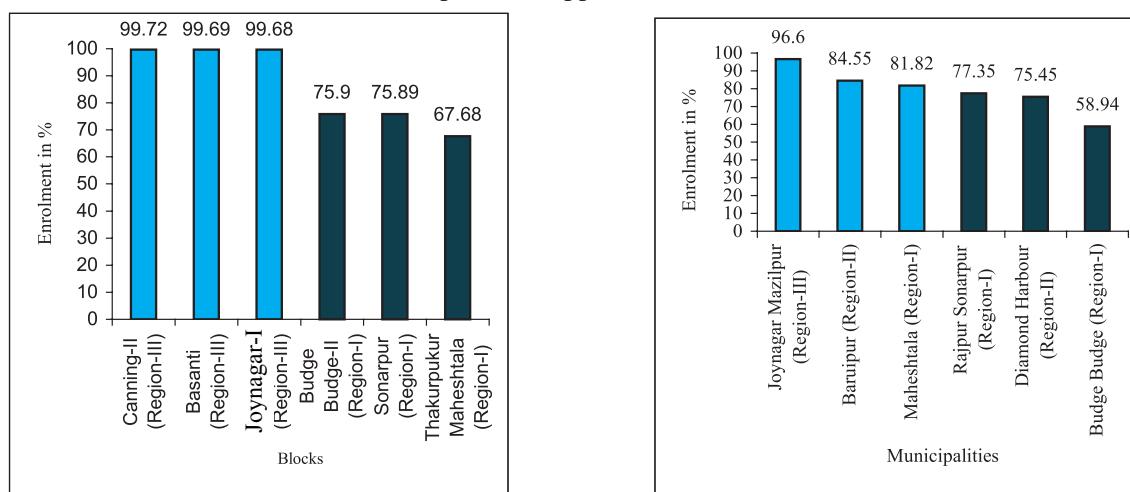
than the enrolment rate for the 5 to 8 age group children. The performance of the district in enrolment of 9 to 14 age group

children is also very promising. The estimate as per records of 2006-07 is 93.83 percent. Every block and

Figure 5.5: Enrolment Rates of Children in Blocks and Municipalities of the District (2006-07)

municipality in the district has an enrolment rate above 95 percent in respect of 5 to 8 age group children and above 85 percent in case of 9 to 14 age group children as per the estimates obtained in 2006-07. The inter-block/municipality variation in enrolment is smaller when compared to inter-block/municipality

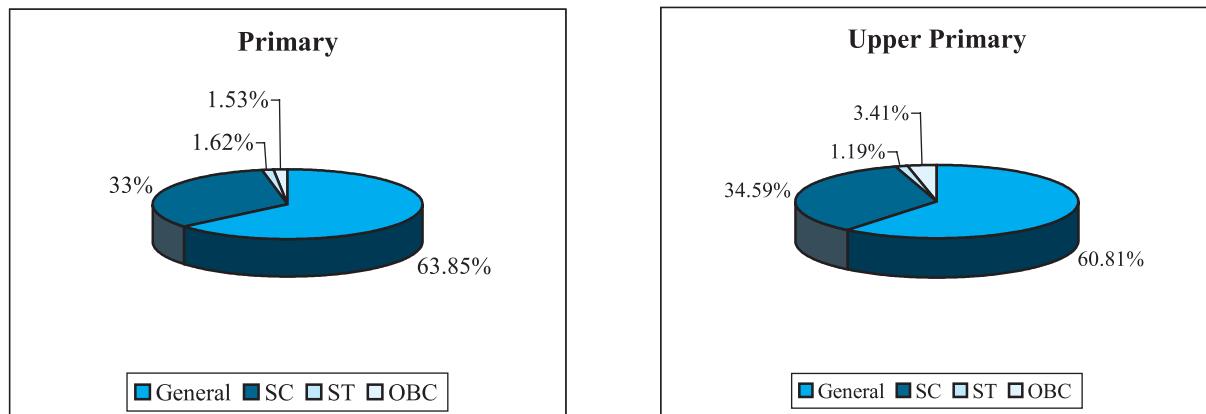
variation between literacy rate. The difference in the maximum and minimum enrolment rate, for 5 to 8 age group children and for 9 to 14 age group children are respectively 4.79% and 12.45% in 2006-07. The coefficient of variation of enrolment rates, representing variability within blocks and municipalities, for the

Figure 5.6: Enrolment Rates of 5-8 Age Group Children (2000-01) in Blocks and Municipalities: Toppers and Backbenchers

two age groups are respectively 1.46% and 3.45%. The coefficient of variation for 5 to 8 age group children enrolment fell from 11.79% in 2000-01 to 1.46% in 2006-07. Thus, like literacy, areas lagging behind on enrolment are catching up with their counterparts placed ahead. The correlation between literacy and enrolment is observed in the district. The rank correlation coefficient between literacy rate and enrolment rate of 9-14 age group children is 0.71. The result indicates that literate people are more aware about the importance of education. They do not like to withdraw their children from the system of education at upper primary level.

Enrolment of children in higher income areas might be more than that in lower income areas. The blocks of Sunderbans in South 24 Parganas have a long history of backwardness. Interestingly these blocks do not exhibit lagging behind when enrolment rates are analysed. The best 3 blocks in terms of 5 to 8 age group enrolment in 2000-01 were in the Sundarban region. Namkhana, one block in the Sundarban region, has the highest enrolment rate in 5 to 8 age group according the latest available estimate of 2006-07. The block maintains the impressive performance for enrolment of 9 to 14 age group children also.

Figure 5.7: Social Group-wise Students Enrolment in Schools (2007–08)



The social group wise analysis of enrolment in primary and upper primary schools shows that a sizeable proportion of children from backward groups enroll themselves in schools. Proportion of students coming from SC, ST and OBC community more or less remains same at primary and upper

primary level. While 36.15 percent of students from SC, ST and OBC community get enrolled at primary level, enrolment of students from these communities marginally increases to 39.19 percent at upper primary level.

But all those enrolled children do not

Table 5.6: Block/ Municipality-wise Report on Cohort Study of Primary and Upper Primary School Students (2004-05)

Region	Block/ Municipality(M)	Primary Schools						Upper Primary Schools					
		CRF %	Rank	DROP %	Rank	REP %	MIG %	CRF %	Rank	DROP %	Rank	REP %	MIG %
Region-I North West (Kolkata Surroundings)	Thakurpukur Maheshtala	64.10	9	13.62	9	18.72	3.56	33.79	17	33.39	12	29.94	2.88
	Budge Budge - I	58.35	11	10.84	6	29.23	1.58	23.56	34	42.24	26	31.66	2.54
	Budge Budge - II	48.44	17	15.96	16	33.82	1.78	21.58	36	48.01	34	28.99	1.42
	Bishnupur - I	46.44	21	22.24	27	29.55	1.77	26.94	30	40.19	23	31.29	1.58
	Bishnupur - II	47.11	20	15.70	15	35.71	1.48	38.17	8	25.02	8	32.78	4.03
	Mahestala (M)	68.88	6	15.28	14	12.85	2.99	35.89	10	34.18	15	26.56	3.37
	Budge	74.51	3	10.78	5	13.4	1.31	29.73	25	29.73	10	33.84	6.7
	Budge (M)												
	Pujali (M)	84.35	1	3.39	1	10.81	1.45	26.17	31	20.09	6	37.38	16.36
	Sonarpur	45.49	23	17.19	20	35.32	2	24.64	32	18.56	3	52.58	4.22
Region-II North East and Mid West	Rajpur	51.77	15	20.60	23	25.85	1.78	28.51	27	20.02	5	47.36	4.11
	Sonarpur (M)												
	Baruipur	46.04	22	13.11	7	36.07	4.78	35.74	11	23.88	7	35.39	4.99
	Baruipur (M)	83.60	2	3.66	2	12.45	0.29	59.53	1	17.16	2	16.33	6.98
	Bhangar - I	70.10	5	6.43	3	20.64	2.83	28.10	28	38.70	20	28.28	4.92
	Bhangar - II	68.88	6	17.88	21	8.52	4.72	38.21	7	38.34	19	22.4	1.05
	Falta	44.44	25	21.90	26	31.95	1.71	33.69	18	38.96	21	26.39	0.96
	Diamond Harbour - I	35.59	33	22.69	28	40	1.72	31.24	20	31.18	11	36.6	0.98
	Diamond Harbour - II	57.34	12	14.41	10	26.28	1.97	34.49	13	18.74	4	43.33	3.44
	Diamond Harbour (M)	36.41	32	14.67	12	44.29	4.63	28.64	26	11.68	1	50.52	9.16
Region-III South (Sunderbans)	Magrahat - I	44.26	27	37.45	36	16.39	1.90	34.01	15	33.79	13	30.14	2.06
	Magrahat - II	41.04	30	29.67	33	26.75	2.54	30.96	21	47.17	33	19.13	2.74
	Kulpi	35.49	34	23.62	29	37.32	3.57	41.46	5	36.11	18	19.08	3.35
	Mandirbazar	41.44	29	18.64	22	37.15	2.77	27.04	29	42.62	27	23.16	7.18
	Canning - I	39.13	31	30.06	34	28.51	2.30	22.42	35	39.31	22	36.44	1.83
	Canning - II	44.31	26	32.02	35	22.10	1.57	24.02	33	57.11	36	17.69	1.18
	Basanti	53.06	14	21.50	25	23.69	1.75	29.98	24	45.61	31	21.06	3.35
	Gosaba	47.58	19	16.61	18	28.74	7.07	37.10	9	35.52	17	25.25	2.13
	Joynagar - I	61.31	10	14.66	11	22.6	1.43	42.39	3	33.85	14	21.14	2.62
	Joynagar - II	44.83	24	27.17	31	25.39	2.61	41.68	4	42.83	28	14.93	0.56
Region-III South (Sunderbans)	Joynagar Mazilpur (M)	72.45	4	13.45	8	8.09	6.01	32.86	19	41.34	25	24.15	1.65
	Mathurapur- I	28.97	36	25.87	30	41.73	3.43	30.84	22	46.86	32	15.93	6.37
	Mathurapur- II	41.51	28	21.30	24	31.98	5.21	30.26	23	40.64	24	26.71	2.39
	Kultali	55.65	13	27.99	32	10.27	6.09	34.12	14	52.95	35	11.36	1.57
	Patharpratima	32.76	35	16.67	19	45.06	5.51	35.27	12	44.33	30	19.07	1.33
	Kakdwip	51.26	16	15.21	13	26.98	6.55	33.88	16	43.26	29	20.29	2.57
	Namkhana	48.39	18	16.06	17	32.62	2.93	41.10	6	27.40	9	30.57	0.93
	Sagar	66.22	8	9.32	4	20.30	4.16	48.69	2	34.85	16	13.55	2.91
Total		48.43	-	20.53	-	27.81	3.23	33.61	-	36.5	-	26.91	2.98

Source: Office of the District Project officer, Sarva Siksha Abhiyan

CRF %: Percentage of students completing the course in 4 years

DROP %: Percentage of students dropping out

REP %: Percentage of students who repeated

MIG %: Percentage of students who migrated

Ranks are calculated for a list of 29 blocks and 7 municipalities of the district of South 24 Parganas.

The highest in CRF % is ranked 1. The lowest is ranked 1 in case of DROP %.

complete their education. The problem of drop out is severe at every stage of education. Students drop out for several reasons. Drop out is caused by unfavourable education infrastructure, non-adaptability to the teaching learning process and consequent alienation from the education system, detention in the same class and more importantly pressure to join work force as a child labour. A more reliable analysis about the dropouts could have been made if data regarding the social, economic and religious composition of the dropped students were available. The block/municipality wise cohort study (Table 5.6) throws some light on dropouts in different blocks and municipalities of

South 24 Parganas. A Cohort study analyses performance of same student in consecutive academic years to investigate whether the student drops out or repeats or promotes to the next class successfully every year. The reported figures for primary schools are based on 202284 students of 3321 schools of the district. A similar cohort study was carried on 97061 upper primary students of 751 upper primary schools. These studies show that drop out is a critical problem at both the primary and upper primary stage. The drop out rate increases with higher stages of education. A higher percentage of students withdraw from the upper primary level.

Figure 5.8: Drop-out Rates in Primary and Upper Primary Schools (2004–05)

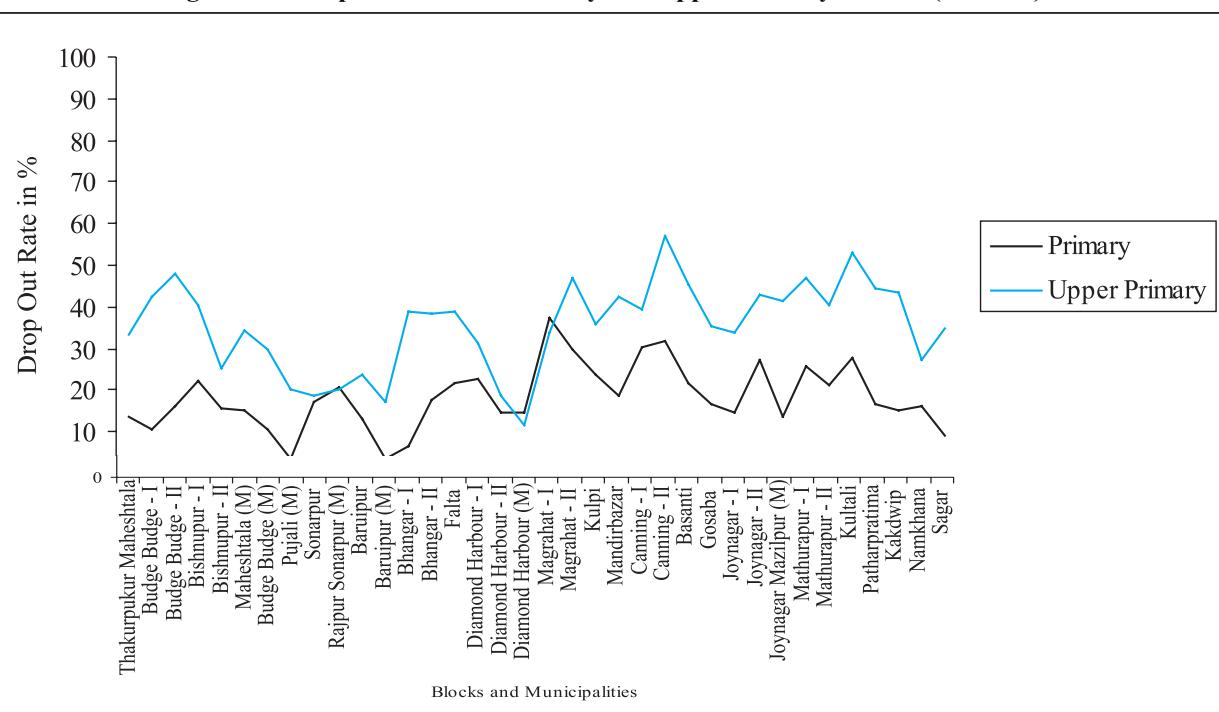
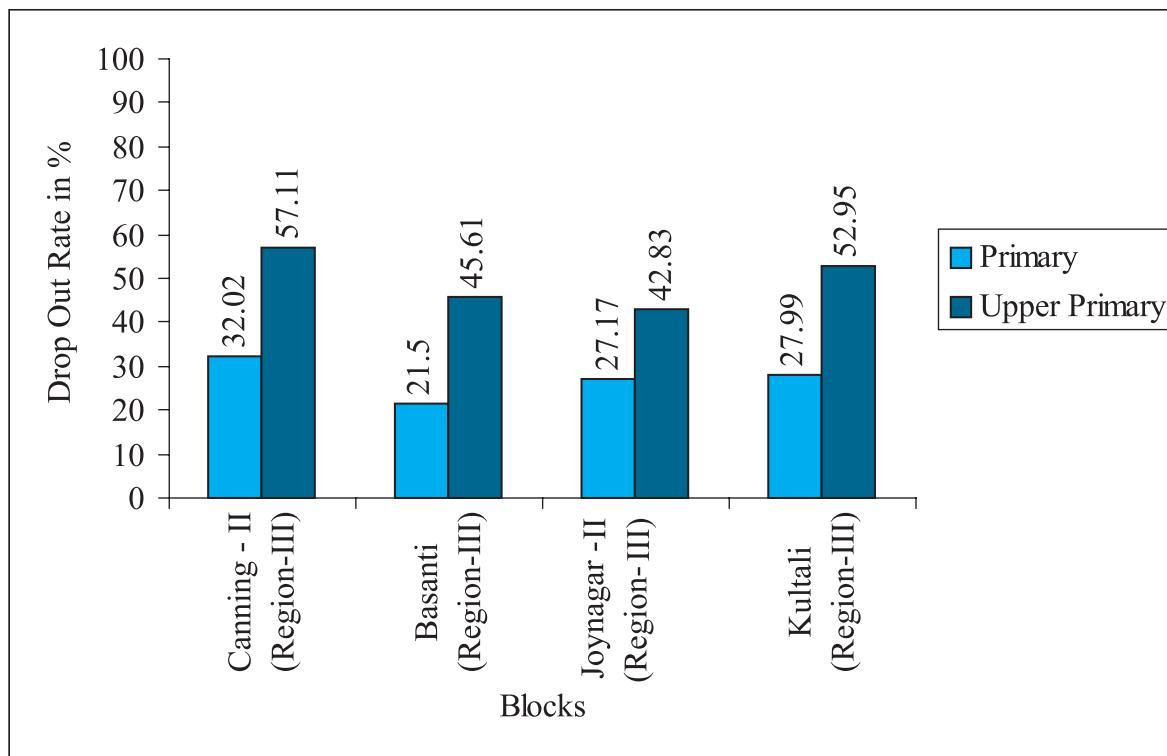


Figure 5.9: Drop-out Rates in Educationally Backward Blocks at Primary and Upper Primary Level



Drop out rates at the primary level are low in municipal areas such as Pujali, Baruipur and Budge Budge. Drop out rates at Rajpur Sonarpur and Diamond Harbour municipality falls at the upper primary level, though marginally, when compared to primary level. A significant rise in drop out rate, from primary to upper primary, is observed in municipal areas of Maheshtala and Budge Budge. These are the areas where industries employ child labourers. Drop out rate is more than thrice at the upper primary stage at Pujali and Joynagar Mazilpur municipality in comparison with drop out rate at the primary level.

Careful examinations of drop out rates in different blocks reveal a miserable edu-

cation scenario. Drop out rate at the upper primary level is higher for every block except Magrahat-I and in many cases the drop out rate is more than double of the rate of drop out at the primary stage. The scenario is deplorable in blocks of Sunderban. Canning-II, an educationally backward block, has a drop out rate above 50 percent in the upper primary level. Drop out rates in other educationally backward blocks are also alarmingly high (Figure 5.8). A good performer on literacy, Sagar, has performed well in reducing drop out rate at the primary level. This may be a sign of positive attitude towards education shown by literate parents. Good performers in terms of standard of living such as Thakurpukur Maheshtala and Budge Budge-I are success-

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ful in reducing drop out rates at primary level. Among blocks, Bhangar-I has shown commendable performance in controlling dropouts at the primary stage but the success dwindles out when data regarding drop out at the upper primary stage is compared with data at the primary stage.

Why do students drop out? There may be several causes as stated earlier behind drop out but the most important cause might be the use of child labour or use of children as domestic help. It is unfortunate that poor parents often are compelled to treat their child as an income earning asset. They induce children to leave schools and join the workforce and thus earn income for the household. Students studying at the primary level are not generally capable to join the labour force. But as age increases, a child becomes a child labour and drops out from the education system. This is one of the important determining factors behind higher drop out rates at the upper primary level. A moderate rank correlation coefficient of 0.44 between incidence of and rate of drop out at the upper primary stage, when only blocks are considered, imply that students drop out more in areas where the incidence of poverty is high. The relationship between incidence of poverty and rate of dropout at the primary stage is not so strong. This indicates that poor parents withdraw children of 9-14 age group more than children of 5-8 age group. The Rural Household Survey (2004-05)

surveyed households that have a dropped out child in the 9 to 14 age group. The obtained results (Table 5.7) clearly indicates that a high proportion of the dropped out students worked either inside or outside the household. An inference can be readily drawn that the pressure to take up work has forced them to drop out from the system of education. The tendency to leave schools and to join the workforce is more severe in backward regions. A regional-wise study of dropouts reveal that the north west blocks of South 24 Parganas, closer to Kolkata, are less vulnerable to the problem. Bhangar-I, the block for which dropout rate increases dramatically at the upper primary stage when compared to the primary level, has almost 80 percent of dropped out children working inside or outside the family. The tendency to leave schools and join work force is most severe in the blocks of Sunderban. More than 90 percent of students dropping out work either inside or outside the household in Kakdwip block.

It has been already stated that literacy improves enrolment of 9-14 age group children in the district. Literacy has also a positive impact on controlling drop out. A literate mother is more conscious about the education needed by her child. She is more sincere about enrolling her children in the education system. The rank correlation coefficient between female literacy rate and drop out rate at the primary

Table 5.7: Activity of 9-14 Age Group Children: Why?

Region	Block	Percentage of Dropped Out Children Who Work Either Inside or Outside Family	Rank
Region-I: North West (Kolkata Surroundings)	Takurpukur	61.08	1
	Maheshtala		
	Budge Budge-I	70.09	2
	Budge Budge-II	75.53	6
	Bishnupur-I	78.77	10
	Bishnupur-II	81.25	15
Region-II: North East and Mid West	Sonarpur	84.87	23
	Baruipur	75.31	5
	Bhangar-I	78.84	11
	Bhangar-II	73.42	4
	Falta	78.67	9
	Diamond	78.60	8
	Harbour -I		
	Diamond	84.96	24
	Harbour -II		
	Magrahat -I	72.47	3
Region-III: South (Sunderbans)	Magrahat -II	78.14	7
	Kulpi	82.20	17
	Mandirbazar	84.26	21
	Canning -I	82.80	18
	Canning -II	88.29	27
	Basanti	83.64	20
	Gosaba	80.59	14
	Joynagar -I	81.27	16
	Joynagar -II	79.36	12
	Mathurapur -I	84.66	22
	Mathurapur -II	83.51	19
	Kultali	79.98	13
	Patharpratima	85.23	25
	Kakdwip	90.77	29
	Namkhana	85.64	26
	Sagar	88.30	28

Source: Rural Household Survey (2004-05)

Ranks are calculated for a list of 29 blocks of the district of South 24 Parganas. The lowest is ranked 1.

level, when all blocks and municipalities are considered together, is 0.62. The same coefficient when female literacy rate and drop out rate at upper primary level is

considered is 0.59. This suggests that more effort to improve female literacy will be helpful in controlling drop out at the primary and upper primary stage.

5.3.3 Gender (Dis)parity: A Missing Woman Syndrome

The well-known Millennium Development Goal calls for targeting universal primary education and to reduce gender gap at all levels of education. Women's education promotes equal participation across genders in the decision making process, supports women so that they can exercise their right, reduce the gap between women's and men's access and control of resources and benefits of development. An analysis of any indicator for educational achievement shows that historically women are less privileged than men.

The literacy figures for the blocks and municipalities of South 24 Parganas show that women are lying far behind men. Five blocks namely Canning-I, Canning-II, Basanti, Kultali and Joynagar-II are blocks where female literacy is less than 50 percent. These blocks are in need of gender targeted policies to enhance female literacy rate. Blocks performing well in male literacy are generally good performers of female literacy also. Namkhana and Sagar, though in the Sunderban region, perform well in male as well as female literacy.

Predictably female literacy is higher in urban areas. Kultali, Bhangar-I and Bhangar-II are blocks that have achieved a high

Female Education: Some Individual Experiences

Subhadra Sarkar passed class VIII and was then forced to get married. She was living with her family in a remote village named Bharatgarh in Sunderban region. She was eager but was not able to continue her studies due to financial constraints and family obligations. She was inspired to resume her studies. She took admission in class IX in Maheshpur Prafulla Balika Vidyalay in 2002-03 session after some years of her married life. She was provided with all kinds of necessary support in the school and passed madhyamik examination in 2004-05 with high second division marks. She went on continuing her studies and passed higher secondary examination from the same school.

Tripti Tarafdar of Nafarganj lost her parents at an early age of her life. She continued her studies up to class VIII fighting against dire poverty and later went to Delhi in search of jobs and was absorbed as a housekeeper there. She worked for more than two years, saved some money and came back. She took admission in a school in the district. She started living in the school hostel, studied assiduously and stood first in all the unit tests held in the class. She is expected to perform well in the annual examination also.

percentage point increase in female literacy during 1991-2001. Though the present situation calls for further intervention, a sincere effort has led to reduction in gender gap during 1991-2001. Whereas there were 16 blocks having a gender gap of literacy above 30 percent in 1991, there is no block with the same exceeding 30 percent in 2001. A regionwise comparison of female literacy reveals that the spirit of educational development in Kolkata may have been transmitted to its contiguous regions. Blocks in this region such as Thakurpukur Maheshtala, Budge Budge-I and Bishnupur-II are the best performers in female literacy.

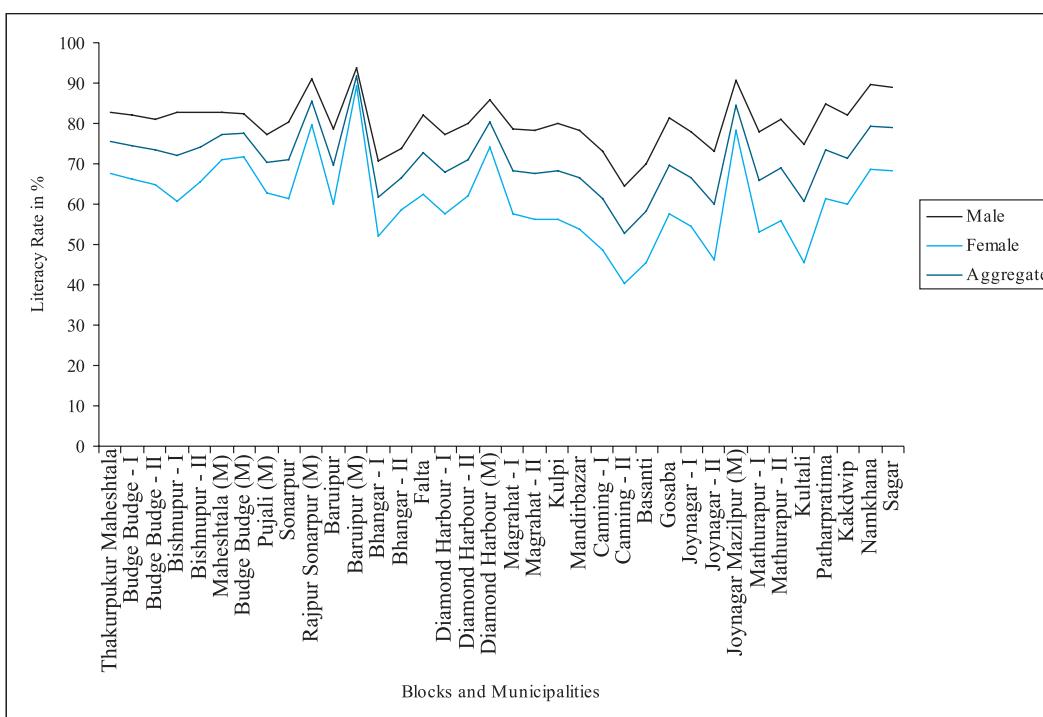
Table 5.8: Gender Gap in Literacy: A Decadal Comparison

Gender Gap in Literacy	Number of Blocks/ Municipalities as Per Census 1991	Number of Blocks/ Municipalities as Per Census 2001
Upto 10%	0	1
Above 10% to 20%	7	17
Above 20% to 30%	13	18
Above 30%	16	0

Source: Census 1991 and 2001.

Performance of blocks and municipalities is more dispersed in case of female literacy when compared with male literacy. The coefficient of variation for female literacy (16.87%) is more than double of that for male literacy (7.65%) in 2001. The difference in female literacy rate of the highest achiever i.e. Baruipur municipality and the worst performer i. e. Canning-II is alarmingly high at 49.10%.

The corresponding estimate in case of male literacy is only 29.23. But the situation is fast improving. The coefficient of variation for female literacy rate, which was 36.56% in 1991, fell sharply to the present level during a span of 10 years. Similarly the difference in achievement of the best and the worst performer fell from 59.78% in 1991 to 49.10% in 2001. Female literacy rate is poor in income

Figure 5.10: Gender Gap in Literacy Rate (2001) in Blocks and Municipalities

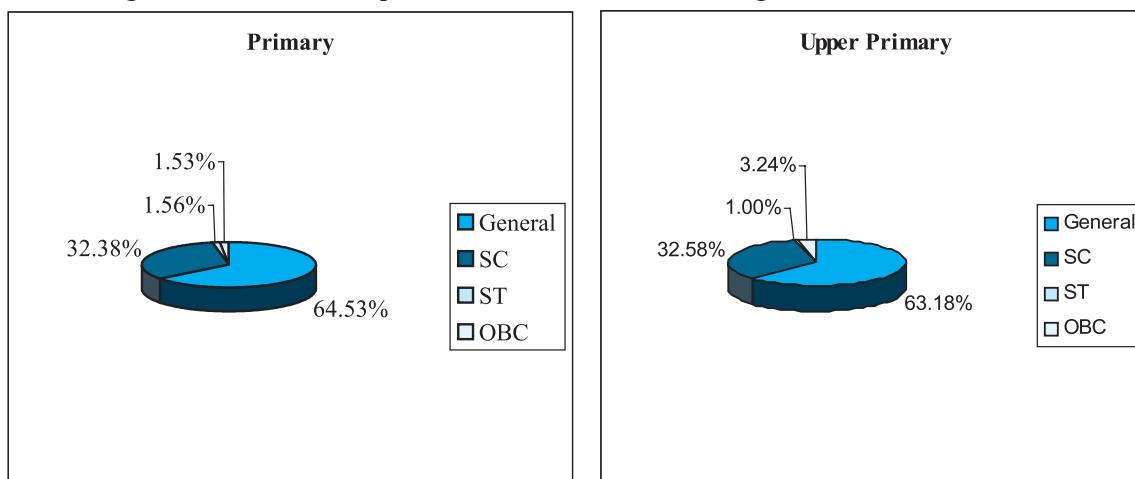
poor areas. The rank correlation coefficient between female literacy and poverty rate, when only blocks are considered, is 0.45 implying that female literacy falls as rate of poverty rises. Income constraints female education more stiffly than male education.

A completely different scenario is observed in case of school enrolment of 5 to 8 age group children. The 2000-01 estimate of enrolment shows that many blocks and municipalities are better performers in female enrolment than male enrolment. In blocks where female enrolment is less than male enrolment, the difference in the two enrolment rates is marginal. Such a good performance in female enrolment indicates that female literacy rate is going to rise in near future. Though the age distribution of the non-literates is not available, poor performance in female literacy may be due to higher incidence of illiteracy in the adult age group.

A social group wise breakup of girls' enrolment at primary and upper primary levels indicates that the district has achieved distinctively in enrolling students of backward classes. Enrolment of SC, ST and OBC girls as a proportion of total girls' enrolment at the primary level is 35.47 percent. The same proportion at the upper primary level is 36.72 percent. Girls' enrolment as a proportion of total students'

enrolment of that social group shows that backward group girls are taking the opportunity of education as after as backward class boys.

Though female enrolment at the elementary stage of education is quite impressive, the enrolment figures at higher stages reduce sizeably. The impressive performance more or less continues upto the madhyamik level. The female enrolment in high school level according 2004-05 estimate is even higher than the male enrolment. At a higher level, female enrolment falls drastically. This may be due to parental unwillingness to support studies of the girl child at a higher level. There are cases when a parent supports education of the male child but withdraws the girl child. The financial requirement needed at a higher level of study often discourages parents to support their girl child. Another important factor behind this falling female enrolment can be attributed to early age of marriage of girl child. The sudden drop of female enrolment at the higher secondary level indicates early marriage of girl child reducing female enrolment. Drop out between high school and higher secondary school stage requires proper scrutiny since drop out between higher secondary and college stage is interestingly minimal. Female enrolment in professional and technical institutions

Figure 5.11: Social Group Enrolment of Girls as Percentage of Total Girls Enrolment**Table 5.9: Social Group-wise Girls' Enrolment as Percentage of Total Enrolment**

Social Group	Girls Enrolment as Percentage of Total Students Enrolment from that Social Group			
	Primary Schools	Upper Primary Schools	Primary Schools	Upper Primary Schools
General	50.89	53.66		
SC	49.39	48.64		
ST	48.45	43.55		
OBC	50.29	49.00		

Table 5.10: Number of Students by Gender in Different Levels of Institutions

Institution	Number of Students (2000-01)		Number of Students (2004-05)	
	Male	Female Percentage of Total in (%)	Male	Female Percentage of Total in (%)
Recognised Primary Schools	410683	402927(49.52)	67094	633025(48.55)
Recognised Middle Schools	25572	26375(50.77)	26574	33909(56.06)
Recognised High Schools	114677	94663(45.22)	121570	140013(53.52)
Recognised Higher Secondary Schools	113288	53520(32.08)	174144	106442(37.93)
General Degree College	16078	8137(33.60)	25058	14244(36.24)
Technical Schools	101	104(50.73)	1515	506(25.04)
Technical Colleges	97	59(37.82)	3540	1047(22.83)

Source: District Statistical Handbook 2005: Bureau of Applied Economics and Statistics, Government of West Bengal

is also very low. Female enrolment was around 25 percent of total enrolment in both technical schools and colleges in 2004-05. Thus females getting into education stream do not reach up the top of the ladder as males do. Girl students miss the privilege of higher education and they silently vanish from the system.

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5.4 Education Infrastructure

Provision and accessibility to school level infrastructure is important in educational

development. If school infrastructure is not widespread and well distributed across

regions, students have to lose time in commuting and may have to incur additional monetary costs for commuting. This often discourages them to join or continue schooling. Apart from the number of schools, the structure of the schools, availability of basic amenities such as drinking water and sanitation in school premises are also parts of educational infrastructure.

5.4.1 Development of Primary School Level Infrastructure

There has been reasonable increase in number of primary schools in South 24 Parganas in recent years. Whereas there were 3524 primary schools in the district

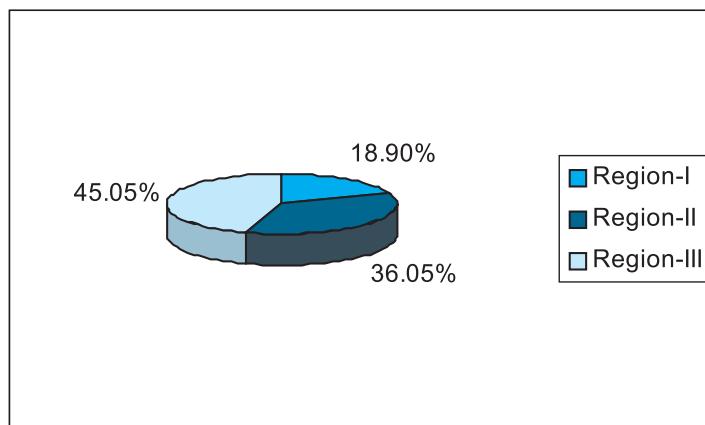
for blocks. As municipal areas are more densely populated, setting up of more schools is necessary in these areas. The average population served by a primary school is lowest in the blocks of Sunderban. One primary school, on an average, serves the need of more than 1700 population approximately in this region. Apart from the average population served, average area served by a school speaks for the accessibility scenario. It is recommended that every primary school going child should get the opportunity of attending a school within 1 kilometer radius from her residence. Lower distance implies lower time loss and lower commuting cost. While

average population served by schools in municipalities is high due to congested urban settlements, the average area served is always below 1 square kilometer. The situation reverses in blocks. Though the average area served has fallen during 2001-2007 with increase in number of schools, it is well above the targeted limit in most of the blocks. Scenario in this aspect in

in 2000-01, the number increased to 3656 by 2006-07. The accessibility aspect to primary schools can be assessed from the average population served by a school. The average population served by a primary school in municipalities is higher than that

the blocks of Sunderban such as Basanti, Canning-II, Kultali and Namkhana is bleak and provision of more schools is necessary. A more interesting observation is that Basanti, Canning-II and Kultali are notable poor performers in literacy. The weak

Figure 5.12: Distribution of Primary Schools Across Regions



performance in literacy may be partly due to inaccessibility to primary school infrastructure.

Provision of two amenities, water and sanitation, are basic necessities in a school. If pure drinking water is not provided in the school premises, then either the children have to bring water with them or they have to use nearby water source which may not be safe. Many children carry water in urban areas. This overloads the bag the children carry. But children in rural areas are not generally habituated with bringing water and hence resort to nearby sources. This results in health hazards caused by waterborne diseases and sizeable expenditure on treatment of diseases like diarrhoea. Sanitation facility is also a must in a school. Proper sanitation facility reduces the chance of outbreak of some diseases which may affect children seriously. Lack of sanitation facility is a major problem for girl children and there may be cases when a girl child would be unwilling to join or continue a school without having sanitation facility. There is considerable increase in provision of drinking water and sanitation facility in schools during 2001-2007. But around 20

percent and 30 percent of primary schools in the district are not provided with water and sanitation facility respectively. The provision of water and sanitation facility is best in the schools of Region-I. The situation is worse for Region-II and worst for Region-III.

As far as the basic infrastructures are concerned, the shortage of space is the most crucial infrastructural bottleneck in primary schools of the district. The standard indicator of insufficient space is the space student ratio below 7 square feet. The level of congestion in such classrooms may even hamper the teaching learning process. Though there is considerable addition of infrastructure during 2001-2007, the proportion of schools where the space student ratio is below 7 square feet is still alarmingly high and at around 60 percent. As in water and sanitation facilities in schools, the space shortage problem deteriorates from Region-I to Region-III. The high proportion of schools not having the required space student ratio in the southern region demands fresh fund flow. The shortage of space has far reaching adverse impacts on quality of education which will be discussed later.

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Table 5.11: Provision of Primary School Level Infrastructure

Region	Block/ Municipality (M)	Number of Schools		Average Population Served *	Average Area Served in Square Kilometer		Number of Schools Not Having Drinking Water Facility		Number of Schools Not Having Toilet Facility		Number of Schools Where Floor Area per Student is \leq Square Feet.	
		2006-07	2000-01		2006-07	2000-01	2006-07	2000-01	2006-07	2000-01	2006-07	2000-01
Region-I: North West (Kolkata Surroundings)	Thakurpukur	54	49	2793	1.17	1.29	9	9	18	17	19	49
	Maheshtala											
	Budge Budge - I	45	36	2776	0.59	0.74	12	23	8	23	18	36
	Budge Budge- II	92	87	1993	0.85	0.9	7	40	30	46	41	85
	Bishnupur - I	109	107	1928	1.07	1.09	14	24	27	62	57	107
	Bishnupur - II	106	101	1887	0.77	0.81	15	53	35	64	37	101
	Maheshtala (M)	92	90	4280	0.48	0.49	24	27	24	18	49	87
	Budge Budge (M)	21	21	3596	0.43	0.43	3	5	7	5	7	21
	Pujali (M)	13	11	3078	0.65	0.77	5	4	7	6	7	11
	Sonarpur	82	68	2461	1.47	1.77	9	24	23	29	38	68
Region-II: North East and Mid West	Rajpur Sonarpur (M)	77	68	4951	0.72	0.81	25	16	15	12	48	68
	Region Total											
	Percentage of Region Total in ()	691	638	2831	0.87	0.95	123 (17.80)	225	194 (28.08)	282	321 (46.45)	633
	Baruipur	164	152	2312	1.38	1.49	9	33	40	86	111	148
	Baruipur (M)	17	17	2641	0.53	0.53	7	1	1	3	9	17
	Bhangar - I	98	95	2151	1.57	1.62	9	10	7	55	72	95
	Bhangar - II	93	90	2306	1.74	1.8	10	10	13	53	56	89
	Falta	148	145	1528	0.88	0.9	45	96	64	124	62	145
	Diamond Harbour - I	81	76	1754	0.84	0.9	12	23	12	52	35	74
	Diamond Harbour - II	118	115	1436	0.81	0.83	16	28	21	69	45	115
Region-III: South (Sunderbans)	Diamond Harbour (M)	17	16	2327	0.61	0.65	6	1	7	4	3	16
	Magrahat - I	111	108	2114	1.07	1.1	24	62	12	87	81	107
	Magrahat - II	134	134	1955	1.02	1.02	12	50	22	106	91	133
	Kulpi	206	203	1195	1.02	1.04	56	81	106	174	101	196
	Mandirbazar	131	128	1430	0.9	0.92	40	51	78	122	71	127
	Region Total											
	Percentage of Region Total in ()	1318	1279	1784	1.09	1.13	246 (18.66)	446	383 (29.06)	935	737 (55.92)	1262
	Canning - I	114	112	2184	1.65	1.68	27	41	23	49	87	107
	Canning - II	87	84	2332	2.47	2.56	20	28	26	51	81	81
	Basanti	147	144	1934	2.75	2.81	58	56	83	111	99	140
Grand Total	Gosaba	155	150	1485	1.91	1.98	30	17	77	98	130	148
	Joynagar - I	107	105	2086	1.22	1.25	8	45	21	87	72	103
	Joynagar - II	109	101	2070	1.71	1.84	27	36	67	75	93	99
	Joynagar Mazilpur (M)	17	18	1295	0.3	0.29	6	9	4	13	13	18
	Mathurapur - I	123	122	1349	1.2	1.21	43	52	55	113	85	122
	Mathurapur - II	125	125	1586	1.82	1.82	30	51	42	95	81	124
	Kultali	96	91	2065	3.19	3.36	5	26	16	64	77	91
	Patharpratima	203	199	1449	2.39	2.43	47	76	36	169	119	199
	Kakdwip	143	137	1746	1.77	1.84	49	85	65	97	103	136
	Namkhana	98	96	1673	3.78	3.86	20	2	14	77	50	95
	Sagar	123	123	1509	2.29	2.29	30	21	31	94	79	123
Region Total		1647	1607	1754	2.12	2.18	400 (24.29)	545	560 (34)	1193	1169 (70.98)	1586
Percentage of District Total in ()		3656	3524	1959	1.52	1.57	769 (21.03)	1216	1137 (31.09)	2410	2227 (60.91)	3481

Source: Office of the District Project Officer, Sarva Siksha Abhiyan

C=2006-07; P= 2000-01

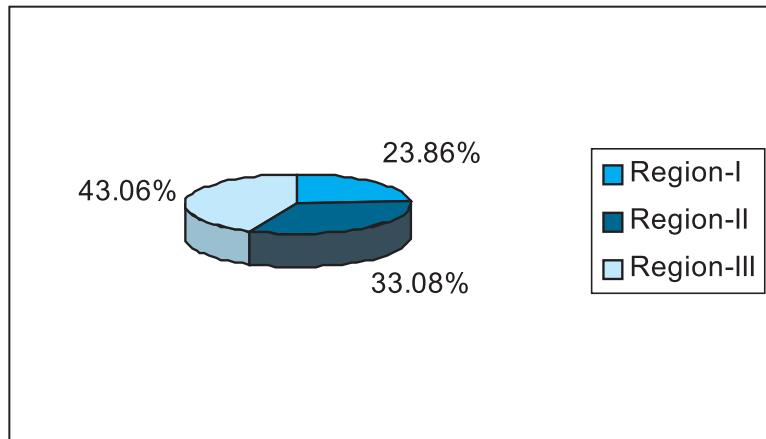
* As per number of schools in 2000-01 and population in 2001

5.4.2 Secondary and Higher Secondary School Level Infrastructure: The Quantity Aspect

The network of primary schools in the district is vast and widespread, but the

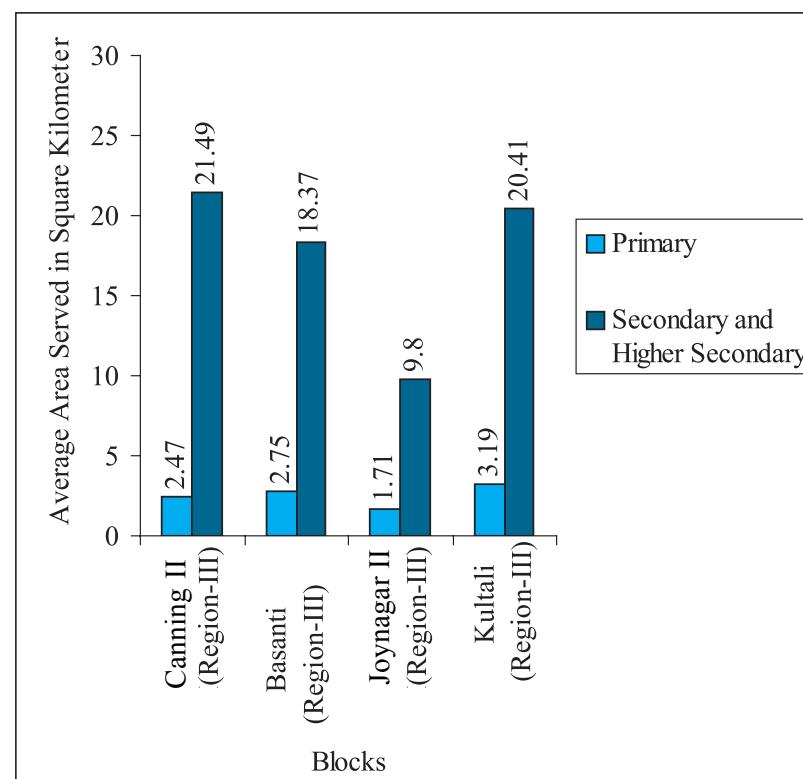
Similarly, on an average, the area served by each secondary and higher secondary school is larger than the area served by a primary school. The scenario is not unexpected but the point of concern is the increase in number of population or area served by a secondary and higher secondary school compared to a primary school unit. This implies that students incur huge loss in terms of commuting time and traveling cost for attending classes while studying at a secondary and higher secondary school. This may result in irregular

Figure 5.13: Secondary and Higher Secondary Schools Across Regions



number of schools at a higher level is insufficient. The ratio between number of primary schools and number of secondary and higher secondary schools in the district is 4.62:1 implying that one secondary higher secondary school is fed by more than 4 primary schools. Secondary and higher secondary schools, on an average, serve a larger population than a primary school in every block and municipality.

Figure 5.14: Average Area Served per School : Educationally Backward Blocks



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attendance and drop out from the institution ultimately. Thus there is need to extend the network of secondary and higher secondary schools in the district.

The population served per secondary and higher secondary school is quite high and in the range of 10000-15000 in many blocks and reaches maximum in the block of Canning-II. The typical secondary and higher secondary school in the block of Canning-II serves a population of around 20000. The inaccessibility can be an important determining factor behind poor educational attainment in the block. Whereas, area served by most of the primary schools is in the range of 1-3 square kilometer, area served by secondary and higher secondary schools in many blocks ranges above 10 square kilometer. Average area served per school is above 20 square kilometers in Kultali and Canning-II. Students in almost all blocks of the Sunderbans face severe accessibility problem. The average area served per school is above 10 square kilometer in this region. The inaccessibility to high school institutions may even discourage parents to send their children in primary schools (Table 5.12).

The district has made considerable achievement in provision of basic amenities like drinking water and sanitation facility in secondary and higher secondary schools.

The non-coverage is below 10 percent of total secondary and higher secondary schools. The performance is impressive when compared to the provision of drinking water and sanitation facility in primary schools. The percentage of non-coverage across regions is more or less similar. The proportion of schools not having drinking water facility is more than the proportion of schools not having sanitation facility in every region. The performance is relatively poor in region-II in both fronts. Special attention needs to be given to improve the coverage of schools within the net of safe drinking water supply in this region.

5.4.3 College and Professional Education

Inaccessibility to higher education is an often cited cause behind non-enrolment and drop out from the higher education system. Average square kilometer area served by a college level institution is more than that served by a lower level institution. This is common for any district of West Bengal and not an exception in case of South 24 Parganas. A wholehearted effort has increased the number of degree colleges from 22 in 2000-01 to 28 in 2004-05. There are 10 open university centers operating in the district along with these degree colleges. In recent times there is a huge demand for technical institutions. The district has responded accordingly and

Table 5.12: Provision of Secondary and Higher Secondary School Level Infrastructure

Region	Block/ Municipality (M)	Number of Schools	Average Population Served *	Average Area Served in Square Kilometer	Number of Schools Not Having Drinking Water Facility	Number of Schools Not Having Toilet Facility
Region-I: North West (Kolkata Surroundings)	Thakurpukur- Maheshtala	15	9126	4.20	2	0
	Budge Budge - I	13	7688	2.04	2	0
	Budge Budge - II	22	7883	3.55	0	1
	Bishnupur - I	18	11465	6.46	3	0
	Bishnupur - II	23	8288	3.55	2	1
	Maheshtala (M)	37	10412	1.19	0	1
	Budge Budge (M)	9	8392	1.01	1	1
	Pujali (M)	4	8464	2.12	1	0
	Sonarpur	12	13950	10.05	0	0
	Rajpur Sonarpur (M)	36	9352	1.54	2	0
	Region Total					
	Percentage of Region Total in ()	189	9556	3.19	13 (6.88)	4 (2.12)
Region-II: North East and Mid West	Baruipur	30	11714	7.54	2	1
	Baruipur (M)	4	11228	2.27	0	0
	Bhangar - I	17	12022	9.04	0	0
	Bhangar - II	13	15967	12.46	0	0
	Falta	34	6520	3.84	10	2
	Diamond Harbour - I	18	7409	3.80	4	0
	Diamond Harbour - II	25	6609	3.82	1	2
	Diamond Harbour (M)	7	5319	1.48	0	1
	Magrahat - I	27	8456	4.41	4	2
	Magrahat - II	23	11395	5.95	1	0
	Kulpi	35	6935	6.02	7	6
	Mandirbazar	29	6314	4.07	3	1
	Region Total					
	Percentage of Region Total in ()	262	8710	5.49	32 (12.21)	15 (5.73)
Region-III: South (Sunderbans)	Canning - I	15	16308	12.52	1	0
	Canning - II	10	19596	21.49	2	0
	Basanti	22	12663	18.37	4	
	Gosaba	40	5570	7.42	4	2
	Joynagar - I	23	9525	5.69	5	0
	Joynagar - II	19	11007	9.80	3	0
	Joynagar Mazilpur (M)	7	3330	0.74	1	0
	Mathurapur - I	26	6332	5.66	3	1
	Mathurapur - II	31	6396	7.33	1	4
	Kultali	15	12532	20.41	1	0
	Patharpratima	41	7034	11.82	2	0
	Kakdwip	39	6136	6.48	1	1
	Namkhana	22	7301	16.84	0	0
	Sagar	31	5988	9.10	1	0
	Region Total					
	Percentage of Region Total in ()	341	8265	10.25	29 (8.50)	8 (2.35)
Grand Total		792	8720	6.99	74 (9.34)	27 (3.41)
Percentage of District Total in ()						

Source: Office of the District Project Officer, Sarva Siksha Abhiyan, (2006-07)

* As per number of schools in 2006-07 and population in 2001.

Table 5.13: Spatial Distribution of Colleges and Professional Institutions

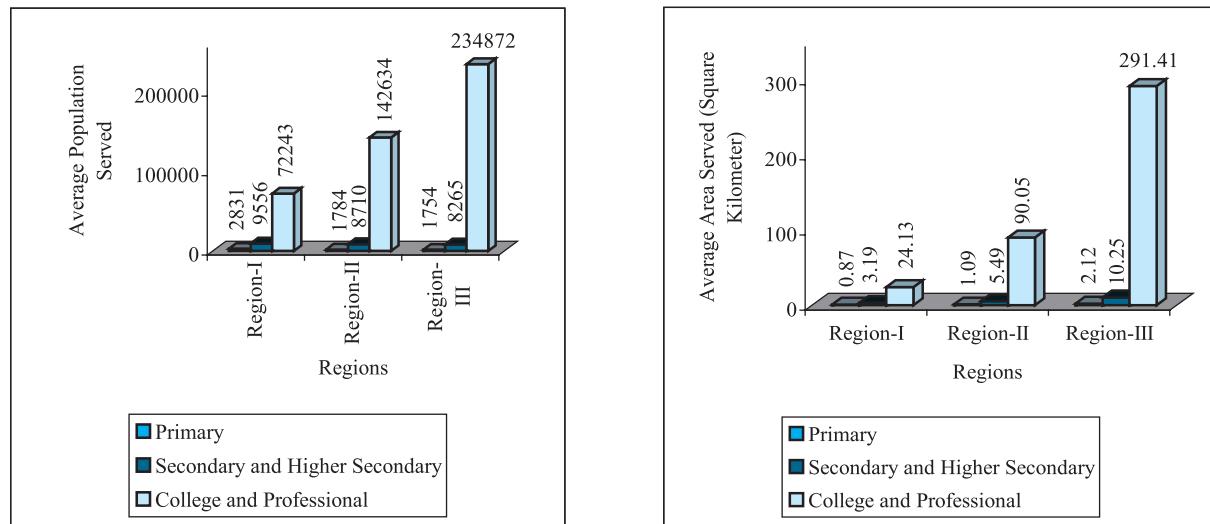
Region	Block/ Municipality (M)	Number of General Colleges and Universities	Number of Professional and Technical School and College
Region-I: North West (Kolkata Surroundings)	Part of KMC area	9	0
	Thakurpukur Maheshtala	0	1
	Budge Budge - I	0	1
	Budge Budge - II	1	0
	Bishnupur - I	0	2
	Bishnupur - II	1	0
	Maheshtala (M)	1	0
	Budge Budge (M)	1	0
	Pujali (M)	0	1
	Sonarpur	0	3
	Rajpur Sonarpur (M)	2	2
	Region Total	15	10
	Percentage of District Total in ()	(53.57)	(40)
Region-II: North East & Mid West	Baruipur	2	0
	Baruipur (M)	0	0
	Bhangar - I	1	1
	Bhangar - II	0	0
	Falta	0	1
	Diamond Harbour - I	0	0
	Diamond Harbour - II	0	6
	Diamond Harbour (M)	1	1
	Magrahat - I	0	0
	Magrahat - II	1	0
	Kulpi	0	0
	Mandirbazar	1	1
	Region Total	6	10
	Percentage of District Total in ()	(21.43)	(40)
Region-III: South (Sunderbans)	Canning - I	1	0
	Canning - II	0	0
	Basanti	0	1
	Gosaba	1	0
	Joynagar - I	1	0
	Joynagar - II	0	0
	Joynagar Mazilpur (M)	0	0
	Mathurapur - I	0	0
	Mathurapur - II	1	1
	Kultali	0	0
	Patharpratima	1	1
	Kakdwip	1	1
	Namkhana	0	1
	Sagar	1	0
	Region Total	7	5
	Percentage of District Total in ()	(25)	(20)
District Total		28	25

Source: District Statistical Handbook 2005: Bureau of Applied Economics and Statistics, Government of West Bengal

a number of technical schools and colleges have been set up. Whereas there were 4 and 1 technical schools and college respectively in 2000-01 in the district, the number increased to 17 and 8 respectively by 2004-05. But the real problem is the distribution of the institutions across regions. A region-wise analysis indicates that most of the degree colleges and technical colleges are situated in the outskirts of Kolkata. Nine degree colleges are actually situated in the Kolkata Municipal Corporation area. There are 16 blocks in the district where there is no degree college at all. Many students residing in nearby blocks and municipalities of Kolkata take the opportunity of studying in premier institutions in Kolkata. But higher education aspirants in other regions not only face the accessibility problem but also miss the opportunity of studying in a quality college. There has been a sustained effort to increase the number of higher education institutions in remote areas and the effort needs to be continued. Additionally, provision of infrastructure such as manpower, library and computer facility and laboratories in these colleges should attract immediate attention. Inaccessibility to higher education

institution in every region can be tracked from huge population and wider area served by an institution. Population and area served is least for primary level institutions and highest in case of college and professional level institutions in every region. Population served is lowest in Region-I and highest in Region-III in the district. The provision of primary, secondary and higher secondary schools increases from Region-I to Region-III implying that more schools are provided to fulfill the need of greater number of population. But this is not the case for college and professional institutions. Inaccessibility scenario for college and professional level institutions is grim when Region-II and Region-III are considered (Figure 5.15). It is well known that social return from elementary education is high. But private return from education is higher in upper level institutions when compared to that in elementary education. The inaccessibility to higher education institutions in the district is so critical that students and parents may not foresee any future private return and lose interest in education even at a lower level. It is to be noted that the accessibility scenario analysis is limited by the fact that some parts of the district are not actually inhabited.

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Figure 5.15: Accessibility and Higher Level Institutions Across Regions

5.4.4 Other Educational Infrastructure

Public libraries take an important role in developing reading habits among people. Such libraries facilitate people who are not able to buy books but are eager to read. The Government of West Bengal is conscious about the fact and a separate ministry controls and supports such libraries. Improvement in literacy rate has led to increase in number of users in these libraries. More and more people are now getting interested in using the facility. Around 10-15 percent of total enrolled users visit libraries in the district per day. There is increase in number of books available in these libraries in consonance with increase in number of users. Free reading rooms are generally complementary to libraries where users can read materials without borrowing them. Such centers are specially helpful for people searching daily newspapers and periodicals. The growth of mass literacy

centers and their distribution across blocks and municipalities of the district has led to proper utilisation of public libraries and reading room facilities.

ICDS centers on an average serve 30 students per institution, SSKs serve 110 students per institution and MSKs serve 135 students per institution. Thus special effort to improve infrastructural facilities like drinking water and sanitation, teaching personnel, teaching aids, etc., is needed. Non-formal institutions has achieved remarkably in enrolling girls. Many girl children do not get the access to a formal education system and girls drop out more frequently than boys. Going to school for a girl child is often thought of as a privilege. Poor parents, who can not afford expenditure on education for their children, send their boys to school. Girl children are put to domestic work and have little time for school. Thus there is a need to teach girls close to home and for hours favourable

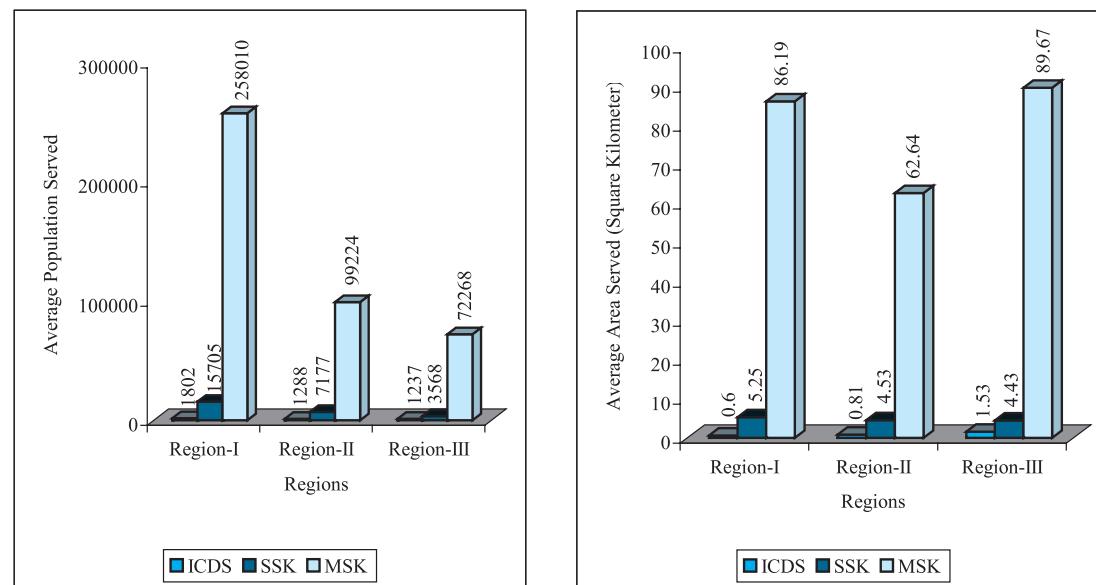
to them. Non-formal institutions have performed well in providing such an opportunity for girl children in the district.

As per estimates for 2004-05, girls' enrolment in both ICDS and SSKs are around 50 percent of total enrolment.

Table 5.14: Spatial Distribution of Libraries, Reading Rooms and Literacy Centers

Region	Block/Municipality(M)	Number of Libraries	Total Number of Members	Total Number of Books	Number of Free Reading Rooms	Number of Mass Literacy Centres
Region-I: North West (Kolkata Surroundings)	Thakurpukur Maheshtala	7	2598	28438	7	96
	Budge Budge -I	3	1570	13066	3	65
	Budge Budge -II	5	1253	16934	5	81
	Bishnupur -I	2	241	4041	2	122
	Bishnupur -II	6	6191	59846	6	132
	Maheshtala (M)	7	N.A.	N.A.	7	0
	Budge Budge (M)	1	N.A.	N.A.	1	0
	Pujali (M)	1	N.A.	N.A.	1	24
	Sonarpur	5	2265	21675	5	133
	Rajpur Sonarpur (M)	6	N.A.	N.A.	6	103
	Region Total	43	-	-	43	756
	Percentage of District Total in ()	(29.86)			(29.86)	(21.81)
Region-II: North East and Mid West	Baruipur	4	2289	27252	4	198
	Baruipur (M)	3	N.A.	N.A.	3	0
	Bhangar-I	5	2339	17828	5	122
	Bhangar-II	3	962	10159	3	123
	Falta	4	1368	11631	4	147
	Diamond Harbour -I	1	135	6043	1	85
	Diamond Harbour -II	4	2779	29718	4	99
	Diamond Harbour(M)	2	N.A.	N.A.	2	0
	Magrahat-I	3	1116	9689	3	114
	Magrahat-II	5	1061	20510	5	158
	Kulpi	6	1209	17746	6	61
	Mandirbazar	4	1287	16333	4	118
	Region Total	44	-	-	44	1225
	Percentage of District Total in ()	(30.56)			(30.56)	(35.34)
Region-III: South (Sunderbans)	Canning -I	4	1285	13230	4	93
	Canning -II	4	797	7491	4	112
	Basanti	4	2232	12017	4	168
	Gosaba	6	2671	26273	6	149
	Joynagar-I	5	2931	46386	5	133
	Joynagar-II	4	N.A.	N.A.	4	54
	Joynagar Mazilpur(M)	2	N.A.	N.A.	2	16
	Mathurapur-I	4	881	10890	4	106
	Mathurapur-II	3	752	9352	3	128
	Kultali	3	726	8581	3	0
	Patharpratima	6	1394	17108	6	177
	Kakdwip	2	436	10285	2	135
	Namkhana	5	2164	13256	5	100
	Sagar	5	1415	16002	5	114
	Region Total	57	-	-	57	1485
	Percentage of District Total in ()	(39.58)			(39.58)	(42.84)
	District Total	144	-	-	144	3466

Sources: District Statistical Handbook 2005: Bureau of Applied Economics and Statistics, Government of West Bengal and Office of the District Project Officer, Sarva Siksha Abhiyan
N.A.: Not Available

Figure 5.16: Accessibility of Non-Formal Institutions Across Regions

5.4.5 Non-Formal Education

Non-formal education (NFE) is designed to complement the formal education system. NFE centres are specially meant for students who face accessibility problem or have dropped out. The basic philosophy is to design convenient teaching hours and to bring educational infrastructure nearer to the students. The formal educational institutions are not so distributed that every child willing to join a primary school can get admitted in an institution within 1 kilometer radius from her residence. Non-formal institutions provide them the opportunity to join educational institutions in a nearby place. A large number of non-formal institutions have been established in the district in recent years. Though in some cases these non-formal institutions are sharing the same physical infrastructure used by formal

institutions, there are many examples where they have an independent infrastructural facility.

The main forms of non-formal institutions are Integrated Child Development Scheme (ICDS) centers, Sishu Siksha Kendras (SSK), and, Madhyamik Siksha Kendras (MSK). The ICDS centers run by the Department of Social Welfare provide preschooling opportunity for students upto age 6. Special attention in these centers is given to health of the children. Regular monitoring of their health and additional nutritional support are provided to the students. ICDS centers even satisfy the need of a pregnant mother. They are given necessary medical attention and food as a carrying mother is in need of such supports during pregnancy. SSKs are to provide education for students upto class

Table 5.15: Non-Formal Education: Centers and Enrolment

Region	Block/ Municipality(M)	Total Number of Centers	Total Enrolment of Students	Total Number of Centers	Total Enrolment of Students	Total Number of Centers	Total Enrolment of Students
		ICDS		SSK		MSK	
Region-I: North West (Kolkata Surroundings)	Thakurpukur	219	5326	7	922	0	0
	Mahestala	104	3115	27	2804	2	249
	Budge Budge - I	100	2780	12	1057	0	0
	Bishnupur - I	172	4831	4	374	1	289
	Bishnupur - II	217	4961	34	3200	0	0
	Mahestala (M)	0	0	0	0	0	0
	Budge Budge (M)	0	0	0	0	0	0
	Pujali (M)	0	0	0	0	0	0
	Sonarpur	190	3509	31	2303	4	693
	Rajpur Sonarpur (M)	0	0	0	0	0	0
	Region Total	1002	24522	115	10660	7	1231
	Percentage of District Total in ()	(19.83)		(9.40)		(10.14)	
Region-II: North East and Mid West	Baruipur	246	6348	39	4218	5	385
	Baruipur (M)	0	0	0	0	0	0
	Bhangar - I	151	5235	57	8999	3	446
	Bhangar - II	158	6095	18	2233	3	600
	Falta	201	4627	36	3000	4	502
	Diamond Harbour - I	128	5061	22	2277	0	0
	Diamond Harbour - II	130	3260	33	3321	2	201
	Diamond Harbour (M)	0	0	0	0	0	0
	Magrahat - I	227	7067	31	3057	1	166
	Magrahat - II	192	6832	25	2911	3	375
	Kulpi	190	5991	35	3381	1	85
	Mandirbazar	149	3707	22	2703	1	164
	Region Total	1772	54223	318	36100	23	2924
	Percentage of District Total in ()	(35.07)		(26)		(33.33)	
Region-III: South (Sunderbans)	Canning - I	170	5332	86	8903	2	310
	Canning - II	185	6277	32	4239	7	1364
	Basanti	229	5320	88	9734	6	732
	Gosaba	184	5347	43	3017	0	0
	Joynagar - I	200	5581	27	3061	0	0
	Joynagar - II	148	5954	41	5435	1	153
	Joynagar Mazilpur (M)	0	0	0	0	0	0
	Mathurapur - I	165	4597	50	4313	10	1120
	Mathurapur - II	160	6798	48	4340	1	196
	Kultali	189	7516	32	3911	0	0
	Patharpratima	225	6864	129	16230	2	181
	Kakdwip	166	5678	76	10339	9	975
	Namkhana	121	3409	80	8938	0	0
	Sagar	137	4003	58	7421	1	117
	Region Total	2279	72676	790	89881	39	5148
	Percentage of District Total in ()	(45.10)		(64.6)		(56.53)	
	District Total	5053	151421	1223	136641	69	9803

Source: Office of the District Project Officer, Sarva Siksha Abhiyan (2006-07)

IV. As in the formal institutions, mid-day meals are provided to the students studying in these institutions. MSKs are meant for providing non formal education to students studying in classes V to VIII.

ICDS centers, SSKs and MSKs in South 24 parganas serve the needs of the backward regions. For all these forms of centres, number of institutions established in Region-I is least and highest in Region-III.

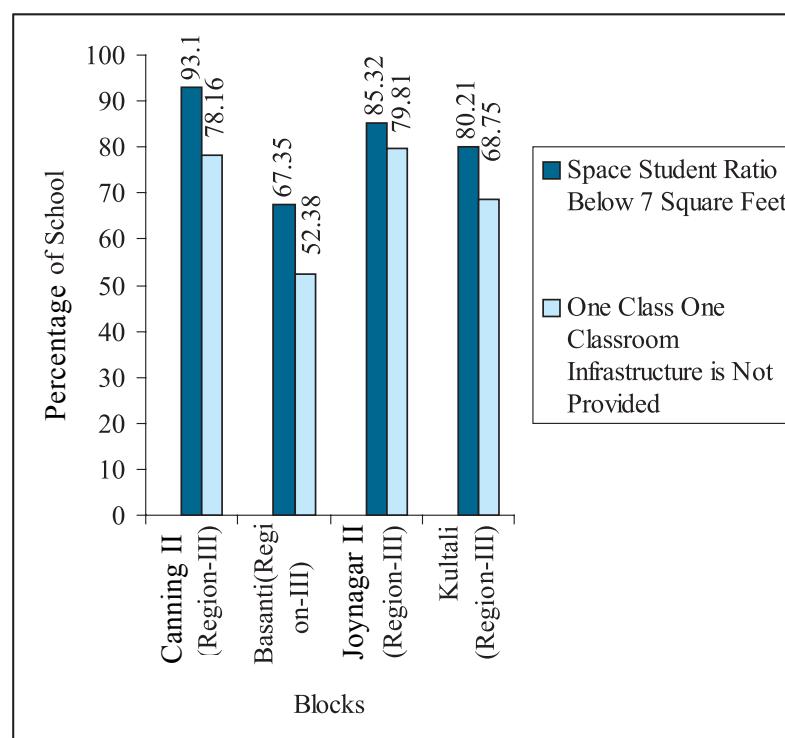
Number of centers established in 4 educationally backward blocks of South 24 parganas i.e. Canning-II, Basanti, Joynagar-II and Kultali is also impressive. In every region, number of ICDS centers is much higher than number of SSKs and MSKs established. This indicates, as like the formal institutions, there is need to extend the network of non-formal institutions at a higher level of study.

5.5 Education: Quality, Performance, Attainment

Quality is a major challenge in education. Not many students master the curriculum and a few reach the expected level of competency. Under resource based education system, poor quality instructions are the major causes of poor quality education. Insufficient and improper physical infrastructure often hampers quality of teaching. It has been already discussed that the minimum required space of 7 square feet per student is not available in many primary schools in South 24 Parganas. This implies overcrowding within a classroom. This affects quality of instruction adversely. Another indicator,

which shows shortage of space and probably affects quality of teaching more adversely,

Figure 5.17: Space Shortage in Primary Schools of Educationally Backward Blocks



is the number of schools where the number of rooms is less than number of classes.

This means either students of different classes are taught jointly or some classes are taken in open space. An alarming proportion of primary schools in the district of South 24 Parganas across all the regions are wanting physical infrastructure in the form of classrooms required. Whereas around 60 percent of primary schools in both Region-I and Region-III lack minimum necessary classroom facility, the proportion rises above 75 percent in Region-II.

The number of schools, where the number of classrooms is less than the number of classes, in Region-I and Region-III has increased during 2001-2007. This indicates that while attention is given to increase the number of schools, basic physical infrastructural facility is not provided. It may be the fact that newborn schools lack such facilities. It may also be noted, for many of those schools, mere construction of a room does not suffice accommodation of all different classes separately and thus such constructions do not meet the one class one room requirement.

Another factor that affects quality of education is the lack of teaching staff in an institution. The average student teacher ratio in primary schools of the district (above 70 percent in 2001-2002) is poorer than the state average (53 in 2002).

Considerable improvement in student teacher ratio has been observed during 2001-2007. To be more specific, student teacher ratio at the primary level improved in every block and municipality during the period. A remarkable increase in student teacher ratio has been observed in Bhangar-I and Kultali. But shortage of teachers is still a major problem in primary institutions of South 24 Parganas. One indicator of shortage of teachers is the number of schools where number of teachers is not greater than number of classes. The indicator identifies the schools where number of teachers is either equal to or less than the number of classes. The first case implies that teachers have to take classes consecutively and continuously, which may affect their productivity and hamper quality of teaching. The second possibility is more critical as it means either a class is not taken or more than one classes are clubbed together to be taken jointly. Such severe shortage of teachers generally means students miss classes regularly and the scheduled syllabus does not get completed in the stipulated time. The problem of shortage of teachers is not so severe in secondary or higher secondary schools. Upper middle, secondary and higher secondary institutions have to run a maximum of 8 classes from V to XII. The average number of teachers per secondary

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Table 5.16: Spatial Distribution of Primary School Level Infrastructure: The Quality Aspects

Region	Block/ Municipality (M)	Number of Schools		Number of Schools Where Number of Teachers is Not Greater than Number of Classes		Student Teacher Ratio		Number of Schools Where Number of Rooms is Less than Number of Classes	
		2006-07	2001-02	2006-07	2001-02	2006-07	2001-02	2006-07	2001-02
Region-I: North West (Kolkata Surroundings)	Thakurpukur								
	Maheshtala	54	49	12	10	39.60	62	30	27
	Budge Budge - I	45	36	8	3	44	62.48	37	30
	Budge Budge- II	92	87	15	7	48.20	62.3	79	77
	Bishnupur - I	109	107	22	17	44.50	68.14	83	83
	Bishnupur - II	106	101	18	22	39.30	56.37	63	54
	Maheshtala (M)	92	90	27	24	53.10	61.51	37	47
	Budge Budge (M)	21	21	8	4	50.50	51.79	7	10
	Pujali (M)	13	11	2	2	52.90	70.68	10	8
	Sonarpur	82	68	6	14	33.20	56.31	52	39
	Rajpur Sonarpur (M)	77	68	7	20	37.70	51.81	24	18
	Region Total	691	638	125	123	42.55	59.88	422	393
	Percentage of Region Total in ()			(18.09)				(61.07)	
Region-II: North East and Mid West	Baruipur	164	152	8	12	49.70	79.04	130	121
	Baruipur (M)	17	17	3	2	44.80	51.86	10	12
	Bhangar - I	98	95	41	13	63.30	110.8	40	76
	Bhangar - II	93	90	17	18	59.60	96.41	66	59
	Falta	148	145	23	6	40.50	59.09	126	137
	Diamond Harbour- I	81	76	14	6	47.80	77.88	65	68
	Diamond Harbour- II	118	115	14	18	40.10	65.53	99	92
	Diamond Harbour(M)	17	16	3	2	33	41.05	12	13
	Magrahat - I	111	108	25	13	66.50	85.31	78	90
	Magrahat - II	134	134	17	12	53.70	79.72	101	110
	Kulpi	206	203	31	38	45.70	65.34	181	165
	Mandirbazar	131	128	28	8	50.90	65.32	95	123
	Region Total	1318	1279	224	148	50.94	76.05	1003	1066
	Percentage of Region Total in ()			(16.99)				(76.10)	
Region-III: South (Sunderbans)	Canning - I	114	112	11	35	50.90	84.03	91	52
	Canning - II	87	84	14	30	76.50	104.8	68	31
	Basanti	147	144	37	36	55.30	83.36	77	93
	Gosaba	155	150	23	39	41.40	52.55	79	81
	Joynagar - I	107	105	36	19	66.70	90.88	55	69
	Joynagar - II	109	101	28	6	78.50	106.6	87	96
	Joynagar Mazilpur (M)	17	18	8	9	48.60	61.05	2	2
	Mathurapur - I	123	122	19	21	60.50	77.71	109	93
	Mathurapur - II	125	125	28	43	46.90	61.77	94	66
	Kultali	96	91	43	32	64.30	111.4	66	73
	Patharpratima	203	199	78	89	42.40	67.57	100	95
	Kakdwip	143	137	35	39	45.70	72.32	96	103
	Namkhana	98	96	12	30	33.20	61.61	33	43
	Sagar	123	123	54	66	47.60	84.99	43	58
	Region Total	1647	1607	426	494	52.23	77.80	1000	955
	Percentage of Region Total in ()			(25.87)				(60.72)	
District Total		3656	3524	775 (21.19)	765	49.70	73.54	2425 (66.33)	2414

Source: Office of the District Project Officer, Sarva Siksha Abhiyan

and higher secondary school in every block and municipality of South 24 Parganas, except Mathurapur-I, is above 8. But as schools often have to absorb huge number of students in each class and have to run separate sections in each class, the shortage of teachers acquires another dimension. Introduction of para teachers in the educational system has supported the under-resourced system by increasing average number of teachers per school and lowering the student teacher ratio. Whereas around 10 percent of total teachers are para teachers in primary schools, the proportion is around 20 percent in upper primary schools. A good percentage of teachers in secondary and higher secondary schools are trained. Trained teachers are specially equipped and that improves the teaching learning process.

Provision of two other infrastructural facilities has become indispensable in secondary and higher secondary schools. One of them, the library facility, is provided in almost all secondary and higher secondary schools. The impressive performance is seen in all regions of the district. Library facility in schools in backward areas is more important as students who cannot buy books generally rely on books borrowed from the library. Only 3 percent of secondary and higher secondary schools in the Sunderban region

does not have a library. The district has made enormous progress in providing library infrastructure in secondary and higher secondary schools. Now time has come when more effort to improve the quality of the library by increasing number of books and engaging trained librarians should be undertaken. Provision of computers in secondary and higher secondary schools has also become necessary in recent times. There is no denying the fact that students need to be computer literate in their school days. Computer knowledge improves skill that has far reaching positive effects in the employment market. The provision of computer facility in schools virtually has not started in the district. The benefit that has been received is reaped by Region-I. Whereas 35 percent of secondary and higher secondary schools in Region-I are provided with computer facility, only 12 percent of schools in Sunderban have the computer facility.

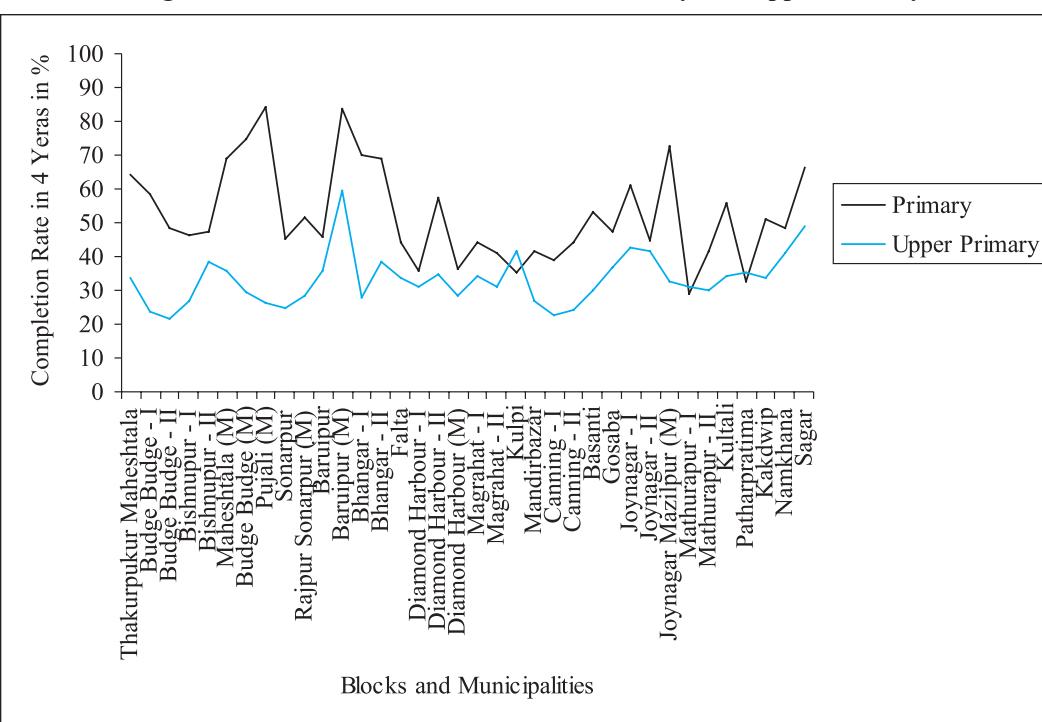
Performance of students in schools is influenced by quality of teaching. A student completing the course in the stipulated number of years is a sign of proper learning of the curriculum. A student entering a primary school in class I is expected to complete primary schooling in 4 years. Similarly a student entering in class V should pass class VIII level in 4 years. The

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Table 5.17: Spatial Distribution of Secondary and Higher Secondary School Level Infrastructure: The Quality Aspects

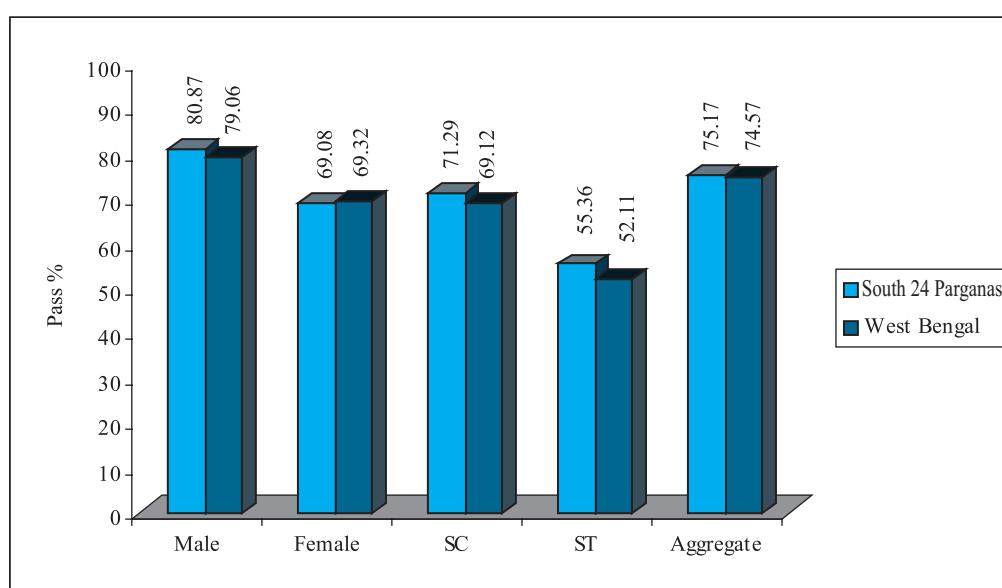
Region	Block/ Municipality(M)	Number of Schools	Number of Schools Not Having Library Facility	Number of Schools Not Having Computer Facility	Average Number of Teachers per School	Percent of Trained Teachers
Region-I: North West (Kolkata Surroundings)	Thakurpukur- Maheshtala	15	1	12	10.87	66.26
	Budge Budge - I	13	0	8	12.23	60.38
	Budge Budge - II	22	1	20	11.27	77.02
	Bishnupur - I	18	3	12	8.44	80.92
	Bishnupur - II	23	0	19	11.87	70.33
	Maheshtala (M)	37	0	22	11.24	75.96
	Budge Budge (M)	9	1	6	9.78	63.64
	Pujali (M)	4	0	3	9.25	78.38
	Sonarpur	12	0	7	13.25	68.55
	Rajpur Sonarpur (M)	36	2	15	12.78	71.52
	Region Total	189	8	124	11.40	71.88
	Percentage of Region Total in ()		(4.23)	(65.61)		
	Baruipur	30	0	19	11.77	67.71
Region-II: North East and Mid West	Baruipur (M)	4	0	1	19.75	75.95
	Bhangar - I	17	0	14	11.35	60.1
	Bhangar - II	13	0	10	10.31	53.73
	Falta	34	3	26	10.26	77.36
	Diamond Harbour - I	18	1	18	10.44	62.77
	Diamond Harbour - II	25	0	19	9.32	75.54
	Diamond Harbour (M)	7	0	3	10.71	88
	Magrahat - I	27	1	23	11.04	68.79
	Magrahat - II	23	1	17	10.74	75.3
	Kulpi	35	4	28	8.94	69.65
	Mandirbazar	29	6	25	8.55	77.42
	Region Total	262	16	203	10.34	70.77
	Percentage of Region Total in ()		(6.11)	(77.48)		
Region-III: South (Sunderbans)	Canning - I	15	2	11	12.07	81.22
	Canning - II	10	0	10	8.2	71.95
	Basanti	22	0	22	8.91	77.55
	Gosaba	40	1	39	8.28	78.55
	Joynagar - I	23	0	21	10.17	65.81
	Joynagar - II	19	0	19	8.58	68.1
	Joynagar Mazilpur (M)	7	0	4	9	79.37
	Mathurapur - I	26	3	21	7.31	71.58
	Mathurapur - II	31	3	26	10.39	71.12
	Kultali	15	1	14	10.27	68.18
	Patharpratima	41	0	38	8.8	65.65
	Kakdwip	39	0	30	9.03	76.14
	Namkhana	22	0	18	8.64	74.74
	Sagar	31	0	27	9.42	73.97
	Region Total	341	10	300	9.12	72.84
	Percentage of Region Total in ()		(2.93)	(87.98)		
	District Total	792	34	627	10.07	71.88
	Percentage of District Total in ()		(4.29)	(79.17)		

Source: Office of the District Project officer, Sarva Siksha Abhiyan (2006-07)

Figure 5.18: Performance of Students in Primary and Upper Primary Schools

cohort study, results of which were shown earlier (Table 5.6), shows that schools in municipal areas have a higher proportion of students completing the course in stipulated number of years than in block

areas. Rajpur Sonarpur municipality is a notable exception. Both Rajpur Sonarpur municipality and its adjacent block of Sonarpur, though situated in the outskirts of Kolkata, are poor performers with

Figure 5.19: Performance of Students in Madhyamik Examination (2007): The State and the District

respect to the said indicator. Sagar and Namkhana, two blocks of the Sunderbans that performs well in literacy, have a relatively good performance in terms of students completing their school in primary and upper primary level in the stipulated

number of years. The performance of students deteriorates at the upper primary level. There is no block in the district where 50 percent of enrolled students completed upper primary level in 4 years (Figure 5.18).

Table 5.18: Block-wise Percentage Distribution of Households by Education Status of the Most Educated Person of Households in Blocks

	Block	Percentage of Households where the Most Educated Person							Rank
		is Illiterate	has Studied in Primary to Class V Level	has Studied in Class VI to X Level	has Studied Below XI Level	has Studied in Class XI to Graduate Level / Professional Diploma Level	has Studied Above Graduation to Postgraduate Degree/ Professional Diploma Level	has Studied Above X Level	
Region-I: North West (Kolkata Surroundings)	Thakurpukur	3.62	20.71	45.60	69.92	23.98	6.10	30.08	1
	Maheshtala								
	Budge								
	Budge-I	7.07	24.42	44.71	76.20	21.37	2.42	23.80	3
	Budge								
	Budge-II	13.85	30.64	34.83	79.33	16.47	4.20	20.67	9
Region-II: North East and Mid West	Bishnupur-I	6.73	30.58	44.66	81.96	15.27	2.77	18.04	12
	Bishnupur-II	5.50	26.13	45.36	76.98	19.31	3.71	23.02	4
	Sonarpur	9.53	27.88	40.95	78.36	18.00	3.64	21.64	5
	Baruipur	9.62	30.89	35.28	75.79	18.50	5.71	24.21	2
	Bhangar-I	15.40	36.32	32.02	83.75	11.68	4.57	16.25	18
	Bhangar-II	7.12	33.32	43.83	84.27	12.94	2.79	15.73	22
	Falta	7.79	29.16	42.09	79.05	18.10	2.85	20.95	6
	Diamond								
	Harbour -I	7.39	28.63	45.74	81.76	15.05	3.19	18.24	11
	Diamond								
Region-III: South (Sunderbans)	Harbour -II	9.28	29.91	40.10	79.30	17.63	3.08	20.70	7
	Magrahat -I	6.41	35.11	43.28	84.80	12.88	2.32	15.20	25
	Magrahat -II	6.42	34.75	42.23	83.40	14.00	2.59	16.60	15
	Kulpi	13.52	34.85	35.64	84.01	13.34	2.64	15.99	19
	Mandirbazar	9.54	33.84	38.33	81.72	15.07	3.21	18.28	10
	Canning -I	8.92	39.39	34.99	83.31	13.75	2.94	16.69	14
	Canning -II	16.11	48.92	27.06	92.09	6.96	0.94	7.91	29
	Basanti	19.93	45.48	24.71	90.12	7.02	2.86	9.88	27
	Gosaba	8.19	31.76	39.35	79.29	16.75	3.95	20.70	7
	Joynagar-I	12.92	37.44	33.12	83.48	13.45	3.07	16.52	16
	Joynagar -II	11.18	43.06	32.04	86.29	11.07	2.65	13.71	26
	Mathurapur-I	9.34	36.17	36.85	82.36	14.54	3.09	17.64	13
	Mathurapur-II	8.85	38.20	37.32	84.37	12.66	2.97	15.63	24
	Kultali	11.68	43.29	36.01	90.98	7.70	1.32	9.02	28
	Patharpratima	8.45	36.20	39.08	83.74	11.48	4.79	16.26	17
	Kakdeep	6.93	35.35	41.89	84.18	13.09	2.73	15.82	21
	Namkhana	5.59	32.84	45.87	84.30	13.32	2.39	15.70	23
	Sagar	3.62	31.95	48.46	84.02	13.27	2.70	15.98	20

Source: Rural Household Survey (2004-05)

Ranks are calculated for a list of 29 blocks of the district of South 24 Parganas. The highest is ranked 1

The performance of South 24 Parganas at the next higher level is impressive. The result of the Madhyamik examination of 2007 reveals that the percentage of successful candidates in South 24 Parganas was higher than the pass percentage achieved by the whole state. Performance of examinees of the backward groups was also better than that achieved in the state as a whole.

Performance at a higher level is expected to be influenced by the provision and accessibility to the infrastructure, level of development, economic condition of households, etc. The Rural Household Survey 2005 classified households in terms of education level attained by the highest educated person of a household in each block. The proportion of households in which the most educated person has studied above class X level can be estimated for each block. The results show (Table 5.18) that blocks in Region-I have generally achieved more in this aspect. This may be due to the fact that people in this region have better access to higher education infrastructure and it becomes easier for them to access facilities available in the district of Kolkata. A strong rank correlation coefficient of 0.72 between the incidence of poverty and proportion of

households in which the most educated person has studied above class X level establishes that attainment on education in relatively prosperous blocks are better than that in income poor blocks. A number of households probably cannot continue higher studies due to relatively constraints in poverty stricken blocks. It is most unfortunate that higher level education infrastructure is almost non-existent in many remote blocks of South 24 Parganas.

Educational attainment has some positive effect on society. Educational attainment by one individual encourages others to get educated. The societal attitude towards education in an educated area is more conducive for spread of education than in an educationally backward area. This can be seen from higher enrolment and lower dropout rate in an educationally advanced area. Educational attainment is important as it controls the rate of drop out at the elementary level. The rank correlation coefficient between blockwise proportion of households in which the most educated person has studied above X level and the corresponding rate of drop out at the primary stage is 0.45. The same coefficient at the upper primary stage is 0.46. Educational attainment thus has a positive impact on controlling drop out rate.

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5.6 Special Programmes on Education

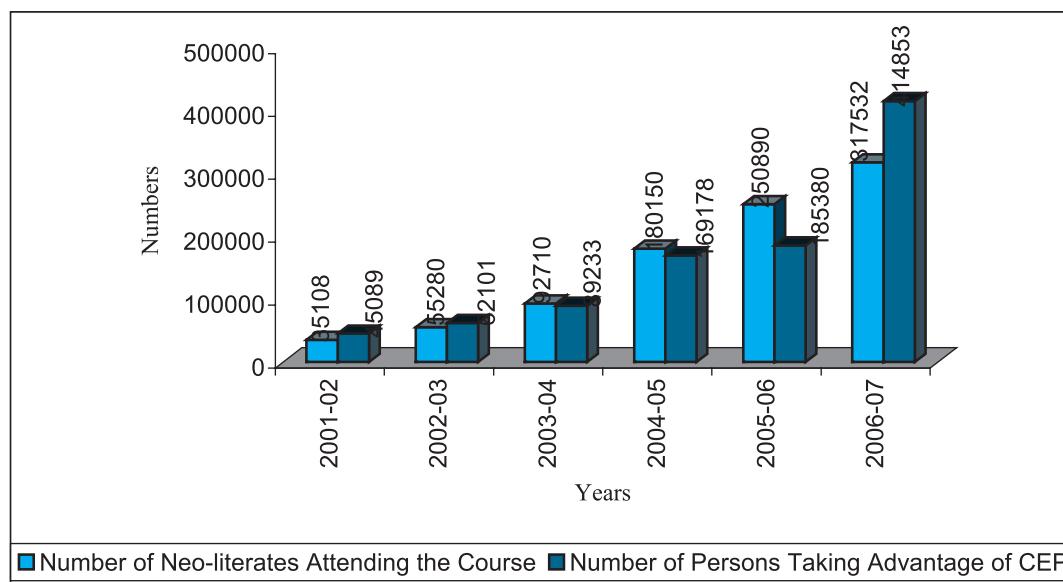
Education is in the concurrent list in the Constitution of India. Both the Central and the State governments finance several programmes on education. The district administration makes sincere efforts to implement these programmes so that the fruit reach the educationally backward. The total literacy campaign (TLC) was launched in the district in the month of February, 1992. The target population at the time of beginning of the programme was around 10 lakhs. The TLC programme was successful to make more than 80 percent of the 9-14 age group children and around 73 percent of 15-50 age group population, literate. The importance of post literacy programme (PLC) to fulfill the needs of literate population, so that the neoliterates do not lose their literacy status, started with fanfare in the district. The evaluation of PLC learners revealed that more than 85 percent of learners scored more than 70 percent in the evaluation. The continuing education programme (CEP) was launched in the district in 1999 after the completion of the PLC programme. The basic objective of the programme was to upgrade literacy skills of the neo-literates so that they can be involved in income generating opportunities. CEP provides learners an opportunity of lifelong learning according

Literacy as a Tool of Empowerment: Continuing Education Center (CEC) Based Self Help Groups

Income generation programme (IGP) is one of the programme under continuing education programme. One feature of IGP is formation of CEC based self help groups (SHG) by the Preraks. In 24 Parganas(S) total 72 numbers of such SHGs have been formed till now and some of these groups have undergone skill development training imparted by Jana Sikshan Sangathan, Narendrapur. The Prerak of Simla CEC in Khorda Gram Panchayat under Diamond Harbour-II Block has formed one such SHG named 'Sandhani'. Sayeeda Rajina Khatun, the Prerak of the CEC is acting as secretary of the SHG. The SHG has undergone training on ornamental pisciculture organised by Zilla Saksharata Samity, 24 Parganas(S). At present the members of SHG have taken loan from bank and started a business of supplying ornamental fish in different shops which has increased their income and fulfilled their dream of being self reliant.

to their need and choice, development of human resource through self learning, thinking skills, etc. CEP was specially designed to ensure participation of people from all sections of the society and converge the programme with other development programmes. The successful running of CEP in the district was observed from increase in number of beneficiaries in recent years (Figure 5.20).

Sarva Siksha Abhiyan (SSA) is a

Figure 5.20: Changes in Number of Beneficiaries in Continuing Education Programme (CEP)

programme to universalise elementary education, ensure students complete their study and offer quality education. SSA was launched in the district after successful completion of District Primary Education Programme(DPEP). The targeted time frame was fixed to universalise elementary schooling and retention by 2010. The main objectives of SSA are to promote social justice through basic education, bridge gender and social category gaps and to ensure quality education for quality of life. The programme stressed on sustainable partnership among Central, State and Local governments. A major thrust is given on community partnership by involving panchayat raj institutions, school management committees, village and ward education committees and parent teacher associations. The novelty of SSA is that such a structured and component wise

programme to improve education scenario was not implemented earlier.

Another major programme on education that has received attention in recent years is the mid-day meal programme. The basic objective of the programme is to offer incentive to the primary school going children to join and attend school. It has been widely seen that mid-day meal programme has resulted in increase in enrolment and attendance in primary schools. At an early stage of the programme, children were given edibles and generally a particular day in a month was chosen for the distribution. Now cooked food is distributed in all primary schools of the district. It has been now decided that mid-day meal programme will run up to class VIII in educationally backward blocks of Canning-II, Joynagar-II, Kultali and Basanti. The responsibility of cooking has been

entrusted to a self help group of the village. The official grant earmarked for the mid-day meal scheme is 100 grams of rice per head per day and Rs. 2.50 per head per day. The schools are given the said amount according to their enrolment and for a maximum of 20 days in a month subject to a maximum of 222 days in a year. Barring some minor problems, the programme of mid day meal is running smoothly in the district and an amount of around 15 crores has been spent during April 07-October 07. It is observed that the sections of the society who were almost never keen on schooling are now turning up.

In spite of undertaking various activities for girls education, it has not been possible to make any major breakthrough in areas dominated by SC, ST, OBC, and, minority communities. In some of the areas, migratory population or the practice of child labour have posed major problems. The most important factor that has impact on retention and quality assurance for girls

is the societal attitude towards the necessity of educating the girl child, specially at the upper primary level. Hence, the National Programme for Education of Girls at the Elementary Level (NPEGEL) has been designed for undertaking more intensive gender interventions in these pockets. This is in addition to the ongoing process of SSA. It has been seen that a girl child friendly environment in schools helps the cause of girls' education. NPEGEL promotes developing adequate gender sensitive infrastructure, mobilisation of women groups and female panchayat members to sensitise educational issues of the girl child, convergence of formal and non-formal institutions to facilitate girls' education and to concentrate on educational issues of girl child.

The Government of India has approved a new scheme called Kasturba Gandhi Balika Vidyalaya (KGBV) for setting up residential schools with boarding facilities at elementary level. The infrastructure will be built in remote areas belonging

Table 5.19: Amount of Expenditure and Number of Beneficiaries in Different Programmes on Education

Project	2006-07		2005-06	
	Amount of Expenditure in Rs.	Number of Beneficiaries	Amount of Expenditure in Rs.	Number of Beneficiaries
SSA	648228310	1199560	466271257	1123171
NPEGEL	10710469	72016	5458326	-
KGBV	3225000	116	3750000	-

Source: Office of the District Project Officer, Sarva Siksha Abhiyan

predominantly to the SC, ST, OBC, and minorities. The scheme will be coordinated with the existing schemes of Department of Elementary Education and Literacy e.g. SSA, NPEGEL, etc. Schools at Howramari in Canning-II, Janapriyanagar Janapriya in Basanti, Jamtala Bhawan Chandra in Kultali

and Nolgoradham Baikuntha Vidyapith in Joynagar-I have been already covered by this program. The efficient running of these government programmes can be seen from increase in number of beneficiaries in recent years.

5.7 Problems and Prospects : The Path Ahead

The attainment of the district on education is encouraging. But there is no scope of complacency and much is yet to be done. This is time to consolidate and to make sincere effort to improve upon those aspects that were not properly attended. The achievement of the district in reducing illiteracy, specially when decadal growth in literacy is considered, is impressive. The same holds true when decadal growth in female literacy and reduction in gender gap in literacy are considered. But literacy in some backward pockets and for some underprivileged social group is miserable. Thus there is need of geographical, social group-based targeting of literacy policies. The initial goal should be to plan in such a manner so that there will not be any educationally backward block in the district in near future. Gender friendly non-formal institutions and literacy centers should be established to reduce gender gap in literacy.

The performance in school enrolment

clearly gives a sign that the district in near future will achieve the target of universal enrolment. But the real problem is the rate of dropout. Dropout rate at every stage of education is alarmingly high. Female enrolment falls drastically when the age of marriage is approached. Thus there is need to provide some incentive to retain girl students. The system of mid-day meal has well known positive impact on retention. The programme should be extended to the upper primary level at least for girl students in all blocks and municipalities of the district. Introduction of financial grant can be effective to retain girls at a higher level of education.

The involvement of the community can be effective in reducing dropout or to take the dropped out students back to the classroom. A retention drive with community and parents of dropped out children is sure to be effective. Apart from management and monitoring of schools,

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Score Sheet

Achievements	Areas of Concern
<ul style="list-style-type: none"> Impressive decadal increase in female and aggregate literacy rate. 	<ul style="list-style-type: none"> Aggregate literacy rate is not impressive when compared to other districts of West Bengal. Literacy rate among ST's is miserable.
<ul style="list-style-type: none"> Most of the blocks and municipalities registered an impressive growth in literacy during 1991-2001. Performance in blocks is slowly catching up with that of municipalities. 	<ul style="list-style-type: none"> A significant rural urban gap in literacy still exists.
<ul style="list-style-type: none"> Whereas there were 16 blocks having a gender gap in literacy above 30 percent in 1991, there is no block in that category in 2001. 	<ul style="list-style-type: none"> Canning-I, Canning-II, Basanti and Joynagar-II are the four blocks where female literacy rate is less than 50 percent.
<ul style="list-style-type: none"> Almost universal enrolment for the 5-8 age group children. Every block and municipality has an enrolment ratio above 85 percent for 9-14 age group children. Enrolment of backward group children is also satisfying. 	<ul style="list-style-type: none"> Huge dropout of students at primary and upper primary stage. Canning-II has a dropout rate above 50 percent at the upper primary level.
<ul style="list-style-type: none"> Impressive girls' enrolment at the primary and upper primary level. Enrolment of girls coming from backward groups also worth mention. 	<ul style="list-style-type: none"> Female enrolment falls at the higher levels of education. It falls drastically when the age of marriage is approached.
<ul style="list-style-type: none"> Widespread primary school infrastructure across all regions. Moderate progress in provision of basic amenities like drinking water and sanitation in primary schools. 	<ul style="list-style-type: none"> Shortage of space is the most crucial infrastructural bottleneck in primary schools. Proportion of schools where number of classrooms is less than number of classes is alarmingly high. Lack of teachers, manifested by number of schools where number of teachers is not greater than number of classes, is also a matter of concern.
<ul style="list-style-type: none"> Moderate proliferation of secondary and higher secondary, and, college and professional level institutions. 	<ul style="list-style-type: none"> The burden of a college institution in terms of average population served and average area served is too high.
<ul style="list-style-type: none"> Commendable achievement in establishing ICDS and SSK centers. 	<ul style="list-style-type: none"> Relatively inaccessible higher level non formal educational institutions.
<ul style="list-style-type: none"> Increase in number of beneficiaries in government educational programmes. 	<ul style="list-style-type: none"> Lack of co-ordination of educational programmes with programmes of other departments.

the members of the local government should be held responsible and involved in the task. Involvement of women teachers, women guardians, self help groups and ensuring earnest effort from them is necessary to control dropout of girl children. This is time that the graveness of the problem is acknowledged and necessary attention is paid and policies taken to check the rate of drop out.

Provision of educational infrastructure at the primary level is more satisfactory when compared to educational institutions at a higher level. Student teacher ratio, number of students per school increases substantially in secondary and higher secondary schools when compared to a primary school. Inaccessibility to college level infrastructure in the district is a well known obstacle to higher education. Thus, along with consolidation of achievement at the primary level, proliferation of higher level institutions should be sincerely targeted. The quality aspects of education by improving physical infrastructure and full time teaching personnel should get attention.

Non-formal institutions are often thought as second grade institutions lacking adequate infrastructure and even an independent physical infrastructure in some cases. Provision of additional infrastructural facilities for non formal

institutions should also receive attention. As non formal institutions intend to support education of girl child, female teachers in large numbers should get employment in those institutions.

Government programmes on education aims at improvement of educational scenario of the district. The successful running of adult education centers has resulted in eradication of adult illiteracy to a large extent. These programmes cannot sustain if such programmes are not linked with employment generation opportunities. Continuing Education Centers provide such employment opportunities. But there is need to converge the literacy programmes with other developmental programmes. Training to establish fishery, livestock rearing can provide additional employment opportunity for learners. The mid day meal programme, for more successful operation, should involve the mothers in monitoring. Contributions of parents, local government are necessary to improve quality of food and to offer students the facility when a school runs more than 222 days in a year.

It is observed that achievement on education does not concentrate in any particular region of the district. Though blocks and municipalities of Region-I, as situated around Kolkata, are more favourably placed than Region-II and Region-III, performance of some blocks

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and municipalities of Region-II and Region-III on literacy and enrolment matches performance attained in some parts of Region-I. But the rural urban gap in every region is still huge and steps to bridge the gap is necessary. The regional difference in provision of infrastructure at higher level of education is clearly observed. This has impacts on educational attainment. The region of Sunderban has

not yet equalized with other regions when higher level education is considered. Hence fund flow for educational development of Sunderban should continue.

Lack of basic education is a denial of fundamental right. Decisive actions at the grass root level under the umbrella of district administration are sure to improve the scenario.

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HEALTH STATUS IN SOUTH 24 PARGANAS

Along with education, health is the most important human development indicator. It is crucial in determining the level of welfare of individuals and the community. Health is important not only as a target important for its own sake, but for enabling the individual to access or utilize the facilities and services available to the person. Provisioning of health services to the community is therefore crucial in any economy, and more so in developing

economies. In particular, policy makers must ensure equitable access to the health care system, by providing cost effective health services (as recognized in the Alma-Ata “Health for All” initiative undertaken by the World Health Organisation in 1978) and facilities to the poor especially in rural areas. Such intervention characterizes an effective and socially acceptable approach to poverty reduction.

6.1 Healthcare Institutions in South 24 Parganas: A Stock-taking

6.1.1 Institutional Network

State healthcare system in South 24 Parganas comprises a total of 99 Labour Department under State Government (SGL) and 1 by Central Government (CG)

Table 6.1: No. of Healthcare Institutions

Sl. No.	Under control of	Total Institutions	Total No. of Beds
1	CMOH South 24 Parganas	99	2633
2	Pvt. Health Institutions	141	1901
3	Local Bodies	5	88
4	State Govt. Labour Dept	1	300
5	Central Govt.	1	143
Total		247	5065

Source: Office of CMOH, South 24 Parganas

healthcare institutions under the control of the Chief Medical Officer (CMOH), 141 private healthcare institutions, 5 institutions run by Local Bodies, 1 by

Healthcare institutions under the control of CMOH include District hospital (DH), Sub-division Hospitals (SDH), Rural Hospitals (RH), Block Primary Health centers (BPHCs), Primary health

centres (PHCs) and sub-centres (SCs). The health sub-centers are functionally grouped into government clinics and dispensaries (Table 6.2).

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The three-tier referral health care system is as follows:

- At the lowest level we have Government clinics and dispensaries, which offer only out-patient treatment,
- PHCs providing basic in-patient facilities,
- Government Hospitals situated at the block, sub-division and district head quarters, offering full fledged out-patient and in-patient services to the district population.

On an average, for each SD and SG hospital-level healthcare facility there are 3 RHs/BPHCs; each RH/BPHC has under

is an unwelcome trend that should be reversed.

Table 6.2: Healthcare Institutions under the Control of CMOH, South 24 Parganas

Sl. No.	Category of the Health Institution	Total No. of Institutions	Total No. of Beds
1	Dist. Hospital	1	620
2	SD Hospital	4	486
3	SG Hospital	4	406
4	Rural Hospital	9	385
5	BPHC	18	235
6	PHC	63	501

Source: Office of CMOH, South 24 Parganas

The GIS map of villages of the District shows that there are a large number of villages without medical facilities. Further, these are not concentrated in the Sundarban Region but also occur in the North-Eastern part of the district and even on the periphery of Kolkata.

Table 6.3: No. of Healthcare Institutions – Trends in South 24 Parganas

Year	Hospitals	Health Centres	Clinics	Dispensaries	Total Beds
1995	11	81	26	23	958
1999	12	83	42	29	1049
2004	27	82	982	30	1026

Source: Bureau of Applied Economics & Statistics, District Handbooks

it 2 PHCs and each PHC has 17 SCs under its control.

It can be seen from Table 6.3 that over time there has been an increase in all health care facilities. There has been an increase in the number of Hospitals and particularly in the number of Clinics after 1999. While upgrading has led to a marginal decrease in Health Centres between 1999 and 2004, there has been a some reduction in number of beds. This

6.1.2 Settlement Density and Infrastructure

Apart from the infrastructural set-up other important issues

are size of the health care service sector and the size of the population for whom they extend health care coverage. Table 6.4 examines the situation with respect to different blocks in South 24 Parganas for some critical parameters. For analytical purposes the blocks are divided into three principal regions:

- Region-I: North West (Kolkata Surroundings),
- Region-II: North East and Mid West, and
- Region-III: South (Sundarbans)

Figure 6.1 Availability of medical facilities in south 24 parganas

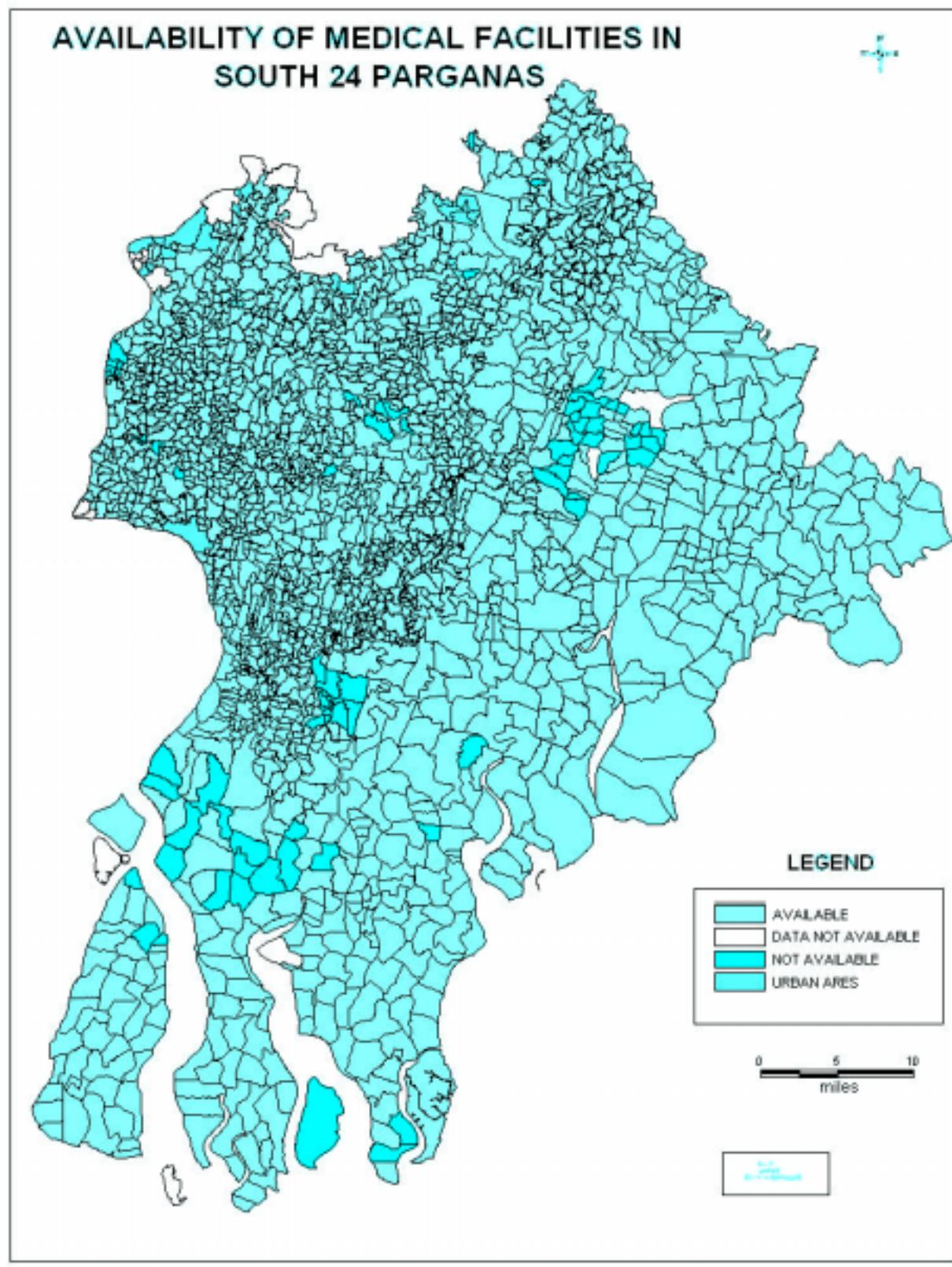


Table 6.4: Health Care Infrastructure : Block-wise, 2006

Block	Population	Total No. of Villages	No. of Sub Centers	No. of RHs / BPHCs/ PHCs	RH + BPHC + PHC						No. of Villages with nearest PHC within 5 Km (If not available within the village)	
					Number of							
					Beds	Medical Officers	Nurse	Health Assistants Male /Female	Pharmacists & Technicians			
Thakurpukur-Mahestala	136903	66	19	1	15	3	5	23	3	15		
Budge Budge - I	99945	40	14	3	36	6	4	16	6	6		
Budge Budge - II	173446	66	24	3	72	8	11	42	8	3		
Bishnupur - I	206370	86	28	3	35	6	9	49	5	3		
Bishnupur - II	190636	78	26	2	25	7	6	39	5	39		
Sonarpur	167408	74	23	4	47	14	16	30	13	38		
Region I: North West (Kolkata Surroundings)	974708	410	134	16	230	44	51	199	40	104		
Baruipur	351439	230	48	4	90	32	36	69	15	49		
Bhangar- I	204380	148	28	2	25	5	7	53	3	16		
Bhangar- II	207580	111	28	3	31	5	10	50	4	33		
Falta	221695	175	30	2	25	5	4	43	3	0		
Diamond Harbour - I	133366	93	18	3	31	5	8	24	3	32		
Diamond Harbour - II	165233	126	22	3	31	6	11	22	3	57		
Magrahat - I	164650	130	31	2	25	7	6	50	4	48		
Magrahat - II	198281	132	36	3	31	6	9	53	4	26		
Kulpi	242752	242	33	5	47	8	13	44	4	51		
Mandirbazar	228335	99	25	1	15	5	5	31	2	36		
Region II: North East and Mid West	2117711	1486	299	28	351	84	109	439	45	348		
Canning - I	244627	61	56	2	78	16	25	79	11	3		
Canning - II	195967	161	45	2	25	3	5	69	6	11		
Basanti	278592	65	63	4	33	2	8	68	5	16		
Gosaba	222822	122	51	3	31	5	10	41	4	6		
Joynagar - I	219090	134	50	3	46	7	12	71	9	23		
Joynagar - II	209145	115	47	4	52	9	15	67	8	2		
Mathurapur - I	262092	155	37	3	76	10	17	44	5	44		
Mathurapur - II	183131	119	45	4	82	10	23	53	7	2		
Kultali	187989	52	43	4	47	9	11	57	6	4		
Patharpratima	288394	87	65	4	61	7	11	55	5	29		
Kakdwip	239326	189	54	4	116	25	41	56	5	18		
Namkhana	160627	37	37	5	43	10	8	43	8	7		
Sagar	185644	121	42	4	82	9	19	40	8	21		
Region III: South (Sundarbans)	2877446	1418	635	46	772	122	205	743	87	186		

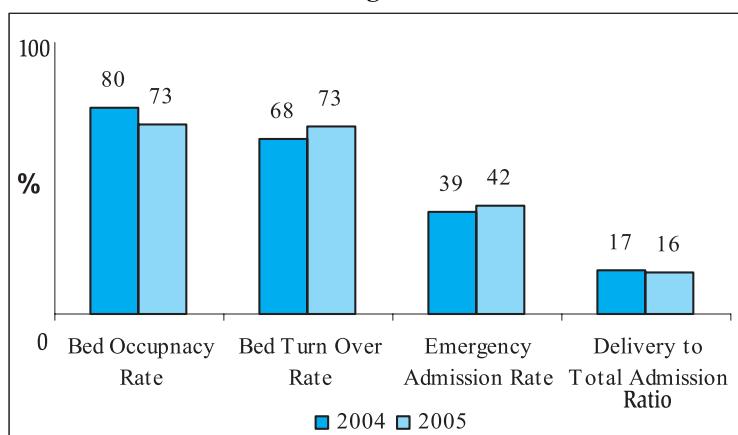
Source: Office of CMOH; Health On the March

The volume of health care services is measured in terms of the physical infrastructure (consisting of the number of SCs, PHCs, BPHCs and RHs) Medical Officers, Nurses, Health Assistants,

Pharmacists and Technicians.

It can be seen that Region-I has the lowest population, and Region-III the largest population. We would expect that the parameters studied would also increase

Figure 6.2: Indication of Hospital Performance in South 24 Parganas



proportionately with the population. Such a trend can be observed in general with two exceptions – the increase in number of beds and technicians and pharmacists between Region-I and Region-III is substantially less than the increase in population between these two regions. On the other hand, the increase in the physical infrastructure and manpower is significantly higher than the population increase between Region-II and Region-III. However, this analysis merely examines whether the expansion in health infrastructure has been commensurate with respect to the increase in population – it does not take into account whether the health infrastructure is capable of supporting the population pressure or not. The latter analysis is undertaken subsequently.

The regional perspective also hides the considerable block-wise variations. For instance, Mandirbazar (Region-II), ranking eighth according to population, has a poor

infrastructure – both physical and service providers. Region-III blocks like Patharpratima, Basanti, and Mathurapur I also have very high populations (second, third and fourth highest, respectively). However, while Basanti has a satisfactory number of RHs/BPHCs and Sub-Centers, the number of beds (in hospitals) and medical staff is very low.

Similarly in Patharpratima, the number of doctors and nurses is inadequate. Mathurapur I has a satisfactory physical infrastructure, but the staff strength is low. A contrasting picture of plenty can be seen in Sagar where the population is low, but both staff and particularly the physical infrastructure are very satisfactory.

An interesting ratio is that of the number of BPHCs, RHs and SDHs to the number of Sub Centres. While the former provides in-patient admission facilities, the facilities extended by Sub Centres is limited to outpatients. This ratio does not vary substantially across blocks in each region – the coefficient of variation in the three regions are 48%, 43% and 34% – but varies significantly across all blocks in the District (coefficient of variation is 80%). This variation is the highest in Region-I, adjoining Kolkata, and lowest in the Sundarban region.

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6.2 Performance of Hospitals

It can be seen that the health infrastructure in blocks is not always consistent with the demographic pressure. This is reflected in indicators like Bed Occupancy Rate (BOR), Bed Turn Over Rate (BTOR), Emergency Admission Rate (EAR), and Delivery-Admission Ratio (DAR).

The aggregative performance appears relatively satisfactory and compares favourably with existing standards accepted by the Health Department, Government of West Bengal (see Figure 6.2). Thus, BOR – reflecting the extent to which existing facilities are utilized – was within the norms in 2004. In 2005, however, it fell by 7 percentage points to a level that is marginally below the WHO norm. The BTOR indicates the load on the health infrastructure. The performance is slightly better in this regard, as BTOR level has increased from 2004 levels by 5 percentage points, and attained the accepted standards of 72-96%. The problem with these figures is that they may be interpreted as evidence that people are ‘healthier’ and do not have to access health services. In reality, these figures are more likely to reflect the low reliance of the population on public health services. This is supported by the low figures for EAR and DAR. While the standard for EAR is 40-45%, the actual rates were lower in 2004 and just attained the standard in 2005. On the other hand, deliveries are expected

to constitute the major share of admissions, particularly in a District with low average age of marriage and long period of fertility. However, the extremely low figures for DAR clearly indicate that institutional deliveries are relatively few. This issue has been discussed in greater details in a subsequent section. Data from *Health on the March*, published by the State Government, also shows that the proportion of major and even minor surgeries is relatively low in the public sector.

It is of course possible that the proximity of most of the blocks to Kolkata enables the district population to readily access hospitals in the latter. While this may explain why pressure on the District health facilities is low, it would also indicate a break-down of the three-tier referral system, lying at the core of decentralization of health facilities.

BOR is worst in Garden Reach SGH, followed by Bijoygarh and Bagha Jatin SGH. A considerable extent of under-utilisation of existing facilities – reflected in a low BOR – is also seen in Diamond Harbour and Vidyasagar SGH. The load on the health infrastructure is reflected in BTOR. The worst performance is by Diamond Harbour SGH, followed by Garden Reach and Baruipur SGH. EARs are substantially below the norms indicating the inability of SGHs to address the needs of patients.

Apart from the referral institutions, the

situation in blocks is also worth examining. This is not an easy task as there are considerable block-wise variations. Only six blocks out of 29 have satisfied norms

Table 6.5: Indicators of Individual Hospital Performance, 2006-07

Name of the Unit	Total No. of In-Patients	Total No. of Out-Patients	% of Deliveries Performed	% of Emergency cases referred out	% of Emergency cases referred in	Average Bed Occupancy Rate	Bed Turnover Rate
M.R. Bangur Hospital	41870	341789	16.1	5.8	9.6	71.5	72.5
Canning SD Hospital	9317	327048	17.0	8.3	0.1	100.8	74.8
Kakdwip SD Hospital	7939	182309	23.7	8.7	0.6	75.4	47.7
Baruipur SD Hospital	13335	223401	24.5	8.1	5.4	103.2	121.3
Diamond Harbour SD Hospital	11333	128960	52.0	4.2	10.5	43.1	176.8
Garden Reach SG Hospital	1359	63296	1.1	24.4	0.0	3.0	162.4
Vidyasagar SG Hospital	18774	188254	22.1	10.0	0.2	58.3	65.6
Bijaygarh SG Hospital	811	21457	17.9	6.5	0.0	25.6	25.3
Bagha Jatin SG Hospital	5443	43283	12.3	3.5	0.0	26.1	31.6
RH/BPHC							
Sonarpur	4142	146930	23.1	19.9	0.0	76.4	129.3
Baruipur	724	15221	0.0	13.0	6.8	3.7	N/A
Joynagar - I	4000	90268	33.5	8.7	0.0	67.4	174.7
Joynagar - II	3111	150225	12.5	5.2	0.0	42.3	N/A
Kultali	1997	108199	16.6	11.6	7.2	67.5	21.4
Bhangar - I	894	89854	37.8	20.1	0.0	56.0	82.5
Bhangar - II	1710	83046	5.9	34.8	0.0	33.4	71.3
Canning - I	995	28763	10.4	7.8	0.0	N/A	N/A
Canning - II	538	74263	30.3	11.9	0.0	23.5	13.3
Basanti	1158	42043	7.9	3.7	0.4	98.5	33.8
Gosaba	982	33334	19.7	17.0	0.0	65.8	34.9
Thakurpukur-Mahestala	123	27604	5.7	785.4	104.9	0.1	0
Bishnupur - I	565	96914	4.4	17.3	0.0	17.6	N/A
Bishnupur - II	1715	69228	12.9	19.4	0.0	69.4	N/A
Budge Budge - I	2643	154419	2.6	2.9	0.0	113.5	56
Budge Budge - II	3581	106696	15.1	7.0	0.0	38.2	N/A
Falta	1302	66073	17.7	3.4	0.0	75.3	85.5
Magrahat - I	1884	88349	6.7	8.8	0.0	47.1	130.3
Magrahat - II	1939	54528	16.0	9.6	0.9	63.0	5.6
Diamond Harbour - I	1369	108255	11.1	11.5	0.0	63.7	183.7
Diamond Harbour - II	2506	95261	17.0	8.3	0.0	59.9	61.5
Mathurapur - I	4244	91686	13.8	8.3	16.7	38.3	54.6
Mathurapur - II	5222	36687	16.6	3.6	28.2	94.9	67.8
Mandirbazar	679	43558	10.2	7.2	1.5	28.1	5.6
Kulpi	2712	62844	19.7	16.8	0.0	79.1	N/A
Kakdwip	0	7161	0.0	0.0	0.0	0.0	N/A
Namkhana	2600	31786	18.7	9.2	1.4	81.0	172.3
Patharpratima	1743	58330	43.3	2.2	3.7	130.8	172.2
Sagar	3906	82999	15.5	6.1	7.3	73.7	73.5
Amtala RH	18260	398586	18.5	8.8	4.4	36.5	121.4
TOTAL	328698	7094417	20.2	8.9	5.2	628.2	

Source: CMOH (South 24 Parganas)

NOTE: Since complete data not found for BTOR, the aggregate percentage for BTOR was not calculated

for BOR – Kultali, Falta, Mathurapur-II, Kulpi, Namkhana and Sagar. It is worth noting that four out of these blocks are in the Sundarban region where transport links to Kolkata are not so well developed, thereby forcing the population to avail of local public health facilities. Thus, in Patharpratima (also in Sundarban), the load has exceeded the standards significantly (131, against the norm of 75-100). Under-utilisation of services is found in many blocks. BOR is particularly low in Thakurpukur-Mahestala Block, Baruipur, Bishnupur-I (adjacent to Kolkata) and Canning-II. In all, BOR is below 50 in 11 blocks out of the 27 blocks for which data is available. Out of these 11 blocks, six are located in Regions I and II.

The block-wise situation with respect to BTOR is equally concerning. The pressure on public health facilities is excessive in the RH/BPHCs at Diamond Harbour-I (almost double the standard), Joynagar-I, Namkhana, Patharpratima (where BTOR exceeds norms by more than 70%), Sonarpur, and Magrahat I, and Amtala. The unevenness in spatial distribution of health infrastructure is seen from the fact that in almost one out of three blocks BTOR is below 50%. Levels are particularly low in Magrahat-II (5.6), Canning I (13.3) and Kultali (21.4).

The low rates of BOR and BTOR have important consequences for policy makers. The under-utilization of BPHCs/

RHs in many of the blocks indicate that the reach of these institutions remains limited. This raises questions about PHCs and Sub-Centers. Their effective functioning can attract people to the public health facilities, and ensure effective utilization of middle level referral institutions (BPHCs/RHs) through the operation of the referral system.

In contrast to data published in *Health on the March: 2005* for the state (see graph above) it can be seen that EARs have not even remotely approached standards in any of the blocks, except Diamond Harbour-I. Except in BPHCs at Patharpratima, Bhangar-I and Canning-II, Joynagar-I RH, and in Diamond Harbour SDH, the proportion of deliveries to admissions is quite low, and deliveries constitute less than a third of total admissions.

Overall, the most concerning feature is the low reliance of the public on the District healthcare system. In the absence of a survey of District Hospitals, it is not possible to identify all the causes of this phenomenon. We would recommend that the Health Department undertake a regular stock taking to identify the nature of deficiencies in different units – where functional machines are lacking, where beds are in short supply, where posts are lying vacant, where attendance of doctors are irregular – and take steps to remedy the shortcomings. This would rejuvenate the District health infrastructure and build trust in the system among the public.

6.3 Carrying Capacity of Healthcare System

6.3.1 Infrastructure with respect to Population Pressure

Absolute figures of physical infrastructure and health personnel do not provide a meaningful picture of the extent to which the infrastructure is equitable across blocks. To overcome this limitation, population figures must be incorporated

into the analysis. In this section we will first estimate the healthcare parameters after adjusting for block population. In the next section we will compare the block-wise situation (adjusted for population) with existing national norms for the parameters.

In South 24 Parganas the number of beds per ten thousand population is the highest

Table 6.6: Current Healthcare System Load in South 24 Parganas

Blocks	Beds per 10,000 pop	Doctors per lakh Pop	% of Ward Patients to Total Pop	% of Outpatients to Total Pop	% of Total Patients to Total Pop
Thakurpukur-Mahestala	1.10	2.19	0.03	33.99	34.02
Budge Budge I	3.60	6.00	1.19	126.41	127.60
Budge Budge II	4.15	4.61	1.25	0.53	1.79
Bishnupur I	1.70	2.91	0.00	0.00	0.00
Bishnupur II	1.31	3.67	2.50	65.80	68.30
Sonarpur	2.81	8.36	2.12	41.40	43.52
Baruipur	2.56	9.11	0.04	26.25	26.29
Bhangar I	1.22	2.45	0.33	23.49	23.82
Bhangar II	1.49	2.41	0.75	28.89	29.64
Falta	1.13	2.26	0.40	20.14	20.55
Diamond Harbour I	2.32	3.75	3.64	95.83	99.47
Diamond Harbour II	1.88	3.63	0.16	8.26	8.42
Magrahat I	1.52	4.25	0.00	11.55	11.55
Magrahat II	1.56	3.03	0.34	28.41	28.74
Kulpi	1.94	3.30	0.00	0.00	0.00
Mandirbazar	0.66	2.19	0.07	13.90	13.97
Canning I	3.19	6.54	2.40	69.32	71.72
Canning II	1.28	1.53	0.06	31.73	31.78
Basanti	1.18	0.72	0.16	9.34	9.50
Gosaba	1.39	2.24	0.19	4.80	4.99
Joynagar I	2.10	3.20	0.98	26.82	27.80
Joynagar II	2.49	4.30	6.10	56.61	62.70
Mathurapur I	2.90	3.82	0.00	0.00	0.00
Mathurapur II	4.48	5.46	2.46	27.05	29.51
Kultali	2.82	5.32	0.15	30.18	30.33
Patharpratima	2.12	2.43	0.49	13.92	14.41
Kakdwip	4.85	10.45	0.71	49.72	50.44
Namkhana	2.68	6.23	1.73	20.53	22.26
Sagar	4.42	4.85	1.37	38.13	39.50

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in Kakdwip, followed by Mathurapur-II, Sagar, Budge Budge-I and II, Canning-I. It can be seen that four out of these six blocks are in the Sundarban region. The position is concerning in Thakurpukur-Mahestala, Falta and Mandirbazar blocks.

In the case of number of doctors per lakh population, the situation is satisfactory in Kakdwip, Canning-I, Namkhana (in Sundarban Region), Baruipur and Sonarpur (Region-I). The number of doctors has to be increased substantially in Basanti, Canning-II, Gosaba (Sundarban), Mandirbazar and Thakurpukur-Mahestala.

The dependence of the population on the public health system is measured by the proportion of patients to population. This figure is high in Budge Budge-I and Diamond Harbour-I, but is lower than 10% in Bishnupur-I, Kulpi, Mathurapur I, Budge Budge-II, Diamond Harbour-II, Gosaba, and Basanti. The proportion of out-patients is substantially higher than the proportion of ward patients. The block-wise variation is therefore similar to that for total patients. In the case of in-patients, the

situation is satisfactory in Diamond Harbour-I and Joynagar-II, but lower than 1% in Bishnupur-I, Kulpi, Mathurapur-I, Magrahat-I, Thakurpukur-Mahestala Block, Mandirbazar, Baruipur and Canning-II.

Now it is to be expected that the existence of health facilities and doctors would encourage a greater dependence on public health facilities. For instance in Budge Budge-I, the number of beds per population is high and the number of doctors per lakh is also high, the percentage of patients to total population is high. On the other hand, Kakdwip and Canning I, despite having satisfactory beds and doctors per population, have failed to attract the population to the public health sector to the same extent. We have therefore estimated a ***correlation matrix*** between these parameters. This matrix shows that while there is a strong association between beds per 10,000 population and doctors per lakh population, the correlation of both these infrastructural parameters with the proportion of patients in population is fairly weak.

Table 6.7: Correlation Matrix between Blockwise No. of Beds, No. of Doctors and No. of Patients (adjusted for Population)

	No. of Beds per 10,000 pop	No. of Doctors per lakh Pop
No. of Beds per 10,000 Population	1	
No. of Doctors per lakh Population	0.723805	1
% of Ward Patients to Total Population	0.316698	0.240788
% of Outpatients to Total Population	0.2832	0.340442
% of Total Patients to Total Population	0.290417	0.342668

6.3.2 Infrastructural Gaps following existing National Norms

The above analysis indicates that there is

scope to improve the situation with respect to the provisioning of health infrastructure.

This raises the question as to the extent to

Table 6.8: Existing National Norms for Rural Primary Healthcare Facilities

Items	Norms
At least one Trained Dai	For each village
One Trained Village Health Guide	For each village per 1,000 population
One SC	For 5,000 population in plain area and for 3,000 population in tribal, hilly and backward areas
One PHC	For 30,000 population in plain area and for 20,000 population in tribal, hilly and backward areas
One Community Health Centre	For every 1-1.20 lakh population, serving as a referral institution for 4 PHCs

Table 6.9: Infrastructural Gaps in the Healthcare system in South 24 Parganas

Block	PHC/ 3000 pop	No.of Required PHCS	Deficit in PHCs	SC/ 5000 pop	No.of SCs Required	Deficit in SC's	CHC per 1.20 lakh pop	Required No.of CHCs	Deficit CHCs	No.of FHAs / village	FHAs / '000 pop	Required No.of FHAs / '000 pop	Deficit No.of FHAs
Thakurpukur-Mahestala	0	5	5	0.69	27	8	0.88	1	0	0.29	0.14	137	118
Budge Budge I	0.6	3	1	0.7	20	6	1.2	1	0	0.35	0.14	100	86
Budge Budge II	0.35	6	4	0.69	35	11	0.69	1	1	0.36	0.14	173	149
Bishnupur I	0.29	7	5	0.68	41	13	0.58	2	1	0.33	0.14	206	178
Bishnupur II	0.16	6	6	0.68	38	12	0.63	2	1	0.33	0.14	191	165
Sonarpur	0.54	6	3	0.69	33	10	0.72	1	1	0.31	0.14	167	144
Baruipur	0.26	12	9	0.68	70	22	0.34	3	3	0.21	0.14	351	302
Bhangar I	0.15	7	6	0.68	41	13	0.59	2	1	0.19	0.14	204	176
Bhangar II	0.29	7	5	0.67	42	14	0.58	2	1	0.25	0.13	208	180
Falta	0.14	7	6	0.68	44	14	0.54	2	1	0.17	0.14	222	192
Diamond Harbour I	0.45	4	2	0.67	27	9	0.9	1	0	0.19	0.13	133	115
Diamond Harbour II	0.36	6	4	0.67	33	11	0.73	1	1	0.17	0.13	165	144
Magrahat I	0.18	5	4	0.94	33	2	0.73	1	1	0.24	0.19	165	134
Magrahat II	0.3	7	5	0.91	40	4	0.61	2	1	0.27	0.18	198	162
Kulpi	0.49	8	4	0.68	49	16	0.49	2	2	0.14	0.14	243	210
Mandirbazar	0	8	8	0.55	46	21	0.53	2	1	0.25	0.11	228	203
Canning I	0.12	8	7	1.14	49	-7	0.49	2	2	0.9	0.22	245	190
Canning II	0.15	7	6	1.15	39	-6	0.61	2	1	0.28	0.23	196	151
Basanti	0.32	9	6	1.13	56	-7	0.43	2	2	0.85	0.2	279	224
Gosaba	0.27	7	5	1.14	45	-6	0.54	2	1	0.27	0.15	223	190
Joynagar I	0.27	7	5	1.14	44	-6	0.55	2	1	0.37	0.23	219	169
Joynagar II	0.43	7	4	1.12	42	-5	0.57	2	1	0.41	0.22	209	162
Mathurapur I	0.23	9	7	0.71	52	15	0.46	2	2	0.23	0.14	262	226
Mathurapur II	0.49	6	3	1.23	37	-8	0.66	2	1	0.38	0.25	183	138
Kultali	0.64	6	2	1.14	38	-5	0.64	2	1	0.83	0.23	188	145
Patharpratima	0.31	10	7	1.13	58	-7	0.42	2	2	0.49	0.15	288	245
Kakdwip	0.25	8	6	1.13	48	-6	0.5	2	1	0.28	0.22	239	187
Namkhana	0.75	5	1	1.15	32	-5	0.75	1	1	1	0.23	161	124
Sagar	0.48	6	3	1.13	37	-5	0.65	2	1	0.3	0.19	186	150

which the existing set up must be expanded. In this section we attempt to estimate the number of additional Sub Centres, PHCs, Community Health Centres (CHCs) and Female Health Assistants (FHA) required in the district.

Based on the national norms for provisioning of health infrastructure, the number of such units required in each block has been estimated. This is then compared with the actual number of units currently existing to measure the infrastructural gap.

The health infrastructure in most of the blocks are characterised by varying extents of deficiency. Only in the case of Sub-centres in Sundarban blocks is there is a surplus – with the exception of Mathurapur-I, where there is a large deficit.

The average level of deficit with respect to number of PHCs, SCs, CHCs and FHAs are 5, 4, 1 and 171 per block, respectively. The actual extent of deficit does not vary

substantially across blocks except in the case of Sub-centres. In case of the latter, Baruipur, Mandirbazar and Mathurapur-I have the highest deficiency.

6.3.3 An Overall Assessment of Carrying Capacity

The correlation matrix of deficits in these four parameters shows that blocks with deficits in CHCs and FHAs also have high deficits in PHCs. Similarly, blocks lagging behind national norms with respect to CHCs also lag behind in number of FHAs. Based on this analysis, we recommend that investment be undertaken in all four

Table 6.10: Correlation between Deficits of PHCs, SCs, CHCs and FHA

Correlation	Deficit in PHCs	Deficit in SC's	Deficit CHCs	Deficit in FHA
Deficit in PHCs	1			
Deficit in SC's	0.244	1		
Deficit CHCs	0.804	0.043	1	
Deficit in FHAs	0.823	0.233	0.969	1

parameters (PHC, SC, CHC and FHA) – it is not enough to single out any of the four parameters for specific attention while making block-wise plans.

6.4 Endemicity of Diseases in the District

6.4.1 Vector Borne Diseases

Inhabitants of backward villages of South 24 Parganas, specially of the riverine blocks of

the Sundarban area, suffer from malnutrition and various diseases of which vector borne diseases and water & food borne diseases are

Table 6.11: Incidence of Several Diseases during 2001-2006

Year		2001	2002	2003	2004	2005	2006
Kalaazar	Incidence	151	182	145	797	351	140
	No. of Deaths	1	0	2	2	3	1
Malaria	Incidence	429	1580	592	803	1167	951
	No. of Deaths	0	3	2	2	4	3
Pneumonia	Incidence	2832	4459	4298	3301	2199	4969
	No. of Deaths	0	5	6	20	19	25
Enteric Fever	Incidence	1377	1817	1318	2158	7152	2543
	No. of Deaths	2	2	0	0	0	1
Diarrhoea	Incidence	230753	240478	14411	132657	138013	126970
	No. of Deaths	17	48	21	62	23	32
Hepatitis A	Incidence	63	220	206	413	531	314
	No. of Deaths	2	13	2	10	1	0

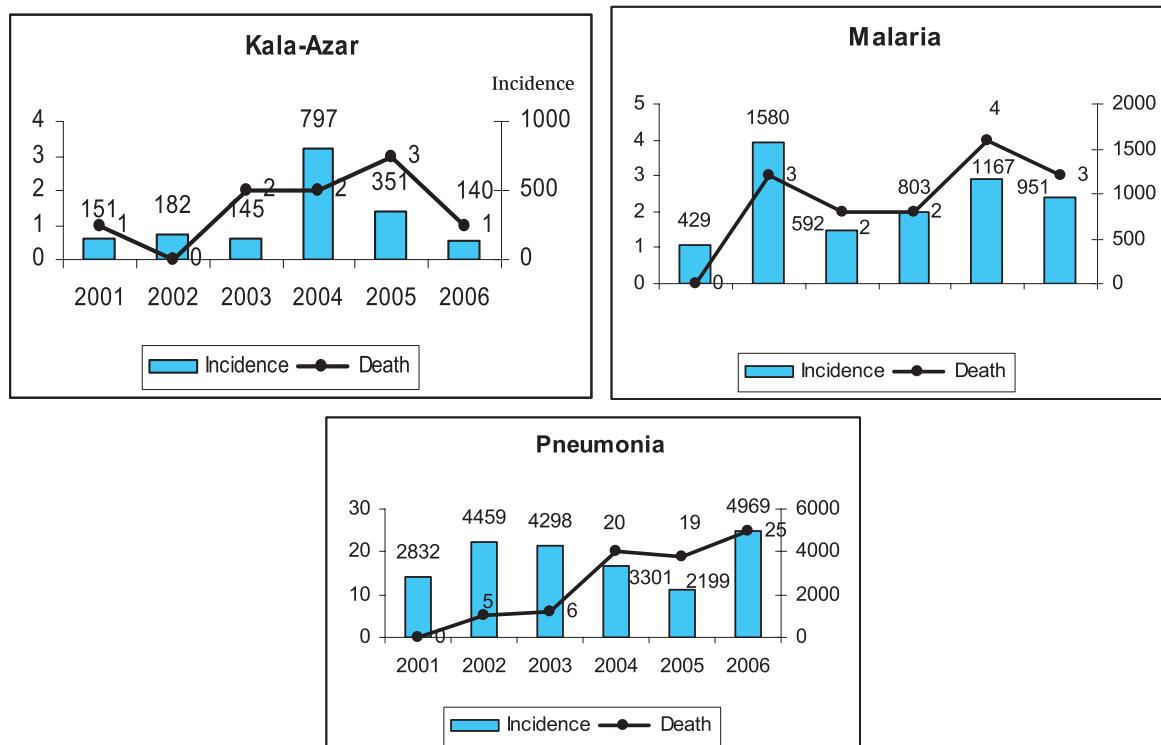
Source: Office of CMOH, South 24 Parganas

of prime importance. Due to their poor socio economic status, low level of education, inadequate sanitation, unsafe water supply and poor housing facilities, people of this district suffer from vector borne disease like Kala-azar. Malaria is also on the rise, while

the incidence of Filaria remains another area of concern.

A total of 1766 cases in **Kala-azar** were recorded in the district from 2001 to 2006. But the number of cases has decreased significantly from 351 to 140 between 2005

Figure 6.3: Incidence of Vector Borne Diseases and No. of Reported Deaths



and 2006. Ten blocks have reported cases of Kala-azar, out of which 4 blocks of Canning Sub Division (Canning-I, Canning-II, Gosaba, Basanti) are endemic blocks. The highest number of cases has been reported

from Basanti block as follows: 2006- 86 cases, 2005- 331 cases, 2004- 666 cases, 2003- 84 cases, 2002- 104 cases, 2001- 75 cases. Though endemicity of the disease is reported from all parts of the block, GP Phul

Table 6.12: No. of *Kala-Azar* Cases and No. of Deaths during 2004-2006

Block/ Municipality	2004		2005		2006	
	No. of Cases	No. of Deaths	No. of Cases	No. of Deaths	No. of Cases	No. of Deaths
Gosaba	16	0	27	0	6	1
Basanti	666	2	331	2	86	0
Canning- I	57	0	42	0	16	0
Canning- II	55	0	86	0	32	0
Kulpi	0	0	1	0	0	0
Kultali	0	0	4	0	0	0
Baruipur	2	0	2	0	0	0
Bhangar - I	0	0	1	0	0	0
Patharpratima	1	0	0	0	0	0
Sonarpur	0	0	0	0	0	0
Total	797	2	494	3	140	1

Source: Office of CMOH

Malacha and Kathalberia are the villages most affected. There has been one death due to Kala-azar in the year 2006 in Gosaba block. A blockwise report of Kala-azar for most affected blocks is given in Table 6.12.

Another vector borne disease that recurs with regular frequency in South 24 Parganas is ***Malaria***. In 2006 951 cases were reported, mainly from Canning Sub Division (Canning-I, Canning-II, Gosaba, Basanti), Diamond Harbour Sub Division (Diamond Harbour-II, Magrahat-I, Kulpi, Mathurapur-II) and Namkhana blocks. One fatality each was also reported from Canning-I, Sagar block and Kulpi block in 2006.

Attempts to combat such diseases fall under the National Vector Borne Disease Control Programme (NVBDCP). Regular spraying programmes are carried out in

Kala-azar and Malaria prone areas. National Anti Malaria Programme (NAMP) is another attempt to eradicate Malaria. Attempts are made to sensitize residents about the benefits of using mosquito nets. Radical treatment for those who have caught either of the two diseases has usually managed to avert fatalities. Advocacy workshops are also conducted on a regular basis in the ten affected blocks for *Kala-azar*.

The economic costs of such diseases are substantial, particularly if the bread earner is affected by the disease. To reduce such costs, the Office of the Chief Medical Officer, South 24 Parganas, had proposed introduction of the following package in 2007:

- Compensation of the daily wages of the *Kala-azar* patient admitted in Hospital. This will entail an outlay of Rs.7.28 lakhs.

- Medicated mosquito net to be distributed free of cost to poor needy families living in *Kala-azar* affected blocks. The total cost of this component will be Rs.25.8 lakhs.
- Another Rs.12 lakh will be spent on providing water filters in arsenic affected areas.
- Provisioning of temporary support for laboratory support for each block with a microscope for diagnosis of vector-borne diseases. This will cost Rs.3.48 lakhs.

The total number of persons affected by **Lymphatic Filariasis**, another vector borne disease, in 2004-05 was 1542, out of which more than 50% were detected from Canning-II (289 cases), Kulpí (133 cases), Mathurapur I (121 cases), Diamond Harbour-I (104 cases) and Magrahat-I (102 cases). Almost half of the reported cases pertained to Hydrocele.

The basic strategy of intervention is Mass Drug Administration, based on a single dose of Diethylcarbamazine Citrate (DEC). This is a relatively cheap method of intervention compared with other vector control strategies. The drug is safe and effective for human lymphatic filariasis. In the first case, it is usually the patient who is in need of help and therefore he or she is more likely to comply with the treatment. This reduces morbidity of affected persons and interrupts disease transmission. In a community, however, only a small proportion of the

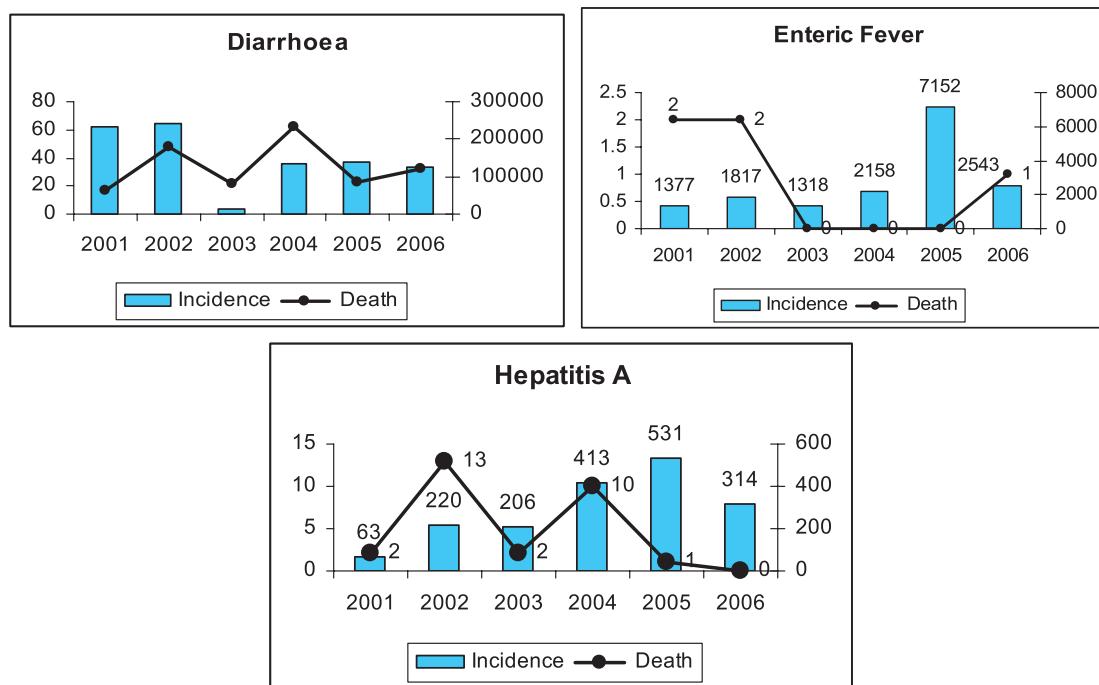
population is suffering from acute clinical filariasis at any one time and therefore only a few people will feel the need for help.

6.4.2 Water and Air borne Diseases

Among water borne diseases the incidence of **Diarrhoea** in the District is alarmingly high, with 1.27 lakh cases being treated in 2006. The number of fatalities that year was 32; this amounts to 6.53% of the total diarrhoea cases occurring in West Bengal and 4.93% of total death due to diarrhoea occurring in the state. A review of diarrhoeal diseases for the last 5 years show that the incidence of the disease reported to hospitals has decreased gradually regarding number of cases. However, the number of cases reported to indoor due to Diarrhoea has increased substantially over the last three years (31862 in 2006 compared to 21206 in 2005 and 9134 in 2004). The incidence of death has also increased compared to last year.

The blocks of Canning I/II, Mandirbazar, Budge Budge-I as well as Magrahat I are diarrhoea prone blocks reporting high incidence through the year, peaking substantially during the rainy season from June to October. Poor water supply and environmental sanitation are major causes of the high incidence of diarrhoea in these above mentioned blocks. Since diarrhoeal infections spread through the use of contaminated water, the District Health Action Plan 2007-08 is emphasizing on focused intervention that combines the

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Figure 6.4: Incidence of Water and Air Borne Diseases and Reported Deaths

provision of safe drinking water to rural residents with improved sanitation and mass education on the effective use of oral rehydration therapy.

Enteric fever is another water-borne disease posing a severe health hazard problem. A total of 2546 cases were reported in 2006 compared to 7152 cases reported in 2005 – that is a decrease of 35.6%. The maximum number of cases of this water borne disease has been reported from the riverine blocks of Gosaba, Canning I and II, Mandirbazar, Namkhana, Sagar and some blocks of Alipore Sub Division like Budge Budge-I & Bishnupur-I. The lone death due to Enteric Fever has occurred in Canning-I block during 2006. The main causes for the endemicity of the disease is contaminated food and water, particularly in remote riverine blocks and slums in Budge

Budge-I block. Low education levels in blocks like Magrahat-I and II, Mathurapur-I and II and high rates of migration from other neighbouring areas pose major problems in controlling the spread of enteric fever.

The total number of cases reported of **Viral Hepatitis** in 2006 was 314 (with no death) compared to 531 reported cases in 2005, with 1 death. There has been a decrease of 59.1% in the reported incidence of the disease. The majority of the cases has been reported from Matherdighi, Namkhana, Sarisa, and Amtola Rural Hospitals and Vidyasagar State General Hospital. There has been one outbreak in Matherdighi between September to December last year due to flood and cyclone in the first week of October. The main reasons behind the endemicity of disease in Canning-II block are poor quality of food and water supply and low level of education.

Arsenicosis is another major health issue in South 24 Parganas. A total of thirty six cases with one death in have been reported till June 2006. In earlier years thirty eight and ninety nine cases were reported in 2005 and 2004 respectively, without any deaths. In 2004 the highest number of cases had been reported from Baruipur (58 cases) followed by Bhangar-I (38 cases). In Baruipur 14 GPs and in Bhangar-I and II 34 GPs had been affected by this problem. All the Arsenic affected nine blocks have completed advocacy training and BCC for NGOs and panchayat personnel, AWW and CHGs and are running Arsenic clinics. Government intervention has resulted in Baruipur being the only block still reporting a large number of cases (31 cases in 2006).

Air borne diseases also pose a major threat to different regions of the District. A review of report of last five years shows that incidence of **Respiratory and Lung diseases** are continuously increasing, mainly due to the significant increase in air pollution. In 2006, 110719 cases of Acute Respiratory Infection were reported with twelve deaths, compared to 117602 cases along with thirty deaths in 2005. Pneumonia is another air borne disease generating high risk. The total number of cases reported in 2006 is 4969 with twenty five deaths compared to 2199 cases with nineteen deaths in 2005. Thus there has been an alarming increase of 125% of incidence of Pneumonia with an increase of 31.5% deaths

in 2006 compared to that in 2005. Details of OPD and IPD patients show that the attendance of patients for indoor treatment has increased from 583 cases in 2005 to 2070 cases in 2006 – an increase of 255%. Block-wise analysis indicates that Gosaba, Diamond Harbour-I, Bishnupur-I, Baruipur, Mandirbazar, Kulpí, Canning-I and Budge Budge-I blocks should be targeted for intervention. Intersectoral Coordination Meeting with general administration, Environmental Department and NGOs as well as training of PMWs for early detection of the diseases to prevent mortality are necessary to manage the outbreaks of these air borne diseases.

6.4.3 Revised National Tuberculosis Programme (RNTCP) and HIV Control

Tuberculosis continues to be a major health problem and number one killer of adults among all infectious diseases in India.

Government of India has reinitiated the Revised National Tuberculosis Programme for control of Tuberculosis among the poor people in villages where proper treatment and specialist hospitals do not exist.

The Revised National Tuberculosis Control Programme (RNTCP), based on the DOTS strategy, began as a pilot project in 1993 and was launched as a national programme in 1997. Rapid RNTCP expansion began in late 1998. Under the RNTCP, suspects are examined for TB, free of charge. The diagnosis of these patients and the follow-up of patients on treatment are

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achieved through the examination of more than 50,000 laboratory specimens.

In the first phase of RNTCP (1998-2005), the programme's focus was on ensuring expansion of quality DOTS services. The RNTCP has now entered its second phase in which the programme aims at firstly consolidating the gains made to date, to widen services both in terms of activities and access, and to sustain the achievements for decades to come in order to achieve ultimate objective of TB control in the country.

All components of new 'Stop TB Strategy' are incorporated in the second phase of RNTCP. These are:

- Pursue quality DOTS expansion and enhancement, by improving the case finding and cure through an effective patient-centred approach to reach all patients, especially the poor.
- Address TB-HIV, MDR-TB and other challenges, by scaling up TB-HIV joint activities, DOTS Plus, and other relevant approaches.
- Contribute to health system strengthening, by collaborating with other health programmes and general services.
- Involve all health care providers, public, nongovernmental and private, by

scaling up approaches based on a public-private mix (PPM), to ensure adherence to the International Standards of TB care.

- Engage people with TB, and affected communities to demand, and contribute to effective care. This will involve scaling-up of community TB care; creating demand through context-specific advocacy, communication and social mobilization.
- Enable and promote research for the development of new drugs, diagnostics and vaccines. Operational Research will also be needed to improve programme performance.

The Revised National TB Control Programme now aims to widen the scope for providing standardized, good quality treatment and diagnostic services to all TB patients in a patient-friendly environment, in whichever health care facility they seek treatment from. The programme has made special provisions to reach marginalized sections of the society, including creating demand for services through specific advocacy, communication and social mobilization activities.

A block-wise analysis reveals that the incidence of TB is high in Thakurpukur-Mahestala, Baruipur, Bhangar-II, Canning-I, Mathurapur-I, Sonarpur blocks. These blocks have to be singled out for specific policy attention.

Table 6.13: Performance of South 24 Parganas under RNTCP in 2007

Quarters in 2007	Population (in lakhs) covered by RNTCP	No. of Suspects examined	No. of Suspected examined per lakh	No. of Smear-positive Patients	% of Smear-positive Patients	No. of Patients registered for treatment
1	75	8665	116	966	11	1567
2	75	8635	115	1049	12	1756
3	75	9852	132	1096	11	1767

Source: Office of CMOH

Table 6.14: RNTCP Blockwise Report for 2nd Quarter, 2007

Block	No. of Adult OPD Patients Attended	No. Detected Smear Positive	No. Put on DOTs
Thakurpukur Mahestala	12825	112	116
Baruipur	15380	88	110
Bhangar-II	12543	81	86
Canning-I	14817	97	81
Mathurapur-I	8559	117	71
Sonarpur	22741	89	100

Box 6.1**Directly Observed Treatment (DOT)**

DOT with short course chemo therapy is one of the prime means of treating the TB patients. This system has five components:

- **Political and administrative commitment.** TB is the leading infectious cause of death among adults. TB kills more men than women, yet more women die of TB than all causes associated with childbirth combined. Since TB can be cured and the epidemic reversed, it warrants the topmost priority, which it has been accorded by the Government of India. This priority must be continued and expanded at the state, District and local levels.
- **Good quality diagnosis.** Good quality microscopy allows health workers to see the tubercle bacilli and is essential to identify the infectious patients who need treatment the most.
- **Good quality drugs.** An uninterrupted supply of good quality anti-TB drugs must be available. In the RNTCP, a box of medications for the entire treatment is earmarked for every patient registered, ensuring the availability of the full course of treatment the moment the patient is initiated on treatment. Hence in DOTS, the treatment can never interrupt for lack of medicine.
- **Supervised treatment to ensure the right treatment,** given in the right way. The RNTCP uses the best anti-TB medications available. But unless treatment is made convenient for patients, it will fail. This is why the heart of the DOTS programme is “directly observed treatment” in which a health worker, or another trained person who is not a family member, watches as the patient swallows the anti-TB medicines in their presence.
- **Systematic monitoring and accountability.** The programme is accountable for the outcome of every patient treated. This is done using standard recording and reporting system, and the technique of ‘cohort analysis’. The cure rate and other key indicators are monitored at every level of the health system, and if any area is not meeting expectations, supervision is intensified. The RNTCP shifts the responsibility for cure from the patient to the health system.

The new Stop TB Strategy published by WHO in 2006 has DOTS in the core with additional components to address TB/HIV and MDR-TB, health system strengthening, involvement of all care providers, engaging people with TB and affected communities, and enabling/promoting research. RNTCP is already implementing/ plans to implement the activities recommended under the new Stop TB Strategy.

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6.4.4 HIV Control

TB is the most common opportunistic infection in people living with HIV virus. As the HIV breaks down the immune system, HIV- infected people are at greatly increased risk of TB. Without HIV, the lifetime risk of developing TB in TB- infected people is 10%, compared to at least 50% in HIV co-infected. HIV is also the most powerful risk factor for progression from TB infection to TB disease. TB in turn accelerates the progression of HIV to AIDS and shortens the survival of patients with HIV infection. Thus, TB and HIV are closely interlinked. In India, there are an estimated over 5 million HIV-infected persons.

Table 6.15: Sentinel Surveillance Report

Sentinel Site	No. of Sample Tested	Total Positive	Prevalence
STD Clinic	247	8	3.24%
ANC	710	2	0.27%
FSW	250	20	8%

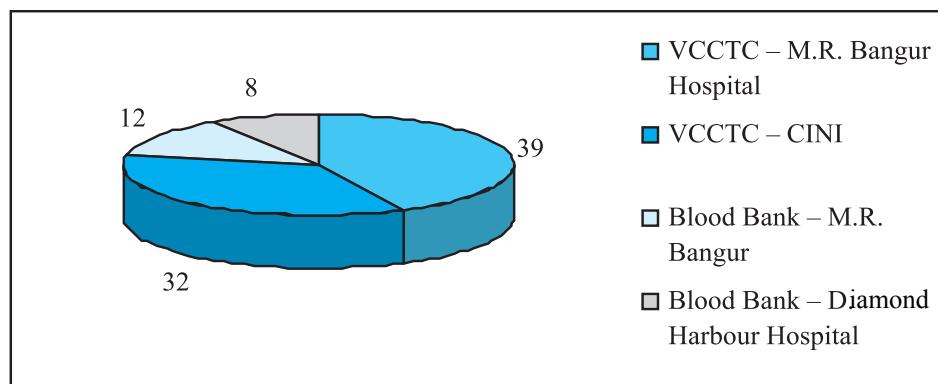
Source: Office of CMOH

With such large numbers of HIV-positive individuals in India, it is likely that HIV may worsen the TB epidemic in the absence of a robust TB control programme. However, even among HIV-infected people, TB can be cured. Directly Observed Treatment Short-course (DOTS) is as effective among HIV- infected TB patients as among those who are HIV negative.

Official reports of last 2 years as well as sentinel surveillance reports reveal that HIV infection is on the rise in South 24 Parganas. As per sentinel surveillance report 2005, South 24 Parganas had reported the 3rd highest number of HIV cases next to Kolkata and West Midnapur. Similarly the STD cases is also on the rise. The total number of HIV cases officially reported from January to December 2006 is 91. The total number of STD cases reported from January to March 2006 is 16 out 1323 samples tested. A main reason for this is the heavy movement of population in this District. South 24 Parganas is a District having border areas with Bangla Desh, many migrant populations, with many urban areas community up and many resorts and sight seeing spots developed. There is movement of people from other parts through out the year.

A comparative analysis of the data on HIV-positive cases and full blown AIDS cases in the District as on 31.12.2007 reveals their number to be 277 and 150, respectively.

Out of the 91 HIV-positive cases detected in 2006, the highest proportion has been detected in Bangur Hospital and by the CINI unit. The block-wise spread of AIDS is given below.

Figure 6.5: HIV Detection in Different Units: 2006**Table 6.16: Block-wise cases of HIV +ve /AIDS: January-June 2007**

Area	List of HIV Positive/AIDS Cases
Budge Budge	20
Bishnupur	20
Sonarpur	14
Baruipur	10
Rajpur Sonarpur Municipality	12
Falta	8
Diamond Harbour	5
Magrahat I	10
Magrahat II	10
Canning I	14
Canning II	15
Basanti	17
Joynagar I	10
Kultali	5
Patharpratima	3
Kakdwip	2
Namkhana	10
Mathurapur	15
Total	200

The incidence of HIV+ve/AIDS cases is highest in Bishnupur and Budge Budge municipalities, followed by Sonarpur, Basanti and Magrahat-II. What is concerning to policy makers is the high proportion of children affected – as much as 11.5% of cases reported in 2007 were children.

The National Aids Control Project III financed by IDA, the arm of the World Bank

that provides no-interest credits to the most needy countries, is expected to halt and reverse the HIV/AIDS epidemic by 2011, ahead of the 2015 target of the 6th Millennium Development Goal. This project has been implemented from April 2007 and accordingly targeted intervention will be taken to control the rising trend of STD and HIV in South 24 Parganas.

Apart from Government several NGOs

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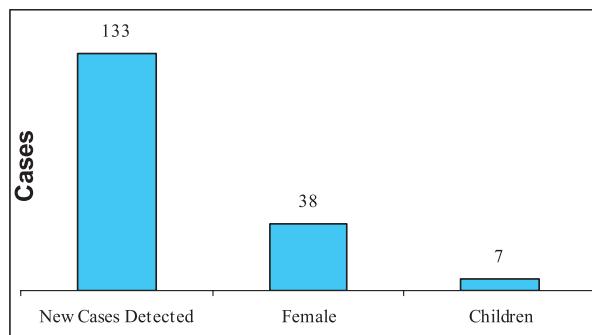
are also playing crucial role to fight against this deadly disease. War against Tuberculosis has been one of the prime activities of SHIS. It has implemented the DOT program in over 1202 villages of South 24 Parganas.

6.4.5 National Leprosy Eradication Programme

A 100% centrally sponsored National Leprosy Control Programme (NLCP) had been in operation since 1954-55. With the introduction of highly effective MDT for cure of leprosy, the programme was redesignated as National Leprosy Eradication Programme (NLEP) in 1983 with the objective to achieve elimination of leprosy by reducing the caseload to less than one case per 10,000 populations.

The programme received further thrust in 1993-94 when World Bank assisted first National Leprosy Elimination Project was started and the whole country was brought under MDT services with strengthening of existing services, intensive health education, trained manpower development, disability prevention and care including

Figure 6.6: Leprosy Cases April-June 2007: South 24 Parganas



reconstructive surgery. This First NLEP ended on 30th Sept. 2000. The World Bank supported 2nd NLEP started w.e.f year 2001-02 for 3 years, wherein:

1. The NLEP has been decentralized to States/UTs and Districts with responsibilities for planning, implementation, supervision and timely corrective measures.
2. Leprosy services have been integrated with General Health Care System in the country to increase their out reach with extensive community education and involvement.
3. All General Health Care functionaries have been oriented in leprosy (Technical & IEC),

NLEP Simplified Information System has been placed in operation for concurrent monitoring, supervision and timely corrective measures under the programme at different levels of implementation.

Analysis of block-wise figures obtained from CMOH shows a high incidence of leprosy cases in Kakdwip (22), Canning-II (17), Rajpur-Sonarpur Municipality (14) and Mathurapur-II (13). The Health Department must focus on these blocks while implementing the NLEP.

6.4.6 Snake Bites in Sundarbans

Given the low-lying nature of a large part of the District, the incidence of snake bites is traditionally high in South 24 Parganas. Snakebite is a common problem in the Sundarbans and it results in death in many

cases. Even bites from non-poisonous snakes cause trauma, as people do not have information about the features that distinguish poisonous snakes from non-poisonous ones. Every year traditional honey collectors going deep into the forests from February to April face the risk of losing their life to bites by poisonous snakes like the cobra, krait and Russell's viper. The villagers, especially the women, who are engaged in collection of prawn seed in the rivers and streams/estuaries are also vulnerable to this problem. There have been 8 reported deaths from January-June 2007, compared to 15 in 2006. According to data provided by CMOH, the highest incidence of snakebites in September 2007 was reported from Dwariknagar BPHC (99 cases), followed by Madhavnagar BPHC (45 cases) and Canning SD Hospital (23 cases). Cases of snakebites are also reported from Nalmuri, Falta, Kulpi, Basanti, Gosaba, Sarsuna, Magrahat, Chandi Daulatabad and Sarisha BPHCs, Sonarpur, Joynagar, Amtala, Mathurapur, Raidighi and Sriramkrishna RHs, and Baruipur and Kakdwip SDHs.

Treatment for snake bites is usually done by *ojhas*. In most cases of snakebite, the affected persons do not receive the correct treatment as anti-venom is not available in the islands. The Sundarban Development Board has launched a year-long programme to impart training to quacks on how to deal with snake-bite cases. The NGO, World

Wildlife Fund (WWF), will be collaborating with the Sundarban Development Board in the programme.

6.4.7 Blindness

Apart from eradicating the above-mentioned communicative diseases, another mission of the District to eradicate blindness under the National Programme for Control of Blindness (NPCB). Number of cataract surgeries has increased continuously from 8861 cases in 2004 to 10129 cases in 2005 and the number has crossed 12000 cases in 2006. NGO-Government partnerships are working very well in several blocks of Canning SD, Mandirbazar, Bhangar-I and II.

6.4.8 An Overall Assessment of Endemicity of Diseases

To sum up, while geographically specific problems like arsenic contamination and snakebites still require attention, vector borne diseases and diseases spread through food and water (like diarrhoea) comprise the major health problems in the district. While the government has introduced measures to combat the latter, their success crucially depends upon the socio-economic status of the population. The programmes of the Health Department must therefore be integrated into a *multi-dimensional holistic policy* to improve literacy (and hence awareness), sanitation and housing facilities and the provisioning of safe drinking water.

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6.5 Maternal and Child Health Issues

Maternal and child health is crucial in health care related issues and provisioning of health care facilities. The reason is that both are crucial in determining the health and productivity of future generations. The Government of India has repeatedly taken steps to strengthen maternal and child health services in the country, starting during the First and Second Five-Year Plans (1951–56 and 1956–61) under the Ministry of Health, and continuing with the Minimum Needs Programme initiated during the Fifth Five-Year Plan (1974–79). More recently, efforts to improve maternal and child health have been enhanced by activities of the Family Welfare Programme and by the introduction of the Child Survival and Safe Motherhood Programme (Ministry of Health and Family Welfare, 1992). The Ministry of Health and Family Welfare has also sponsored special projects under the Maternal and Child Health Programme, including the Oral Rehydration Therapy (ORT) programme, the establishment of Regional Institutes of Maternal and Child Health in states where infant mortality rates are high, the Universal Immunization Programme, and the Maternal and Child Health Supplemental Programme within the Postpartum Programme. These programmes are now integrated into the Reproductive and Child Health (RCH) Programme launched in 1996. This new programme

seeks to integrate maternal health, child health, and fertility regulation interventions with reproductive health programmes for both women and men.

Maternal and child health services in rural areas of the country are delivered mainly by government-run Primary Health Centres and Sub-centres. Some major issues related to this area are

- Age at marriage including the issue of *birth order* and *birth interval*
- Family planning
- Nutrition and the prevalence of anaemia
- Maternal and reproductive health
- Immunisation

The GIS village level map is used to present a snapshot of the situation with respect to child and maternal health. Figure 6.7 shows the the spread of Maternity and Child Welfare Centres in the district. It can be seen that in most areas, such centres are absent. Villages in the Sundarban Region do have some Centres (1-4); their number is 7 only in two pockets in Region-II.

The performance of South 24 Parganas is satisfactory with respect to immunization as we have discussed in subsequent section. However, there is considerable room to improve the situation with respect to other parameters relating to child and maternal health. The status of maternal and child health problems in rural areas of South 24 Parganas are rooted in the widely prevalent

Figure 6.7: Number of Maternity and Child Welfare Centers

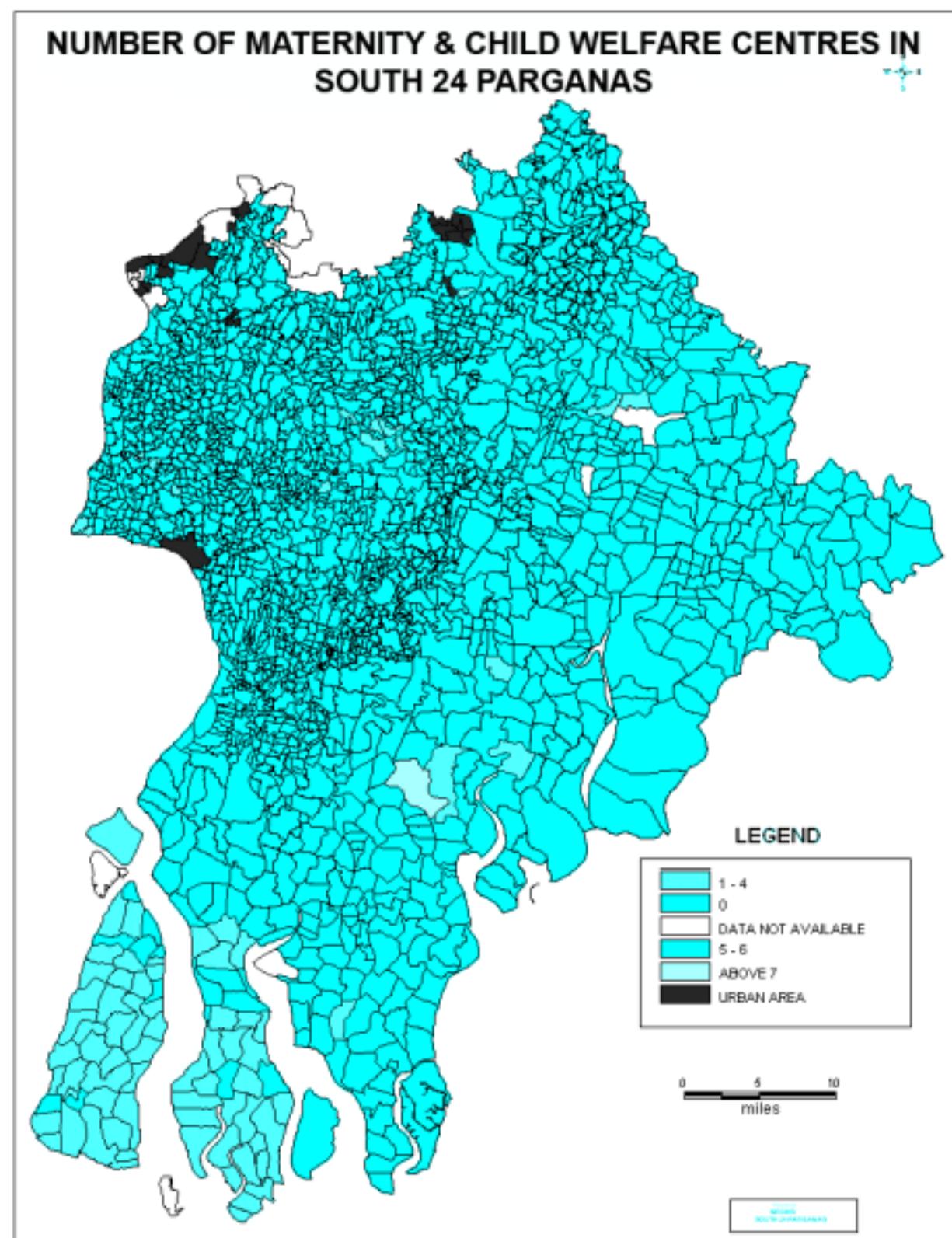


Table 6.17: Comparative Statement of Achievements under RCH Programme in South 24 Parganas: 2006-2007

Item	ELA for the Year 2006-07	Achievement up to the month	% of ELA Achievement of the Year	Last Year Achievement up to the same month	Comparison with the last Year of same month	Comparison with the last Year (%)
STERILISATION	11717	3525	30.08	2354	1171	50
IUD	10184	6445	63.29	6722	-277	-4
CC	128427	55858	43.49	46554	9304	20
OP	167261	87450	52.28	55972	31478	56
TT(PW)	156179	135316	86.64	122736	12580	10
FOLIFER(M)	156162	82747	52.99	89709	-6962	-8
BCG	140566	152768	108.68	151908	860	1
DPT	140566	136966	97.44	134304	2662	2
POLIO	140566	141732	100.83	130953	10779	8
MEASLES	140566	132638	94.36	129807	2831	2
VITA-A(1ST)	140566	128074	91.11	135011	-6937	-5
VITA-A(3RD-5TH)	421699	203060	48.15	191692	11368	6

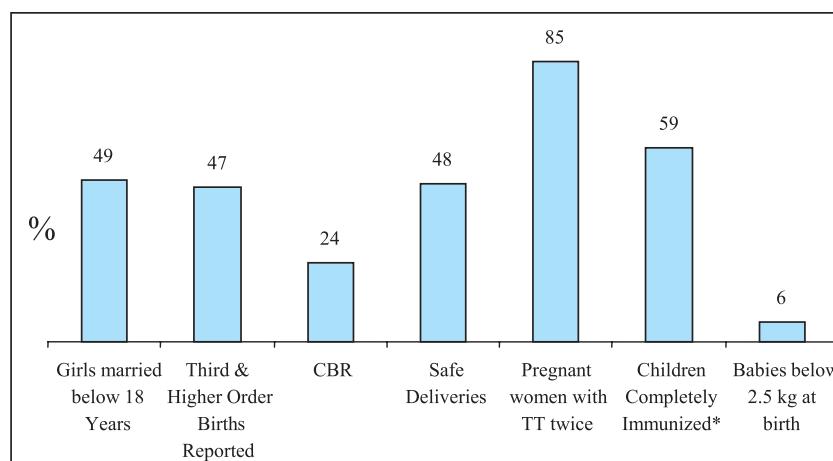
Source: Office of CMOH, South 24 Parganas

practice of early marriage, accompanied by high fertility. Contraceptive prevalence is still low in the district, as a result of which birth spacing cannot be practised efficiently by the parents. An analysis of these trends in the district is important to identify the

blocks for improving maternal and child health.

6.5.1 Age at Marriage

Although there has been a slight decrease in the proportion of girls getting married before attaining the age of 18 years, this

Figure 6.8: DLHS/RCH Key Indicators - 1998-99

*DPT-3, Polio-3, BCG, Measles

Source: Health on the March, 2005-06

proportion still remains very high. The Rapid Household Survey undertaken in 2003-04 revealed that about one out of every two girls got married before reaching 18 years (Health on the March, 2005-06). This implies that such women have a *lengthy reproductive span*, leading to very high crude birth rates (CBR). The magnitude of the problem facing policy makers can be seen from the fact that about half of the married women record *3rd or higher order births*. Not only is this rate unacceptably high, but its adverse health implications are compounded by the fact that most of these deliveries do not occur in a safe environment. Less than half of the deliveries occur in an institutional set-up. The incidence of institutional or attended deliveries was only 48 percent in 1998-99; this proportion has decreased alarmingly to 39 percent in 2003-04. As a result of early marriage and pregnancy, the frequency of babies with low birth weight remains quite high.

6.5.2 Family Planning in South 24 Parganas

Under RCH programme family planning emphasizes the target-free promotion of contraceptive use among eligible couples, the provision to couples of a choice of contraceptive methods (including condoms, oral pills, IUDs, and male and female sterilization), and the assurance of high-quality care. An important component of the programme is the encouragement of adequate spacing of births, with at least

three years between births for ensuring safe motherhood.

Analysis of blockwise data for 2006-07 (Table 6.18) shows that tubectomy is the commonly practised method of sterilization. The number of tubectomy cases is highest in the Sundarban areas – partly reflecting the high population in this area, and partly reflecting the large number of Government schemes targeting this area. Out of the five blocks recording highest number of tubectomy cases, four are in Sundarban region (Kultali, Canning-II, Patharpratima, and Basanti); only Baruipur lies outside the region. This is also true for IUD devices, OP cycles and *Nirodh* pieces distributed. Examining the prevalence of these methods among male (or female) population, the figures are not very flattering. The performance of blocks in Region-I is also satisfactory and generally better than the blocks situated in Region-II. The latter group of blocks perform better only with respect to oral pills and contraceptive use. The number of medically terminated pregnancies and abortions is the highest in Region-III, followed by Region-II. A blockwise picture of sterilization and other family welfare parameters are presented in Table 6.18.

Table 6.18 also shows that the number of cases of vasectomy is negligible compared to tubectomy cases, mainly due to the presence of government incentives. This indicates that there is scope to develop consciousness and acceptance of vasectomy in all blocks.

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Table 6.18: Family Welfare Programme 2006-07

Block	Vasectomy	Tubectomy	Total Sterilization	I.U.D.	O.P. Cycles Distributed	Nirodh pieces distributed	M.T.P. cases	Abortion
Thakurpukur-Mahestala	0	120	120	64	5033	47160	32	11
Budge Budge - I	8	64	72	83	11899	77377	9	9
Budge Budge - II	0	3	3	103	5602	65161	24	22
Bishnupur - I	0	168	168	93	19426	117040	27	33
Bishnupur - II	0	0	0	45	24829	79151	0	84
Sonarpur	0	28	28	142	10081	73234	59	0
Region I: North West (Kolkata Surroundings)	8	383	391	530	76870	459123	151	159
Baruipur	0	294	294	271	20751	100405	42	48
Bhangar I	0	121	121	183	9519	49726	12	6
Bhangar II	0	0	0	147	13901	66411	0	0
Falta	6	12	18	214	119897	185520	55	49
Diamond Harbour I	0	60	60	259	72960	291817	0	0
Diamond Harbour II	1	45	46	121	62650	297871	29	43
Magrahat I	0	88	88	162	80700	415983	10	3
Magrahat II	0	0	0	237	79797	154891	12	2
Kulpi	35	5	40	387	109546	200567	35	59
Mandirbazar	0	0	0	143	37773	216011	24	33
Region II: North East and Mid West	42	625	667	2124	607494	1979202	219	243
Canning - I	0	6	6	224	14115	74267	24	6
Canning - II	0	359	359	69	17375	73727	2	3
Basanti	0	249	249	25	34019	133675	8	30
Gosaba	0	172	172	108	13834	81777	87	70
Joynagar - I	0	0	0	126	13366	67642	2	4
Joynagar - II	0	60	60	960	16407	210500	0	0
Mathurapur - I	0	47	47	263	39145	125089	5	10
Mathurapur - II	0	9	9	368	78331	243862	3	35
Kultali	0	392	392	547	80065	196506	9	22
Patharpratima	0	298	298	230	60061	70869	20	69
Kakdwip	2	2	4	136	18071	84827	21	24
Namkhana	0	70	70	393	12777	78079	48	44
Sagar	0	0	0	72	22132	57136	0	0
Region III: South (Sundarbans)	2	1664	1666	3521	419698	1497956	229	317
Total	52	2672	2724	6175	1104062	3936281	599	719

Source: Office of CMOH, South 24 Parganas

6.5.3 Pregnancy and Maternal Morbidity

The issue of pregnancy and maternal deaths is related to several aspects like the following:

- Provision of antenatal care (ANC), including at least three antenatal care visits, iron prophylaxis for pregnant and lactating mothers, two doses of tetanus toxoid vaccine,

detection and treatment of anaemia in mothers, and management and referral of high-risk pregnancies

- Encouragement of institutional deliveries or home deliveries assisted by trained health personnel
- Provision of postnatal care, including at least three postnatal visits
- Identification and management of reproductive tract and sexually transmitted infections

In rural areas, a female paramedical worker, called an auxiliary nurse midwife (ANM), is posted at a Sub-centre to provide basic maternal health, child health, and family welfare services to women and children either in their homes or in the health clinic. Her work is overseen by the lady health visitor (LHV) posted at the PHC. With regard to safe motherhood, the ANM is responsible for registering pregnant women, motivating them to obtain antenatal and postnatal care, assessing their health throughout pregnancy and in the postpartum period, and referring women with high-risk pregnancies. The ANM is assisted by a male health worker whose duties include motivating men to participate in the family welfare programme and educating men about reproductive tract and sexually transmitted infections. The ANM and LHV also assist the medical officer at the PHC where health services including antenatal and postnatal care are provided.

Apart from the Government, several NGOs have extended their hands to promote mother and child care activities. One such organization (SHIS) has become popular by working in different villages of South 24 Parganas and focuses on addressing the unmet RCH needs by delivering RCH services, in areas which are under-served or un-served by the government infrastructure. Proposed programme is aimed to enhance male involvement and partnership in improving the reproductive health status of women and children in four blocks of South 24 Parganas, viz. Namkhana, Kakdwip, Patharpratima and Kultali. The intervention also includes adolescent population. The community is mobilized and made more aware of their needs to generate demand for RCH services in the target region.

Antenatal Check-Ups : According to RCH programme a pregnant woman should have an antenatal check-up by visiting a doctor or another health professional in a medical facility, receiving a home visit from a health worker, or both. But the surveys regarding this issue reveal that rural areas of the country are far from receiving this type of care in most of the cases.

Two important issues related to antenatal care are **Tetanus Toxoid Vaccination** and **Iron and Folic Acid Supplementation**. An important cause of death in infancy mostly in rural areas of our country is neonatal

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tetanus, which is caused by newborn infants becoming infected by tetanus organisms, usually at the umbilical stump. Neonatal tetanus is most common among children who are delivered in unhygienic environments and when unsterilized instruments are used to cut the umbilical cord. Tetanus typically develops during the first or second week of life and is fatal in 70–90 percent of cases. Two doses of tetanus toxoid vaccine given one month apart during early pregnancy are nearly 100 per cent effective in preventing tetanus among both newborn infants and their mothers.

Apart from the problem of tetanus, another threat to safe motherhood is nutritional deficiencies often exacerbated during pregnancy because of the additional nutrient requirements. Iron deficiency anaemia is the most common problem in this situation which not only poses threat to the mother but also to the health and survival of infants contributing to low birth weight, lowered resistance to infection, impaired cognitive development, and decreased work capacity. Improvement in a woman's nutritional status, coupled with proper health care during pregnancy, can substantially increase her child's birth weight. To this end, the provision of iron and folic acid (IFA) tablets to pregnant women to prevent nutritional anaemia forms an integral part of the safe-motherhood services offered as part of the

RCH Programme. The programme recommends that pregnant women should consume 100 tablets of iron and folic acid during pregnancy.

In the absence of data it is not possible to comment on the coverage of pregnant women under the Antenatal Care schemes in different blocks of South 24 Parganas. However, given the early year of marriage and high CBRs, the number of pregnant mothers is likely to be substantially higher than the number of registered cases. This calls for steps to increase the coverage of women under the ANC schemes. Given the mobility of women - from their matrimonial home to maternal homes (during pregnancy) and return to matrimonial homes (after delivery) - it is difficult to keep a track of mothers who have been provided with the required ANC check-ups. The data collection and retrieval system has to be improved to take into account the mobility of expecting mothers.

The available figures presented in the following Table reveal that the percentage of registered mothers completing 3 ANC check ups is satisfactory only in Budge Budge-I and II, Bishnupur-I and II, Falta, Diamond Harbour-I and II, Magrahat-II and Mathurapur-I and II. The situation has to be improved in the Sundarban area (particularly in Joynagar, Kakdwip and Sagar blocks), and in Sonarpur and Baruipur blocks.

As many as one in five pregnant women

Table 6.19: No. of cases given Antenatal Care - 2006-07

Block	ANTENATAL CARE									
	No. of Case Registered for ANC	No. of Preg. 3 check ups	H.R.P.W.Referred			No.of TT Cases			Anaemia	
			Attended	Attended & treated	Referred to FRU	TT-1	TT2	Booster	No.of preg.- women under treatment for anaemia	No. of preg.- women given prophylaxis for anaemia
Thakurpukur-Mahestala	2527	1465	65	1	62	2008	1803	65	57	166
Budge Budge - I	1942	1444	71	0	71	2018	1906	196	282	629
Budge Budge - II	3645	2154	200	79	105	2991	2810	23	162	243
Bishnupur - I	4251	3329	290	29	261	4035	3855	191	707	723
Bishnupur - II	3897	2653	342	165	167	3416	3027	300	588	1013
Sonarpur	5726	2065	286	31	259	3897	3330	460	699	491
Region I: North West (Kolkata Surroundings)	21988	13110	1254	305	925	18365	16731	1235	2495	3265
Baruipur	13282	4629	569	103	503	8515	7249	783	1663	4526
Bhangar I	5510	2829	93	0	93	4920	4325	607	584	804
Bhangar II	5402	3133	382	0	382	4757	4602	334	686	1102
Falta	5239	4500	364	31	333	5239	5116	28	1498	1471
Diamond Harbour - I	3764	2629	320	0	320	3496	3331	134	1334	1302
Diamond Harbour - II	3929	2828	337	0	337	3418	3356	293	946	1577
Magrahat I	5559	4242	437	357	80	5720	5449	261	1375	1481
Magrahat II	6054	5362	221	177	45	5781	5395	273	1277	2047
Kulpi	6541	4060	264	44	239	5738	5013	796	2438	2473
Mandirbazar	4686	2617	186	0	186	4125	3772	125	1919	1965
Region II: North East and Mid West	59966	36829	3173	712	2518	51709	47608	3634	13720	18748
Canning - I	9980	5245	1967	453	1282	8216	6122	434	88	111
Canning - II	6442	3447	240	136	120	5950	4536	479	1771	1711
Basanti	7015	3944	298	224	74	6961	5999	76	736	1557
Gosaba	3656	2173	251	217	34	3034	2608	173	356	903
Joynagar - I	5663	3482	836	160	607	4433	4002	855	455	914
Joynagar - II	5774	2335	225	78	95	4958	4527	816	1889	3038
Mathurapur - I	3854	2804	442	343	109	3767	3447	166	1372	1513
Mathurapur - II	3848	3265	231	89	123	4529	4257	29	1911	2420
Kultali	5293	2829	229	10	219	4740	4163	470	2085	2476
Patharpratima	6527	3402	228	178	52	5648	4553	310	1903	1761
Kakdwip	9420	2988	553	215	346	5305	5159	0	2088	3391
Namkhana	3416	2709	278	29	249	3402	3251	23	800	1365
Sagar	3770	1635	215	32	183	4029	3622	21	260	1641
Region III: South (Sundarbans)	74658	40258	5993	2164	3493	64972	56246	3852	15714	22801
Total	156612	90197	10420	3181	6936	135046	120585	8721	31929	44814

Source: Office of CMOH, South 24 Parganas

registered for ANC suffer from anemia. This proportion is highest in Region-II (23%), followed by the Sundarban region (21%). In Region-I, this proportion is relatively low, but still at an unacceptable 11%. In 15 blocks of the district, the

incidence of anemia among the pregnant women is relatively high. Seven of these blocks are in Region-II (Falta, Diamond Harbour-I and II, Magrahat-I and II, Kulpi and Mandirbazar), and eight in Region-III (Canning-II, Joynagar-II, Mathurapur-I and

II, Kultali, Patharpratima, Kakdwip and Namkhana). The proportion is highest in Mathurapur-II and Mandirbazar (above 40% in both cases). This has important consequences for both the mother and child – on one hand it leads to High Risk cases, on the other hand, it increases the possibility of mortality during birth and leads to a high proportion of babies with low birth weight. Community participation is very important in addressing these problems as concern for women, even pregnant women, is not very prevalent in rural areas of our society. The Integrated Child Development Scheme (ICDS) and NGOs have an important role to play in changing attitudes and addressing nutrition-related problems. This has been evaluated in a subsequent section.

Place of Delivery

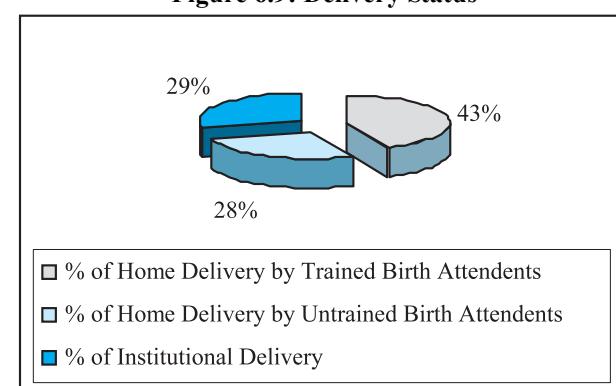
Another important thrust of the Reproductive and Child Health Programme is to encourage deliveries under proper hygienic conditions under the supervision of trained health professionals. Women who receive antenatal check-ups are more likely than other women to deliver in a health facility because their antenatal care providers are likely to have advised them to do so.

The proportion of safe deliveries is quite high throughout the district. Such deliveries include deliveries occurring in

medical institutions or home deliveries assisted by Auxiliary Nurse Midwives (ANM). Decomposition of the proportion of safe deliveries reveals that less than half of the babies born are delivered in institutions.

Block-wise analysis shows that only in Diamond Harbour-II, Thakurpukur-Mahestala, Canning-I, Magrahat and Kulpi blocks the proportion of home deliveries exceed 50%. In Bhangar-II, Falta, Bishnupur-I and Bishnupur-II less than one out of every ten babies are born in medical institutions. Out of these four blocks, the proportion of home deliveries assisted by ANMs in Bhangar-II, Bishnupur-I and Bishnupur-II is high so that the proportion of safe deliveries is satisfactory. The situation in Falta is concerning as even the proportion of home deliveries assisted by ANMs is low. Blocks like Baruipur, Sonarpur and Sagar also require the attention of policy makers.

Figure 6.9: Delivery Status



While the proportion of safe births is quite high, the high dependence on home

deliveries assisted by ANMs remains a major area for concern. The reason is that ANMs generally do not reside within their service areas, so that they are not able to provide direct services during delivery.

The Government is attempting to increase the proportion of safe deliveries through the introduction of ***Janani Suraksha Yojana*** (JSY) and provisioning of referral transport facilities to poor and

under-privileged families under the *Rogi Kalyan Samitis* at subsidized rates. The allocation under the latter was Rs. 18.85 lakhs in 2006-2007, but the CMOH estimates that a further Rs.35 lakhs is required to meet the targets. ICDS workers may be trained to keep track of pregnant mothers, and facilitate the access to transport services around the expected delivery date. The ***Ayushmani Scheme*** aims

Table 6.20: Status of Delivery 2006-07

Block	ICDS Centre	% of Institutional Delivery	% of Home Delivery by Trained Birth Attendants	% of Safe Deliveries	% of Home Delivery by Untrained Birth Attendants
Thakurpukur-Mahestala	219	59.56	23.11	82.67	17.33
Budge Budge I	104	48.41	32.59	81.00	19.01
Budge Budge II	100	25.71	51.58	77.29	22.71
Bishnupur I	172	8.68	63.03	71.71	28.30
Bishnupur II	217	7.07	66.67	73.74	26.26
Sonarpur	190	11.56	31.58	43.14	56.87
Baruipur	246	11.25	34.60	45.85	54.15
Bhangar I	151	29.28	57.55	86.83	13.17
Bhangar II	158	3.06	73.80	76.86	23.14
Falta	201	6.60	47.51	54.11	45.89
Diamond Harbour I	128	10.49	60.43	70.92	29.08
Diamond Harbour II	130	78.44	13.28	91.72	8.28
Magrahat I	227	54.52	25.40	79.92	20.07
Magrahat II	192	69.66	23.15	92.81	7.18
Kulpi	190	57.75	24.40	82.15	17.84
Mandirabazar	149	49.04	25.48	74.52	25.48
Canning I	170	59.01	16.15	75.16	24.84
Canning II	185	28.47	47.37	75.84	24.15
Basanti	229	29.68	40.81	70.49	29.50
Gosaba	184	15.13	61.01	76.14	23.85
Joynagar I	200	48.33	38.93	87.26	12.74
Joynagar II	148	24.46	51.03	75.49	24.51
Mathurapur I	165	28.10	45.43	73.53	26.47
Mathurapur II	160	18.12	49.26	67.38	32.62
Kultali	189	25.76	50.07	75.83	24.17
Patharpratima	225	26.15	42.33	68.48	31.52
Kakdwip	166	19.39	54.89	74.28	25.73
Namkhana	121	18.14	40.47	58.61	41.40
Sagar	137	18.89	24.80	43.69	56.30

Source: Office of CMOH, South 24 Parganas

Table 6.21: Block-wise distribution of Post Natal Care and Maternal Deaths, 2006-2007

Blocks	POST NATAL CARE		MATERNAL DEATHS		
	No. of women given 3 post natal check-ups	Complication referred to FRU	During pregnancy	During delivery	Within 6 weeks of delivery
Thakurpukur-Mahestala	1668	5	0	0	0
Budge Budge - I	1540	1	0	0	2
Budge Budge - II	1945	10	1	1	1
Bishnupur - I	3705	3	3	2	2
Bishnupur - II	2235	28	1	5	0
Sonarpur	1662	0	0	3	0
Region I: North West (Kolkata Surroundings)	12755	47	5	11	5
Baruipur	3743	2	1	7	0
Bhangar I	2813	8	0	1	0
Bhangar II	3246	28	0	3	2
Falta	4189	58	1	3	3
Diamond Harbour I	2600	26	0	2	8
Diamond Harbour II	2664	17	5	1	2
Magrahat I	3266	57	0	4	1
Magrahat II	4110	0	4	5	2
Kulpi	3905	2	3	1	0
Mandirbazar	2565	20	0	5	2
Region II: North East and Mid West	33101	218	14	32	20
Canning - I	4075	94	1	2	0
Canning - II	3485	19	2	0	2
Basanti	4237	16	1	14	2
Gosaba	1835	39	2	0	0
Jognagar - I	3966	16	2	1	2
Jognagar - II	874	0	0	0	0
Mathurapur - I	2876	60	3	3	5
Mathurapur - II	3367	0	0	1	1
Kultali	2684	15	1	1	0
Patharpratima	3259	22	1	2	0
Kakdwip	2717	38	5	5	5
Namkhana	2169	20	1	0	1
Sagar	597	4	0	0	0
Region III: South (Sundarbans)	36141	343	19	29	18

Source: Office of CMOH, South 24 Parganas

to provide free of cost emergency obstetric care through empanelled private health facilities under Public – Private Partnership (PPP) scheme to women belonging to BPL and SC/ST families holding JSY cards.

Since traditional birth attendants (*Dais*) and quack practitioners mostly attend to

home deliveries unattended by trained personnel. To tackle this problem, the Health Department has also attempted to train such traditional birth attendants through various training programmes. However, the trained *dais* may not attend the births. This has resulted in practices like the 'five cleans' and other precautionary measures not being adequately taken.

Several NGOs are also playing crucial role in training destitute women, widows, single mother, etc. as a Community Health Worker to stop the problem of unsafe deliveries. SHIS has introduced such training course in Bhangar – I and II, Canning – I and II, Kakdwip, Patharpratima and Namkhana of South 24- Parganas. It provides training to twenty destitute and marginalized women and girls in each block for six months. This trained community health workers, will provided basic health consultation and services to poor communities.

Postnatal Care

The health of a mother and her newborn child depends not only on the health care she receives during her pregnancy and delivery, but also on the care she and the infant receive during the first few weeks after delivery. Postpartum check-ups within two months after the delivery are particularly important for births that take place in non-institutional settings.

Recognizing the importance of postpartum check-ups, the Reproductive and Child Health Programme recommends three postpartum visits.

The number of recorded maternal deaths is quite low. However, the figures relate to registered pregnancies and may not reflect the actual maternal deaths. In the absence of data on actual pregnancies it is not possible to arrive at any conclusion regarding the actual status of maternal deaths. Most of these deaths occur during delivery; this does not speak well about the health care system in the District. It is necessary to identify to what extent the problem is due to lack of access to health care at the time of delivery and the extent to which the health care system itself may be at fault.

Data from the CMOH shows that maternal death from April 2007 to July 2007 was the highest in Kakdwip (8), followed by Basanti and Mandirbazar (5), out of 71 maternal deaths in South 24 Parganas.

In order to increase awareness about family welfare and maternal health related issues, the District Health Department has taken an initiative to organize Health Camps at the Gram Panchayat level. A record of these camps is given below for the half-year pertaining to 2007.

About one out of every hundred babies

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is still born. This has to be lowered still further, particularly in Joynagar II, where one out of every twenty babies is still born. However, it should be noted that the data available with the CMOH may not reflect

all the births; in particular, still born babies are likely to be reported less. This means that there may be a downward bias in the estimates of still born babies.

The proportion of underweight babies

Table 6.22: Block-wise Number of GP Based Health Camps, Jan-July, 2007

Block	Total No. of GPs in the Block	No. of GPs Where Camps Held	No. of Camps Held	Total No. of Patients Attended	Avg. No. of Patients per Camp
Thakurpukur-Mahestala	6	6	58	4595	79
Budge Budge - I	6	4	41	4619	113
Budge Budge - II	11	8	48	3379	70
Bishnupur - I	11	7	49	3509	72
Bishnupur - II	11	7	56	7772	139
Sonarpur	11	9	141	15144	107
Region I: North West (Kolkata Surroundings)	56	41	393	39018	580
Baruipur	19	17	123	10602	86
Bhangar I	9	6	44	3560	81
Bhangar II	10	5	29	4842	167
Falta	13	7	79	11737	149
Diamond Harbour - I	8	5	45	3107	69
Diamond Harbour - II	8	5	23	1955	85
Magrahat I	11	7	53	7212	136
Magrahat II	14	10	103	7912	77
Kulpi	14	7	71	12280	173
Mandirbazar	10	5	38	4440	117
Region II: North East and Mid West	116	74	608	67647	1140
Canning - I	10	6	65	6892	106
Canning - II	9	7	26	2928	113
Basanti	13	NA	NA	NA	NA
Gosaba	14	7	18	1312	73
Joynagar - I	12	7	81	6372	79
Joynagar - II	10	6	37	5878	159
Mathurapur - I	10	7	100	11434	114
Mathurapur - II	11	8	85	8000	94
Kultali	9	5	40	6798	170
Patharpratima	15	8	45	3677	82
Kakdwip	11	7	86	11176	130
Namkhana	7	6	36	1159	32
Sagar	9	5	40	2584	65
Region III: South (Sundarbans)	140	79	659	68210	1217
DISTRICT TOTAL	312	196	1660	174875	105

(with weights below 2.5 kg) also requires the attention of policy makers, particularly as in 13 blocks, this proportion is higher than the state average. In particular mention must be made of Joynagar II and Mathurapur I blocks where almost one out of four babies is under weight.

6.5.4 Immunization Programmes for controlling Infant and Child Mortality

Children are the first call on agenda of human resource development – not only because young children are the most vulnerable, but because the foundation for lifelong learning and human development is laid in these crucial early years. It is now

Table 6.23: Block-wise Number and Percentage of Babies by Status at Birth – 2006-07

Blocks	No. of Live Birth	% of Still Birth	% of New Born having weight less than 2.5 kg	% of New Born having weight 2.5kg or more	% of high risk new born referred to FRU
Thakurpukur-Mahestala	2185	0.64	8.10	76.66	0.23
Budge Budge - I	1820	1.32	7.91	75.66	1.26
Budge Budge - II	2815	1.35	10.83	68.77	0.32
Bishnupur - I	3738	0.88	4.63	93.79	0.19
Bishnupur - II	3434	1.40	12.84	70.44	3.12
Sonarpur	2278	0.31	10.10	65.41	0.00
Baruipur	8536	0.83	1.94	37.30	0.00
Bhangar I	4713	0.25	3.18	26.12	0.04
Bhangar II	4745	0.61	2.72	19.58	0.02
Falta	4889	0.84	11.76	71.90	3.72
Diamond Harbour I	2669	0.60	8.28	63.77	2.70
Diamond Harbour II	3462	1.27	1.53	5.14	0.20
Magrahat I	5111	0.53	3.17	58.91	4.97
Magrahat II	5561	1.11	6.78	60.55	0.04
Kulpi	5372	0.60	7.74	75.15	1.28
Mandirbazar		0.66	3.46	48.19	1.34
Canning - I	6433	0.89	8.22	86.72	0.00
Canning - II	5267	0.61	5.90	46.10	0.76
Basanti	6036	1.13	8.55	39.00	0.25
Gosaba	2972	1.08	7.17	59.49	1.04
Joynagar - I	5161	0.60	6.99	18.33	0.02
Joynagar - II	3976	5.26	24.47	45.17	0.00
Mathurapur - I	3935	1.25	23.71	77.15	0.08
Mathurapur - II	4503	0.76	8.37	89.45	0.33
Kultali	4169	0.74	4.82	16.43	0.00
Patharpratima	5030	0.85	12.64	141.29	0.28
Kakdwip	4891	0.86	7.63	60.70	0.74
Namkhana	3188	0.47	6.81	64.40	1.51
Sagar		0.41	6.44	21.71	0.00
Total	123704	0.95	7.83	57.19	0.80

Table 6.24: Achievement of Universal Immunisation Programmes: No. of Infants/Children Treated

Immunisation Programmes	Years	South-24 Parganas	West Bengal
TT(PW)	2004-05	121792	1481285
	2005-06	122736	1512125
DPT	2004-05	130112	1533887
	2005-06	13404	1621658
POLIO	2004-05	132050	1556175
	2005-06	130953	1605785
BCG	2004-05	141011	1784424
	2005-06	151908	1855722
MEASLES	2004-05	128299	1503905
	2005-06	129807	1520463

Source: *Health on the March, 2004-05; Office of CMOH, 24 Pg(S)*

globally acknowledged that investment in human resource development is a prerequisite for economic development of any nation. Early childhood (the first six years) constitutes the most crucial period in life, when the foundations are laid for cognitive, social, emotional, physical/motor development and cumulative lifelong learning. Child survival, growth and development, have to be looked at as a holistic approach, as one cannot be achieved without the others. There have to be balanced linkages between education, health and nutrition for proper development of a child.

Immunization of pregnant women and infants protects children from six vaccine preventable diseases- poliomyelitis, diphtheria, pertussis, tetanus, tuberculosis and measles. These are major preventable causes of child

mortality, disability, morbidity and related malnutrition.

Table 6.24 presents data on number of babies immunized. These projects are evaluated by the Health Department using the concept of ELA (Expected Level of Achievement). The ELA figures are, however, ad hoc targets based on a mark-up over last year's achievements. They do not provide an accurate estimate of the success of the immunization programme. Further the mobility of mothers during pregnancy and after birth (from their matrimonial home to maternal home and back after delivery) creates complications in evaluating Immunization programmes, as babies may receive different doses of DPT and OPV in different places. The Health Department should therefore introduce a Universal Surveillance System based on unique Registration IDs for each mother and her child.

Figure 6.10: Immunisation Coverage in South 24 Parganas

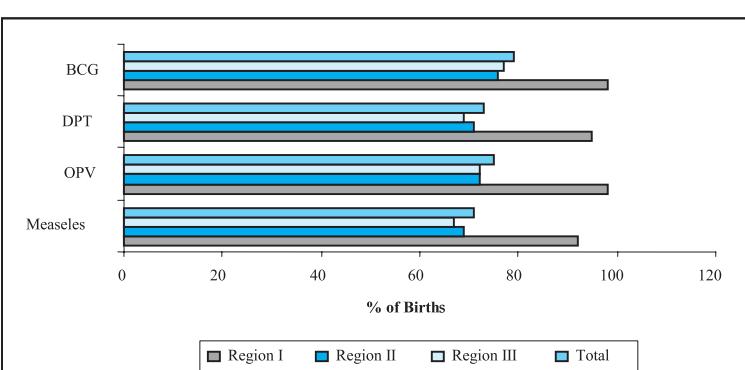


Table 6.25: Reported Immunisation coverage in different Blocks: 2006

Blocks	No. of Live Births	No. and Percentage Immunised							
		BCG	BCG %	DPT3	DPT% %	OPV3	OPV %	Measles	Measles %
Thakurpukur-Mahestala	2491	2794	112.16	2653	106.5	2661	106.8	2368	95.1
Budge Budge - I	2294	2135	93.1	2065	90.0	2067	90.1	1952	85.1
Budge Budge - II	3580	3143	87.8	2942	82.2	2963	82.8	2777	77.6
Bishnupur - I	4729	4284	90.6	4086	86.4	4131	87.4	4063	85.9
Bishnupur - II	4287	3400	79.3	3215	75.0	3502	81.7	3483	81.2
Sonarpur	2813	4113	146.2	4282	152.2	4401	156.5	3888	138.2
Region I: North West (Kolkata Surroundings)	20194	19869	98.4	19243	95.3	19725	97.7	18531	91.8
Baruipur	11405	9821	86.1	7966	69.8	8149	71.5	7642	67.0
Bhangar I	6217	5082	81.7	4801	77.2	4794	77.1	4600	74.0
Bhangar II	6426	4873	75.8	5141	80.0	5160	80.3	4806	74.8
Falta	5724	4894	85.5	4798	83.8	4787	83.6	4728	82.6
Diamond Harbour I	4320	3125	72.3	2996	69.4	3114	72.1	3048	70.6
Diamond Harbour II	4864	3368	69.2	3577	73.5	3598	74.0	3252	66.9
Magrahat I	7572	5158	68.1	5191	68.6	5175	68.3	5068	66.9
Magrahat II	7918	5621	71.0	5319	67.2	5306	67.0	5398	68.2
Kulpi	8110	5578	68.8	4989	61.5	5255	64.8	4792	59.1
Mandirbazar	5478	3963	72.3	3553	64.9	3814	69.6	3540	64.6
Region II: North East and Mid West	68034	51483	75.7	48331	71.0	49152	72.2	46874	68.9
Canning - I	10225	8389	82.0	7002	68.5	7301	71.4	6867	67.2
Canning - II	9208	5982	65.0	5544	60.2	5807	63.1	5338	58.0
Basanti	9004	7351	81.6	6512	72.3	6941	77.1	6122	68.0
Gosaba	4816	3479	72.2	3080	64.0	3296	68.4	3136	65.1
Joynagar - I	7870	5422	68.9	4670	59.3	4616	58.7	4412	56.1
Joynagar - II	6821	5646	82.8	5129	75.2	5239	76.8	4842	71.0
Mathurapur - I	6014	3967	66.0	3435	57.1	3651	60.7	3298	54.8
Mathurapur - II	6598	4496	68.1	4190	63.5	4481	67.9	4084	61.9
Kultali	7000	5380	76.9	4837	69.1	4869	69.6	4805	68.6
Patharpratima	7126	6234	87.5	6182	86.8	6243	87.6	6239	87.6
Kakdwip	7021	5669	80.7	5022	71.5	5372	76.5	4862	69.2
Namkhana	4961	3379	68.1	3424	69.0	3469	69.9	3466	69.9
Sagar	3970	3972	100.1	3404	85.7	3775	95.1	3370	84.9
Region III: South (Sundarbans)	90634	69366	76.5	62431	68.9	65060	71.8	60841	67.1
Block Total	178862	140718	78.7	130005	72.7	133937	74.9	126246	70.6

Source: Office of CMOH

In the absence of such data, we have attempted an evaluation based on figures for births provided by the CMOH. These figures indicate the extent of unfinished tasks in the case of immunization. Regional analysis reveals the sharp difference in immunization levels between Region-I and the other two regions. Immunization level in Region-I is substantially higher than the District average. On the other hand, differences in immunization level between Region-II and III is marginal.

Within each region, blockwise variations in immunization level are minimal, particularly in the case of Regions II and III.

6.5.6 Coverage of ICDS

Integrated Child Development Services (ICDS) is a national program committed to the welfare of pregnant/ lactating women and children under six years old in India. Funded by UNICEF, ICDS has undertaken pilot projects - under the leadership of the Departments of Women and Child Development & Social Welfare and Panchayat & Rural Development – based on the use of the Positive Deviance (PD) approach in Nutrition and Child Care Program (NCCP) in South 24 Parganas along with several other Districts. Several local NGOs (CINI, ASHA, etc.) have been involved in the implementation of ICDS in

such projects. The primary objective of ICDS is to improve the nutritional status of children under three years of age.

The PD informed project has enabled families to break the dependence on donated food, by

- Identifying cheap, locally available nutritious food which some families (PD) feed their healthy children as well as PD caring health-seeking and hygiene practices
- Bringing these food for preparation to the daily NCC session
- Feed their malnourished children a high calorie energy dense extra meal.

Under this initiative, behavioural change is emphasized through participatory learning and community mobilization to bring about the desired results. The guardians of the children bring food including vegetables, fish and eggs to the Anganwadi centre. The ICDS programme provides the centre with rice and pulses. All this is cooked together and a nutritious meal is fed to the children once a day. For twelve days in a month, mothers with undernourished children follow this regime. This is followed up by an 18-day break wherein care givers monitor the feeding practices in the respective child's homes and record progress. Every month the malnourished child is weighed and in most cases, mothers find their children gaining weight between 100 and 600 grams.

Box 6.2**ICDS in Bharu Ramkrishnapur**

UNICEF reports show how people are involved in the ICDS scheme. They observed that Community Child Development Centre (Anganwadi centre) at Bharu Ramkrishnapur, a sleepy village in South 24 Parganas District of West Bengal seemed to be hosting a 'picnic'. The community kitchen, teeming with activity; toddlers happily banging their spoons on the steel plates filled with food while their mothers were coaxing their young ones to have another morsel. Amidst all the noise and laughter, Kavita Naskar, the energetic Anganwadi worker, was busy supervising the feeding session: 'Bachcha take aarek tu dao' (give the child a little more) she called out to one mother. This "picnic" was actually a collective feeding session for underweight and malnourished infants under the Positive Deviance (PD) approach, an intervention aimed at reducing malnutrition among children less than three years of age.

Mangala Karmakar, one of the workers associated with the PD approach in Bishnupur block, where Bharu Ramkrishnapur is situated, explains that PD has made a major impact in tackling malnutrition in the villages. The whole village is mapped and charts are drawn indicating the status of each child under different grades as per its nutritional status in the village. The charts stating the health status of each child are prominently displayed at the Anganwadi centres creating a sort of psychological impact on the mothers to improve the status of their children.

The whole programme is based on an integrated strategy consisting of convergence and partnership through capacity building of childcare functionaries and leaders of the community. This is done through Information Education and Communication activities and dissemination of information about improved methods of child care like breast feeding, immunization and hand washing, community based management of malnutrition through counselling and hands-on child care sessions. The unique feature about the Positive Deviance approach is that it focuses on the inherent strengths of the community and draws from the untapped resources available within the community.

Community mobilization has resulted in the following outcomes:

- Overwhelming positive response from communities in organizing and participating in various collective and creative activities at village level.
- Better relations and cooperation between

Table 6.26: Performances of AWCs

		Functioning of AWCs	2004-05	2005-06
AWC	No. of AWCs Reporting	5142	5168	
	No. of AWCs providing SNP for 21+ days in a month	4133	4694	
Total Pop. Within Project	children 0-6 Years	733967	758077	
	Preg & Lact. Women	104880	105984	
No. of SNP Beneficiaries	children 0-3 Years	182267	225391	
	3-6 Years	188231	227072	
No. of PSE Beneficiaries	Preg & Lact. Women	41616	61499	
	No. of AWCs providing PSE for 21+ Day in a month	5128	5137	
Classification of Nutritional Status	Boys	66043	86567	
	Girls	68438	90154	
Classification of Nutritional Status	Normal	164693	212458	
	Gr - I	140064	167055	
	Gr - II	60006	66916	
	Gr - III + Gr - IV	1898	1582	
	Total No of Children Weighed	36661	448011	

SNP: Supplementary Nutrition Programme

PSE: Pre School Education

Source: Health on the March

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diverse communities at village level (Muslims and Hindus).

- Emergence of new leaders and activists at the grassroots level.
- Empowerment of disaffranchised groups: emergence of committed women's groups, including adolescent girls, to improve childcare practices.
- At ICDS level, healthy competition between Anganwadi Workers (AWWs), increased staff interest, participation and dedication via new monitoring tools and skills, also better accountability to communities.

UNICEF has provided technical assistance as well as partly funding the programme wherever necessary. Progress is monitored right up the chain from the village level to the state level and corrective steps are taken to plug loopholes. Again, the women who used to meet at the Anganwadi Centres have formed self-help groups and in some cases even run income generation programmes. An aggregative picture regarding ICDS activities has been presented in the following Table. It can be seen that there has been an improvement across all parameters.

Table 6.27 provides blockwise data on enrolment of mothers and children. The number of enrolled mothers is high in Canning I, Kulpi and Basanti; the number of enrolled children is also correspondingly high in these blocks along with Baruipur. Thakurpukur-Mahestala block has the lowest enrolment figures. However, it is difficult to evaluate the success of ICDS until we have information on total number of eligible children. The number of deaths, particularly within 0-3 years, still remains high. The number of children aged 0-3 years who have died is high in Canning I, Sagar, Patharpratima, Basanti, Joynagar-I, Canning-II, Bauruipur, Mathurapur-I and Kultali (above 80). Statistics indicate that the period of greatest risk is 0-3 years and this age group should therefore be of particular focus in ICDS scheme.

Table 6.27: Block-wise No. of Enrolled Mothers and Children and Number of Deaths - 2007

Projects	Enrolled Pregnant Mother	Enrolled Nursing Mother	Enrolled Children 0-3 Years	Enrolled Children 3-6 Years	Children Death 0-3 Years	Children Death 3-6 Years
Thakurpukur-Mahestala	8052	11446	59942	63528	20	1
Budge Budge - I	10778	13052	67731	68573	34	3
Budge Budge - II	13770	15561	79902	65281	52	15
Bishnupur - I	20512	22731	104177	96793	31	10
Bishnupur - II	16296	18274	91637	86121	28	10
Sonarpur	13166	14785	82812	78292	38	14
Baruipur	26842	29944	169228	160519	112	6
Bhangar I	19167	20500	106433	118440	27	9
Bhangar II	25899	27822	144787	146174	58	6
Falta	20802	24405	118320	119093	59	4
Diamond Harbour I	20761	21886	104078	105474	22	12
Diamond Harbour II	16168	18079	87470	77327	52	18
Magrahat I	27885	31166	157154	129353	66	0
Magrahat II	25877	30482	153715	167455	66	11
Kulpi	33198	33194	167763	165115	64	3
Mandirbazar	17882	19490	103964	84694	51	10
Canning - I	32585	34367	185233	197287	80	4
Canning - II	21854	24945	138222	159468	110	3
Basanti	29470	31764	175935	148305	99	5
Gosaba	18132	18571	101043	102628	36	1
Joynagar - I	23413	29135	140960	155243	99	16
Joynagar - II	20870	23666	115308	134515	62	9
Mathurapur - I	15120	19558	102535	106314	118	0
Mathurapur - II	23556	22819	115450	116942	72	4
Kultali	25565	27735	146171	165746	129	1
Patharpratima	28647	30641	140336	140256	82	5
Kakdwip	23133	25055	120607	119138	28	15
Namkhana	12868	15279	95503	89103	6	13
Sagar		16843	88606	73245	80	12
Mahestala (U)	4893	8424	48929	70703	1	1
Behala	3280	5249	28084	29193	12	3

Source: ICDS, South 24 Parganas

Table 6.28 shows blockwise distribution by nutritional status. Since Grade-III and IV children are severely malnourished, they need clinical support and it is difficult to manage them at the community level, ICDS has little role to improve the condition of this category. The only thing the ICDS can do is that it can refer the child to appropriate

level and appropriate time. On the other hand, ensuring that normal children remain normal even after six months lies at the heart of the ICDS programme; the window of opportunity for intervention is assumed to be between birth and 17 months of age of the children. Hence the major focus of ICDS is on Grade-I and II children

(constituting more than 50% of children enrolled under this scheme) as per norms prescribed by World Health Organisation as their needs can be managed at the community level and financial and administrative resources are allocated accordingly.

The blockwise data on nutritional status

presented in Table 6.28 shows that the absolute number of Grade I and II children is lowest in Thakurpukur-Mahestala whereas the number is very high in Baruipur, Canning I, Bhangar I, Canning II, Basanti and Kultali.

The proportion of Grade I and II under-nourished children enrolled under the ICDS is quite high. About one out of every three

Table 6.28: Block-wise percentage distribution by Nutritional Status of Children under ICDS - 2007

Blocks	Normal	Gr-I	Gr-II	G III & IV	Total No. of Children under ICDS
Thakurpukur-Mahestala	53.7	35.6	10.4	0.3	69451
Budge Budge - I	49.9	39.0	11.1	0.1	135801
Budge Budge - II	53.0	34.9	11.7	0.4	169092
Bishnupur - I	52.0	38.3	9.4	0.3	198819
Bishnupur - II	52.0	34.6	12.5	0.9	190101
Sonarpur	53.8	34.6	11.5	0.1	151574
Baruipur	49.8	37.2	12.7	0.4	277098
Bhangar I	55.2	29.9	14.5	0.4	321015
Bhangar II	51.6	39.7	8.3	0.4	248885
Falta	55.3	32.0	12.0	0.6	212924
Diamond Harbour I	54.1	32.4	13.1	0.4	154682
Diamond Harbour II	46.5	38.3	14.8	0.4	109334
Magrahat I	47.3	37.4	14.5	0.9	202395
Magrahat II	46.6	36.2	16.9	0.3	221525
Kulpi	49.7	34.8	15.3	0.2	219002
Mandirbazar	40.6	41.2	17.8	0.5	139353
Canning - I	44.4	39.3	16.1	0.3	257117
Canning - II	39.3	38.8	20.9	0.9	247557
Basanti	48.8	36.7	14.1	0.4	306753
Gosaba	49.8	35.1	14.7	0.4	177980
Joynagar - I	41.9	39.9	17.8	0.4	198096
Joynagar - II	39.1	41.1	19.6	0.3	164643
Mathurapur - I	45.0	37.4	16.9	0.7	151793
Mathurapur - II	49.2	35.9	14.7	0.2	189767
Kultali	43.1	42.3	14.3	0.3	287100
Patharpratima	47.4	35.4	16.1	1.1	177006
Kakdwip	49.1	36.4	14.4	0.1	150310
Namkhana	53.6	32.5	13.7	0.3	160614
Sagar	42.7	39.9	17.3	0.1	144044
Mahestala (U)	65.7	28.0	6.2	0.1	57055
Behala	54.8	39.1	6.0	0.1	86210

Source: ICDS, South 24 Parganas

children is malnourished in Falta, having the lowest proportion of Grade I and II children. The situation is worst in Joynagar II (where six out of every 10 children suffer from Grade I or II malnutrition), followed by Canning II, Mandirbazar, Joynagar I and Sagar (with marginally lower figures). In as many as 17 blocks, at least half of the children suffer from Grade I or II malnutrition.

The proportion of Grade III and IV children is highest in Patharpratima and Bishnupur II, both in absolute and relative terms. The number of such children in Magrahat I is also very high and exceeds 1500.

6.5.7 Some Remarks on Maternal and Child Health Issues

Issues relating to maternal and child health are of crucial importance in human development. It is necessary to assess the performance of the district health care system in this respect carefully. Unfortunately, as discussed, the data

generation and collection system contains major flaws. For instance, instead of looking at actual coverage of babies under immunization, ELA's are arbitrarily fixed on an ad hoc basis, and performance is measured against these arbitrarily set targets. This provides flawed indications of success to the District level authorities, who are unable to effectively monitor the situation and plan appropriate intervention strategies. We would suggest that a computerized Surveillance system be introduced at the state level based on actual coverage. Based on the data generated, some specific areas requiring urgent attention may be identified. Some of these areas are: safe deliveries, immunization, and ante-natal care. Further, it is necessary to supplement the measures introduced by the Health Department by awareness building programmes. Female literacy campaigns and workshops on maternal health at the school level may be introduced.

6.6 Quality of Drinking Water

6.6.1 Status of Drinking Water

During the last twenty five years there has been an overwhelming development in the field of drinking water supply in West Bengal; 90.28% of the rural population has been covered by Drinking Water Supply System up to 2002 against overall rural population coverage of only 14% in 1977. Rural piped water supply coverage on

March 2002 was 24.56% increasing from 0.7% in 1977. The task was not easy in the background of varied hydro-geological conditions in different parts of the state bringing about different qualitative and quantitative problems. Public Health Engineering (PHE) Department is committed to retain this achievement in the field of drinking water supply and to step forward to ensure safe water for all.

6.6.2 Water Pollution

Groundwater, being inexpensive and safe, was used as the main source of drinking water in South 24 Parganas. But during the early phase of 1980s it was detected that some people were suffering from arsenical dermatosis. In 1983 it was observed by the working group of School of Tropical Medicine, Kolkata and All India Institute of Hygiene and Public Health that the samples of groundwater showed presence of Arsenic beyond Maximum Contaminant

Level (MCL) of 0.05 mg / l even in some blocks of South 24 Parganas.

A recent study by SOES based on longitudinal data for 19 years has analyzed 8334 hand tubewell water samples from 1374 villages/Para/wards in 79 GP's/ Municipal area from 17 blocks of this District. The Table No. 6.29 shows the distribution of arsenic in tubewell water from South 24 Parganas District. The Table shows that arsenic concentration is above 10 µg/L in 3500 (42%) hand tubewells, above

Table 6.29: Arsenic Concentrations of South 24 Parganas

	Total No. of Samples Analysed	No. of total samples in different arsenic concentration (µg/L) ranges								% of Samples with As >10 µg/L	% of Samples with As >50 µg/L	Max. conc. g/L (samples with As >1000 µg/L)
		up to 3	4-10	11-50	51- 100	101- 200	201- 300	300- 500	501- 1000			
Baruipur	4594	2298	182	552	482	495	209	194	156	46.0	34.0	3700 (26)
Basanti	10	8	2	-	-	-	-	-	-	-	-	10
Bhangar I	239	127	15	36	16	20	9	13	3	40.6	25.5	810
Bhangar II	195	95	3	63	24	10				49.7	17.4	164
Bishnupur I	203	133	9	32	11	5	3	9	1	30.0	14.3	521
Bishnupur II	6	5	-	1	-	-	-	-	-	16.7	0	40
Budge Budge	43	38	3	1	-	1	-	-	-	4.7	2.3	125
Canning I	14	9	3	1	1	-	-	-	-	14.3	7.1	55
Canning II	8	2	3	1	-	1	-	-	1	25.0	11.5	130
Diamond Harbour	157	157	-	-	-	-	-	-	-	-	-	<3
Gosaba	4	4	-	-	-	-	-	-	-	-	-	<3
Joynagar I	175	101	4	16	16	19	12	5	2	40.0	30.9	590
Joynagar II	11	11	-	-	-	-	-	-	-	-	-	>3
Magrahat I	25	23	-	1	1	-	-	-	-	8.0	4.0	55
Magrahat II	301	123	1	25	28	50	32	18	23	58.8	50.5	1040 (1)
Sonapur	2270	1195	202	412	164	140	62	66	26	38.5	20.3	2480 (3)
Thakurpukur	79	79	-	-	-	-	-	-	-	-	-	<3
Total	8334	4408	427	1141	743	741	327	305	212	42.0	28.3	3700 (30)

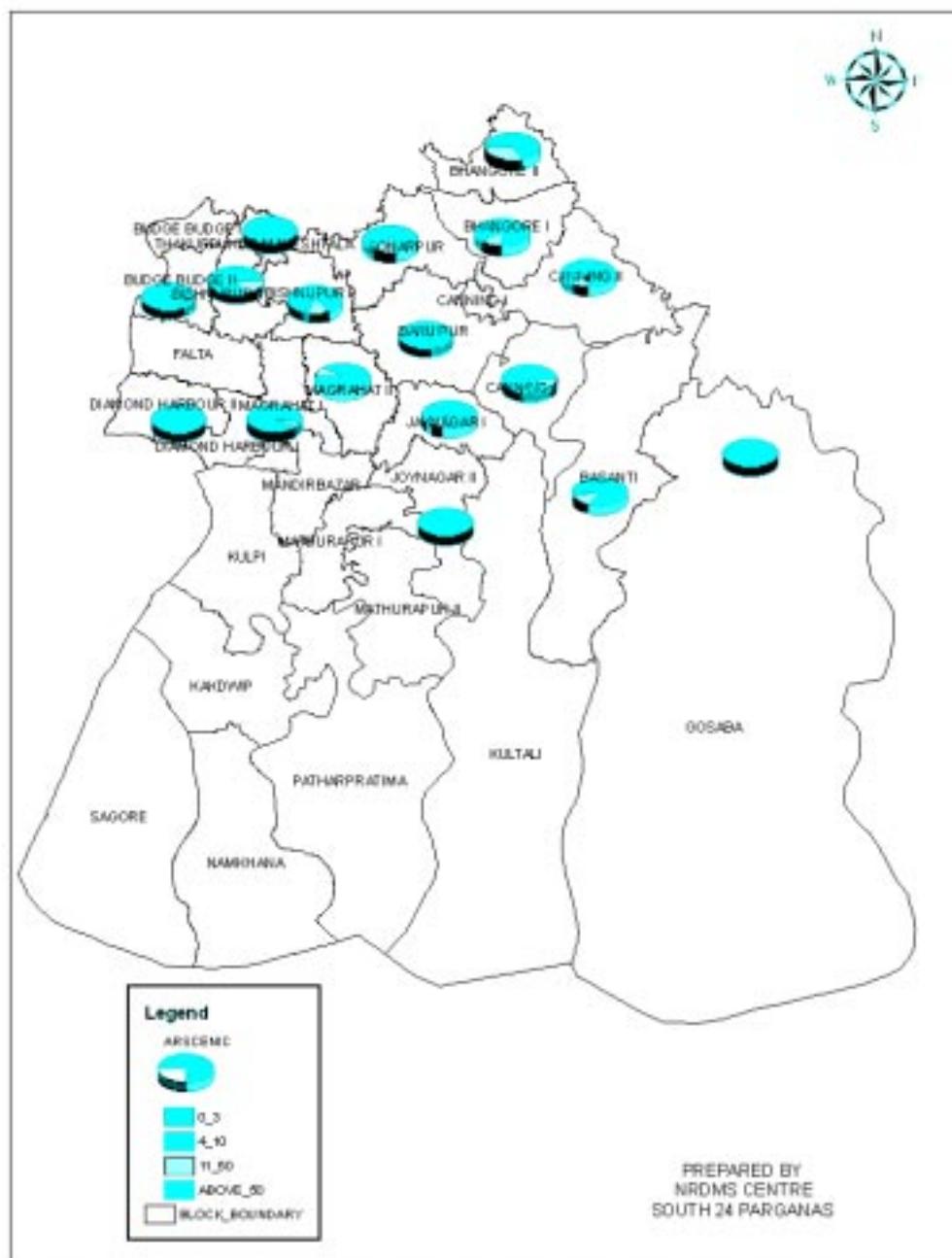
50 µg/L and in 2359 (28.3%) hand tubewells and above 300 µg/L in 547 (6.6%) hand tubewells. From the above analysis, it appears that groundwater in 12 blocks contains arsenic above WHO guideline value of arsenic in drinking water (10 µg/L) and 11 blocks exceeds Indian standard value for *As* in drinking water (50 µg/L). Arsenic level above 1000 µg/L was found in 30 tubewells. The maximum arsenic contamination level found in this district is 3700 µg/L in the Baruipur block. In Diamond Harbour, Gosaba, Joynagar II and Thakurpukur blocks all the tubewells analyzed were arsenic safe (below 10 µg/L). The probable reason may be that these blocks are situated in the coastal belt, so that most of the tubewells draw water from less contaminated deep aquifers. Many blocks such as Kakdwip, Namkhana, Sagar and Mathurapur are very near to the coastal zone so the number of hand tubewells are much less and if at all present they are deep tubewells. Although SOES did not cover these blocks but it can be predicted that tubewells in these blocks will also be arsenic safe.

The figure given below shows the groundwater arsenic contamination status in 17 blocks of South 24 Parganas with the Pie-diagrams indicating the distribution of contamination/safe drinking water.

The Arsenic problem in the District is geo-genic leading to its widespread nature. Therefore the solution was not very easy.

With the help of Surface Water based Water Supply Scheme for the Arsenic affected areas of South 24 Parganas 688 villages having 2213 habitations have been fully covered in terms of availability of safe drinking water. Complete eradication of the arsenic contamination, however, calls for active involvement of the affected communities in tackling the problem. However, the Government's perception of people's participation seems to be limited to charging a user charge for provisioning of arsenic-free water. The current installation charges are Rs.500 for residential purposes and Rs.3000 for commercial purposes. In addition, a monthly water charge of Rs.30 is charged from households and Rs.50 from commercial units. The amount thus collected is paid into a corpus fund of Rs.325.37 crores invested in 1998-99 by the State Government that will be used for maintaining the system.

Apart from Government, several NGOs are working very efficiently in arsenic mitigation drive in the District. For example, in recent years Ramakrishna Mission Lokasiksha Parishad has taken up Water Quality Surveillance (WQS) activities as one of its integrated development initiatives. As a part of WQS programme, the Parishad is maintaining laboratory units for testing arsenic concentration in hand pump water. The staff members involved in this drive not only collect the water samples and test the same

Figure 6.11: Arsenic Contamination in South 24 Parganas

but also take lead in motivating people ‘not to use the hand pump water contaminated with arsenic above the permissible limit’ as well as popularising the use of iron-arsenic removal filters. The laboratory unit in the premises of the Parishad is functioning in Baruipur, Sonarpur and Joynagar I blocks of

South 24 Parganas.

SHIS is another organization which has taken two approaches for its arsenic mitigation programme:

- Provide an arsenic-free water supply, that is, an alternative to contaminated tubewells.

- Provide an arsenic testing technology, that is, to check water from contaminated tubewells.

In many rural areas, there are few alternatives to the contaminated tubewells. As a result, household water treatments (Domestic Filter) are familiar concepts in many parts of West Bengal. SHIS has introduced Arsenic Removal Domestic Filter which follows the concept of the Amal unit, comprises a conventional two-chamber domestic candle filter body, with a layer of activated alumina granules in the top chamber (in place of a ceramic candle filter). The activated alumina media is a granulated form of aluminum oxide that has a strong affinity for dissolved arsenic, and removes it from solution by absorbing arsenic molecules into its surface. The media has a finite absorption capacity, but can be regenerated by flushing with sodium hydroxide and acid. SHIS's main challenge now is to make this Aresnic Removable Filter affordable, so that we can give some hope of better health for the poor underprivileged.

Another problem of ground water of the District is the presence of excess *salinity*. Surface water being free from arsenic contamination River Hoogly has been selected as a source. Hence surface water treatment is necessary before supplying

through distribution system. Apart from the core scheme, a modern water testing laboratory and an audio-visual auditorium are being set up which would help in maintaining quality of water and also to keep constant vigil over the water supply system spread over a vast area of more than 1100 sq. km.

6.6.3 Coverage of Habitations

PHE Department maintains the data on coverage of villages and habitations in terms of availability of drinking water. A village is said to be fully covered (FC) when

- there is one spot source for 250 persons,
- the villages have drinking water available within a distance of two hundred meters,
- the supply capacity is at least is forty litres per capita per day, and
- quality parameters of drinking water are within specified limits of habitations.

According to PHE, there are about 113 Piped Water Supply Projects currently running in different villages of South 24 Parganas. These projects are taking care of 340 villages covering 959 habitations. Table

Table 6.30: Coverage of Piped Water Supply Projects in South 24 Parganas

Scheme	No. of Projects	Estimated Cost (Rs. in Lakhs)	Villages	Habitations
ARSWP	54	3281.00	229	568
State Plan	55	3075.61	103	355
SDP	4	347.21	8	36
Total	113	6703.82	340	959

Source: Division: Alipore Division, PHE Dte.

6.30 shows that both the Augmented Rural Water Supply Programme (ARSWP) and State Plan are equally important to bring piped water supply in different blocks of South 24 Parganas.

Table 6.31 provides the relative positions of different blocks in the District in terms of habitations covered by safe drinking water sources. Here safe drinking water sources include ordinary tube wells, DWP tube wells and piped water supply schemes.

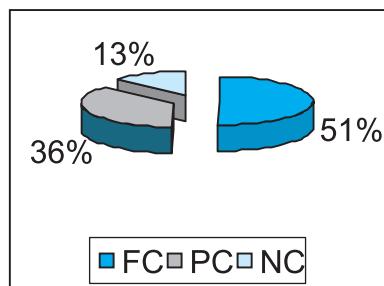
Table 6.31: Block-wise Coverage of Habitations in Terms of Safe Drinking Water

Block	Total Habitations	Habitations Fully Covered %	Habitations Partly Covered %	Habitations Not Covered %
Thakurpukur-Mahestala	143	22.4	70.6	7.0
Budge Budge - I	102	59.8	40.2	0.0
Budge Budge - II	242	99.2	0.8	0.0
Bishnupur - I	306	38.2	54.2	7.5
Bishnupur - II	250	56.4	35.6	8.0
Sonarpur	429	63.4	30.3	6.3
Region I: North West (Kolkata Surroundings)	1472	58.6	35.9	5.4
Baruipur	633	82.0	13.3	4.7
Bhangar I	273	74.0	18.3	7.7
Bhangar II	301	25.2	11.0	63.8
Falta	193	16.6	71.0	12.4
Diamond Harbour - I	180	22.8	46.1	31.1
Diamond Harbour - II	134	32.8	53.0	14.2
Magrahat I	434	30.0	47.2	22.8
Magrahat II	374	90.1	7.5	2.4
Kulpi	602	44.9	37.5	17.6
Mandirbazar	599	61.6	36.6	1.8
Region II: North East and Mid West	3723	54.3	30.5	15.2
Canning - I	254	19.3	46.5	34.3
Canning - II	196	20.9	53.6	25.5
Basanti	254	38.6	44.5	16.9
Gosaba	266	38.0	41.7	20.3
Joynagar - I	375	80.3	10.4	9.3
Joynagar - II	101	29.7	68.3	2.0
Mathurapur - I	262	46.2	53.4	0.4
Mathurapur - II	276	52.5	42.8	4.7
Kultali	229	52.4	47.2	0.4
Patharpratima	370	24.6	56.8	18.6
Kakdwip	329	39.5	29.2	31.3
Namkhana	177	42.9	51.4	5.6
Sagar	200	40.5	47.0	12.5
Region III: South (Sundarbans)	3289	42.1	42.9	15.0
TOTAL	8484	50.3	36.3	13.4

Source: Division: Alipore Division, PHE Dte.

The blockwise data on availability of safe drinking water reveals that overall 87% of the habitations are either fully or partly covered. Further it interestingly reveals that Sundarbans region (Region-III) has marginally better coverage - Non Covered area (NC) is 15% - compared to Region-II which is comparatively closer to Kolkata having 15.2% as total NC. Fully covered (FC) as well as partly covered (PC) habitations are highest in Region-I. The block having the lowest coverage in terms

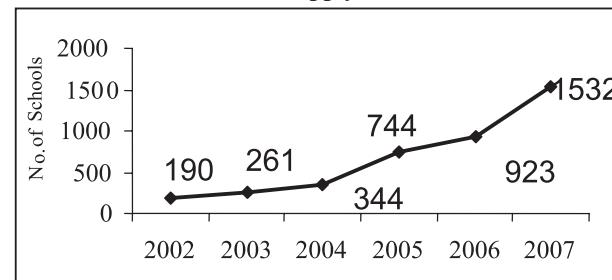
Figure 6.12: Coverage of Habitations in Terms of Availability of Safe Drinking Water



of total habitations is Bhangar II having only 37% coverage including PCs along with FCs. Apart from Bhangar II, habitations where more than 30% have remained totally uncovered are in Diamond Harbour I, Canning I and Kakdwip.

Water supply in *village schools* is another important issue for good hygiene of children as well as to maintain the sanitation system developed in the schools. PHE Department had targeted to cover 1859 number of schools for supplying Hand Bored Tubewells in 2002-03. But 18% of the work is yet to be completed.

Figure 6.13: Cumulative Achievement of Water Supply



However, if we look at cumulative achievement for water supply arrangement in sourceless schools, we obtain a rising trend during the period between 2002 and 2007.

In contrast to the availability of medical facilities, the GIS map for availability of safe drinking water reveals a much better picture. Only the Sundarban Region, in the southern-most area, remains a problem area.

6.6.4 Priority Areas in Provisioning of Water

The overall situation with respect to water supply is concerning. The focus seems to be on ensuring partial coverage – the proportion of fully covered habitations remains poor (only about half of total habitations have been fully covered), and these are more concentrated around Kolkata. Increasing the coverage of villages with drinking water should be a high priority in the district. Further, it should be noted that mere provisioning of water is not enough – the quality of the water is also important. Given the high incidence of water borne diseases (like diarrhoea) and

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the spread of arsenic contamination, steps to combat water pollution remain a high priority. The need to provide alternative

sources of safe drinking water and the provisioning of arsenic filters at affordable rates are important issues.

6.7 Sanitation Facilities

After drinking water, one must consider sanitation which is another vital aspect of infrastructure for achieving the goal of health for all. Epidemiological evidence suggests that sanitation is as effective in preventing disease as improved water supply. According to World Health Organization, the improved water supply and adequate sanitation will result in:

- 25 to 33 per cent reduction in diarrhoeal diseases in the developing world, which accounts for 4 billion cases each year.
- Decreased incidence of intestinal worm infestation (estimated at 10 per cent of the population in developing countries), which leads to malnutrition, anaemia, and retarded growth.

In India poor hygiene and sanitation accounts for 9 per cent of all deaths and an estimated 27,463,000 years of life lost each year (India Infrastructure Report, 2004). According to National Sample Survey data of 1998 for West Bengal, 76.1 percent of households in rural area and 15.2 percent of households in urban area did not have any latrine facility. Though sanitation facilities in urban areas are better than in rural areas, it is far from an ideal situation even in urban areas.

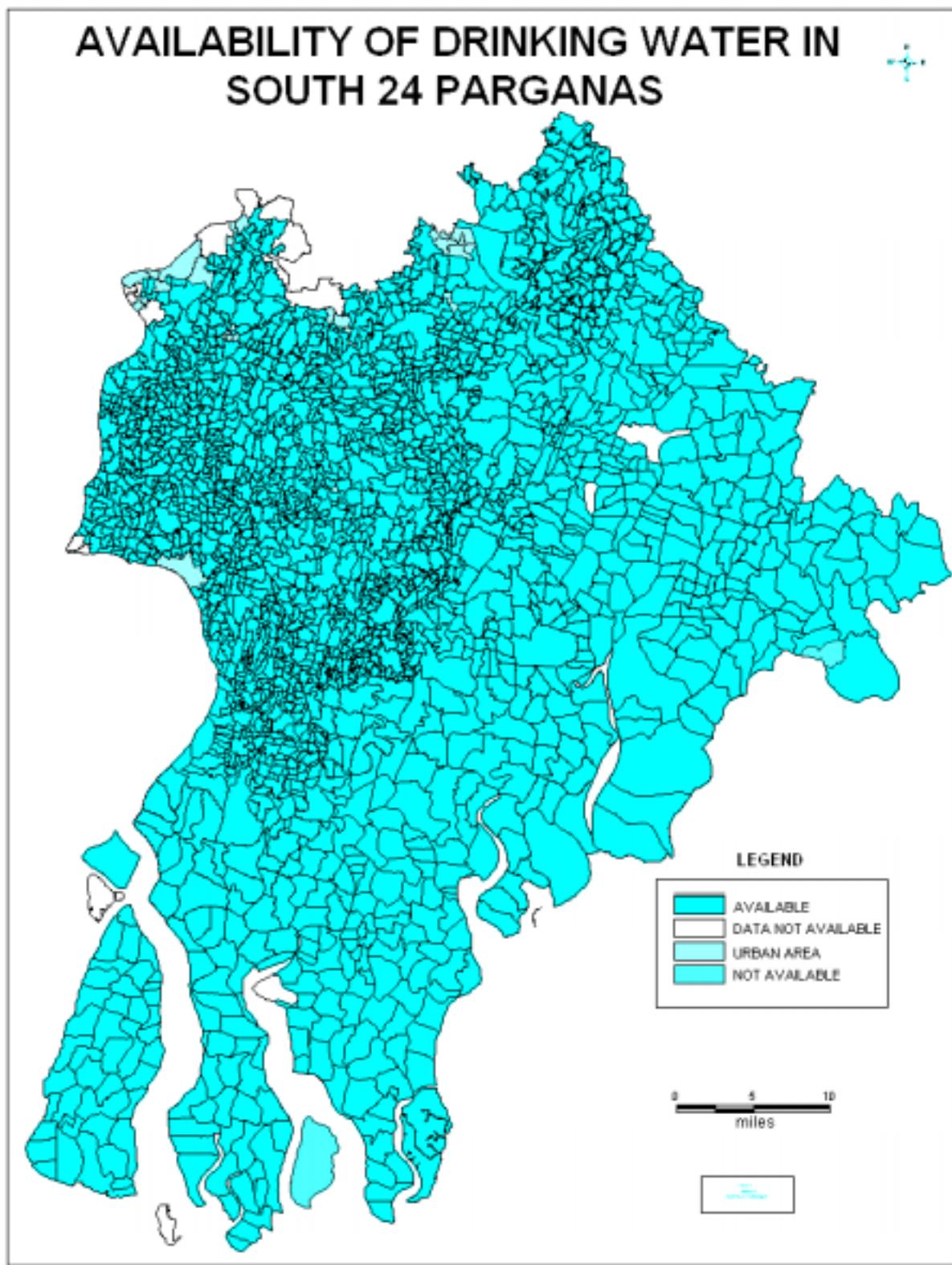
6.7.1 Sanitation Coverage in the District

Coming to District level data in Census

2001, it is found that South 24 Parganas has medium rank regarding the sanitation facilities. The District needs serious work to achieve the goal of complete sanitation on the basis of the fact that even after five years of introducing Total Sanitation Campaign (TSC) the campaign could not sufficiently motivate people of the district on the use of latrine. Apart from the government, several organizations are working to achieve the goal of complete sanitation. Eleven Cluster Organisations of Ramakrishna Mission Lokasiksha Parishad are directly involved in implementation of Total Sanitation Programme in several blocks of South 24 Parganas.

TSC was launched in the District with twin objectives of making the people aware of the advantage of use of sanitary latrines and at the same time providing low cost sanitary latrines to every household. Under the programme the people living below poverty line (BPL) get a subsidy for constructing the latrine, whereas for the above poverty line (APL) households, entire cost of the latrine is to be borne by the owner of the latrine. Table 6.32 shows that only 18% of total target has been achieved for APL households under TSC programme whereas the success rate is 88.6% for BPL households. One of the explanation of such varied success rates may be the arrangement

Figure 6.14: Availability of Drinking Water



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of subsidy for the families living below the poverty line. BPL households get a partial contribution of Rs. 250 as reimbursement. It was thought that Campaign will motivate people to construct their own sanitary latrines with technical support from the Sanitary Marts. But the analysis of performance reveals that sanitary latrines were largely constructed only by the BPL families. Although target for construction was marginally higher in the BPL category, performance in the said category (428670) far surpasses the APL category (75472). Hence, one may argue that subsidy is working as the main driving force rather than the awareness aspect which was the core aim of launching TSC.

A blockwise analysis of achievement of sanitation targets (Table 6.33) shows that the success rate varies widely among different blocks. Some of the blocks are very well performing in the district achieving more than 100% of their target whereas some other blocks are very low performing. Namkhana ranks highest in the district, followed by Thakurpukur-

Table 6.32: Sanitation Coverage in South-24 Parganas

Items	APL	BPL	Total
No. of Households	782410	417473	1199883
Households having Latrine before launching of TSC	277413	23917	301330
Target under TSC	414708	483845	898553
No. of Toilets constructed	0	32811	32811
Total Latrines constructed under TSC so far	75472	428670	504142
Latrines to be constructed	339236	55175	394411

Mahestala, Sonarpur, Gosaba, Kakdwip as second, third, fourth and fifth achievers. The situation is worst in Joynagar II and Canning I, the success rates being only around 30%. Surprisingly, most of the higher rank holders for BPL households belong to Sundarbans region. The better inclination towards latrine construction always cannot be explained either by level of educational achievement or by water supply facilities. It needs further study to understand specific dynamics of sanitation activities in the District. It may be the tenacity of the Sanitary Mart, may be the involvement of the Panchayat organizations, or initiative of the Block Development Officer or a combination of these factors that is responsible for higher level of performance in individual blocks.

One point may be worth noting in this context: several gram panchayats have been able to achieve complete sanitation as well as remove any type of environmental hazard in the district. Out of 312 gram panchayats, 11 were awarded Nirmal Gram Puroshkar in 2006; in 2007, 46 have applied for the same prize.

Box 6.3

Provisions of TSC

- Education and Communication for awareness and demand generation
- Incentives for poor to construct individual household latrines
- Sanitation facilities and hygiene education for all types of rural schools
- Baby friendly toilets facilities for Aganawadis
- Community Sanitary complex for poor and landless families.
- Supply chain encompassing alternate delivery

Table 6.33: Block-wise Sanitation Targets for APL and BPL households and Achievements

Blocks	No. of Targets of Households Sanitary Lactrines under TSC		No. of Household Sanitary Latrine Constructed Under TSC		Percentage of Achievement	
	APL	BPL	APL	BPL	APL	BPL
Thakurpukur-Mahestala	7023	6400	4692	12025	66.81	187.89
Budge Budge I	7548	5059	5942	7411	78.72	146.49
Budge Budge II	9956	14377	7062	11543	70.93	80.29
Bishnupur I	18016	11992	8734	17707	48.48	147.66
Bishnupur II	17671	13323	5546	6938	31.38	52.08
Sonarpur	15521	3073	1847	5382	11.90	175.14
Region I: North West (Kolkata Surroundings)	75735	54224	33823	61006	44.66	112.51
Baruipur	22699	17473	7166	12367	31.57	70.78
Bhangar I	10480	16201	3906	13291	37.27	82.04
Bhangar II	17572	10148	209	14451	1.19	142.40
Falta	24699	15695	4615	16361	18.68	104.24
Diamond Harbour I	8686	11014	351	6353	4.04	57.68
Diamond Harbour II	17342	8493	218	9257	1.26	109.00
Magrahat I	8255	23253	2108	16669	25.54	71.69
Magrahat II	14581	26986	101	9109	0.69	33.75
Kulpi	20533	17309	1634	19286	7.96	111.42
Mandirbazar	17401	12213	4376	12933	25.15	105.90
Region II: North East and Mid West	162248	158785	24684	130077	15.21	81.92
Canning I	18515	21262	3330	6489	17.99	30.52
Canning II	11350	12575	197	7417	1.74	58.98
Basanti	21688	29555	209	24106	0.96	81.56
Gosaba	20488	16868	1024	27687	5.00	164.14
Joynagar I	2364	23130	1059	10389	44.80	44.92
Joynagar II	6014	25280	0	7933	0.00	31.38
Mathurapur I	15609	17901	430	17357	2.75	96.96
Mathurapur II	17914	13963	666	10754	3.72	77.02
Kultali	13929	17313	481	10304	3.45	59.52
Patharpratima	12801	38129	1190	33162	9.30	86.97
Kakdwip	10517	25910	3343	39099	31.79	150.90
Namkhana	18753	9771	1218	24094	6.49	246.59
Sagar	6783	19179	3818	18796	56.29	98.00
Region III: South (Sundarbans)	176725	270836	16965	237587	9.60	87.72
District	414708	483845	75472	428670	18.20	88.60

Source: Zilla Parishad, South 24 Parganas

6.7.2 School Sanitation

Schools are important for cognitive, creative and social development of

children. So are the School Sanitation and Hygiene Education, necessary for the safe, secure and healthy environment for children

Box 6.4**SSHE Goal**

- To cover all rural schools by providing water, sanitation and hand washing by along with hygiene education 2005-06
- To cover all Anganwadis with toilet facilities 2005-06
- Separate toilet facilities for girls in co-ed schools

to learn better and face the challenges of future life. This understanding is very much a part of the policy of Government of India (GoI). From policy to programme, ***School Sanitation and Hygiene Education (SSHE)*** has now become a reality of school centric development action being realized by most of the schools.

Government is committed to scale up SSHE programme by covering all the government rural schools with drinking water, urinal/toilet facilities and promote health and hygiene activities by the fiscal year 2005-06 with special focus on the girl child. This finds ample prominence in TSC, which encourages construction of school toilets as well as hygiene education in all types of Government schools. The

SSHE programme is participatory in nature and an important component of the national reforms programme for rural water and sanitation sector.

Out of 2,468 primary schools in South

Table 6.34: Sanitation facilities in Schools in South 24 Parganas

Primary Schools	No. of Schools
Total No.	2468
Where Toilets have been constructed under TSC	1959
Where Toilets have been constructed under Other Sources	184
Without Sanitary Latrines	335
Without Girls Latrines	509

Source: Zilla Parishad, South 24 Parganas

24 Parganas where toilets have been constructed so far, 335 schools do not have sanitary latrines, while in 509 there are no latrines for girls. The latter creates problems, particularly for adolescent girls, and may lead to drop-outs.

The fund allotment for sanitization of schools has been summarized in the following Table. It shows that 79% of the work is yet to be completed.

Table 6.35: Fund Status in School Sanitation: South 24 Parganas

School	Target (Units)	Completed (Units)	Pending (Units)	Fund Required (in Rs.)	Fund available out of TSC @ Rs. 2	Fund required out of BRGF @ Rs. 0.039
Primary	4936	1937	2999	716.761	599.80	116.961
High / H.S. / Junior High	448	140	308	73.612	61.60	12.012
Sishu Siksha Kendra	1250	350	900	215.10	180	35.10
Madhyamik Siksha Kendra	138	48	90	21.51	18	3.51
Madrasah	86	32	54	12.906	10.80	2.106
I.C.D.S.	5448	79	5369	536.90	268.45	268.45
TOTAL :	12306	2586	9720	1576.789	1138.65	438.139

Source: Zilla Parishad, South 24 Parganas.

6.7.3 Some Remarks on Sanitation

The District officials have taken steps in improving the situation with respect to sanitation, but there are many unfinished tasks. For instance, the focus of Government programmes is on BPL families. While this was justified given the low coverage of BPL families (only 3% of BPL households had latrines, compared to 36% of APL families), after the inception

of TSC programme, a large proportion of BPL families constructed sanitation facilities as they considered it to be an issue related to their social prestige. However the APL families – who are presumed to be more educated and aware – have continued with traditional sanitation practices. Changing behavioural pattern and demand for hygienic sanitation among such families is a high priority area.

6.8 Conclusion

The analysis of the health situation in South 24 Parganas shows that there is scope for considerable improvement in almost all areas. Particular areas of concern are identified as follows:

1. The existing health infrastructure in most blocks does not satisfy existing national norms. This creates a tremendous pressure on blocks where the local population relies on public health facilities. However, such pockets are limited to Sundarbans. In most areas the reliance on public health facilities is much less.
2. The existing three tier referral system does not seem to be functioning effectively in all three regions.
3. The lack of adequate data, particularly on maternal and child related programmes, prevents proper evaluation of such

schemes.

4. The proportion of safe deliveries is about 57%. This is quite low; further it hides the fact that institutional deliveries constitute less than a third of *recorded* deliveries.
5. Only one out of every five registered women completes the three mandatory ANC check-ups.
6. The incidence of anemia among pregnant women is as about 20%. This affects infant mortality and leads to under-weight babies.
7. There is sufficient scope for improvement in performance in respect of immunization.
8. The fact that ICDS is making headway in the district is a welcome sign and can be hoped to reduce the severity of child and maternal malnutrition.

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9. There has been rapid progress in the provisioning of safe drinking water. The problem of arsenic contamination has been tackled successfully.
10. The extension of sanitation facilities has been uneven. The record is particularly poor in schools.

Given the inadequate and poorly utilized health infrastructure a significant increase in the expenditure is necessary to meet institutional deficits. The referral system must be made effective through appointment of medical personnel. The reluctance of qualified medical personnel to accept public sector appointments and posting in rural areas is a matter of concern. This is leading to a large vacancy in such staff. Incentives must be offered to attract medical staff. Regular and periodic transfers, residential facilities and greater social status and prestige may be important. The regular availability of staff close to their residence, along with the availability of medicine, is an important pre-requisite in re-vitalizing the referral system, particularly at the Sub-centre level. It may also be necessary to explore how Private-Public Partnerships can be effectively utilized.

Discussions with officials in CMOH indicated that in many areas accessibility to health facilities is a real problem. The introduction of **Mobile Health Care**

Facilities is a welcome step in this regard. Composed of a social worker, paramedical workers and doctor the Mobile Health Team (MHT) visits the project villages periodically to provide support and facilitate development activities. The MHT serves as the liaison between village and health centre. New project villages are visited regularly while growing self-sufficiency, capacity and leadership within the older villages eliminate the need for frequent follow-ups and consultation. The health staff provides primary care for patients who require treatment for minor illnesses and injuries. Patients who have more serious disorders and need testing or more intensive treatment are referred to other hospital-based services, through the Mobile Ambulance facility which is readily available at the time of the clinic.

Mobile Boat Dispensaries aim to provide comprehensive health care services (preventive, promotive and curative) to remote villages, particularly in the inaccessible areas of the Sundarbans. The services provided are OPD, minor surgery, BP examination, X-ray, pathology, ECG, First Aid, Vitamin-A Prophylaxis, treatment of mal-nourished cases and linking up with RCH programme to provide ante-natal/post-natal services, identification of difficult pregnancies and referral for institutional care, immunization, etc.

Apart from health care infrastructure and its accessibility, problems relating to maternal and child health also requires serious attention, particularly in view of their implications for subsequent generations. Major constraints in improving the situation are socio-cultural - the low status of women, lack of education and awareness, early marriage, etc. These problems cannot be solved through a 'top-bottom' approach, but requires building community awareness and involvement. NGOs can play an important role in this respect. The ICDS also has a major potential role. Gram panchayats have to be involved more actively.

The scarcity of Female Health Assistants and trained Dais, and their non-availability in the locality on a 24-hour basis are institutional impediments to improving the situation with respect to maternal health. This problem must be addressed by the Health Department. The State Government must also realize the economic importance of health and release financial resources accordingly.

There must also be regular review and evaluation of existing programmes in the area of child and maternal health. Unfortunately,

the lack of a Universal Surveillance Data System renders the task of evaluation difficult. This is an institutional reform that should be given high priority by the State. This system should be based on gram panchayats to improve coverage of the data.

We have also constructed a *Health Index* to assess the overall situation in the District. The average value of Index is only 0.52. This is quite disappointing. The block-wise variation is also minimal.

The highest Index value is obtained by Canning-II (0.70), and the lowest by Gosaba (0.39). It is interesting to note that both these blocks are in the Sundarban regions. The situation with respect to Sundarban blocks is quite varied – four out of the top ten blocks are from this Region. On the other hand, seven out of the last nine blocks are also from this region. In contrast, blocks around Kolkata perform well, except for Budge Budge-II and, to some extent Bishnupur II. The blocks in Region-II, mainly fall in the intermediate stage, though three of them (Magrahat-II and Diamond Harbour I and II) find place in the top ten blocks. This index can serve as a useful tool for geographical targeting and allocation of resources in the district.

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Human Security and Vulnerability

7.1 Introduction

The notion of Human Security dominated the development and political agenda during the 1990s in the aftermath of Cold War. Primarily it featured discussions about national security but gradually it narrowed down to consider those pervasive threats that loom large over the “vital core” of people’s life. The “vital core” constitutes what is called the “functioning” of the individuals such as assured basic income, access to food, improved health and security from physical violence. Thus, breaches in Human Security can arise due to exposure to downside risks i.e. risks like economic deprivation, crime and environmental degradation that menace long run sustainability of individuals and interfere with the continuation of daily life and dignity. The extent to which such risk translates into decline of well being determines the vulnerability of humans. Typically development policy dialogues see this vulnerability in terms of “entitlement failure” and talks of enhancing the

“capabilities” of individuals by “empowerment” enhancing strategies.

In more than one way the concern over safeguarding human security applies overwhelmingly in case of South 24 Parganas. The district is typically at the lower rung of the ladder in terms of district per capita income compared to other districts of West Bengal (West Bengal Human Development Report, 2004). This place also houses the largest proportion of backward people compared to the state and most of these people depend on traditional agriculture for livelihood support. Along with this, owing to its proximity to the Bay of Bengal, the district often faces the vagaries of extreme climatic events that are mostly hydro-meteorological hazards like cyclones and flood. In fact, in terms of cyclone incidence it ranks first among the ten Indian coastal districts (Ministry of Environment and Forests, 2004). Thus, income shocks are frequent in these areas rendering the populace highly vulnerable.

So far as the crime scenario is concerned the economically weaker group i.e. the women and children suffer the most in this district. West Bengal has the highest share in woman trafficking across all Indian states (National Crime Bureau, 2006) and South 24 Parganas is one of the three districts where such activities are rampant¹.

In South 24 Parganas the percentage of households falling below poverty line (BPL) in rural areas stood at 35 per cent in 2005². Compared to the BPL Survey results in 2002 that shows the figure to be around 37 per cent, this is surely an improvement but on relative terms there is a large disparity in the incidence of poverty in the rural and urban areas. The estimated rural and urban poverty ratios in the district are 26.86% and 8.5% respectively (West Bengal Human Development Report, 2004). Hence there is a widespread disparity between rural and urban areas of

South 24 Parganas district, in terms of income level. Thus, it is evident that rural areas are poorer and hence more vulnerable compared to their urban counterparts. This chapter would explicitly emphasize on various dimensions of human security with rural population in South 24 Parganas being our unit of analysis. The next section shall only briefly touch upon the economic and social security issues as they are discussed more elaborately in companion chapters. However, one aspect of social security, incidence of crime among the blocks of South 24 Parganas would be discussed in Section III. Section IV will look into vulnerability arising from natural disasters in South 24 Parganas. For gauging vulnerability at the block level, Section V will discuss the vulnerability index and the relative position of the blocks in terms of vulnerability status.

7.2 Economic and Social Security Issues

Economic deprivation and poverty are associated with a number of factors like asset position of the households, say, in terms of possession of land and house and occupational status. To demarcate the

parameters that would mostly capture the economic and social (in)security we calculate the correlation between various population characteristics for 18 districts of West Bengal (See Table 7.1).

¹ The other two districts are North 24 Parganas and Murshidabad.

² Synopsis of the Rural Household Survey 2005, available at the website of the Panchayat and Rural Development, Government of West Bengal. http://wbdemo5.nic.in/html/misc/BPL_survey2005_summary.xls

Table 7.1: Correlation between Population Characteristics of the Districts of West Bengal

Population Characteristics- percentage of households	BPL	Houseless	Kuccha house	Migration	Landless	Marginal workers	Small farmers	Agri labour	Women headed hh
BPL		.300	.597(**)	.476(*)	-.148	.074	.238	.836(**)	.061
Houseless	.300		-.065	-.093	.289	-.273	-.183	.221	.108
Kuccha house	.597(**)	-.065		.402	-.343	.354	.172	.393	.338
Migration for Casual labour	.476(*)	-.093	.402		.122	-.101	-.122	.637(**)	.318
Landless	-.148	.289	-.343	.122		.925(**)	-.754(**)	.280	-.279
Marginal workers	.074	-.273	.354	-.101	-.925(**)		.453	-.294	.524(*)
Small farmers	.238	-.183	.172	-.122	-.754(**)	.453		-.154	-.278
Agri Labour	.836(**)	.221	.393	.637(**)	.280	-.294	-.154		.013
Women Headed hh	.061	.108	.338	.318	-.279	.524(*)	-.278	.013	

** Correlation is significant at the 0.01 level (two-tailed).

* Correlation is significant at the 0.05 level (two-tailed).

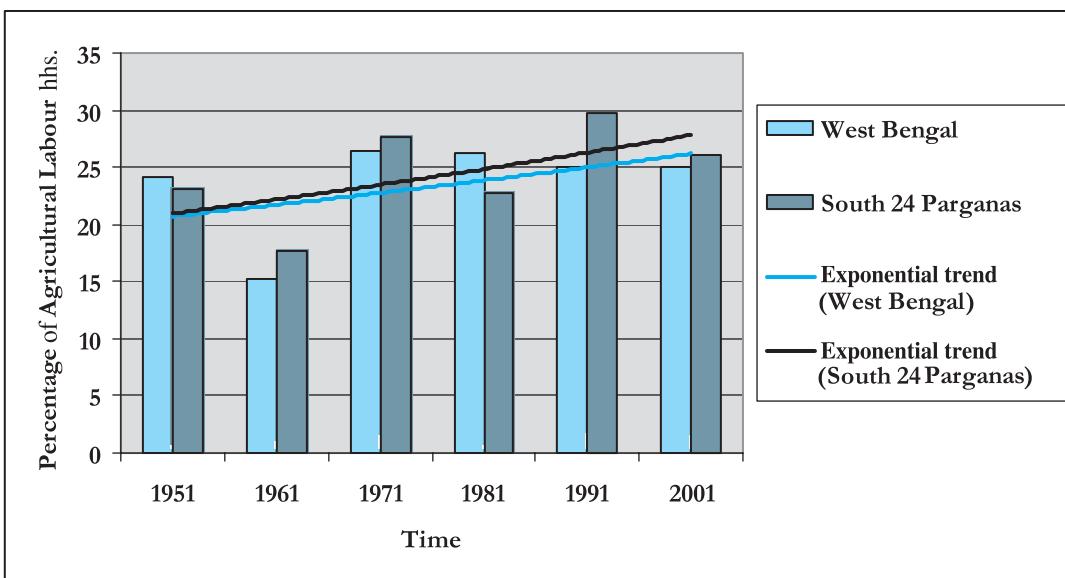
Source: Own Calculations from Rural Household Survey, 2005, Department of Panchayat and Rural Development, Government of West Bengal.

The table provides a rough sketch of the inter linkages between risky outcomes, vulnerable groups and the private coping measures. As is evident, households employed as agricultural labour and those that live in kuccha houses are positively associated with incidence of poverty³. To smooth their income stream agricultural laborers often choose to migrate for casual employment.

In South 24 Parganas agricultural labour force grew in tandem with that of the state as a whole though the growth rate of agricultural labour in South 24 Parganas has been higher (See Figure 7.1).

Though not strictly significant yet marginal workers also have a positive association with the extent of poverty. Here, also the district has experienced a slightly higher growth rate of marginal workers compared to the state (See Table 7.2). At the same time, proportion of main workers to total workers has also declined both for the state and district as a whole. The growing distress in employment scenario is also reflected in income status of the district. The per capita income of the district has grown over the years but mostly remained below the corresponding state figure (See Table 7.3, Figure 7.2).

³ Even if statistically non-significant, the positive association between percentage of households working as agricultural labourers and those living in kuccha houses may suggest that there is an overlap between these two groups of people.

Figure 7.1: Growth of Agricultural Labour-force in South 24 Parganas and West Bengal**Table 7.2: Percentage of Total (Main+Marginal) workers, Main workers, Marginal workers and Non-workers to total population for West Bengal and South 24 Parganas during 1951-2001**

	Total (Main + Marginal) Workers						Main Workers						
	1951	1961	1971	1981	1991	2001	1951	1961	1971	1981	1991	2001	
West Bengal	34.68	33.16 (-1.52)	27.91 (-5.25)	30.17 (2.26)	32.19 (2.02)	36.78 (4.59)	34.68	33.16 (-1.52)	27.91 (-5.25)	28.26 (0.35)	30.23 (1.97)	28.75 (-1.48)	
South 24-Parganas	31.96	29.35 (-2.61)	25.87 (-3.48)	27.21 (1.34)	28.29 (1.08)	32.47 (4.18)	31.96	29.35 (-2.61)	25.87 (-3.48)	26.15 (.28)	26.09 (-0.06)	24.31 (-1.78)	
Marginal Workers						Non-workers							
West Bengal				1.91	1.96 (0.05)	8.03 (6.07)	65.32	66.84 (1.52)	72.09 (5.25)	69.83 (-2.26)	67.81 (-2.02)	63.22 (-4.59)	
South 24-Parganas				1.06	0.58 (-0.48)	8.16 (7.58)	68.04	70.65 (2.61)	74.13 (3.48)	72.79 (-1.34)	71.71 (-1.08)	67.52 (-4.19)	

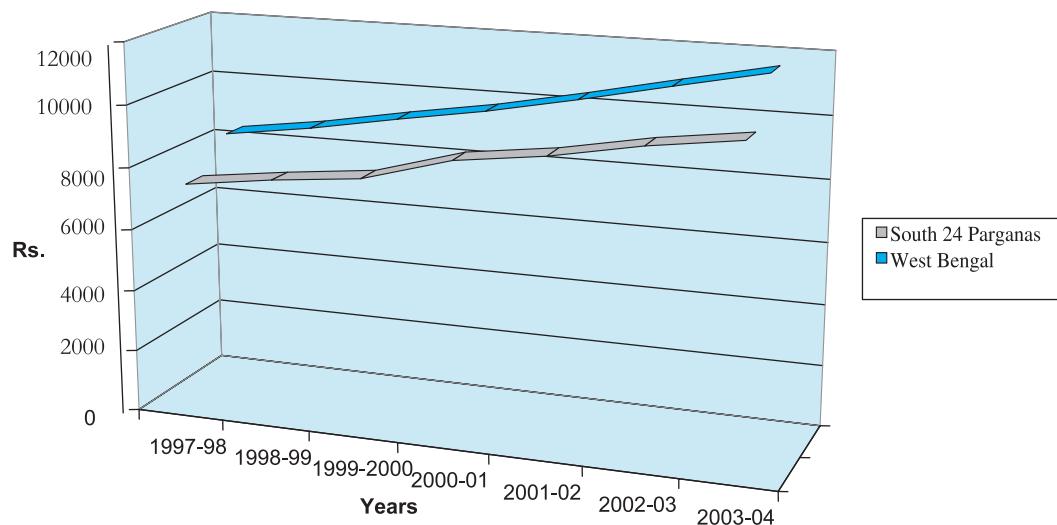
Source: Census 2001

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Table 7.3: Estimates of per Capita income of West Bengal and South 24 Parganas at constant prices (1993-94) (In Rupees)

Year	West Bengal	South 24-Parganas
1997-98	8407.58	7370.33
1998-99	8813.76	7768.71
1999-2000	9319.70	8061.44
2000-01	9796.33	8873.74
2001-02	10380.20	9245.95
2002-03	10986.53	9786.47
2003-04(P)	11607.81	10173.99
2004-05(Q)	12271.37	10446.34

Source: State Domestic Product and District Domestic Product of West Bengal, 1993-94 to 2004-05, BAE&S, 2006

Figure 7.2: Per Capita Income of West Bengal and South 24 Parganas

In fact our own calculations showed that the compound growth rate of South 24 Parganas (5%) has been slightly lower than that of West Bengal (6%) from 1997-98 to 2004-05 (See Table 7.4). Going by district per capita incomes, the rank of South 24 Parganas in 2000-01 was 14 among 18 districts. The rank was 6 in

1980-81 (*West Bengal Human Development Report, 2004*). Hence the comparative position of South 24 Parganas in the State is not at all impressive and even more alarming is the fact that its relative position has deteriorated over time (See Table 7.4).

Table 7.4: Compound Growth Rates of Triennium Averages of Per Capita income (at 1993-94 prices) of South 24 Parganas and West Bengal

Years	South 24-Parganas			West Bengal		
	Per Capita Income	Triennium Average	Growth Rate	Per Capita Income	Triennium Average	Growth Rate
1997-98	7390.33		5%	8407.58		6%
1998-99	7768.71	7740.16		8813.76	8847.013	
1999-00	8061.44	8234.63		9319.7	9309.93	
2000-01	8873.74	8727.043		9796.33	9832.076	
2001-02	9245.95	9302.053		10380.2	10387.686	
2002-03	9786.47	9735.47		10986.53	10991.513	
2003-04	10173.99	10135.6		11607.81	11621.903	
2004-05	10446.34			12271.37		

Source: Own Calculations

People with low income lack the capability to achieve secure shelter for residence and so it may be interesting to observe the pattern of dwelling possession in South 24 Parganas. Census 2001 has divided the households according to the condition of houses. These categories are “Good”,

“Livable” and “Dilapidated” houses. From Table 7.4, it is clear that the conditions of households in South 24 Parganas are more or less similar to the condition of the State. But it is alarming that about 60% households in South 24 Parganas are not living in ‘good’ houses.

Table 7.5: Percentage of Households (by type of houses) : 2001

		Good	Livable	Dilapidated
West Bengal	Total	42.43	48.91	8.66
	Rural	37.8	52.65	9.55
	Urban	53.77	39.75	6.48
South 24-Parganas	Total	40.35	50.52	9.13
	Rural	38.28	52.2	9.52
	Urban	50.01	42.7	7.29

Source: Census 2001

The condition/ status of houses can also be classified into four categories: Permanent, Semi-Permanent, Temporary Serviceable and Temporary Non-Serviceable. The number of permanent

households considerably increased from 1991 to 2001 and the increase was greater in the district compared to the overall state figures (Table 7.6).

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Table 7.6: Percentage distribution of households according to house condition: 2001

		1991	2001
West Bengal	Permanent	33.54	40.43
	Semi-Permanent	24.66	37.26
	Temporary Serviceable	27.27	16.47
	Temporary Non-Serviceable	14.53	5.80
South 24-Parganas	Permanent	28.55	37.14
	Semi-Permanent	28.03	33.24
	Temporary Serviceable	36.25	25.84
	Temporary Non-Serviceable	7.18	3.77

Source: Census 2001

The foregoing discussion clearly demonstrates that the district has recorded some improvements in matters of housing. On the other hand, it has generally lagged behind so far as employment and income generation is concerned thereby making the resident households more prone to economic and social shocks. In this context the social safety nets provided through institutional arrangements could be one crucial determinant of vulnerability. Here we discuss the performance of district for six major schemes: a) National Old Age Pension Scheme (NOAPS) b) National Family Benefit Scheme (NFBS) c) Sampoorna Gramin Rojgar Yojana (SGRY) that was subsequently replaced by National Rural Employment Gurantee Act (NREGA) from 2nd February 2006, d) Swarnajayanti Gram Swarojgar Yojana (SGSY) and e) Indira Awas Yojana (IAY).

Both NOAPS and NFBS function under the National Social Assistance Programme (NSAP). Primarily designed for ensuring

subsistence to destitute persons above 65 years of age. NOAPS provides a monthly pension of Rs. 400. On the other hand, NFBS provides one-time financial assistance of Rs. 10,000/- to poor families that have lost their principal earning members. So far as utilization is concerned South 24 Parganas have performed well with respect to the overall performance of the state (See Figure 7.3). However, its performance somewhat dropped down in 2004-2005 in regard to NFBS and in fact it had the lowest number of beneficiaries among the nineteen districts of state in 2004-05 (Annual Report 2004-05, Department of Panchayat and Rural Development, Government of West Bengal)⁴.

The SGRY was intended to provide wage based employment to agricultural workers mainly during the lean season. Its successor, NREGA, that was later introduced in ten districts including South 24 Parganas expanded the approach and in

⁴ The records show that only six families out of every hundred thousand families benefited under the NFBS scheme in South 24 Parganas.

addition to employment generation emphasises on awareness about the right to get employed. NREGA now extends to all the districts. However, the performance

of the district both in terms of coverage of the scheme and the number of person-days generated is dismal (See Table 7.7).

Figure 7.3: Percentage Utilisation of National Social Assistance Funds

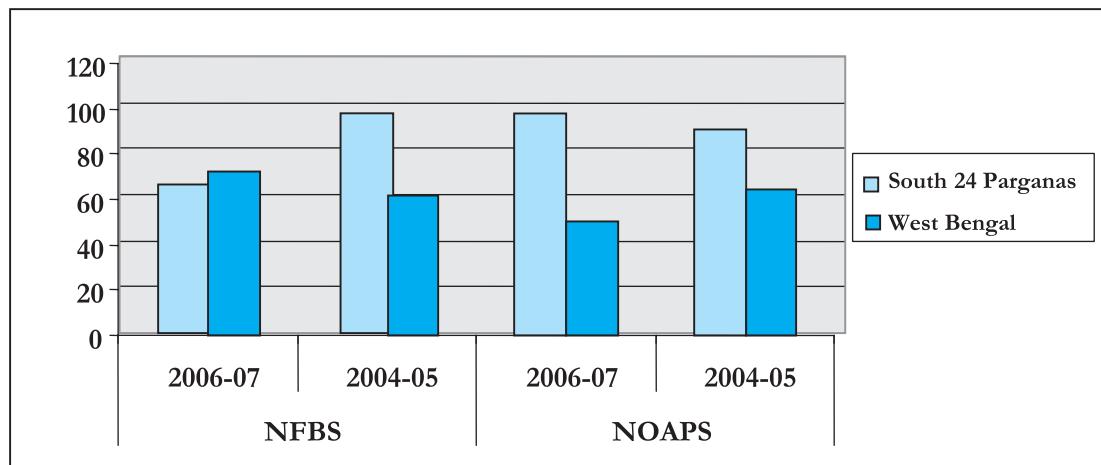


Table 7.7: Performance of the NREGA in Districts of West Bengal (2006-2007)

District	Person-days Generated (Cumulative) (in lakh)	Person-days generated per household provided employment	Average Expenditure per GP (Rs. in lakh)	Expenditure per person-day	Total no. of hhs as per hh survey (lakh)	No. of hhs who got registered (lakh)	% of rural hhs registered
Bankura	53.09	24	25.60	91.63	5.97	4.17	69.84
Birbhum	100.79	22	53.17	88.10	6.54	5.54	84.7
D. Dinajpur	27.70	16	33.72	79.13	3.65	2.47	67.67
Jalpaiguri	38.49	11	24.11	91.46	6.72	5.51	81.99
Malda	23.16	13	14.43	90.96	6.4	4.67	72.96
Murshidabad	36.85	8	13.80	95.15	11.57	8.65	74.76
Purulia	40.50	15	22.89	96.07	4.89	3.86	78.93
South 24 Pgs.	28.37	11	7.67	84.37	11.56	5.78	50
U. Dinajpur	32.11	10	32.92	100.47	4.9	4.3	87.7
W. Medinipur	58.03	16	17.37	86.81	9.97	6.52	65.39
Total	100.79	14	21.56	90.23	70.17	51.47	73.35

Source: Office of the District Magistrate, South 24 Parganas

Both in terms of number of registered households in NREGA and average expenditure per Gram Panchayat South 24

Parganas ranks last among the ten participating districts. Apart from that the average number of person-days generated

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Table 7.8: Performance of South 24 Parganas with respect to SGSY scheme (2004-05 & 2006-07)

		Percentage of Fund Utilisation	Number of Swarojgaris formed				Per capita Investment(Rs.)
			SC	ST	Women	Disabled	
2006-07	South 24 Parganas	52.35	457	1	929	0	23859.94
	All West Bengal Average	86.11	581.28	115.44	1318.94	2.00	19312.06
2004-05	South 24 Parganas	64.00	437	1	566	0	19840.18
	All West Bengal Average	81.19	468.94	50.06	911.67	0.72	19546.30

Source: Office of the District Magistrate, South 24 Parganas

under the programme is among the third lowest in the district⁵.

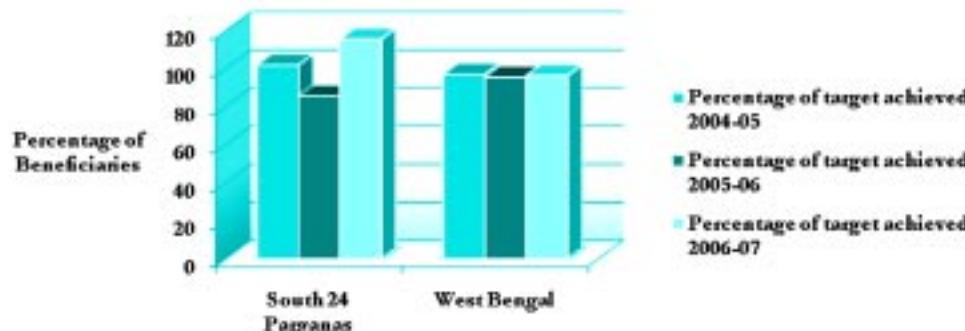
The SGSY scheme is designed to generate self employment among the rural poor by organizing them into self help groups. SGSY is funded by both Central and State Governments in the ratio 75:25. In this case also the performance of the district is poorer than the average over the districts. Particularly notable is the neglect of woman and scheduled tribes from the ambit of the scheme (Table 7.8).

In summary the social assistance programmes related to employment

generation and poverty alleviation did not perform satisfactorily in recent times. The weaker groups like women and scheduled tribes received relatively lesser coverage under the schemes of self employment having adverse implications for their vulnerability status.

Lastly, one may look into the IAY scheme that provides shelter to the rural households lying below the poverty line. Programmewise this is the most successful one in South 24 Parganas as in West Bengal (See Figure 7.4)⁶.

Figure 7.4 : Performance of South 24 Parganas relative to the State in IAY



Source: Annual Reports, 2004-05, 2006-07, Department of Panchayati Raj and Rural Development, GoWB

⁵ On the whole, the performance of NREGA has been poor in West Bengal. Although, the number of registered households for employment assistance is substantial, on an average only 14 days of employment could be generated per household during 2006-07.

⁶ The targets for the IAY scheme is the number of households that are planned to get assistance under the programme. This is set according to caste, disability and other criterions for women like widow ,war widow and unmarried woman.

For both 2004-05 and 2006-07 South 24 Parganas have not only exceeded the state figure but also bypassed the target set under the IAY scheme especially in

2006-07. This is perfectly commensurate with improved conditions of dwellings prevailing in the district.

7.3 Crime and Violence

In terms of IPC Crime rates West Bengal had a fairly good position vis-à-vis the national average in 2006. For both overall crime rates and violent crime rates West Bengal had the fourth lowest figure among the 32 states in the country (National Crime Records Bureau, 2006) thus maintaining the position it had in 2000 (West Bengal Human Development Report, 2004)⁷. Unfortunately its record in crime relating to women trafficking is the worst and in 2006 out of 123 cases of girls sold for prostitution in the country 114 had hailed from this state (National Crime Records Bureau, 2006). Along with Murshidabad and North 24 Parganas, South 24 Parganas is identified as one of the major areas where such illegal trafficking takes place.

In fact, so far as crime against women (CAW) is concerned South 24 Parganas had a remarkably high share in the State. According to Indian Penal Code (IPC) crimes against women can be classified as:

- Rape (Sec 376 IPC)

- Kidnapping and Abduction for different purposes (Sec 363-373 IPC)
- Homicide for Dowry, Dowry deaths or their attempts (Sec 302/304B IPC)
- Torture /cruelty both physical and mental (Sec 498A IPC)
- Molestation (Sec 354 IPC)
- Sexual Harassment /Eve-Teasing (Sec 509 or 294 IPC)
- Importation of girls up to 21 years of age (Sec 366B IPC)

The composition of crimes in the state as well as in the district is biased towards post marital violence accounting for more than half of the total crimes in 2002. In terms of share of the total CAW in the state South 24 Parganas takes the lead among all 18 districts in 2000 and 2003 (Table 7.9). The relative position of women got worse as its share in total IPC CAW increased between these two time periods.

⁷ The overall IPC crime rate in West Bengal stood at 79 compared to the all India average of 167.7 while for violent crime, the figure is 12.1 as against the country average of 18.4. However one distressing fact is that while the average cognizable crime rate in India dropped from 172.3 it actually increased in case of West Bengal from 76.7 in 2001 (National Crime Record Bureau, 2001).

Table 7.9: Districtwise incidence of crime against women (CAW) and persons arrested in West Bengal during selected years

Districts	Total IPC CAW		No. of cases of Torture/cruelty by Husbands/relatives			No. of Dowry Deaths			No. of Arrests for CAW	
	2000	2003	1995	2000	2003	1995	2000	2003	2000	2003
Bankura	194(2.56)	264(2.98)	59(1.78)	112(2.34)	153(2.73)	9(10.11)	17(6.34)	20(6.41)	258	459
Birbhum	353(4.65)	367(4.14)	115(3.46)	201(4.2)	219(3.91)	6(6.74)	11(12.69)	13(4.17)	195	381
Bardhaman	727(9.58)	739(8.33)	223(6.72)	482(10.07)	107(1.91)	8(8.99)	34(12.69)	30(9.62)	2062	2526
Coochbehar	336(4.43)	369(4.16)	111(3.34)	189(3.95)	209(3.73)	0	3(1.12)	11(3.53)	249	538
Darjeeling	133(1.75)	146(1.65)	28(0.84)	64(1.34)	69(1.23)	0	1(0.37)	3(0.96)	177	182
Hooghly	583(7.69)	567(6.39)	320(9.64)	453(9.47)	457(8.16)	4(4.49)	7(2.61)	14(4.49)	457	667
Howrah	267(3.52)	237(2.67)	107(3.22)	175(3.66)	168(3.00)	5(5.62)	22(8.21)	17(5.45)	383	409
Jalpaiguri	297(3.92)	376(4.24)	108(3.25)	158(3.30)	210(3.75)	1(1.12)	3(1.12)	4(1.28)	263	496
Paschim Medinipur	904(11.92)	530(5.97)	558(16.81)	598(12.50)	376(6.71)	28(31.46)	56(20.90)	18(5.77)	675	545
Purba Medinipur	—	402(4.53)	—	—	267(4.77)	—	—	37(11.86)	—	446
Murshidabad	440(5.80)	814(9.17)	78(2.35)	245(5.12)	468(8.35)	0	4(1.49)	17(5.45)	432	1363
Malda	213(2.81)	275(3.10)	43(1.30)	89(1.86)	119(2.12)	1(1.12)	5(1.87)	4(1.28)	389	383
Nadia	595(7.84)	600(6.76)	226(6.81)	370(7.73)	363(6.48)	11(12.36)	22(8.21)	23(7.37)	1053	1422
24 Parganas North	843(11.11)	1128(12.71)	546(16.45)	589(12.31)	784(13.99)	3(3.37)	21(7.84)	24(7.69)	968	1367
24 Parganas South	975(12.85)	1214(13.68)	469(14.13)	692(14.46)	884(15.78)	2(2.25)	49(18.28)	44(14.10)	930	1759
Purulia	259(3.41)	187(2.11)	107(3.22)	139(2.90)	94(1.68)	0	4(1.49)	8(2.56)	443	543
Uttar Dinajpur	225(2.97)	170(1.92)	74(2.23)	113(2.36)	85(1.52)	1(1.12)	5(1.87)	14(4.49)	179	233
Dakshin Dinajpur	242(3.19)	227(2.56)	37(1.11)	126(2.63)	113(2.02)	—	4(1.49)	8(2.56)	193	440
Total (excluding cases registered by Govt. Railway Police)	7586	8872	3319	4785	5603	89	268	312	9330	14176

Source: National Women Commission

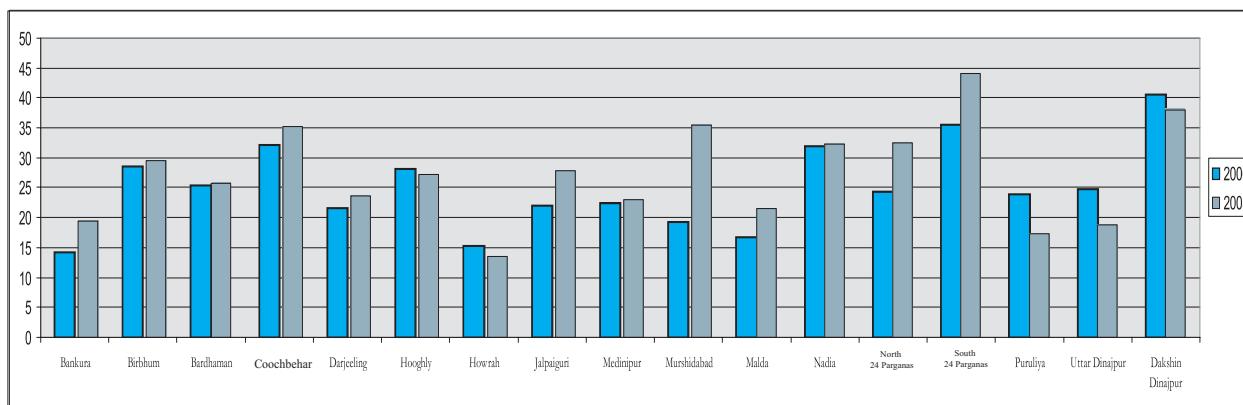
Figures in parentheses show percentages of each category of crime to total crime for the year year.

So far as different components of CAW are concerned the share of South 24 Parganas in cases of torture etc. was the highest in the state accounting for about 15 per cent of all cases. Its share in dowry related deaths was very low in 1995 but took a sudden spurt in 2000 and 2003 and once again remained the highest among districts. Given the fact that female literacy rate in the district is lower than the state average

(62 per cent) and most of the women headed households are employed as marginal workers (Table 7.1) the high rate of crimes impart adverse implication for the vulnerability status of women.

A more reliable estimate of exposure to internal violence is given by the crime rate and here also the district has the second highest crime rate in 2000 and the highest in 2003⁸ (See Figure 7.5).

⁸ Crime rate is defined as number of crime committed per lakh population. For the year 2000 we have taken census 2001 population and the projected population for 2003 is calculated assuming an annual growth rate of 2 per cent.

Figure 7.5: Crime Rates per lakh of population for the Districts of West Bengal: 2000 and 2003

Within South 24 Parganas there is marked interregional variation in overall crime rates as well as in rates of CAW. For brevity we have decomposed the overall crime incidence into three groups. The first is violent crimes consisting of dacoity, robbery, burglary, theft, murder and culpable homicide. The other two categories are riots and crime against

woman. Taking the average values of the total incidence of crime over three years from 2005 to 2007 it is seen that on an average violent crimes decreases as we move away from Kolkata but the incidence of CAW and riots increase significantly (Table 7.10)

On an average, the region closer to Kolkata has a higher crime rate followed

Table 7.10: Regionwise Average Incidence of Crime in South 24 Paragans: 2005-2007

	Violent Crime	Riots	CAW
Region I: North West (Kolkata Surroundings)	59.78	40.67	460.67
Region II: North East and Mid West	39.17	141.67	434.67
Region III: South (Sundarbans)	30.17	161.67	680.00

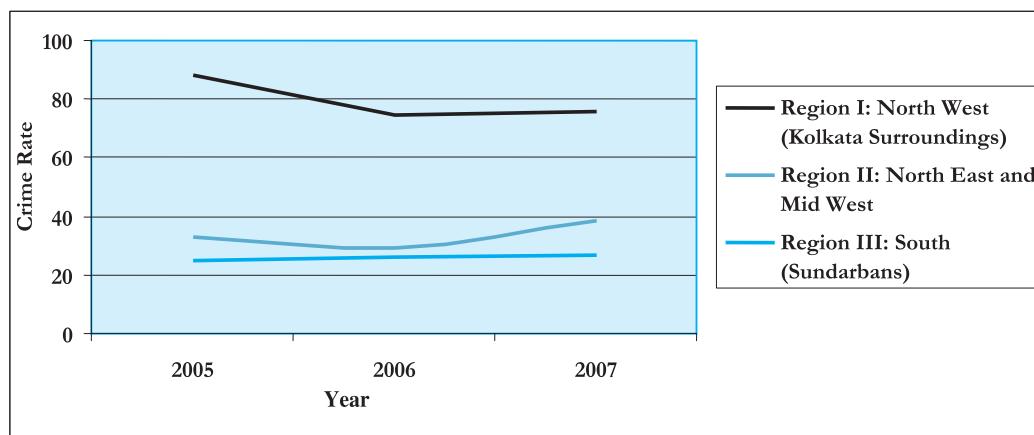
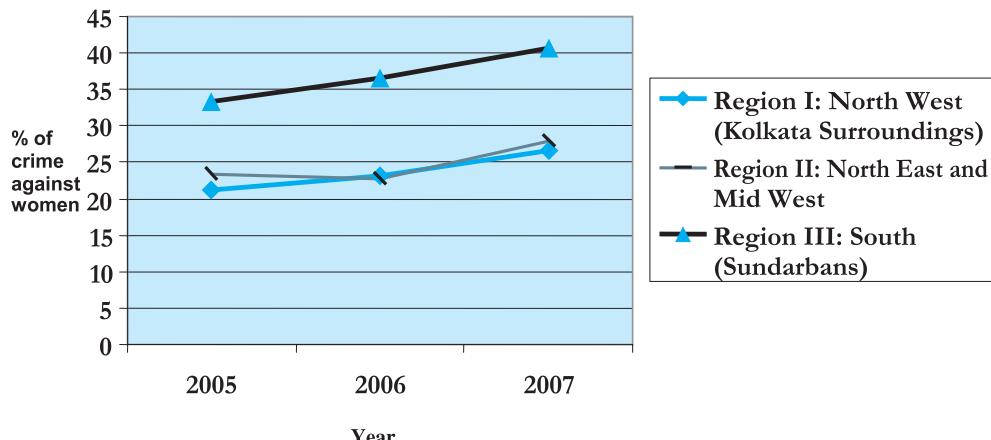
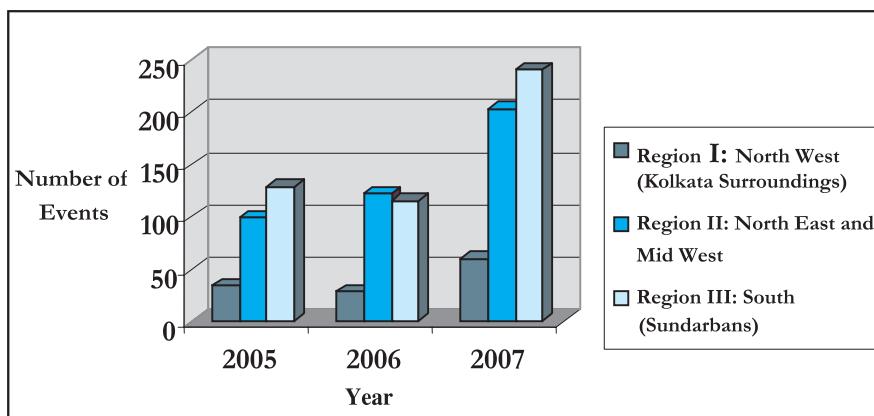
Figure 7.6: Trends in Crime Rates in different Regions of South 24 Parganas

Figure 7.7: Incidence of CAW in Regions of South 24 Parganas: 2005-2007**Figure 7.8: Incidence of Riots in South 24 Parganas : 2005-07**

by the North East and Mid West region and then by the Sundarbans cluster. Of course, Figure 7.6 must be interpreted with some caution as there is a high possibility of underreporting of crimes in remote areas like Sundarbans.

CAW have highest incidence in Sundarbans while the other two regions have experienced almost equal proportions of such crimes in last three years (Figure

7.7). For riots the highest incidence is in Sundarbans area followed by the North East and Mid West and the incidence is the least in Kolkata surroundings (Figure 7.8). Blockwise Thakurpukur - Maheshtala and Sonarpur in Region-I, Bhangar in Region-II and Canning in Region-III are most crime prone for all the three types of crime reported (Table 7.11)⁹.

⁹ Data on incidence of crime is provided at Police Station level and in some cases two different blocks came under the jurisdictions of the same Police Stations. Thus in some cases we had to merge two blocks like Bishnupur, Bhangar, Canning and Joynagar in Table 7.11.

Table 7.11: Block-wise Incidence of IPC crimes in South 24 Parganas: 2005-2007

	Block	VIOLENT CRIMES			RIOTS			CRIME AGAINST WOMAN (CAW)		
		2005	2006	2007	2005	2006	2007	2005	2006	2007
Region I: North West (Kolkata Surroundings)	Thakurpukur Mahestala	136	147	106	9	7	18	134	142	184
	Budge Budge - I	39	9	9	3	3	6	33	35	48
	Budge Budge - II	26	9	23	0	0	0	24	47	42
	Bishnupur	72	43	55	14	4	14	80	69	91
	Sonarpur	146	111	145	8	14	22	109	125	219
Region II: North East and Mid West	Baruipur	28	14	27	10	20	45	31	38	53
	Bhangar	57	77	92	27	27	57	87	100	190
	Falta	18	21	19	7	3	4	31	29	55
	Diamond Harbour I-II	36	28	39	15	19	30	38	36	81
	Magrahat - I	36	28	39	15	19	30	38	36	81
	Magrahat - II	26	13	11	18	31	19	52	52	46
	Kulpi	28	14	14	5	3	8	48	42	59
Region III: South (Sundarbans)	Mandirbazar	15	13	12	2	0	11	29	28	24
	Canning I-II	31	48	46	9	21	50	98	170	215
	Basanti	7	11	15	9	10	25	22	52	66
	Gosaba	6	8	8	4	2	18	17	14	21
	Joynagar I-II	35	24	23	21	8	25	60	82	118
	Mathurapur - I	8	7	4	0	2	5	28	30	44
	Mathurapur - II	2	14	10	10	5	8	20	43	34
	Kultali	9	18	14	16	16	29	79	30	105
	Patharpratima	3	7	7	23	7	22	35	46	88
	Kakdwip	20	35	28	24	14	34	51	90	78
	Namkhana	4	9	10	3	6	4	20	49	46
	Sagar	35	21	16	10	24	21	50	53	86

Source: Office of the SP, South 24 Parganas

Note: Violent crimes include dacoity, theft, robbery, burglary, murder and culpable homicide.

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7.4 Vulnerability to Natural Disasters

Natural disasters, especially hydrometeorological hazards like cyclones and storm surges frequently occur in South 24 Parganas. The southern part of the district comprising the Sundarbans mostly bears the brunt of such disasters and hence we shall largely limit the discussion of this

chapter to the 13 blocks of Sundarbans in South 24 Parganas.

The stretch of Indian Sundarbans extends over an area of 9360 sq km comprising 102 islands of which 52 have human settlements¹⁰. When early settlement began in the area in 1770 (Bhattacharya, 1990)

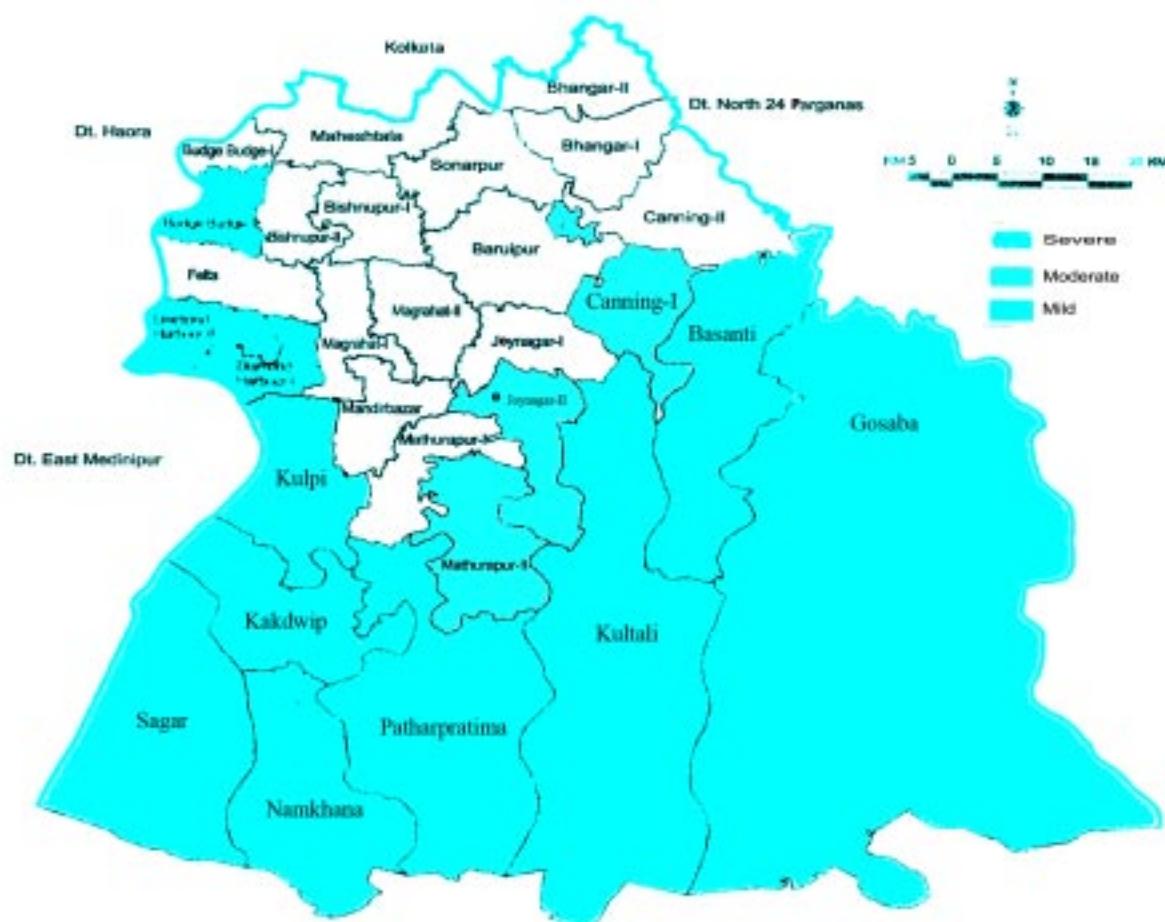
¹⁰ The geographical span of Indian Sundarbans is divided in 19 administrative blocks of which 13 falls under the South 24 Parganas district and the remaining 6 falls in the district of North 24 Parganas.

it was immediately recognized that economic activity in the area faces the risk of tidal inundation from the complex network of the river system interspersing the area¹¹. Moreover, as it lies in the apex of Bay of Bengal tropical depressions leading to cyclones and storms occurred frequently¹². Thus, apart from the damage risk of cyclonic wind, storm induced wave

surges causing tidal floods were another potent disaster the local people had to cope with. To avoid the damage cost from these hazards, mud embankments called the “*circuit embankments*” around 3500 sq km of area were constructed and till date this remains the first line of defence against insurgence of tidal waves.

A much talked about disaster in recent

Figure 7.9: Vulnerability Profile (Flood and Cyclone Hazard Map) of South 24 Parganas as per Official Estimate



Source: Disaster Preparedness & Response Plan-2002, South 24 Parganas, Government of West Bengal.

¹¹ The main rivers in this area including the estuarine and all having a southward course towards the sea are the Hugli, Piyali-Bidyadhari, Muriganga, Saptamukhi, Thakuran, Matla, Gosaba and Haribhanga. The Sundarban delta experiences two flow (inflow) tides and two ebb (outflow) tides during 24 hours. The tidal range varies from 3m to 5m and may rise up to 8m during normal spring tide.

¹² Analyzing the records of incidence of tropical cyclones in Sundarbans from 1582 to 1994 one finds that on an average cyclonic depression hits the area every two to three year.

times is of course the coastal erosion induced submergence of islands, especially in the Sagar Block. The tidal movement has already engulfed two islands, Lohachara and Suparibhanga and it is gradually eroding away the Ghoramara Island in the Sagar Block. According to Ghosh et.al. (2003) the island has already lost 75 per cent of its land in the past 30 years with the refugees moving away to adjacent islands like Kakdwip. An estimate by School of Oceanographic Studies, Jadavpur University, predicts that at the present rate of erosion almost 30,000 people will be displaced from Sagar and another 20,000 from Namkhana by 2020. Several other islands in the western estuarine delta including Ghoramara will be completely deserted (Priyadarshini, 2006).

Keeping in mind the fact that the region is lagging behind in terms of basic human development indicators like health and education and that women and children are also less secure it is obvious that coping ability of the inhabitants in these areas are minimal and hence they are highly vulnerable to such hazards.

According to official estimate the vulnerability from natural disasters like flood and cyclone is extremely severe in 7 out of 13 blocks in Sundarban area falling under South 24 Parganas (See Figure 7.9).

The ranking criteria are however largely guided by past risk exposure evidence (Table 7.12) without taking into account the adaptive capacity of the communities that depends on a host of factors like *ex-ante* mitigation works of the government and coping abilities of settlers, which in turn is contingent on countless social and economic factors like income and awareness level.

Risks from natural disasters in Sundarbans can be broadly classified into two types depending on the scale of occurrence: regular idiosyncratic risks occurring from embankment collapse and systematic risk occurring from the cyclones and storm surges that are low probability high consequence events.

Embankments raised along the river bed are the most vital “public defence” that are supposed to protect the people from not only extreme events of tidal surges but also from the flow tide and ebb tide that takes place every 24 hours in the area. During the months of April to October the tidal waves assume giant proportions and causes breach in the mud dykes. This is especially detrimental for paddy cultivation as the tidal ingress raises the salinity of the soil until a couple of monsoon rains completely washes away the salt deposition from the field. In most cases gushing flow of saline water also causes considerable damage to physical assets and livestock. Thus, maintenance of embankments and their

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Table 7.12: Recent History of Disasters in South 24 Parganas

Type of Hazard	Year of Occurrence	Blocks affected	Impact on Life	Impact on Live-stock
Cyclone	1999	1.Budge-Budge-II	Mild	affected to a great extent
		2. Kultali	Severe	
		3.Joynagar-II	Moderate	
		4.Canning-I	Do	
		5.Gosaba	Severe	
		6.Basanti	Do	
		7.Mathurapur-II	Moderate	
		8.Kulpi	Severe	
		9. Kakdwip	Do	
		10. Namkhana	Do	
		11. Sagar	Do	
		12. Patharprotima	Do	
Flood	1978	All Blocks	Severe	affected to a great extent
	1986	1.Budge-Budge-II	Mild	
		2. Kultali	Severe	
		3.Joynagar-II	Moderate	
		4.Canning-I	Do	
		5.Gosaba	Severe	
		6.Basanti	Do	
		7.Mathurapur-II	Moderate	
		8.Kulpi	Severe	
		9. Kakdwip	Do	
		10. Namkhana	Do	
		11. Sagar	Do	
Drought	1998-99	12. Patharprotima	Do	affected to a great extent
		1. Kakdwip (5 mouzas affected)	Moderate	
		2. Sonarpur (12 mouzas affected)	-Do-	
		3. Baruipur (5 mouzas affected)	-Do-	
		4. Bishnupur (2 mouzas affected)	-Do-	
		5. Basanti (6 mouzas affected)	-Do-	
		6. Canning-II (5 mouzas affected)	-Do-	
		7. Gosaba (23 mouzas affected)	-Do-	
		8. Magrahat-I (4 mouzas affected)	-Do-	
		9. Mathurapur-I (6 mouzas affected)	-Do-	
		10.Patharprotima (2 mouzas affected)	-Do-	

timely repair is synonymous to maintaining a smooth income stream of the people.

Under the colonial rule the *Zamindars*, who encroached the land, looked after the maintenance of the dykes. But with the abolition of the *Zamindari System* the onus of repair and surveillance of the mud embankments lay solely with the Department of Irrigation and Waterways (DIW), Government of West Bengal¹³. Government response to the exigency are of two types: (i) *ex-ante* mitigation, involving maintenance of embankments and in times of adverse weather, dissemination of warning messages and evacuation, and (ii) *ex-post* coping in terms of repair of breached embankments and allocation of relief to the affected villagers.

According to the DIW there are two major causes of embankment damage in the Sundarbans area¹⁴. Technologically the embankment structures are weak since they were initially built out of uncohesive silt available on the upper layer of riverside that cannot resist the tidal surges in the long run. Also, unplanned settlement even in concave sides of the bends of the meandering river necessitated construction of embankments that were highly unstable due to natural

scouring away of underneath river silt that gradually weakened its base. Secondly, embankment damage is also linked with the proper drainage through sluice gates in these areas. The average annual rainfall in the area is 1625 mms (65 inches). The area is flat with a silty clay soil and so there is little ground water absorption. To protect the crops from inundation sluice gates have been placed in these areas that drain away the water to the adjoining rivers and canals. However, they are largely inadequate as they serve only 0.119 million hectares (460 sq. miles) of land out of 0.259 hectares million hectares of land. As rainwater accumulates in the crop fields, people make crude cuts on the embankments for draining away the water. These unauthorized cuts are seldom closed to proper sections thereby making the embankments vulnerable to tidal surges and wave action.

Apart from hydro-meteorological causes large-scale conversion of paddy fields to brackish aquaculture is yet another threat to the structural stability of the existing system of embankments. Conversion of paddy fields into brackish aquaculture is a steadily growing practice in Sundarbans¹⁵. As a part of the process the *Bheri* (fishery) owner initially acquires land from large

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¹³ Initially the land was parcelled out in 'lots' to the affluent people who brought in tribal people called 'Chakdars' to begin clearing and cultivation in the area. Knowing that the island inundates during high tides twice a day the stretch of mud embankments was constructed by these 'lot-holders' and was commonly hailed as *Zamindari Bandhs* (Bandopadhyay, 2000).

¹⁴ Status report on the progress of "Urgent Repair works in Sundarbans" in 2006, Department of Irrigation and Waterways.

¹⁵ Chopra, Kumar and Khan (2007) find that declining land productivity and increasing population density is the determining factor for the conversion of agricultural lands to aquaculture in Indian Sundarbans.

landholders for a lease¹⁶. To ensure inflow of saline water they dig channels in embankments that reportedly increase the chance of embankment failure during high tides. The water inlets are completely illegal, as The Bengal Embankment Acts of 1876 and 1882 require that any alteration of the existing embankments should be notified to the Collector for approval¹⁷. The spread of these inland fisheries also raises the demand for wild prawn seeds as the supply from the hatcheries is not adequate. The supply of the prawn seeds, called *Meen* in local parlance, comes from informal seed collectors who wade through the river banks. Apart from adverse health consequences, the process also weakens the embankments as the seed collectors trample upon the mud base and aggravate soil erosion. Thus, damage risk of the existing embankments is multidimensional

and vulnerability of the victimized populace is likely to be different depending on whether the embankment breach is from natural and/or anthropogenic factors.

Officially 9 out of 13 blocks of Sundarbans in the South 24 Parganas district have been identified to have potentially weak embankments due to natural shocks and fishery problems (Table 7.13).

Among the vulnerable blocks the conditions of Basanti, Gosaba, Mathurapur-II and Patharpratima are fast deteriorating (Table 7.13)¹⁸. Maintenance of embankments requires huge capital expenditure the fund comes from three sources: Calamity Relief fund (CRF) from the Central Government, allocation of the State Government for Disaster Management and the own fund of DIW. The expenditure on embankments has a rising trend though it petered out in last five years (Figure 7.10).

Table 7.13: Embankment breaches in Sundarbans area in South 24 Parganas

Block	Reasons for Embankment Problems
Canning-I	Fishery
Basanti	Scouring
Joynagar-II	Scouring, Silting & Breach
Canning-II	Fishery
Kultali	Weakening, Raincuts, Breach, Scouring & Fishery
Gosaba	Tidal Bores
Namkhana	Erosion & Tidal Bores
Patharpratima	Erosion & Tidal Bores
Sagar	Tidal Bores

Source: Disaster Preparedness & Response Plan-2002, South 24 Parganas, Government of West Bengal

¹⁶ Field visits conducted in villages of Basanti and Gosaba revealed that *Bheri* owners pay on an average Rs. 3000 to Rs.3500 per bigha annually to the landholders for leasing out their land. After tax deductions net income from leased out land comes around Rs.2500/bigha per year.

¹⁷ For a discussion of flood control laws in India see Kamta Prasad (2006).

¹⁸ Having said this it must be kept in mind that without a sufficiently large time series inference about the growth in breach would surely involve a large margin of error. Thus, while several areas in Namkhana like Patibonia and Dhoblaat in Sagar are highly vulnerable to tidal surges aggregation at the block level in fact show a declining trend in embankment breach. With limited observation and large level of aggregation the vulnerability from embankment damage must be understood with caution.

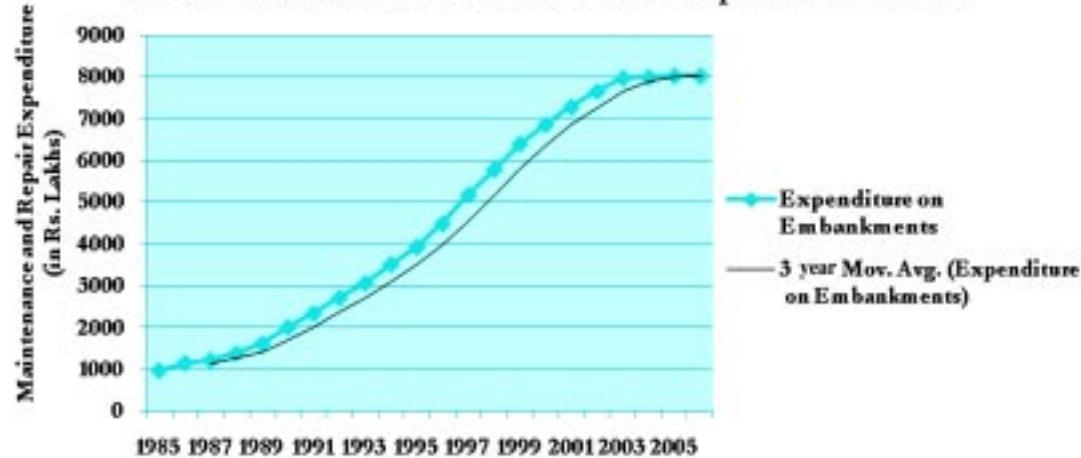
Table 7.14: Extent of Embankment Damage in 13 Blocks of Sundarbans in South 24 Parganas (2002-2007)†.

Block	Breach (in Km.)						Total Length of Embankments (km)	Percentage growth rate
	2002-03	2003-04	2004-05	2005-06	2006-07	Average		
Basanti	6.6 (3.32)	8 (4.02)	15 (7.54)	10.5 (5.28)	42.3 (21.28)	16.48 (8.29)	198.723	39.8
Canning-I	2 (3.09)	4 (6.19)	1.5 (2.32)	4.5 (6.96)	3.3 (5.10)	3.06 (4.73)	64.61	11.89
Canning-II	0.6 (1.40)	1 (2.34)	0.4 (.93)	0.9 (2.11)	0.7 (1.64)	0.72 (1.68)	42.63	2.03
Gosaba	11 (2.95)	6 (1.61)	23 (6.17)	40 (10.74)	54 (14.50)	26.80 (7.19)	372.5	50.79
Joynagar-I								
Joynagar-II					3.6 (8.57)		42	
Kakdwip			3.5 (1.72)	3.6 (1.77)	3.4 (1.67)	3.50 (1.72)	203.35	-1.14
Kultali	15.5 (8.09)	5 (2.61)	13 (6.78)	28 (14.61)	23.4 (12.21)	16.98 (8.86)	191.561	25.47
Mathurapur-I	1 (6.66)	1 (6.66)	1.5 (10)	1.2 (8.00)	1.3 (8.66)	1.20 (8.00)	15	7.7
Mathurapur-II	4 (1.77)	4 (1.77)	6.6 (2.92)	3.3 (1.46)	18.5 (8.20)	7.28 (3.22)	225.46	28.71
Namkhana			7.2 (2.72)	7.09 (2.68)	6.09 (2.30)	6.79 (2.57)	264	
Patharpratima	5.95 (2.45)	12.44 (5.14)	15 (6.20)	18.8 (7.77)	18.7 (7.73)	17.50 (7.23)	241.9	19.55
Sagar			7 (8.23)	6.885 (8.1)	6.7 (7.88)	6.86 (8.07)	85	-2.19

† Figures in parentheses show percentage breach out of total length of embankments in the Block.

Source: Department of Irrigation and Waterways, GoWB

Figure 7.10: Three -year Moving Averages of Expenditure on Embankments in Sundarbans at current prices : 1986-2006



While the general consensus is unambiguous about the natural causes of embankment damage the opinion is divided about whether human activities like fishery or cutting through embankments to drain out rain water are significant determinants of breaches. Interactions with local people and people of Sundarban Development Board repeatedly gave rise to the concern that unregulated fishery activities are one of the many causes of embankment failure in Sundarbans. On the other hand, promoting brackish water aquaculture is an important livelihood strategy undertaken by the

Government in these areas. This involves bank credit and so economic consideration may point towards a diametrically opposite thing: people whose payback is contingent on the stability of the embankments would rather look after their maintenance purely for private benefit that can convey a positive externality on the neighborhood residents. It seems that what matters here is the institutional arrangement under which fishery is organized. If it is largely informal then the fishery owner flouts the norms¹⁹ for setting up the fishery and so will try and maximize his short run gain. Thus,

BOX 7.1 : Embankment Collapse and Community Action

The Mousuni Gram Panchayat in Namkhana Block is known to be vulnerable for frequent collapse of embankment stretches. In one such incident in May 2003 the embankment breached in Kusumtala close to the mouza boundary of Baliara engulfing among other things the unpaved road that leads to a primary school near the river. Children were kept from attending the school which also meant they would not get the supply of mid day meals that supplemented their diet to a large extent. When mothers complained about the incident to the Panchayats they advised them to go for mending the road on their own. As the Namkhana Panchayat Samiti was of a different political orientation so they feared that sanction for public works would be delayed. The women folk under a Self Help Group decided that male members of the community would do the work and they would cook for them in temporary camps on the road side. However, the day when the work would start no male member turned up and finally the women decided to carry out the work on their own. They completed the work in four days engaging 118 labour hours. Though this could stand as an example of community involvement in risk coping, it also shows the delayed reaction that could as well prolong the burden of damage cost among politically fragmented rural self governments.

Source : Danda, A. A. (2007) "Surviving in the Sundarbans : Threats and Responses - An analytical description of life in an Indian Commons", Ph.D Thesis, University of Twente, The Netherlands.

¹⁹ According to official sources the average per hectare yield is 900 kg for aquaculture farms. Some preconditions for setting up the fisheries include: a) a minimum distance of 200-300 meters from the shoreline (though coastal zone regulations require a minimum distance of 500m from coastal line for any economic activity to take place) b) registration from the aquaculture authority and permission of the Environment Department and c) the entrepreneur must have at least two hectares of land at their disposal.

little attention will be paid towards mitigation of breach events and maintenance of embankments. So far as breaches due to unauthorized cuts for draining out rainwater is concerned the counter-argument goes that it occurs only in a few places and that its frequency of occurrence over the years is very low.

Whatever may be the cause, the rising difficulty of embankment maintenance is highlighted from the fact that mitigation expenditures have increased over the years but have failed to arrest the breach and the resultant damage significantly. One important drawback that thwarts collective action for risk coping at the community level is the possibility of coordination failure across the different tiers of the Panchayats (See Box 7.1).

Naturally, the question arises whether the community organizes itself to pool indigenous resources for maintaining the embankments and to minimize the cost of tidal ingress. Surprisingly, it is seen that no such efforts exist among the people in Sundarbans²⁰. Those who get displaced by tidal floods again settle on the raised platform of embankments knowing fully

well that will they may have to relocate shortly when the next tide occurs. Here, intra block relocation of households is the chosen coping strategy rather than expending resources on mitigation.

Historically, however, settlement in these areas did not follow the pattern followed in Bangladesh part of Sundarbans where there were large scale private initiatives to raise and maintain embankments. When reclamation of Bangladesh Sundarbans was nearly complete in 1904 barely 40 per cent of the South 24 Parganas Sundarbans had human settlements (Ascoli, 1920). It was understood that the required scale of investment to raise embankments in these areas would be far greater than the private benefit accruing from agricultural activities due to the frequency of extreme weather events. Hence to encourage settlements active governmental support in the form of reclamation loans and embankment construction were extended. Thus, collective action in the form of a tradition in these areas is largely absent. Moreover, the alienation of the local people as an agent of management of local resources

²⁰ In areas where there are brackish water farms near the river embankments, farm owners commit some money for embankment maintenance every year on a regular basis. This is because except in times of dire emergency Department of Irrigation and Waterways are reluctant to carry out mud patching in these areas. They reason that since the fishery farm owners carry out their business by digging channels in the embankment structure it's also their responsibility to maintain it. In a way this has encouraged a lot of private effort towards provisioning of flood defense in form of embankment maintenance. In Sundarbans two types of public effort is present: individual maintenance expenditure and collective expenditure on embankment maintenance through committees involving fishery owners. In South 24 Parganas part of Sundarbans the former type of arrangement is mostly seen while collective maintenance through activities is largely present in North 24 Parganas part of Sundarbans like Sandeshkhali-I and II.

like embankments by delegating the responsibility to decentralized institutions like Panchayats might have also triggered such inaction^{21,22}.

Finally, for co-variate risks like tropical depressions and cyclones one important problem in the district is the lack of adequate Cyclone Warning Message Centres (CWMC) and the complete absence of cyclone shelters. Among the

seven extremely vulnerable blocks only Basanti, Namkhana and Kakdwip have early warning systems. One study about information gaps in the Sundarbans revealed that fishermen generally depend on Bangladesh radio for warning messages as there have been cases when the warning messages from All India Radio (AIR) reached them after the disaster has struck²³.

7.5 Towards a Block Vulnerability Profile: Vulnerability Index

The official estimate of vulnerability has one important drawback in the sense that it solely relies on historical risk exposure data to assess the susceptibility of damage to disaster shock. The assessment is not complete in the sense that it does not take into account the adaptive capacity of the community that is governed by their entitlement reflected by asset position and the extent of empowerment that can be obtained from indicators like education, health and social security that the people can avail of. Thus, given the same level of risk exposure the community with higher adaptive capacity is less likely to be vulnerable. To account for that, a

vulnerability index is constructed as a composite of two indices: Economic and Social Vulnerability Index (ECVI) and Bio-Physical Vulnerability Index (BPVI). The ECVI is constructed by choosing deprivation measures from the Rural Household Survey (RHS) data with the idea that communities having lower level of deprivation are more capable of adapting to extreme events than those with higher level of deprivation. The RHS provides categorical (percentage of households) data on the following 8 indicators:

- a) Possessions of land, b) possessions of house, c) clothing, d) food intake
- e) earning members f) literacy, g)

²¹ Interaction with people in Sundarbans during field visits clearly revealed that earlier family members actively patched damaged embankments with mud before and during the occurrence of breach. But gradually the decision making process regarding embankment maintenance slipped away from them and they now complain of untimely and inadequate repair works that they think is caused by the chain DIW-Panchayat-Contractors operating in those areas.

²² In recent times mud patching of the embankments is being carried out through the NREG programme. In fact for most of the villages one of the most important sources of employment delegating people for strengthening the embankments. Though people are critical about the allocation of NREGA funds there is a general consensus that the state of embankments has improved after the introduction of NREGA.

²³ Action Aid and Reuters Foundation (2006) "The Need For Information and Communication Technology In The Sundarbans," Project Report.

indebtedness, and h) migration.

For the ECVI we standardized the indicators as follows

$$\frac{x_{ij} - x_i^{\min}}{x_i^{\max} - x_i^{\min}}$$

Here, x_{ij} is the i^{th} indicator for the j^{th} block and x_i^{\max} and x_i^{\min} are the maximum and the minimum values of a particular indicator across blocks with $i=1,2,\dots, 8$ and

$j=1,2,\dots,29$. Then the standardized indicators are combined by computing a simple average for each block to obtain the ECVI. Here, we have attached equal weight to each factor. By way of construction higher values of ECVI would denote higher vulnerability and thus is assigned a higher rank. The ECVI shows that regionwise Sundarbans has the lowest adaptive capacity and given the preponderance of natural disasters, naturally more vulnerable than the other two regions (Table 7.15). It is clearly seen Budge Budge-II in Region-I, Kulpi in Region-II and Basanti in Region-III are most vulnerable blocks so far as adaptive capacity is concerned.

Table 7.15: Block-wise Economic and Social Vulnerability Indices

Region	Block	ACI	Rank	Average ACI Region Wise
Region I: North West (Kolkata Surroundings)	TAKURPUKUR - MAHESHTALA	0.221	3	0.364
	BUDGE BUDGE I	0.293	5	
	BUDGE BUDGE II	0.794	28	
	BISHNUPUR I	0.277	4	
	BISHNUPUR II	0.217	2	
	SONARPUR	0.384	9	
Region II: North East and Mid West	BARUIPUR	0.397	12	0.405
	BHANGAR- I	0.479	22	
	BHANGAR-II	0.154	1	
	FALTA	0.392	11	
	DIAMOND HARBOUR I	0.398	13	
	DIAMOND HARBOUR II	0.429	18	
	MAGRAHAT I	0.411	15	
	MAGRAHAT II	0.337	6	
	KULPI	0.639	27	
	MANDIRBAZAR	0.416	17	
Region III: South (Sundarbans)	CANNING I	0.359	8	0.496
	CANNING II	0.585	24	
	BASANTI	0.887	29	
	GOSABA	0.384	10	
	JOYNAGAR I	0.628	26	
	JOYNAGAR II	0.415	16	
	MATHURAPUR I	0.433	20	
	MATHURAPUR II	0.432	19	
	KULTALI	0.460	21	
	PATHARPRATIMA	0.606	25	
	KAKDWIP	0.409	14	
	NAMKHANA	0.489	23	
	SAGAR	0.355	7	

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The next task is to arrive at an aggregate index combining both ECVI and BPVI. The BPVI is derived from the estimate of the population likely to be affected by the natural disasters out of the total population in each block (Disaster Preparedness &

Response Plan-2002, South 24 Parganas, Government of West Bengal). Here we require an ordinal aggregator and towards this end the *Borda Rule* as a method of rank-order scoring suggests itself²⁴. Going by it we first rank each of the standardized

measures of deprivation that we obtained from the RHS of South 24 Parganas. Adding up the ranks gives us the *Borda Score* of economic and social vulnerability. Then we rank the blocks according to the percentage of the population that are likely to be affected from natural disasters using the earlier standardization method (Table 7.16)

Finally, we add up the ranks of the BPVI with the Borda Score of the economic and social indicators to arrive at the aggregate Borda Score and rank the blocks according to the score obtained (See Table 7.17)

Table 7.16: Block-wise BPVI

Block	BPVI	Ranks
Baruipur	0.250	1
Basanti	0.835	2
Bhangar - I	0.167	3
Bhangar - II	0.167	4
Bishnupur-I	0.000	5
Bishnupur-II	0.000	6
Budge Budge -I	0.000	7
Budge Budge -II	0.000	8
Canning - I	0.750	9
Canning - II	0.750	10
Diamond Harbour - II	0.500	11
Falta	0.667	12
Gosaba	0.710	13
Joynagar -I	0.167	14
Joynagar -II	0.167	15
Kakdwip	0.753	16
Kulpi	1.000	17
Kultali	0.750	18
Magrahat - I	0.583	19
Magrahat - II	0.583	20
Mandirbazar	0.659	21
Mathurapur - I	0.667	22
Mathurapur - II	0.667	23
Namkhana	0.815	24
Patharpratima	0.852	25
Sagar	0.884	26
Sonarpur	0.083	27
Thakurpukur Mahestala	0.000	28

Note: Diamond Harbour-I is excluded from the analysis because the exposure data was not reliable.

²⁴ See Dasgupta P (1995) An Inquiry into Well-Being and Destitution, Clarendon Press,Oxford pages 109-111

Table 7.17: Composite Vulnerability Index (VI) of South 24 Parganas

BLOCK	Ranking based on Standardized Economic and Social Indicators								BSESI	BSPLA	Total Borda Score (BSESI + BSPLA)	Borda Rank
	H	G	F	EDU	EARN	D	M	L				
Bhangar - II	1	4	1	10	2	4	1	11	34	8	42	1
Bishnupur-I	14	2	2	3	17	1	8	22	69	3	72	2
Bishnupur-II	7	3	4	7	5	3	14	27	70	4	74	3
Mandirbazar	2	10	17	6	4	10	3	17	69	15	84	4
Sonarpur	12	17	13	19	3	2	4	15	85	6	91	5
Joynagar -II	4	9	21	22	12	17	9	8	102	10	112	6
Budge Budge -II	28	1	6	9	28	8	6	26	112	5	117	7
Falta	5	7	10	12	19	7	21	24	105	16	121	8
Bhangar- I	23	16	24	27	1	14	2	9	116	7	123	9
Diamond Harbour - II	13	12	14	11	13	6	17	25	111	12	123	9
Canning - II	25	8	8	16	11	15	10	10	103	22	125	11
Sagar	18	23	15	1	23	5	12	3	100	27	127	12
Mathurapur - II	10	14	11	18	14	16	23	7	113	17	130	13
Magrahat - I	6	20	9	5	16	11	22	28	117	14	131	14
Mathurapur - I	11	13	5	20	15	12	26	14	116	18	134	15
Baruipur	17	18	20	21	18	9	5	16	124	11	135	16
Gosaba	20	11	12	13	25	25	11	4	121	19	140	17
Thakurpukur												
Mahestala	21	6	3	2	29	29	29	21	140	2	142	18
Kakdwip	16	22	18	8	20	21	7	12	124	23	147	19
Budge - Budge I	3	29	28	26	8	19	13	23	149	1	150	20
Magrahat - II	15	21	19	15	24	18	20	18	150	13	163	21
Kulpi	8	27	22	25	7	20	27	2	138	28	166	22
Namkhana	26	15	23	4	27	28	16	5	144	24	168	23
Canning - I	19	24	25	28	6	22	19	13	156	21	177	24
Patharpratima	27	26	27	14	10	24	24	1	153	26	179	25
Joynagar -I	24	19	26	24	22	23	18	20	176	9	185	26
Kultali	22	25	16	23	21	27	15	19	168	20	188	27
Basanti	29	28	29	29	26	26	28	6	201	25	226	28

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Note:

H: Percentage of households with no house

G: Percentage of households with number of garments less than 2

F: Percentage of households that can manage less than 1 square meal a day for the major part of the year

EDU: Percentage of households where all 7+ members are illiterate

EARN: Percentage of households having no regular wage earner or consisting of women, infirm, old or children only

D: Percentage of households that have to take loans from familiar persons for everyday needs

M: Percentage of households that have to migrate for various reasons to earn livelihood

L: Percentage of households with no land holdings

BSESI: Borda Score based on the ranks of Economic and Social indicators

BSPLA: Borda Score based on population likely to be affected from Natural Disasters

The composite Vulnerability Index (VI) preserves the ranking of ECVI and EI in the sense that here also the Sundarban region is most vulnerable followed by Region II and Region I (Figure 7.11). Moreover the rank correlation between the BSESI and BSPLA is positive and significant at the

level of 10 percent²⁵.

Taking Sundarbans in isolation it is found that in terms of Composite Vulnerability Index Basanti and Pathapratima are the most vulnerable among the 13 blocks (Table 7.18).

Figure 7.11: Average Borda Score of Composite Vulnerability Index across regions

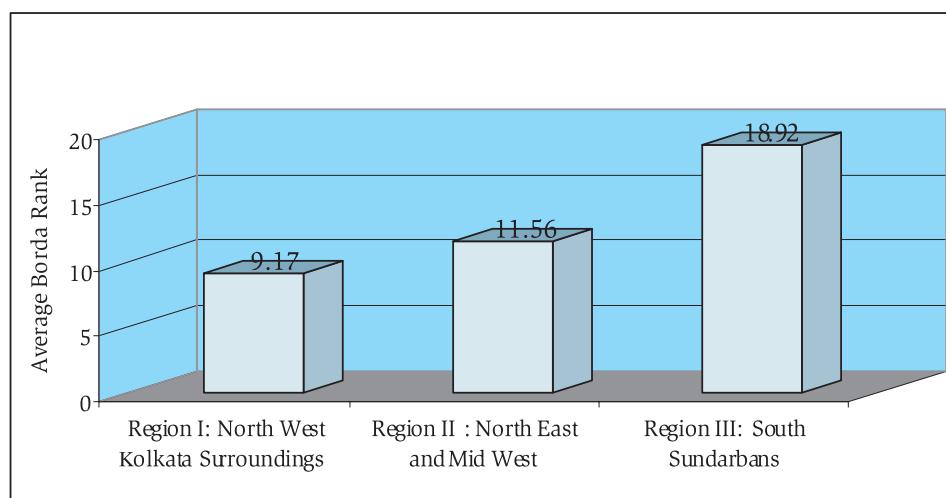


Table 7.18: Block-wise Vulnerability in Sundarbans

Block	BSESI	BSPLA	Total Borda Score	Borda Rank
Canning II	32	8	40	1
Joynagar II	42	2	44	2
Gosaba	42	5	47	3
Kakdwip	42	9	51	4
Sagar	38	13	51	4
Mathurapur II	49	3	52	6
Mathurapur I	49	4	53	7
Kultali	55	6	61	8
Namkhana	61	10	71	9
Canning I	69	7	76	10
Joynagar I	76	1	77	11
Pathapratima	79	12	91	12
Basanti	94	11	105	13

²⁵ It is absolutely necessary, however, to keep in mind the possible causality between economic and social vulnerability and exposure to climatic hazards. Poorer people tend to settle in risky areas and hence are more exposed to natural disasters. On the other hand disaster driven income shocks can be the sole determinant of poverty and vulnerability.

In terms of overall vulnerability this exercise conforms partially to official assessment in that Basanti and Patharpratima display high vulnerability. But unlike official estimates Gosaba and Sagar display lesser vulnerability and herein lies the role of economic and social factors that determine adaptive capacity of the communities. For instance in terms of asset position Gosaba and Sagar fare well compared to their counterparts in

Sundarbans as here the percentages of landless households are very small. In addition, Sagar Block displays lesser indebtedness and higher levels of literacy that can be suggestive of better capacity to cope with natural hazards. On another note tourism benefits from *Sagar Mela* might have prompted better maintenance of infrastructure in Sagar Block thereby moderating the damage potential of climatic shocks.

7.6 Concluding Observations

Employment generation strategies have not worked well in South 24 Parganas – number of mandays generated is the third lowest among the districts. Given the low per capita income and the highest concentration of backward classes in the district this implies low levels of economic security. However, its performance in housing schemes is better.

Social security for women is severely lacking as crime rate against women is the highest in the district. Incidence of Riots and CAW outnumbers the violent crimes in the district and these two types of crimes multiply as one moves from regions near Kolkata towards south in Sundarbans. In terms of crime rates for violent crimes, CAW and riots, Thakurpukur - Maheshtala and Sonarpur in Region-I, Bhangar in Region-II and Canning in Region-III are

most vulnerable.

Idiosyncratic risks arising from embankment damages are on the rise despite huge mitigation expenditures. Conditions of Basanti and Gosaba are fast deteriorating. Apart from natural causes unorganized fishery activities are supposed to be the prime drivers of embankment breaches. Community institutions for collectively managing embankments are missing in Sundarbans raising question marks regarding operation of decentralized Panchayati Raj bodies.

Finally, in terms of Economic and Social Vulnerability Budge Budge-I, Kulpi and Basanti come out as the most vulnerable blocks in South 24 Parganas. But in terms of overall vulnerability Basanti, Kultali, Joynagar-I and Pathapratima occupies last four positions among the 29 blocks.

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GENDER AND DEVELOPMENT: SOME REFLECTIONS**8.1 Introduction**

Until now, the primary concern has been with the issues relating to overall human development in the district of South 24 Parganas. To assess the causes and remedies thereafter, in respect of decline in quality of life (QOL), the issue of vulnerability has also been dealt with. In the journey traversed so far, we have devoted ourselves to a somewhat broader analysis of overall economic well-being, paying very little, if at all any, attention to social inequality. While such inequality, it may be emphasized at this stage, may have various dimensions such as area of residence, religion, race, social community, gender etc, development theoreticians consider gender as the most important one. For a fuller treatment of HDR of South 24 Parganas, one therefore, makes an attempt in this chapter to examine the extent to which the fruits of human development are being enjoyed equally by both genders and identifies the areas revealing gender disparities, for proper policy interventions.

This chapter attempts to highlight three major facets of gender and development in the district. (1) After a brief overview of the history of 'Gender and Development', we take up the issues related to gender disparity in human development viz., work participation, health care and educational attainment. (2) While vulnerability in different spheres adversely affects QOL of human beings in general, the nature of

trafficking, domestic violence and various other crimes against women reveal that they are doubly victimized in this respect and this is dealt with separately. (3) Quality of life of women is never up to the mark unless they are empowered to challenge patriarchy and global inequality and this forms the basis of analysis in the section on 'Gender and Empowerment'. Here, an endeavour is made to assess, among other aspects, whether and how political participation (in Panchayat) and economic participation (economic activities taken up by Self Help Groups (SHGs), in particular women SHGs) can reshape the existing power relation between the genders and make the marginalized group, especially women, empowered. In this entire exercise the focus is on inter-regional and inter-block variation in an attempt to identify the better and the poorly performing regions/blocks for proper policy formulations. The study analysed so far has revealed, quite expectedly, better performance of Region-I (Blocks in Kolkata surroundings) in the process of human development of the district while Region-III (Blocks in Sundarbans) has been designated as the poorly performing one. It would therefore be quite interesting to study whether the regional differences remain invariant in the analysis of gender and development as well or not. The final section sums up the major findings of the analysis.

8.2 Gender and Development: A Brief History

The discourse on Gender and Development has a long and eventful history. This section makes an attempt to highlight the major theoretical underpinning in this regard.

It dates back to the 1970s when an endeavour was made for the first time to integrate women into the development process (WID approach). Women in Aid agencies argued that development programmes had hitherto ignored and excluded women. Ester Boserup in her pioneering work ‘Women’s Role in Economic Development’ argued that modernization had not benefited women, denying them access to land, training, education and technology. She condemned the tendency of planners to see women as secondary earners and to concentrate on their roles as housewives (Boserup, 1970). WID advocates saw themselves as pragmatic, non-ideological development practitioners (Tinker, 1982), but in fact most of them accepted the basic postulates of neo-classical economic theory and were influenced by the liberal feminist arguments for women’s equality (Jagger, 1983).

In the mid-1970s a critique of WID emerged from the analytical work of feminist scholars at the Institute of

Development Studies. Their point of departure was that unequal power relations between men and women prevent women from getting equal access in different spheres of life. Furthermore, they were of the opinion that women’s inequality is not solely a problem of developing countries; women in the so-called developed countries also face a gendered labour market with women’s jobs (and pay levels) at the lower end of the job hierarchy and they are also absent from the corridors of power (whether in politics, religion or finance). Women’s reproductive work is not given social value. As such, they avoided the division that the WID approach appeared to make between First and Third World women (Young et al., 1984).

Using the concept of gender (the socially acquired notions of masculinity and femininity) and gender relations (the socially constructed form of relations between men and women), Gender and Development (GAD) activists analysed how development strategies reshape these power relations. They noted how economic and social change, whether planned or unplanned, often gives greater opportunities to one gender and showed how, in many societies, the development of

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the market economy had shifted the balance sharply in men's favour (Young, 1989). In so doing they questioned the conventional liberal belief that the market economy would help spread egalitarian values and undermine authoritarian and male-biased traditional attitudes. GAD activists also highlighted one important aspect of unequal relations - violence against women, which in many areas inhibited women from taking up opportunities targeted to them, whether literacy classes, credit, agricultural extension, etc.

However, some activists and theorists from the South and a few from the North began to recognize the limitations of even this advance. They began to argue that

women would never develop unless they are empowered to challenge patriarchy and global inequality. Many of their arguments were taken up by development scholars working with UNDP, which began to call for a focus on human development rather than economic development alone. Reflections of these thoughts were manifested, in course of time, in the form of the indices viz., the Human Development Index (1990), and the Gender Equity Sensitive Indices viz., Gender-related Development Index (1995) and the Gender Empowerment Measure (1995) in various Human Development Reports (HDR) published regularly since 1990.

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8.3 Gender Disparity in Human Development

In this section, one makes an attempt to assess the level of gender inequality that exists in the development process of the district and then tries to analyse whether the situation has changed for the better over time. The HDR of the UNDP measures the gap between the Human Development Index (HDI) and the Gender-related Development Index (GDI) to highlight the gender disparity. The HDI and the GDI, it may be mentioned at this stage, are based on the same three indicators viz., standard of living (measured by adjusted real per capita

income), longevity (measured by life expectancy at birth) and knowledge (assessed by adult literacy rate with two-third weight and gross enrollment ratio with one-third weight). However, while the HDI measures the average achievement or overall development of a region without imposing any penalty for the existence of gender inequality, the GDI adjusts the average achievement in accordance with the disparity in achievement between men and women. Hence, the need to construct both the indices is to understand the level of

gender inequality.

Unfortunately, however, data on some important variables viz, real income per capita, adult working population, life expectancy at birth, adult literacy rate, gross enrollment ratio etc are not available at the sub-district or block level — a fact which prevents us from using the standard UNDP procedure to construct the HDI. We have, however used some proxy variables after properly justifying the rationality behind their use, calculated the dimension index for each of the indicators viz, standard of living, health care, educational attainment and constructed the HDI as an unweighted average of three dimension indices.

Problem however crops up when we try to construct the GDI by using proxy variables as a number of such variables are obtained in the aggregate form either at household level (e.g., QOL indicators of Rural Household Survey (2005), using which we construct the Standard of Living Index) or for population as a whole (e.g., indicators of hospital performance, sanitation facility, availability of drinking water etc. in respect of public health care, utilizing which health care index is constructed). Clearly, such data cannot provide us with any information separately for male and female achievement on a specific indicator— a fact that makes it impossible for us to construct GDI using

data on proxy variables. We have, however attempted to compute some important sub-indices viz., equally distributed equivalent indices (EDEI) from the indicators considered and ranked the blocks using these sub-indices. But before we describe these indices (Box 1) it seems worthwhile to explain our methodology in detail for analyzing gender disparity in this section.

Of all forms of such disparities, it is argued, the most common one is noticed in the functioning of the labour market—the low female work participation rates according to accepted definition of work and the differential treatment meted out to women even when they are employed. Any kind of gainful work for women brings with it some sense of economic independence, so to say, and enhances their self-confidence, which in turn empowers them to get recognized and involved in decision-making. It is thus very important to examine the extent of female work participation rates, particularly in relation to males and see whether there has been any improvement over time in this regard. Our assessment of gender disparity in human development therefore begins with an analysis of work participation rates by gender.

We basically ask two very important questions viz., (1) how alarming has been the extent of gender-bias? and (2) has there

been any change for the better over time? We attempt to address these two issues mainly on the basis of Population Census data for 1991 and 2001.

How can we measure gender disparity in work participation? We measure it simply by the ratio of female to male work participation rates (%). In other words, it is the female work participation rates as a percentage of male work participation rates. To give a concrete example we consider the value of such ratio for overall (main + marginal) category for the district as a whole in 1991 and find that it is 13% (Table 8.1). What does it mean in respect of gender disparity? It means that work participation rates of females are almost 87% lower than the same of their male counterparts. Thus, the extent of gender gap is, alarmingly high. This is not a surprising result at all, but the ray of hope is that this ratio increases to 23% in 2001 to indicate a decline in the extent of such inequality. Besides considering such ratio, we calculate EDEI on work participation to understand the extent of gender-related development in this respect. We also consider the issue of occupational diversification of female workers and some other relevant issues in the sub-section 8.3.1.

We next consider gender disparities in educational attainment and health care. It is well known that education and health are

not only the basic objectives of development but important ends in themselves also. These two human capital issues are treated together because of their close relationship and have been dealt with in detail in chapters 5 and 6 respectively. In two subsequent sub-sections viz., 8.3.2 and 8.3.3 we attempt to make brief analyses of gender gaps in these two facets of human capital formation.

We first consider the issue of health care (Sub-section 8.3.2) which, however owing to lack of relevant data, as discussed earlier, reduces to an analysis of maternal and child (0-6 years) health care. There are two basic data sources viz., Office of the CMOH and the District ICDS. Both however provide with recent data i.e. for 2006-07. We consider the following issues viz., delivery (home and institutional) reports, maternal mortality deaths and status of immunization using the CMOH data. The ICDS data, on the other hand, are used (a) to calculate gender-specific infant mortality rates and (b) to understand (i) the status of beneficiary pregnant and nursing mothers as well as (ii) children (0-6 years) and (iii) nutritional status of children (0-6 years) covered by Supplementary Nutrition Programme (SNP). Here also, we calculate the EDEI on health care for children. However, owing to lack of proper data we confine ourselves to considering below 1

year children only.

Our analysis on educational attainment begins in Sub-section 8.3.3 with the block-wise literacy rates of males, females and female to male ratio of such rates, based on Census data for 1991 and 2001. We calculate next, as in the case of work participation, equally distributed equivalent indices on literacy for these two periods. Educational attainment has another dimension viz., combined gross enrollment ratio. However, owing to data constraint at the tertiary level, as mentioned earlier, we

calculate, using the District Information on School Education (DISE), female to male enrollment ratios for the children in the age group viz., 5-14 years for the periods viz., 2001 and 2007. Attendance ratios are more relevant in this regard and to have an idea about such ratios, we next consider corresponding ratios for drop out children in the same age group. However, data for 2001 being unavailable for such children, we base our analysis on the periods viz., 2002 and 2007 and hope that such an adjustment would affect our results only marginally.

Box 1: The Equally Distributed Equivalent Index (EDEI)

The EDEI on any indicator is the Harmonic Mean (H.M.) of Male and Female dimension indices, considered to penalize the difference in achievement between men and women in that indicator.

$$\text{EDEI} = \left[\left\{ \text{Female Population Share} \left(\text{Female Index}^{-1} \right) \right\} + \left\{ \text{Male Population Share} \left(\text{Male Index}^{-1} \right) \right\} \right]^{-1}$$

Male and Female dimension indices on each indicator are calculated according to the general formula

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

In the present chapter, we construct EDEI on Work Participation, Literacy and Infant Health Care . Of these indices , the combined dimension index on the last one is calculated as an unweighted average of dimension indices on infant survival rate, full immunization of children (%)and children in 'Normal' grade in Nutrition status(%), separately for female and male children below 1 year.

Goalposts for computing the EDEIs on Work Participation, Literacy and Infant Health care		
Indicator	Maximum Value	Minimum Value
WPR(%)	100	0
Literacy Rate (%)	100	0
Infant Survival Rate per 1000 Live births	1000	0
Fully Immunised Children (%)	100	0
Proportion of children in 'Normal' grade to Total children weighed(%)	100	0

Sources: (i) Technical Notes, Various HDRs.
(ii) District Census Handbooks, South 24 Parganas, 1991, 2001.
(iii) Monthly Reports, Office of the CMOH, South 24 Parganas, 2006-07
(iv) Monthly Progress Reports, I.C.D.S.,South 24 Parganas,2006-07

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8.3.1. Gender and Work Participation

To begin our analysis we consider the district scenario (Table 8.1) to find that

- South 24 Parganas remains predominantly a rural district, despite a fall in the percentage of rural population (from 87% in 1991 to 84% in 2001). In the population, slightly less than 50% are females in 1991 irrespective of the sector considered and remain more or less the same in 2001 as well.

sector and a slightly less than 48 % in the urban sector. Such rates too rise to more than 50 % in all the sectors.

This brings us to the analysis of female work participation rates. In 1991, we find that

- these rates are very small both in absolute terms and relative to male work participation rates.
- The absolute rates are 6% in total sector, 6.5 per cent in rural sector and around

Table 8.1 Percentage Distribution of Population and Workers along with Work Participation Rates by Gender: Rural and Urban, South 24 Parganas, 1991-2001

Sector	Census Year	Population (lakh)	Male (per cent)		Workers (lakh)	Female (per cent)		Person	Work Participation Rate (%)		
			Male	Female		Male	Female		Male	Female	Female/male(%)
Total	1991	57.1	51.62	48.38	16.2	89.48	10.52	28.29	48.84	6.18	12.65
	2001	69.0	51.83	48.17	22.4	82.38	17.62	32.47	51.82	11.83	22.82
Rural	1991	49.5	51.50	48.50	14.1	88.92	11.08	28.47	49.05	6.52	13.29
	2001	58.1	51.61	48.39	18.9	81.55	18.45	32.57	51.58	12.39	24.02
Urban	1991	7.6	52.27	47.70	2.1	93.32	6.68	27.15	47.55	3.89	8.17
	2001	10.9	53.29	46.71	3.5	86.88	13.12	31.93	53.08	8.77	16.53

Source: District Census Handbooks, South 24 Parganas, 1991 and 2001

- However, among the workers themselves, numerical strength of females is meagre—around 11 % in the total and the rural sector and 7 % in urban sector. During 1991-2001, there has, however, been a rise in the relevant percentages—around 18 % in total and rural sector and 13 % in the urban sector.
- Work participation rates for populations as a whole are very low in 1991—not even 1 out of 3 persons is employed. The situation however improves, to an extent, in 1991-2001.
- Male work participation rates vary around 49 % in the total and the rural

4% in urban sector.

- Female to male ratio in work participation rates is least in the urban sector (8.2%) while slightly higher in total and rural sectors (13%).

During 1991-2001, this ratio is found to improve considerably in all sectors in 2001 - total (23%), rural (24%) and particularly in the urban sector (16.5%)

In view of the fact there is little difference in the results of total and rural sectors, majority of the population being rural, we base our analysis henceforth, without any loss of generality, only on the total sector. Coming next to block-wise performance

(Table 8.2), we find that in 1991,

- overall (i.e. main+marginal) work participation rates for persons as a whole are highest in Namkhana (44.57%) followed by Gosaba (35.93%) and Patharpratima (32.59%)— all in Region-III. Falta (30.86%) in Region-II follows them suit while others display more or less the same numerical strength (around 26 to 28 %).

Disaggregating further we find that

- in case of main work participation rates, the relevant figures vary, on an average, around 26 %, the better performing blocks being Gosaba (28.93 %), Falta (28.41 %) and Namkhana (28.14 %).
- Interestingly, Namkhana shows the highest numerical strength in marginal work participation rates (16.43 %) as well, followed remotely by Gosaba (6.99 %) and Patharpratima (6.26 %).

Coming to overall (main+ marginal) female work participation rates, we observe that

- these rates are considerably meager in Region-I (4.69%) and Region-II (4.14 %). A slightly better performance in Region-III (8.75%) is attributed mainly to Namkhana (33.47%), remotely followed by Gosaba (17.50%) and Patharpratima (12.94 %).
- As in case of overall work participation rates for persons, here also, Namkhana displays highest numerical strength in both main category (5.36%) and marginal category (28.11%). But the interesting point to note is that in case of main category, while there are little variations in the values of the blocks, in marginal category; the variations are much higher, particularly in Region-II where Namkhana is followed remotely by Gosaba (12.59%) and Patharpratima (9.85 %).

The least value in female marginal work participation rates, it may be mentioned, is noticed in Thakurpukur- Mahestala (0.27 %).

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Table 8.2: Block-wise Work Participation Rates (%) by Categories of Work in South 24 Parganas : Rural + Urban Sectors, 1991-2001

Block	WORK PARTICIPATION RATES (%)										Marginal				
	Main + Marginal					Main					Person				
	1991	2001	Person	1991	2001	1991	2001	Female	Male (%)	1991	2001	1991	2001	Female	Male (%)
Thakurpukur-Mahestala	27.02	33.95	3.64	12.45	7.62	22.98	26.65	28.13	3.37	8.05	7.12	17.12	0.37	5.82	0.27
Budge-Budge - I	27.42	30.11	4.64	6.68	9.62	12.99	25.46	20.68	3.87	2.97	8.55	8.07	1.96	9.44	0.77
Budge-Budge - II	26.95	31.88	3.24	8.35	6.72	15.55	25.24	22.27	1.84	3.17	3.98	7.93	1.70	9.61	1.40
Bishnupur - I	28.53	32.87	5.50	10.90	11.02	20.42	27.39	26.33	3.87	5.99	7.86	13.23	1.14	6.54	1.63
Bishnupur - II	28.91	32.71	6.62	10.53	13.31	19.62	27.10	25.89	3.29	5.51	6.68	12.19	1.81	6.82	3.32
Sonarpur	27.43	31.49	5.20	9.20	10.91	17.51	27.05	26.50	4.69	6.67	9.90	14.74	0.38	4.99	0.50
Region I	27.60	32.29	4.69	9.88	9.69	18.54	26.63	25.22	3.56	5.50	7.48	12.59	0.98	7.07	1.13
Baruipur	27.19	29.79	4.33	8.34	8.96	16.74	26.18	24.78	3.00	5.25	6.30	12.19	1.01	5.01	1.33
Bhangar - I	28.37	31.06	4.70	10.31	9.24	20.27	27.39	25.34	2.95	4.93	5.83	11.00	0.98	5.72	1.75
Bhangar - II	25.49	28.36	1.81	5.42	3.78	10.92	25.05	23.85	1.24	2.95	2.60	6.81	0.44	4.51	0.57
Fulta	30.86	32.95	7.36	9.85	13.96	18.01	28.41	23.64	3.94	3.87	7.71	9.15	2.45	9.31	3.42
Diamond Harbour - I	26.23	28.89	3.72	6.17	7.87	12.34	25.41	23.52	2.85	3.22	6.14	7.59	0.82	5.37	0.87
Diamond Harbour - II	27.43	30.02	4.36	7.26	8.86	14.06	25.47	22.13	2.58	3.61	5.48	9.09	1.96	7.89	1.78
Magrahat - I	24.90	29.21	2.70	7.69	5.91	15.58	23.89	22.38	1.66	3.81	3.72	9.59	1.02	6.83	1.04
Magrahat - II	27.26	28.73	5.55	7.73	11.69	15.95	25.66	23.35	2.71	4.10	5.78	9.90	1.60	5.38	2.83
Kupi	26.45	29.44	3.32	6.79	6.90	13.35	24.16	19.95	1.40	2.87	3.07	7.94	2.28	9.50	1.93
Mandirbazar	24.88	30.49	2.71	10.60	5.94	21.58	23.77	22.44	1.84	4.74	4.15	12.16	1.11	8.05	0.87
Region II	26.98	29.89	4.14	8.07	8.57	16.01	25.58	23.21	2.43	4.03	5.16	9.76	1.40	6.68	1.71
Canning - I	27.56	32.32	4.76	12.64	9.67	24.71	26.09	24.02	2.95	6.68	6.14	16.46	1.47	8.31	1.81
Canning - II	27.02	30.28	3.81	11.16	7.73	23.02	26.40	22.70	2.81	4.11	5.73	10.18	0.62	7.57	1.00
Basanti	29.87	32.01	8.30	12.35	16.48	24.35	26.63	22.01	2.82	3.97	5.73	10.12	3.25	10.00	5.48
Gosaba	35.93	38.62	17.50	20.40	32.84	36.40	28.93	22.93	4.91	3.99	9.52	6.99	15.69	12.59	16.41
Jognagar - I	26.05	30.76	3.65	10.85	7.77	22.00	24.63	24.16	2.00	6.12	4.37	14.93	1.42	6.60	1.65
Jognagar - II	25.22	32.44	3.22	14.40	7.02	29.23	24.23	23.20	1.89	5.10	4.17	12.73	1.00	9.24	1.34
Mathurapur - I	26.10	27.69	4.04	5.60	8.63	11.55	24.35	19.10	2.08	2.96	4.61	8.64	1.75	8.59	1.95
Mathurapur - II	28.89	32.70	5.98	10.92	11.98	20.67	26.68	24.03	2.48	4.20	5.08	9.91	2.21	8.68	3.50
Kultali	26.30	31.30	3.76	9.75	7.91	18.99	24.69	22.30	1.31	2.92	2.81	7.23	1.60	9.00	2.45
Patharpuratma	32.59	42.60	12.94	29.60	25.24	53.83	26.34	26.65	3.09	8.73	6.38	19.97	6.26	15.95	9.85
Kakdwip	29.47	34.90	8.12	16.24	16.32	30.86	26.06	23.44	2.55	4.52	5.27	10.92	3.41	11.46	5.57
Namkhana	44.57	42.83	33.47	29.03	60.77	51.87	28.14	25.92	5.36	6.14	10.79	13.72	16.43	16.91	28.11
Sagar	27.22	40.56	5.41	27.66	11.30	52.47	24.77	23.22	1.58	4.51	3.39	11.03	2.45	17.34	3.83
Region III	29.74	34.65	8.75	16.40	17.66	31.61	26.05	23.46	2.78	5.06	5.78	12.39	3.69	11.19	5.97
District	28.29	32.47	6.18	11.83	12.65	22.82	26.09	24.30	2.89	5.01	6.06	11.81	2.20	8.18	3.28

Source: Same as in Table 8.1

During the period 1991-2001,

- overall work participation rates for persons as a whole, fall in the main category (Thakurpukur- Mahestola being the only exception, where the situation is the other way round) but rise substantially in the marginal category in all blocks (except Namkhana, where it falls marginally). This explains a rise in overall work participation rates in the blocks in the above period.
- Overall female work participation rates, however, rise in this period in all blocks except Namkhana. Such rates rise in main category in majority of the blocks and in marginal category in all blocks. In Namkhana overall female work participation rates decline to 29.03% because a fall in such rates in marginal category (28.11% in 1991 to 22.89% in 2001) outweighs the rise in the

rates in main category (5.36% in 1991 to 6.14% in 2001).

Analysis of work participation rates of persons as a whole and those of females separately show that in 1991 the female to male ratios of work participation rates are alarmingly low — 10% in Region-I, 9% in Region-II and 18% in Region-III.

Disaggregating such ratios further into main and marginal categories considerable gender inequality is noticed in main category, where the ratios are substantially lower in all blocks (Fig.8.1). Ironically, however, such ratios are higher than 100% in marginal category in all three regions as females outnumber their male counterparts as marginal workers (Fig.8.2). During 1991-2001, these ratios rise in the main category and fall in the marginal category in all three regions—a fact that points toward improvement in the relative status of female workers.

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Fig 8.1: F/M Ratio for Main WPR

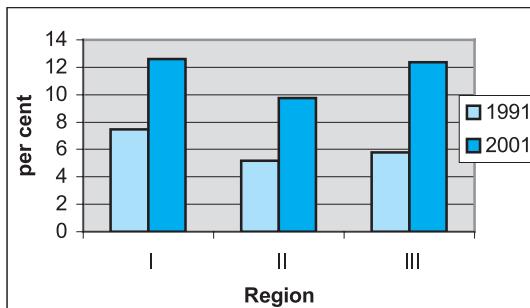
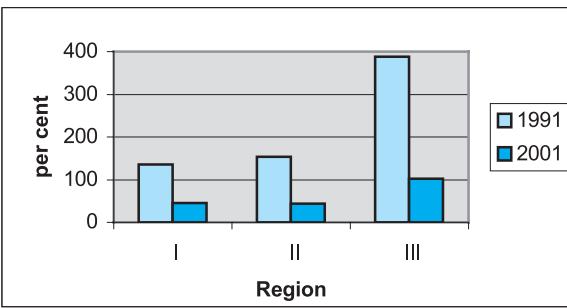


Fig 8.2 : F/M Ratio for Marginal WPR



The equally distributed equivalent indices on work participation considered next (Tables 8.3 and 8.4), shows a rise in the values of such indices during 1991-2001 for all the blocks except Namkhana — a fact which clearly indicates an improvement in respect of gender-related

development in work participation. This is quite an interesting result where Namkhana, Patharpratima, Gosaba and Kakdwip - all in Region-III, emerge as better performing blocks in both the periods.

Table 8.3: Block-wise Dimension and Equally Distributed Equivalent Indices on Work Participation (Main+Marginal) : South 24 Parganas, 1991

Block	Population (per cent)		Work Participation Rate(%)			Dimension Index on Work Participation			E D E I on Work Participation	Rank
	Female	Male	Person	Male	Female	Person	Male	Female		
Thakurpukur-Mahestala	47.0	53.0	27.02	47.73	3.64	0.270	0.477	0.036	0.071	21
Budge Budge - I	47.8	52.2	27.42	48.29	4.64	0.274	0.483	0.046	0.088	15
Budge Budge - II	47.3	52.7	26.95	48.19	3.24	0.269	0.482	0.032	0.064	25
Bishnupur - I	48.1	51.9	28.53	49.91	5.50	0.285	0.499	0.055	0.102	10
Bishnupur - II	48.3	51.7	28.91	49.73	6.62	0.289	0.497	0.066	0.120	7
Sonarpur	47.6	52.4	27.43	47.66	5.20	0.274	0.477	0.052	0.097	12
Baruipur	48.1	51.9	27.19	48.34	4.33	0.272	0.483	0.043	0.082	16
Bhangar - I	48.8	51.2	28.37	50.90	4.70	0.284	0.509	0.047	0.088	14
Bhangar - II	48.6	51.4	25.49	47.85	1.81	0.255	0.478	0.018	0.036	29
Falta	48.1	51.9	30.86	52.67	7.36	0.309	0.527	0.074	0.133	6
Diamond Harbour - I	48.2	51.8	26.23	47.22	3.72	0.262	0.472	0.037	0.071	22
Diamond Harbour - II	48.5	51.5	27.43	49.17	4.36	0.274	0.492	0.044	0.082	17
Magrahat - I	48.2	51.8	24.90	45.59	2.70	0.249	0.456	0.027	0.053	28
Magrahat - II	48.2	51.8	27.26	47.46	5.55	0.273	0.475	0.055	0.102	9
Kulpi	48.5	51.5	26.45	48.19	3.32	0.264	0.482	0.033	0.064	24
Mandirbazar	48.3	51.7	24.88	45.63	2.71	0.249	0.456	0.027	0.053	27
Canning - I	48.7	51.3	27.56	49.20	4.76	0.276	0.492	0.048	0.089	13
Canning - II	49.0	51.0	27.02	49.31	3.81	0.270	0.493	0.038	0.072	19
Basanti	48.7	51.3	29.87	50.36	8.30	0.299	0.504	0.083	0.145	4
Gosaba	48.5	51.5	35.93	53.28	17.50	0.359	0.533	0.175	0.268	2
Joynagar - I	48.2	51.8	26.05	46.91	3.65	0.260	0.469	0.036	0.070	23
Joynagar - II	48.5	51.5	25.22	45.94	3.22	0.252	0.459	0.032	0.062	26
Mathurapur - I	48.4	51.6	26.10	46.77	4.04	0.261	0.468	0.040	0.076	18
Mathurapur - II	47.9	52.1	28.89	49.92	5.98	0.289	0.499	0.060	0.111	8
Kultali	48.5	51.5	26.30	47.55	3.76	0.263	0.475	0.038	0.071	20
Patharpratima	48.7	51.3	32.59	51.28	12.94	0.326	0.513	0.129	0.210	3
Kakdwip	48.7	51.3	29.47	49.73	8.12	0.295	0.497	0.081	0.142	5
Namkhana	48.6	51.4	44.57	55.08	33.47	0.446	0.551	0.335	0.419	1
Sagar	48.6	51.4	27.22	47.86	5.41	0.272	0.479	0.054	0.099	11

Source: Same as in Table 8.1

It is well-known that agricultural growth over a period of time has remained lower than the growth in non-agricultural sectors. The gap between the growth in

these two sectors began to widen since 1981-82 and more particularly since 1996-97, because of acceleration in the growth of industry and service sectors as well as

Table 8.4: Block-wise Dimension and Equally Distributed Equivalent Indices on Work Participation (Main+Marginal) in South 24 Parganas : 2001

Block	Population (per cent)		Work Participation Rate (%)			Dimension Index on Work Participation			E D E I on Work Participation	Rank
	Female	Male	Person	Male	Female	Person	Male	Female		
Thakurpukur-Mahestala	48.5	51.5	33.95	54.18	12.45	0.339	0.542	0.125	0.206	7
Budge Budge - I	47.6	52.4	30.11	51.43	6.68	0.301	0.514	0.067	0.123	25
Budge Budge - II	48.1	51.9	31.88	53.69	8.35	0.319	0.537	0.084	0.149	20
Bishnupur - I	48.3	51.7	32.87	53.40	10.90	0.329	0.534	0.109	0.185	11
Bishnupur - II	48.6	51.4	32.71	53.67	10.53	0.327	0.537	0.105	0.180	14
Sonarpur	48.6	51.4	31.49	52.55	9.20	0.315	0.526	0.092	0.160	19
Baruipur	48.3	51.7	29.79	49.85	8.34	0.298	0.498	0.083	0.146	21
Bhangar - I	48.8	51.2	31.06	50.87	10.31	0.311	0.509	0.103	0.174	16
Bhangar - II	48.1	51.9	28.36	49.64	5.42	0.284	0.496	0.054	0.101	29
Falta	48.5	51.5	32.95	54.68	9.85	0.329	0.547	0.098	0.171	17
Diamond Harbour - I	48.2	51.8	28.89	50.02	6.17	0.289	0.500	0.062	0.113	27
Diamond Harbour - II	48.7	51.3	30.02	51.65	7.26	0.300	0.517	0.073	0.130	24
Magrahat - I	48.4	51.6	29.21	49.37	7.69	0.292	0.494	0.077	0.136	23
Magrahat - II	48.4	51.6	28.73	48.44	7.73	0.287	0.484	0.077	0.136	22
Kulpi	48.6	51.4	29.44	50.85	6.79	0.294	0.508	0.068	0.122	26
Mandirbazar	48.3	51.7	30.49	49.11	10.60	0.305	0.491	0.106	0.178	15
Canning - I	48.9	51.1	32.32	51.14	12.64	0.323	0.511	0.126	0.205	8
Canning - II	48.8	51.2	30.28	48.48	11.16	0.303	0.485	0.112	0.184	12
Basanti	48.8	51.2	32.01	50.73	12.35	0.320	0.507	0.124	0.202	9
Gosaba	48.9	51.1	38.62	56.04	20.40	0.386	0.560	0.204	0.302	4
Joynagar - I	48.3	51.7	30.76	49.33	10.85	0.308	0.493	0.109	0.182	13
Joynagar - II	48.2	51.8	32.44	49.25	14.40	0.324	0.493	0.144	0.227	6
Mathurapur - I	48.4	51.6	27.69	48.44	5.60	0.277	0.484	0.056	0.103	28
Mathurapur - II	48.0	52.0	32.70	52.84	10.92	0.327	0.528	0.109	0.186	10
Kultali	48.2	51.8	31.30	51.36	9.75	0.313	0.514	0.098	0.168	18
Patharpratima	48.8	51.2	42.60	54.99	29.60	0.426	0.550	0.296	0.388	1
Kakdwip	48.7	51.3	34.90	52.61	16.24	0.349	0.526	0.162	0.252	5
Namkhana	48.8	51.2	42.83	55.96	29.03	0.428	0.560	0.290	0.385	2
Sagar	48.5	51.5	40.56	52.72	27.66	0.406	0.527	0.277	0.366	3

Source: Same as in Table 8.1

fall in investment in agriculture. It would therefore, be instructive to see to what extent this phenomenon has led to a higher growth in employment in the non-agricultural sectors and thereby resulted in occupational diversification in a predominantly rural district like South 24 Parganas. We try to analyze such diversification in respect of female workers exclusively and consider percentage distribution of female main workers over four broad industrial categories (Table 8.5) for 1991 and 2001. One important

point needs to be mentioned here. An industrial category is a sector where a person is employed while an occupation denotes his/her type of job or employment. However, looking at the broad industrial categories, one can ascertain as to whether a person is engaged in 'Agricultural Occupations' (as Cultivators and Agricultural Labourers) or in 'Non-agricultural Occupations' (Workers in 'Household Industry' and 'Other Workers').

Table 8.5: Block-wise Percentage Distribution of Female Main Workers by Occupation in South 24 Parganas : 1991-2001

Block	Cultivator		Agricultural Labour		Non-agricultural workers			
	1991	2001	1991	2001	1991	2001	1991	2001
Thakurpukur-Mahestala	3.38	5.33	17.79	6.49	12.65	7.56	66.18	80.62
Budge Budge - I	1.25	2.97	9.38	3.47	20.72	6.86	68.65	86.70
Budge Budge - II	9.29	5.48	23.84	9.60	10.91	20.38	55.96	64.54
Bishnupur - I	18.85	8.55	38.48	17.99	14.71	25.49	27.97	47.98
Bishnupur - II	8.39	3.10	22.37	5.49	37.71	40.07	31.54	51.33
Sonarpur	6.84	8.78	26.01	11.19	3.05	4.63	64.10	75.41
Region I	7.60	6.24	23.60	10.08	14.06	18.75	54.75	64.92
Baruipur	9.13	7.87	18.76	8.21	12.79	13.21	59.32	70.71
Bhangar - I	16.00	11.49	46.66	27.04	18.12	16.00	19.22	45.48
Bhangar - II	24.88	10.81	32.67	20.22	11.89	16.76	30.57	52.21
Falta	15.76	7.25	22.14	12.11	20.44	26.84	41.67	53.80
Diamond Harbour - I	7.31	6.87	4.07	9.04	34.75	15.09	53.88	69.00
Diamond Harbour - II	9.95	5.91	14.06	6.02	23.90	12.76	52.08	75.31
Magrahat - I	12.76	6.86	21.95	11.65	22.08	33.59	43.20	47.90
Magrahat - II	24.86	7.00	29.00	11.52	17.48	25.51	28.66	55.97
Kulpi	12.35	6.30	6.70	2.66	33.50	18.38	47.45	72.65
Mandirbazar	10.56	7.79	3.38	3.79	30.54	15.62	55.52	72.80
Region II	14.35	7.91	21.36	11.33	20.96	19.29	43.32	61.47
Canning - I	8.80	4.46	10.04	6.32	6.78	16.85	74.39	72.36
Canning - II	13.70	12.49	69.00	47.81	1.87	5.54	15.43	34.16
Basanti	19.56	20.50	44.36	25.24	3.91	6.83	32.17	47.43
Gosaba	24.30	19.24	54.89	32.71	1.40	2.64	19.40	45.40
Joynagar - I	12.54	7.85	12.77	7.60	22.62	17.88	52.07	66.66
Joynagar - II	14.53	10.91	17.67	10.60	33.19	39.50	34.61	38.99
Mathurapur - I	12.59	4.49	6.01	5.00	33.15	22.02	48.25	68.49
Mathurapur - II	26.31	14.96	16.20	13.86	30.98	17.81	26.51	53.38
Kultali	30.99	13.38	37.31	21.21	3.11	7.98	28.59	57.43
Patharpratima	50.81	21.00	26.22	13.12	3.35	3.69	19.62	62.20
Kakdwip	20.64	18.89	8.22	11.90	17.59	12.09	53.54	57.11
Namkhana	40.10	27.39	11.50	14.70	6.85	5.70	41.55	52.20
Sagar	28.02	31.66	18.31	26.21	7.43	5.35	46.24	36.78
Region III	25.12	16.15	28.04	16.67	10.72	12.02	36.11	55.16
District	16.01	9.78	23.63	11.48	14.06	13.45	46.30	65.29

Source: Same as in Table 8.1

Table 8.5 clearly indicates

- occupational diversification in 1991, in all three regions, to a much greater extent in Region-I followed by Region-II, which gets intensified further in 2001.
- While there has been a decline in the

percentage of female workers as both Cultivators and Agricultural Labourers during 1991-2001 in majority of the blocks, it is primarily a substantial rise in such percentages in 'Other Workers' category, which explains this diversification. In fact, in the category viz., 'Household Industry' there has

been a decline of the relevant percentages in a number of blocks.

- There exist inter-block variations in each region, in particular in Region-III in regard to such diversification. Mention, however must be made of Sagar in this region, where the concentration of female workers has increased in both the categories viz., Cultivators and Agricultural Labourers during 1991-2001.

Some pertinent comments before we pass on to the next sub-section.

(1) The analysis of work participation by gender, carried out so far, is based, however, on accepted definition of 'work', an appraisal of which indicates 'gender-bias', for not including many activities carried out by women,

particularly in rural areas.

(2) This analysis has been undertaken for population as a whole and not for SC/ST population separately owing to lack of data at such level of disaggregation. Also, it has been done for workers of all ages including those, in the age- group viz., 5-14 years (i.e. Child Labourers). For fuller treatment of gender-specific work participation we should consider both these issues .

(3) In view of the fact that female work participation rates are very low, we feel it worthwhile to consider the issue of unemployed female workers and the employment generation schemes to absorb such workers along with their male counterparts (Box 2).

Box 2: Some Employment Generation Schemes

1. Prime Minister Rozgar Yojana (PMRY)

In the district, this scheme has been implemented by the District Industry Centre since it was launched in the Eighth Five Year Plan. Here, actual number of cases for which loans were sanctioned, though exhibits a rise (387 in 2005-06 to 636 in 2007-08), falls much short of the number of target cases (2020 in 2005-06 to 2520 in 2007-08). Number of unemployed women whose loans were sanctioned, rose from 43 in 2005-06 to 100 in 2007-08.

2. Self Employment Scheme for Rural Unemployed (SESRU)

Implemented by the Deputy Director, Employment in the district since its inception in 1985, it provides loans (maximum coverage of Rs.35,000/-) in the major trades viz., Tailoring, Grocery, Push sale of Readymade Garments etc. This scheme displays a very slow progress in the meagre numerical strength of both the proposed cases of loans to be sanctioned (16 in 2006 to 24 in 2007) and the number of women whose loans were sanctioned (3 in 2006 to 4 in 2007)

3. Special Component Plan/ Mahila Samriddhi / Adibasi Mahila Swashaktikaran Yojana (SCP/MSY/AMSY)

All these three schemes are implemented by the District Manager, SC/ST Corporation since inception. SCP and MSY provide loans for major trades viz., Tailoring, Vegetable vending, Muri making, Duckery, Poultry etc. AMSY, on the other hand, provides financial help for the trades like Goatery, Piggery etc. particularly in the blocks having a concentration of tribal population (Gosaba, Canning I, Mathurapur II and Sonarpur). Of these three schemes, SCP performed the best in the last few years with a rise in the number of unemployed women having their loans sanctioned (4181 in 2006-07 to 12,841 in 2007-08). However, in the other two schemes, there has been a fall in the abovementioned number of unemployed women (MSY-157 in 2006-07 to 143 in 2007-08; AMSY- 242 in 2006-07 to 104 in 2007-08).

Sources: (1) PMRY- District Industry Centre,
 (2) SESRU- Deputy Director, Employment,
 (3) SCP/MSY/AMSY - District Manager, SC/ST Corporation

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8.3.2 Gender and Health Care

8.3.2.1 Delivery Reports and Maternal Deaths

Our analysis of maternal and child health care begins with the summary of delivery reports (Table 8.6). We designate those blocks as better performing ones which opt for safe motherhood i.e. where incidence of either institutional deliveries or deliveries by trained birth attendants in case of home deliveries (owing to lack of proper infrastructural set up) is higher.

- Quite expectedly, all blocks except Budge Budge II in Region-I emerge as better performing ones with more than 50 % institutional deliveries, Thakurpukur-Mahestola topping the list (78%).
- In case of distribution of home deliveries in this region, we find that more than 50 % are done by trained birth attendants.

While looking at the relevant percentages of safe deliveries in these blocks, one would say that this is not a very rosy picture and there is enough room for improvement. One also gets a very depressing scenario in this regard by considering the performance of blocks in other two regions, particularly in Region-III. Here, we find that in all blocks percentages of institutional deliveries are quite low.

- In Region-III, Canning-I (29%) records the highest percentage followed by Mathurapur-II (28%) and Joynagar-I (26%) while Canning-II (3%) displays the least value closely followed by Kakdwip (6%), Basanti (7%), and Joynagar-II (9%). However, percentage distribution of home deliveries suggests that barring a few blocks viz., Sagar (31%), Patharpratima (49%), Basanti (51%) Kakdwip (57%), other blocks opt for at least more than 60% home deliveries by trained birth-attendants.
- Blocks in Region-II, follow those in Region-III in terms of performance in this regard. Falta (59%) records highest percentage of institutional deliveries followed by Baruipur (48%) and Diamond Harbour-II (48%). Bhangar-II (11%), on the other hand, displays the least percentage, followed by Bhangar-I (12%) and Diamond Harbour-I (15%). Interestingly, however, in quite a good number of blocks where incidence of home deliveries is higher, at least 60 % of deliveries are performed by trained birth attendants.

We next consider the recorded figures for maternal mortality deaths and find that such values irrespective of causes mentioned, are surprisingly low — either nil or insignificant in almost all the blocks

Table 8.6: Block-wise Percentage Distribution of Deliveries by Place of Birth and then by Attendance at Birth : South 24 Parganas, 2006-2007

Block	% OF HOME DELIVERIES(HD)		% OF INSTITUTIONAL DELIVERIES(ID)			
	% OF HD BY TBA	% OF HD BY UTBA	% OF ID AT BPHC	% OF ID AT PVT INST	% OF ID AT SDH	% OF ID AT RH
THAKURPUKUR - MAHESHTALA	22		78			
	62	38	0	100	0	0
BUDGE BUDGE I	42		58			
	58	42	1	99	0	0
BUDGE BUDGE II	51		49			
	50	50	0	52	0	48
BISHNUPUR I	45		55			
	56	44	0	100	0	0
BISHNUPUR II	30		70			
	76	24	5	83	0	12
SONARPUR	40		60			
	57	43	0	23	0	77
Region I	39		61			
	59	41	1	79	0	20
BARUIPUR	52		48			
	63	37	0	0	100	0
BHANGAR-I	88		12			
	36	64	81	19	0	0
BHANGAR-II	89		11			
	39	61	5	95	0	0
FALTA	41		59			
	39	61	5	95	0	0
DIAMOND HARBOUR I	85		15			
	72	28	26	74	0	0
DIAMOND HARBOUR II	52		48			
	75	25	23	77	0	0
MAGRAHAT I	72		28			
	66	34	12	88	0	0
MAGRAHAT II	70		30			
	58	42	17	83	0	0
KULPI	74		26			
	67	33	41	59	0	0
MANDIRBAZAR	82		18			
	60	40	4	96	0	0
Region II	69		31			
	56	44	14	59	27	0
CANNING I	71		29			
	81	19	0	0	100	0
CANNING II	97		3			
	76	24	100	0	0	0
BASANTI	93		7			
	51	49	8	92	0	0
GOSABA	90		11			
	67	32	46	54	0	0
JOYNAGAR I	74		26			
	69	31	0	1	0	99
JOYNAGAR II	91		9			
	69	31	0	3	0	97
MATHURAPUR I	76		24			
	68	32	0	48	0	52
MATHURAPUR II	72		28			
	63	37	0	30	0	70
KULTALI	93		7			
	72	28	0	0	0	100
PATHARPRATIMA	82		18			
	49	51	85	15	0	0
KAKDWIP	74		6			
	57	43	0	0	100	0
NAMKHANA	81		19			
	68	32	93	7	0	0
SAGAR	81		19			
	31	69	7	0	0	93
Region III	83		17			
	64	36	17	15	30	38

Source: Monthly Report ,Office of the CMOH, South 24 Parganas, 2006-07

Notes: **TBA**- Trained Birth Attendant, **UTBA**- Untrained Birth Attendant, **BPHC**-Block Primary Health Centre, **PHC**-Primary Health Centre
SDH-Sub Divisional Hospital, **RH**-Rural Hospital, **PVT INST**-Private Institution

(Table 8.6A). This fact raises doubts about the quality of such data and makes it impossible for us to analyze the maternal mortality rates. We feel that such important reports need to be properly documented for policy formulation.

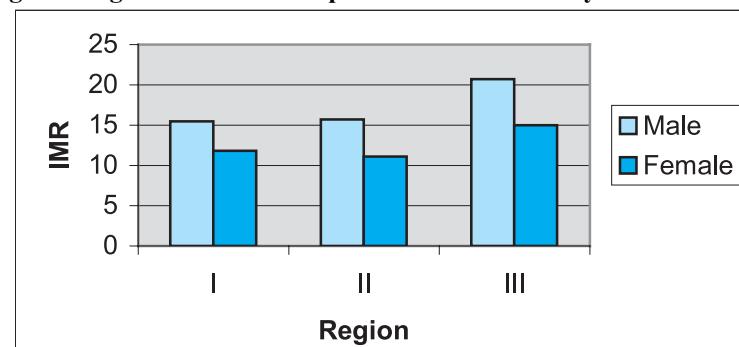
8.3.2.2 Infant Mortality Rates

The infant mortality rates (Table 8.7) considered next, are found to be higher for the male children in each of three regions, with Region-III showing the highest values for both groups of children (Fig 8.3).

Table 8.6A : Block-wise Number of Maternal Deaths : South 24 Parganas, 2006-07

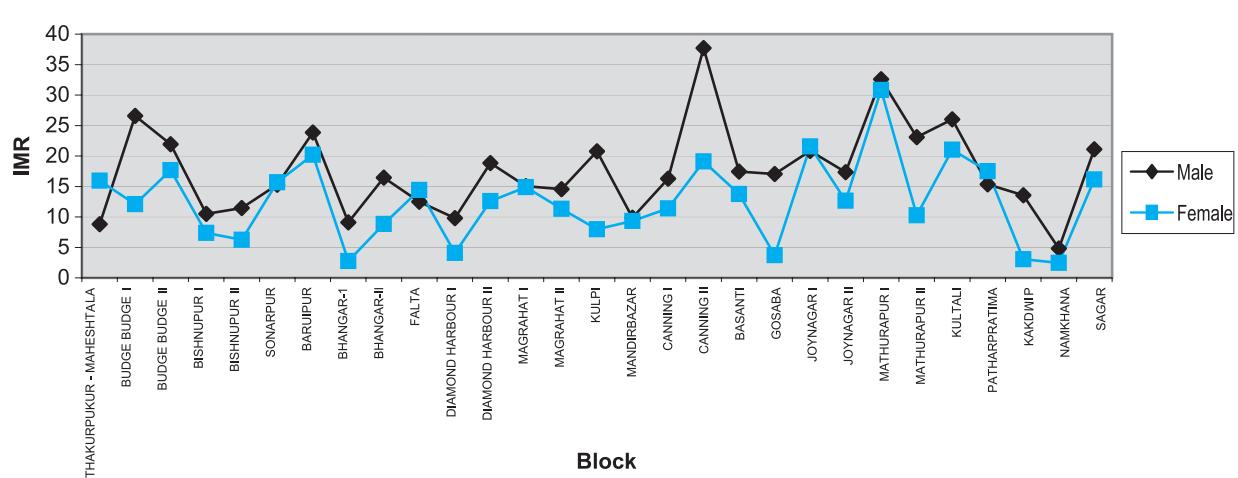
Block	No. of Live Births	No. of Maternal Deaths				Total
		During pregnancy	During Delivery	Within 6 weeks of delivery		
Thakurpukur-Mahestala	2185	0	0	0		0
Budge Budge - I	1820	0	0	2		2
Budge Budge - II	2815	1	1	1		3
Bishnupur - I	3738	3	2	2		7
Bishnupur - II	3434	1	5	0		6
Sonarpur	2278	0	3	0		3
Region I	16270	5	11	5		21
Baruipur	8536	1	7	0		8
Bhangar - I	4713	0	1	0		1
Bhangar - II	4745	0	3	2		5
Falta	4889	1	3	3		7
Diamond Harbour - I	2669	0	2	8		10
Diamond Harbour - II	3462	5	1	2		8
Magrahat - I	5111	0	4	1		5
Magrahat - II	5561	4	5	2		11
Kulpi	5372	3	1	0		4
Mandirbazar	3646	0	5	2		7
Region II	48704	14	32	20		66
Canning - I	6433	1	2	0		3
Canning - II	5267	2	0	2		4
Basanti	6036	1	14	2		17
Gosaba	2972	2	0	0		2
Jognagar - I	5161	2	1	2		5
Jognagar - II	3976	0	0	0		0
Mathurapur - I	3935	3	3	5		11
Mathurapur - II	4503	0	1	1		2
Kultali	4169	1	1	0		2
Patharpratima	5030	1	2	0		3
Kakdwip	4891	5	5	5		15
Namkhana	3188	1	0	1		2
Sagar	3169	0	0	0		0
Region III	58730	19	29	18		66

Source: Same as in Table 8.6

Fig 8.3: Region-wise Gender-specific Infant Mortality Rates : 2006–07**Table 8.7: Block-wise Infant Mortality Rates : South 24 Parganas, 2006-07**

Block	Infant Mortality Rate		
	Total	Male	Female
Thakurpukur-Mahestala	12.05	8.81	15.96
Budge Budge - I	19.49	26.59	12.08
Budge Budge - II	19.94	21.92	17.67
Bishnupur - I	9.02	10.51	7.36
Bishnupur - II	8.89	11.48	6.25
Sonarpur	15.48	15.27	15.70
Region I	13.71	15.47	11.80
Baruipur	22.12	23.85	20.21
Bhangar - I	6.01	9.09	2.75
Bhangar - II	12.77	16.45	8.83
Falta	13.41	12.48	14.40
Diamond Harbour - I	6.95	9.81	4.08
Diamond Harbour - II	15.94	18.84	12.58
Magrahat - I	14.97	15.04	14.90
Magrahat - II	13.05	14.54	11.32
Kulpi	14.50	20.75	7.98
Mandirbazar	9.60	9.86	9.34
Region II	13.53	15.74	11.15
Canning - I	13.91	16.26	11.40
Canning - II	29.03	37.70	19.11
Basanti	15.61	17.45	13.76
Gosaba	11.01	17.05	3.73
Joynagar - I	21.17	20.82	21.56
Joynagar - II	15.11	17.33	12.67
Mathurapur - I	31.75	32.59	30.82
Mathurapur - II	16.89	23.08	10.27
Kultali	23.61	26.01	21.02
Patharpratima	16.35	15.35	17.52
Kakdwip	8.50	13.54	3.07
Namkhana	3.65	4.83	2.46
Sagar	18.73	21.10	16.14
Region III	17.96	20.68	14.99

Source:Monthly Progress Reports, ICDS, South 24 Parganas,2006-07

Fig 8.4: Block-wise Gender-specific Infant Mortality Rates : 2006-07

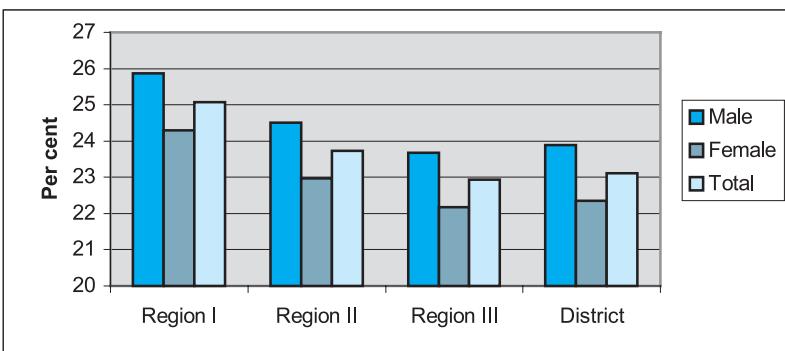
- There however, exists sufficient inter-block variation, for children of both genders and in each region we can identify some blocks where such rates are higher for female children. These are, it may be mentioned, Thakurpukur-Maheshtala in Region-I, Falta in Region-II and Joynagar in Region-III (Fig 8.4).
- Namkhana renders the best performance among all the blocks showing least value for both groups of children (IMR for males-4.83 and

IMR for females-2.46). Mention may also be made of Bhangar-I and Diamond Harbour-I where IMR of both genders are less than 10.

8.3.2.3 Immunisation Programmes

Immunization programmes undertaken by the State Government for the children belonging to different age groups are preventive measures against the childhood diseases. To understand to what extent children of a particular age group are benefited by such programme, we need to know what percentages of child population

(planned) of that age group are fully immunized. The full immunization programme obviously is different for different age groups. For our purpose, we have considered such programme for children below 1 year (Table 8.8)

Fig 8.5: Percentage of fully Immunised children below 1 year

where a child needs immunization doses of BCG, up to DPT III, up to OPV III and of Measles. We notice that (Fig 8.5)

- Region-I performs the best, followed by Region-II. Performance of Region-III, on the other hand, is more or less same as that of the district as a whole.
- Percentages of fully immunized children vary, but are only around 25 %,

Table 8.8 : Block-wise Percentages of Fully Immunised Children below 1 Year : South 24 Parganas, 2006-2007

Block	Fully Immunised Children %		
	Male	Female	Total
Thakurpukur-Mahestala	25.34	24.74	25.04
Budge Budge - I	26.29	23.62	24.95
Budge Budge - II	25.12	25.05	25.08
Bishnupur - I	25.86	23.40	24.63
Bishnupur - II	24.34	23.40	23.87
Sonarpur	28.06	25.68	26.87
Region I	25.87	24.29	25.08
Baruipur	22.52	21.50	22.01
Bhangar - I	24.87	22.78	23.82
Bhangar - II	24.99	24.62	24.81
Falta	26.89	24.38	25.64
Diamond Harbour - I	26.15	24.40	25.28
Diamond Harbour - II	25.29	23.58	24.44
Magrahat - I	24.80	24.01	24.41
Magrahat - II	25.34	23.01	24.18
Kulpi	23.13	21.17	22.15
Mandirbazar	23.31	22.08	22.69
Region II	24.50	22.97	23.74
Canning - I	23.23	21.92	22.58
Canning - II	35.99	32.92	34.46
Basanti	19.42	18.22	18.82
Gosaba	17.24	15.55	16.39
Joynagar - I	20.69	19.59	20.14
Joynagar - II	26.69	25.43	26.06
Mathurapur - I	23.53	21.64	22.59
Mathurapur - II	25.29	24.61	24.95
Kultali	23.02	22.21	22.61
Patharpratima	24.68	22.52	23.60
Kakdwip	23.21	21.76	22.48
Namkhana	26.32	24.54	25.43
Sagar	17.96	17.23	17.60
Region III	23.68	22.18	22.93

Source: Same as in Table 8.6

on an average. This is indeed a matter of concern in regard to health care provision for the infants and needs to be taken cognizance of properly by the authorities.

- In majority of the blocks, such percentages of immunized female children are lower than the same of their male counterparts; the extent of gender

Table 8.9A : Block-wise Percentages of SNP Beneficiary Mothers : South 24 Parganas, 2006-2007

Block	Beneficiary Mothers (%)	
	Pregnant	Nursing
Thakurpukur-Mahestala	92.21	92.35
Budge Budge - I	83.86	84.07
Budge Budge - II	80.46	80.27
Bishnupur - I	65.13	66.21
Bishnupur - II	81.90	80.86
Sonarpur	69.80	67.35
Region I	76.83	77.01
Baruipur	71.37	75.26
Bhangar - I	75.30	77.05
Bhangar - II	76.15	77.03
Falta	74.17	74.16
Diamond Harbour - I	96.11	95.51
Diamond Harbour - II	76.15	77.03
Magrahat - I	81.20	82.34
Magrahat - II	52.17	51.86
Kulpi	69.37	66.30
Mandirbazar	77.84	77.37
Region II	73.32	73.28
Canning - I	66.59	67.68
Canning - II	50.78	48.25
Basanti	52.11	51.86
Gosaba	81.60	81.45
Joynagar - I	68.30	68.42
Joynagar - II	52.13	49.62
Mathurapur - I	49.05	51.72
Mathurapur - II	84.80	86.49
Kultali	48.76	48.79
Patharpratima	60.11	58.72
Kakdwip	87.34	87.71
Namkhana	82.34	87.12
Sagar	60.26	60.25
Region III	64.34	64.11

Source: Same as in Table 8.7

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gap, however, is not large.

- Among the blocks again, for children of both genders, Sagar, Gosaba and Basanti in Region-III display relatively small values (around 18 %) while Canning-II of the same region records the highest value (male children 35.99%, female children 32.92%).

8.3.2.4 Supplementary Nutrition Programme

The district ICDS provides for Supplementary Nutrition Programme (SNP) for pregnant and nursing mothers (in the first 6 months of lactation) as well as for children in the age groups viz., below 1 year, 1-3 years and 3-6 years, through the

Table 8.9B : Block-wise Percentages of SNP Beneficiary Children : South 24 Parganas, 2006-2007

Block	Beneficiary Children (%)							
	Below 1 year		1-3 years		3-6 years		0-6 years	
	Male	Female	Male	Female	Male	Female	Male	Female
Thakurpukur-Mahestala	91.83	91.87	92.02	92.07	92.28	92.24	92.13	92.14
Budge Budge - I	85.70	84.23	82.74	85.18	78.30	76.95	80.85	80.88
Budge Budge - II	80.78	81.99	77.99	78.80	66.56	69.20	73.27	74.82
Bishnupur - I	74.65	78.51	77.73	78.51	70.23	71.75	73.83	75.20
Bishnupur - II	82.90	83.26	84.66	84.51	73.61	75.26	79.23	79.80
Sonarpur	66.47	66.69	68.42	69.06	63.91	63.85	66.02	66.25
Region I	79.49	80.42	80.00	80.63	73.56	74.28	76.86	77.49
Baruipur	69.87	66.92	67.98	71.65	62.44	63.89	65.50	67.32
Bhangar - I	76.22	73.63	78.68	78.06	73.84	73.34	75.85	74.93
Bhangar - II	80.74	80.06	78.79	76.78	66.09	68.88	72.62	73.14
Falta	74.87	74.70	73.72	73.95	59.78	60.54	66.90	67.27
Diamond Harbour - I	93.69	94.32	95.07	94.36	83.09	83.06	88.98	88.59
Diamond Harbour - II	63.07	63.30	62.31	64.02	46.86	48.62	55.38	56.47
Magrahat - I	79.68	81.45	80.60	80.30	63.57	65.25	72.92	73.54
Magrahat - II	55.22	56.56	49.30	50.13	44.69	45.31	47.52	48.26
Kulpi	64.31	69.22	64.07	64.82	54.03	54.78	59.19	60.25
Mandirbazar	79.89	82.14	75.56	77.22	65.53	67.41	71.62	73.32
Region II	73.10	73.48	71.70	72.29	61.31	62.46	66.79	67.53
Canning - I	67.14	67.09	63.59	64.16	53.82	55.81	58.96	60.12
Canning - II	46.17	45.97	47.13	48.66	47.90	48.36	47.44	48.22
Basanti	51.07	50.82	48.31	47.91	46.55	47.28	47.86	47.98
Gosaba	82.40	80.17	78.31	79.36	73.10	75.37	76.20	77.43
Joynagar - I	67.25	66.20	65.76	67.03	51.48	54.41	58.45	60.31
Joynagar - II	48.70	49.97	48.96	49.91	39.71	41.41	43.97	45.32
Mathurapur - I	31.96	32.57	47.71	48.60	47.07	48.45	45.75	46.87
Mathurapur - II	83.95	86.56	88.87	87.11	67.52	72.57	77.52	79.78
Kultali	48.69	48.75	48.53	48.06	40.07	41.22	44.06	44.48
Patharpratima	50.94	55.37	58.44	56.69	54.16	49.36	55.38	52.83
Kakdwip	85.70	87.85	82.16	86.63	77.36	79.45	80.19	83.21
Namkhana	89.47	88.90	90.82	89.84	85.92	87.34	88.30	88.52
Sagar	62.17	63.70	58.44	58.51	58.15	59.38	58.74	59.51
Region III	61.96	62.59	62.28	62.65	55.22	56.43	58.69	59.47

Source:Same as in Table 8.7

functioning Anganwadi Schemes (AWS) for more than 15 days per month in each block. Now, in any block, such schemes providing SNP remain open for either 15-21 days or more than 21 days in a month. For our purpose, we consider the percentages of AWS remaining open for more than 21 days per month to total AWS functioning in that block for the entire period of 12 months in 2006-07. Considering the beneficiary mothers first (Table 8.9A), we find that

- Region-I performs the best followed by Region-II.
- Among all blocks, Diamond Harbour-I in Region-II performs the best (96.11% beneficiary pregnant mothers, 95.51% beneficiary nursing mothers) followed by Thakurpukur-Maheshtala (in Region-I), Kakdwip, Namkhana, Gosaba (all in Region-III).
- Blocks like Joynagar-II, Mathurapur-I, and Kultali in Region-III exhibit least percentage values (less than 50 %) for either beneficiary pregnant mothers or beneficiary nursing mothers or both. Mention may also be made of Bisnupur-I and Sonarpur in Region-I, which show considerably lower percentage values compared to other blocks in this regard.

Considering next the percentages of SNP

beneficiary children for the age group, 0-6 years (Table 8.9B) we find that.

- Region-I performs the best followed by Region-II.
- In each region and in majority blocks of a region the relevant percentages are higher for females¹. In each region there exists sufficient inter-block variation.
- Among the blocks, the better performing ones are Thakurpukur-Maheshtala followed by Diamond Harbour-I, Namkhana, Kakdwip and Budge Budge-I where the relevant percentages of children for both genders are higher than 80%.
- The poorly performing blocks are Canning-II, Basanti, Joynagar-II, Mathurapur-I and Kultali where the said percentages vary around 44 percent to 48%.

The enrolled children for SNP programme are weighed and grouped into the following categories according to their nutritional status viz., (a) normal (b) grade I (c) grade II (d) grade III and grade IV. Children in the last two grades, considered together, are categorized as severely malnourished while those in grade II suffer from moderate malnutrition. Though grade I children weigh less than the normal children, their degree

¹ We have considered such percentages of SNP beneficiary children below 1 year, in 1-3 years and in 3-6 years but report the result only for the first group of children. This feature is noticed in each age group. This explains, to an extent, the lower values of IMR for the girl children.

of malnutrition is not even moderate. For our purpose, we therefore consider two categories viz., normal and grades II-IV (Table 8.10). We find that

Table 8.10: Block-wise Percentages of Normal and Malnourished Children : South 24 Parganas, 2006-2007

Block	Percentage of Normal Boys in Total Boys Weighed	Percentage of Normal Girls in Total Girls Weighed	Percentage of Malnourished Boys in Total Boys Weighed	Percentage of Malnourished Girls in Total Girls Weighed
Thakurpukur-Mahestala	57.09	48.84	9.12	13.13
Budge Budge I	53.82	46.09	9.20	12.77
Budge Budge - II	55.33	50.01	10.48	13.69
Bishnupur - I	55.98	47.82	7.95	11.68
Bishnupur - II	58.99	45.81	10.27	17.46
Sonarpur	58.05	50.27	9.83	13.39
Region I	56.61	48.03	9.48	13.81
Baruipur	54.59	44.30	10.76	15.79
Bhangar - I	56.96	53.93	13.82	15.73
Bhangar - II	56.43	46.56	6.18	11.17
Falta	60.02	51.59	11.02	14.83
Diamond Harbour - I	57.27	51.41	11.69	15.00
Diamond Harbour - II	53.34	40.24	13.00	18.68
Magrahat - I	52.44	42.93	12.17	18.48
Magrahat - II	49.60	43.08	15.44	20.10
Kulpi	51.04	48.17	14.64	16.44
Mandirbazar	42.38	38.13	16.84	19.66
Region II	53.98	46.89	12.31	16.26
Canning - I	47.02	41.16	14.58	18.20
Canning - II	41.40	38.05	20.01	23.20
Basanti	52.57	47.19	13.71	16.65
Gosaba	51.85	47.27	13.53	16.86
Joynagar - I	46.40	37.56	15.52	20.56
Joynagar - II	40.87	36.65	18.55	21.37
Mathurapur - I	47.95	41.91	15.52	19.93
Mathurapur - II	53.22	44.60	12.39	17.36
Kultali	43.58	42.61	14.06	15.42
Patharpratima	49.39	45.18	15.80	18.72
Kakdwip	51.88	45.66	13.11	16.01
Namkhana	56.48	53.26	12.46	15.04
Sagar	46.18	38.59	14.94	20.19
Region III	48.14	43.01	14.97	18.35

- percentages of female children in the ‘Normal’ category to total female children weighed are smaller than the corresponding percentages of male children, while for ‘Grade II-IV’

category the picture is the other way round. Considering children in the ‘Normal’ category first, it is noted that

- percentages of both male and female children in the age-group viz., 0-6

years are highest in Region-I (males- 56.61%, females -48.03) followed by Region-II (males 53.98%, females - 46.89%) Disaggregating the result for age groups viz., below 1 year, 1-3 years and 3-6 years², we find that

- in majority blocks, such percentages of male children are highest in the

age-group viz., below 1 year, fall substantially in the age-group viz., 1-3 years to rise again in 3-6 years. No such definite conclusion however can be drawn for female children who have otherwise highest percentages below 1 year in this regard in majority of the blocks. So far as the percentages of

Table 8.11: Block-wise Percentages of Girl Children to Total Children Weighed by Nutritional Status : South 24 Parganas, 2006-2007

Block	Percentages of Girl Children to Total Children by Nutritional Status			
	Normal	Grade I	Grade II	Grades III & IV
Thakurpukur-Mahestala	45.44	52.20	58.25	63.05
Budge Budge I	45.94	52.31	57.85	74.47
Budge Budge - II	47.01	51.02	55.95	63.56
Bishnupur - I	45.56	52.32	59.02	58.61
Bishnupur - II	43.06	53.85	61.83	69.10
Sonarpur	46.86	52.52	58.01	70.47
Region I	45.57	52.43	58.72	66.22
Baruipur	43.80	52.54	58.28	65.83
Bhangar - I	49.53	51.84	53.91	62.97
Bhangar - II	44.89	53.23	63.79	69.89
Falta	45.22	52.60	55.95	64.28
Diamond Harbour - I	46.65	50.81	55.24	66.38
Diamond Harbour - II	42.59	51.82	58.31	67.76
Magrahat - I	44.86	52.32	59.62	68.70
Magrahat - II	46.21	51.09	56.35	53.26
Kulpi	49.23	51.43	53.52	57.98
Mandirbazar	46.87	50.10	52.93	68.22
Region II	46.28	51.91	56.44	65.13
Canning - I	45.78	50.51	54.61	56.15
Canning - II	47.79	49.07	53.29	60.76
Basanti	46.79	54.22	54.23	57.35
Gosaba	46.42	49.61	54.31	50.94
Joynagar - I	44.27	51.71	56.35	64.60
Joynagar - II	46.30	50.27	52.35	64.49
Mathurapur - I	46.32	50.78	55.47	66.67
Mathurapur - II	44.60	51.55	57.38	57.23
Kultali	49.17	49.49	51.69	68.37
Patharpratima	47.37	50.50	53.39	59.80
Kakdwip	46.38	51.81	54.49	62.42
Namkhana	48.29	51.19	54.52	51.25
Sagar	44.45	50.13	56.32	75.22
Region III	46.60	50.87	54.32	60.53

Source:Same as in Table 8.7

² Though we have considered these results for children in the age groups below 1 year, 1-3 years, 3-6 years, to avoid a cumbersome presentation, we report the results for children in the age group viz., 0-6 years.

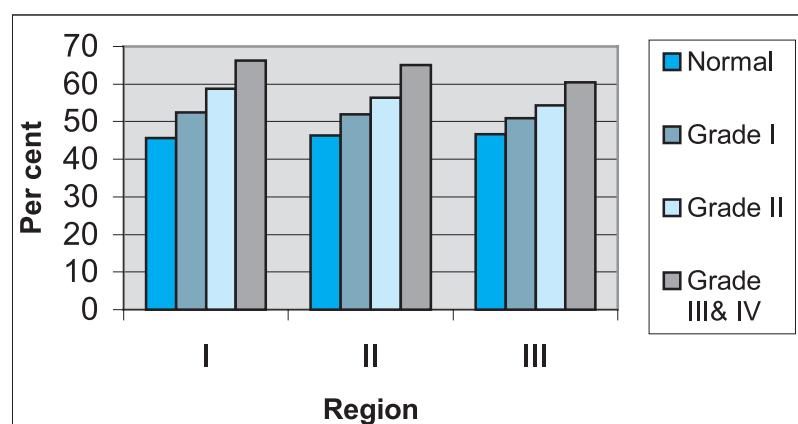
malnourished children are concerned,

- Region-I again emerges as the best performer with least values for children of both genders (males- 9.48%, females -13.81%) followed by Region-II ((males-12.31%, females -16.26%).
- While for female children, these percentages are highest in the age-group viz., 1-3 years in majority blocks, particularly in Region-II, for

male children the corresponding percentages continuously rise in such blocks.

We next consider the percentages of female children weighed to total (female+male) children weighed in the age-group viz., 0-6 years (Table 8.11) to find that such percentages are least in 'Normal' category but rise with increase in the grade of malnutrition. This observation clearly indicates gender disparity when children are evaluated by their nutritional status.

Fig 8.6: Percentages of Girl Children to Total Children (age 0-6 years) by Nutritional Status



At this stage, it may be pointed out that we have calculated the equally distributed equivalent index on health care for children below 1 year using the following indicators viz., (i) male and female infant survival rates (ii) percentages of fully immunized male and female children and (iii) percentages of male and female children normal grade in nutritional status. We have also computed

the dimension index in these indicators as well (Table 8.12). Interestingly however, this result does not indicate gender inequality measured as the difference of these two indices in relative terms. This is an important result, no doubt, but calls for further research to understand the gender disparity in health-care provision among children above 1 year.

Table 8.12: Block-wise Dimension and Equally Distributed equivalent Indices on Infant Health Care : South 24 Parganas, 2006-2007

Block	Dimension Index on Nutritional Status			Dimension Index on Infant Survival			Dimension Index on Full Immunisation			Dimension Index on Health care			Population per cent		EEDI on Infant Health care
	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female	
Thakurpukur-Maheslala	0.674	0.568	0.623	0.991	0.984	0.988	0.253	0.247	0.250	0.639	0.600	0.620	0.506	0.494	0.619
Budge Budge - I	0.624	0.564	0.595	0.973	0.988	0.981	0.263	0.236	0.250	0.620	0.596	0.608	0.525	0.475	0.608
Budge Budge - II	0.607	0.575	0.591	0.978	0.982	0.980	0.251	0.250	0.251	0.612	0.603	0.607	0.514	0.486	0.607
Bishnupur - I	0.652	0.570	0.611	0.989	0.993	0.991	0.259	0.234	0.246	0.633	0.599	0.616	0.516	0.484	0.616
Bishnupur - II	0.704	0.590	0.648	0.989	0.994	0.991	0.243	0.234	0.239	0.645	0.606	0.626	0.513	0.487	0.625
Sonampur	0.652	0.588	0.620	0.985	0.984	0.985	0.281	0.257	0.269	0.639	0.610	0.625	0.509	0.492	0.624
Barnipur	0.664	0.541	0.607	0.976	0.980	0.978	0.225	0.215	0.220	0.622	0.579	0.602	0.515	0.485	0.600
Bhangar - I	0.579	0.547	0.564	0.991	0.997	0.994	0.249	0.228	0.238	0.606	0.591	0.599	0.511	0.489	0.599
Bhangar - II	0.690	0.607	0.649	0.984	0.991	0.987	0.250	0.246	0.248	0.641	0.615	0.628	0.521	0.479	0.628
Falta	0.687	0.619	0.653	0.988	0.986	0.987	0.269	0.244	0.256	0.648	0.616	0.632	0.513	0.487	0.632
Diamond Harbour - I	0.653	0.605	0.630	0.990	0.996	0.993	0.242	0.244	0.253	0.635	0.615	0.625	0.518	0.482	0.625
Diamond Harbour - II	0.674	0.567	0.623	0.981	0.987	0.984	0.253	0.236	0.244	0.636	0.597	0.617	0.511	0.489	0.616
Magrahat - I	0.653	0.571	0.613	0.985	0.985	0.985	0.248	0.240	0.244	0.629	0.599	0.614	0.515	0.485	0.614
Magrahat - II	0.566	0.501	0.533	0.985	0.989	0.987	0.253	0.230	0.242	0.602	0.573	0.587	0.515	0.485	0.588
Kupi	0.531	0.503	0.516	0.979	0.992	0.985	0.231	0.212	0.221	0.581	0.569	0.574	0.514	0.486	0.575
Mandirbazar	0.460	0.418	0.439	0.990	0.991	0.990	0.233	0.221	0.227	0.561	0.543	0.552	0.517	0.483	0.552
Canning - I	0.569	0.487	0.530	0.984	0.989	0.986	0.232	0.219	0.226	0.595	0.565	0.581	0.510	0.490	0.580
Canning - II	0.489	0.468	0.479	0.962	0.981	0.971	0.360	0.329	0.345	0.604	0.593	0.598	0.514	0.486	0.598
Basanti	0.544	0.470	0.507	0.983	0.986	0.984	0.194	0.182	0.188	0.573	0.546	0.560	0.512	0.488	0.560
Gosaba	0.576	0.537	0.557	0.983	0.996	0.989	0.172	0.156	0.164	0.577	0.563	0.570	0.509	0.491	0.570
Jonagar - I	0.549	0.454	0.502	0.979	0.978	0.979	0.207	0.196	0.201	0.578	0.543	0.561	0.517	0.483	0.561
Jonagar - II	0.494	0.453	0.474	0.983	0.987	0.985	0.267	0.254	0.261	0.581	0.565	0.573	0.519	0.481	0.573
Mathurapur - I	0.550	0.474	0.510	0.967	0.969	0.968	0.235	0.216	0.226	0.584	0.553	0.568	0.515	0.485	0.569
Mathurapur - II	0.644	0.540	0.594	0.977	0.990	0.983	0.253	0.246	0.249	0.625	0.592	0.609	0.519	0.481	0.609
Kultali	0.451	0.461	0.456	0.974	0.979	0.976	0.230	0.222	0.226	0.552	0.554	0.553	0.520	0.480	0.553
Patharpratima	0.546	0.512	0.529	0.985	0.982	0.984	0.247	0.225	0.236	0.592	0.573	0.583	0.512	0.488	0.583
Kakdwip	0.611	0.554	0.583	0.986	0.997	0.992	0.232	0.218	0.225	0.610	0.589	0.600	0.513	0.487	0.600
Namkhana	0.623	0.585	0.604	0.995	0.998	0.996	0.263	0.245	0.254	0.627	0.609	0.618	0.512	0.488	0.618
Sagar	0.580	0.477	0.529	0.979	0.984	0.981	0.180	0.172	0.176	0.579	0.544	0.562	0.515	0.485	0.562

Sources:

- (1) Same as in Table 8.6
- (2) Same as in Table 8.7

8.3.3 Gender and Educational Attainment

We first consider the district scenario (Table 8.13) and note that gender gap in literacy rates, though considerably high, particularly in the rural sector of the district —declines during 1991-2001.

The literacy rates in blocks in both 1991 and 2001— for population as a whole and males and females separately are considered next (Table 8.14). Our main task is to assess gender gap in literacy rates, measured by female to male ratio of such rates. Considering the region-wise performance in this regard we observe that

- Region-I performs the best followed by Region-II in each of these cases viz., literacy rates of persons, male and female and gender gap in such rates in 1991 and 2001 (Fig 8.7). Intertemporal variations in each case

Table 8.13: Literacy Rates by Gender : Rural and Urban South 24 Parganas, 1991–2001

Sectors	Census Year	Literacy Rate			
		Person	Male	Female	Female/Male(%)
Total	1991	55.1	68.45	40.57	59.27
	2001	69.45	79.19	59.01	74.51
Rural	1991	52.3	66.6	36.89	55.39
	2001	67.4	77.94	56.15	72.04
Urban	1991	72.02	79.26	63.64	80.29
	2001	79.84	85.41	73.7	86.29

Source:Same as in Table 8.1

for other two regions too indicate an improvement. Inter-block variation is not so much pronounced in Region-I compared to such in other two regions, in particular Region-III.

- One important point to note is that during 1991-2001, female literacy rates rise at a faster rate than male literacy rates—a fact which causes the gender gap in literacy rates to decline in this period . While this feature is noticed in all three regions, it is the blocks in Region-III, the poor performers in 1991, who perform the best in 2001.

Fig 8.7: Female to Male Ratio of Literacy Rates (%)

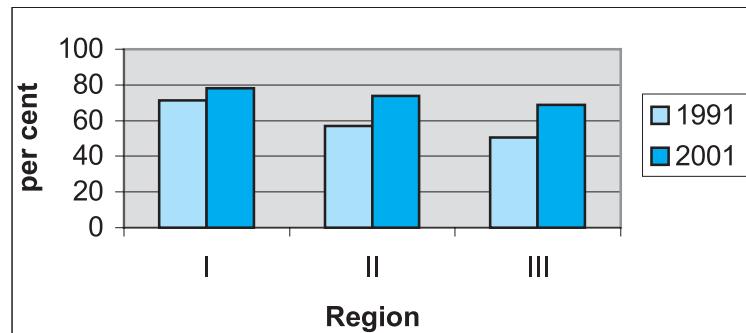


Table 8.14 : Block-wise Literacy Rates by Gender : South 24 Parganas, 1991-2001

Block	Person		Female		Male		Female/ Male (%)	
	1991	2001	1991	2001	1991	2001	1991	2001
Thakurpukur-Mahestala	68.57	74.78	59.68	67.14	76.32	81.95	78.19	81.93
Budge Budge - I	60.85	73.98	50.54	65.82	70.14	81.36	72.05	80.90
Budge Budge - II	58.74	72.46	46.92	64.01	69.21	80.24	67.80	79.77
Bishnupur - I	55.31	71.93	39.94	60.61	69.48	82.47	57.49	73.49
Bishnupur - II	59.57	73.42	46.84	64.54	71.32	81.77	65.68	78.93
Sonarpur	68.99	70.74	58.47	61.07	78.45	79.87	74.53	76.46
Region I	63.79	72.73	52.59	63.52	73.82	81.30	71.24	78.13
Baruipur	54.95	68.86	40.78	59.17	67.97	77.88	60.01	75.97
Bhangar - I	43.90	60.55	29.89	51.05	56.97	69.57	52.47	73.37
Bhangar - II	44.82	65.65	32.44	57.78	56.27	72.89	57.65	79.26
Falta	59.68	71.89	45.27	61.86	73.03	81.25	61.99	76.14
Diamond Harbour - I	56.48	67.13	41.71	56.93	70.11	76.53	59.49	74.39
Diamond Harbour - II	58.59	70.75	45.13	61.50	71.20	79.53	63.39	77.32
Magrahat - I	52.86	67.34	38.98	56.54	65.63	77.39	59.40	73.06
Magrahat - II	50.99	67.24	34.52	55.85	66.17	77.89	52.17	71.71
Kulpi	52.01	67.74	35.04	55.59	67.91	79.15	51.59	70.23
Mandirbazar	51.50	65.99	33.60	53.29	68.10	77.83	49.34	68.47
Region II	52.71	67.46	37.82	57.08	66.51	77.15	56.86	73.99
Canning - I	46.45	60.49	30.19	47.79	61.76	72.56	48.88	65.86
Canning - II	33.32	52.36	17.60	40.36	48.25	63.68	36.48	63.37
Basanti	39.88	56.98	24.13	44.33	54.63	68.95	44.17	64.29
Gosaba	53.61	68.93	38.47	56.60	67.69	80.74	56.84	70.10
Joynagar - I	51.26	65.77	34.35	53.57	66.78	77.07	51.44	69.51
Joynagar - II	41.81	59.23	22.80	45.35	59.44	72.08	38.36	62.93
Mathurapur - I	51.79	65.41	33.93	52.53	68.42	77.38	49.59	67.89
Mathurapur - II	52.87	68.24	34.67	54.89	69.44	80.56	49.92	68.14
Kultali	41.16	60.09	22.01	44.58	58.93	74.45	37.35	59.88
Patharpratima	54.15	72.77	37.80	60.64	69.67	84.30	54.25	71.94
Kakdwip	52.14	70.53	36.14	59.05	67.22	81.39	53.76	72.56
Namkhana	62.24	78.40	46.30	67.63	77.37	88.64	59.84	76.30
Sagar	65.05	77.87	49.61	67.12	79.62	87.96	62.30	76.31
Region III	49.56	65.82	32.89	53.33	65.15	77.56	50.48	68.77
District	55.10	69.45	40.57	59.01	68.45	79.19	59.27	74.51

Source: Same as in Table 8.1

We next calculate the equally distributed equivalent indices on literacy for the blocks in 1991 and 2001 (Tables 8.15A and 8.15B).

- Interestingly, majority of the blocks belonging both to the group of better performing ones and the group of poorly

performing ones in 1991, though interchange their position within their respective group, remain in the same group in 2001 as well. While Thakurpukur-Maheshtala, Budge Budge-I, Sagar, Namkhana and Bishnupur-I

figure in the better performing group, Canning-II, Joynagar-II, Basanti and Bhangar-I remain in the poorly performing group.

- While in 1991, Thakurpukur-Maheshtala tops the list jointly with Sonarpur; in

2001, it is Namkhana which emerges as the best performer. Sonarpur performs moderately in 2001 and remains no longer in the group of top ten better performing blocks.

Table 8.15A : Block-wise Dimension and Equally Distributed Equivalent Indices on Literacy : South 24 Parganas, 1991

Block	Population (per cent)		Literacy Rate (%)			Dimension Index on Literacy			E D E I on Literacy	Rank
	Male	Female	Person	Male	Female	Person	Male	Female		
Thakurpukur-Mahestala	53.0	47.0	68.57	76.32	59.68	0.686	0.763	0.597	0.675	1
Budge Budge - I	52.2	47.8	60.85	70.14	50.54	0.609	0.701	0.505	0.592	4
Budge Budge - II	52.7	47.3	58.74	69.21	46.92	0.587	0.692	0.469	0.565	7
Bishnupur - I	51.9	48.1	55.31	69.48	39.94	0.553	0.695	0.399	0.512	12
Bishnupur - II	51.7	48.3	59.57	71.32	46.84	0.596	0.713	0.468	0.569	6
Sonarpur	52.4	47.6	68.99	78.45	58.47	0.690	0.785	0.585	0.675	2
Baruipur	51.9	48.1	54.95	67.97	40.78	0.549	0.680	0.408	0.515	11
Bhangar - I	51.2	48.8	43.90	56.97	29.89	0.439	0.570	0.299	0.395	25
Bhangar - II	51.4	48.6	44.82	56.27	32.44	0.448	0.563	0.324	0.415	23
Falta	51.9	48.1	59.68	73.03	45.27	0.597	0.730	0.453	0.564	8
Diamond Harbour - I	51.8	48.2	56.48	70.11	41.71	0.565	0.701	0.417	0.528	10
Diamond Harbour - II	51.5	48.5	58.59	71.20	45.13	0.586	0.712	0.451	0.556	9
Magrahat - I	51.8	48.2	52.86	65.63	38.98	0.529	0.656	0.390	0.494	15
Magrahat - II	51.8	48.2	50.99	66.17	34.52	0.510	0.662	0.345	0.459	20
Kulpi	51.5	48.5	52.01	67.91	35.04	0.520	0.679	0.350	0.467	18
Mandirbazar	51.7	48.3	51.50	68.10	33.60	0.515	0.681	0.336	0.455	22
Canning - I	51.3	48.7	46.45	61.76	30.19	0.464	0.618	0.302	0.409	24
Canning - II	51.0	49.0	33.32	48.25	17.60	0.333	0.483	0.176	0.260	29
Basanti	51.3	48.7	39.88	54.63	24.13	0.399	0.546	0.241	0.338	26
Gosaba	51.5	48.5	53.61	67.69	38.47	0.536	0.677	0.385	0.495	13
Joynagar - I	51.8	48.2	51.26	66.78	34.35	0.513	0.668	0.344	0.459	19
Joynagar - II	51.5	48.5	41.81	59.44	22.80	0.418	0.594	0.228	0.334	27
Mathurapur - I	51.6	48.4	51.79	68.42	33.93	0.518	0.684	0.339	0.459	21
Mathurapur - II	52.1	47.9	52.87	69.44	34.67	0.529	0.694	0.347	0.469	17
Kultali	51.5	48.5	41.16	58.93	22.01	0.412	0.589	0.220	0.325	28
Patharpratima	51.3	48.7	54.15	69.67	37.80	0.541	0.697	0.378	0.494	14
Kakdwip	51.3	48.7	52.14	67.22	36.14	0.521	0.672	0.361	0.474	16
Namkhana	51.4	48.6	62.24	77.37	46.30	0.622	0.774	0.463	0.583	5
Sagar	51.4	48.6	65.05	79.62	49.61	0.651	0.796	0.496	0.615	3

Source: Same as in Table 8.1

Table 8.15B: Block-wise Dimension and Equally Distributed Equivalent Indices on Literacy : South 24 Parganas, 2001

Block	Population (per cent)		Literacy Rate (%)			Dimension Index on Literacy			E D E I on Literacy	Rank
	Male	Female	Person	Male	Female	Person	Male	Female		
Thakurpukur-Mahestala	51.5	48.5	74.78	82.62	67.64	0.748	0.826	0.676	0.746	3
Budge Budge - I	52.4	47.6	73.98	82.05	66.28	0.740	0.821	0.663	0.737	4
Budge Budge - II	51.9	48.1	72.46	80.98	64.94	0.725	0.810	0.649	0.724	6
Bishnupur - I	51.7	48.3	71.93	82.71	60.72	0.719	0.827	0.607	0.704	9
Bishnupur - II	51.4	48.6	73.42	82.62	65.39	0.734	0.826	0.654	0.732	5
Sonarpur	51.4	48.6	70.74	80.47	61.4	0.707	0.805	0.614	0.699	11
Baruipur	51.8	48.2	68.86	78.79	60.09	0.689	0.788	0.601	0.685	13
Bhangar - I	51.7	48.3	60.55	70.59	52.04	0.606	0.706	0.520	0.601	25
Bhangar - II	51.2	48.8	65.65	73.88	58.57	0.656	0.739	0.586	0.656	20
Falta	51.6	48.4	71.89	81.98	62.57	0.719	0.820	0.626	0.713	8
Diamond Harbour - I	51.4	48.6	67.13	77.17	57.69	0.671	0.772	0.577	0.664	17
Diamond Harbour - II	51.7	48.3	70.75	79.91	62.04	0.707	0.799	0.620	0.701	10
Magrahat - I	51.6	48.4	67.34	78.49	57.5	0.673	0.785	0.575	0.667	15
Magrahat - II	51.3	48.7	67.24	78.38	56.32	0.672	0.784	0.563	0.659	19
Kulpi	51.1	48.9	67.74	79.85	56.16	0.677	0.799	0.562	0.663	18
Mandirbazar	51.2	48.8	65.99	78.27	53.68	0.660	0.783	0.537	0.641	23
Canning - I	51.9	48.1	60.49	73.24	48.53	0.605	0.732	0.485	0.586	26
Canning - II	51.5	48.5	52.36	64.43	40.35	0.524	0.644	0.404	0.499	29
Basanti	51.6	48.4	56.98	70.12	45.48	0.570	0.701	0.455	0.555	28
Gosaba	52.0	48.0	68.93	81.39	57.43	0.689	0.814	0.574	0.676	14
Joynagar - I	51.1	48.9	65.77	78.01	54.4	0.658	0.780	0.544	0.645	22
Joynagar - II	51.7	48.3	59.23	72.99	46.21	0.592	0.730	0.462	0.570	27
Mathurapur - I	51.2	48.8	65.41	77.88	53.19	0.654	0.779	0.532	0.636	24
Mathurapur - II	51.8	48.2	68.24	81.03	55.85	0.682	0.810	0.559	0.666	16
Kultali	51.8	48.2	60.09	74.9	56.16	0.601	0.749	0.562	0.645	21
Patharpratima	51.5	48.5	72.77	84.99	61.31	0.728	0.850	0.613	0.715	7
Kakdwip	51.2	48.8	70.53	82.22	59.86	0.705	0.822	0.599	0.696	12
Namkhana	51.2	48.8	78.40	89.55	68.69	0.784	0.896	0.687	0.780	1
Sagar	51.3	48.7	77.87	88.87	68.31	0.779	0.889	0.683	0.775	2

Source: Same as in Table 8.1

We next consider the gender – gap in enrollment and drop-out of children in the age group viz., 5-14 years for the blocks in 2001 and 2007. For drop-out children

Fig 8.8: Female to Male Enrolment Ratio (5-14 years)

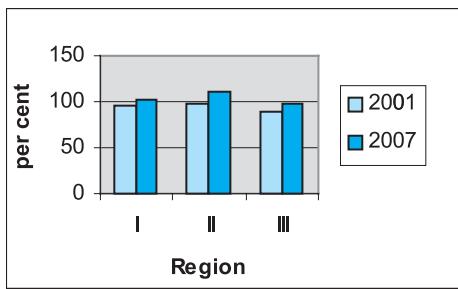
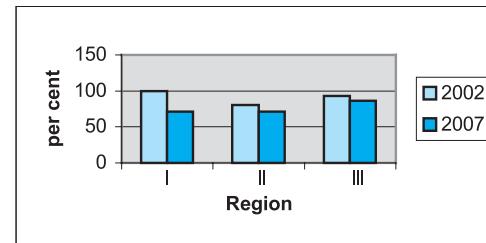


Fig 8.9: Female to Male Drop-out ratio (5-14 years)



we do not have data for 2001 and base our analysis on 2002(Tables 8.16A and 8.16B).

- Region-II performs the best in respect of both indicators where female to male ratio for enrollment is highest

and the same for drop-out are the least (Figs. 8.8 and 8.9).

- Interestingly, figures of the relevant ratios for enrollment of children in 5-14 years exceed 100 in a number of blocks in 2007, implying thereby that the absolute number of female enrollment has been higher than that of their male counterparts.(Table 8.16A). Similar reasoning can be

applied to understand such figures (greater than 100) of dropout ratios in a few blocks in 2002 (Table 8.16B). Inter-temporal variation suggests an improvement in enrollment ratios and a decline in drop-out ratios in majority of the blocks, implying thereby an improvement of the attendance of female children relative to male children in the above age group.

Table 8.16A : Block-wise Female to Male Enrolment ratio of Children by Age-groups : South 24 Parganas, 2001-2007

Block	Female to Male Enrollment Ratio by Age-group(years)					
	5-8		9-14		5-14	
	2001	2007	2001	2007	2001	2007
Thakurpukur-Mahestala	105.64	95.57	73.57	101.76	89.20	98.84
Budge Budge - I	99.61	97.77	95.49	116.37	97.45	107.45
Budge Budge - II	101.95	101.64	95.90	95.60	98.99	98.79
Bishnupur - I	100.01	101.05	72.67	99.35	89.88	100.33
Bishnupur - II	98.26	101.49	120.27	126.47	107.85	113.34
Sonarpur	97.22	99.62	70.88	83.41	85.34	92.45
Region I	100.09	100.12	89.98	104.07	95.52	101.97
Baruipur	97.32	97.23	85.72	105.80	92.84	100.61
Bhangar - I	97.48	104.45	88.31	124.83	94.63	112.23
Bhangar - II	101.17	107.13	137.59	173.24	111.03	130.58
Falta	96.33	104.41	104.10	119.13	99.43	110.82
Diamond Harbour - I	99.59	108.85	94.31	138.11	97.93	120.58
Diamond Harbour - II	101.80	99.00	95.25	107.03	99.09	102.65
Magrahat - I	104.40	111.69	104.57	117.99	104.46	114.16
Magrahat - II	101.80	105.64	87.72	117.69	96.36	110.54
Kulpi	97.12	104.09	76.56	104.00	90.03	104.06
Mandirbazar	98.95	106.18	102.83	132.26	100.33	115.86
Region II	99.49	104.40	95.64	120.55	98.11	110.81
Canning - I	93.50	98.19	67.59	93.67	84.38	96.43
Canning - II	92.23	101.94	80.26	116.03	90.16	104.94
Basanti	90.70	97.39	76.54	96.06	85.91	96.88
Gosaba	95.16	93.61	79.48	94.07	87.57	93.81
Joynagar - I	93.04	101.43	88.86	102.07	91.59	101.67
Joynagar - II	92.56	101.94	80.57	104.27	88.82	102.67
Mathurapur - I	95.99	105.10	81.40	114.68	91.39	108.73
Mathurapur - II	92.06	94.13	78.76	102.21	86.77	97.66
Kultali	92.02	95.80	72.28	96.81	85.38	96.19
Patharpratima	94.93	95.05	79.99	101.76	88.94	98.35
Kakdwip	99.84	99.72	82.22	95.85	92.24	97.81
Namkhana	96.97	98.36	74.19	95.56	86.69	96.91
Sagar	98.05	96.93	84.53	95.74	93.39	96.38
Region III	94.35	98.35	79.21	99.35	88.83	98.76

Source: District Information on School Education, South 24 Parganas, 2001 and 2007

Table 8.16B : Block-wise Female to Male Ratios of Drop-out Children by Age-groups : South 24 Parganas, 2002-2007

Block	Female to Male Ratio of Drop-out by Age-group (years)					
	5-8		9-14		5-14	
	2002	2007	2002	2007	2002	2007
Thakurpukur-Mahestala	97.35	58.67	86.40	48.28	88.58	52.36
Budge- Budge - I	137.84	46.15	121.26	64.34	128.99	62.68
Budge- Budge - II	73.24	60.76	79.89	54.30	77.96	55.43
Bishnupur I	112.93	109.92	99.55	80.60	104.12	86.40
Bishnupur II	99.58	78.48	100.98	68.99	100.28	71.26
Sonarpur	N.A	70.27	N.A	93.97	N.A	88.24
Region I	101.57	79.51	97.64	69.33	99.34	71.55
Baruipur	93.44	112.57	85.15	89.84	87.93	94.23
Bhangar - I	N.A	63.71	N.A	65.03	N.A	64.57
Bhangar - II	70.66	65.17	50.80	38.24	53.73	41.21
Falta	95.53	89.00	108.15	83.44	105.21	83.81
Diamond Harbour - I	92.18	100.88	76.32	100.56	80.40	100.64
Diamond Harbour - II	106.70	74.75	109.57	63.36	108.18	65.91
Mograhat - I	N.A	77.24	N.A	58.64	N.A	63.09
Mograhat - II	72.38	89.20	107.65	88.49	91.19	88.68
Kulpi	120.65	70.29	95.14	70.28	102.06	70.28
Mandirbazar	63.64	85.01	95.65	76.72	87.91	79.43
Region II	90.53	81.11	77.18	68.39	80.80	71.05
Canning - I	91.80	87.01	68.66	95.98	79.69	93.71
Canning - II	96.64	75.81	97.34	87.80	97.14	83.59
Basanti	102.61	88.93	96.30	100.79	98.85	97.74
Gosaba	101.60	92.88	93.28	87.06	95.58	89.05
Joynagar - I	104.24	100.77	98.44	86.65	100.44	91.02
Joynagar - II	115.63	84.56	113.59	81.05	114.29	82.16
Mathurapur - I	82.35	95.41	69.11	68.10	72.15	75.61
Mathurapur - II	97.40	94.00	102.55	85.59	100.47	87.71
Kultali	92.63	93.99	62.76	87.97	66.67	89.87
Patharpratima	94.12	109.41	92.46	80.51	92.90	83.78
Kakdwip	108.82	82.38	102.94	83.93	105.88	83.51
Namkhana	79.31	100.00	94.44	65.14	88.51	65.54
Sagar	118.18	91.30	100.00	66.73	109.84	71.10
Region III	98.19	91.75	91.11	84.06	93.34	86.19

Source:- District Information on School Education, South 24 Parganas, 2002 and 2007

While the functioning of Sarva Shiksha Abhiyan (SSA) and its various components like Kasturba Gandhi Balika Vidyalaya (KGBV) scheme, National Programme for Education of Girls at the Elementary Level (NPEGEL) can account for this impressive result to a great extent, the district ICDS too assumes very important role in

providing pre-school education and SNP to the children in the age group viz., 3-6 years. And it is sincerely felt that provision of SNP to children above 6 years, particularly to girl children in their adolescent period can yield further better result in this regard.

8.4 Women and Vulnerability

While vulnerability in different spheres adversely affects QOL of human beings in general, trafficking, domestic violence and various other crimes against women make their lives more vulnerable than their male counterparts. Crimes against women, in particular gender-based crimes, are in general, rooted in ideological differences between men and women. These are usually related to the concentration of power in men's hands and a belief that women are men's possessions to be treated as they wish. Despite the existence of much special

legislation for providing protection to women, the proportion of crime against women in the country has not deteriorated over time.

8.4.1 Crimes against Women: An Overview

The categories of Crimes against women (CAW) under the Indian Penal Code are as follows:-

1. Rape (Sec. 376 IPC)
2. Kidnapping and Abduction for different purposes (Sec. 363-373 IPC)

Table 8.17: District-wise incidence of crimes against women (CAW) in West Bengal, 2000 and 2003

District	Total no of IPC CAW cases	
	2000	2003
Bankura	194(2.36)	264(2.76)
Birbhum	353(4.31)	367(3.84)
Bardhaman	727(8.87)	739(7.73)
Coochbehar	336(4.10)	369(3.86)
Darjeeling	133(1.62)	146(1.52)
Hoogly	583(7.12)	567(5.93)
Howrah	267(3.26)	237(2.48)
Jalpaiguri	297(3.62)	376(3.93)
Paschim Medinipur	904(11.04)	530(5.54)
Purba Medinipur	----	402(4.20)
Murshidabad	440(5.37)	814(8.52)
Malda	213(2.60)	275(2.87)
Nadia	595(7.26)	600(6.28)
24 Parganas North	843(11.29)	1128(11.81)
24 Parganas South	975(11.90)	1214(12.71)
Purulia	259(3.16)	187(1.95)
Uttar Dinajpur	225(2.74)	170(1.77)
Dakshin Dinajpur	242(2.95)	227(2.37)
Kolkata	602(7.35)	679(7.10)
Total (excluding cases Registered by Govt. Railway Police)	8188(100.00)	9551(100.00)

Source: - A situational analysis of violence against women in West Bengal vis-à-vis India, Women Studies Research Centre, Calcutta University (2007)

Note: - Figures in parentheses are percentages to total for West Bengal

3. Homicide for Dowry, Dowry Deaths or their attempts (Sec. 302/304B IPC)
4. Torture/Cruelty - both physical and mental - (Sec.498A IPC)
5. Molestation (Sec. 354 IPC)
6. Sexual Harassment/Eve-Teasing (Sec. 509 or 294 IPC)
7. Importation of girls up to 21 years of age (Sec. 366B IPC)

This section highlights some major forms of crimes against women prevalent in the district of South 24 Parganas.

The total no of IPC CAW cases (Table 8.17) in the district over the years 2000

and 2003 show a distinctly rising trend in crimes against women with South 24 Parganas leading among the districts both in terms of absolute numbers and in relative terms.

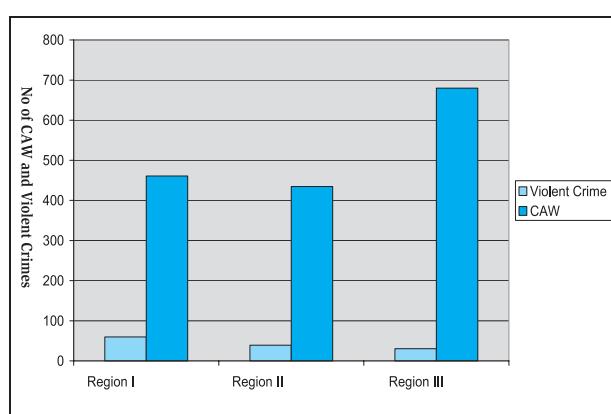
Within South 24 Parganas there is tremendous interregional variation in overall crime rates as well as in CAW. Taking the average values of the total incidence of crime over three years from 2005 to 2007 it is seen that on an average no of violent crimes decrease as one moves away from Kolkata towards Sunderbans but the incidence of CAW is particularly high in the Sunderbans.

Table 8.18 ; Average Incidence of Crime in South 24 Paragans : 2005-07

Region	Violent Crimes	CAW
I	59.78	460.67
II	39.17	434.67
III	30.17	680.00

Source: - A situational analysis of violence against women in West Bengal vis-à-vis India, Women Studies Research Centre, Calcutta University (2007)

Figure 8.10 : Average incidence of Violent Crime & CAW in South 24 Parganas : 2005-07



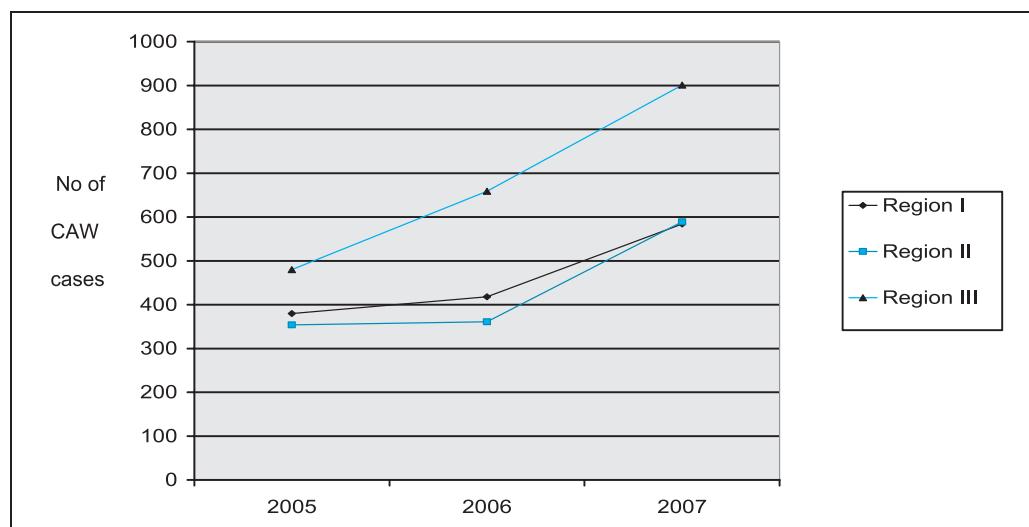
The higher incidence of crimes against women in the Sunderbans area has been consistent over the years as depicted in the table below where a temporal dimension

is associated with block level CAW occurrence. The fact gets portrayed in the Table 8.19 and figure 8.11 below.

Table 8.19 : Block-wise Distribution of IPC – CAW : South 24 parganas, 2005-2007

	Block	NO. OF CRIME AGAINST WOMAN (CAW)		
		2005	2006	2007
Region I:	THAKURPUKUR- MAHESHTALA	134	142	184
	BUDGE BUDGE I	33	35	48
	BUDGE BUDGE II	24	47	42
	BISHNUPUR I-II	80	69	91
	SONARPUR	109	125	219
Region II:	BARUIPUR	31	38	53
	BHANGAR I-II	87	100	190
	FALTA	31	29	55
	DIAMOND HARBOUR I-II	38	36	81
	MAGRAHAT I	38	36	81
	MAGRAHAT II	52	52	46
	KULPI	48	42	59
Region III:	MANDIRBAZAR	29	28	24
	CANNING I-II	98	170	215
	BASANTI	22	52	66
	GOSABA	17	14	21
	JOYNAGAR I-II	60	82	118
	MATHURAPUR I	28	30	44
	MATHURAPUR II	20	43	34
	KULTALI	79	30	105
	PATHARPRATIMA	35	46	88
	KAKDWIP	51	90	78
	NAMKHANA	20	49	46
	SAGAR	50	53	86

Source: - A situational analysis of violence against women in West Bengal vis-à-vis India-Calcutta University (2007)

Figure 8.11 : Trends in incidence in number of CAW Cases in South 24 Parganas, 2005-2007

Several NGO-s are involved in studies and implementation programmes in the domain of CAW including trafficking. A few

relevant case studies are included for information and deeper understanding.

Case study 1

HARIPUR AMRA SABAI UNNAYAN SAMITI (HASUS), has been working on the establishment of social and economic rights of women for a couple of years in South 24 Parganas. In the experience of the organisation, among women who have migrated to the city in search of work, every day hundreds are found missing

The facts and figures gathered by the organisation shows that from villages of Mandirbazar, Mathurapur I and II, Magrahat I and II, Kakdwip and Kulpi Blocks, many girls below 18 years have been trafficked to Kolkata, Delhi, and Mumbai on the pretext of jobs. The statistics shows, surprisingly, that the girls who have been trafficked for prostitution have gone with strangers. Their parents are not very sure whether they are actually working as domestic help or being used for some other purpose. Girls between 13 to 14 years of age do not seem to communicate with their parents or guardians after they have migrated to the city in search of work but girls who got married and have left their children at home keep contact with their family members. Child marriage is another major issue which is increasing at a very alarming rate with each passing day. Girls who are above 16 years of age are rarely seen in the villages as they are married off as soon as they reach the age of 14-15 years.

Case study 2

In the experience of GARAN BOSE GRAM BIKASH KENDRA in Canning I,II and Basanti Blocks there are many instances where young migrant girls, taken away with the pretext of jobs, have been forced into prostitution. It is interesting to note that the number of hotels and shanties surrounding the 'Mazar' has increased. The young girls of Ghutiarisharif and other nearby villages come to these hotels for prostitution. In general traffickers use the methods like kidnapping, promises for a better job, and procuring through marriages (quite often fake marriages) in trafficking. Very often women and girls are sold by their own kins. Rape victims are also sold into prostitution as they are unfit to lead a normal life.

Another glaring feature of crimes against women is revealed by the following table which infers that South 24 Paraganas is one of the high rankers in terms of incidence of sexual assaults as compared to the State comprising 18 districts.

Table 8.20: Incidence of Sexual Assaults against Women in South 24 Paraganas vis-à-vis West Bengal in 2002

District	Recorded no of Rape cases in 2000												
	Custodial			Gang		Others		Molestation		Eve teasing		Total	
	No of Cases	No of Persons arrested	No of Cases	No of Persons arrested	No of Cases	No of Persons arrested	No of Cases	No of Persons arrested	No of Cases	No of Persons arrested	No of Cases	No of Persons arrested	
24 Parganas (S)	NA	NA	11	13	54	41	73	52	NA	NA	138	106	
West Bengal	NA	NA	82	136	697	543	905	753	9	23	1,693	1,455	

Source: Sexual Violence and the Law: West Bengal Commission for Women, Kolkata 2002

8.4.2 Post marital violence and dowry deaths

The composition of crime in the districts is biased towards post marital violence

accounting for more than half of the total crimes in 2002. In terms of share of total CAW cases in the state, South 24 Parganas takes the lead among all 18 districts as per

the report of the West Bengal Commission for Women. The absolute IPC CAW component figures in three time periods depict a rapid increase in torture and cruelty by husbands and relatives.

The prevalence of dowry deaths and the temporal dimension as reported in the crime figures do not provide a conclusive picture. The year 2001 depicts a sharp decline which could just be accidental.

On the aspect of age of marriage in South

24 parganas the following facts were revealed.

- In rural areas 65.49% of married population in the age group of 10-14 is girls. While for urban areas this is only 6.5%.
- In rural areas 91.33% of married population in the age group of 15-19 is girls. While for urban areas this is 88.19%.

A study conducted by Calcutta University

Table 8.21: Incidence of crime against women (CAW) and persons arrested in South 24 Parganas

District	No of cases of Torture/ cruelty by Husbands/ relatives			No of Dowry Deaths			No. of Arrests for CAW	
	1995	2000	2003	1995	2000	2003	2000	2003
24 Parganas South	469	692	884	2	49	44	930	1759

Source: Sexual Violence and the Law: West Bengal Commission for Women, Kolkata 2003

Table 8.22: Number of dowry deaths in South 24 Paraganas: 1997–2005

Year	1997	1998	1999	2000	2001	2003	2004	2005uptoMay
Cases	49	25	47	42	11	47	43	15

Source: Sexual Violence and the Law: West Bengal Commission for Women, Kolkata 2005

- A situational analysis of violence against women in West Bengal vis-à-vis that in India-Calcutta University (2007) in Ramchandrapur and Kalinagar villages of Diamond Harbour I Block revealed the dimensions associated with dowry. In Ramchandrapur the overall scenario had a reflection of well being. Employment was reported to be mostly in organized service sectors, or in family business. But in Kalinagar the standard of living is low, and people are mostly working as migrant labor in unorganized sectors or as household

labour. The following points were revealed from the study

- Dowry is common and takes place in a cyclical manner with dowry taken in son's marriage and given off in daughter's marriage.
- Family is thus an institution of gaining capital in the process.
- The level of dowry is Rs. 20,000 to Rs. 40,000.
- Dowry torture is common.
- Poverty is one of the reasons of child marriage and dowry.

- Groom's family is poor and so needs some capital for maintenance of the bride in the family and this is how villagers justify dowry.
- Suicide of brides is also heard of in dowry tortures.
- The general age of marriage of girls starts from 12.
- Even educated brides and their parents confidently express the existence of dowry in their own lives in a supportive way.
- Dowry is not looked upon as humiliation of the bride by any family.

In 1998 Women Studies Research Centre, Calcutta University, undertook a project on the status of muslim women in West Bengal. As a part of the study survey was conducted in three villages in the district of South 24 parganas. Survey revealed that all the respondents confessed that they had to go through the exchange of dowry in marriage and also confessed to accepting it as a custom and felt there was no way of combating it. Other studies in the domain of post marital violence infer similar points and hence could be considered as a general deduction.

8.4.3 Trafficking

Trafficking in women and girl children is a matter of great concern all over the world. In South Asia cross-border trafficking, sourcing, transit to destination is a big problem. Even more prevalent is the movement of persons within the countries for exploitation in various forms. West Bengal falls within the wide criminal network where South 24 Paraganas acts as a major sending point Trafficking and consequent white slavery with sexual exploitation is a multi billion-dollar business - as important as dealings in drugs and ornaments. Extensive consultations verified that there is a severe lack of concrete data from which an accurate picture of the scope of trafficking may be drawn. Traffickers go to great lengths to avoid monitoring of their illegal activities and any available data must be treated with caution.

Sanlaap, a renowned NGO, has been involved in the rescue and rehabilitation of minor girls who have been trafficked for commercial sexual exploitation. During the course of restoring these trafficked victims back to their families, they have been able to identify those eight districts from where these girls have been trafficked, South 24 Parganas being identified as one of the most vulnerable.

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Case study 3

Study conducted by

ASHURALI GRAMONNAYAN PARISHAD

The areas covered under the study are three villages under the Kalatalahat Gram Panchayat of Diamond Harbour II block of South 24 Parganas district.

The Majority of the girl children are married off in the age group of 15-17 years. However, the distribution in the other age ranges is also remarkable. The fact that child marriage occurs in the age range of below 9 is alarming by itself irrespective of the number or percentage. Quite a number of these are married off to Bihar through mediators who come to work from Bihar in the Falta export-processing zone and growth Centre. There are also cases when men from Bihar have directly got married to the local girls of these villages and have taken them away to Bihar. There have been incidents where the girl has been married off to places like Delhi through mediators from Bihar and have been found to be missing till date.

Indian Express, the daily, reported on the plight of the vulnerable section from North and South 24 Parganas.

The Indian Express, 14 August 2007 reports.....

Five minors rescued from Maharashtra brothels

NEWS, Kolkata, August 5: The Anti-Human Trafficking Unit (AHTU), which was inaugurated a month back, has rescued seven young girls from Mumbai and other suburbs of Maharashtra and brought them back to Kolkata. A six-member team went to Maharashtra to rescue the girls, who were trafficked from South 24-Parganas and North 24-Parganas. The girls were sold in various parts of Maharashtra for being used as commercial sex workers.

Sexually transmitted infections (STIs) present a large burden of disease and debility. As per a recent STI prevalence study of National Aids Control Programme (NACP-III), over 5% of adult population in the country suffers from STIs. In South 24 Parganas the RTI data reveals some very interesting features. The blocks Kultali, Canning-I, Canning-II, Basanti, Baruipur, Gosaba, Falta, Magrahat-I & II, Diamond Harbour I & II specially attract attention in terms of prevalence. In these blocks RTI/SI rates are very high among females. In Kultali block cases detected is 808, cases treated is 335 and cases

referred is 473 while in Canning-II the number of cases is very high accounting to 3058 cases detected, 792 cases treated and 2266 cases referred. Further, Falta and Diamond Harbour also are pretty high in terms of cases detected, treated and referred - 2288, 1114 and 1171 in Falta and 1793, 1599 and 194 in Diamond Harbour-I respectively. On the other hand these blocks are identified as human trafficking and migration prone areas. This establishes a very strong relationship between the occurrence of disease and the extent of trafficking and migration. As indicated in South 24 Paraganas, a large

section of men migrate to Delhi, Haryana, Punjab, Rajasthan, and other parts of West Bengal. On the other hand, women and girls leave their abode either in search of work or are trafficked from these areas.

The migrated people when they come back home, infect their wives and on the other side the trafficked girls when rescued from the brothel are often infected by the sexually transmitted diseases.

8.5 Gender and Empowerment

Development practitioners and policy makers from all perspectives seem to agree that empowerment is a necessary ingredient for women's development and gender equity in this world. A detailed study of women's participation in the socio-economic-political arena of South 24 Parganas helps us to identify the following issues to be contributing significantly to the process of women's empowerment. These are:

- Distribution of surplus ceiling land to women
- Provision of vocational training to adolescent girls under *Kishori Shakti Yojana*
- Functioning of Self Help Groups (SHGs), in particular of Women SHGs.

These activities are coordinated by the administrative body viz., Panchayat. It is the Panchayat again, where the criterion of minimum reservation of seats may help women to take part as office bearers in the decision-making processes. The analysis in this section, therefore, begins with the

discussion on women representatives in the Panchayat.

8.5.1 Women in Panchayat

At the outset, it seems worthwhile to mention a few known facts for ready reference. First, Panchayat is a three-tier administrative body with the administrative units viz., Zilla Parishad at the district level, Panchayat Samity at the block level and Gram Panchayat at the village level. Second, the procedure of reservation of seats for SC/ST women is different from the same for general women. In case of SC/ST population in any block, say, proportion of their seats reserved to total seats in each tier of Panchayat is equal to their proportion in total population in that block. And then, out of the total seats reserved for SC/ST population, 33.33% is reserved for SC/ST women. Of the remaining total seats, 33.33% is reserved for general women. While we are interested in assessing both the current situation and the inter temporal variation in women's representation in the Panchayat, non- availability of data on

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Table 8.23A : Block-wise Women Representatives in Gram Panchayat : South 24 Parganas, 2003

Block	Total No. of seats	Seats Reserved for SC/ST Population	SC/ST Women	Percentage of reservation for SC/ST women	Percentage of excess over minimum reservation	Total seats for general Population	Seats reserved for General women	Percentage of reservation for General women	Percentage of excess over minimum reservation
Thakurpukur-Mahestala	117	56	20	35.71	2.38	61	21	34.43	1.10
Budge Budge - I	85	18	7	38.89	5.56	67	23	34.33	1.00
Budge Budge - II	157	30	11	36.67	3.34	127	46	36.22	2.89
Bishnupur - I	174	90	33	36.67	3.34	84	27	32.14	-1.19
Bishnupur - II	177	31	10	32.26	-1.07	146	53	36.30	2.97
Sonarpur	142	93	34	36.56	3.23	49	16	32.65	-0.68
Region I	852	318	115	36.16	2.83	534	186	34.83	1.50
Baruipur	300	137	52	37.96	4.63	163	56	34.36	1.03
Bhangar - I	155	42	17	40.48	7.15	113	38	33.63	0.30
Bhangar - II	150	38	15	39.47	6.14	112	38	33.93	0.60
Falta	200	53	21	39.62	6.29	147	50	34.01	0.68
Diamond Harbour - I	105	22	9	40.91	7.58	83	28	33.73	0.40
Diamond Harbour - II	134	36	13	36.11	2.78	98	34	34.69	1.36
Magrahat - I	181	43	18	41.86	8.53	138	46	33.33	0.00
Magrahat - II	224	92	34	36.96	3.63	132	43	32.58	-0.75
Kulpi	195	69	29	42.03	8.70	126	40	31.75	-1.58
Mandirbazar	170	82	32	39.02	5.69	88	28	31.82	-1.51
Region II	1814	614	240	39.09	5.76	1200	401	33.42	0.09
Canning - I	192	103	48	46.60	13.27	89	27	30.34	-2.99
Canning - II	132	51	21	41.18	7.85	81	27	33.33	0.00
Basanti	235	118	45	38.14	4.81	117	35	29.91	-3.42
Gosaba	207	158	58	36.71	3.38	49	17	34.69	1.36
Joynagar - I	173	77	28	36.36	3.03	96	35	36.46	3.13
Joynagar - II	157	67	26	38.81	5.48	90	29	32.22	-1.11
Mathurapur - I	134	55	22	40.00	6.67	79	26	32.91	-0.42
Mathurapur - II	162	52	20	38.46	5.13	110	38	34.55	1.22
Kultali	147	80	29	36.25	2.92	67	24	35.82	2.49
Patharpratima	237	59	22	37.29	3.96	178	61	34.27	0.94
Kakdwip	176	57	22	38.60	5.27	119	42	35.29	1.96
Namkhana	129	33	12	36.36	3.03	96	32	33.33	0.00
Sagar	151	41	17	41.46	8.13	110	35	31.82	-1.51
Region III	2232	951	370	38.91	5.58	1281	428	33.41	0.08
Total	4898	1883	725	38.50	5.17	3015	1015	33.67	0.34

Source: District Panchayat & Rural Development Office, South 24 Parganas 2003

previous general election of Panchayat confines our analysis exclusively to the seat allotment of 2003 general election. Performance of a block is evaluated on the basis of its having excess of percentage of seats actually reserved over the percentage of minimum reservation of seats. In other words, the higher the value of the excess seats over minimum reserved seats in percentage form, higher is the rank of a block.

Examining the situation at the Gram Panchayat level first (Table 8.23A) one finds that

- for the SC/ST women, all blocks barring Bishnupur-II in Region-I exhibit excess over minimum reservation(%). While in Bishnupur-II, the criterion of minimum reservation of seats (%) fails, it is interesting to note that no block of Region-I figures in the list of top ten better performing blocks. These are, it may be mentioned, Canning-I, Kulpi, Magrahat-I, Sagar, Canning-II, Diamond Harbour-I, Bhangar-I, Mathurapur-I, Falta and Bhangar-II.
- Unfortunately however, for the general women, the situation is not so rosy and in ten blocks, the criterion of minimum reservation of seats (%) does not hold good. The blocks are

Bishnupur-II, Sonarpur in Region-I; Magrahat-II, Kulpi, Mandirbazaar in Region-II and Canning-I, Basanti, Joynagar-II, Mathurapur-I Sagar in Region-III. In all other blocks, however, there exist excess over minimum reservation of seats (%).

Next, at the level of Panchayat Samiti (Table 8.23B) the data reveal that

- a number of blocks show minimum reservation strength (%) for the SC/ST women. These are Thakurpukur-Maheshtala, Bhangar-II, Falta, Canning-II, Joynagar-I, Joynagar-II. Rest of the blocks has excess over minimum reservation (%).
- For the general women, however, we again get a somewhat mixed result where some blocks fail to satisfy even the criterion of minimum reservation of seats (%). These are Budge Budge-I, Sonarpur, Kulpi, Mathurapur-I, Mathurapur-II, and Patharpratima, Kakdwip, Canning-I and Namkhana.
- Blocks like Joynagar-II, Kultali, Joynagar-I, Canning-II in Region-III and Diamond Harbour-II, Magrahat-I, Magrahat-II, Bhangar-II, Falta in Region-II are designated as the better performing ones. Rest of the blocks exhibits minimum reservation of seats (%).

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Table 8.23B: Blockwise Women Representatives in Panchayat Samity : South 24 Parganas, 2003

Block	Total No. of seats	Seats Reserved for SC/ST Population	SC/ST Women	Percentage of reservation for SC/ST women	Percentage of excess over minimum reservation	Total seats for general Population	Seats reserved for General women	Percentage of reservation for General women	Percentage of excess over minimum reservation
Thakurpukur-Mahestala	18	9	3	33.33	0.00	9	3	33.33	0.00
Budge Budge - I	16	4	2	50.00	16.67	12	4	33.33	0.00
Budge Budge - II	27	5	2	40.00	6.67	22	7	31.82	-1.51
Bishnupur - I	31	16	6	37.50	4.17	15	5	33.33	0.00
Bishnupur - II	32	5	2	40.00	6.67	27	9	33.33	0.00
Sonarpur	27	17	6	35.29	1.96	10	3	30.00	-3.33
Region I	151	56	21	37.50	4.17	95	31	32.63	-0.70
Baruipur	50	23	8	34.78	1.45	27	9	33.33	0.00
Bhangar - I	25	7	3	42.86	9.53	18	6	33.33	0.00
Bhangar - II	25	6	2	33.33	0.00	19	7	36.84	3.51
Falta	34	9	3	33.33	0.00	25	9	36.00	2.67
Diamond Harbour - I	19	4	2	50.00	16.67	15	5	33.33	0.00
Diamond Harbour - II	24	7	3	42.86	9.53	17	6	35.29	1.96
Magrahat - I	31	8	3	37.50	4.17	23	8	34.78	1.45
Magrahat - II	38	15	6	40.00	6.67	23	8	34.78	1.45
Kulpi	36	13	5	38.46	5.13	23	7	30.43	-2.90
Mandirbazar	28	13	5	38.46	5.13	15	5	33.33	0.00
Region II	310	105	40	38.10	4.77	205	70	34.15	0.82
Canning - I	29	16	6	37.50	4.17	13	4	30.77	-2.56
Canning - II	23	9	3	33.33	0.00	14	5	35.71	2.38
Basanti	38	20	7	35.00	1.67	18	6	33.33	0.00
Gosaba	37	28	10	35.71	2.38	9	3	33.33	0.00
Joynagar - I	32	15	5	33.33	0.00	17	6	35.29	1.96
Joynagar - II	28	12	4	33.33	0.00	16	6	37.50	4.17
Mathurapur - I	24	10	4	40.00	6.67	14	4	28.57	-4.76
Mathurapur - II	30	10	4	40.00	6.67	20	6	30.00	-3.33
Kultali	25	14	5	35.71	2.38	11	4	36.36	3.03
Patharpratima	42	10	4	40.00	6.67	32	10	31.25	-2.08
Kakdwip	30	10	4	40.00	6.67	20	6	30.00	-3.33
Namkhana	21	5	2	40.00	6.67	16	5	31.25	-2.08
Sagar	25	7	3	42.86	9.53	18	6	33.33	0.00
Region III	384	166	61	36.75	3.42	218	71	32.57	-0.76
Total	845	327	122	37.31	3.98	518	172	33.20	-0.13

Source : Same as in Table 8.23A

Thus, both at the Gram Panchayat and Panchayat Samiti, particularly in the former, SC/ST women are better represented compared to the women in general category. Such a conclusion, however, cannot be drawn at the Zilla Parishad level (Table 8.23C) where total number of seats varies between 1 and 3.

This analysis of women's participation in Panchayat seems to be incomplete without information about the socio-economic profile of the women representatives, posts held by them as office -bearers and instances of their being involved in decision making and thereby motivating commoners, particularly women at home to

enhance their participation in Panchayat. It is only then that we can infer whether the women representatives have been able to reshape gradually the existing power relation between men and women in political arena over time.

8.5.2 Women Pattadars

We next consider the percentages of women Pattadars in different blocks of the district up to February 2008 (Table 8.24). At this stage, we may recall, percentage distribution of female workers in 1991 by industrial categories clearly indicates occupational diversification, which gets further accentuated during the inter-census period 1991-2001. Percentage of rural

population too declines from 87% in 1991 to 84% in 2001. Despite these facts, South 24 Parganas remains pre-dominantly a rural district where women have very little access to land ownership. In such a situation government programme of redistributing surplus ceiling land to women (either in their single names or

jointly), particularly of BPL households, may not only help them to enhance the QOL of the members of their households but increase their self-confidence and self-esteem also. In this way, this act of gender-mainstreaming may lead them towards empowerment.

Table 8.23C: Block-wise Women Representatives in Zila Parishad : South 24 Parganas, 2003

Block	Total No. of seats	Seats Reserved for SC/ST Population	SC/ST Women	Total seats for general Population	Seats reserved for General women
Thakurpukur-Mahestala	2	1	0	1	0
Budge Budge - I	1	0	0	1	0
Budge Budge - II	2	1	0	1	1
Bishnupur - I	2	1	1	1	0
Bishnupur - II	2	0	0	2	1
Sonarpur	2	1	0	1	1
Region I	11	4	1	7	3
Baruipur	3	0	0	3	1
Bhangar - I	2	0	0	2	1
Bhangar - II	2	1	0	1	0
Falta	3	1	1	2	0
Diamond Harbour - I	2	1	0	1	0
Diamond Harbour - II	2	0	0	2	1
Magrahat - I	3	1	0	2	1
Magrahat - II	3	2	0	1	1
Kulpi	3	2	1	1	0
Mandirbazar	2	1	1	1	0
Region II	25	9	3	16	5
Canning - I	3	0	0	3	1
Canning - II	2	1	1	1	0
Basanti	3	1	0	2	1
Gosaba	3	2	1	1	0
Joynagar - I	2	0	0	2	0
Joynagar - II	2	1	0	1	0
Mathurapur - I	2	1	0	1	0
Mathurapur - II	2	1	0	1	0
Kultali	2	1	1	1	1
Patharpratima	3	1	0	2	1
Kakdwip	2	1	0	1	1
Namkhana	2	1	1	1	0
Sagar	2	1	0	1	0
Region III	30	12	4	18	5
Total	66	25	8	41	13

Source : Same as in Table 8.23A

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Table 8.24: Block-wise Distribution of Women and Other Pattadars by Single and Joint Holdings of Patta up to Feb 2008

Block	Number of Joint Pattadars	Number of Single Pattadars		Total Number of Pattadars	Percentage of Pattadars	
		Women	Others		Women (Alone)	Joint
Thakurpukur-Mahestala	47	0	0	47	0.0	100.0
Budge Budge - I	0	7	69	76	9.2	0.0
Budge Budge - II	85	67	396	548	12.2	15.5
Bishnupur - I	95	141	329	565	25.0	16.8
Bishnupur - II	0	80	344	424	18.9	0.0
Sonarpur	182	194	2644	3020	6.4	6.0
Region I	409	489	3782	4680	10.4	8.7
Baruipur	235	8	4145	4388	0.18	5.4
Bhangar - I	505	655	4665	5825	11.2	8.7
Bhangar - II	152	10	3078	3240	0.3	4.7
Falta	264	154	1838	2256	6.8	11.7
Diamond Harbour - I	28	107	1169	1304	8.2	2.1
Diamond Harbour - II	28	10	1206	1244	0.8	2.3
Magrahat - I	16	351	2927	3294	10.7	0.5
Magrahat - II	162	85	1298	1545	5.5	10.5
Kulpi	995	173	3641	4809	3.6	20.7
Mandirbazar	535	76	1505	2116	3.6	25.3
Region II	2920	1629	25472	30021	5.4	9.7
Canning - I	493	1403	7358	9254	15.2	5.3
Canning - II	8678	1557	890	11125	14.0	78.0
Basanti	6954	1503	940	9397	16.0	74.0
Gosaba	20941	525	4710	26176	2.0	80.0
Joynagar - I	304	595	1151	2050	29.0	14.8
Joynagar - II	1281	80	4582	5943	1.3	21.6
Mathurapur - I	118	147	1889	2154	6.8	5.5
Mathurapur - II	1276	123	6911	8310	1.5	15.4
Kultali	1686	82	9940	11708	0.7	14.4
Patharpratima	4186	1438	20254	25878	5.6	16.2
Kakdwip	1467	557	9997	12021	4.6	12.2
Namkhana	5470	923	8800	15193	6.1	36.0
Sagar	1761	503	11086	13350	3.8	13.2
Region III	54615	9436	88508	152559	6.2	35.8
Region Total	57944	11554	117762	187260	6.2	30.9

Source: District Land & Land Reforms Officer, South 24 Parganas

- The relevant official statistics obtained up to February, 2008, yield a promising picture for the district as a whole where the combined percentages (37.1%) of single women Patta holders and joint patta holders are much higher than the same for the state.
- Within the district, however, it is the single men pattaholders who dominate in the redistribution programme of surplus ceiling land in majority of the blocks.
- There exists sufficient inter-block variation, however, in each region.
- The percentages of single women pattaholders are highest in Joynagar-I

(29%) followed by Bishnupur-I (25%) while least in Thakurpukur-Mahestala (nil), followed by Bhangar-II (0.3%) and Kultali (0.7%).

- Region-III shows considerably higher percentages of joint patta holders (35.8%), mainly due to the performance of Canning-II (78%), Basanti (74%) and Gosaba (80%)
- In Thakurpukur-Mahestala block of Region-I, it may be mentioned, all pattas are redistributed jointly.

8.5.3 Vocational Training under Kishori Shakti Yojana

At the penultimate stage of this section we consider the Vocational Training Programme for improvement of individual as well as social status of adolescent girls in the age-group viz., 11-

18 years, launched under *Kishori Shakti Yojana* (KSY) in 2006-07 in all districts of West Bengal. KSY, it may be mentioned, is a component of centrally sponsored ICDS (General) scheme and in West Bengal, it is run by the district ICDS in each district under the Department of Women and Child Development and Social Welfare, Government of West Bengal. In South 24 Parganas district all blocks except Bhangar I, have undertaken this training programme during 2006-07. Before we consider the blockwise report of the training programme of KSY in this district (Table 8.25), a brief overview of the guideline of the programme in general is given in Box 3.

Box 3: Vocational training under KSY: A Guideline

In this programme, in a particular block, 4 to 5 groups, each consisting of 30-35 Kishories living in 2 to 3 adjacent Gram Panchayats are selected from survey lists of Anganwadi workers by the CDPO, who is in charge of the project. In selection procedure preference is given to those Kishories who belong to BPL families and/or drop out from schools, and/or victims of early marriage mishaps etc. The primarily selected Kishories assemble and go through the following sections:-

- (1) Adolescent group formation- After counseling their parents about the training programme, the selected girls are given lessons about group dynamics so as to make them understand the necessity for group formation and realize that self help initiative along with collective efforts can improve social status.
- (2) Life cycle training – They are made acquainted (know thyself) about themselves through an understanding of personal hygiene, sanitation, population education particularly regarding psycho-sexual issues and changes towards potential womanhood. At this stage, anemic girls are given deworming tablets like Iron and Folic Acids.
- (3) Social Safety net – They are given lessons to (a) understand their families neighbours and communities; (b) be aware of domestic violence, social issues like early marriage, dowry and trafficking, abuse and atrocities on women in our society in different forms and (c) understand the importance of education for self security
- (4) Exploring unique qualities for future advancement- Talents of selected girls are nurtured, with a belief that every human being possesses some unique quality, through regular dialogues and exposures in writing abilities, painting, dance, drawing, food processing, music, acting, recitation, embroidery work, boutique work etc with an objective to understand their aptitude for vocational training.

At the end of this preparatory phase, progress report of the KSY preliminary efforts are placed before the District & Project Officials, experts from NGOs & Panchayat representatives. Finally, arrangements for vocational training of 240 hours stretched over 3 months are made after considering, among other factors, (a) suitable trade as per need of the locality, (b) availability of master trainer in the area (c) infrastructural facilities and (d) availability of raw materials and market linkage after production. After successful completion of the programme, the Institute imparting training and the CDPO provide certificates jointly.

Source :District ICDS, South 24 Parganas

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We may now consider the block-wise report in South 24 Parganas (Table 8.25) to find that

- there exists variation in the nature of vocational trade imparted owing to difference in market linkages in region. Thus in Namkhana, a block adjacent to Sunderban in Region-III, the adolescent

girls are given training on fish net-making apart from food processing. Similar instances may also be given.

- However, despite such variation, cutting and tailoring emerge as largest vocational trades in majority blocks followed by Zari work in a number of blocks.

**Table 8.25 : Block-wise Report of Training under Kishori Shakti Yojana :
South 24 Parganas, 2006-07**

Block	Title of Vocational Trade	Duration of the Course	No. of Girl Trainees at each Venue	Date of Commencement of Training	Budget Estimate (Approved) Rs.	Training imparted by
Thakurpukur-Mahestala	Cutting, Tailoring.	240 hrs.	52	21.11.06	110000	INDIVIDUAL
Budge Budge - I	Cutting, Tailoring, Embroidary, Health attendant, Beautician course & Aromatherapy	240 hrs.	110	11.01.07	110000	NYK , St.John Am. & OSVT
Budge Budge - II	Cutting ,Tailoring,Zori work, Nursery Kitchen garden, Food processing.	240 hrs.	120	26.12.06	110000	NYK
Bishnupur - I	Cutting, Tailoring, Beautician.	240 hrs.	130	Dec, ' 06	110000	St.John Ambulance & SND Memorial
Bishnupur - II	Ladies & Kids, Garments.	240 hrs.	50	20.01.07	110000	CINI & BANDHAN
Sonarpur	Tailoring,Jam Jelly, Poultry.	240 hrs.	80	18.04.07	110000	SVMS
Region I						
Baruipur	Zori & Beautician Course.	240 hrs.	47	07.03.07	110000	NISTHA
Bhangar - I						
Bhangar - II	Cutting ,Tailoring & Rural Health.	240 hrs.	80	20.02.07	110000	SHIS
Falta	Cutting, Tailoring.	240 hrs.	10	01.02.07	110000	NYK
Diamond Harbour - I	Cutting ,Tailoring, Zori work, Sola work.	240 hrs.	140	05.03.07	110000	NYK
Diamond Harbour - II	Cutting, Tailoring, Zori work.	240 hrs.	12	15.03.07	110000	CINI & NYK
Magrahhat - I	Cutting Tailoring.	240 hrs.	14	1st. Week of March, ' 07	110000	NYK
Magrahhat - II	Cutting, Tailoring.	240 hrs.	14	2nd week of March, ' 07	110000	NYK
Kulpi	Cutting, Tailoring,Zori work, Sola work.	240 hrs.	12	15.03.07	110000	CINI & NYK
Mandirbazar	Cutting, Tailoring, Zori & Sola work.	240 hrs.	139	01.03.07	110000	NYK
Region II						
Canning - I	Cutting, Tailoring, Embroidary, Beautician course	240 hrs.	12	06.03.07	110000	CINI & NYK
Canning - II	Cutting, Tailoring.	240 hrs.	128	13.12.06	110000	School of Medical Techn.
Basanti	Cutting ,Tailoring,Zori work, Poultry Social Forestry.	240 hrs.	80	04.04.07	110000	CMS & KMS
Gosaba	Tailoring, Poultry, Jam, Jelly, Net making.	240 hrs.	80	14.02.07	110000	RKM-LSP/SVMS
Joynagar - I	Home Nursing, Zori work.	240 hrs.	40	12.03.07	110000	SUCHETANA
Joynagar - II	Zori work, Jute Rope making.	240 hrs.	30	19.01.07	110000	INDIVIDUAL
Mathurapur - I	Cutting Tailoring, Zori work, Sola work.	240 hrs.	120	14.03.07	110000	NYK
Mathurapur - II	Cutting, Tailoring, Zori work, Sola work.	240 hrs.	140	14.03.07	110000	CINI & NYK
Kultali	Zori work,	240 hrs.	60	22.01.07	110000	KSS
Patharpratima	Poultry & Duckery.	240 hrs.	60	Feb, ' 07	110000	HDC & ANGIKAR
Kakdwip	Cutting, Tailoring,Zori work.	240 hrs.	40	1st. Week of Feb, ' 07	110000	K-CERA
Namkhana	Fishing Net making, Food processing.	240 hrs.	40	27.12.06	110000	K-CERA , RKM (Nimpith), LSP
Sagar	Cutting, Tailoring.	240 hrs.	45	06.03.07	110000	Tagore Society & SSJS
Region III						

Source :District Programme Officer ICDS,South 24 Parganas

Some pertinent questions arise at this stage:

- What happens to the adolescent girls after they complete training and receive certificates? We need follow-up studies.
- What is the basic objective of such training? Is it imparted just for the sake of giving them certificates or for integrating them properly into the labour market so that they can later join the Self Help Groups, undertake economic activities jointly and uplift their families above poverty line or they can as individuals begin some economic activities and thereby attempt to improve the quality of life of their families?

Although success stories of some girls in a number of blocks indicate that they have formed Self Help Groups later on while others have individually begun economic activities, it seems that no proper monitoring of the job market provisions of such girls has been done in the last year after completion of training. We sincerely feel that such vocational training under KSY, has tremendous potential and can help change lives of adolescent girls for the better in the following ways :

- It can help the adolescent girls, who are victims of early marriage mishaps or domestic violence, to be economically independent and lead a respectful life.
- It can combat the problem of trafficking due to migration by preventing the poor young girls from

going away from their home in search of job and thereby help in reduce the prevalence of diseases like S.T.I.

- Lastly, it has a good potential for income generation if it can be integrated with the SGSY. And to realize why we do feel it, we need to understand the process of gender empowerment through the functioning of Self Help Groups (SHGs), in particular, women Self Help Groups, under the SGSY in the blocks of South 24 Parganas. It is to this that we turn next.

8. 5.4 Functions of Self Help Groups under SGSY

It dates back to 1st April, 1999 when the Swarnajayanti Gram Swarojgar Yojana was launched as a long- term rural self-employment programme, after integrating the earlier programmes like IRDP, DWACRA, TRYSEM and SITRA. Its main objective was to organize small economic activities, make members of BPL families, in particular women engaged into such activities and make the rural poor marginalized women empowered as members of Self Help Groups, earn sufficient income to uplift the quality of life of the households above the poverty line. A SHG, it may be mentioned at this stage is formed by 10-15 people each from a different household, preferably BPL, living in the same locality /village of a block. While majority of the SHGs are formed exclusively by women, a few are formed exclusively by men and the rest are

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Box 4 : Self Help Groups under SGSY: A guideline

It is the Self Help Promoting Institute (SHPI), usually a NGO, which plays a major role in motivating and forming a Self Help Group. After several rounds of meeting, the list of the people interested in forming the group, along with the recommendation of Gram Panchayat Pradhan is sent to the District Rural Development Cell (DRDC) for its approval. Once the approval is given, the SHG is formed, with the date of their first meeting considered as the date of the group formation. After the group is formed and its name and dates of monthly meetings are fixed, members are motivated enough to save regularly as per their capability and after about one month a savings account is opened with a regularized rural bank or a nationalized bank in the joint names of all the members. The savings account, it may be mentioned at this stage however is operated by two persons, fixed by the members themselves and each member keeps records in her own handbook. After one month or so, members, one by one, can take personal loans as well as loans for carrying out small economic activities and repay such loans with interest inclusive of both bank interests and interests accrued due to inter lending among members. DRDC provides Basic Orientation Training to the members of a group under the guidance of SHPI, where they learn about the functioning of a SHG and SGSY in detail. In the meantime, they take part in some social activities as well like Sarva Shiksha Abhiyan (SSA), Pulse Polio Immunization programme, sanitation programme etc. All these continue for at least six months after the group is formed and then the SHG members appear for their first evaluation viz, Grade I evaluation. A SHG passes this test with minimum of 60 % marks depending on its performance for the past six months mainly in the following aspects, among other things :

- (a) Whether meetings are held regularly and the rate of presence of members in the meetings are satisfactory,
- (b) Whether savings are made regularly
- (c) Whether the loans taken from the savings are repaid properly
- (d) Whether the group is involved in social work and the extent of its involvement, and
- (e) Whether the helper is involved in the regular activities of the group.

The bank in question opens another account viz., the 'Cash Credit A/C' in the name of the group which passes Grade I, of the amount up to four times higher than the group corpus. The DRDC gives a revolving fund (RF) to the group of amount Rs 5000. A SHG may then take loans from Cash credit A/C to carry out small economic activities either in individual capacity or as a group depending on the decision of the group in this regard.

The DRDC makes arrangements for skill upgradation training to enhance the skill of the members of a group and enable them to carry out their individual or group economic activities in a much better way. In this way the members of a SHG after passing Grade I, make attempts to improve the standard of living of the respective BPL households, they belong individually to, and gradually prepare themselves for undertaking large economic activity as a group in future. A Grade II test is held after at least six months of passing Grade I test, to examine the group potential for undertaking large economic activity. Performance of a group depends mainly on the following aspects :

- (a) Indicators of Grade I evaluation, mentioned earlier,
- (b) Whether the amount of RF has been used properly
- (c) Whether the repayment of loan taken from Cash Credit A/C has been satisfactory, and
- (d) Whether the group has really been able to form a proper idea about implementation procedure of its undertaking large economic activity.

At the end of Grade II evaluation, two types of results may happen :

Case 1: The SHG gets more than 60 % marks but less than 80 % marks. Case 11: The SHG gets 80 % or more marks.

In Case 1, the relevant group is not considered eligible to get loan from bank for undertaking large economic activity. It is, however, given some more time to increase its potential in this regard. In this case, the DRDC may, give another RF of amount Rs. 5000/- . The Bank too may enhance its upper limit of cash credit a/c after reviewing the amount of group corpus of the SHG at that time.

In Case II, the concerned SHG is considered to have successfully completed the Grade II evaluation. Accordingly, it is asked to submit a project to the bank indicating clearly about its proposed large economic activity and the amount of loan it requires for this purpose. Bank sanctions its loan, depending on the past performance of SHG in regard to loan repayment. After bank's sanction the project is submitted to DRDC which gives it a subsidiary amounting to either 50 % of project cost but not more than the maximum limit of Rs 1.25 lakhs or Rs.10, 000 per BPL member, whichever is smaller. Bank disburses its loan, after duly opening a loan account with the name of SHG. All loans are mid-term ones, with 5 years as the time limit for repayment. The DRDC again arranges for training of the SHG to make it understand about the procedure of loan repayment and running an enterprise. Constant monitoring continues with an aim to help each member to earn at least Rs 2000/- per month, improve the socio-economic condition of the respective BPL families and thereby make them self-reliant.

Source:DRDC, South 24 Parganas

mixed groups of which again more than 80% are women. In view of this poor numerical strength of men SHGs and overwhelming presence of women in mixed SHGs, we make our analysis of gender empowerment without any loss of generality, on the basis of performance of SHGs as a whole. A brief discussion on how a SHG functions in general is given in Box 4 to help our understanding for evaluation of the block-wise performance of the SHGs in the district.

In the light of the basic guideline about the process of gender empowerment through the functioning of SHGs, an evaluation of the blockwise performance of the district on the basis of data up to 2007 provided by the DRDC is attempted below (Table 8.26A). The following indicators have been considered since the stage of inception of a SHG to carrying

out economic activities by such group after completion of Grade-II evaluation :

- (1) Percentages of SHGs formed to total BPL families,³
- (2) Percentages of SHGs passed Grade-I to total SHGs formed,
- (3) Percentages of SHGs passed Grade-II to total SHGs passed Grade-I,
- (4) Percentages of SHGs pursuing economic activities to total no of SHGs passed Grade-I,
- (5) Percentages of SHGs pursuing economic activities to total number of SHGs passed Grade-II,
- (6) Percentages of women SHGs to total SHGs formed, and
- (7) Percentages of women SHGs in total SHGs pursuing economic activities (Grade-II).

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³ The absolute number of SHGs formed per block is definitely an important indicator but given the fact that a SHG is formed by taking each member from a different household, preferably BPL ones, percentages of SHGs to BPL households is more relevant .

Table 8.26A : Blockwise Performance of Self Help Groups : South 24 Parganas, 2003-2007

Block	Total No. of SHG Formed	Total No. of BPL Households	No. of SHGs per Household	No. of SHGs Passed	No. of SHGs Passed	No. of SHGs Passed	SHGs Passed	SHGs Grade-II out of Saving A/c Linked	SHGs Grade-I	SHG Passed	SHGs for which RFF released	SHGs Taken up Economic Activities			No. of Women SHGs Formed (%)	No. of Women SHGs Taken up Economic Activities (%)	Women Taken up Economic Activities (%)	
												Grade I						
												No.	No.	Number	Percentage	Total		
Thakurpukur-Maheshkhala	74	22097	0.33	45	60.81	16	35.56	74	45	18	40	7	43.75	51	68.92	2	28.57	
Budge Budge-I	135	40535	0.33	108	80.00	29	26.85	135	108	85	78.70	13	44.83	87	64.42	9	69.23	
Budge Budge-II	213	11778	1.81	166	77.93	16	9.64	213	166	146	87.95	6	37.50	140	65.54	1	16.67	
Bishnupur-I	376	7841	4.80	279	74.20	19	6.81	376	279	185	66.31	1	5.26	224	59.44	0	0.00	
Bishnupur-II	218	4149	5.25	203	93.12	54	26.60	218	203	185	91.13	22	40.74	137	63.00	10	45.45	
Sonarpur	140	7849	1.78	48	34.29	9	18.75	140	48	20	41.67	0	0.00	88	63.02	0	0.00	
Baruipur	423	11342	3.73	295	69.74	29	9.83	423	295	257	87.12	13	44.83	256	60.49	3	23.08	
Bhangar-I	541	2898	18.67	431	79.67	74	17.17	541	431	362	83.99	0	0.00	334	61.80	0	0.00	
Bhangar-II	233	18221	1.28	90	38.63	3	3.33	233	90	35	38.89	0	0.00	146	62.66	0	0.00	
Fulta	374	13361	2.80	218	58.29	11	5.05	374	218	124	56.88	3	27.27	232	62.13	0	0.00	
Diamond Harbour-I	442	9677	4.57	311	70.36	110	35.37	442	311	176	56.59	48	43.64	264	59.74	26	54.17	
Diamond Harbour-II	281	6545	4.29	229	81.49	80	34.93	281	229	129	56.33	49	61.25	181	64.41	8	16.33	
Magrahat-I	439	10429	4.21	279	63.55	54	19.35	439	279	210	75.27	30	55.56	296	67.36	28	93.33	
Magrahat-II	914	19775	4.62	682	74.62	135	19.79	914	682	462	67.74	42	31.11	569	62.25	20	47.62	
Kulpi	449	20281	2.21	437	97.33	100	22.88	449	437	352	80.55	17	17.00	276	61.58	10	58.82	
Mandibazar	121	16756	0.72	36	29.75	14	38.89	121	36	29	80.56	0	0.00	76	63.11	0	0.00	
Canning-I	348	16922	2.06	145	41.67	47	32.41	348	145	115	79.31	17	36.17	238	68.28	10	58.82	
Canning-II	284	28420	1.00	139	48.94	0	0.00	284	139	110	79.14	0	0.00	157	55.12	0	0.00	
Basanti	525	16421	3.20	161	30.67	11	6.83	525	161	125	77.64	5	45.45	366	69.64	0	0.00	
Gosaba	701	12434	5.64	374	53.35	113	30.21	701	374	309	82.62	13	11.50	436	62.18	9	69.23	
Joynagar-I	430	10859	3.96	328	76.28	23	7.01	430	328	225	68.60	0	0.00	272	63.19	0	0.00	
Joynagar-II	646	10471	6.17	439	67.96	57	12.98	646	439	334	76.08	29	50.88	365	56.49	13	44.83	
Mathurapur-I	454	12119	3.75	182	40.09	16	8.79	454	182	153	84.07	13	81.25	300	66.03	0	0.00	
Mathurapur-II	419	15564	2.73	298	71.12	10	3.36	419	298	245	82.21	6	60.00	266	63.53	2	33.33	
Kulhali	383	18191	2.11	280	73.11	66	23.57	383	280	248	88.57	0	0.00	216	56.40	0	0.00	
Patharpratima	1241	30113	4.12	899	72.44	305	33.93	1241	899	760	84.54	29	9.51	795	64.06	29	100.00	
Kakdwip	628	16751	3.75	382	60.83	96	25.13	628	382	296	77.49	7	7.29	350	55.72	3	42.86	
Nankhana	592	9683	6.11	382	64.53	187	48.95	592	382	301	78.80	48	25.67	379	64.02	42	87.50	
Sagar	435	1444	31.51	250	54.95	80	32.00	455	250	179	71.6	9	11.25	291	63.93	1	11.11	
TOTAL	12479	422726	2.95	8116	65.04	1764	21.73	12479	8116	6175	76.08	426	24.15	7787	62.40	226	53.05	

Source: District Rural Development Cell, South 24 Parganas

The blocks are ranked according to their performance where, it is needless to say, a higher percentage value yields a better rank for a block. We calculate the *BORDA scores* and finally get the *BORDA rank* for blocks (Table 8.26B)⁴. Let us now, in a brief, analyze the performance of the blocks on the basis of each of these indicators.

In respect of the first indicator, however, the picture is not at all rosy. It is highly disturbing to find that after a period of more than ten years since the SGSY was launched, almost all blocks in this district display meagre percentages of SHGs formed to BPL households.

- Sagar (31.51%) tops the list followed by Bhangar-I, Joynagar-II and Namkhana among other better performing blocks in this regard.
- Thakurpukur-Maheshtala shows the least value (0.33%) jointly with Budge Budge-I.

We however get a promising picture in respect of the second indicator.

- Majority of the blocks (20 blocks out of 29 blocks) display values around 60 % or more. Kulpi (97.33%) tops the list followed by Bishnupur-II (93.12%) Diamond Harbour-II (81.49%), Budge Budge-I (80%) among other better performing blocks.
- While Mandirbazar exhibits the least value (29.75 %) followed by Basanti, Sonarpur, Bhangar-II, among other

poorly performing blocks.

Performance of the blocks is not praiseworthy when we consider them in respect of the third indicator. There does not exist a single block where even 50% of the SHGs who passed Grade-I test have been able to clear the Grade-II test.

- Namkhana (48.95%) is the best performer followed by Mandirbazar (38.89%) and Thakurpukur-Maheshtala (35.56%).
- There is not a single SHG in Canning-II which passes Grade-II evaluation and
- Baruipur (9.83%) is the best among last ten poor performers.

Percentages of SHGs pursuing economic activities after passing Grade-I evaluation is however definitely praiseworthy.

- In majority of the blocks the relevant percentage is more than 70.
- Even in the poorly performing ones Bhangar-II, Thakurpukur-Maheshtala, Sonarpur etc. these percentages vary around 40.
- The best performer is Bishnupur-II (91.13%).

Such an impressive result is attributed, among other things, to a great extent, to the skill upgradation training imparted by DRDC. At this stage, it needs to be mentioned that there is a striking similarity between vocational trades under KSY and economic activities pursued by SHGs (Table 8.26A 1). And herein lies the relevance of integrating the vocational

⁴ The BORDA score of a block is the sum of its ranks, evaluated on the basis of alternative criteria mentioned. Using this combined score, blocks are finally ranked by their overall performance.

Table 8.26A1 : Block-wise Training under KSY and Economic Activities Performed under SGSY : South 24 Parganas

Block	Vocational Trades in KSY	Key activities performed by SHG
Region I	Cutting, Tailoring.	Zori Chikon, Bag making, Jute products, Tailoring
	Cutting, Tailoring, Embroidery, Health attendant, Beautician & Aromatherapy	Jute crafts, Tailoring, Zori chikon
	Cutting ,Tailoring,Jori work, Nursery Kitchen garden, Food processing.	Goatery, Poultry.
	Cutting ,Tailoring, Beautician Course	Batik & Bandhni, Jute products, Brush making, Kantha stitch, Coir rope, Goatery, Machine embroidery
	Ladies & Kids Garments	Tailoring, Coir rope, Batik & Bandhni, Goatery, Coloured Fish, Brush making
	Tailoring,Jam Jelly, Poultry.	Tailoring
	Zori & Beautician Course.	Batik & Bandhni, Food Processing, Honey, Brush making, Agriculture, Teracotta, Goatery, Poultry
		Poultry,Goatery, Agriculture, Fishery, Batik & Bandhni.
	Cutting ,Tailoring & Rural Health.	Poultry, Dairy
	Cutting ,Tailoring.	Tailoring, Zori Chikon, Dairy
Region II	Cutting ,Tailoring, Zori work,Shola work.	Tailoring, Zori Chikon, Dairy, Poultry, Piggery
	Cutting,Tailoring, Zori work.	Imitation ornaments, Zori Chikon, Fishery, Poultry, Palm leaf Articles
	Cutting,Tailoring, Zori work.	Zori Chikon, Brush making, Fishery, Poultry, Duckery, Dairy
	Cutting,Tailoring.	Zori Chikon, Silver Philigree, Feather works, Brush Makking, Kantha Stitch
	Cutting ,Tailoring, Zoriwork,Sholawork.	Tailoring, Goatery, Agriculture
	Cutting, Tailoring, Zori & Sholawork.	Fishery, Poultry, Dairy, Sola work, Goatery
	Cutting, Tailoring, Embroidery, Beautician.	Bori, Papad, Poultry, Dairy, Piggery, Fishery, Duckery
	Cutting Tailoring.	Batik & Bandhni, Goatery
	Cutting, Tailoring, Zoriwork, Poultry,Social Forestry.	Poultry, Duckery, Fishery
	Tailoring, Poultry, Jam Jelly, Net making.	Bag making, Tailoring, Fishery, Goatery, Poultry
Region III	Home Nursing, Zori work.	Zori Chikon, Fishery, Goatery, Poultry, Piggery, Dairy
	Zori work, Jute Rope making.	Kantha stitch, Sola work, Fishery, Piggery, Poultry, Dairy, Goatery,Jute rope making, Agriculture
	Cutting, Tailoring, Zoriwork, Sholawork.	Batik, Bandhni, Tailoring, Agriculture, Poultry, Dairy, Goatery
	Cutting, Tailoring, Zoriwork, Sholawork.	Jute rope making, Fishery, Goatery
		Vegetable cultivation, Poultry, Goatery, Dairy, Fishery
	Poultry & Duckery.	Tailoring, Betel vine, Dairy, Agriculture
	Cutting, Tailoring,Jori work.	Betel vine, Goatery, Fishery, Coir mat making, Poultry
	Fishing Net making, Food processing.	Batik & Bandhni, Goatery, Piggery, Fishery, Imitation ornaments
	Cutting Tailoring.	

Sources: (i) Same as in Table 8.25
(ii) Same as in Table 8.26A

training of KSY with the functioning of SHGs under SGSY. If the trained adolescent girls, after attaining adulthood, can become members of SHGs, they can utilize their experience of previous training in a much better way. Although it may be argued that a trained adolescent girl after marriage may live in a block having different market linkage and hence demand for different types of trades which she did not get training for. Even in this case the fact that she got training earlier would definitely motivate her to be a member of a SHG to a much greater extent compared to other girls who did not have the opportunity to get such training.

The picture, however, gets blurred when we consider performance of the blocks in respect of the fifth indicator.

- A number of blocks, performing satisfactorily so far, perform poorly in this regard. In eight blocks viz., Kultali, Joynagar-I, Canning-II, Mandirbazar, Bhangar-I, Bhangar-II and Sonarpur there does not exist a single SHG, which pursues economic activity after passing Grade-II. In the top ten blocks the relevant percentage is higher than 40.
- However, sufficient inter-block variation exists and Mathurapur-I (81.25%) tops the list followed by Diamond Harbour-II (61.25%).

Performance of the blocks viewed in respect of percentages of women SHGs formed is very good.

- The relevant percentages in the majority of blocks are higher than 60. Basanti (69.64%) tops the list. However, we get a somewhat mixed result considering the block performance on the basis of last indicator.
- In eleven out of twenty nine blocks there does not exist a single women SHG, which carries out economic activities after completing Grade-II evaluation⁵. These are Bishnupur-I, Sonarpur, Bhangar-I, Bhangar-II, Falta, Mandirbazar, Canning-II, Basanti, Joynagar-I, Mathurapur-I, and Kultali.
- Of the remaining eighteen blocks, Patharpratima (100%) performs the best followed by Magrahat-I (93.33%) and Namkhana (87.50%). In fact, instead of considering the cumulative figures of such groups up to 2007, if we look at their inter-temporal performance in this regard (Table 26A2), we notice quite interestingly that in majority of these blocks there has been a considerable rise in the number of such groups since 2005.

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⁵ This is definitely a depressing result but not an unexpected one, given the amount of hardship the poor and not-so-educated women are subject to since inception of the group till setting up a micro-enterprise. Sometimes, after passing Grade II test, a group may be denied loan if its past records of loan repayment are not good. Economic activities at this stage are to be carried out as a group and not by individual members. For successful result in this regard the group members must act together.

Table 8.26A2 : Block-wise Distribution of Women SHGs Carrying out Economic Activities (Grade II) : South 24 Parganas, 2003-2007

Block	Number of Women SHGs Pursuing Economic Activities in						No. of SHGs Taken up Economic Activities(Grade II)
	2003	2004	2005	2006	2007	2003-2007	
Thakurpukur-Maheshtala	-	-	2	0	-	2	7
Budge-Budge-I	-	-	7	2	-	9	13
Budge-Budge-II	-	-	-	-	1	1	6
Bishnupur-I	-	-	-	-	-	-	1
Bishnupur-II	-	-	4	5	1	10	22
Sonarpur	-	-	-	-	-	-	0
Baruipur	-	-	-	3	-	3	13
Bhangare-I	-	-	-	-	-	-	0
Bhangare-II	-	-	-	-	-	-	0
Falta	-	-	-	-	-	-	3
Diamond Harbour-I	-	-	3	12	11	26	48
Diamond Harbour-II	1	2	4	1	-	8	49
Magrahat-I	-	-	-	5	23	28	30
Magrahat-II	-	-	7	4	9	20	42
Kulpi	-	2	-	7	1	10	17
Mandirbazar	-	-	-	-	-	-	0
Canning-I	-	-	4	5	1	10	17
Canning-II	-	-	-	-	-	-	0
Basanti	-	-	-	-	-	-	5
Gosaba	-	-	3	0	6	9	13
Joynagar-I	-	-	-	-	-	-	0
Joynagar-II	-	-	13	0	-	13	29
Mathurapur-I	-	-	-	-	-	-	13
Mathurapur-II	-	-	-	-	2	2	6
Kultali	-	-	-	-	-	-	0
Patharpratima	-	3	18	8	-	29	29
Kakdwip	1	-	-	1	1	3	7
Namkhana	-	-	6	10	26	42	48
Sagar	-	-	1	0	-	1	9
Total	2	7	72	63	82	226	426

Source: Same as in Table 8.26A

The BORDA Rank, judged on the basis of ranks of all the indicators mentioned so far designate the better and poorly performing blocks. Quite a number of blocks performing consistently better in respect of majority of the indicators; figure in the better performers of BORDA Rank. These are Namkhana, Bishnupur-II and Patharpratima among others.

The functions of SHGs analyzed so far are satisfactory. There is however, room for further improvement in some cases, particularly in respect of pursuing economic activities after passing Grade-II evaluation. It is only then we can say that the basic objective of SGSY viz., empowering the poor people, the women in particular, through formation of SHG, has been fulfilled.

Table 8.26B : Block-wise Performance of Self Help Groups : South 24 Parganas, 2003-07

Block	No. of SHG per 100 BPL Households		SHGs Passed Grade-I		SHGs Passed Grade-II out of SHGs Passed Grade I		SHGs Taken up Economic Activities				Women SHGs Formed		Women SHGs Taken up Economic Activities		Borda	
	Value	Rank	Value (%)	Rank	Value (%)	Rank	Grade I		Grade II		Value (%)	Rank	Grade II		Score	Rank
							Value (%)	Rank	Value (%)	Rank			Value (%)	Rank		
Thakurpukur-Maheshtala	0.33	28	60.81	19	35.56	3	40.00	28	43.75	9	68.92	2	28.57	14	103	19
Budge-Budge-I	0.33	29	80.00	4	26.85	10	78.70	15	44.83	7	64.42	7	69.23	4	76	6
Budge-Budge-II	1.81	23	77.93	6	9.64	21	87.95	3	37.50	12	65.54	6	16.67	16	87	8
Bishnupur-I	4.80	7	74.20	9	6.81	25	66.31	23	5.26	22	59.44	25	0.00	19	130	22
Bishnupur-II	5.25	6	93.12	2	26.60	11	91.13	1	40.74	11	63.00	16	45.45	10	57	1
Sonarpur	1.78	24	34.29	27	18.75	17	41.67	27	0.00	23	63.02	15	0.00	20	153	27
Baruipur	3.73	16	69.74	14	9.83	20	87.12	4	44.83	8	60.49	23	23.08	15	100	17
Bhangar-I	18.67	2	79.67	5	17.17	18	83.99	7	0.00	24	61.80	21	0.00	21	98	15
Bhangar-II	1.28	25	38.63	26	3.33	28	38.89	29	0.00	25	62.66	17	0.00	22	172	28
Falta	2.80	18	58.29	20	5.05	26	56.88	24	27.27	15	62.13	20	0.00	23	146	26
Diamond Harbour-I	4.57	9	70.36	13	35.37	4	56.59	25	43.64	10	59.74	24	54.17	8	93	11
Diamond Harbour-II	4.29	10	81.49	3	34.93	5	56.33	26	61.25	2	64.41	8	16.33	17	71	4
Magrahat-I	4.21	11	63.55	17	19.35	16	75.27	19	55.56	4	67.36	4	93.33	2	73	5
Magrahat-II	4.62	8	74.62	8	19.79	15	67.74	22	31.11	14	62.25	18	47.62	9	94	12
Kulpi	2.21	20	97.33	1	22.88	14	80.55	11	17.00	17	61.58	22	58.82	6	91	10
Mandirbazar	0.72	27	29.75	29	38.89	2	80.56	10	0.00	26	63.11	14	0.00	24	132	24
Canning-I	2.06	22	41.67	24	32.41	7	79.31	12	36.17	13	68.28	3	58.82	7	88	9
Canning-II	1.00	26	48.94	23	0.00	29	79.14	13	0.00	27	55.12	29	0.00	25	172	29
Basanti	3.20	17	30.67	28	6.83	24	77.64	16	45.45	6	69.64	1	0.00	26	118	20
Gosaba	5.64	5	53.35	22	30.21	9	82.62	8	11.50	18	62.18	19	69.23	5	86	7
Joynagar-I	3.96	13	76.28	7	7.01	23	68.60	21	0.00	28	63.19	13	0.00	27	132	25
Joynagar-II	6.17	3	67.96	15	12.98	19	76.08	18	50.88	5	56.49	26	44.83	11	97	14
Mathurapur-I	3.75	15	40.09	25	8.79	22	84.07	6	81.25	1	66.03	5	0.00	28	102	18
Mathurapur-II	2.73	19	71.12	12	3.36	27	82.21	9	60.00	3	63.53	12	33.33	13	95	13
Kultali	2.11	21	73.11	10	23.57	13	88.57	2	0.00	29	56.40	27	0.00	29	131	23
Patharpratima	4.12	12	72.44	11	33.93	6	84.54	5	9.51	20	64.06	9	100.00	1	64	2
Kakdwip	3.75	14	60.83	18	25.13	12	77.49	17	7.29	21	55.72	28	42.86	12	122	21
Namkhana	6.11	4	64.53	16	48.95	1	78.80	14	25.67	16	64.02	10	87.50	3	64	3
Sagar	31.51	1	54.95	21	32.00	8	71.60	20	11.25	19	63.93	11	11.11	18	98	16
TOTAL	2.95		65.04		21.73		76.08		24.15		62.40		53.05			

Source: Same as in Table 8.26A

8.6 Summary and Conclusions

In this chapter, an endeavour was made to assess three distinct facets of gender and development in the district of South 24 Parganas. Before we conclude and speak about policy interventions it seems worthwhile to present section-wise major findings. It is to this that we turn next.

8.6.1 Summing up

8.6.1.1 Gender and Work Participation

- Female work participation rates are quite low in all three regions. Region-III, it may be mentioned, emerges as the best performer in 1991, in respect of overall (i.e. main+marginal) female work participation rates and work participation rates for persons as a whole, mainly due to the performance of blocks like Namkhana followed by Gosaba and Patharpratima.
- While overall work participation rates rise in 1991-2001 mainly due to a rise of such rates in for the marginal category, overall female work participation rates increase owing to a rise in such rates in main category in a number of blocks and in marginal category in all blocks.
- Gender-gap in work participation rates as measured by female to male ratio

of such rates is alarmingly high in all the regions. Here also Region-III, in particular the above-mentioned three blocks, performs the best. During 1991-2001 such ratios rise considerably in all three regions, implying thereby a substantial fall in gender-gap in work participation rates.

- Disaggregating further it is noticed that the relevant ratios rise in main category (where these ratios are as such considerably low) and fall in the marginal category (where these ratios are usually very high).

8.6.1.2 Gender and Health Care

- Region-I emerges as the best performer followed by Region-II evaluated on the basis of safe motherhood criterion in delivery reports. However, in majority of the blocks in Region-III, where percentages of home deliveries are very high, at least 60 % of such deliveries are performed by trained birth attendants.
- IMR is least in Region-I and highest in Region-III. Here also Namkhana in Region-III shows the least value of IMR for both genders.
- Percentages of fully immunized

children in the age group below 1 year vary around 25. Though these percentages for female children are lower than corresponding percentages for male children in majority of the blocks, the gender gap is not significant.

- So far as the percentages of SNP beneficiary mothers and children in age group viz. 0-6 years are concerned, Region-I is the best performer. Among the blocks, Thakurpukur-Mahestala in Region-I, Diamond Harbour-I in Region-II and Namkhana, Gosaba and Kakdwip in Region-III are the better performing ones. In a number of the blocks percentages of female beneficiary children (age 0-6 years) are higher than the corresponding percentages of their male counterparts.
- Region-I, emerges as the best performer when we consider percentages of children in age group viz. 0-6 years by nutritional status. It exhibits highest percentages of normal children to total children weighed and least percentage of malnourished children to total children weighed. However, in case of normal category, percentages of female children are smaller than the same of male children while in case of malnourished category

it is the other way round. In fact, percentage of female children to total children is least in normal category and increases with a rise in grade in malnutrition category — a fact, which clearly indicates gender disparity in respect of nutritional status for children in 0-6 years.

- Gender inequality is not found to exist for health care of children below 1 year.

8.6.1.3 Gender and Educational Attainment

- Region-I is the best performer in terms of literacy rates of persons, males and females and gender gap in such ratios. During 1991-2001 gender gaps in such rates decline in all three regions, the intensity of decline being most pronounced in Region-III.
- Majority of the blocks in the groups of both better performers and poor performers, evaluated on the basis of equally distributed equivalent index on literacy in 1991 and 2001, remains the same. The better performing blocks in both periods are Thakurpukuar-Mahestola, Budge Budge-I, Namkhana, Sagar and Bishnupur-I.
- During 2001-2007, we find that gender ratios of enrollment rise and the same of dropout fall in majority of the blocks

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in the age group viz., 5-14 years, implying thereby an improvement of the attendance of female children relative to male children in the above age group.

8.6.1.4 Women and Vulnerability

- The total number of IPC CAW cases in the district over the periods 2000 and 2003 show a distinctly rising trend in crimes against women with South 24 Parganas leading among the districts both in terms of absolute numbers and in relative terms.
- The composition of crimes in the districts is biased towards post marital violence accounting for more than half of the total crimes in 2002.
- Within South 24 Parganas there is tremendous interregional variation in overall crime rates as well as in CAW. On an average number of violent crimes decreases as we move away from Kolkata surroundings towards Sunderbans but the incidence of CAW is significant in the Sunderbans during 2005 - 2007.
- There is a strong relationship between the occurrence of STI and the extent of trafficking and migration.

8.6.1.5 Gender and Empowerment

- SC/ST women are better represented compared to general women in both

the Gram Panchayat and Panchayat Samiti, particularly in the former.

- The numerical strength of women pattadars is praiseworthy for the district as a whole and for a few blocks.
- Vocational training under KSY seems to have a good potential for income generation, if properly implemented.
- Performance of SHGs is while commendable, leaves room for much more to be achieved.

8.6.2 Concluding remarks

The extent of gender disparity in the process of human development in South 24 Parganas is alarming, but seems to have been declining over time, in respect of work participation and educational attainment. Such a conclusion cannot be drawn in regard to health care provision due to non-availability of data over time. However, one point is very clear. Region-III, the otherwise backward region, which deserves policy interventions most, emerges, despite the inter block variation, as the best performer in terms of work participation and shows considerable improvement in regard to educational attainment over time.

No doubt, the nature of crime and violence against women as revealed in different forms is a matter of great concern and the task of eliminating these types of problems

must be at the forefront of sustainable development strategies. Though several NGOs have already been working to combat this problem, there must be a strong coordination among them, the Civil Society and the Panchayat to get an effective result in this regard.

And the ray of hope is that there are several programmes and schemes of the government launched in recent years, which aim to integrate the marginalized group, especially the poor women and the adolescent girls into the development process, by making them economically independent, helping them to take part in decision making and thereby empowering them gradually. We should not forget that

empowerment is a process and it has already begun in South 24 Parganas as envisaged in the functioning of the NGOs, various non-formal educational institutions, the DRDC and most importantly the District ICDS, which has tremendous potential and if vested with more responsibilities, can change the lives of girl children and adolescent girls for the better. However, to maintain pace and ensure balanced development of the entire population and improvement in quality of life, proper government intervention and effective policy implementation are necessary in crucial areas, notably education, health and empowerment.



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Sundarbans and the remote Islanders

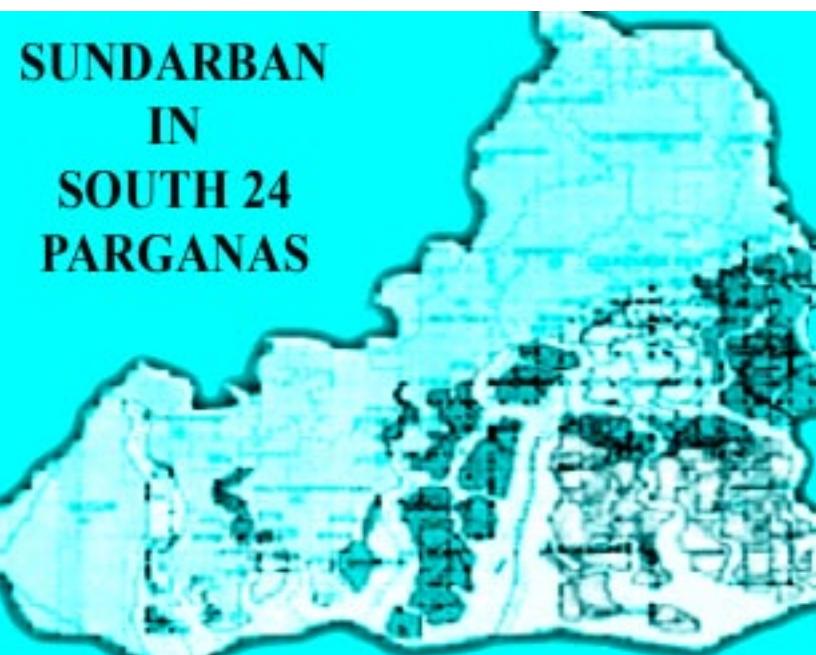
9.1 Introduction

The present day is seeing economic integration on an unprecedented scale. Regional economic activity is being largely driven by markets outside and national economies are being increasingly dovetailed into the world market. Such rapid integration is undoubtedly helped by the revolution in information technology which drastically reduced the transaction costs that till recently had prevented high degree of local specialization. In recognition of the potential of such integration towards reducing world poverty, the World Development Report (WDR 2008) has advocated the integration of local agriculture with

world market. This can enable subsistence farming to diversify into High Value Crops (HVC) which are often labour-intensive in production and remunerative to poor farmers. But being perishable in nature, such diversification requires establishment

of modern supply chain as a precondition.

Realization of this potential is being fostered by a concerted effort of various agencies, led mostly by the government. The provision of infrastructure like transport, power, irrigation as well as education and health are essential for such integration of local economies into the



broader outside market that brings changes in local production pattern and throws up new earning opportunities for the local stakeholders.

India, making strides in the economic front today, is experiencing such changes

in many of its parts. Rural life is breaking its inertia and coming to terms with the pace of urban life. The changes are brought about by increased interaction with urban centers through improved transportation and communication, and penetration of media into rural corners. Rural India is aspiring for more entitlements - aspirations that may not be distant dreams.

Yet some pockets of isolation remain. For some of them, the main cause of isolation is geographic. Most part of the Indian archipelago named Sundarbans, though situated close to Kolkata – the largest metropolitan city and commercial hub in eastern India – is remote and largely isolated. Due to the topographical specificities of the region – part of world's largest mangrove delta region – Sundarbans is not holding a promise of bridging this distance in the near future even with today's technology and engineering

progress. The region consists of 102 islands out of which 54 are inhabited. The remoteness of the area is amply understood by the fact that in 4500 sq.km. inhabited areas, there is only 42 km. of railway line and about 300 km. of *pucca* road network. The only means of communication between the islands is through the waterways which is poorly organized and people have to depend on mechanized private boats.

Still the area is home to over 3.9 million people. It is spread over 13 administrative blocks out of 29 in the district of South 24 Parganas. Human development of the district loses its relevance if these islanders are left out. But a model of rural development successfully executed elsewhere, might not be applicable in Sundarbans due to problems specific to this region with special geo-climatic characteristics. It calls for a deeper insight of the social and economic life of the people of Sundarbans – and this chapter tries to capture a glimpse of that.

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9.2 Sundarbans and the District

Sundarbans is the world's largest prograding delta region that spreads over India and Bangladesh covering around 25,500 sq. k.m. The Indian part is approximately 9,630 sq. k.m. The

Indian part of Sundarbans is not confined to one single district. Sundarbans also covers 6 administrative blocks of the adjacent North 24 Parganas district, besides 13 blocks in South 24 Parganas

The socio-economic profile of Sundarban's inhabitants and the bottlenecks to their development are very similar across the two districts. In recognition of it, the Government of West Bengal had set up the Sundarban Development Board in 1973 under the administrative control of Development & Planning Department for a comprehensive development of the region. With further emphasis on the development of this region, a new Department of

Sundarban Affairs was created in 1994 and Sundarban Development Board was placed under its administrative control. With such a focused administrative approach towards overall developmental needs and specific problems of the region, it is difficult and often unwarranted to discuss Sundarbans only partially, confining within the administrative boundaries of South 24 Parganas. The introduction to Sundarbans – its climate, ecology and history cannot be

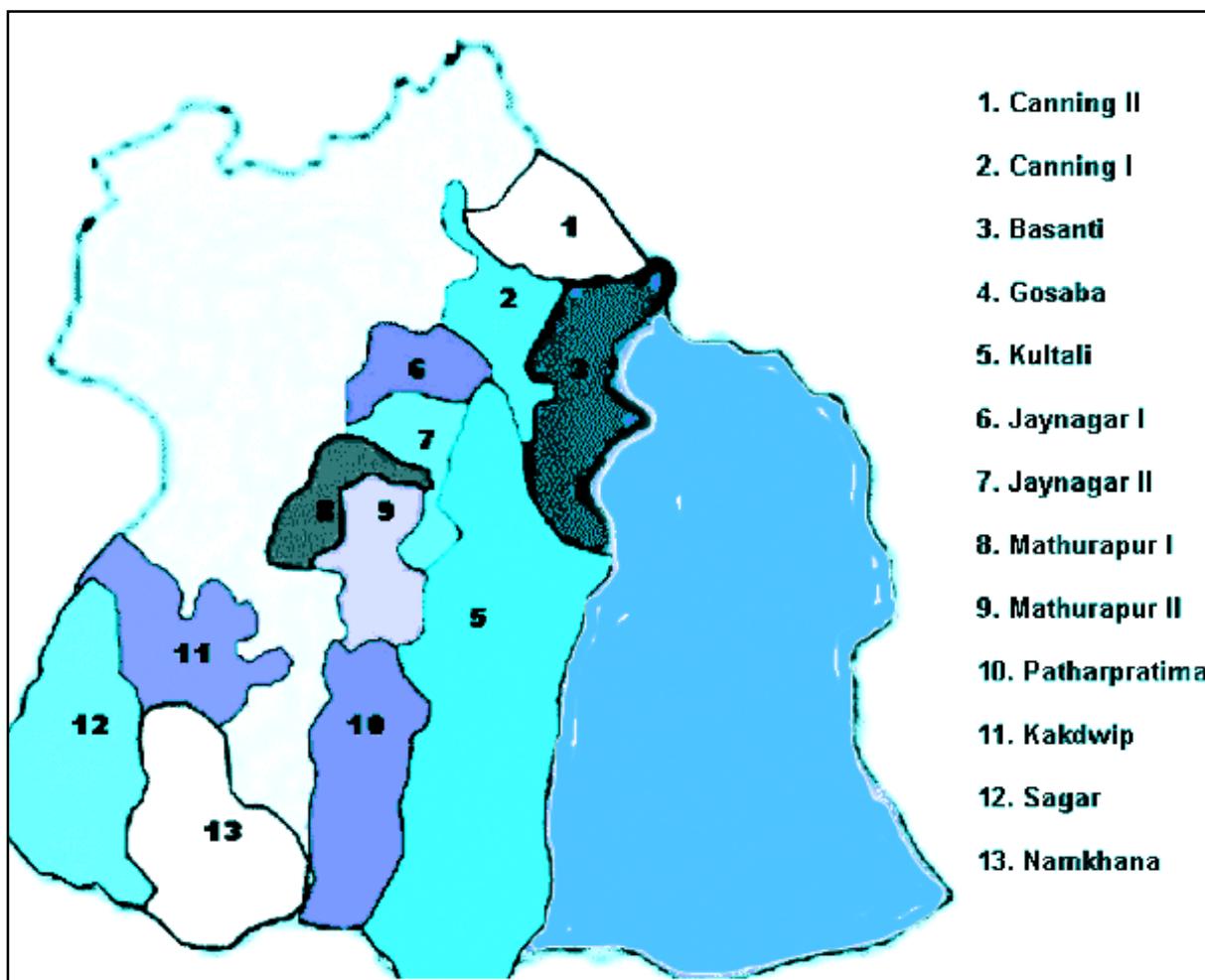


Figure 9.1 Administrative Blocks of Sundarban area within the District of South 24 Parganas

described within this district limit. However, being part of the District Human Development Report, the data regarding the socio-economic profile of the region, as reported in this chapter, are based on this district's share of Sundarbans.

Presently Sundarbans has a forest cover of 10,200 sq. km. shared between India and Bangladesh. India's share of this forest area is around 4,200 sq. km.

Indian Sundarban also includes around 5,400 sq. km. area outside the forest cover that includes inhabited lands along the north and north-western boundary of the forest

9.3 The Location and Physiography

The Indian Sundarbans is formally demarcated by River Hooghly in the west, Bay of Bengal in the south, Rivers Harinbhanga and Raimangal in the east (marking the international border between India and Bangladesh) and the Dampier-Hodges line in the north. The last one is an imaginary line, passing through 24

Meghna and their numerous distributaries. The building up of this estuarine area is consequently not complete. The mangrove-dominated delta is a complex ecosystem comprising one of the three largest single tract of mangrove forests of the world. The physiography is dominated by deltaic formations that include innumerable drainage lines. The Sundarbans' floor varies from 0.9 m to 2.11 m above sea level. Tidal saline water, pushed into from the Bay of Bengal, alternately drowns and exposes the islets twice a day

throughout the year. The average tidal amplitude in the estuaries of the Sundarbans ranges from 3.5 m to 4.0 m. The highest fluctuations in the water level are generally experienced in August - September when the highest tide level attained is in excess of 4.0 m. Most of the low-lying inhabited island sections are lower than the average tide level of the surrounding rivers.

Climate of Sundarban

- Annual average Maximum Temperature 35°C.
- Average humidity is about 82% which remains more or less constant due the region's proximity to the sea.
- Average annual rainfall 192 cm out of which 75% is received during June to September.

Parganas South and North districts, which indicates the northern-most limits of estuarine zone affected by tidal fluctuations.

The Sundarbans along the Bay of Bengal has evolved through quaternary (began about 2 million years ago and extends to the present) sediments deposited mainly by the mighty river Ganges, Brahmaputra,

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9.4 Ecological Significance and Biodiversity

The Sundarbans is rich in biodiversity and the biotic factors here play a significant role in physical coastal evolution and for wildlife. It has significant ecological implication for marine life and livelihood of coastal communities for a large part of south-east Asia. The mangrove vegetation itself assists in the formation of new landmass and the intertidal vegetation plays an important role in swamp morphology. The Sundarbans includes 26 true mangrove species, 29 mangrove associates, and 29 back mangrove species of 40 families and 60 genera.

In terms of faunal endowment Sundarban is famous for Royal Bengal Tigers. It is the only mangrove forest in the world that hosts tigers. It is also the single forest tract where the largest number of tigers is found. As per December 2001 census, the number of

tigers in Indian Sundarban is 271. It is also home to a good number of globally endangered animals like estuarine crocodile, fishing cat, Gangetic dolphin, olive ridley and green sea turtles etc. Several bird species are found including a large number of migrants from the higher latitudes that visit the area in winter. Numerous species of phytoplankton, fungi, bacteria, zooplankton, invertebrates, molluscs, reptiles, amphibians and mammals are also found here. Species composition and community structure vary from east to west, and along the hydrological and salinity gradients. All these make Sundarban a biodiversity hotspot and its conservation is a global concern. Its conservation is closely monitored by the Government of India and that of the state of West Bengal.

Faunal Diversity in Sundarban

Vertebrate Species = 481
 Hemichordate Species = 1
 Invertebrate Species = 1104
 Protozoan Species = 106
 Mammals = 58
 Birds = 248
 Reptiles = 55

Species that gone extinct in the last hundred years with human invasion

Javan Rhino
 Wild Buffalo
 Barking Deer
 Swamp Deer

9.5 History of Human Settlement

An understanding of the region's social fabric is necessary for an optimal development strategy. This calls for a brief introduction to the history of human settlements in the region. The present population influx in the region is fairly recent and does not involve a long tradition of rulers, landlords, intermediaries and class exploitation on the scale that mainland India had witnessed for thousands of years.

Some scattered historical findings in the region bear solid evidence that the area had been populated even at the time of Asoka (273-232 BC), though the evidences so far fail to add up to a comprehensive account of continued civilization in this delta region. However, it is well established that due to a series of natural calamities the region was gradually losing its population during the Middle Ages. Eventually, after the invasion of Portuguese and Arakan pirates in the waters of the delta, the area was depopulated for all practical purposes. The forest reclaimed the previously inhabited area and when the British East India Company set up their headquarters at Calcutta in 1757, it was at the edge of the forest.

9.5.1 Recent History

The recent history of human settlement in the Sundarbans dates from the treaty of 1757 signed by Mir Jafar, through which the lands of undivided 24 Parganas, then practically depopulated, were ceded to the East India Company. Clearing the forest and introducing human settlement in the area was done in a planned way under the British rule where the motivation solely was increasing revenue collection. The present settlements originate from the plan conceived by Clod Russell, then Collector General in 1771, whereby the forest land had been divided into plots to be leased out to prospective landlords.

Clearing of forest effectively started from 1781 by Tillman Henkel, then magistrate of Jessore district. Thereafter the forest line was being continuously pushed back from its western and northern fronts. Initially forest was cleared mostly in its northern part and by 1873 the blocks of Hasnabad, Bhangar, Haroa, Hingalganj, Minakhan (N 24 Parganas) and Canning, Joynagar, Mathurapur and Sagar (S 24 Parganas) had been fully or substantially cleared of forest. In this first phase of unregulated deforestation, much of the

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revenue came from forest products including timber. However, it was gradually declining and the need for conservation was voiced from within the administration. Consequently, the first initiative for conservation was also mooted under the British rule.

In 1875-1876 the government declared the un-leased forest area as reserved, and placed them under the jurisdiction of the

Forest Department. Still, the area which was already leased out by that time continued to attract population at the cost of the forest. Between 1873 to 1939, much of the interior blocks of Sandeshkhali, Kakdwip, Patharpratima, Basanti, Kultali and Gosaba (all under S 24 Parganas) had been cleared of forest to make room for human settlements.

The forest boundary took a further

Sir Daniel Hamilton and his Island Experiment

The forested islands of Sundarban could be populated in the early days only by successful community cooperation. This was pioneered by Sir Daniel M. Hamilton who is a legendary figure among these islanders even today. Hamilton was a Scottish businessman and made a good fortune out of his shipping business in Calcutta. After retiring from the business, he wished to implement his idea of cooperative community living in a self-sustained way in the deltaic islands of Sundarbans. In this pursuit he took lease of three uninhabited islands Gosaba, Rangabelia and Satjelia (now under Gosaba Block) in 1903. He then formed *Bengal Young Mens Zamindary Co-operative Society* which also had support from the government. To make these mud-flats and forest land habitable, a huge labour-input was required. Sir Hamilton brought labourers from the mainland who were given reasonable provisions for livelihood for an initial period. They were required to erect embankments all around the islands to protect the land from saline water before agriculture could be started. Besides, he established free schools and dispensaries and built freshwater ponds for rainwater harvesting. All these efforts were directed towards establishing a self-sufficient island economy with exchange between the islanders. To finance the developmental activities and facilitate the local commerce, he introduced what came to be known as *Gosaba Currency*. The Estate Office of the Society acted as the central bank in this respect. Hamilton's own money of eleven hundred rupees (coins – legal tender) acted as the base on which he issued his own notes. It is interesting to note the words which appeared on his note issue. On one side it stated:

“Sir Daniel Mckinnon Hamilton promises to pay the Bearer, on demand, at the Co-operative Bhundar, in exchange for value received, one rupee's worth of rice, cloth, oil or other goods.”
(Signed) D. M. Hamilton.

Written on the back of the notes were more interesting words – which reflects his philosophy behind this island-experiment:

“The value received in exchange for this Note may be given in the form of bunds constructed, or tanks excavated, or land reclaimed or buildings erected or in medical or educational service. The Note may be exchanged for coin, if necessary, at the Estate Office. The Note is made good, not by the coin, which makes nothing, but by the assets created and the services rendered. The Note is based on the living man, not on the dead coin. It costs practically nothing, and yields a dividend of One Hundred percent in land reclaimed, tanks excavated, houses built, etc. and in a more healthy and abundant LIFE.”

These notes were willingly accepted by the workers on the island and villages were built, each with its school, and eventually what was formerly an uninhabited area achieved a considerable population which could sustain itself on those remote islands.

beating after India's independence due to the Partition of Bengal. Between 1951 to 1971, this area was forced to accommodate a huge influx of refugees from East Pakistan (Bangladesh) and some forested islands were cleared for human settlement. Presently, out of 102 islands in the delta region, 54 are populated while the remaining 48 are reserved with forest cover.

In the initial years of settlement, clearing the marshy mud-flats and making them habitable was an act of extreme hardship in a hostile environment. The lease-holders, who were mostly upper caste moneyed

Hindus, had lured the poorest tribal people from Chhottanagpur, Ranchi and Hazaribag region in the Indian mainland to settle in their area. They were lured through packages of initial provisions and some cultivable land for their own. Also the area experienced migration of poor people from the adjoining district of Midnapur in the west, which is a coastal district with a history of repeated cyclone disasters. Finally, a significant section of local population consisted of migrants from neighbouring districts of Bangladesh in the east.

9.6 Sundarban Administration

The developmental activities of around 5400 sq. km of populated area within Sundarban is financed and supervised by the Sundarban Development Board under the Department of Sundarban Affairs in the state administration (Government of West Bengal). However, for reaching a harmony between development and conservation, the Government of India constituted the Sundarban Biosphere Reserve (SBR) in 1989 which includes the human settlements as well as 4200 sq. km. of reserve forest area headed by Chief Conservator of Forest

(South). The reserve forest area includes the Tiger Reserve under the direct control of Field Director, Project Tiger and the

Composition of Protected Area

Nearly 40 per cent of the reserved forest area has been brought under Protected Area network that includes:

Sundarban National Park (1330 sq.km); Sajnekhali Wildlife Sanctuary (362 sq.km); Lothian Wildlife Sanctuary (38 sq.km); and Haliday Wildlife Sanctuary (6 sq.km).

Out of this total recorded forest area, 55 per cent is under land vegetation cover and the remaining 45 per cent is under water body/ inter-tidal zone.

Divisional Forest Officer (South 24 Parganas) who is in-charge of the rest of the reserve.

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9.7 Demography

In Sundarbans, the coexistence of human settlements and reserve forest is unique in the sense that unlike other forests, there is no human settlement within the reserve forest area. The human habitat and the forest are always separated by rivers. Along the north and western boundaries of the reserve forest, under the Biosphere Reserve, human settlements can be classified into two parts depending on their geographic location. Some of them are now parts of the mainland which are connected by roads and having other infrastructural facilities typical of their rural counterparts in India. Under South 24 Parganas, the areas under the Administrative Blocks of Canning, Joynagar, Mathurapur, Kakdwip and Namkhana fall almost entirely in this category. The people living in these areas are not in close proximity with the forest and their living conditions and livelihood options are similar to that of other areas in the district.

But the Blocks of Basanti, Gosaba, Kultali, Patharpratima and Sagar, together accounting for around 40% of total area in the district, call for a special understanding of the people, their livelihood and threat perceptions. They are almost entirely detached from the mainland and live under

much different conditions unmatched in the rest of India.

These are people living in islands on the fringes of Reserve Forest. The islands often face the forest on the other side of the separating river. The history of these island settlements does not date back to more than hundred years. Almost none of these islands has any electricity connection and other infrastructural facilities like transport and communication. The settlers initially lived mostly on agriculture with some viable amount of reclaimed cultivable land for each household.

After independence, these islands saw a steady influx of migrants from adjoining districts in mainland. Specially, the

History of Forest Conservation in Sundarban

1875-1876: The British government rolled back the policy of leasing out forest land and brought the remaining forest under the jurisdiction of Forest Department.

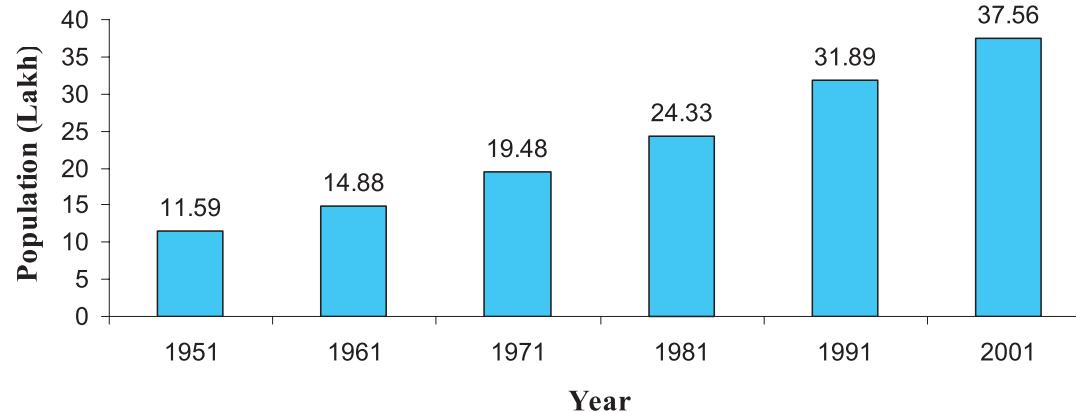
1926: The remaining forest was declared as Reserve Forest, boundaries of the Reserve were fixed.

1973: Sunderban Tiger Reserve was constituted by GoI under Project Tiger scheme

1987: Sunderban National Park, forming the core area of Sunderban Tiger Reserve, received recognition as World Heritage Site, by UNESCO

1989: Sunderban Biosphere Reserve was constituted by Government of India (GoI) to establish a formal mechanism for coordinating and integrating diverse activities of conservation and harmony between man and environment. Sunderban Tiger Reserve became a part of it.

2001: Received the recognition of UNESCO, under its Man and Biosphere (MAB) programme.

Fig 9.2 Growth of Population in Indian Sundarban

partition of Bengal resulted in an influx of refugees from erstwhile East Pakistan (now Bangladesh). The late-comers were left with little or no landholding and fell back on the forest for its products and on the rivers for fish and crab. Also, with subdivision and fragmentation of landholding through generations, the landed households gradually turned marginal and could hardly sustain with agriculture alone. Consequently, fishing became the second most important occupation for these islanders. The heavy dependence on forest for the landless or marginal households is also perceptible in absence of any power-driven industry in these islands. This background also explains the spatial distribution of population within these islands. Households which directly depend on forest and rivers (mostly landless and marginal), are concentrated on the banks of the rivers bordering the forest. The landed

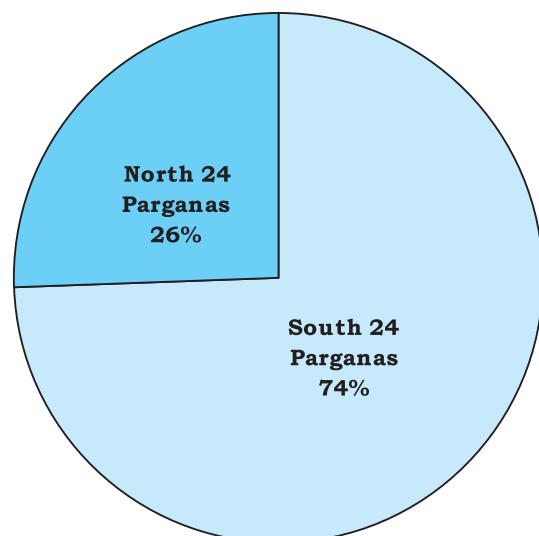
households are mostly placed in the interiors or towards the mainland.

Overexploitation of forest and river (fish) resources is already showing in terms of decreasing yield. For islands in the periphery of the reserve forest, there is no urban centre nearby to market their product through crop diversification. These isolated island settlements are brimming over their sustainable level of population with limited livelihood options. As a result, recent years have seen an increasing flow of out-migration of local youth from these islands into different parts of India. Almost three quarters of total Sundarban population of 3.76 million (Census 2001) live within the South 24 Parganas district. Also, out of the district's total 6.9 million people (Census 2001), 40% belong to Sundarbans. The population intersection between Sundarban and South 24 Parganas is around 2.8 million spread over 730 villages, out of which

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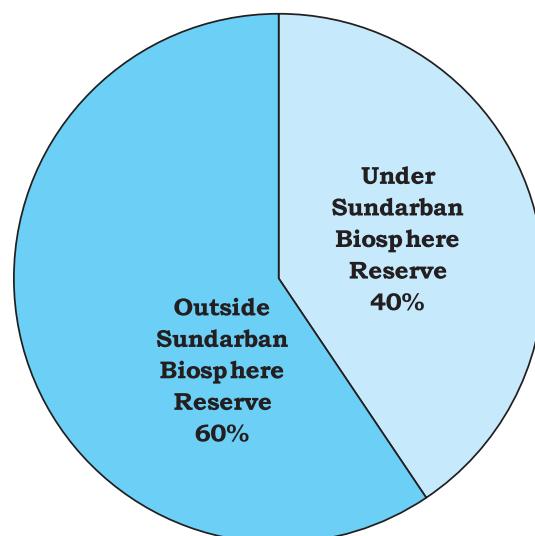
nearly 30% belong to the isolated islands. Going by the Census estimates (2001) for the district, the population density in Sundarban is approximately 934 per sq. km and the number of females per thousand males stands around 946.

Fig 9.3 Distribution of Sundarban Population Between Two Districts (Census 2001)



The settlement history in Sundarbans explains the presence of a relatively larger proportion of lower-caste people in this region. Nearly 36.5% of its population belong to SC/ST category compared to the state average of 25.6%.

Fig 9.4 Distribution of South 24 Parganas Population Between Sundarban Area and Outside



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9.8 Infrastructure

The remoteness and isolation of most parts of Sundarban left the region crippled in terms of infrastructural provisions. The development potential for a region is closely linked with such provisions. The relative underdevelopment of Sundarbans can largely be explained by its poor infrastructure. In the 4,500 sq.km of inhabited area, there are only 42 km of railway line and about 300 km. of metalled road network. Almost all the islands are

devoid of any conventional electricity supply. Governmental effort to provide solar energy systems at subsidized rate has also not been much successful because of the very little purchasing power of the islanders.

At least five of the thirteen Sundarban blocks are entirely or mostly constituted by islands which do not have a direct road-link with the mainland. These are Gosaba, Basanti, Kultali, Patharpratima and Sagar.

Table 9.1: Intra-district Divergence in Infrastructural Provisions

Infrastructural provisions	Island-blocks around forest boundary	Other Sundarban Blocks	Rest of South 24 Parganas
% of households with access to electricity	0.70	9.18	29.34
Length of surfaced road (in km.) per sq. km. area	0.36	0.95	2.59
No. of bank branches per 10000 population	0.26	0.30	0.49
Irrigated area as % of net area under cultivation	21.13	15.99	48.42

Sources: BAES, GoWB; Census of India, 2001.

Among them, the first four are on the boundary of the reserve forest. For these blocks the only means of communication with the mainland as well as with other islands is through long journeys through river channels. Such transport is not well-organized and people have to depend on the private mechanized boats which are often overloaded while negotiating treacherous waters. Few islands have pucca/well-maintained jetties. Few islands have inland transport in the form of cycle-van, while others do not have any mode of transport at all.

Sagar, though itself an island, is somewhat different from the other four island blocks. While other island blocks are close to the forest and surrounded by rivers carrying saline water, Sagar is located at the mouth of the mighty river Hoogly which carries freshwater. So, the livelihood options are marginally different in Sagar.

Directly forest-dependent poor people are not seen in Sagar. Also, this island is visited by over a million pilgrims from all around India for the annual occasion of Sagar-Mela. This religious tourism had helped Sagar to develop some infrastructure on the island over time.

Other Sundarban blocks have been gradually linked with the mainland over time and the infrastructural provisions improved. This resulted in more livelihood options for the population of these blocks. But even these not-so-remote Sundarban blocks compare very unfavourably in terms of various infrastructural indicators when compared to the rest of the blocks in the district.

The relative disparity in infrastructural provisions in Sundarbans can be amply seen from Table 9.1 which directly compares the island blocks with the rest of Sundarban and with the rest of the district in terms of four basic indicators

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of infrastructure. It shows the sharp deficit in infrastructural provisions in Sundarban region and even across blocks within it. It undoubtedly explains the region's relative

impoverishment. It also points out the priorities towards which any planned effort towards the region's development should be directed to.

9.9 Livelihood

Part of Sundarban population lives within the mainland and their livelihood pattern are similar to the rest of the rural population in the district. It is the island villagers whose way of living and entitlements are considerably different from that of their mainland counterparts. The livelihood options in these remote islands are indeed very limited till date.

Typically in the delta region rain-fed, single-crop agriculture and fishing are the two main sources of livelihood. Nearly 95 per cent of the population primarily depend on agriculture. About 50 per cent of agriculturists are landless labourers. For the blocks bordering the reserve forest, during agricultural lean season, substantial part of the population depends on forest and river resources. During April - May, some people enter the forests with permits for collection of honey and bee-wax which is partly purchased back by Forest Department. Besides, some households entirely and some partially engage in catching fish and crab in the rivers and creeks. Both of these operations are

perceived to involve considerable danger due to tigers in the forest and crocodiles in the rivers. It can be perceived that these people directly depend on the forest as a last resort for their livelihood and are almost always very poor with nil or unsustainable landholding.

Income from these occupations is often supplemented by catching "meen", the local term for shrimp seedlings. The spawns of tiger prawn, which are hatched in these saline waters are much in demand by the inland prawn farms and fetch hard cash for the poor. A large section of women and children from poor households catch these tiny prawn seedlings with fine nets, which are then sold to 'bheries' (water bodies for growing fish) to grow in brackish water. The estimated value of shrimp trade from the delta, including exports, is worth over Rs.100 crores. However, the real beneficiaries are mostly the middlemen and exporters.

Cultivation of crops, mainly paddy, is mostly for self consumption. This applies even for vegetables. The remoteness of

island blocks and absence of any urban market within a viable distance explains this feature.

Though barter exchange is not very predominant in the village, the majority of intra-village transactions are carried out by informal credit system. Discussion with local traders suggests that the island-villages are net importers of agricultural commodities while the major means of net cash inflow are fishing, prawn-fry collection and remittances from outside.

It is recognized that nature-based tourism in Sundarban has a great potential to generate local earning opportunities. However that potential is yet to be realized to any significant extent. This is mostly because of the lack of infrastructure such as proper transport facilities and electricity. Tourist arrival in Sundarban is presently concentrated almost entirely during three winter months. Moreover, lack of information dissemination and shortage of good accommodation facilities force most of the visitors to avail some 'package tours' which are mostly operated by outside agencies. The residents of the island

villages have little opportunity to take part in such tourism-related business. It should be noted in this connection that big corporate investment has been proposed to develop tourism in Sundarban, but this is aimed at catering to the wealthy visitors with all modern hospitality provisions. Apart from its questionable impact on the fragile mangrove ecosystem, such initiatives will not have the support from the local villagers in these islands as they could see little scope to become stakeholders in such big corporate initiatives. What is required is a comprehensive plan for a spatially dispersed eco-tourism development which necessarily integrates the island villagers as stakeholders.

Empirical analysis of available secondary data (Census 2001; Rural Household Survey 2005, Office of the District Magistrate of South 24 Parganas) underscores the point that the people living in the island blocks have significantly lesser livelihood options compared to the rest of Sundarban blocks. Some interesting findings are as follows

Table 9.2:Intra-region Disparity in Landholding

Landholding pattern	Island-blocks around forest boundary	Other Sundarban Blocks
% of households which are landless	35	56
% of households having Irrigated		
land less than one acre or non-irrigated		
land less than two acres	51	35

Source: Rural Household Survey 2005, Office of the District Magistrate, South 24 Parganas

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This reversal of distribution of households across the two types of blocks for the two lowest-ranking rural asset holding class is not paradoxical and indeed tells something about the local livelihood opportunities in the two sub-regions within Sundarban. The islands came up with settlers practising agriculture which was practically the only livelihood in the initial phase. Later on, fishing and more lately shrimp-farming and prawn-fry collection emerged as significant alternative livelihood options. However, lack of transport and electricity resulted in very little scope for development of commerce or rural informal manufacturing sector. Whatever little scope of non-farm livelihood exists in these islands cannot sustain a large landless population. On the other hand, Sundarban blocks which are connected to the mainland with improved infrastructure could accommodate a larger share of landless population through many more

non-farm livelihood options. It is conceivable that most of the landless refugees who took shelter in Sundarban blocks in later days, located themselves in the connected blocks rather than in the isolated remote islands.

Also, in the absence of alternative livelihood options, agricultural land is held by rural households as valuable assets – even if its size became economically non-viable. With subdivision of landholdings through generations, all of the agricultural households in the region must have experienced dwindling size of average landholding. However, in a mostly rain-fed agricultural region producing a single crop, irrigated land of less than one acre or non-irrigated land of less than two acres can hardly sustain a household. With alternative earning opportunities, such non-viable landholdings are expected to be sold off and the household is expected to shift to other non-farm activities. But in the island-

Table 9.3: Occupational Distributions in two regions of Sundarban

Main Occupation (as % of total workers)	Island-blocks around forest boundary	Other Sundarban Blocks
Cultivators (own + leased land)	34	20
Agricultural and other daily physical labour	48	55
Self-employed rural artisans / hawkers (those who do not employ others)	5	8
Labour oriented regular job in rural unorganized sector	5	7
Other occupations	8	10
Total	100	100

Source: Rural Household Survey 2005, Office of the District Magistrate, South 24 Parganas.

blocks of Sundarban, very limited alternative earning opportunities must have prompted a large percentage of households to retain their non-viable marginal land. Clearly, these households sustain themselves by supplementing their earning from other locally available part-time occupations – which often involves prawn-fry collection and fishing. These are in turn gradually reducing the sustainability of this

delicate mangrove ecosystem.

The conjecture can be substantiated by empirical observation if we look at the occupational pattern of households across the two categories of blocks in Sundarban. Looking at Table 9.3, it is evident that in blocks which are connected to the mainland, larger percentage of the total local workforce is sustained by all types of non-farm livelihood options.

9.10 HDI in Sundarban

Earlier chapters in this report had dealt with the components of Human Development Index (Standard of living, Health and Education) in details at block level and the Sundarban blocks were together considered as Region III in that analysis. It was already noted that Sundarban, as a region in that three-region segmentation of the district, is the most backward in terms of most of the components and the overall HDI. It will

be redundant to repeat the component-wise analysis of HDI for all the Sundarban blocks again. Instead, a brief introspection into the pattern of intra-regional disparity within Sundarban would be meaningful, based on the block-wise indicators already reported in earlier chapters. It would drive home the relative deprivation of island blocks, a point that has also been underscored in the previous sections of this chapter. However, it is interesting to note that the five island

Table 9.4: Inter-regional Disparity in Provisions regarding Primary Education Infrastructure

Provisions for primary education	Island-blocks around forest boundary	Other Sundarban Blocks
Average population served per primary school	1688	1878
Average distance covered by students to reach the school (km)	3	2
% of schools not having drinking water facility	22	24
% of schools not having sanitation facility	33	34

Source: Office of the District Project Officer, Sarva Siksha Abhijan

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Table 9.5: Inter-regional Disparity in Provisions of primary health care

Provisions for primary health care (Rural Hospitals + Block Primary Health Centres + Primary Health Centres)	Island-blocks around forest boundary	Other Sundarban Blocks
Number of beds per thousand population	0.232	0.299
Number of Medical Officers per thousand population	0.030	0.052
Number of Health Assistants (male + female) per thousand population	0.227	0.285

Source: Office of CMOH; Health on the March, 2006

blocks in Sundarban compare favourably with the rest of the region in terms of some basic provisions for primary education. This is evident in Table 9.4. At least part of this favourable score of the island blocks in terms of educational achievement can be related with their history which saw Christian missionary activity in blocks like Gosaba. Also, establishing primary education centres that cater to local population in an island is a more economically feasible social investment than building road-links with

mainland or provision of electricity. Accordingly, these island blocks show little difference in terms of educational achievement indicators like enrollment and literacy, when compared to the rest of Sundarban blocks.

However, the score of the island blocks in terms of primary health provisions is not up to the mark. Table 9.5 underscores the relative deprivation of the island blocks even within the Sundarban region, on this count.

Table 9.6: Inter-regional disparity in some indicators of standard of living

Standard of living indicator	Island-blocks around forest boundary	Other Sundarban Blocks
% of localities that are fully covered by provision of safe drinking water	38.8	41.4
% of households that are homeless	5.3	3.8
% of households that live in huts with only one room	71.7	60.4
% of households having less than two garments per member	12.3	9.3
% of households having two to four garments per member, but without any winter garment	35.6	30.6

Source: Rural Household Survey 2005, Office of the District Magistrate, South 24 Parganas

Turning to some standard of living indicators, from Table 9.6, it can be readily seen that the island blocks are lagging behind compared to the rest of Sundarban blocks. The table summarizes their status across five such indicators which can be considered as basic requirements for human living.

The combined score of the island blocks, across the three components of human development as well as the aggregate Human Development Index, thus compares poorly with the rest of Sundarban, which in turn is the relatively deprived region within the district of South 24 Parganas. Table 9.7 summarizes the indices across this categorization of blocks. Each of the indices has a highest possible value of unity. Each of the 29 blocks in the district is also ranked according to each of these indices with '1' standing for the highest and '29' standing for the lowest rank. The

'average rank' is the average of such ranks for blocks combined under the three categories. This average rank will also help bringing out the relative differences across the three categories.

As was indicated in earlier analysis, it is clear that there is a great deal of heterogeneity in terms of provisions and achievements within the blocks of Sundarbans. The five island blocks are laggards in terms of indicators of human development, except primary education. The average rank of these blocks in terms of other indicators as well as overall HDI is more than 23 out of 29 blocks in the district of South 24 Parganas. This calls for a differential treatment of these island blocks in a comprehensive developmental plan for this region. A uniform distribution of plan- resources across blocks in Sundarban will fail to take care of the inter-regional disparity.

Table-9.7: HDI and its components : intra-district comparisons

Indicator		Island-blocks around forest boundary	Other Sundarban Blocks	Rest of South 24 Parganas
Education Index	Average Score	0.87	0.83	0.86
	Average rank of blocks	10.20	19.00	14.50
Health Index	Average Score	0.44	0.55	0.53
	Average rank of blocks	23.60	13.13	13.25
Standard of Living Index	Average Score	0.34	0.38	0.48
	Average rank of blocks	25.20	20.75	8.94
Human Development Index	Average Score	0.55	0.59	0.62
	Average rank of blocks	24.20	17.00	11.13

Source: Calculated on the basis of data obtained from different sources identified previously

9.11 Threats to Sustainability

9.11.1 Climate Change Impacts

It is scientifically established by this time that the greatest threat to the future of Sundarbans is posed by the continued

Tale of a Sinking Island

Ghodamara, a tiny island within the river Hooghly falls on the western boundary of Sundarban delta. Ghodamara has been steadily sinking for the past 25 years. Fifteen to 20 years ago, the island had a population of about 20,000. According to the 2001 Census, it now holds only 5,236 people. Experts say that Ghodamara was reduced to 59 per cent of what its size was in 1969 and it will go under in another 14 years. The prediction is that the rising sea level will sink a dozen more islands in 15 years, half of which are presently inhabited.

Global Warming and the resulting sea level rise. Past century saw an increase in average global temperature by 1°C . At the present rate the temperature is slated to increase by another 3.5°C in next fifty years. The melting of polar ice cap is a direct and certain fallout and much of the coastal low lying areas in the world is threatened by possible submersion. Along the Indian coastline, the sea level is estimated to be rising at the rate of 2.5 mm per year. Research from Jadavpur University's Centre for Oceanographic Studies has estimated that along the eastern coast of India, this rise is even faster at a rate of 3.14 mm per year. It is estimated that by 2020, around 15% of Sundarban area will be

submerged and an estimated 70,000 people will be 'environmental refugees'. The threat is evident from the latest Geographic Information Systems (GIS) report which showed that in the past 70 years, 220 sq km of forest land had been submerged.

Apart from sea level rise, more immediate threat to human lives and livelihood can come from an increased frequency of cyclones and even super-cyclones. The area is cyclone-prone and historically these natural calamities came with devastating consequences for the islanders. With global warming and climate change, the frequency of such calamities is estimated to increase.

9.11.2 Anthropogenic Stress on Environment: Biodiversity Loss

Since the human settlements began in Sundarban under the British rule, a considerable loss in faunal diversity of the region has already taken place. Following a 1878 account, "Tigers, Leopards, Rhinoceros, Wild Buffaloes, Wild Hogs, Wild Cats, Barasinga, Spotted Deer, Hog Deer, Barking Deer, and Monkeys are the principal varieties of wild animals found in Sundarbans". However, due to habitat degradation and ecological changes, some of these animals in Sundarbans became extinct during the last hundred years.

Another problem threatening the

Tourism a Viable Option for Livelihood and Conservation?**– Research from an independent agency**

Due to its importance as a biodiversity hotspot and World Heritage Site, there has been a substantial increase in research interest on various aspects of Sundarbans from various agencies and individuals. Some of the research findings are publicly available and can be used as a baseline for a comprehensive developmental plan for Sundarbans. One such recent study has been carried out by South Asian Network for Development and Environmental Economics (SANDEE, www.sandeeonline.org). The study primarily examines the contribution of tourism towards improving the livelihoods of the local people in a remote island village of the Indian Sundarbans (Working Paper No. 26-07).

The study found that with the arrival of visitors in an island village bordering mangrove delta forest, the local people spontaneously availed the opportunity to enter into various tourism-related service provisions. Majority of them belong to landless and marginal cultivator households, a profile similar to those who mostly depend on direct forest exploitation. The study found 78% of the local service providers/traders operate with either very small or no capital investment. Village households that could avail tourism-related earning opportunities are found to spend 19% more on food and 38% more on non-food items per capita compared to other similar village households. However, the study found that presently no village household subsists entirely on tourism-based income since tourism is extremely seasonal.

The conservation effect of tourism is perceptible as the proportion of forest-dependent households is found to be significantly lower among the participants. This is indicative of a substitution of forest-based earnings by tourism-related earnings. However, the study found little evidence of the percolation of tourism-related income to non-participating households through intra-village transactions. While the villagers' overall perception of tourism is found to be positive, a significant section of villagers take cognizance of the growing income-inequalities resulting from tourism-based income. The study proposes a carefully crafted policy for promoting nature-based tourism with more room for local participation.

Sunderbans' mangrove ecology is the collection of tiger prawn seeds. Burdened by poverty, over two lakh people have turned to collecting tiger prawn seeds, using nylon nets, which are dragged along the river banks. In the process, apart from destroying mangrove seedlings and eliminating the possibility of a regeneration of mangroves along the river banks, at least 74 species of fish are also destroyed. Estimates by the Marine Biological Research Institute, 24 Parganas (South), revealed that in the process of collecting 519 prawn seeds, on an average 5,103.25 gm of other seed varieties that sustain different categories of fish are destroyed. Gradually, the food chain of this ecosystem is breaking down. The effect is

already evident by a dwindling fish yield in the delta region. It has already threatened one of the principal livelihood options in the region.

Also, the ecological significance of the Sunderban mangroves is immense. Apart from serving as a shield against natural calamities, it checks atmospheric pollution. It has a seemingly unlimited capacity to absorb pollutants from both air and water. But a 2007 report by UNESCO has stated that a 45-cm rise in sea level (likely by the end of the twenty-first century, according to the Intergovernmental Panel on Climate Change), combined with other forms of anthropogenic stress on the Sundarbans, could lead to the destruction of 75% of the Sundarbans mangroves.

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9.11.3 Threat from Embankment Erosion

The Sundarban islands are in their formation stage and were still young when they were forced to support human habitation and agriculture, before attaining the necessary height through the natural process of siltation. Without human interference, only a small part of these islands' upper surface can keep above the surrounding saline water level at high tide. The salinity allows nothing but mangroves to grow on the soil. There is no possibility of growing food crops on such land unless it is kept out of reach of the river water for a considerable time and successive rainy seasons dilute the land salinity. This is why the settlements could take place only after surrounding each island with a sufficiently high earthen embankment that could withstand the daily onslaught of tidal waves. More than a century later, these embankments still stand as the chief defence and lifeline for the property and village economy in Sundarban.

Yet, these fragile acts of mankind are at the mercy of mother nature. Continuous erosion of these embankments are as real as their existence. The physical development processes along the riverbanks and coast are influenced by a multitude of factors, comprising wave motions, micro and macro-tidal cycles and long shore currents. The currents vary greatly along with the monsoon. These are also affected by cyclonic action. Erosion and accretion through these forces maintain varying levels of physiographic change whilst the mangrove vegetation itself provides a remarkable stability to the entire system. The practice of prawn-seed collection all along these embankments have largely wiped out the natural mangrove growth, exposing their base to the constant flow of water. The community cooperation among the islanders in jointly upkeeping this lifeline has weakened through ages and new institutional developments. As a result, each year, several of these islands routinely experience the loss of crop due to the breaching of embankments.

A Fact-Sheet on Embankments

The total length of 3,500 km of earthen river embankments and coastal dykes, along with 862 drainage sluices, are maintained by the I&W Department in the Sundarbans. Out of this:

Length of River Embankment on Major Estuaries: 700 km

Length of River Embankment on Medium Estuaries: 2,750 km

Length of Sea Dyke on the sea coast : 50 km

Presently more than 2,000 km of this embankment network are without the necessary mangrove cover.

9.12 Saving Sundarban: Whose Responsibility?

This chapter has taken a closer look at the socio-economic fact-sheet within the Sundarban region. Empirical evidence overwhelmingly establishes the relative deprivation of the population on the islands, mostly in close proximity to the reserve forest. Priority must be given to such blocks to improve some of the basic infrastructural provisions like electricity and communication. Resources at disposal to the local authority are often limited and they usually flow to the area where maximum number of people can be served by a given amount of social investment. In remote islands, improvement in these provisions require a substantially larger cost relative to the number of beneficiaries. Seen from this local perspective, the backwardness of the island blocks of Sundarban can be logically explained.

Yet, neglecting these people may have global implications. It is fairly established by empirical research from different parts of the world that “poverty is the greatest polluter”. Poverty and underdevelopment of a region pushes the local poor to

overexploit the surrounding natural resources. In Sundarban’s island blocks surrounding the forest, crippled infrastructure leaves the local poor with few alternative livelihood options, but to depend on the forest and the rivers. The World Heritage Site and a delicate ecosystem’s future sustainability is at stake. This fragile ecosystem renders valuable ecological services to a vast region in South Asia – replenishing the fish stock in the Bay of Bengal and maintaining the region’s biological balance. It is also home to many endangered species, the most famous being the Royal Bengal Tiger. All these ‘user-values’ and ‘non-user-values’ of Sundarban are not exclusive to the local population. So, national and global responsibility is also called for. Financial assistance to the local authority should logically flow from both national and international stakeholders, and should be directed to the priority locations within Sundarban, as is indicated by the discussions in this chapter.