

WEST BENGAL DISTRICT GAZETTEERS



BARDDHAMĀN

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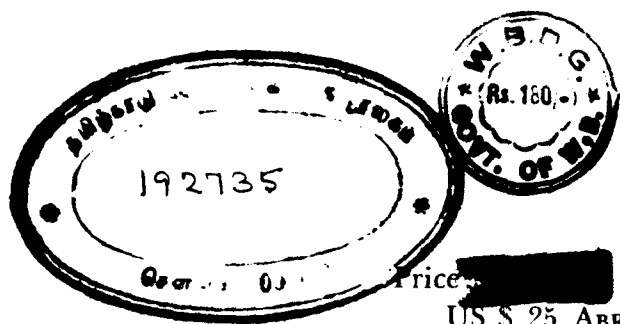
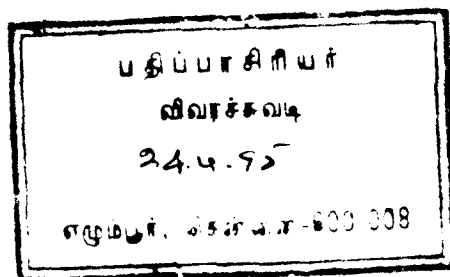
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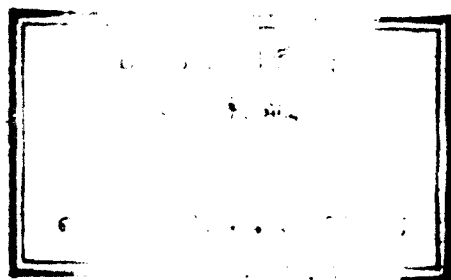
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PREFACE

The Bardhaman District Gazetteer is the fourteenth volume in the series of West Bengal District Gazetteers, written in accordance with the Scheme for Revision of Gazetteers, launched by the Government of India in 1959. The Central Government Scheme, however, having come to an end in 1981, the present volume has been prepared and is being presented solely by the Government of West Bengal.

The work on the Volume was initiated as early as in the mid-sixties by the then State Editor Late J. C. Sengupta IAS and the manuscript was finally sent to the press by Dr. B. De in 1984. The printing work was held up half way till 1993. The sole contribution of the present editor has been to make special efforts to ensure its final publication. He is grateful for the assistance he received from the staff of the Gazetteers office particularly of the Publication section and of the Education Department. He is, however, specially grateful to Sri Asoke Bhattacharya and Sri Niranjana Kumar Mallick, Joint Secretaries of Education Department (Higher Education) and Finance Department respectively for their unstinted support. Grateful thanks are due also to the contributors, members of the State Advisory Committee and the printers, M/s. N. K. Gossain & Co. (Pvt.) Ltd., whose efforts have made the publication of this volume possible.

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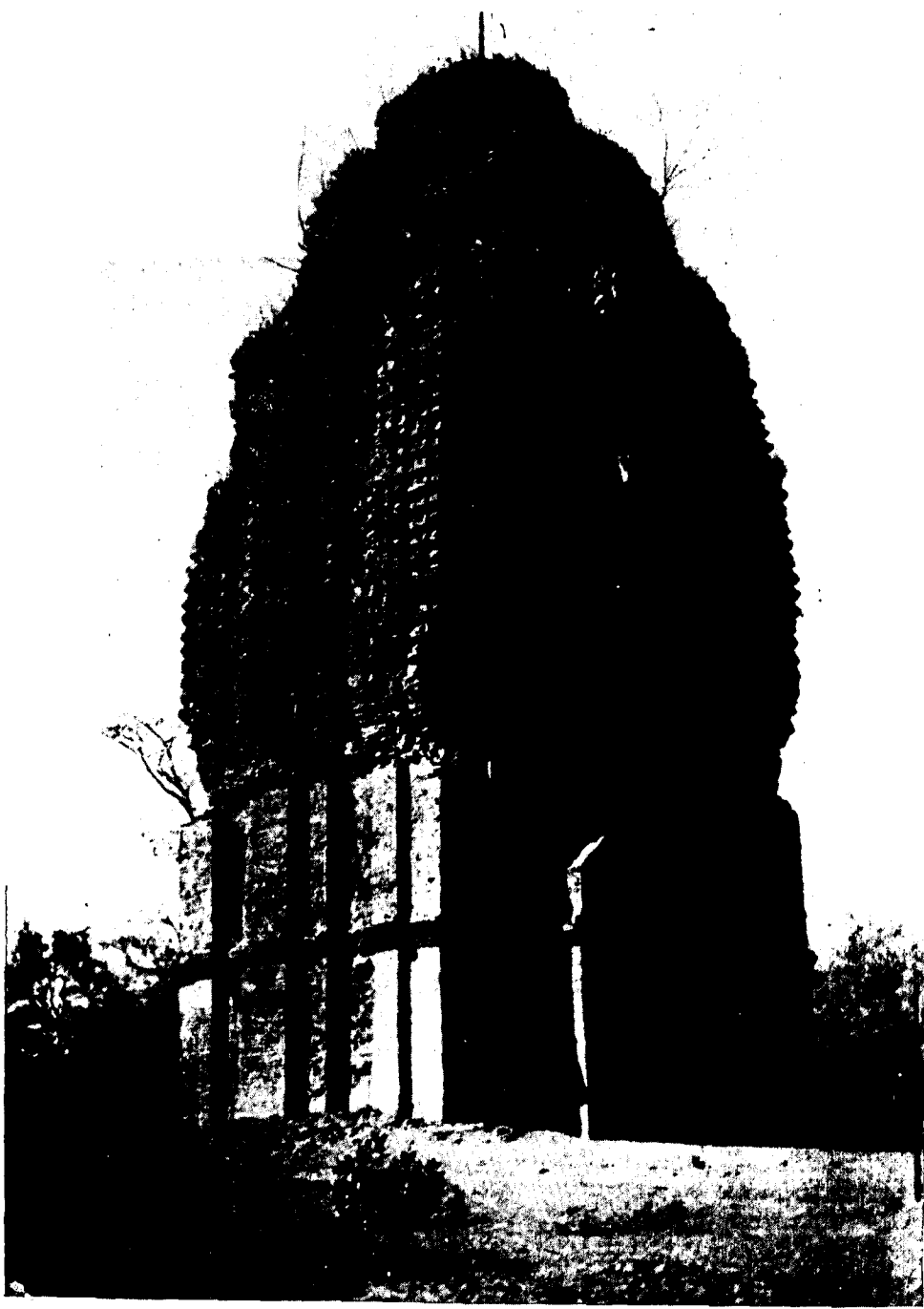
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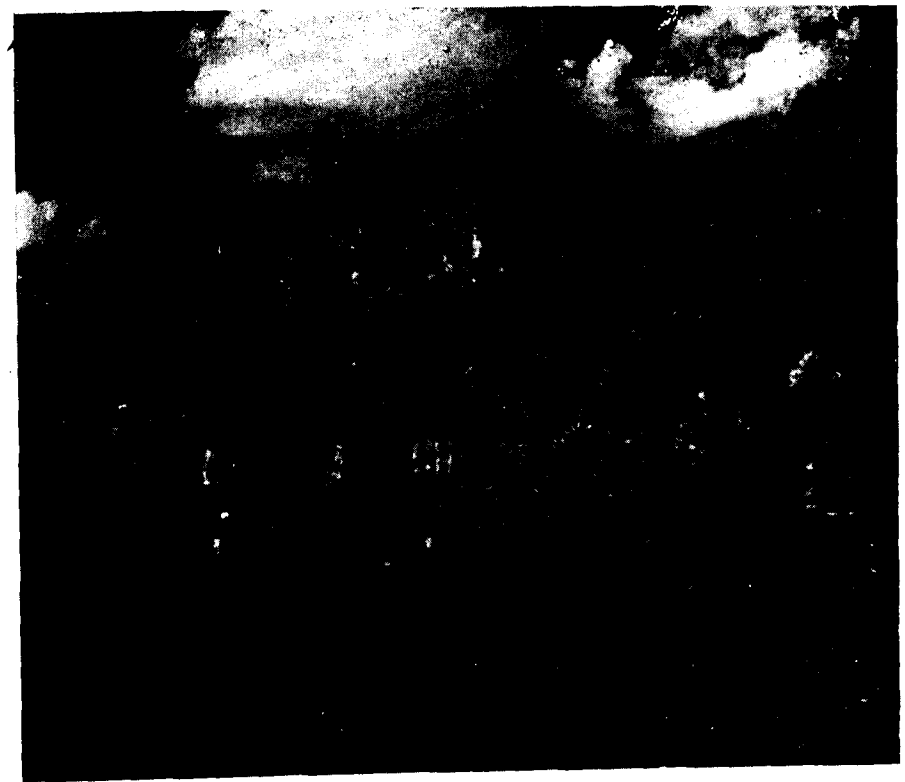
Courtesy: Shri Jojneswar Choudhuri.



An image of INDRANI, Kummun.



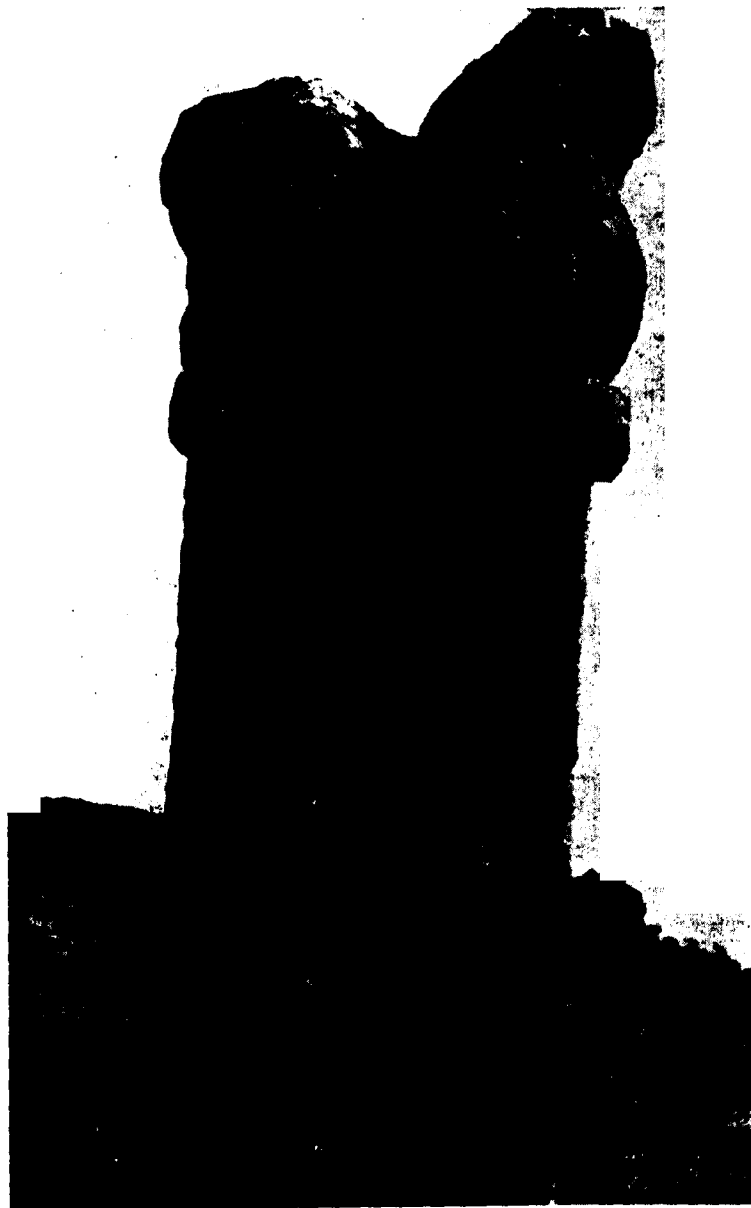
A Sikhara-deul Temple, 9th Century, Satdeulia.



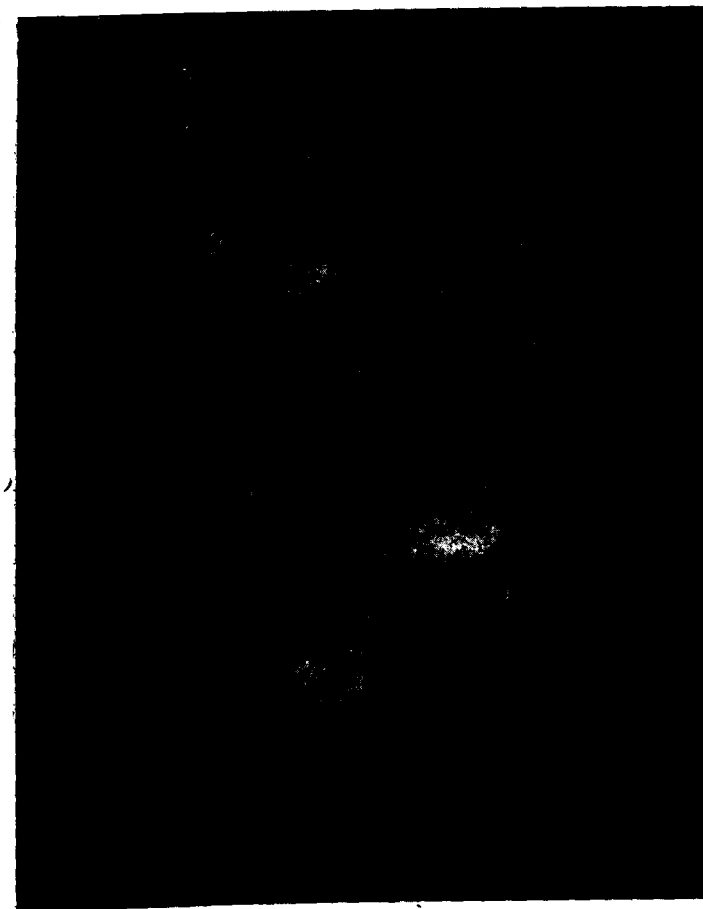
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CHAPTER I

GENERAL

The name Burdwan is an anglicised form of the Sanskrit word *Vardhamāna* which occurs in *Bṛihatsamhitā* of Varāhamihira¹ and in *Mārkaṇḍeya Purāṇa*. The first epigraphic reference to the name occurs in a 6th century A.D. copper-plate found in the village of Mallasārul in Galsi Police Station. From this inscription it appears that Barddhamāna was the name of a *Bhukti* (division) under the administration of an *Upārika* (viceroy) during the reign of king Gopachandra.

INTRODUCTORY
Origin of the
name

There are two views about the origin of the name Barddhamāna. It might have been named after the 24th Jaina Tīrthaṅkara or Barddhamānasvāmī. According to *Kalpasūtra* of the Jinas, Mahāvīra spent sometime in Astikagrāma which was formerly known as Barddhamāna.

According to the other view, Barddhamāna means prosperous growth centre. In the progress of Aryanisation from the upper Ganges valley, the frontier colony was called Barddhamāna as a landmark of growth and prosperity. This name came to stay as the Aryans failed to consolidate their gains further east.

Barddhamān district extends from 22°56' to 23°53' north latitudes and from 86°48' to 88°25' east longitudes. Lying within Barddhamān division, the district is bounded on the north by the Sāntāl Parganās, Birbhūm and Murshidābād, on the east by Nadiā, on the south by Hugli, Bānkurā and Puruliyā and on the west by Dhānbād districts. The river Barākār forms the State boundary to the west; the Ajay separates Birbhūm and Sāntāl Parganās to the north with the exception of a portion of Kātoyā subdivision which lies to its left bank; the Dāmodar forms a natural southern boundary with Puruliyā and Bānkurā, while Bhāgirathī forms the main eastern boundary with a few exceptions. Navadwip which though on the right bank, is a part of Nadia district while Agradwip on the left bank is within Barddhamān. The natural boundaries formed by these rivers are fairly constant. Except a few kilometres along the Dwārakeswar, there is no natural boundary with the Hugli District. Besides, the shifting course of the Bhāgirathī sometimes necessitates administrative adjustments in respect of *char* lands between Barddhamān and Nadiā.

Location, general
boundaries, total
area and popu-
lation

¹ Chaudhuri, S. B. — *Ethnic Settlements in Ancient India*, Calcutta, 1955, Chart vi.

The total length of the district from the Barākar to the Bhāgi-rathī below Kālā is 208 km. while its maximum breadth from north to south is only 112 km. In shape the district resembles a hammer, the handle of which consists of the Asansol and Durgapur subdivisions.

Area and population figures as supplied for 1971 census for Barddhamān is 7,028 sq. km. and 39,16,174 respectively. It is the third largest district after 24-Parganas and Medinīpur both in terms of population and size. With 8.02% of the total area of West Bengal, the district accommodates 8.82% of the State population, the average density being 557 per sq. km. Of the total population, 20,76,210 were males and 18,39,964 females of which 8,90,114 were literate males and 4,55,359 literate females. The total number of workers were 10,93,809 (i.e. 27.93% of the total population) of which 9,99,659 were males and 94,150 females. The district's total urban population was 8,91,990, ranking after Calcutta, 24-Parganas and Howrah, while her total rural population was 30,24,184, ranking after 24-Parganas and Medinīpur.

TERRITORIAL CHANGES OF BARDDHAMĀN DISTRICT IN RECENT YEARS¹

	(Area in acres)
1. Area transferred to Barddhamān district from the district of Nadia due to district Boundary settlement as per Revisional Settlement of 1954-59.	+ 254.10
2. Area transferred to Barddhamān district from Bihar due to Boundary settlement along with the river Barākar as per Directorate memo. No. 127/195/D/59, dt. 1st Feb. 1969.	+ 984.41
	+1,238.51
3. Area transferred to district Birbhum from Barddhamān district due to Boundary settlement along with the river Ajay as per Revisional Settlement of 1954-59.	-1,162.51
4. Area of mouza Sahalapur of P.S. Rāinā, district Barddhamān has been transferred to the district of Hugli from Barddhamān	

¹ Source : Director of Land Records & Surveys, West Bengal.

(Area in acres)

district vide Notification No. 3920-PI/P4P. 22/60 dt. 26th July, 1966.	—1,484.70
	—2,647.21

Total area transferred from Barddhamān district to the neighbouring districts as per Boundary settlement. (—) 1,408.70

The origin of the district of Barddhamān as a single administrative unit began with the assignment of its revenue (as well as that of Nadia) by Mir Jafar in favour of the East India Company in April 1758. Revenue collection was so difficult that a revenue official had to be posted at Barddhamān. The British administration over Barddhamān may thus be taken to have commenced in March 1761, with the posting of Mr. Summer as Resident. Barddhamān was made a Collectorate in 1786. Barddhamān has few locally preserved records of earlier date than 1786.¹

It will not serve any useful purpose to speculate on the place the territories of the Barddhamān Rāj occupied in the previous administrative set up of Bengal or of the Mughal empire. As Firminger points out, "The actual dealings of Akbar's revenue officials with the Hindu Rajas in Bengal is a subject lost in obscurity. The division of the country into sarkars ignores the existence of ancient Hindu states or principalities."²

On 21 September 1791, the Government asked C.A. Bruce, the Collector of Barddhamān, to give all assistance to Rewben Burrow who was to ascertain by observations on the spot the exact longitude and latitude of the most remarkable places in Barddhamān district.³ This was, however, not the first survey. Rennel had surveyed and mapped this part of Bengal in the 1770s. However, these surveys were not perfect even for military purposes.⁴ In February 1793, the Board of Revenue informed

¹ Firminger, W. K. — *Historical Introduction to the Bengal Portion of the Fifth Report*, Calcutta, 1917, p. CXI.

² *ibid.* p. XXVI. Firminger further writes "The great zamindary estate best known to Hastings and Francis had not come into existence when Todar Mal was at work. The beginnings of the Burdwan Raj took place in the time of Abu Rai, a Kshatriya, who came to Bengal from the Punjab, and was appointed Chaudhuri and Kotwal of Burdwan about the year 1690."

³ Guha, R. & Mitra, A. — *West Bengal District Records : New Series : Burdwan : Letters 1788-1802*, p. 11.

⁴ *ibid.*, pp. 233 & 238. The Board of Revenue in a letter dated 10 October 1792 to W. A. Brooke, the Collector of Barddhamān, sent certain 'proceed-

The history of the district as an administrative unit and changes in its component parts

the Collector of Barddhamān that it had taken up the question of separation or annexation of any part of those districts which were intersected by the changing courses of such rivers as 'the Padda and the Ganges'.

On 1 July 1794, the boundary between Barddhamān and Nadia was demarcated along the Bhāgirathī.¹ In April 1795, Hugli was separated from Barddhamān. Alterations in the boundaries of districts were made at first by orders of the Governor General in Council. After 1793 important changes were made by special regulations. Zilla Hooghly was formed by Regulation XXXVI of 1795. Zilla in those times meant the jurisdiction of Judge-Magistrate. Under section 8 of Regulation IV of 1821 the Governor General was empowered to make alterations in jurisdiction of Collectorships and by Act 21 of 1836 of Zillas. Bengal Act 4 of 1864 which replaced Act 21 of 1836 vested the Lieutenant Governor of Bengal with the power to create new zillas or to alter the limits of existing zillas.

In 1910, the district had 23 thanas and 9 outposts. The Sadar subdivision had 8 police stations, viz. Sāhebganj, Khandaghosh, Rāinā, Sātgaāchiā, Jāmālpur, Āusgram, Galsi, Memāri and 8 outposts, viz. Bara Bāzār, Birhatta, Murādpur, Noutongan, Keshabganj, Kānchannagar, etc. Asansol subdivision comprised of thanas Rāniganj, Kaksā, Āsansol, Faridpur, Barākar; Kālnā subdivision of Kālnā, Purbasthali and Manteswar; and Kātoyā subdivision of Kātoyā, Ketugrām, Mangalkot and Dainhat outpost.¹ In 1901, the total area of the district was 2,689 sq. miles, in 1931, it was 2,705 sq. miles and in 1951, 2,705.8 sq. miles (7,008.02 sq. km.).

ings regarding certain lands granted for Military purposes stated by Colonel Kejd to be in Nuddea district', and requested to investigate the matter as it appeared from a letter dated 24 August from the Collector of Nadia that part of these lands was situated in Barddhamān district. Again in November 1792, the Government asked the Collector to ascertain whether *moujah* Burra Calcapore was situated within the boundaries of Pergunnah Saib Sellaumpore in Barddhamān or in the adjoining Murshidābād district.
¹ "As the Hooghly and Cossimbazar rivers appear to us to be the natural boundary of the Burdwan district to the eastward and of the district of Nuddea to the westward, we beg leave to recommend that all Mehals situated to the westward of the above rivers respectively, which at present pay Revenue to the Collector of Nuddea be annexed to Burdwan and that vice versa all Mehals situated to the eastward of the above rivers, the revenues of which are at present paid to the collector of Burdwan, be annexed to the District of Nuddea from a latter dated 24th August". Nearly half of Pergunnah Satsyka, and 'Tannah Mungwah' situated in 'Pergunnah Katow' under the 'Nuddea Zillah' were thus annexed to Burdwan. *ibid.* pp. 298, 305 & 312.
² Peterson, J. C. K. — *Bengal District Gazetteers : Burdwan*, Calcutta, 1910, p. 164.

The district now consists of five subdivisions, namely Sadar or Barddhamān, Durgapur, Asansol, Kalna and Katoya. The Sadar subdivision comprises of the thanas of Barddhamān, Khandaghosh, Rāinā, Jamalpur, Memari, Galsi, Bhātar and Āusgram; the Asansol subdivision of Chittaranjan, Salanpur, Kulti, Hirapur, Asansol, Barabani, Jāmuriā, Rāniganj; the Kalna subdivision of Kālnā, Purbasthālī and Manteswar; the Katoya subdivision of Kātoyā, Mangalkot and Ketugram and the Durgapur subdivision of Durgāpur, Faridpur, Kāksā, Budbud and Andāl.¹ The subdivisions of Kālnā and Kātoyā have remained more or less constant in their area and configuration since 1820, while the Sadar subdivision assumed its present shape about the year 1879. The Asansol subdivision took shape towards the end of the nineteenth century. Its headquarters used to be at Rāniganj from which it was transferred to Asansol in 1906. The Durgapur subdivision² was created on 14 April 1968.

There are 33 development blocks, 23 Anchalik Parishads, 1,390 Gram Panchayats and 195 Anchal Panchayats in the district.

From a regional point of view the Barddhamān district with its varied tectonic elements and riverine features, is a transitional zone between the Bihar plateau which constitutes a portion of Peninsular Shield in the west and the Gangā-Brahmaputra alluvial plain in the north and east. In general the Bihar plateau consists of the metasedimentary rocks of Precambrian age, Gondwana sedimentary rocks, Rajmahal basalts and Upper Tertiary sediments. Laterite has developed on these older rocks as well as on early Quaternary sediments. Towards south, the alluvial plain merges with the Kasāi-Subarnārekā-Baitaraṇī deltaic plains.

TOPOGRAPHY
Natural
Divisions

The western half of the district resembles a promontory jutting out from the hill ranges of Chotanagpur plateau and consists of barren, rocky and rolling country with a laterite soil rising into rocky hillocks, the highest being 227 m. at 86°50' E & 23°48' N. These diversify the otherwise monotonous landscape and lend a special charm to the skyline around Asansol subdivision. The

The dissected and
degradational
uplands

¹ The Durgāpur Police Station was created by Home Department Notification No. 1644 Pl. in the *Calcutta Gazette Extraordinary* dated 8th April 1960. It then consisted of 44 *mauzas* of which 43 were carved out of Faridpur P.S. and 1 out of Andāl P.S.

² The Durgāpur subdivision was created by Home Dept., General Administration Notification No. 946 G.A.C. dated 6th April, 1968.

500' contour dominates the divide between the Ajay and the Barākar both of which flow south-southeast in this stow. From the shingles and rock outcrops and a few domes it appears that the landscape has reached near maturity. The shingles occur in between 400' and 550'. It is a part of the Gondwana basin which has lost its true basin character owing to sedimentation.

The Ajay-Barākar divide is a convex plateau, the average altitude being 150 m. The gradient is westerly to the west and to the east it is northerly towards the Ajay above 23°49' N and southerly towards the Damodar below the latitude. Salanpur (86°53' E & 23°46' N), a busy coal mining, wood processing and earthenware manufacturing centre; Rupnarayanpur (86°54' E & 23°49' N), the centre of cable industry and Chittaranjan P.S. (86°54' E & 23°51' N), famous for its railway locomotives are on this divide. They are well linked by the main line of the Eastern Railway which passes through the centre of the divide while roads converge from all directions to give the larger settlements a nodal character.¹ From south the district boundary follows the left bank of the Barākar, crosses the Maithon reservoir² and then turns east along a tributary of the Barākar-Ajay divide. This tributary, now under Maithon reservoir, and the Barākar itself, occupy incised valleys. The Barākar is more than a mile broad at 23°45' N. Scars of gully crossing along the tributaries of the Ajay and the Barākar as well as along Noniā Khāl, a tributary of the Dāmodar, is very pronounced.

The Ajay-Dāmodar inter-stream tract is made up of several stows consisting of vales and low convex spurs which run in almost all directions except north-west and thus lends a very complicated character to local relief.

The stow encompassed by the Dāmodar on the south, the Barākar on the west and the Noniā Khāl to the east has the

¹ This divide stands out as having witnessed the earliest and most spectacular transformation of the cultural landscape since World War II. In contrast, a large part of the Barākar-Ajay inter-stream area which falls in Bihar has remained undeveloped; moreover, uncontrolled land-use, deforestation and sheet erosion in the Bihar portion of the interfluve have been adding new dimensions to the problems of the Ajay and the Barākar.

² Ghatakul, Gamakuri, Bathanbari, Sidhabari and Sarkuri *mauzas* of Salanpur Police station are now totally submerged under the Maithon reservoir. Besides, these seven *mauzas* have been partially submerged. These are Brindabani, Banskatiā, Dhanguri, Damuda, Kalipathar, Majhladi and Pithakuni. The powerhouse, housed underground, falls within West Bengal, while the colony and the offices of the Maithon dam are on the Bihar side.

most pronounced relief within the Dāmodar-Ajay divide. It ranges from 150 m. at Kulti (86°51' E & 23°44' N) to 87 m. at the debouching point of the Noniā Khāl into the Dāmodar,¹ just south of Rāniganj. The general slope is from north to south; numerous small non-perennial channels with scars of gully erosion descend on the Damodar from north. Most important of these is the Noniā Khāl which peculiarly turns non-perennial in its middle course and after receiving an eastflowing non-perennial tributary a mile north-east of Asansol (86°59' E & 23°42' N), flows in a south-easterly direction. The overall drainage pattern is radial in character. Settlements avoid the immediate neighbourhood of the Damodar which is seamed and lined with numerous deep gullies on detrital laterite, with little protective covering of grass and scrubs, dried up tanks, rock outcrops and shingles and rocky cliffs. Away from this barren and desolate badland, towards the north, the industrial landscape completely overshadows the natural landscape. An intricate network of communication lines link Asansol, Sitarampur, Kulti, Kendua and Barakar on the main line of Eastern Railway and terminus points of several branch lines of South Eastern Railway, with Begunia, Sanktoria, Dishergarh, Radhanagar, Alidihi, Bara Dhemu, Hirapur, Burnpur, Ghoshik, Chincuriya and many other mine sites. The entire area is dotted with collieries.² From the air, the pit-heads with their steel structures, factory chimneys and burning heaps of coal, dense nodal settlements and an intricate mesh of communication lines amidst an almost treeless undulating surface with a few patches of terraced cultivation and numerous dried up tanks present a gloomy appearance. The settlement pattern is mixed—linear along the communication channels linking the mines and clustered around tanks on the cultivated fields.

The inter-stream areas of the Noniā Khāl and Singaran Nala covering parts of Barabani, Jamuria, Rāniganj and Andal police stations and extending from the Ajay to the Damodar is the third stow. The Ajay receives 9 north-flowing tributaries, all less than 11 km. in length. The crest of the Ajay-Damodar watershed is within 8 to 13 km. from the Ajay channel. The Ajay channel

¹ The Damodar, the master stream flowing east-south east in a broad valley with numerous point-bars and islands of coarse sand and gravel. This stretch, however, is not within Burdwan; the district boundary runs along its left bank.

² Asansol, 211 km. from Calcutta by rail and 218 km. by National Highway 2, is the subdivisional headquarters and the nerve centre. Kulti and Burnpur owe their origin and growth to the iron and steel industry.

is on a higher altitude. This area again is one of low undulating relief with radial drainage pattern and graded inter-stream tracts sloping down to broad valley floors. Compared to the Barakar-Ajay stow this area does not display interrupted valley profiles and truncation of rocks of varying resistance, but this incipient peneplain has retained some of the deep residual laterite and red clay soils which formed on the old-age surface. A line of artificial and natural tanks occur along this crest and at the foot of the spur; the intervening convex slope is subject to sheet erosion and fairly high gully erosion by numerous non-perennial channels descending at almost right angles to the Nōniā Khāl and Singaran Nala.

Like its western counterpart the industrial landscape of criss-cross railway lines and collieries is more conspicuous than the physical landscape.¹

The northeastern edge of the Damodar-Ajay interfluvium, dominated by the Tumuni and the Kunur *Nadi*, constitutes the fourth stow. Tumuni takes off from a heavily dissected place, a little north of Haripur and flows east parallel to the Ajay. The Kunur *Nadi* and its tributaries also descend through very badly eroded valleys from a rolling upland dominated by several 120 m. high flat summits immediately to the west of Ichhapur which is a nodal point in Faridpur police station. The upper catchment area of the Kunur above 75 m. is covered by dense *Sāl* jungle. On the right bank of Ajay at village Semālya (87°12' E & 23°45' N) there is a sand hill and several rock outcrops in the upper catchment area of the Tumuni and her tributary the Itākhala Nālā. There are several collieries, some of which lie abandoned, along the Andal-Sainthia Chord line which crosses the gully scarred Tumuni valley 1 km. south of Pāndaveswar railway station (87°17' E & 23°43' N). The height of the Tumuni-Ajay interfluvium ranges between 60 m. and 100 m. while that of the Tumuni and Kunur between 60 m. and 120 m. In the upper reaches the settlements along the Kunur valley avoid the immediate neighbourhood of the river banks and are almost invariably on the flanks of the higher escarpments. The Kunur

¹ The loop line from Andāl to Gaurangi via Tapasi (87°07' E & 23°40' N) follows the Singaran valley. From this line the Ikra Branch via Jamuria and the Tapasi-Barabani Chord runs north-west across the spur to Sitarampur, Raniganj, Andāl, Singaran Colliery, Jamuria, Charanpur (87°02' E & 23°44' N) and Barabani (87°01' E & 23°44'45" N) are linked by all weather metalled roads which radiate out from N.H. 2.

discharges into the Ajay a little north of Mangalkot (87°54' E & 23°32' N) and forces the Ajay to swing in a north-easterly direction at 87°57'45" E & 23°38' N. It is interesting to note that the Kunur almost forces the Ajay to flow against the gradient.

The southern half of Durgapur subdivision extends from the Singaran Nala on the west to the Anderson Weir (19 km. from Durgapur Barrage) and the upper catchment area of the east flowing Kharia Nala and the Banka. In this portion the Damodar becomes very broad, more than 2 km. wide on an average and had formed 20 large islands which produced a braided channel appearance. It is now submerged under the Durgapur barrage reservoir. The lateritic areas which extend upto the Galsi police station are very poor. On the lateritic interfluvium, poor short grass, thorny bushes, scattered wild dates and the rust-red laterite in roadside cuttings combine to present a landscape of drought and desolation, relieved only by the sunk paddy-floored valleys. Clearance of dense forest around Durgapur and destruction elsewhere has brought the usual nemesis of erosion. Till very recently the present Durgapur industrial belt was geographically *terra incognita*, rocky, jungly, isolated, backward and almost empty. Like its western counterparts in the Asansol subdivision, this broadly rolling country is partly covered by the older floodplain alluvium of the Damodar but the interstream uplands are bordered by low gullied terraces. On the valley-slopes terracing for paddy catches the soil wash, checking erosion and retaining sub-soil water. The cultural landscape of this stow is different from that of its western counterpart. Whereas the landscape of Asansol subdivision is characterized by coal derricks with their attendant spoil heaps, the irregular and squalid settlements of the miners, a dense rail and road net and ropeways bringing sand from the Damodar, that of Durgapur is a planned industrial belt and a transit zone. Along or across it radiate the main railways and roadways from Howrah to the Ganges plains and Mayurākshi basin. After crossing the Durgapur barrage roads lead to Haldia and Jamshedpur. The Andal-Sainthia chord line skirts the extremely eroded and treeless Singaran-Tamla divide. Numerous non-perennial left bank tributaries of the Singaran have gullied the western face of this interfluvium. Gravel and boulder outcrops are seen immediately above the floodplains and all over the catchment area of the Singaran. From south of Ukhra the Tamla skirts the west facing steep escarpment of the Tamla-Kunur divide. The dense jungle of the Tamla-Kunur divide around Raghunathpur (87°18' E &

23°35' N), Benachiti (87°17' E & 23°33' N) and Faridpur (87°17' E & 23°32' N) has now been cleared to provide room for the ever expanding Durgapur industrial complex.

Wargrām uplands
& plains

The quaternary terrain around Barddhaman shows two common and distinct types of land forms, deltaic plains and valley plains. The Wargram plain occurs as a north-south trending belt extending up to Erur (37°53' E & 23°28' N) in the east and bounded by the Kunur floodplain to the north. The topography is quite undulating due to an intricate system of headward eroding valleys.

The Kusum-
grām plain

Situated east of the Wargram laterite upland and plains, the Kusumgram plain extends from 47 m. along the western margin, to 15 m. above mean sea level in the east.

The Kusumgram plain covers a large portion of the district. The Khandaghosh, Rāina and western half of Jamalpur police stations within the Dwarakeswar-Damodar interfluvium and Galsi, Bhatar, Barddhamān, Manteswar, Mangalkot and some parts of Ausgram police stations make up the vast older deltaic plain, while the older terraces and filled valleys of the Kusumgram plains extend up to Andal and Faridpur along the Ajay, the Tamla and the Damodar and also along the Dwarakeswar.

Further east, the landscape is a dense mosaic of tanks and especially in Barddhamān P.S. The permanent huts, though agglomerated, have developed a linear pattern along the Khari and its right bank tributary the Gora Nala. To the south within the elbow-bend of the Damodar, the older deltaic plain is just as featureless as its northern counterpart. Clay, loam and sandy clay are the main soil types. The Damodar enters the district at a higher level (42 m.) than the Dwarakeswar (26 m.) and the tail of the delta extends to Hugli district. The slope is south-easterly.

The Kālā
plain

East and south-east of the Kusumgram plain occurs the younger Kalna plain at a lower level varying between 24 m. and 7.5 m. above mean sea-level.

RIVER SYSTEM
AND WATER
RESOURCES

The river system in Barddhaman includes the Bhāgirathī-Hugli in the east, the Ajay and its tributaries in the north and the Dwarakeswar, the Dāmodar and its branches in the south-west. Besides, there are innumerable old beds of rivers all over the area.

Barddhamān district forms the core of the Dāmodar Valley region of which 32,113 km. is in Bihar and 26,366 km. in West Bengal. The significance of the Damodar in modern times was first realized in Barddhamān positively by the exploitation of the coal preserved in its rift valley and its use as a railway corridor; negatively by the devastation brought to the district by its frequent floods as a consequence of the convergence of the drainage from the impervious crystallines of the plateaus into the bottle-neck below Asansol, and of the abrupt right-angled bend where the Damodar gives off distributaries. The drainage problem have been much aggravated by deforestation and soil erosion. The Damodar Valley Corporation tackles these problems.

The Damodar or the Deonad Nadi, as it is called in its upper reaches, rises from trap hills at Rajruppa in Ranchi district. It is towards the Bagodar upland that the Damodar and the Barākar converge; hence the two reservoirs of the DVC have been constructed for flood control, irrigation and power: the Maithon on the Barākar and the Panchet hill on the Damodar.¹ The Panchet dam is situated only 5 km. west and the Maithon dam 13 km. north of the confluence of the Damodar and Barākar. The Nonia, the Singaran, the Tamla and the Kukua are small left bank tributaries draining the southern slopes of the Ajay-Damodar interfluvium.

On entering alluvial terrain, the Damodar attains its maximum width and has been controlled at Durgapur by a barrage.² The older Anderson weir is 19 km. below Durgapur barrage. The barrage is of floating raft type with control gates and is the fountain head of canals on either bank. The river takes a turn to north-east near Khandaghosh and receives its last tributary, the Sali, which deposits a considerable amount of sand and silt into the Damodar. The Damodar suddenly turns southward near village Chānchai, 24 km. below Barddhamān and within its elbow on the right bank are to be found a number of spill channels locally called *hānās*. The *hānās* fall into the Dab Khāl and its ramifica-

¹ The Tilaiya reservoir on the Barākar is located in the plateau region in the upper reach of the river. The original scheme of the Damodar Valley Corporation was to construct another dam at the confluence of the Usri with the Barākar (Belpahari dam).

² Owing to the construction of the Durgapur barrage the stretch of the river between Hatinal and Durgapur remains more full of water throughout the year than formerly, while below Durgapur barrage the channel has narrowed down on account of the absence of natural flushing during monsoon. Before the construction of the barrage the entire length up to Barddhamān was a broad sandy bed over which the river flowed in an ever changing braided form.

tions which traverse a shallow depression, running parallel to the main river to its south and west, and overgrown with a vast expanse of *benā* (*khas*) grasses. Before leaving the district in Jamalpur P.S. it gives off at Suri Kalna the Mundeswari distributary which is now the main channel of the Damodar.

The changes in river courses are the normal phenomenon in deltaic conditions. But the consequence of these shifts in the case of the Damodar have been catastrophic. The people of the region had to adapt themselves to these changes.¹ The flood of 1855 nearly wiped out the town of Barddhamān, and it was decided to abandon the right bank embankment to decrease the pressure on the left. It was in between Memari and Barddhamān, that is, at Manikhati that the main marginal left bank embankment cracked in 1943, cutting across the Grand Trunk Road and the main railway line lying north of it, thereby disrupting communications between Calcutta and Delhi at a critical period during World War II. This made necessary the setting up of the Damodar Valley Corporation. Since the middle of the 19th century, embankments were considered essential for the protection of the railways. The DVC schemes, besides remodelling the Eden and Damodar canals and the Behulā channel, have added further dimensions to the canalization of the Damodar. Two big canals, emerging from the Durgapur barrage, constructed in 1955, enters Bankura and Barddhamān. The command area of the 1,550 miles long DVC irrigation canals is 1,520 sq. miles covering Barddhamān, Hugli and Bankura districts. The construction of the DVC canals was mostly completed by 1958.

The Bhāgirathī

The legendary king Bhagirath is said to have excavated about 200 B.C. the Bhāgirathī distributary which ultimately receives all the drainage of the district. Willcocks also opined that this river is a man-made canal.² But this view has not been accepted by geographers.

¹ A remarkable fact about the distributaries of the Damodar is their nomenclature. No less than six of them are prefixed by the word 'Kānā' which literally means 'blind'. A branch of the neighbouring river Dwarakeswar is also prefixed *Kānā*. Damodar delta is, therefore, a land of seven blind rivers. The villagers laconically remark that their land is infested by blind, dying and choked rivers ('*Kānā*', '*bōjā*' and '*majā*' *khāls*). In the 18th century, the Zamindars were prevailed upon to construct and repair embankments. But as the work was not carried out by them to the satisfaction of the Government, an officer designated as the Superintendent of Pulbandi was appointed in 1792. These embankments, however, could not prevent floods; during spate, hydraulic pressure and current combined to cause frequent breaches. Thus, in 1840, there were as many as 113 fissures in the left embankment.

² Willcocks, W. — *Ancient Irrigation System of Bengal*. Calcutta, 1930.

The Bhāgirathī receives upland discharge only for three months (July-September) in a year and the rest of the period it is maintained by the tidal activity which reaches upto Swarupganj 160 nautical miles upstream from the sea. Being almost outside tidal influence the Bhāgirathī channel in Barddhamān district has not developed islands of channel bars which are so prominent in the lower reaches. It has, instead, developed point bars on the convex portions of the river bank. The surface of these sand bodies shows abundant dunes and ripples. The point bar at Kalna, located almost at the fringe of the tidal reach, is a crescent-shaped sand body 418 m. (1,375 ft.) long and 167.7 m. (550 ft.) wide. On the inner side, the bar slopes gently upwards into a steep mud-bank. There is some plant cover. The point bar at Katoya is located beyond the tidal influence of the river and on its eastern bank near the confluence with the Ajay. It is 10.4 km. (6.5 mile) long and approximately 610 m. (2,000 ft.) wide. There is but sparse plant cover.

The Barākar river, named after Barakar town in West Bengal, The Barākar is the largest Damodar feeder and its catchment area in Bihar is almost half of that of the Damodar. After rising from Ichak, a small town, seven miles north of Hazaribagh on the low Kodarma plateau, it flows northwards through a fairly steep-sided valley which has been dammed to form the Tilaiya reservoir. Issuing from the Tilaiya lake it meanders south-east following the general slope of the peneplain. Besides the Barsoti from the south, and the Usri from the north, which are its principal tributaries, it receives more than 10 tributaries from the north and 5 from the south. In its lower course it also receives numerous small tributaries issuing from the springs on the Damodar-Barakar interfluve. The river first touches the Barddhamān district at the Ghatkul *mauza* (now submerged under the Maithon reservoir) in Salanpur P.S. and then flows along the side of the *mauza* of Hatinal in P.S. Kulti.

The Ajay rises in the Monghyr district of Bihar where low The Ajay hills, 300-360 m. high, form the watershed between the south-east flowing Ajay and the north flowing Ghhatini and the Matihara. The divide separating the Ajay from the Barākar in the west and from the Damodar in the east, is equally low. The larger tributaries, the Pathro and the Jainti in the Sāntāl Parganas and the Tumuni and the Kunur in the Barddhamān district, join the Ajay in

its right bank. Owing to extensive soil erosion in its upper reaches (which extend up to the Hazaribagh district), the Ajay carries down enormous load of coarse sand which is deposited in its narrow flood plains, making the agricultural land infertile. The river turns east-southeast a few miles east of Chittaranjan from Simjuri (87°55' E & 23°54' N) to describe the district boundary between Santal Parganas Bardhaman up to Afzalpur in Santal Parganas. The Birbhum-Bardhaman district boundary runs through the centre of the stream till the Ajay enters the Katoya subdivision near the village Nārengā in Ketugram P.S. It flows east in a meandering channel through Katoya subdivision forming the boundary between the police stations of Mangalkot and Ketugram, and Ketugram and Katoya until it joins the Bhāgirathī above Katoya town.

The Ajay is a torrential stream and floods quickly. Its actual discharge into the Bhāgirathī is very variable and largely influenced by the level of the latter river which, if high, heads back the supply. In the western portion of its course the channel is comparatively straight and the banks are well defined, but after issuing from its rocky bed the river flows in an extraordinary serpentine course which has been formed by the oscillations of the current through the deltaic silt. The bed is sandy and the banks low. Formerly, the river was the only route through the dense jungle that once covered this part of Bengal and its importance is evidenced by the line of forts found along its banks. The rapidity of the current and the sudden freshets to which, like other hilly rain-fed streams, it is liable, render navigation hazardous, and there is practically no riverborne traffic on it. The road link to Suri from Panagarh is maintained by a bridge at Ilāmbazar. The name Ajay is either derived from Ajavati or is just *A-jaya* meaning 'unconquered'.

The river Noniā rises in Sālānpur P.S. of the Asansol subdivision. She enters the police station of Barabani near the *mauza* of Khaerbad and then flows for some distance in an easterly direction till she comes to the *mauza* of Itapora in Barabani P.S. after which she flows almost due south. The important tributaries of the Noniā are the Punata Khāl and the Damodar Nālā which flow in a south-westerly direction and before combining at chak Keshabganja (87°01' E & 23°41' N), they turn at right angles towards each other, the Punata towards south-east and the Damodar Nālā towards north-west. The combined stream crosses the G. T. Road about 3 miles to the east of the town of Asansol and flowing through the Raniganj P.S. joins the Damodar at the

boundary of the *mauzas* of Egara and Damalia (87°06' E & 23°36' N) in Raniganj P.S. The Noniā is a very small stream and does not carry much water even during the rains. After crossing a spot immediately south of Asansol air landing at Kālīpāhārī (87°02' E 23°40' N) south of G. T. Road the Noniā becomes perennial.

The Singaran rises about 3 km. north of Ikrā Junction on the Andal Loop Line in P.S. Jāmuriā. It flows in a southerly direction along the railway line and traversing a small distance in Raniganj turns south-east and enters the P.S. of Andal. It joins the Damodar near the junction of P.S. of Faridpur and Andal and near the railway Station of Waria. The Singaran

The Tamla rises just south of the village of Ukhā (87°15' E & 23°39' N) in P.S. Andal and then flows south-east and enters the police station of Faridpur. She crosses the N.H. 2 at the edge of the *mauza* of Bhiringi and joins the Damodar off the *mauza* of Birbhanpur (87°18' E & 23°29' N) in P.S. Durgapur. This stream should properly be called a nullah, she is so insignificant. The Tamla

The Kukua Khāl rises in P.S. Budbud and flowing in a south-easterly course crosses the Eden Canal at 87°33' E & 23°20' N and then falls into the Damodar in *mauza* Amarpur. The Eden Canal is taken over the river along an aqueduct at the point where the Kukua Khāl crosses it. The Kukua

The Kunur takes its rise in *mauza* Banshgara at an altitude of 120 m. immediately to the west of Ichapur (87°16' E & 23°37' N) and flows in a generally south-easterly direction. The total length of Kunur is about 112 km. and its catchment area about 772 km. In its lower reaches below Dhonkara (87°37' E & 23°33' N) the Kunur valley is susceptible to floods. The Kunur receives 11 tributaries from the south and 4 from the north, all of which are non-perennial but torrential during the rains. When the level of Ajay rises, the Kunur fails to discharge into the Ajay and due to back-pressure inundates its entire flood plain stretching from the railway embankment below Ghuskara.¹ The Kunur

The Tumuni rises from a place near Haripur (87°12' E & 23°41' N) and flowing east parallel to the Ajay, receives from The Tumuni

¹ This is further aggravated by breaches on the ex-zamindary right-bank embankment on the Ajay stretching from Lakhuria (87°49' E & 23°33' N) to Mangalkot. Flash floods from the tributaries of the Kunur and the Kunur itself, surplus water of the Ajay that spills through breaches on its embankments and the back-water of the Ajay make the flood problem very intricate.

the south several small tributaries of which only Itakhala Nālā is worth mentioning. The Tumuni is non-perennial and her lower reaches are very much floodprone.

From the historical background of the physical development of the area covering the valleys of the Khari, Bānkā and Behulā it is clear that these streams were either parts of previously used channels of the Damodar, or its upper deltaic distributaries now severed from the main channel. Whichever they may be, it is certain that formerly they had huge catchment areas in the Chotanagpur plateau, but now they are mere collectors of water from paddy fields. The natural development of deltaic land had been cut short and the region has been deprived of annual silt dressings. Now the beheaded streams have been left to carve and level the previously deposited stretch of alluvial land. They have cut deep into the alluvium deposited by themselves in the past. Particularly in the Khari and the Ghea this phenomenon is very clearly discernible. We are now in a position to take up the characteristics of these streams. Firstly, the diminishing water supply due to beheading resulted in the development of extraordinary meanders according to the well known laws of hydrodynamics. The meanders are very well developed in every stream in this region, but specially in the middle portion of the Khari. Secondly, the rivers had to entrench themselves in their own alluvium, and this they have done in their meandering forms, thus creating an impression of incised meanders. The vertical cliff-like banks of alluvium on the natural levees which were thrown up by them in the past are very conspicuous. In fact, the banks slope down instead of being raised. The valleys are sunk into the alluvium, sometimes so neatly, that they are unnoticed even when the observer is only a few yards away from them.

The Khari now rises in a furrow north of Mankur (87°34' E and 23°26' N) and after crossing the Damodar Branch Canal runs parallel to the Eastern Railway's main line till 87°47' E. Within a mile of this insignificant course the channel takes the form, not of a conduit collecting the waters of adjoining paddy fields but a wide and deep valley which bears all the appearance of having once been the channel of a great river.

Bānkā literally means 'the twisted one'. It has earned this name for its intricate meanders. Similar to the Khari, the Bānkā also rises in paddy fields just east of Gopalpur (87°35' E & 23°18' N), quite near the Damodar. Another feeder rises near

The beheaded
streams

The Khari

The Bānkā

Golgrām (87°39' E & 23°22' N) on N.H. 2. They meet in a large swamp called Bhorni Bil (87°30' E & 23°17' N). To the east of the Bhorni Bil there are low grounds deadlocked by the Damodar embankment to the south. The swamp is overgrown with tall grasses used for thatching and fuel. The river was formerly a spill channel of the Damodar, but the connecting channel was completely silted up. The Bānkā runs parallel to the Damodar, only a few kilometres away from it. After passing through Barddhamān town the Bānkā crosses N.H. 2 and the railway, and flows north of them parallel to the Chanda Nālā which rises from north of Barddhamān. Beyond Barddhamān the bed of Bārkā is sunk 20' deep in the alluvial soil. It meanders past Saktigarh in a north-easterly direction in the same state. Hence it provides irrigation water to chains of market gardens and sugarcane fields.

The Chanda-
Kanki Nālā

The source of the Behulā (north of Rasulpur railway station) is within a kilometre from the point where the Bānkā changes its direction from east to north-east. The Gāngur takes off from the Eden Canal south of Rasulpur and flows east across Memari. These two non-perennial streams have not only been beheaded but their present channels have been sliced off at various points for communication and agricultural purposes. Moreover, there are several abandoned channels parallel to both the rivers which have produced a very complicated drainage pattern. The Gāngur in its upper course flows through Memari town and then describes a semi-circle before capturing the Behulā channel at Bhirkunda.

The Behulā and
the Gāngur

The Brāhmanī Nālā originates from small tanks (87°57' E & 23°30' N) at 24.4 m. (80') above sea level in Mangalkot P.S. and flows north-east. She receives on her left bank the Khandesvari Nālā which originates from the rice fields around Shyambati (87°59' E & 23°34' N), crosses the Barddhamān-Katoya road and railway and on entering Katoya P.S. flows east. Another branch, also called the Brāhmanī river, rises a little north-west of Shrikhanda and flowing south-west joins the main channel in a flood-prone area west of Nandigram in Katoya P.S. Flowing further east the Brāhmanī divides herself into two branches, both of which flow south. The more easterly branch, which used to be the main channel and still serves as the boundary between Purbasthali and Katoya P.S., carries some water only during the rains and joins the Khari at mauza Haldipara. The other branch known as the Karulia river traverses swamps before debouching into the Khari at Multi Krishnanagar on the boundary between

The Brāhmanī,
the Khandesvari
and the Karulīā
Nālā

Katoya and Manteswar P.S. The *Brāhmanī* used to discharge into the *Bhāgirathī* at Dainhat and then opposite Agradwip, where the old channel, now known as the *Sainikhal* demarcates Katoya from Kalna. Numerous *bils* and swamps in this tract bear evidence of this dislocation of drainage due to the rapid building up of the *Bhāgirathī* delta south-west.

The course of the *Dwārakā* in Bardhaman is only 3 km. but it is very important. The *Dwārakā* or *Bāblā*, as it is also called, enters the district at $88^{\circ}12'E$ & $23^{\circ}46'N$ and discharges into the *Bhāgirathī* at Bishnupur ($88^{\circ}11'30'E$ & $23^{\circ}44'N$), just above the Dattabati observation station. At the extreme north of the district, the *Koiyā Nālā*, which forms the boundary of the Ketugram P.S., is a spill channel. The *Koiyā* is a perennial stream.

The area in between the *Koivā* and the *Ajay* is drained by the non-perennial *Kandar Khāl*. Several *Kandar Nālās* originating from Birbhum enter the Ketugram P.S. — one flowing south-east, another east and yet two others north-east. In between Srirampur and Kulai, approximately along $88^{\circ}00'E$ these channels combine and encircle an absolutely flat but low saucer-shaped depression. From this depression again two channels of *Kandar Nālās* flow east and combine west of Ambalgram railway station. The combined stream, known as the *Kandar Khāl*, flows north-east and after crossing the Ahmadpur-Katoya and Bandel-Barharwa railway lines, turns south-east and finally south along the Suri-Katoya road and meets the *Ajay* near its outfall into the *Bhāgirathī*. During floods it overflows the Suri-Katoya road. It appears from the numerous low pockets along the *Kandar Nālās* and the *Kandar Khāl* that these are artificial drainage channels.

The DVC navigation-cum-irrigation canal, passing through the district, is on the left side of the *Damodar* and is about 85 miles in length. It connects the coal-mining areas around Raniganj with the Hugli river at Tribeni in the Hugli district.

We have already seen that at one time the *Kānā Dāmodar* and the *Kānā Nadi* were the main channels of the *Damodar*. They now originate in an insignificantly little opening with a sluice gate in the *Damodar* left-bank embankment north of Jamalpur. The *Kānā Nadi* flows south-east and forms the boundary of the districts of Hugli and Bardhaman for about 5 km. and then leaves the district at mauza Maheshkharia ($88^{\circ}03'E$ & $22^{\circ}59'N$) in Jamalpur P.S. The *Kānā Dāmodar* flows due south and leaves the district at mauza Madhabpur ($88^{\circ}02'E$ & $22^{\circ}58'N$). Both these streams

The *Dwārakā* or
the *Bāblā*

The *Koiyā*
Nālā

The *Kandar*
Khāl and
Kandar Nālās

The *Kānā*
Dāmodar, the
Kānā Nadi and
the *Eden Canal*

are fed by the water of the *Eden Canal* just below Selimabad. The supply of the *Eden Canal* in its turn is taken from the *Damodar* at Jujuti through 2 head sluices connecting the *Bānkā* river and it flows through this river for about 4.34 miles to Kanchannagar where it is held by a weir across the *Bānkā* river and admitted into the canal over an anicut. The channel runs parallel to the *Damodar* on the left bank for about 32 km. to Jamalpur where the flow is divided into the *Kānā Nadi* and the *Kānā Damodar*. These abandoned distributaries have been converted into irrigation channels, and, as the *Eden Canal* is now connected to the DVC Main Canal, adequate supply of water through these two channels is assured. But even then, as the dry season approaches in November, mud banks are thrown across the streams to parcel out the water into a chain of pools. Within Bardhaman the blind rivers are hardly 6 m. wide. The scene of the *Kānā Nadi* in November is that of busy intensive farming. Anxious farmers are seen throwing mud partitions across the stream. Chains of water lifts called *dōngās* work incessantly in double or even triple rows to supply the much needed water to market gardens, spreading on both sides of the stream. The *Kānā Damodar* also meanders through market gardens. Water distribution from this stream is partially controlled by the so-called 'regulators'. These are embankments across the stream at various points, provided with sluice gates. The *Kānā Damodar* is the only river among the *Kānā* rivers on this side which becomes broader downstream in Hugli district, for the others shrink and disappear. The *Kānā Damodar* finally joins the *Rajpur Drainage Channel* at Basudebpur near Bāniban.¹

Two small streams, one taking off from Faimpur ($88^{\circ}02'30'E$ & $23^{\circ}05'N$) and the other from Ilsara ($88^{\circ}05'E$ & $23^{\circ}07'N$), flowing south-east combines in the Hugli district to form the *Gheā Nadi*. They are perennial and also connected with the DVC Canal network. Their total length within Bardhaman is hardly 16 km. The *Gheā* receives a branch of the *Kānā Nadi* in Hugli district.

On the west bank of the *Damodar* in Rāinā P.S., opposite Sure Kalna, more water passes into Muchi Hana and Begu Hana, two ever widening spill channels, than through the river itself.

¹ Place names like Jāhāj Pōtā (buried ship) and Jāhāj Ghātā (jetty) and remnants of buried boats of large sizes occurring along its course indicate that the river has turned into a *kānā* only in very recent times. For a detailed account of its lower course see *West Bengal District Gazetteers: Hooghly*, Calcutta, 1972.

The water during floods carries much sand and silt. The combined stream is called the Kaki Nadi which leaves the district at Kot simul (87°57' E & 22°57' N). The Damodar leaves the district a kilometre east. The beds of these streams, unlike their counterparts on the other bank, are full of sand. As flood water rushes through them, they are flushed clean of weeds and water hyacinth. Only *kese* grass grows along their sandy banks. Also, during floods, vortices produce gigantic holes in their beds. They are called *dahs*. Market gardens appear again on both sides of Kānā Khāl. Vegetables preferring sandy soil are more common. Entering Hugli district, the Kaki breaks up into the perennial Mundeswari and the non-perennial Kānā Khāl near Keshabpur. The Kaki and the Mundeswari receive several small rivulets (without any name) rising in the Rāinā P.S. and flowing south.

The
Dwārakeswar

The Dwārakeswar river, flowing south-east through Bankura, serves as the border between Bankura and Hugli districts from Puinya (87°41'30" E & 23°02' N). About 3 km. downstream from this point the river touches the Bardhaman district at mauza Rautara (87°43' E & 23°00'30" N) in Khandaghosh P.S. and acts as the boundary between Bardhaman and Hugli districts. It leaves the district at village Maniari (87°46' E & 22°57'30" N). Although its total length within Bardhaman is less than 10 km., it is wholly within the district, the boundary running along its right bank, and it receives two non-perennial tributaries on its left bank, one flowing south-east from Bankura and debouching at Eklakh (87°44' E & 23°00' N) and the other flowing due south from a little west of Uchalon (87°42' E & 23°02'30" N) in Rāinā P.S.

Floods

From the earliest times the district has been protected from floods by embankments along the main rivers. Apart from the flood embankments¹, there are embankments constructed for carrying railways, roads and canals in low-lying areas. These have also suffered damages besides causing serious obstruction to

¹ Flood embankments under the care of the Irrigation and Waterways Department are of two categories — (i) Schedule D. — The embankments listed and declared as such are the properties of the Government, the cost of maintenance being a charge on the State Revenues; (ii) *Treccavi* — These embankments were owned by zamindars and private persons but maintained by Government at their cost. Besides these there are miles of private zamindari embankments that were put up locally and maintained by private agencies. These are known as *marginal* embankments and *Gher*. These were not planned properly and in most cases very badly maintained. Proper planning and maintenance of ex-zamindari embankments including *Gher* now vest in Government.

free flow of flood water. To put it very briefly the flooding in the Bhāgirathī basin is due to drainage congestion resulting from the low efficiency of the Bhāgirathī as a drainage channel, while in the case of the Ajay, the Damodar and its tributaries it is the bursting of banks (of the embankments) due to the onrush of a high discharge that causes the floods.

The Ajay has a steeper bed slope than that of the Bhāgirathī and has no significant drainage basin in its tail reaches. The Dwārakā and its tributaries rise very rapidly in flood and carry a fairly considerable discharge into the Bhāgirathī. Its flood water has a characteristic red colour, even more so than that of the Ajay and the first appearance of the freshet in the Bhāgirathī-Hugli is generally indicated by the highly tinged discharge from this river, the Ganges flood having only the muddy colour. The Ajay also floods quickly. Its actual discharge into the Bhāgirathī is very variable and is largely influenced by the level of the latter river which, if high, heads back the supply as in the case of the Dwārakā. The rate of discharge at any time in the lower reaches of the Ajay, as with all spill rivers of this class, is only a fraction of the discharge in the upper reaches before the rivers commence to spill. The result of the overflow of the river into the country on either side, is to lengthen the duration of the flood and so, though the total quantity may eventually be discharged, the actual rate of discharge is reduced.¹

The waterways below the bridges on the railway lines are insufficient. The obstruction at the bridges has raised the river bed upstream from those bridges. The flood levels of the Ajay

¹ The Ajay floods of September 1916 is a typical example. Owing to a storm at the end of that month the rainfall over the Ajay catchment was exceptionally heavy averaging about 11 inches for three days, i.e. a total of about 1,640 million cubic yards over the entire basin. The total discharge at Sarkahona near Ilambazar was estimated at 1,082 million cubic yards, giving a run off of about 60%. The gauge at Sarkahona rose from 5'6" at 6 A.M. on the 22nd September to 22'8" at noon on the 23rd and subsided to 13'6" at 6 A.M. on the 24th. The river spilled over the left bank into the Hingola valley in Birbhum, destroyed the Andal-Sainthia railway bridge, and also breached the right-bank embankments, flooding the Tumuni and Kunur valleys which themselves were in spate. This spill together with that lower down, acted as a reservoir reducing the rate of discharge in the lower reaches and into the Bhāgirathī, but even then the level was raised sufficiently to flood the town of Kātoyā. The influence of the railway embankments of the Andal-Sainthia and Loop lines which run across at right angles to the line of the flow was apparent in causing pooling above the bridges. Vide Stevenson-Moore, C. J. and others — *Report on the Hooghly River and its Headwaters*, Vol. I, Calcutta, 1919, pp. 52-53.

since 1857 show a tendency to a gradual rise.¹ This complicated the Kunur flood problem. The memories are painful about the extensive damages done to a vast area in the districts of Bardhaman and Nadia by the high floods in 1916, 1922, 1931, 1933, 1942, 1948, 1949, 1956 and 1959. The highest flood discharge in 1956 through the railway bridge over the river in between Bhedia and Bolpur was estimated to be of the order of 3,00,000 cusecs. The capacity of the Bhāgirathī at Katoya being 1,27,000 cusecs up to its danger level, the inflow at this place from the Ajay of 3,00,000 cusecs created havoc. Acting on the recommendations of the Flood Inquiry Committee of 1959, the West Bengal Government had drawn up a proposal for the control of the Ajay including the construction of a dam at Siktia (in Bihar) having a dead storage of 123.348 m³, monsoon storage of 370.044 m³ and flood storage 370.044 m³.

The Damodar discharge is carried down from the hilly country in sudden torrential rushes, the floods rising and subsiding rapidly. Great quantities of sand are carried down in these tumultuous rushes. Any main branch of the river which carried the ordinary discharge was gradually built up on a ridge by the raising of its bed and banks by spill, until the conditions became impossible and the river deserted that channel for a new one through the low-lying adjacent country. The embankments at first helped to confine the spill water to the river channel, but ultimately raised the bed level and the flood level.

The embankments of the Bhāgirathī and the Damodar have reacted differently. The Bhāgirathī embankments have been in existence for a considerable number of years and in the circumstances, the rise in flood levels in some years cannot be ascribed solely to them. However, as there seems to be no evidence that the Ganges flood levels have been raised correspondingly, the elevation must be attributed in part at least to a raising of bed level through natural deterioration and the silt load brought down by the western tributaries. Whereas reservoirs serve as the main remedy against the floods of the torrential plateau streams, improvement of the conveyance capacity of the Bhāgirathī channel has long been deemed as the only solution. It is worthwhile to point out here that marginal embankments would not be a solu-

¹ *loc. cit.* p. 58.

tion to the problem of flooding by the Bhāgirathī as floods in the Bhāgirathī basin are seldom due to spilling of the banks.

Tanks are found all over the district. Within the Damodar Valley region of Bardhaman (excluding Asansol) alone there were 17,311 tanks and the tank-irrigated area was 1,00,000 acres as compared to only 50,100 acres irrigated from other sources.¹ Asansol subdivision does not get any benefit from the major irrigation projects of the district, and mainly depends on tanks. There are several large tanks above local ground level which require improvement as in the Rāinā and Khandaghosh thānās and also elsewhere, they are in a derelict condition. More than 150 tanks were re-excavated during the First and Second Plan periods to bring 8,000 acres under cultivation in the drier lateritic areas. To the east, they also act as buffer areas in absorbing and reducing the effect of floods. In the mining belt around Asansol, absence of sandstowing in the mines has resulted in a fall of water table, rendering many tanks dry. Around Raniganj, subsidence of the land has created marshy conditions making the hitherto tank-irrigated areas unsuitable for cultivation. In the eastern parts one finds numerous tanks overgrown with weeds, water hyacinths and filled up with silt. Still, they are the mainstay of the highland and double-cropped areas. Water-lifts by the canoes or *dōngās* are used for drawing water from them. The more well-to-do farmers are now using electric pumps.

One traversing the district from west to east will notice big artificial reservoirs, tanks and wells and then canals and swamps and lastly *bils* and low depressions susceptible to floods. The Durgapur barrage and the Maithon dam have formed two large reservoirs at the south-western and western periphery of the district. The Durgapur barrage is 692.2 m. (2,271') long, formed of 25 bays and 5 under-sluices each of 18.3 m. (60') span. It carries a roadway 7.62 m. (25') wide across the river at 67.8 m. (222.5'), i.e. 12.8 m. (42') above the level of the river bed. The head regulator on the left bank is provided with under-sluices of 6.1 m. (20') span for a discharge of 9,137 cusecs (where the maximum flow was 5,000 cusecs in 1959) and that on the right bank with two similar sluices for a discharge of 2,271 cusecs (where the

¹ Government of India — *Report on the Lower Damodar Valley Region*, Calcutta, 1969, p. 54.

maximum flow in 1959 was 2,000 cusecs).¹ Burnpur, Raniganj and Durgapur receive their supply of water from this reservoir.

The Maithon dam is a composite structure of concrete and earth. The lay-out includes a concrete gravity type spillway 186.5 m. long (abutment section of 121.3 m. to the right and 54.4 m. to the left of the spillway), a contiguous earth embankment sprawling 643.4 m. on the right bank and 3 saddle dykes on the left bank of the river. The total length of the dykes is 3,853.3 m. As the river bed has an alluvial deposit of sand (maximum depth of 21.3 m.) above bed rock, the concrete spillway section was built on the diversion channel cut in the right bank and the earth dam on the river bed. The maximum height of the main earth dam is 49.4 m. and that of the concrete dam about 45 m. above diversion channel and 56.4 m. above the lowest foundation.² The overall span of the dam is about 4.8 km. The underground power station on the left bank is the first of its kind in India. The power station vault is 71.4 m. long, 13.7 m. wide and 21.3 m. high. The access to it is through a tunnel 213 m. long. It has a total generating capacity of 60,000 kw. with 3 units of 20,000 kw. each. The reservoir has totally submerged Ghatakul, Gamarkuri, Bathanbari, Sidhabari and Sarkuri *mauzas*. Seven other *mauzas*, viz. Brindabani, Banskatia, Dhanguri, Damuda, Kalipathar, Majhladi and Pitharkuri have been partially submerged. Rupnarayanpur and Chittaranjan now stand on the fringe of this vast reservoir and draws water and hydel power from it.

The estimated demand for water in the Durgapur-Asansol industrial complex in 1981 will be 165.63 mgd. (million gallons per day), of which domestic needs would account for 36.30 mgd., industry 110.48 mgd. and miscellaneous requirements would absorb the rest. There are numerous artificial reservoirs in the coal mine areas. The most important of them occur along the tributaries of the Nonia Khāl and the Singaran Nālā. The Chalbalpur Bandh (87°03' E & 23°39' N), on the Jor Nālā, the Napur Bil and Chhota Bandh which occur to the south and north of the railway line between Andal and Raniganj and two others to the north and east of Raniganj on anonymous *mullahs* are such dammed reservoirs. Tanks formed by embanking a low area on three sides are found in Ketugram P.S.

^{1 2} Damodar Valley Corporation Data Book, Calcutta, January, 1961, pp. 18 & 47.

The lower Damodar Valley in Bardhaman being a prematurely reclaimed deltaic tract, there occurs numerous debased pockets. The most important depressions are : the Purbasthali swamps formed by the changing course of the Bhāgirathī and water-logged abandoned channels of the river and its tributaries ; the marshes between the Khari and the Banka and *bils* on the fringe of the Damodar embankments. Ox-bow lakes also occur along the Ajay. The Baruli Bil (87°32' E & 23°35' N) to the east of Kanksa-Ilabazar Road is due to derangement of drainage lines.

There are numerous water-bodies of similar origin. Some of these have provided irrigation water for developing pisciculture.¹

There are five springs in the district : one on the right bank of the Nonia Khāl at 87°0'30" E & 23°41' N very near to Asansol, one on the right bank of the Ajay at 87°19' E & 23°43' N near Pandaveswar in Andal P.S., one on the right bank of the Tumuni at village Bistupur (87°25' E & 23°36' N) very close to the Dihibeta inspection bungalow and two north of Wargram (87°45' E & 23°26'30" N). All these springs are found in the peripheral zones of lateritic uplands where the aquifer sand (water-bearing layer) has been exposed owing to erosion.

In the extreme west, where surface water is not readily available, the inhabitants resort to extraction of groundwater through dug wells. Dug wells are generally shallow, scarcely exceeding 15 m. in depth. As there is no proper aquifer in the crystallines, these tap only localised water bodies collected in the cracks and crevices of the impervious rocks. Where the thickness of the soil mantle is considerable, the tapping from these wells is generally satisfactory. Most shallow wells go dry or retain scanty water during the summer. As such the area suffers from general scarcity of water. Besides the surface water resources, the dug wells tapping the aquifers of the younger sedimentary formations along the river and stream courses yield a copious supply of water.

As will be evident from the following table, 2,030 tube-wells were dug by March 1963 as a part of community development works within the Damodar Valley command area. There were others outside the command area. Naturally, the distribution of these wells depended more on local initiative than on a systematic planned effort.

¹ Government of India — Report on the Lower Damodar Valley Region, Calcutta, 1969, pp. 8-9.

Bils, marshes and flood prone areas

Springs

Wells, tube-wells and underground water resources

PROVISION OF DRINKING AND IRRIGATION WATER IN THE
LOWER DAMODAR VALLEY REGION OF BARDDHAMAN FROM THE
FIRST PLAN (OCTOBER 1952) TO THE CLOSE OF THE SECOND
YEAR OF THE THIRD PLAN (MARCH 1963).

Blocks (1 to 13 were in their first stage and the rest in their second stage)	Number of wells dug for supply of drinking water			Area irrigated (in acres) by small irrigation schemes		
	1st Plan	2nd Plan	3rd Plan	1st Plan	2nd Plan	3rd Plan
1. Purbasthali (Ahmadpur)	—	30	53	—	560	30
2. Purbasthali (Srirampur)	—	53	58	—	2,022	51
3. Kalna (1)	—	26	—	—	521	65
4. Kalna (2)	—	42	—	—	425	25
5. Ketugram (1)	—	48	—	—	19,550	360
6. Ketugram (2)	—	24	—	—	13,080	2,230
7. Katoya (1)	—	3	14	—	1,130	—
8. Katoya (2)	—	4	24	—	2,430	1,791
9. Mantesar	—	—	—	—	71	—
10. Rāinā (1)	—	—	9	—	—	398
11. Rāinā (2)	—	—	—	—	54	—
12. Jamalpur	83	105	747	776	10,645	269
13. Ausgram (1)	—	29	3	—	1,904	1,225
14. Ausgram (2)	—	37	47	—	1,100	—
15. Memari	133	287	96	184	27,565	1,412
16. Burdhamān	—	33	—	—	1,244	95
17. Bhatar	—	92	—	—	3,622	1,315
18. Mangalkot	—	—	—	—	—	—
District Total :	216	745	1,078	960	85,889	9,340

BARDDHAMAN

GENERAL

Of late, irrigation by deep tube-wells has become popular. It was reported that aquifer materials down to 200 m. depth are sufficient to yield 80,000 litres of water per hour through energised tube-wells.¹ In 1971, it was reported that of the 1,162 state tube-wells in the Ganga-Damodar basin 184 were in Barddhamān district. In September 1966, the Govt. of West Bengal set up an Evaluation Committee to estimate the performance of about 300 tube-wells fully completed at that time. The Committee reported that the area irrigated per tube-well was 42 acres in 1964-65 and 60 acres in 1965-66. The average working hours of each tube-well in these years were 1,000 hours per year.² By 1967-68, the average working hours of a tube-well had soared to 1,500 hours per year and the area irrigated also increased correspondingly to 192 acres.³ A recent study reveals that in Barddhamān a deep tube-well irrigated 80 acres of *kharij* and 170 acres of *rahi* crops consuming 113.3 KWH of power on an average.⁴

The Bhāgirathī, south of Nadia, is tidal throughout during the dry season. The river from Nadia to Hugli, a distance of about 96 km., has an unstable regimen and wanders through a wide strip of *diara* land continually, though gradually, changing its course. The regimen becomes fixed downstream from Hugli, where the channel is confined between permanent banks and erosion practically ceases, except at certain exposed sections. During ordinary spring tides in the dry season, a flood current is perceptible as far up as Samudragarh, 11 km. from Navadwip, and the highest spring tides reach Nadia. During maximum tides, the level rises and falls 65 cm. at Swarupganj in the Jalangi, 1 km. north of Nadia, and a tidal rise and fall is experienced as far up as Rajapur, 13 km. further upstream. Owing to the forging up of the Bhāgirathī in spring tides, the mean water-level at Nadia is raised 1 m. above the level during heap tides, and this influence is felt as far up as Dādupur, and also above Krishnanagar.

Tidal water
ways : their
courses and
importance

¹ Roy, A. K. — 'Geohydrological set up of Eastern India' in *Indian Geohydrology*, Vol. 5, No. 1, Calcutta, 1969, pp. 65-70.

² Deptt. of Agriculture, Govt. of W. Bengal. *Evaluation Committee report on 'Performance of deep tube-wells in West Bengal'* (unpublished), January 1967.

³ Bhattacharjee, B. K. — 'Report on the Evaluation of Deep Tube-wells of West Bengal' (unpublished). Directorate of Agriculture Engineering, Govt. of W. Bengal, March-April 1968.

⁴ Bhattacharjee, B. K. — 'Performance of deep tube-wells in the lower Ganga Basin of W. Bengal' in *Proceedings of the Seminar on Geomorphology, Geohydrology and Geotectonics of the lower Ganga Basin* (unpublished) held at the I.I.T., Kharagpur from 27th to 29th May 1972.

During the height of the freshet season, tidal influence ceases above Guptipara owing to the raised level of the river, but the limit varies naturally with the height of the freshets and the strength of the tides.¹

Very little is known about the tidal head of the Bhāgirathī except Rennell's maps and records of a survey by the Survey of India between 1881-85. Although the condition of the Nadia rivers and the Damodar had formed the subject of occasional enquiry and comment during the past century, their bearing on the efficiency of the Bhāgirathī channel harbouring Calcutta Port was not sufficiently appreciated until quite recent times. It was not until 1902 that the need of an investigation into the state of the river for the length of 140 km. from Calcutta to Nadia came officially before the Port Commissioners. As the tidal head of the river was not under the special charge of any department or recognised authority, it was proposed to extend the limits of the Port of Calcutta upstream so that the Commissioners might exercise jurisdiction as Conservators of the Port upto that limit and prevent the commission of acts (as erection of mills and factories on the river banks which projected into the river and interfered with the free tidal flow) likely to effect the waterway injuriously. But the proposals did not materialise.² Hirst's report³ submitted to the Port Commissioners in 1916 on the importance of the tidal head of the river were of so alarming a nature that the apathy was shaken off and measures taken to control and train the tidal head of the Bhāgirathī. For the first time the Geological Survey was asked to review the problems and the first hand knowledge of Mr. H. G. Reaks, River Surveyor, was utilized to formulate plans.⁴ The salient points of Hirst's report were that (a) there was less water at low-tide over shoals than there was 20 years ago; (b) shoals had increased in size; (c) shoals occurred then

¹ The slope between Nadia and Kalna during freshets on 14th August 1916 was 3.35 inches per mile, the maximum slope at low-water decreased gradually to 3.2 inches between Kalna and Guptipara and then to 2.13 inches between Guptipara and Balagath. In the dry season the maximum slope of the river surface varies considerably being naturally greater in spring tides than during neaps. At high spring tides on the 25th March 1917, the maximum fall from Nadia to Dumurdaha on the ebb was about 1 inch per mile. Stevenson-Moore, C. J. and others — *op. cit.* p. 86.

² Between 1909-11 the Port Commissioners had surveyed the river up to Bansberia.

³ Major, I. A., was Director of Surveys, Bengal and Assam.

⁴ Stevenson-Moore, C. J. and others — *op. cit.* pp. 1-3.

where none existed before; (d) only in a few cases original shoals had disappeared and (e) the courses for steamers had become far more tortuous.¹

Reaks pointed out that the hump in the slope between Kalna and Dumurdaha was due to deposits occurring at meeting grounds of freshet current surcharged with silt and the tide. The action would probably have been accentuated by the backing up effect or floods in the Damodar when the Nayasarai channel was open. Reaks reported that in the river channel between Nadia and Kalna there were 5 bars. The worst bar was 5.6 km. below Nadia giving only about 1.5 m. depth at high-water spring tides at the height of the dry season, while the second bar at Mirzapur near the entrance of the Khari affording 1.8 m. The remaining three bars gave depths varying between 2.1 m. and 2.5 m. at high-water ordinary spring tides. During near tides at the height of the dry season, even at high water, the bar below Nadia practically blocked all traffic of over 1 m. draft and Hoare, Millier's steamer services to Nadia was then consequently suspended.² At present tides in the lower reaches restrict the downstream flow to only 8 hours a day. During the remaining period of the day the water is either stagnant or flows upstream, when there is always a deposit of silt in the bed of the river thus creating shoals and bars. The river is thus getting silted more and more every year. Although Rs. 4,000,000 is spent annually on dredging the bed to maintain a navigable channel, the improvement of the river is well nigh impossible unless there is supply of adequate quantity of silt free water as contemplated in the Farakka Barrage Project.³

The western portions of this district is formed of Archaean (Pre-Cambrian) rocks containing a multitude of variations of granitoid and schistose which had crystallised at least 900 million year ago. We can hardly picture the events of the earliest part of the pre-Cambrian era but guess that it was essentially a period of igneous activity, out-pouring of the magma through the weaker zones of the earth's crust upon the irregular surface of the earth. The landscape was a vast stretch of igneous rocks, the sky dark with heavy clouds and atmosphere with steam. As the lithosphere

GEOLOGY
Geological
formations
of the pre-
Cambrian
era

¹ *ibid.*, p. 134.

² *ibid.*, pp. 86-87.

³ Govt. of India — *Report on the Lower Damodar Valley Region*, *op. cit.* pp. 14 & 18.

became cooler, water accumulated in depressions giving rise to seas and geosynclines. Diastrophic movements then gave birth to many generations of mountain ranges. As the older mountains were worn out, newer ones sprang up out of the eroded products of the earlier ones. In Bardhaman these mountains have been eroded down to their roots. But the Archaean Shield has been traced below a thin veneer of alluvium, upto a zone passing through the Midnapore, West Galsi and Jangipur areas. A number of buried domal structures of varying dimensions have been detected below the alluvium in this zone. These structures are possibly only eroded residues of the Archaean basement. The exposed portion of the Shield in Chittaranjan, Salanpur and Barabani police stations displays similar features of sub-aerial denudation—a peneplaned landscape interspersed with dome-shaped residual mounds. However, evolution of some of these buried structures might be related to the Rajmahal volcanic phenomena and might even represent the fossil vents of eruption.¹ The Archaean rocks have been greatly compressed and metamorphosed by high pressures and temperatures at great depths to which they were pushed down by the weight of the overlying sediments. From a study of these ancient rocks which provide a clue to the distribution and extent of the geosynclinal seas which gave rise to the ancient mountain chains now seen as eroded basement rocks, it appears that the Archaeans of Bardhaman represent the eastern extremity of the arcuate geosyncline which gave rise to the Aravalli-Delhi-Satpura systems.²

Thus, in the Archaean formations are found rock types of both sedimentary and igneous origin. The sedimentaries were originally deposited as sandy, clayey and calcareous sediments more or less impure. These sediments were consolidated as sand-stones, shales and lime-stones of different composition. These were subjected to regional metamorphism in varying degrees by subsequent diastrophic movements which produced para-schists and gneisses. The para-schists include quartzite, phyllite, garnetiferous schist, quart-sillimanite, micaceous schist, chlorite schist, amphibolites and hornblende-schist. The last two may in part, be contemporaneous lava flows subsequently metamorphosed.³

¹ Sengupta, Supriya — 'Geology of Southwestern Bengal' in *West Bengal* Ed. — Chatterjee, A. B. & Others, Calcutta, 1970, p. -1.

² Dey, A. K. — *Geology of India*, New Delhi, 1968, pp. 50-4.

³ Hunday, A. and Banerjee, S. — *Memoirs of the Geological Survey of India*, Vol. 97, Delhi, 1967, pp. 30-51.

The Indian School of Mines and Applied Geology, Dhanbad, have made the following stratigraphic classification of the Archaean rocks around Raniganj-Jharua coal basin :

Later post-Dharwar Injection complex	Streaky, injection, augen and sillimanite gneisses. Rapikivi-bearing gneisses and epidiorites.
Earlier post-Dharwar Intrusives	Granites, pegmatites, aplites and some quartz veins. Metadolerites and metanorites with or without olivine.
Dharwar	Gneisses, amphibolites, epidiorites and hornblended schists. Quartzites (granulitic and schistose) and calc-gneisses. Micaceous schists.

The exposed part of the Archaean Shield is marked by a number of intracratonic Gondwana basins along the Damodar river valley, a few exposures of early Tertiary age near Durgapur and Baripada and the Mesozoic volcanics of the Rajmahal hills.¹ There was a great hiatus in the geological history of the Damodar valley since the close of the Dharwarian age. After a long period of exposure to atmospheric denudation large areas of the Indian Peninsula were submerged beneath the seas of the *Purana* era and received a great thickness of sand, clay, lime-stones and basic intrusions on the inclined edges of the denuded Archaean rocks.²

The post-Purana period witnessed large-scale crustal movements and deformation that brought about revolutionary changes in the physiography of India. This process, beginning from mid-Carboni-

The
Gondwana
system

¹ The progress of geological investigation during the last four decades has not much altered the basic ideas regarding the pile of fresh-water sediments, deposited during an immense interval of time, ranging from Upper Carboniferous to Lower Cretaceous, or the concept of the Peninsula being a segment of a large southern continent, 'Gondwanaland' which stretched from Australia to South Africa and even to South America. It is only in the matter of classificatory details of fresh discoveries of fossil, flora and fauna, and in the precise fixing of the Upper and Lower limits of the Gondwana system that there has been some additions to our knowledge.

² Although no undoubted *Purana* rocks have yet been reported from the district, it is highly probable that the 'Newer-deolerite' dykes of

ferous continued *pari-passu* till the end of the Mesozoic (with certain stratigraphic breaks or unconformities as in the middle Trias) and resulted in the formation of the most characteristic system of thick fluviatile or lacustrine formation of shales and sandstones with intercalations of valuable coal seams belonging to the Gondwana system. Deposition of these immense formations with their valuable coal seams in the gradually sinking basins are responsible for their preservation not only from denudation but also from the effects of folding and crushing.¹

The Gondwana period witnessed a cycle of climatic changes. It commenced with an ice age over large portions of the Indian Peninsula and subsequent melting of the ice sheet resulted in a bare countryside and in deposition of moraines and silts at places. Lakes were formed in the extensive glacial valleys. Glaciers were replaced by the streams and thus the sediments were sorted. The Talchir series (consisting of greenish shales and sandstones characterised by the presence of undecomposed feldspars) thus came into existence. The Talchir is exposed along the northern edge of the western half of the Raniganj coalfield. The fossils in the Talchirs include *Gangamopteris* and *Schizoneura*.²

The Talchir series is overlain by the thick coal-bearing Damuda series which comprise the Barakar, Ironstone shales and Raniganj measures. These stages are readily recognisable in the Damodar Valley. From the date of recent drilling by the Geological Survey of India it is estimated that the Damudas have a maximum thickness of about 2,310 m. in the Raniganj coalfield and about 2,530 m. in the Jharia coalfield, but decreasing gradually westwards. In the Raniganj coalfield the Damudas occupy about 550 sq. km.³

The Barakar measures occur as an irregular belt roughly parallel to the northern boundary of the coalfield and cover nearly 155 km. They are roughly 640 m. thick and consist mainly of sandstones and shales with seams of coal and fireclay embedded in them. Some of the coal seams attain a thickness of 30 m. The well-known coal seams found in these strata are Chanch, Begunia, Ramnagar, Laikdih, Kasta, Salanpur, Dandgaria seams. The coal

¹ Singhum which extend right upto the boundary of the Gondwana coalfield in Bankura district, may also have some sub-surface extension in Bardhaman district.

² Hunday, A. & Benerjee, S. — *op. cit.* p. 18.

³ The glacial boulder bed (tillite) at the base of the series is of great significance. It has been found in South Africa, South America and Australia.

⁴ *Memoirs of the Geological Survey of India, Vol. 88, Coal Resources of India, Delhi, 1971, pp. 73 & 108.*

to strata ratio in the Barakar stage in the coalfields of Bardhaman is about 1 : 6 to 1 : 10. The corresponding ratio for the Raniganj stage is only 1 : 28. The Barakar stage is the chief coal bearing horizon in the Indian sub-continent. The sandstones of the Barakar stage are coarser than those of the underlying Talchir and overlying Raniganj series. The sandstones are mostly light in colour and vary from pure white to yellow and even to brownish red. They are often current-bedded and typically coarse with several pebbly horizons. Barakar sandstones are usually highly feldspathic, essentially consisting of quartz and of feldspar, mostly kaolinised. They also very often contain calcareous intercalations within their concretions which project out as knolls on weathering.

Overlying the Barakar is the Ironstone stage comprising mainly of carbonaceous shales with clay ironstone nodules. These are exposed over an area of about 113 km. in the open country between the Barakar and the Ajay rivers. Its alternative name is 'Barren Measures' due to the absence of any workable coal seam. The clay ironstone nodules are sideritic at depth, but limonitic near the surface and, at places, rich enough to form economic iron-ore deposits.¹

The Raniganj measures crop out along the southern half of the Raniganj coalfield and vary in width from 8 to 16 km., the maximum width being in the eastern part near Raniganj. The formation is nearly 1,128 m. thick, spread over an area of nearly 264 km.² to the south of Damodar, and 98 km.² to its north. These areas contain several coal seams ranging upto about 12.5 m in thickness.³ The Raniganj stage consists of sandstones and shales. The coarse white feldspathic grits and conglomerates, very common in the Barakar, are absent in the Raniganj stage.

The Panchet series succeeds the Raniganj stage with a slight but distinct unconformity. At places, as in the Bokaro coalfield, it rests directly upon the Barakar completely overlapping the rocks of the Raniganj stage. The term Panchet is derived from a prominent hill of the same name in the Raniganj coalfield. This series is composed mainly of alternations of fine red clays

¹ During the World War I, some of these ores were actually used by the IISCO at Kulti. The thickness of this formation is about 460 m. *ibid.* p. 75.

² *ibid.* pp. 75 & 109. The main coal seams are Narsimda-Bharatchak, Upper Dhadka-Satpukhuriya, Ghusick-Upper Kajora, Lower Dhadka-Nega-Jambad, Bara-Dhemo-Raghunathbati, Dishergarh-Samla, Hatini-Koiti, Sanctoria-Poniati and Talore seams.

and coarse sandstones. The sandstones are reddish, yellowish, buff and brownish. They exhibit, beautifully preserved current beddings. Towards the base of the Panchets, fine muddy silts and shales are also found. Bands of impure limestones have also been noted in the lower half of the series. The reddish tint in the sandstones and remains of the amphibians, labyrinthodonts, suggest gradual drying up of the basin with the setting in of arid climate. Plant fossils in the Panchet are found only in the lower part. The rocks of the Panchet series are exposed in the vicinity of Asansol and southwards across the Damodar river over an area of 240 km. The total thickness of the lower and upper Panchet is about 610 m.¹ The flora of the Panchet beds are decidedly poor, but they provide the most important animal remains from the lower Gondwana.

The Lower Gondwanas valleys were bordered by mighty hills and interrupted by extensive swamps. In such lakes and depressions was laid down a thick series of lacustrine and fluvial deposits interbedded with plant remains which ultimately formed coal seams of the Damuda series. Humid conditions permitted the growth of luxuriant vegetation to produce coal in the Dāmudā period. In a zone of massive grey sandstones near the top of the Raniganj Coal Measures are found silicified tree trunks lying prone, their woody tissue replaced by opaline silica, their small branches missing and usually with no bark. One of these, discovered a little west of Asansol, had a length of over 28 m. tapering from a diameter of 79 m. to 36 cm. These trees obviously did not grow where they are now found, but were brought down from distances by rivers.² This means that the coalfields of Bardhaman were not formed by the decay of forests *in situ*. The Damuda coals, owe their origin to the decay of the original plant debris that had been accumulated by drifting together in broad river valleys, great lakes or estuaries.³

Upper Gondwana

The Upper Gondwanas are not so well developed in the Damodar valley. Small exposures of the Supra-Panchet series or the Mahadeva series occur within the Raniganj coalfield. The rocks are massive ferruginous sandstones, very resistant to weathering and almost barren of economic coal deposits. During the Upper Gondwana period, the Gondwanaland was subjected

¹ *ibid.* p. 109.

² A specimen of over 21 m. is in the Indian Museum in Calcutta.

³ Dey, A. K. — *op. cit.* p. 84.

to marked vulcanicity which manifested itself into outpouring of Rajmahal lava flows and intrusions of numerous sills and dykes of basic and ultrabasic rocks, e.g. dolerites and lamprophyres. These intrusives are abundant in the lower Gondwana rocks, found in the district, and have often damaged the coal seams near their contacts. The Durgapur beds (corresponding to the Mahadeva series) are thus overlain by the Rajmahal series, which consists of lava flows with intercalated carbonaceous and siliceous shales and clays containing beautifully preserved fossil flora so far discovered in India. Recently, some fossils of fish have also been found in the series.¹

While the dolerites occur only as dykes, mica-peridotites are found both as dykes and sills in the coalfields. Micaperidotite contains altered olivine, calcite, mica and apatite and have caused loss of valuable coal in some of the seams of the Barakar and Raniganj measures by converting them into *Jhāmā*. They are especially widespread in the Raniganj measures and continue as narrow dykes into the overlying Panchet strata in the southern portion of the coalfield. The dolerites occur as vertical or occasionally inclined dykes and have a thickness varying from a few centimetres to as much as 45 m.

Intrusive igneous rocks

The Talchirs are exposed along the northern boundary, and followed successively southwards by the next group of younger formations. The Strata dip towards south and south-west at angles ranging from 2° to 35°. Except in some limited tracts in the north-eastern part of the field, the northern boundary of the basal Gondwanas and the metamorphics is along a line of natural deposition, complicated by later faulting.² The Barakars overlap the Talchirs in the north-eastern corner.

General Structure of the Raniganj coalfield

The Raniganj coalfield was regionally proved to extend below

¹ Dev, A. K. — *op. cit.* p. 103.

² "There is no evidence to suggest that the area of gradual subsidence and accompanying sedimentation in the Raniganj coalfield was limited by any tectonic structures, either rift-faults or pronounced folds, and that the present tract of this coalfield represents only a very small portion of the original area of Gondwana sedimentation. It owes its preservation to the fact that it has been subsequently faulted down within the Archaean landmass and thus has been protected against effects of weathering." *Vide* Gee, E. R. — "The Geology and Coal Resources of the Raniganj Coalfield" in *Memoirs of the Geological Survey of India*, Vol. 61, Calcutta, 1932.

the laterites and alluvium over a greater area beyond its previously known limits. The extension of the coal seams of the field, eastward was found in the Andal area. It possibly extends upto Durgapur.

Mesozoic
formations

To the east and south of the ancient basement of crystalline rocks, Gondwana sediments and Rajmahal volcanics lies the alluviated plains of Bardhaman.

Two major structural features of the Bengal basin found in Bardhaman are : (i) the basin margin scarp fault zone of shallow basement rocks and a system of *en-echelon* scarps and faults most of which are normal down-to the basin strike faults ; and (ii) the shelf zone characterized by regional homoclinal dip and gradual basinward thickening of the Tertiary sections. Eastern part of this zone is marked by a long trend of normal faults running through Jalangi-Debagram-Bardhaman-Arambagh. Further eastwards, the Memari Chinsura-Calcutta areas are marked by a complete absence of structural feature. The stable shelf zone covers Durgapur, Bardhaman, Katoya and Kalna subdivisions.

Soils

Different types of soils are encountered in different topographical biological and hydrological as well as geological conditions within the Bardhaman district. Coarse gritty soil blended with rock fragments is formed from the weathering of pegmatites, quartz veins and conglomeratic sandstones, whereas sandy soil is characteristic of granitic rocks and sandstones. The basic igneous or metamorphic rocks and ferruginous sandstones give rise to the reddish brown ferruginous soil, sometimes lateritic. The crystalline limestones and calc-silicate granulites produce calcareous soils. Both the above types of rocks are responsible for the formation of small nodules of *Kankar* (calcium carbonate) in the soil. The fine grained shales give loamy soil and carbonaceous shales and coal seam, dark grey soils. The amount of humus present in soils is responsible for the dark-brownish colour of many of the paddy field soils. The sub-areal weathering of the various rock formations in a monsoon climate with alternate dry and wet seasons which commenced near the end of the Tertiary era was responsible for the formation of a peculiar regolith, the laterites.

Generally speaking, these soils are of reddish colour, medium to coarse in texture, acidic in reaction, low in nitrogen, calcium phosphate and other plant nutrients. Red soils are derived from

the weathering of the granites, gneisses and laterites. In general, the red soils are neutral to acidic (top layer) in reaction, coarse to fine in texture (sandy clay composition), highly leached, low in nitrogen and phosphoric acid but have high percentages of free sesquioxides and very low base-exchange capacity. Water holding capacity of these soils increase with depth as well as with the increase in clay proportions. Towards the east, these residual soils merge into the alluvial soil, which attains an enormous thickness in the low level plains to the east. These alluvial soils have been grouped into sand, sandy loam, river silt or silty loam, clay loam and clay. These alluvial soils are formed of the alluvium brought down by the Ajay, Damodar, Bhagirathi and numerous other rivers. In general, these soils are sandy (texture varying from fine to medium), well drained, slightly acidic in reaction, poor in organic matter and nitrogen but are more fertile as compared to the other groups. Recent alluvium has been classified into two different types : (a) low terrace alluvials lying within the limits of high floods are immature sandy soils of yellowish-brown colour and (b) high terrace alluvials lying beyond high floods are mature, moderately drained, brownish in colour, sandy to clayey loam in texture are very fertile.¹ Old alluvium may be termed as very high terrace alluvials which are located above the recent alluvium. They are mature, highly leached, well drained soils of moderately acidic reaction. Marsh and Meadow soils occur along the marshy courses of the rivers and their tributaries wherever the drainage is impeded. These soils are poorly drained (water-logging is common) and have fine to moderately fine textures.²

Though hardly a dozen minerals of economic importance occur in the Bardhaman district, it is one of the premier districts in India in terms of value of mineral production. The Raniganj coalfield and the surrounding Archaean and lateritic areas of Bardhaman is of great geological and mineralogical importance. The Raniganj coalfield, which although at present ranking second amongst the major coal producing regions in India, was the birth place of the Indian coal industry. Before the discovery of iron

Mineral wealth

¹ Bagchi, K. and De, N. K. — 'Soils of Rarh-Kolhan tract with special reference to their problems of erosion and conservation' in *Geographical Review of India*, Vol. XXIX, No. 4, Calcutta, December 1967. pp. 4-6.

² Report on the Lower Damodar Valley Region. pp. 9-11.

deposits of Singbhum in Bihar, the deposits of iron ore in the Raniganj coalfield were thought to be the future source for the establishment of large scale iron industry in Bengal. Besides coal and iron, important minerals found in the district are fire clay, Raniganj clay silica, building materials, lime-stone, apatite, laterite, etc.

The laterites were used on a large scale by the primitive Agarias and the scattered mounds of slag all over Raniganj coalfield stand evidence of large scale iron smelting operation in the old days. Now this is used for building and road making purposes.

The Indian bauxite deposits are all of the lateritic type and most of them have been formed from the weathering of basaltic lavas¹ and by a process of superficial decomposition resulting in residual accumulation of a hydrated mixture of the oxides of aluminium, iron and titanium together with silica and small amounts of organic matter. The primary bauxite is generally found as a capping to small flat-top mounds.²

Barddhamān holds good prospects of producing natural and artificial abrasives.³ River sands and friable sandstones of Gondwana and Tertiary periods are used for cutting and polishing and for the manufacture of sandpapers. Fine grained and even textured sandstones and quartzites are used as grindstones, sharpening hones and millstones. Cherts, fine dense quartzites or pebbles of flint are used in mills for grinding limestones, cement, ores, clays, paint etc., although at present these are being largely replaced by steel balls.

Most river sands are rather impure. But occasionally, fine grained and comparatively pure sands are found in some riverine portions. Moulding sand⁴ is found on the northern bank of the Damodar river near Andal, Durgapur and other places and also near some rivers in the Raniganj coalfield. Sands from Damra

¹ It is not clear why the weathering of igneous rocks produces both hydrous oxides of aluminium, such as bauxite and clay minerals or hydrous aluminium silicates (vide Thornbury, W. D. — *Principles of Geomorphology*, New York, 1962, pp. 564-65).

² Cameron, J. W. — *Aluminium in Progress of the Mineral Industry of India, 1906-1955*, Calcutta, 1955, p. 326.

³ Silicon carbide (carborundum), fused alumina (Alundum), and boron carbide (norbide) and other artificial abrasives are imported into India. The manufacture of artificial abrasives depends on the availability of cheap power and proximity to the source of raw materials. Burdwan fulfills both these conditions.

⁴ Moulding sands must have special properties like cohesiveness to retain shape, sufficient refractoriness to withstand fusion in the presence of molten materials and sufficient permeability to allow for the escape of

and Kotaidih 6.4 km. south-east of Asansol have long been used for this purpose.

The resources of different varieties of rocks which are used for construction and civil engineering purposes are adequate in Barddhamān. Dolerite dykes and Rajmahal traps are good for use as road metal and railway ballast. Granites and gneisses, some of the Gondwana sandstones and sandstones of the Panchet and the Damuda series in the Raniganj coalfield yield good building materials. The hard sandstone bands in the Raniganj series, the calcareous sandstones in the lower portion of the Talchir series, and the beds at the top of the lower Damudas¹ are good examples. Coarse Barakar sandstones have been quarried at Barakar (86° 52' E & 23° 45' N) for despatch to Calcutta², but they are incapable of withstanding great pressure. The temples by the side of Barakar river are made up of these sandstones. Banded quartzites occurring within the iron ore series, the Chotanagpur granite-gneisses, rose quartz found in the mica pegmatites and serpentine rocks associated with the ultra-basic igneous rocks in the Archaean terrain are suitable as ornamental building stones. Enormous quantities of common clay is available from the alluvial tracts of the district for the manufacture of bricks, tiles and common potteries.

The river sands of Barddhamān are sufficiently clean at many places and suitable for use in plaster, mortar or concrete. A reserve of about 0.23 million m., required by the Durgapur Steel Project for constructional purposes, were located in a part of the Kunur nadi, and in Raturia (87° 17' E & 23° 30' N) and Arjunpur-Angadpur (87° 16' E & 23° 31' N) areas within a radius of 19 km. around Durgapur. Sands of the Damodar and the Ajay are now being stowed in the coal mines. According to a conservative estimate about 1,091 million tonnes of sand would be available from these two rivers included within the Raniganj coalfield. Huge deposits of Tertiary gravel and pebbles occur at Kamalpur (87° 18' E & 23° 36' N), Waria (87° 15' E & 23° 38' N), Ukhra (87° 15' E & 23° 38' N) and places between Andal and Durgapur. These are

gases. Coarser sands are generally used for large castings and the moulding sand mixture also varies for the type of metal to be cast.

¹ Blanford, W. T. : 'On the Geological Structure and Relations of the Raniganj Coalfield, Bengal' in *Memoirs of the Geological Survey of India*, Vol. 3, Calcutta, 1863, p. 195.

² Ball, V. — 'Geology of the Districts of Manbhum and Singhbhum' in *Memoirs of the Geological Survey of India*, Vol. 18, Calcutta 1881, p. 110.

Bauxite &
Laterite

Abrasives, silica
bricks and
moulding sands

Building
materials

used for railway ballast, road construction, and also as aggregate in concrete mixes.¹

Glass sands

In Barddhamān, friable quartzites suitable for use as glass sands occur near Taldanga (87°06' E & 23°46' N) about 2.4 km. from Churulia railway station. The quartzite band is about 15.24 m. thick and continues for about 305 m. along the strike. The reserve appears to be moderately large.

Kaolin

The clay based pottery, ceramic and allied industries of the district are well developed and occupy a premier position in India. Clays are weathered products of silicate rocks containing sufficient hydrous aluminium silicate in softened condition to produce a plastic or semi-plastic mass when tempered with water. The clays, dark grey in appearance and approaching impure fire-clay are quarried by Messrs. Burn & Co. and utilised at their Durgapur works for manufacturing bricks and tiles and for pottery at Raniganj.² These clays attain a workable thickness of about 5.5 m. in the main pit to the north of Durgapur brick works and about 9 m. in the south-eastern excavation.

In Barddhamān, fire-clays occurring within the Raniganj Coalfield are more important than china-clay. Fire-clays occur as seams within the Barakar stage. These are mostly carbonaceous, and occur above, below and within the coal seams, and sometimes as separate bands in the sandstone sequence.

Mehta estimated³ an approximate total reserve of fire-clay in the Raniganj coalfield at 4,129,532 tonnes down to a depth of 6.1 m., assuming that 25% of the material has already been worked out.

Iron ores

Two types of iron ores, namely, (i) clay-ironstones of the Middle Damudas (Barren Measures) and (ii) lateritic ores of the eastern part of the Raniganj coalfield, were at one time an important source of the iron industry in Bengal.

The Ironstone shale group has a thickness of about 366 m., and stretches 53 km. east-west covering an area of about 114 km. Sideritic iron ores (Fe Co₃ with Fe=48.2%), of sedimentary origin, occur in these shales as numerous thin bands, the average may be taken as one part of ore in 20 parts of shale.

¹ Hunday, A. and Banerjee, S. — *op. cit.* pp. 91-92.

² The Raniganj works derive their supply from Ronei (87°08' E & 23°37' N) where seams 1 to 1.22 m. thick occur under laterite capping. Light grey clays along G. T. Road near Ronei have also been worked.

³ Mehta, D. R. S. — 'Fire-clay deposit in the Raniganj and Jharia Coalfield' in *Indian Minerals*, Vol. II, No. 2, Calcutta, 1948, pp. 103-11.

Calcium carbonate concretions locally called *Kānkar* have been used as a cementing medium and as a raw material in some lime kilns such as that owned by M/s. Burn & Co. at Andal. *Kānkar* usually contains 10 to 30% insoluble impurities and is formed by segregation of calcareous material into irregular lumps. Sometimes on burning *kānkar* produces hydraulic lime.¹ The possibility of exploiting the Eocene limestone formations has yet to be investigated.

Calcium Carbonate concretions (*Kānkar*)

The manganese occurrences are of lateritic type derived from Dharwarian schists and phyllites. The distribution is sporadic and not of much economic significance. The iron ores from the ironstone shale of the Raniganj coalfield contain about 1.4 to 2.5% of manganese.² But at some places these iron ores contain somewhat higher percentages of manganese as at Malchaiti and Paolta Kanowa where the ironstone shale contains about 16% and 10.25% of manganese oxide respectively.³

Manganese

The Raniganj coalfield covers an area of about 1,550 sq. km. of proved coal bearing area. Since the working of the first coal mine in 1774 by Sumner and Heatley, a quantity of about 362 million tonnes of coal has been produced from this field until 1950 which figure, however, appears to exclude the amount of coal lost at the site and/or by fire, flooding etc.⁴ Some of the Raniganj coals, besides being excellent steam coals, are also found to be good blendable coals along with the Jharia coals for the manufacture of coke. The Sanctoria and Dishergarh seams are mostly semi-coking coals. The Barakar coal seams are reported to be of generally inferior grade in the Gaurandi-Churulia and trans-Ajay-Kasta areas and coal seams of the Raniganj measures are generally non-coking.

¹ Hunday, A. & Banerjee, S. — *op. cit.* pp. 211-12. Hydraulic lime or natural cement is capable of setting under water. It is impossible to ascertain the amount of lime produced from *Kānkar* stone but it is undoubtedly much less than formerly due to increasing demand for higher grade lime and improved communications (*Vide* Hall, E. B. — *Limestone and Dolomite in progress of the Mineral Industry of India*, 1906-55, Calcutta, 1955, pp. 449-50).

² La Touches, T.H.D. — *A Bibliography of Indian Geology*, Pt. I-B, Index of Minerals of Economic Value. London, 1918, pp. 314-20.

³ Piddington, H. — 'Examination and analysis of some specimens of Iron ore from Burdwan' in *Asiatic Researches*. Vol. 18, No. 1 1929, pp. 171-77.

⁴ Krishnan, M. S. — *Geology of India and Burma*. Madras, 1960. p. 341.

The coal reserves in the Raniganj coalfield are given below :

Kinds of coal (as per Indian Coal Grading Board's classification)	Reserves in Million tonnes	
	Upto 305 m. depth	Upto 610 m. depth
Coking (Selected & Grade I)	291.6	557.0
Non-coking (Selected & Grade I)	2,803.0	4,915.4
Non-coking (Below Grade I)	5,029.0	8,363.7
Total :	8,123.6	13,836.1
Original total reserves in the coalfield		
Coal already exploited	557.4	557.4
Available <i>in situ</i> reserves	7,566.2	13,278.7

The chief colliery areas in the Bardhaman district are at Ramnagar, Dishergarh, Salanpur, Asansol, Gaurangdi, Churulia, Charanpur, Kalipahari, Shibpur, Raniganj, Toposi, Kenda, Purushottampur, Ukhra and Kajora. Within the trans-Ajay portion of the field lie the colliery groups of Poripur Kasta, Arang, Raswan and the Hingla.

In quality, the coal seams of the Raniganj stage are generally of high moisture and high volatile group. Variation from four to seven units in the moisture even in the same seam has been noted in different parts of the coalfield. Moisture content tends to increase from west to east, and consequently, the overall quality of coal deteriorates in the same direction.

In quality, the coals of Barakar age are marked by their low moisture content, having generally less than two per cent with exceptions in the areas east of Churulia, where a higher percentage of moisture has been recorded. The coals of Barakar stage are generally of medium volatile type (26 to 35%) and occur in the areas eastwards of Churulia and in certain seams of Chatabar basin. Coal from the older Barakar seams differs from that raised from the Raniganj stage in containing a smaller per-

centage of moisture and volatile hydrocarbons, with a larger proportion of fixed carbon.

The great earthquake of 12th June 1897, with its epicentre in Assam, was experienced all over the Bardhaman district, the more affected places being Raniganj and Asansol where many of the masonry buildings were damaged. The Bihar-Nepal earthquake of 15th January 1934, an earthquake of very high intensity, was felt in the district with the moderate intensity of isoseismal VI on the Mercalli scale. Minor tremors of moderate intensity and destructivity were experienced on a very few occasions during the last fifty years.¹

The flora of the district is characterized by arborescent species such as *Simul* (*Salmalia malabarica* Schott. & Endl.), *Neem* (*Azadirachta indica*), *Lannea coromandelica* Merr., *Āmlakī* (*Phyllanthus embica*), *Nārikel* (*cocos nucifera*), *Khejur* (*Phoenix dactylifera* L.), *Tāl* (*Borassus flabellifer* L.), *Bat* (*Ficus bengalensis* L.), *Aśvattha* (*Ficus religiosa* L.), *Palās* (*Butea frondosa*), *Krishnachūdā* (*Caesalpinia Pulcherrima*), *Ām* (*Mangifera indica* L.) and shrubby species such as *ashshēodā* (*Glycosmis pentaphylla* Corr.), *Piānj*, *Rasun* and *Rajanūgandhā* (*Polyanthes tuberosa* Willd.), *Ghentu* or *Bhāt* (*Clerodendron infortunatum* Gaertn.); *Kurabaka* (*Barleria Cristata*), *Gulanča* (*Tinospora cordifolia*), *Tulsī* (*Ocimum sanctum*), *Solanum torvum* SW., *S. Verbascifolium* L., *Trema orientalis* Bl., *Shiorā* (*Streblus asper* Lour.) and *Dumur* (*Ficus hispida* L.). The uplands of the Asansol subdivision and the laterite areas of the district are in places covered with *sāl* trees (*Shorea robusta* Gaertn.), *mohuā* (*Madhūa latifolia*), *palās* (*Butea monosperma*), *Bānś* (*Bambusa arundinacea*), *Shireesha* (*Albizia lebbek*), *Arkā* (*Calotropis gigantea*), *Kend* (*Diospyros melanoxylon*), *Arjun* (*Terminalia Arjuna*) and *Ashan* (*T. tomentosa*). In the used up coal mines, ditches and rocky plains mainly two groups of communities are dominating. Firstly, the communities of *Lantana* (*Putush*) and secondly, *Papaver* (*Regnī*). The *Lantana* attains some height during monsoon and have attractive pink white and reddish flowers. It forms a thick shrub forest. *Papaver* thrives on alkaline soil but never in association with *Lantana*. The Carnivorous plant, *Drosera*, brown in colour with sticky hair on its body, is found in rocky areas during winter. The common plants in hedges and wastelands

Special features
such as earth-
quakes & earth
tremors

FLORA
Botanical divisions
of the district and
the nature of vege-
tation found in it

¹ Source: Geological Survey of India.

are *lāl-bharendā* (*Jatropha gossypifolia* L.), *Ban-okrā* (*Urena lobata* L.), *Heliotropium strigosum* Willd., *Hātī-soond* (*H. indicum* L.), *Ulu* (*Imperata arundinacea*), *Sida veronicifolia* Lam., *S. cordifolia* L., etc. The common aquatic and marsh weeds found in the *jheels* and swamps in the eastern parts of the district are : *Keshe* (*Saccharum spontaneum*), *Benā* (*Andropogon squarrosus*), *Caesulia axillaries* Roxb., *Ganj* or *pātā-solā* (*Vallisneria spiralis* L.), *Jhāngi* (*Hydrilla verticillata* Lasp.), Pond weed (*potamogeton indicus* Roxb. and *P. crispus* L.), *Kesar-dām* (*Jussiaea repens* L.), *Kush* (*Eragrostis cynosuroides*), common *Jhāngi* (*Utricularia stellaris* L.F. and *U. flexuosa* Vahl.), *Pānā* (*Lemna panicostata* Hegelm.), *Wodffia arrhiza* Wimm., *Mootha* (*Cyperus rotundus*), *Ceratopteris thalictroides* Brogn., *Monochoria hastae-folia* and *M. Vaginalis* Presl., water hyacinth (*Eichornia crassipes*), *Ottelia Alismoides* pers., *Bara-pānā* (*Pistia stratiotes* L.), *Sagittaria guayanensis* H.B.K., *Najas graminea* Del., *Hôglā* (*Typha angustata* Chaub. & Bory), *Hygrophiza aristata* Nees., *Leersia hexandra* Sw. and *Padma* (*Nelumbium speciosum*). The most interesting feature of the flora is the fact that here we find, growing side by side, a few species characteristic of the Punjab and Rajasthan area, that have managed to find their way through Bundelkhand and Bihar thus far to the east; and a few equally characteristic of Coromandel and the Circars, that have succeeded in spreading through the deltaic plains of Orissa and Midnapur, thus far to the north. One of the most interesting members of the latter category is the monotypic, composite species, *Sphaeromorphaea russeliana* DC.

Forests: forest
belts & areas
covered

The forest areas of the district are chiefly situated in the lateritic and red soil high lands of the Damodar-Ajay interfluvium, i.e. in the Ausgram P.S. of the Sadar subdivision and in the Asansol subdivision. In Ausgram P.S. the forest areas are interspersed with paddy fields. The Durgapur forests are continued in the Birbhum district beyond the Ajay while the forest area in the Asansol subdivision forms a part of the forest area of Santal Pargans. Since the second half of the previous century the vegetations of this district are passing under a tremendous change due to burning, grazing, denudation, ruthless exploitation of forests, human invasion and industrialisation. Species observed two or three decades back are almost on the point of extinction and are surviving with a few scattered representatives. *Yucca* had been dominating in the rocky plains some years back but is now almost extinct. Most forest areas were burdened with rights.

The tribals have had the right to take free of charges all the forest produce which they might require for their own consumption. They have also the right to graze cattle free of charge in the forests. There is no restriction for taking minor forest produce like fruits, leaves, edible roots etc.

At the fag end of World War II the necessity of reorganising the forests which was so long uncared for, was felt and accordingly some new circles and divisions were created in 1944. In January 1949 a separate Barddhamān forest division was created under the Southern Circle.¹ Partition of Bengal on 15th August 1947 and abolition of the zamindari system in West Bengal in 1953 were greatly responsible for reorganisation of forest administration in the year 1947 and 1954 respectively. The possession of vested forests were taken by the Forest Department depending on the availability of records in the area. The taking over was peaceful, but some ex-owners, due to loss of personal property, temporarily lost their sense of judgement, created difficulties and did considerable damage to forest by encouraging their ex-tenants to cut trees on any paltry (unauthorised) sum just to spite the Government.² However, all these passing phases were smoothed by 1957. About this time again the department had to part with a solid chunk of about 10,000 acres of forests in the Barddhamān division to accommodate the Hindusthan Steel Project and the Durgapur group of industries.³ The Divisional Forest Officer estimated that the loss of forest revenue on this account at Rs. 50,000 per year. However, these losses were quickly made up by various developmental and afforestation schemes.

After taking over the forests by the Forest Department, fellings were continued (coppice-with-standard system) under the old approved working plans (10 years) for a year or two, and then, to be on the safe side, rotations were increased to 20 years. With a forest of 1 sq. mile, 32 acres of felling can be prescribed per annum for a 20-year rotation. The forest areas were not demarcated and, therefore, the principal task had been to demarcate these before the adoption of any working plan. However, without waiting for working plans as such, development works had been started. These constitute among others, consolidation, building of roads and afforestation of blanks and waste lands.

Broad effects of
Government forest
policy on the
flora of the
district

¹ Vide G. O. No. 46/6M-7/48 dated the 5th January 1947.

² Roy Choudhury, K. C. — 'The Forests of the Southern Circle — Its History and Management' in *West Bengal Forests: Centenary Commemoration Volume*. Calcutta, 1964. p. 155.

³ loc. cit.

Initially, a large number of species were tried in the plantations, but later emphasis has been put on teak, *sāl*, *peasāl* and lately on quick growing species like *Eucalyptus* (for paper pulp). Among the species that were tried but not much favoured now are *minjri*, *arjun*, *neem*, *kāju bādām*, *śirish* etc.¹

From 1952 to 1956, the soil working technique, the planting design and choice of species strictly followed rigid pattern which was the first approach to standardisation of work. Separate treatments were prescribed for the gully area, rocky area, gravelly area with loose morrum nodules and quartzite chips and sheet eroded area. Since 1957, a revised scheme was adopted. This was a step forward into the evolution of the afforestation technique for the laterite zone. Three different techniques had been adopted. The sandy areas adjacent to rivers have been planted mainly with *Simūl* mixed with *Sisu*, Cashewnut etc. In areas suitable for the cultivation of bamboo and grass seedlings of *dendrocalamus strictus* and the *rhizoms* varieties of the local bamboo species have been planted. This bamboo plantation also contains *Sāl* and related species which have been planted on contour trench lines. In areas which have been completely eroded, Sabai grass have been planted. In other types of soil, mainly *Sāl* seeds have been sown, the seedlings being planted in contour trenches mixed with *Peasāl*, *Mahuā*, *Ailanthus*, *Xylia*, *Xylocarpa*, *Haritakī*, *Baherā* and Teak. On the contour bunds *Sonajhuri*, *Minjri*, Mango, Cashewnut, etc. have been sown as shelter trees. Cattle proof trenches have been dug in afforested areas to retain moisture of the soil as also to prevent depredation of cattle. The results so far achieved appear to be quite promising.

However, like the original scheme, it could not also be the last word on the subject. The observation on the plantations created during 1957-61, indicated the raising of teak in manured pits in large scale. The new idea synchronized with the commencement of Third Five Year Plan which laid great stress on and provided for raising of economic plantation on a large scale. Later, in the second year of the plan, the Government of India sponsored a scheme of raising plantations of quick-growing species like *Eucalyptus* for raw material for production of pulp, chip board and allied products. In 1961, a few trials were made with *Eucalyptus* hybrid (Chikballipur-Mysore), in the laterite zone and it was a great success. Of the various species planted earlier,

¹ *ibid.* pp. 136-37.

Acacia auriculiformis was found to thrive remarkably on a wide range of solid including those which were predominantly rich in morrum nodules. The species even began to regenerate amply under parent trees and was adjudged suitable for paper pulp (chemical). In addition to its fast growth, the other advantage was, it could be raised by sowing of seeds only. The idea of raising fast growing and valuable timber species and pulpwood species gradually gained ground and from 1962 onwards the 1957 scheme was relegated to the background, except for fencing, cattle proofing and gully and rocky areas.

In the forests of Barddhamān, wild animals are conspicuous by their absence. The few deer (barking), bear, leopard, peacock and partridge that are there hardly multiply as these areas are subject to annual ravages of tribal hunts which is a part of their social life and which has not been restricted. Measures to prevent poaching are also inadequate. Only hare (whose fecundity has probably proved tougher) and partridges (black and grey) are coming up well in the newly afforested areas. The essential necessity in preventing undue destruction of wild animals and birds outside forest areas have suffered in West Bengal due to lack of control of the Forest Department in the entire area of the State. The control on the Government forests with the help of the Forests Act of 1865, have had only limited impact on the private forests of Barddhamān and surrounding districts. The Wild Birds and Animals Protection Act of 1912 had not been used by the Custodians of the act to the desired effect. The enactment of the West Bengal Wild Life Preservation Act, 1959 is aimed at vesting the responsibility of preservation of fauna of the entire State on the Forest Department. This is a positive step and whatever games are now seen in Barddhamān's forests are due to its strict enforcement.

Game laws and measures for the preservation of wild life

The carnivora of the district comprise leopard, wolf, hyaena, jackal and other smaller species, but hyaenas and leopards are not common. They destroy cattle and goats and have been known to attack men. A leopard was killed in the early part of the first decade of this century close to the town of Barddhamān, and in 1909 a good deal of damage was done by one in Kalna town. Tigers were formerly common in the district, especially in the jungles of the Asansol subdivision adjoining the Santal Parganas, but have now entirely disappeared. Destruction of habitat is without doubt the prime cause for the disappearance

FAUNA

of wild life in the district. Wolves are scarce, and are mostly met with in the jungles north of Kaksa : they have been known to carry off children. Water developments have been in Bardhaman, the prime consumers of forests and disturbers of wild life habitats. Hyaenas do not commit much mischief as they content themselves with carrion but they occasionally carry off goats and sheep. Wild pigs are numerous throughout the district and do considerable damage to the crops : monkeys also abound including the variety known as *Hanuman*. In the hilly areas an occasional python is met with. Poisonous snakes are very common and include several kinds of cobra, the *karait* and the deadly Russell's viper. Of others most frequently seen is the *dhāmni* and various species of harmless grass snakes. Snipes are very numerous in the rice fields during the months of September, October and November and afford excellent sport, while among other game birds are grey and black partridges, pea-fowl, and jungle-fowl which are encountered in the *sāl* jungles of the Asansol and Sadar subdivisions. On the Damodar and in the marshes and *jhils* east of the Hooghly, goose, duck and teal are found in fair numbers but are not so plentiful as in other parts of the State. The other common avifauna of the district are jungle crow, house crow, treepie, common babbles, common iora, gold-fronted chloropsis, red-vented *bābul*, red-whiskered *bulbul*, red-spotted bluethroat, brown-backed robin, *Shāmā*, Tickell's blue flycatcher, paradise flycatcher, wood shrike, black drongo, tailor bird, streaked fantail warbler, golden oriole, common *maynā*, pied *maynā*, white-backed *muniā*, white-throated *muniā*, spitted *muniā*, red *muniā*, yellow-throated sparrow, house sparrow, woodpecker, India cuckoo, pied crested cuckoo, *koel*, parakeet, *nilkāntha*, bee-eater, kingfisher, hornbill, hoopoe, horned owl, spotted owl, jungle owl, griffon vulture, long-billed vulture, scavenger vulture, laggar falcon, small spotted eagle, brahminy kite, pariah kite, sparrow hawk, various types of pigeon and dove, lapwing, white necked stork and several varieties of egret and heron. The low-lying swampy areas of Bardhaman being in line of migration provide a very good sheltering place for the migratory birds in winter.

Fishes. — Of the rivers and rivulets which pass by or through the district of Bardhaman, the Ganges, the Damodar, the Banka, the Ajay and the Khari constitute the fisheries of some importance. Out of these rivers, only the Ganges anyhow maintains the flow of water throughout the year. The flow of water in the Damodar

depends entirely upon the discharge of water by the DVC from its barrages. The other rivers practically dry up in hot months when fishes accumulate in depressions here and there to be caught indiscriminately by the fishermen.

Principal catches from the above rivers are as follows : — Rohu (*L. rohita*), Mrigel (*C. mrigala*), Kātlā (*Catla catla*), Kharke Bāṣā (*C. reba*), Bhāngan Bāṣā (*L. bata*), Shrimps (*Metapeneus* spp.), Maurālā (*A. mola*), Pābdā (*C. pabda*), Tengrā (*Mystus* spp.), Bele (*G. gurius*), Chelā (*C. bacaila*), Pumi (*Barbus* spp.) Bōāl (*Wallage attu*), Aīd (*Mystus seenghala*), Galdā (*Palaemon* spp.), Vāchā (*E. vacha*), Chital (*N. chitala*), Pholoi (*N. notopterus*), Khairā (*Gadusia chapra*), Fensā (*E. telara*), Silon (*S. silondia*), Bholā (*Sciaenidae coitor*) etc.

As late as 1952, Hilsa fish used to be caught at Rhondia, but due to rapid silting up of the Ganges and the Damodar, the migration of Hilsa fish (*Hilsa ilisha*) to the upper reaches for breeding purposes has become difficult and as such Hilsa fishery in the parts of the rivers within the district is almost lost. As the brood fishes of carps are becoming fewer day by day, the collection of spawn from those rivers is becoming unattractive though it also formed a part of occupation of fishermen for about three months a year.

No sanctuary exists in this district and little else is at present done than observing the wild life week and observing the prescribed close season. The decline of wild life, besides shooting, trapping, poaching and those mentioned above, is also due to the deleterious influence of exotic plants introduced by accident or intention.¹ The conversion of natural forests into plantations within a short span of time makes it difficult for wild life to adjust and so it disappears. A fairly large number of deaths from snake bite occur every year.²

The Meteorological Department has only two observatories, one in Bardhaman and the other in Asansol. The rainfall data are, however, available from eight recording stations. The details of precipitation in these stations as also for the entire district have been given in table VI appended to this chapter.

CLIMATE

Location of observatories

¹ It may be pointed out that in the Nilgiris and also in Australia all the animals have gone away from the eucalyptus plantations.
² Government of West Bengal, State Bureau of Health Intelligence — Health on the March : West Bengal : 1971, p. 57.

Climatic divisions
and seasons and
their duration

Proximity of the Bay of Bengal and the lie of the surrounding lands are the chief determinants of the climate of the plains of West Bengal and, as such, the climate of Bardhaman district hardly differs from the overall humid mesothermal climatic pattern. The district experiences a climate which is transitional between CW_g and AW₁ types, where 'C' stands for 'warm temperate rainy climates with mild winter', 'W' for 'dry winter not compensated for by total rain in the rest of the year', 'g₁' for 'eastern ganges type of temperature trend, maximum before the summer rainy season' and 'AW₁' for 'tropical savanna climates, hot in all seasons but moderately comfortable with only 10° to 20°F annual range of temperature and 5% to 15% annual variability of precipitation'.¹ The modified Gangetic monsoon climate in the south-eastern parts of the district is characterized by moderate temperature (due to the nearness of the Bay) with cold weather means around 19°C and hot weather means between 25°C and 35°C. Another characteristic is oppressively high relative humidity all the year round especially from the middle of May to mid-October and moderate precipitation during the monsoon approximating to the Savanna climate. The annual distribution of rainfall appears to be somewhat complicated giving rise to a number of pockets of high and low rainfall depending on the peculiarities of the terrain from one part of the valleys of Ajay and Damodar to another, and locations of different parts in the relation to the passage of depressions over the valley.

The cold season starts from about the middle of November and continues till the end of February. March to May is dry summer intervened by tropical cyclones and storms, which although infrequent are notable features of the weather and climate of this district. June to September is wet summer while October and November is autumn, which again is visited by post-monsoon cyclonic storms. On the average 3 or 4 severe cyclones may be expected in the pre-monsoon and 2 or 3 in the post-monsoon periods.

Weather and climate being a complex manifestation of air mass properties which change from season to season, an examination of the role played in the mechanism of the climate and weather of the district by the tropical air (with high dry-bulb temperatures), which is intermediate between the equatorial air

Seasonal growth
of air masses
and winds

mass (with high wet-bulb temperatures) and extra tropical air mass (with low dry-bulb temperatures), is obviously necessary. Far-reaching changes take place within these air masses during their flow in different directions and this forms one of the most difficult part of studies for weather analysis and forecasting, because they involve the interplay of various forces and influences of which relief comes in the forefront in Bardhaman district. From mid-April to mid-June a tropical maritime air mass overlain by a tropical continental air mass develops unstable weather conditions causing sudden thundersqualls, widespread heavy rain and high winds. Though threatening clouds precede as their harbinger followed by rapid fall of temperature, it comes literally like a bolt from the blue. These are the nor'westers, the Bengali equivalent of which is *Kālbaisākhī*. Most of them strike from the higher plateau to the north-west with speed of 65 to 100 km. per hour and a speed of even 320 km. per hour is also not infrequent. Rainfall averaging from 10 mm. to 50 mm. at times and a consequent fall of temperature by 10°F to 20°F has been observed. *Kālbaisākhīs* generally burst during afternoon and dusk. But they have occurred also during night and as early as February. The height of separation of the two distinct air masses influences the velocity in nor'westers. *Kālbaisākhīs* are extremely local phenomena and they are never widespread for the simple reason that the state of instability differs from place to place in higher layers and the height of the separating layer affects the convectional overturning of the air masses—sudden up-rush of warm surface air accompanied by a down-rush of cold heavy air; unequal states of instability, surface relief, density of air masses causing unequal mixing, unequal convection at different places are among the other factors involved in the formation of nor'westers. Clouds of cumulus type form as a result of instability either in the height of the separating layer or under it e.g., cumulus humilis, cumulus congestus, cumulus pileus, cumulo-nimbus calvus, cumulo-nimbus incus, strato-cumulus and generally thunderstorms develop from these clouds of cumulo-nimbus type.¹

Heralding summer's advance, the tropical air mass gradually begins to play a dominant role, to be invaded subsequently by the equatorial maritime air mass coinciding with the onset of

¹ Chatterjee, S. B. — *Indian Climatology*, Calcutta, 1955. pp. 285-96.

Chatterjee, S. B. — 'Nor'westers of Bengal' in the *Calcutta Geographical Review*, Vol. VI, No. I, March 1948, Calcutta. pp. 32-3.

the monsoon. The grip of the homogeneous equatorial air mass lowers diurnal range of temperature, brings about cloudy to completely overcast sky and frequent rain or drizzle. From May to September the monsoon winds blow with gradually increasing velocity from directions between the south-east and south-west producing a hot damp and moisturous climate with excessive precipitation. The land monsoon currents, on the other hand, are light and variable during autumn. During the post-monsoon season, the tropical maritime air mass in the process of transition to tropical continental air mass brings about fair to fine weather and, except for early morning ground mists, visibility conditions are good. During winter, i.e. from December to February the winds are mainly northerly or north-westerly and the tropical continental air mass brings about clear or patchily clouded sky, invigorating light surface wind (occasionally gusty in the afternoons), fair visibility, warm day temperatures and fairly cool nights. When in March the weather is in a state of transition between winter and spring welcome north winds start blowing in the mornings while the evenings are pleasant with the south breeze.

Rainfall

Out of 119 rain-recording stations in West Bengal there are only eight in the district of Bardhaman. The stations are in Kalna, Bardhaman, Katoya, Asansol, Mankar, Mongolokot, Shyamsundar (Rāinā) and Manteswar. Out of these 8 stations only two send their records regularly every month to the Agriculture Department. Available figures on the distribution of rainfall are thus extremely inadequate for giving a sufficiently clear picture on the blockwise or thanawise rainfall distribution in the district. However, the analysis at table I is based on 48 to 90 years data up to 1955 as well as the actual rainfall data for 1959 (very wet year) and for 1966 & 1967 (years of drought). The average annual rainfall in the district is 1330.7 mm. (53.18"). The rainfall during the monsoon months (June to September) constitutes about 75% of the annual rainfall. The variation in the rainfall from year to year is not large. In the fifty-year period (1901 to 1950), the highest annual rainfall amounting to 145% of the normal occurred in 1909, while 1935 was the year with the lowest rainfall which was 69% of the normal. In the same fifty-year period rainfall less than 80% of the normal occurred in five years two of them being consecutive. Considering individual stations rainfall less than 80% of the normal occurred in three consecutive

years only once at Manteswar. It will be seen from table II that the annual rainfall in the district was between 1101 and 1600 mm. (43.31" and 62.99") in 37 years out of 50.

TABLE-II

FREQUENCY OF ANNUAL RAINFALL IN THE DISTRICT
(DATA 1901-1950)

Range in mm.	No. of years	Range in mm.	No. of years
901-1000	3	1501-1600	4
1001-1100	2	1601-1700	4
1101-1200	7	1701-1800	3
1201-1300	5	1801-1900	0
1301-1400	13	1901-2000	1
1401-1500	8		

On an average there are 70 rainy days (i.e. days with rainfall of 2.5 mm. — 10 cents. — or more) in a year. This number varies from 60 at Mangalkot to 78 at Bardhaman.

The heaviest rainfall in 24 hours recorded at any station in the district was 299.2 mm. (11.78") at Bardhaman on 1905 July 28. The heavy precipitation zones are the zones of least variability, the lowest precipitation zones in order of gradation are the zones of highest variability. This will be evident from table VI encompassing Bardhaman and adjoining districts.

APPENDIX TABLE-I

MEAN MONTHLY AND ANNUAL RAINFALL IN MM. AVERAGE FOR 1901-1950, 1959 (WET YEAR), 1966 & '67 (DRY YEARS)

Station	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Asansol	1901-1950	16.5	29.0	22.3	26.2	83.6	242.8	358.7	346.7	213.4	109.0	16.5	4.6	1469.3
	1959	28.7	7.5	6.1	6.1	32.6	237.4	264.8	373.7	390.9	393.8	—	—	1741.6
	1966	45.6	—	1.7	—	—	—	—	251.6	—	—	—	—	298.9
	1967	11.3	10.6	56.8	70.8	41.3	70.4	288.5	494.2	262.7	—	—	10.3	1316.9
Bardhaman	1901-1950	13.5	32.5	39.1	55.6	139.2	256.8	333.3	317.0	216.9	94.5	25.1	5.1	1528.6
	1959	0.8	—	—	4.6	78.5	166.8	131.7	432.8	478.7	339.0	—	—	1632.9
	1966	—	—	—	37.0	6.8	172.2	—	264.7	—	65.8	—	—	546.5
	1967	33.2	—	—	41.0	6.0	186.8	203.6	—	—	—	—	—	470.6
Shyamsunder (Ritind)	1901-1950	5.6	30.0	26.7	36.6	91.9	238.0	255.0	274.6	196.6	99.3	12.5	3.3	1270.1
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—
Chanditala (Hooghly)	1901-1950	17.5	28.7	28.2	56.6	177.8	299.2	342.9	372.1	256.0	148.3	49.0	1.8	1778.1
	1959	8.1	1.0	Nil	91.9	37.1	599.7	353.1	277.4	540.8	571.9	—	—	2481.0
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—
Taldanga (Bankura)	1901-1950	11.4	26.9	28.5	47.5	112.8	329.9	425.2	445.0	250.7	111.5	20.3	3.6	1813.3
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—
Jaypur (Bankura)	1901-1950	16.5	23.1	26.2	34.3	80.5	181.9	303.8	298.7	167.9	78.7	15.5	2.0	1229.1
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—
Kaina	1901-1950	12.7	23.4	34.5	63.0	129.8	234.7	285.2	266.5	196.1	90.4	20.3	3.6	1360.2
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	51.3	—	—	—	—	—	51.3
	1967	—	—	—	—	—	—	59.9	—	—	—	—	—	59.9
Manaswar	1901-1950	6.1	30.0	23.1	31.7	112.0	242.6	284.2	317.7	186.4	92.7	11.4	—	1337.9
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—
Mangalkot	1901-1950	6.6	20.3	28.2	38.6	117.6	255.8	259.3	270.8	173.2	74.4	17.3	2.5	1264.6
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	7.0	—	—	—	—	—	—	—	—	—	—	—	—
Katoya	1901-1950	11.4	24.1	28.2	45.2	122.9	247.9	284.5	278.6	187.7	112.0	20.1	2.5	1365.1
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	0.3	0.1	1.7	0.7	—	—	—	—	—	—	—	—	—
Mankar	1901-1950	10.5	22.3	26.9	34.8	89.4	208.0	274.3	279.7	171.2	73.7	14.5	4.1	1209.6
	1959	—	—	—	—	—	—	—	—	—	—	—	—	—
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—
Suri (Bichitpur)	1901-1950	11.4	24.1	24.9	29.5	98.3	231.4	325.4	328.7	214.4	95.8	13.7	2.3	1399.9
	1959	17.0	1.6	14.6	69.6	97.7	137.6	368.6	574.0	362.0	490.6	—	—	2133.3
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—
Dhanbad	1901-1950	14.0	26.9	18.8	16.5	48.5	192.0	333.5	338.3	213.4	90.4	12.9	3.8	1309.0
	1959	19.0	18.5	2.8	4.6	88.4	119.7	435.0	336.9	401.1	410.5	—	—	1836.5
	1966	—	—	—	—	—	—	—	—	—	—	—	—	—
	1967	—	—	—	—	—	—	—	—	—	—	—	—	—

Appendix — *Contd.*

TABLE-III

NORMALS OF TEMPERATURE AND RELATIVE HUMIDITY
(BARDDHAMĀN)

Month	Mean Daily Maximum Tem- perature °C	Mean Daily Minimum Tem- perature °C	Highest Maximum ever recorded °C	date	Lowest Minimum ever recorded °C	Date	Relative Humidity 0830* 1730* % %	
January	26.1	12.7	36.7	1951 Jan. 16	6.1	1934 Jan. 20	70	48
February	28.6	14.8	37.8	1896 Feb. 28	4.4	1905 Feb. 3	66	40
March	34.1	19.8	41.7	1941 Mar. 28	10.0	1928 Mar. 9	63	32
April	37.4	23.9	45.0	1897 Apr. 18	16.1	1886 Apr. 6	69	39
May	36.7	25.3	46.1	1916 May 25	18.3	1882 May 8	74	57
June	34.3	26.1	45.6	1926 June 15	20.0	1953 June 9	80	72
July	32.2	26.1	38.9	1897 July. 4	20.0	1953 July 22	84	81
August	31.8	26.1	36.1	1945 Aug. 4	21.7	1954 Aug. 12	84	81
September	32.2	25.9	37.8	1928 Sep. 14	20.0	1953 Sep. 17	83	79
October	31.7	23.4	36.7	1951 Oct. 21	16.1	1933 Oct. 30	77	73
November	28.9	17.7	35.6	1896 Nov. 2	10.6	1883 Nov. 23	70	63
December	26.1	13.3	31.7	1951 Dec. 7	7.2	1883 Dec. 24	68	54
Annual	31.7	21.3					74	60

*Hours I.S.T.

TABLE III(a)

NORMALS OF TEMPERATURE AND RELATIVE HUMIDITY
(ASANSOL)

Month	Mean Daily Maximum Tem- perature °C	Mean Daily Minimum Tem- perature °C	Highest Maximum ever recorded °C	date	Lowest Minimum ever recorded °C	Date	Relative Humidity 0830* 1730* % %	
January	25.6	11.8	31.7	1958 Jan. 27	5.6	1934 Jan. 19	67	44
February	28.0	14.2	36.1	1952 Feb. 20	5.0	1950 Feb. 1	63	39
March	34.3	19.1	41.7	1941 Mar. 29	11.1	1923 Mar. 1	47	27
April	38.3	23.4	45.0	1954 Apr. 24	16.1	1950 Apr. 1	53	31
May	38.9	25.8	47.2	1944 May 28	18.3	1927 May. 2	64	46
June	36.4	26.3	47.2	1926 June 16	20.6	1922 June 2	74	67
July	32.1	25.5	40.0	1926 July 1	19.4	1947 July 10	85	82
August	31.6	25.3	37.2	1932 Aug. 31	21.7	1933 Aug. 22	85	82
September	32.1	25.1	36.1	1941 Sep. 17	20.0	1946 Sep. 17	83	79
October	31.5	21.7	36.7	1932 Oct. 7	15.0	1938 Oct. 29	77	69
November	28.8	15.7	33.9	1930 Nov. 1	8.3	1926 Nov. 19	70	53
December	26.0	12.0	31.7	1946 Dec. 8	6.7	1937 Dec. 29	68	46
Annual	32.0	20.5					70	55

*Hours I.S.T.

Appendix — *Contd.*

TABLE-IV

MEAN WIND SPEED IN KM./HR.

(BARDDHAMĀN)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
2.1	2.6	3.7	5.5	6.1	5.6	4.8	4.2	3.4	2.4	2.1	2.1	3.7

TABLE—IV(a)

MEAN WIND SPEED IN KM./HR.

(ASANSOL)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
5.6	6.1	7.1	8.0	9.2	8.5	8.2	7.6	6.3	4.8	5.0	5.6	6.8

TABLE-V

SPECIAL WEATHER PHENOMENA

(BARDDHAMĀN)

Mean no. of days with	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Thunder	0.3	1.3	2.3	3.4	5.3	8.2	6.3	5.9	6.2	2.1	0.1	0.1	41.5
Hail	0.1	0.0	0.2	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Dust- storm	0.0	0.3	0.4	0.9	2.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	4.3
Squall	0.0	0.0	0.2	0.6	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Fog	1.3	2.4	2.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0

Source : The Deputy Director General of Observatories, Pune.

TABLE—V(a)
SPECIAL WEATHER PHENOMENA
(ASANSOL)

Mean No. of days with	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Thunder	0.7	2.7	3.1	5.5	9.3	14.6	13.2	13.2	11.8	3.8	0.0	0.0	71.9
Hail	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Dust-storm	0.0	0.0	0.0	0.9	1.2	0.7	0.0	0.0	0.0	0.1	0.0	0.0	2.9
Squall	0.0	0.0	0.1	0.1	0.3	0.2	0.6	0.7	0.1	0.3	0.0	0.0	2.4
Fog	2.1	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	1.0	0.9	1.4	6.2

BARDDHAMAN

TABLE-VI

NORMALS AND EXTREMES OF RAINFALL

GENERAL																			59
Station	No. of years of data	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual year**	rain- fall- % of normal		Heaviest rainfall in 24 hours*	Date	
															& year**	& Amount (mm)			
Kahna	50 a	12.7	23.4	34.5	63.0	129.8	234.7	285.2	266.5	196.1	90.4	20.3	3.6	1360.2	145	66	170.7	1923 July 29	
	b	1.0	1.6	2.2	4.0	7.0	11.9	15.6	14.3	10.9	5.0	0.9	0.3	74.7	(1909)	(1927)			
Barddhaman	50 a	13.5	32.5	39.1	55.6	139.2	256.8	333.3	317.0	216.9	94.5	25.1	5.1	1528.6	148	61	299.2	1905 July 28	
	b	1.1	2.0	2.2	3.5	6.9	12.0	16.1	16.5	11.1	4.8	1.1	0.3	77.6	(1905)	(1935)			
Katoya	50 a	11.4	24.1	28.2	45.2	122.9	247.9	284.5	278.6	187.7	112.0	20.1	2.5	1365.1	144	51	228.6	1954 June 25	
	b	0.9	1.9	2.1	3.2	6.6	11.6	14.8	14.3	10.1	4.8	1.0	0.2	71.5	(1909)	(1907)			
Asansol	38 a	16.5	29.0	22.3	26.2	83.6	242.8	358.7	346.7	213.4	109.0	16.5	4.6	1469.3	145	54	272.0	1916 Sep. 23	
	b	1.3	2.4	1.9	2.1	4.7	11.7	18.0	17.3	11.0	5.3	1.1	0.3	77.4	(1922)	(1915)			
Mankar	49 a	10.7	22.3	26.9	34.8	89.4	208.0	274.3	279.7	171.2	73.7	14.5	4.1	1209.6	156	51	248.2	1890 June 23	
	b	1.1	1.6	1.7	2.3	4.7	9.3	13.7	13.8	8.5	3.6	0.7	0.4	61.4	(1909)	(1925)			

GENERAL

TABLE—VI (Contd.)

NORMALS AND EXTREMES OF RAINFALL

Station	No. of years of data	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual year**	Amount & year** (mm)	Date	Highest annual rain-fall as % of normal	Lowest annual rain-fall as % of normal	Heaviest rainfall in 24 hours*
Mangalkot	40 a	6.6	20.3	28.2	38.6	117.6	255.8	259.3	270.8	173.3	74.4	17.3	2.5	1264.6	213	31	262.9	1911 Sep. 18	
	b	0.5	1.4	1.6	2.2	5.4	9.9	12.6	13.2	8.5	3.4	0.8	0.3	59.8	(1928)	(1927)			
Shamsunder (Rāinā)	28 a	5.6	30.0	26.7	36.6	91.9	238.0	255.0	274.6	196.6	99.3	12.5	3.3	1270.1	141	41	163.3	1939 Aug. 4	
	b	0.6	1.7	1.5	2.5	4.8	13.2	15.4	16.3	10.3	3.6	0.7	0.1	70.7	(1926)	(1928)			
Manteswar	28 a	6.1	30.0	23.1	31.7	112.0	242.6	284.2	317.7	186.4	92.7	11.4	0.0	1337.9	231	40	152.4	1952 June 19	
	b	0.5	2.2	1.1	1.6	6.3	10.7	14.1	13.3	10.1	4.0	0.5	0.0	64.4	(1928)	(1935)			
Bardhamān (Dist.)	a	10.4	26.5	28.6	41.5	110.8	240.8	291.8	293.9	192.7	93.3	17.2	3.2	1350.7	145	69			
	b	0.9	1.9	1.8	2.7	5.8	11.3	15.0	14.9	10.1	4.3	0.9	0.2	69.8	(1909)	(1935)			

(a) Normal rainfall in mm. (b) Average number of rainy days (days with rain of 2.5 mm. or more).
 *Based on all available data upto 1955. **Years given in brackets.

CHAPTER II

HISTORY

The earliest artifacts dating from about 5,000 B.C.¹ and belonging to the Mesolithic or Late Stone Age have been traced at Birbhānpur in Durgapur thānā. The microliths found here make the site so far to be the most important in Eastern India.² The excavations of 1954 and 1957 revealed that the site is situated on one of the middle terraces of the Damodar river. Over the basal decayed sandstone there is a thick layer of mottled silty sand, believed to be weathering *in situ* of the rock below. The latter sandy silt is capped by lateritic gravel and stone fragments in a silty matrix which became consolidated. The top of this layer is uneven. It perhaps formed the land surface on which the man of the mesolithic age lived. The microliths were mainly found at this level and in the overlying earth mixed with quartz and haematite. This layer in its turn is covered by sandy light-brown earth. It has also been surmised that the mesolithic man lived on an uneven surface consisting of many humps and depressions. Though no plan of any house of this period could be obtained from the small excavations, yet a large number of post-holes may lead to the conjecture that the plan was circular in outline.³

The Birbhānpur microlithic industry has yielded irregular free-flaked cores, fluted cores, blades, lunates, points, borers, scrapers, burins, etc. The material is mostly milky quartz, though at times crystal, chert, chalcedony, quartzite and fossil wood were also used. The industry is considered to be non-geometric for non-occurrence of the trapeze and the triangle.⁴

The climate when the mesolithic man occupied the site must have been comparatively dry and mild, after the last wet phase during which the laterite weathered, and dense forest existed in the area. This mild climate was followed by a period of increasing aridity and violent wind activity covering the habitation layers with sand.⁵

¹ Sankalia, H. D. — *Prehistory and Protohistory in India and Pakistan*, Bombay, 1952, p. XXI. Also cf. "The exact age in years is difficult to guess, but may be placed between 10,000—4,000 B.C." (*ibid.*, p. 151).

² *ibid.*, p. 129.

³ *ibid.*, p. 132.

⁴ *ibid.*, p. 152.

⁵ *loc. cit.*

PRE-HISTORY

Birbhānpur

Archaeological discoveries during the sixties have furnished evidence of a comparatively much higher degree of culture in certain parts of Bengal even at such a remote period as the last quarter of the second millennium B.C., that is, long before the settlement of the Aryans which was hitherto regarded as the beginning of higher culture and civilisation in Bengal.

These discoveries are results of excavations carried on during 1962-65 at Pāṇḍu Rājār Dhibi in the valley of the river Ajay (near Bhedia) in the Barddhamān District, and in several other sites on the Ajay, Kunur, and Kopai rivers.

The excavations at Pāṇḍu Rājār Dhibi have revealed that the people of those days were capable of building well-planned towns with pavements and streets. They lived in citadels and houses built of unfired clay reinforced with reeds and having plastered walls and floors of beaten peletty laterite. They knew the use of copper. Agriculture and trade was the mainstay of their economy. They cultivated rice and other crops. They kept domestic animals and livestock, and also turned out fine potteries. They buried their dead in an east-west orientation.

Regarding house-plans of this period it may be observed that they lived in rectangular-to-square or round houses or huts framed with thick wooden or bamboo-posts around which were put reeds plastered with mud both from inside and outside. Sometimes, the roof-tiles were made of terracottas. Floors of these huts or houses were either made of rammed *moorum* or lateritic pellets or of terracotta nodules or of clay mixed with cowdung or were plastered with lime.

It has been suggested that Pandu Rajar Dhibi represents the ruins of a trading township. The people carried on trade not only with the interior regions of India, but also with the countries overseas. They were predominantly a sea-faring people, and in ships made by themselves they could traverse the seven seas of the world. The discoveries at Pandu Rajar Dhibi show that they had most intimate trade relations with Crete and other countries of the Mediterranean world. The most exciting among the finds are a seal and a clay label both inscribed with signs of Cretan Linear A symbols. Indeed, Pandu Rajar Dhibi is not the only place which had a settlement of the Cretans. Such settlements of the Cretans and of the Egyptians too there must have been also in the Medinipur and the 24-Parganas districts of West Bengal. Thus Tamluk in the Medinipur district has yielded vases of Egyptian and Cretan

Pāṇḍu Rājār
Dhibi

types. Sealings and potteries revealing certain Egyptian and Cretan traits have also been recovered from Harinarayanpur and Chandraketurgh in the 24-Parganas district of West Bengal.

The excavations at Pandu Rajar Dhibi have revealed the existence of a Bronze Age civilisation in eastern India which had once a close relation with chalcolithic civilisation of central India and Rajasthan. During the excavation of 1964, it appeared that iron was known and probably smelted at this site side by side with the use of copper and microliths. The seal and engraving conclusively reveal that there was once a method of writing of sharp linear pattern in the Ajay valley somewhere in the 2nd millennium B.C. A careful study of all these relics revealed that the chalcolithic habitation at Pāṇḍu Rājār Dhibi which might have begun in the latter half of the 2nd millennium B.C. continued to flourish in spite of recognizable changes down to the beginning of 1st millennium B.C. Recently, a Radio-Carbon analysis of an excavated charcoal sample from the site has confirmed the approximate dating given above. Besides Pandu Rajar Dhibi, chalcolithic culture have been found in other areas as well. Excavations have been carried out in Banerbari in the district by the Directorate of State Archaeology. The excavation reveals the copper-age with different phases and different types of potteries. The excavation at Bharatpur in the district was conducted by the Archaeological Survey of India in collaboration with the Burdwan University, which reveals different types of painted potteries.

The above account is based on the official statements of the Archaeological Directorate of West Bengal. It is, however, necessary to point out that the archaeological discoveries in Bengal, mentioned above, have not yet been properly studied by the outside experts or specialists in this field, and as such the historical value of many statements, particularly about the dates, relationship with the Cretans, and knowledge of the art of writing must be regarded as very uncertain.¹

Varddhamāna is a name of considerable antiquity. In the *Kūrmabibhāga* section of the *Mārkaṇḍeya Purāṇa* the Varddhamānas are mentioned along with the Suhmas, Danturakas, Gauḍakas and Tāmraliptas and other such peoples of ancient Bengal. But Varddhamāna is not mentioned in the other *Purāṇas* (except the *Skanda Purāṇa*), though the famous *Bṛhatsamhitā*, a

EARLY HISTORY

¹ Majumdar, R. C., *History of Ancient Bengal*, Calcutta, 1971, pp. 22-5.

text of the 6th century A.D., also mentions Varddhamāna along with the Suhmas and the Tāmraliptas as in the *Mārkaṇḍeya Purāṇa*. The text of the *Mārkaṇḍeya Purāṇa* is thus confirmed by the *Brhatsamhitā*. It shows that Varddhamāna as a settled locality existed in about the 4th century A.D. when the *Purāṇas* were supposed to have been compiled. It, therefore, appears that in the 6th century A.D. in the time of *Brhatsamhitā*, Varddhamāna continued to be a well-known division of ancient Bengal. In the same century epigraphic evidence points to the existence of Varddhamāna as the name of a famous *bhukti*. The inscription found at Mallasārul, a village about 1½ miles from the Damodar river in P.S. Galsi in the Barddhamān district which is assigned to the 6th century A.D. refers to Varkkattaka-Vithi of the Varddhamānabhukti. The Vithi in question was situated along the northern bank of the Damodar river. The epigraphic evidence, therefore, undoubtedly confirms the existence of Varddhamāna as an administrative division long before the time of the Pālas. So, we have a literary evidence, that is, the *Brhatsamhitā* and an epigraphic evidence, the Mallasārul plate, both of the 6th century A.D., to determine the position of Barddhamān. The fact that in the *Brhatsamhitā* and in the *Mārkaṇḍeya Purāṇa* also Varddhamāna is distinguished from Suhmas, Gauḍakas and Tāmraliptas need not necessarily point to a limited application of the name for, more often than not, these ancient Indian geographical terms were interchangeable. Thus, the separate mention of Gauḍa and Rāḍhā is not a proof that they were always looked upon as two distinctly separate countries, and indeed, the Rāḍhā country was the cradle-land of the Gauḍas and at a later date even Rāḍhādeśa was very much coextensive with Varddhamānabhukti as will be presently shown. However, there is no positive evidence that in the 6th century A.D. Varddhamānabhukti was more extensive than the present Barddhaman district.

In course of time Varddhamāna became the centre of a large territorial division and Varddhamānabhukti of the Mallasarul plate came to stand for the whole country lying to the west of the Bhagirathi. Thus, mention is made of land situated in the Daṇḍabhukti maṇḍala of Varddhamānabhukti in the 10th century copper plate of the Kamboja king Nayapāladeva. Daṇḍabhukti is generally identified with a part of Medinipur district and probably also Balasore. The modern village of Daantan in south Medinipur is probably reminiscent of the

Danturakas of the list as shown. This is precisely the area to which the name Dakṣiṇa-Rāḍhā was currently used.

Two centuries later, that is, in the 12th century, mention is made of land granted in the Uttara-Rāḍhā maṇḍala of the Varddhamānabhukti in the Naihati copper plate of Ballālasena. The village of Naihati where the copper plate was found is in the Kātoyā subdivision of the Barddhamān district and the villages named in the grant have been located across its northern boundary in the Murshidabad district which may point to the extension of Uttara-Rāḍhā maṇḍala furthest north. Uttara-Rāḍhā was fairly old as a geographical division. The Belava copper plate of Bhojavarman of the 11th-12th Century A.D. refers to Siddhala (present Siddhalgram in the Birbhum district) in Uttara-Rāḍhā. Again, the 12th Century Govindapur C.P. of Lakṣmaṇasena indicates the inclusion of Vetadda-chaturaka in Varddhamānabhukti which can very plausibly be identified with modern Betad in the Howrah district.

Similarly, Dakṣiṇa-Rāḍhā is mentioned in an inscription of Vakpati Muñja of A.D. 981 and in several literary works and its inclusion within Varddhamānabhukti is suggested by the Irda plate as stated. Daṇḍabhukti of the said plate is the same as Tanda-bhutti of the Tirumalai inscription mentioned immediately before Takkaṇalādam, that is, Dakṣiṇa-Rāḍhā in the Tamil epigraphs of the 11th Century A.D. This is an indication that Dakṣiṇa-Rāḍhā of the Varddhamānabhukti covered the lower districts of West Bengal to the west of the Bhagirathi, including Howrah and Medinipur districts, extending up to the confines of Orissa. Hence, the combined evidence of the Irda plate and the Naihati grant points to the largest extent of Varddhamānabhukti from Murshidabad to Balasore in 10th-12th Century A.D. Varddhamānabhukti in this position consisted of two of its large constituent parts, Uttara-Rāḍhā and Dakṣiṇa-Rāḍhā and undoubtedly comprised all other ancient geographical divisions of west Bhagirathi tract, such as, Suhma and Tāmralipta.

That being so, Varddhamāna at a later age came to be regarded as synonymous with ancient Rāḍhā country consisting of two parts, Uttara-Rāḍhā and Dakṣiṇa-Rāḍhā. The river Ajay was usually regarded as the boundary between the two. In other words the name Rāḍhā was applied to cover exactly that area which from epigraphic point of view was the same as Varddhamāna.

But Rāḍhā was an ancient name. A very old book of the Jains, the Jaina *Bhagavatisūtra* refers to Lāḍha (Rāḍhā as one of the sixteen kingdoms of that time. An equally ancient work, the Jaina *Upāṅga* styled *Prajñāpanā* giving a fuller list of the existing kingdoms of that time refers to Lāṭa (Lāḍa) and its capital city Koḍivarisa (Koṭivarsa), that is, Bāngarh in Dinajpur district. A tradition preserved in Jaina *Achārāṅgasūtra*, yet another old book of the Jains, refers to Lāḍha which was said to have been divided into two parts, Subbhabhumi and Vajjabhumi. This division of the Rāḍhā country into two parts at so early a time may be linked up with the future division of Rāḍhā into Uttara-Rāḍhā and Dakṣiṇa-Rāḍhā as shown. Lāḍha of the Jaina tradition was again almost the geographical equivalent of Lālaratta of the Ceylonese chronicle.

When Varddhamāna or Rāḍhā first steps into the light of history it was the seat and centre of a chalcolithic culture and had developed a very advanced type of civilization. But this cultural eminence the country enjoyed, it appears, was not continued when the Aryans came or more probably it suffered a great erosion of its importance when Rāḍhā came into contact with Aryan culture.

In the Vedic Sūtra texts Aṅga, Vaṅga, Kāliṅga are declared as condemned countries. The *Baudhāyana Sūtra*, for example, prescribes a penance for visiting among others the Paundras, Vaṅgas and Kāliṅgas. The exclusion of Varddhamāna or Rāḍhā from the list does not mean that Varddhamāna was within the pale of Aryan culture for by the 6th or 5th Century B.C. when the *Sūtras* were composed, Magadha was still regarded as peopled by low classes, though Magadha was undoubtedly the most powerful of the Shodāśa Mahajanapadas of that time. Furthermore, the savage nature of the people of Varddhamāna or Rāḍhā-Suhma country is very much emphasized in connexion with Mahavira's journey to Rāḍhā or Lāḍha. The rude natives of the place maltreated the ascetics. Rāḍhā, according to Jinadāsa, was a non-Aryan country, but Varddhamāna Mahavira, according to another Jaina tradition not only visited Rāḍhā but fixed his headquarters there which, according to some, accounts for the name Varddhamāna of the Rāḍhā country.

All this, however, does not support any assumption that the people of Varddhamāna or Rāḍhā or of Vaṅga were non-Aryan in origin. Even in the Jaina *Upāṅga* styled the *Prajñāpanā*, a work of considerable antiquity as referred to, the Vaṅga with

Tāmralipta and Lāḍa with Koḍivarisa are mentioned. Tāmralipta was a strong centre of Jainism and the Bhagirathi river bordering Rāḍhā was invested with great sanctity in the *Mahābhārata* and indeed many scattered references to Suhma, Tāmralipta and Rāḍhā in Jaina, Buddhist literature and in the epics bear out that though Vaṅga was excluded from Aryāvarta in Dharma literature of the 5th or 4th Century B.C., Rāḍhā was increasingly emerging as a powerful country with a strong civilization.

A legend in the Buddhist Pali chronicles of Ceylon refers to the kingdom of Lāḍa known as Simhapura. Lāḍa is the same as Rāḍhā and Simhapura is Singur of the Hugli district. The king of this new kingdom of Rāḍhā with Simhapura as its capital was Simhabāhu. His eldest son Vijaya is credited with an expedition to Laṅkā or Ceylon which he conquered. Vijaya settled there and ruled over the island approximately in about the time of the great Decease of the Buddha. The legend cannot be regarded as strictly historical but it gives the impression of political involvements and cultural affiliations of Rāḍhā and the strength and vigour of the country in the post-Nirvāṇa age.

The affluence and prosperity of the Nanda dynasty is reflected in many accounts, both Indian and foreign. It is presumed that in the 4th Century B.C. Rāḍhā formed a part of the mighty empire of the Nandas. This is a very valid presumption and cannot be disputed. The Greek writers writing about India of Alexander's time had obviously the Rāḍhā country in view when they wrote about Gangaridai. Alexander got authentic reports about the power and prosperity of the Prasioi and Gangaridai whose king Xandrames (Agrammes) had an army of 20,000 horses and 2,00,000 infantry, 2,000 chariots and elephants between 3,000 and 6,000 trained and equipped for war. The report doubtlessly related to the empire of the Nandas pointed to the inclusion of the valley of the Ganges, the Gangaridai, which in a geographical or territorial sense stood in the position to which the name Rāḍhā was applied in ancient Bengal. The statement of Diodoros that the Ganges flows from north to south forming the boundary towards the east of the tribe of the Gangaridai confirms this identification and agrees well with the historical conditions and political frontiers of the Nanda and Maurya empires. There are many other conflicting statements of classical writers on this point but none is more specific than that of Diodoros.

By his conquest of Nanda's realm, Chandragupta Maurya made himself the master of a big empire. Thus, Rāḍhā-Varddhamāna

area became a part of the Maurya empire and remained so throughout. There is no reason to believe that Rādhā-Varddhāmāna country ceased to be a constituent part of the successive empires of the northern India, the Kuṣāṇas and the Guptas.

But in the period immediately following the dissolution of the Gupta empire, one or more independent kingdoms were established in Bengal. Rādhā seems to have been the headquarters of one such. The Mallasārul plate, referred to, records the grant of land by Mahārājā Vijayasena while Mahārājādhirāja Gopachandra was the suzerain ruler. But the suzerainty of Gopachandra acknowledged by Vijayasena was only formal as the latter uses his own seal and the grant is made in the fashion of an independent ruler of that time.¹

Chandravarman

Towards the close of the 3rd Century A.D. a Varman dynasty rose to power in West Bengal. This dynasty is known from one solitary small inscription of Chandravarman, son of Simhavarman, discovered at Susunia hill in Bankura district.² The capital of the dynasty was at Pokharna close to the Susunia hill. This Chandravarman appears to be the same person who was uprooted by Samudra Gupta as mentioned in his Allahabad Pillar inscription. Chandravarman may be regarded as the king of Rādhā or the region immediately to its south.

The rise of
the Guptas

Samudra Gupta (A.D. 335-80) brought the West Bengal area under his dominion and the area continued to remain under Gupta dominion through the reigns of Chandra Gupta II (A.D. 380-413), Kumara Gupta I (A.D. 413-55), Skanda Gupta (A.D.

¹ Dr. R. C. Majumdar holds a different view regarding the Kingdom of Gangaridai. He says: "..... according to other writers, such as Curtius, Plutarch and Solinus, the two nations the Gangaridai and the Prasii, dwelt on the further bank of the Ganges, i.e., the eastern bank. Diodorus himself, in another passage, says the same thing. In a third passage Diodorus says that the region where the Gangaridai lived is separated from further India by the greatest river in these parts for it has a breadth of 30 stadia. These different statements have been reconciled by supposing that by the Ganges the classical writers meant the easternmost branch of the Ganges (the Padma) rather than the westernmost (Bhāgīrathī or Hugli). But the specific statement in the first passage that the river runs from north to south exactly describes the course of the second rather than the first. Evidently, the classical writers had a vague notion of the geography of this region and we shall not be justified in concluding from the various descriptions that the Gangaridai lived in Rādhā. There is, however, no doubt that Bengal was the homeland of the Gangaridai." (R. C. Majumdar, *op. cit.*, pp. 29-30).

² Dikshit, K. N. — *Archaeological Survey of India: Annual Report 1927-28*, pp. 188ff.

455-67), Kumara Gupta II, son of Skanda Gupta (A.D. 467-73). The line of succession thereafter appears to pass on to Puru Gupta, a brother of Skanda Gupta, and his son Budha Gupta. According to the Nālandā Seal, Puru Gupta had three sons, Budha Gupta, Vainya Gupta and Narasimha Gupta. While Budha Gupta succeeded his father on the imperial throne, Vainya Gupta became governor of the eastern province which probably included the Rādhā region. Two inscriptions of Vainya Gupta have been discovered. The Gunaighar copper plate is dated A.D. 507-08 and was issued from his seat of government at Kripura, a place not yet identified. In this inscription Vainya Gupta is styled merely as Mahārājā, a title borne by provincial governors. But in the seal of this king found at Nālandā he is styled as Mahārājādhirāja which goes to show that after the death of Budha Gupta he declared paramountcy. The land granted by the Gunaighar grant was for the worship of Buddha in the Avalokitesvara monastery erected in honour of the Buddhist monk Santideva, the founder of the Vaivartika congregation of monks. One Mahārājāmahāsāmanta Vijayasena was the *dutaka* or the executor of the grant. We do not know when and how the reign of Vainya Gupta came to an end. But it seems that he was immediately followed by Gopachandra. It is likely that Mahārājā Vijayasena who was the *dutaka* of the Gunaighar grant, was also the *dutaka* of the Mallasārul grant¹ found at Mallasārul in Bardhamān district. By this grant some land in Vardhamānabhukti is granted. Thus the area passed under the rule of Gopachandra and possibly remained under the dominions of Dharmaditya and Samacharadeva known from copper plate grants. No dates of these kings could be ascertained as the copper plates only mention regnal years. It has been surmised that the period covered by these kings was roughly A.D. 525 to 575.²

¹ *Epigraphia Indica*, XXIII, p. 159.

² According to B. C. Sen, the dynasty cannot have come to power before the end of Yasodharman's reign. Further, it is pointed out that the Mallasārul copper-plate, which has a seal of Maharaja Vijayasena attached to itself, appears to show that his sphere of activity was not unconnected with or far away from the Vardhamānabhukti, while there is no evidence to prove that Mahārājā Vijayasena whose name occurs in Gunaighar grant had been in possession of the same area under a different master. If we accept this view, then we can follow Pargiter's account of the kings Dharmaditya, Gopachandra & Samacharadeva as coming one after another, Gopachandra not being the earliest king of this dynasty. (B. C. Sen, *Some Historical Aspects of Inscriptions of Bengal*, Calcutta, 1942, p. 254ff.)

The history of Bengal turns a leaf with the rise of Śaśāṅka, the first independent paramount sovereign of Bengal. Like Vainya Gupta, Śaśāṅka appears to have started his political career as a governor or feudatory chieftain of south Bihar and adjacent tracts of Bengal. The reign of Śaśāṅka is usually placed by historians as lasting from A.D. 606 to 637. Śaśāṅka is mentioned many times by the Chinese traveller Yuan Chwang who visited Karnasuvarna shortly after his death. Śaśāṅka had become an independent king of Gauḍa with his capital at Karnasuvarna which has been identified with Jadupur near Chiruti railway station in Murshidabad district. The Medinipur copper plates¹ of Śaśāṅka prove that he was in possession of Daṇḍabhukti identified with Danton in Medinipur district as well as Kongoda country as shown by the Ganjam plates. Thus Śaśāṅka was suzerain of the whole of West Bengal up to the southern limits of Orissa. When Yuan Chwang visited Karnasuvarna, it was apparently under the dominion of either Harsha or Bhaskaravarman for the latter had at one time occupied Karnasuvarna as the Nidhanpur copper plates² show. The Chinese traveller has narrated many stories of Śaśāṅka's exploits against the religion of Buddhism and its votaries for which he was supposed to have been chased by demons to hell. There is no direct reference to Bardhaman in the historical records about Śaśāṅka.

We know of another king of West Bengal. He is Jayanaga. His date cannot be determined precisely. According to the *Manjuśrī mula kalpa*, he reigned after Śaśāṅka. The capital of Jayanaga was Karnasuvarna. Whether his sway extended to Bardhaman district is not known. But he ruled over portions of Birbhum and Murshidabad districts.

The history of the district is blank from the middle of the 7th Century till the rise of the Pālas in the later part of the 8th Century. The *Prākṛit Kāvya Gauḍavāho* by Vakpatirāja states that Yasovarman of Kanauj defeated and killed the king of Magadha and overran the country as far as the sea. Yasovarman is said to have been the ruler of the whole of Bengal as he conquered Gauḍa and Vaṅga. He was defeated by Lalitaditya, King of Kashmir, in A.D. 736 when the latter invaded Bengal. After the invasion of Yasovarman there appears to have been

¹ *Journal of the Royal Asiatic Society of Bengal*, XI, p. 1.
² Bhattacharya, P. — *Kāmarūpa Śaśāṅkavallī*, p. 1, notes.

anarchy in Bengal and this led to the election of Gopāla by the people towards the last part of the eighth century.*

Somewhere in south Bengal, not very far from the sea, the people of Bengal elected Gopāla, son of Vapyata, a military man. The Khalimpur copper plate¹ of Dharmapāla, the son of Gopāla I, states that Gopāla I was elected king by the people to save the country from *Mātsyanyāya*, i.e. a state of the country when the powerful oppressed the weak just as the larger fish swallows the smaller one. Details of the military exploits of Gopāla I are not known. That he undertook campaigns is referred to in the epigraphs of his successors. The Monghyr copper plate of Devapāla states that when the mighty army of Gopāla marched, so much dust was raised to the sky by their trampling that the birds could walk on the sheet of dust. Gopāla is said to have conquered the country up to the sea (Bay of Bengal) and then released his war elephants as unnecessary. Gopāla I certainly left to his son Dharmapāla, who ascended the throne in about A.D. 770, a consolidated kingdom consisting of the whole of western and southern Bengal to enable the latter to embark on a policy of imperial designs to secure the paramountcy of northern India.

It had occurred to Śaśāṅka before Dharmapāla that the possession of Kanouj situated in the Gangetic Doab was strategically extremely important for the overlordship of northern India. Śaśāṅka attempted but failed to secure it and the war that followed ruined the Gauḍa kingdom. Dharmapāla by daring diplomacy and audacious military ventures succeeded where Śaśāṅka had failed. His designs on Kanouj brought him face to face firstly with the Pratihara power under Vatsarāja and

* Gopāla I founded a dynasty which ruled for three hundred years. Quite a large number of epigraphs of this dynasty have come to light. Yet the determination of the chronology of the dynasty had been a difficult problem because with the exception of two, viz. the Sarnath inscription of Mahīpāla dated Sambat 1083 and the Valgudar inscription of Madanapāla dated 1083 Saka corresponding to his 18th regnal year, all the other epigraphs are either undated or dated only in the regnal year of the king. Using these two known dates, the total reign periods known from epigraphs (which of course is not conclusive as the date of death may be many years posterior to the reign period yet known) and a few synchronisms, viz. (1) of Dharmapāla with Vatsarāja and Nāgabhatta II of the Pratihar dynasty and with Dhruva Dharavarsha and Govinda III of the Rāshtrakūṭa dynasty and (2) of Mahīpāla I with Rajendra Chola and (3) of Vīrahapāla with Kalachuri-Chedi King Karna, Dr. R. C. Majumdar proposed a chronology which has now been generally accepted. This chronology is used in this chapter.
¹ *Epi. Ind.*, IV, p. 243.

then with the Rāshtrakūṭa power under Dhruva Dharavarsha. But by diplomatically playing both his adversaries against each other Dharmapāla succeeded in placing his own protégé on the throne of Kanouj and even had his coronation as emperor of northern India celebrated there.

Devapāla succeeded Dharmapāla in about A.D. 810 and ruled for about forty years. Under him the Pāla empire reached its zenith. He was the acknowledged overlord of the whole of northern India from Assam to the borders of Kashmir. In the south he conquered Orissa and according to Verse 15 of the Munghyr copper plate his empire extended up to Setubandha Rameswar and from the eastern ocean to the western ocean.¹

The glory of the Pāla empire which reached its zenith during the reign of Devapāla began to wane from the time of his successor Vighrapāla I otherwise known as Surapāla. The fact remains that from the time of Vighrapāla I the Pratihara power steadily advanced eastwards and occupied progressively Bihar and north Bengal during the latter half of the 9th Century.

Vighrapāla I came to the throne about A.D. 850 and abdicated in favour of his son Nārāyaṇapāla four years later to lead the life of an ascetic. Nārāyaṇapāla reigned for about fifty years and after the seventeenth year of his reign lost Bihar to the Pratiharas. Inscriptions of Mahendrapāla, son of Bhoja I, found at Paharpur² and Mahisantosh³ go to show that the Pratiharas had wrested north Bengal from the Pālas. During this time the Pāla dominion had shrunk into Rāḍhā and Vaṅga. Nārāyaṇapāla was succeeded in about A.D. 908 by his son Rājyapāla who reigned for thirty-two years. Either Nārāyaṇapāla or Rājyapāla had to face an invasion by the Rāshtrakūṭa king Krishna II. This invasion and the final destruction of the Pratihara power by the Rāshtrakūṭa king Indra III enabled Gopāla II, the son of Rājyapāla, who came to the throne about A.D. 940 the opportunity to recover Bihar.

¹ *A-gaṅgā-gama-Mahitāt Sapatnya-sūnyām*
A-setoh prathita-dasāyaketu-kīrtih
Uvīm-āvaruṇa-niketanāchcha Sisāhor
A-Lakshmi-kulabhavanāchcha yo vubhoja

Verse No. 15 Monghyr copper plate
Gauḍa-lekha-mālā, pp. 35-40.

² Archaeological Survey of India, *Memoirs* No. 55, p. 75.
³ *Epi. Ind.* XXXVI, pp. 204-08.

The Munghyr copper plate of Devapāla show that Devapāla led an invasion to the Kamboja country.⁴ The Bāngarh pillar inscription⁵ show that a portion of north Bengal was under the occupation of Kamboja king whose name was probably Kunjara-ghatavarsha. The Irda copper plate³ shows that a Kamboja dynasty had carved out an independent kingdom in southern Rāḍhā comprising at least a portion if not the whole of Varddhamānabhukti. This Kamboja dynasty claims origin from Rājyapāla. Most of the scholars are of the view that the Rājyapāla mentioned in the Irda grant was a different person from Rājyapāla, the Pāla king. A recently discovered copper plate at Bhaturia⁴ mentions a king Rājyapāla, also called Ramaparakrama, who conquered Aṅga and Suhma and other places. Suhma is definitely southern Rāḍhā and the conclusion that we may draw from the Irda plate and the Bhaturia plate is that south Rāḍhā or the Barddhamān region passed out the hands of the Pālas during the reign of Gopāla II or his son Vighrapāla II. The Tirumalai⁵ inscription of Rajendra Chola shows that he defeated one Dharmapāla king of Daṇḍabhukti. He also overran Dakṣiṇa-Rāḍhā, Uttara-Rāḍhā and Vaṅgāla. Probably, the invasion of Rajendra Chola destroyed the Kamboja power and enabled Mahīpāla I, the son of Vighrapāla II, to recover his paternal kingdom as stated in verse No. 12 of the Bāngarh copper plate of Mahīpāla I. It is difficult to determine who was the suzerain of Barddhamān district at this period. The Tirumalai inscription mentions Lakshmīśūra as the king of south Rāḍhā. A śūra dynasty is mentioned as reigning in Aparā Mandāra (identified with Garh Mandaran of Hugli district) in the *Rāmacharitam* at the time when Rāmapāla was securing allies for his war against the Kaivartta kingdom of north Bengal in the later part of the eleventh century. To what extent Mahīpāla I could extend his sway over Barddhamān region is not known. No epigraph of the Pālas have been found in this district.

Mahīpāla I reigned till c. A.D. 1038 when he was succeeded by his son Nayapāla. The Kalachuri-Chedi king Gāṅgeyadeva appears to have made inroads into Pāla territory by about A.D.

Kalachuri-Chedi and Chandella invasions

¹ Verse 15, *Gauḍa-lekha-mālā*, p. 35.

² *Journal of the Asiatic Society of India*, New Series VII, p. 619.

³ *Epi. Ind.* XXII, p. 150; XXIV, p. 43.

⁴ *Epi. Ind.* XXXIII, p. 150.

⁵ *Epi. Ind.* IX, pp. 323-33.

1019 in which year a *Rāmāyaṇa* was copied somewhere in Tirhoot. It was discovered by the late Mm. Haraprasad Sastri in Nepal. The colophon of the manuscript shows Gāṅgeyadeva styled Gauḍadhva¹ as the ruler of Tirhoot. The epithet Gauḍadhva¹ seems to indicate that Gāṅgeyadeva had worsted the Pāla ruler of Gauḍa in battle. It appears from the Khajuraho inscription² of Dhangadeva, the Chandella king, that he led a raid into Aṅga and Rāḍhā countries and captured and carried away the queens of these two territories in A.D. 1002.³ Who the king of Aṅga was is not clearly known. The king of Rāḍhā referred to was in all likelihood the Kamboja king of Daṇḍa-bhukti. Lakshmi Karna or Karna, son of Gāṅgeyadeva, continued the aggressive policy of his father. That he penetrated into west Bengal as far as Birbhum district is proved by the Paikor inscription. What measure of success he had against the Pāla king is not clear. But the *Rāmācharitam* states that Karna was defeated and sealed a treaty by marrying his daughter Yauvanaśrī to Vighrahapāla III the son of Nayapāla.⁴

About this time, the Varman dynasty rose to power in deltaic southern and eastern Bengal under Jatavarman. Jatavarman, according to the Belava copper plate⁵ of Bhojavarman, his grandson, married another daughter of Karna named Viraśrī. Jatavarman is also credited with having shown his prowess in Aṅga. Now for a king of southern Bengal to exhibit his power in Aṅga would require him to traverse the southern Rāḍhā area and it is likely that some portions of Bardhamān district suffered his raid. The power of the Kalachuri-Chedis was crushed during the third quarter of the eleventh Century by the Chandellas. About this time the Chālukyas of Kaṇḍā began their invasions of Gauḍa or western Bengal. The exact nature of and successes attained by the Chālukya raids are difficult to determine but a very important political event for west Bengal, viz. the establishment of a Kaṇḍā ruling dynasty, that of the Senas, almost coincides with these Chālukya-Kaṇḍā raids.

¹ *Journal of the Asiatic Society of Bengal*, Vol. I. XXII, 1903, pt. I. p. 18.

² *Epi. Ind.* Vol. I, p. 145.

³ According to D. C. Sircar, the claim of Chandella Dhangadeva of capturing the kings and carrying away the queens of Aṅga and Rāḍhā, is an example of exaggeration of the court poets of early-medieval India of the achievements and status of their patrons. (D. C. Sircar, *Studies in the Geography of Ancient & Medieval India*, 1960, p. 1).

⁴ *Rāmācharitam* — Gloss on verse 9 of Chapter I. Memoir of the Asiatic Society of Bengal, Vol. III, No. 1, p. 22.

⁵ Verse No. 8, *Inscriptions of Bengal*, Vol. III, p. 14.

The reigns of Vighrahapāla III (c. A.D. 1054-72), son of Naya-pāla, Mahipāla II (c. A.D. 1052-75), eldest son of Vighrahapāla III, have no known importance relating to Bardhamān district. During the reign of Mahipāla II, there was an uprising in north Bengal and a Kaivartta dynasty under Divya or Divvoka ousted the Pālas from north Bengal. Rāmapāla, the third son of Vighrahapāla III, recovered north Bengal and for a time resuscitated to some extent the faded glory of the Pāla empire. The *Rāmācharitam* by Sandhyākara Nandī gives a list of the allies secured by Rāmapāla in his campaign against Bhīma the nephew of Divya. The list mentions specifically the names of some of the allies as follows :

1. Viraguna, king of Kotatavi in the south
2. Jayasimha, king of Daṇḍabhukti
3. Vikramarāja, ruler of Devagrama
4. Lakshmiśūra, lord of Aparā-Mandāra and head of all forest chiefs
5. Surapāla, king of Kujavati
6. Rudrasimha, ruler of Tailakampa
7. Bhāskara or Mayagalasimha, king of Uchchhala
8. Pratāpasimha, king of Dhekkari
9. Narasimhārjuna, king of Kayangala-maṇḍala
10. Chandarjuna of Sankatagrama
11. Vijayarāja of Nidrāvali
12. Dvorapavardhana, ruler of Kausambi
13. Soma of Paduvanva.

Kotatavi has been identified with Bhalki-kota village on the south bank of the Ajay in Ausgram P.S. of Bardhamān district.¹ Daṇḍabhukti is the Danton area of Medinipur district. Devagrama has not been properly identified. It may be the Devagrama in Nadia district about half a mile from the railway station of that name on the Lalgola section of Eastern Railway.² Aparā-Mandāra is identified with Garh Mandaran in Arambagh Sub-division of Hugli district.³ Kujavati has been identified with Naya-Dumka region of Santal Parganas. Tailakampa has been

¹ Majumdar, R. C. : *History of Ancient Bengal*, Calcutta 1971, p. 188. note 210.

² *ibid.* p. 189, Note. 211.

³ *ibid.* p. 189, Note. 212.

identified with village Telkupi in Purulia district.¹ Uchchhala has been identified with village Uchalan in Bardhaman district.² Dhekkari has been identified with Dhekargarh on the south bank of river Ajay in Bardhaman district.³ Kayangala is probably the same as Kajangal mentioned by Yuan Chwang situated near Rajmahal. Sankatagrama has been identified with village Samkate in Raina P.S. of Bardhaman district.⁴ The *Ain-i-Akbari* mentions a pargana Sakot in Sarkar Satgaon. There is phonetic similarity between Sakot and Sankata. Nidravali has not been identified. But Vijayaraja of Nidravali may be the same as Vijayasena of the Sena dynasty whose Deopara inscription seems to make a hint at his having bestowed the kingdom of Divya to rival kings (verse 19). Kausambi has been identified with Kusumba in Rajshahi district of Bangladesh. Paduvanva has not been identified. It has been suggested that it was Paunan, a pargana in Hugli district merely on phonetic similarity.⁵

If the above identifications are accepted, then we get a picture of the political condition of Bardhaman district which was ruled by a number of rulers. They all accepted the suzerainty of Ramapala after his successful campaign against the Kaivartta rebels. The *Ramacharitam* mentions that Ramapala led an expedition into Orissa after he recovered north Bengal and established his capital there. The expedition into Orissa would not have been possible unless the Radha area was either under his direct rule or under the rule of vassals who accepted his suzerainty.

Ramapala ascended the throne about A.D. 1077 and reigned for 53 years. He died in about A.D. 1130. With him the sun of the glory of the Pala empire finally set.

In the Deopara inscription⁶ Vijayasena describes himself as a Brahma-kshatriya of Karnata origin. His father Hemantasena appears to have settled somewhere on the bank of the Ganges in Radha. He might have come to Radha in the wake of the Chalukya-Karnata raids. It is not clear from the Deopara inscription if Hemantasena carved out a principality in Radha as he has not been given any royal epithets in the inscription. But his consort has been called Maharajni. It is probable that

¹ *ibid.* p. 189, Note. 214.

² *ibid.* p. 189, Note. 215.

³ *ibid.* p. 190, Note. 216.

⁴ *ibid.* p. 190, Note. 218.

⁵ *ibid.* p. 190, Note. 221.

⁶ *Inscriptions of Bengal*, Vol. III, pp. 42-56.

Hemantasena married an heiress and Vijayasena succeeded in the chieftainship of his maternal grandfather which gave him the stepping stone to success.

Vijayasena, the first king of the Sena dynasty, might have been the same Vijayaraja of Nidravali and he fished in the troubled waters in Bengal shortly after the death of Ramapala. Anantavarman Chodaganga, the king of Orissa, continued his raids on southern Bengal and Vijayasena appears to have befriended him to exterminate the Varman dynasty of deltaic South Bengal. He himself married a Sura princess probably of the same family as Lakshmi Sura who was an ally of Ramapala. This marriage and the alliance with Anantavarman Chodaganga probably enabled him to acquire suzerainty over the territory in Radha which we have seen was parcelled out amongst several vassal kings at the time of Ramapala. Thus shortly after the death of Ramapala, Vijayasena became master of Radha and over the south and east Bengal kingdom of the Varmans. Vijayasena appears to have ascended the throne as a paramount sovereign in about A.D. 1125* and reigned for 32 years. He was succeeded by Vallalasena his son by the Sura princess. One copper plate (Naihati copper plate) and one image inscription of the reign of Vallalasena have come to light. None of these mention any military success of Vallalasena. But military achievements of Vallalasena cannot entirely be ruled out. The Gahadavals of Kanauj were advancing eastwards and Vallalasena could not have been a mere spectator to their advances. It is also likely that he had to contend with the Pala power. Vallalasena is known in tradition to have created Kulinism amongst the Brahmans in Bengal. But neither his single copper plate inscription nor his son and successor Lakshmanasena mentions anything about it. A late literary production, the *Vallalacharita*, has collected some old wives' tales about Vallalasena. At one time these were considered as having a historical basis. These stories are no longer believed.

* There is controversy about the year of accession of Vijayasena. This arises out of the doubt regarding the date in the Barrackpur copper plate which has been read as 32 or 62. If we take the figures as 62, then his accession comes in A.D. 1093. In that case, however, it has to be presumed that the Gauda king whom he claims to have defeated was Ramapala. This is unlikely as Ramapala was then at the height of his power and if it were so, the *Ramacharitam* would have mentioned it. We have therefore presumed that Vijayasena launched his policy of aggrandisement soon after the death of Ramapala and the king of Gauda defeated by Vijayasena was Madanapala.

Vallālasena died in about A.D. 1179 and was succeeded by his son Lakshmanasena. Lakshmanasena finally extinguished the Pāla power and assumed the title of Gaudeśvara. He also led his victorious forces to Vārānasi and to Puri. Towards the end of his reign one Srimad Dōmnanapāla carved out an independent kingdom in Khari Maṇḍala in the Sunderbans. There are references to Varddhamānabhukti in the Naihati copper plate of Vallālasena and the Govindapur copper plate of Lakshmanasena.

The Sadgop
dynasty of
Gopbhum

Before we come to the march across the Rāḍha country by the forces of Bakhtiyār Khalji, it is necessary to insert a short account of the Sadgop dynasty of Gopbhum which was in Barddhamān district.

The first settlement of which a glimpse can be obtained was in the farthest cape or headland of the promontory of rocky land which just out into the district from central India. The neck of this promontory is pargana Shergarh lying between the Ajay and the Dāmodar. Between it and Gopbhum in the same formation are the recently formed parganas Salimpur and Senpahari which probably belonged to Gopbhum. The actual headland is formed by Gopbhum, the delta not only fencing it in on the east, but coming round it on the south and edging in on the north. Beyond lay the country formed by the uncertain and ever changing courses through the silt of the Dāmodar, the Ajay and the Ganges, which on the British accession was found to be the richest tract in Bengal and the area of its oldest and most settled cultivation.

Gopbhum with part of the debatable land between it and Panchet now included in the parganas Salimpur and Senpahari was formerly, according to the universally current tradition of the tract, the seat of a Sadgop dynasty, some traces of which are still extant. The only Rājā of the community whose name still survives was Mahendra Nāth, or, as he is locally called, Mahindi Rājā. His seat was Amragarh, close to the station and town Mankar, and the long line of fortification which enclosed the walled town are still visible. How far the Sadgop power extended to the east can be surmised from the local prevalence of the members of the modern caste, the Sadgops. The line of marshes which lies south of Kātoyā to the west of the Bhāgīrathī is still held by this caste who occupy the old deltaic soil between this line and the present boundary of Gopbhum. The Sadgop kingdom of Gopbhum existed in however curtailed a state till almost

modern times, first as subject to the Mughals, and then under the shadow of the house of Barddhamān itself. Its south-western extremity, now pargana Salimpur, was apparently held by two Sadgop kinglings, probably mere cadets of the house of Gopbhum one stationed at Bharatpur on the Dāmodar and the other at Kankeswar or Kanksa. The latter was attacked and overthrown, and his lands taken by a Bokhariot partisan named Saiyed Bokhari, whose descendants Saiyeds still hold the Kanksa lands in *aimma* to this day. A similar fate probably overtook the Bharatpur chief. The remains of the tiny forts at Bharatpur and Kanksa are still to be seen, and old Hindu images carved in black basalt are frequently found in the neighbouring tanks. Mongalkote on the Ajay, which is rich in Hindu remains, similar to those found at Kanksa, may also have been an outpost of the Sadgop kingdom. It can, however, only be said for certain, that the Sadgop dynasty held the present Gopbhum and Salimpur parganas, and it is here only that any remains of them are found: nor does tradition assign to it any wider domain.

We now revert to the main narrative. The first Muslim invasion of Bengal took place during the reign of Lakshmanasena. Since Bakhtiyār Khalji after the raid on Nadia fell back to Gour or Lakhnauti in Māldāh district, it may be presumed that the predatory raid did not very much affect the hold of Lakshmanasena over the Rāḍhā area. Minhaj admits that the sons of Lakshmanasena ruled in Bang (eastern Bengal) till A.D. 1260.

Muslim
invasion
of Bengal

There is another reason to presume that the Sena domination of the Barddhamān area continued either directly or through chieftains even after the raid on Nadia. According to *Tarikh-i-Firuzshahi* by Ziauddin Barani, Gyasuddin Balban met a king named Danujā Rai about A.D. 1280 at Sunargaon and concluded a treaty with him to prevent the escape by the river route of the rebel governor of Lakhnauti, Tughral Khan who fled to Jainagar kingdom at the approach of Balban. According to Adabadi copper plate of Dasarathadeva who had the title Arirājā Danuja Mādhava, he had become lord of Gauḍa by grace of Nārāyaṇ. Danuja Rai of Barani may safely be identified with Arirājā Danuja Mādhava Dasarathadeva. But how far west of the Bhāgīrathī the sway of Dasarathadeva extended is not clear, for the Rāḍhā region was also occupied by the Orissa king. The hold of Lakshmanasena over most part of west Bengal appears to have slipped off with the raid on Nadia by

Portion
of Rādhā
occupied

Bakhtiyār. But it seems that before this date the Orissan power had succeeded in occupying the present districts of Medinipur and portions of the districts Hugli, Barddhamān and Birbhum.

About ten years later, during the reign of Hasmuddin Iwaz who ascended the throne assuming the title of Sultān Ghiasuddin Iwaz a portion of northern Rādhā was occupied by the Muslim ruler of Lakhnauti, for the *Tabaqat* stated that Ghiasuddin Iwaz constructed a high road connecting Lakhnauti with Devkot on the one hand and Lakhnor on the other.¹ But this infiltration into the Rādhā area triggered off a battle with the Gaṅga kings of Orissa which did not go in his favour. Hasmuddin Iwaz might have led an expedition to the kingdom of Jajnagar. The year A.D. 1211, when Hasmuddin was elected to the throne, it synchronized with the accession of Anaṅga Bhīma III to the throne of Orissa. Sometime between A.D. 1211 and 1238, Anaṅga Bhīma III launched an aggression against the forward positions of the Muslim rulers in Rādhā. The Chateswar inscription of Anaṅga Bhīma III states that his minister Vishnu killed numerous enemy soliders in his war with the Muslims.² This obviously refers to an involvement with Hasmuddin.

But the fact that Ghiasuddin Iwaz constructed a high road from Lakhnauti to Lakhnor in between A.D. 1214 and 1219 shows that Ghiasuddin Iwaz could maintain his hold on Lakhnor in Birbhum.

Ghiasuddin Iwaz had given offence to Delhi by declaring independence and getting the *khutba* read in his own name. Sultān Altamash of Delhi proceeded to punish him for this affront in A.D. 1225. Ghiasuddin sued for truce and the affair ended with his submission. But soon thereafter Ghiasuddin attacked and drove away the Governor of Bihar and this led to a second campaign from Delhi led by Nasiruddin Mahmud, son of Iltutmish. Ghiasuddin Iwaz was defeated and killed in A.D. 1227. Nasiruddin Mahmud then became Governor of Lakhnauti and ruled for a year and a half. He was followed by a usurper Ikhtiaruddin Daulat Shah-i-Balk (A.D. 1229-30) and by two appointed governors Allauddin Jani (1230-31) who was dismissed and Saifuddin Ibak-i-Yugan-tat (1231-33). These Governors were appointed by Sultān Iltutmish. The Sultanate of Iwaz

included a large part of Bengal extending also to a portion of Sulaimānābād in the present district of Barddhamān.

After the death of Saifuddin Ibak one Aor Khān, usurped the kingdom of Lakhnauti. Izuddin Tughral Tughan Khān, Governor of Bihar, proceeded towards Lakhnauti with a force and killed Aor Khān and assumed the Sultanate of Lakhnauti. He began thus as a usurper but obtained ratification of his position as Governor from Sultānā Razia.

Narasimhadeva I, son of Anaṅga Bhīma III, came to the Orissan throne in about A.D. 1238. Izuddin Tughral Tughan Khān had fitted up a flotilla of war boats and an army, and sent them on an expedition against the Muslim governor of Kara. Probably, he had denuded the Lakhnor garrison of troops. Narasimhadeva I took advantage of this and started an aggressive campaign against the kingdom of Lakhnauti. Narasimhadeva I had been consolidating his hold on south Bengal for two years and Tughral Tughan Khān slept over the incoming danger. In the dry season of A.D. 1243, the Orissan army attacked Lakhnor. Tughral Tughan Khān could not take the field till a year later and in the summer of A.D. 1244 Tughral Tughan Khān marched with an army along the highway to Lakhnor built by Giasuddin Iwaz and crossing the Ajay and the Dāmodar pushed further south-east. The Orissan General withdrew his army without fighting and Tughral Tughan Khān reached the frontier fort of Katasin without any resistance from the enemy. Katasin has been described by the *Tabaqat* as a region full of cane bushes and jungles ideally suited for ambush and surprise. On 16th April 1244, Tughral Tughan Khān started his offensive against the fort and carried two ditches after hard fighting. The Orissan army left behind some elephants. At midday, when the army of Tughral was preparing their meals, the Orissan army made a surprise attack. The confusion and rout was complete and the army of Tughral Tughan Khān fled in disorder, chased and harassed by the Orissan army. Tughral Tughan Khān was completely worsted by the Orissan General and could not even make a stand at Lakhnor. In hot pursuit the Orissan army came to the gates of Lakhnauti. Tughral Tughan Khān took shelter in the fortified city. The situation was very grave. In the previous year, when the Orissan army had attacked Lakhnor and had massacred the garrison stationed there, Tughral had asked for assistance from Delhi. At this critical juncture news was received that an army was on the march under Malik Tamar Khān Governor of Oudh and had reached Rajmahal. Apprehen-

Narasimhadeva I
attacks Lakhnor
and besieges
Lakhnauti

¹ Raverty — *Tabaqat-i-Nasiri*, pp. 584-86.

² *Bangiya Sahitya Parishad Patrika*, Vol. XVI, pp. 185-86.

sive of a flank attack and cutting off of the lines of retreat the Orissan army withdrew. Lakhnauti was saved but the whole of the west Bengal territory of the kingdom of Lakhnauti was lost to the Orissan king. Malik Tamar Khān however deposed Tughral Tughan Khān from his governorship of Bengal and installed himself there.

After two years of uneventful rule he died and was succeeded by Malik Jalaluddin Masud Jani who ruled for four years. The next governor was Malik Ikhtiaruddin Yuzbak who took over in 650 A.H. After consolidating his position in north Bengal he took the field against the vassal of the Orissa king who had consolidated his position in Rādhā with his capital at Madaran (Umardan of *Tabaqat*). There were three campaigns and in the last one Ikhtiaruddin Yuzbak suffered a severe defeat. He then asked for force from Delhi. Two years later in 653 A.H. (A.D. 1255) Yuzbak again marched against the kingdom of Madaran. Grown wiser by his previous experience he used his cavalry for swift sorties and avoided frontal battles against the war elephants of the vassal king of Madaran. Thus he succeeded in storming the fortress and captured all but the person of the king.¹ After his success against Madaran, Yuzbak declared independence and assumed the title of Sultān Mughisuddin. Two years later he led an expedition against the king of Kāmrūp, was wounded in battle and died thereafter.

R. D. Banerji considers that Nadia was for the first time occupied during the reign of Mughisuddin Yuzbak. With the successful campaign against Madaran, Mughisuddin brought the entire Rādhā area up to the borders of the present districts of Medinipur and Bankura under the sovereignty of Lakhnauti. From his time Barddhamān district remained under Muslim rule till the district was ceded to the East India Company.

We might skip over the next period and come to Rājā Ganesh who appears to be a mysterious figure in history. *Riaz-us-salatin* states that one Kans killed Ghyas-ud-din Azam Shāh and assumed power over the Bengal kingdom. Dr. Buchanan Hamilton has used the name Kans, and Beveridge also thinks that the original Kans was Ganesh. Without going into further details of discussion we might presume that the name of the Hindu zamindar who ousted the Ilias Shāhi dynasty and assumed sovereignty was Ganesh. Ganesh on assuming sovereignty took

Umardan
captured

Ganesh
becomes
king

the name Danujamardanadeva.¹ Coins of Gaṇesh Danujamardana-deva minted at Pānduā in Māldāh district, Suvarṇagrāma and Chaṭigrāma dated 1339 *Saka* and 1340 *Saka* (i.e. 820 and 821 A.H.) corresponding to A.D. 1417 and 1418 have been found. The identification of Gaṇesh with Danujamardanadeva was first proposed by Dr. Nalinikānta Bhaṭṭasālī and this view has been further elaborated by Sukhamoy Mukhopadhyay. The extent of the territory over which Gaṇesh assumed sovereignty is not precisely known. The mint names of his coins indicate that he was lord over northern Bengal and eastern Bengal up to the east bank of the Bhagirathi. Absence of any coins minted from the Saptagrām mint led Sukhamoy Mukhopadhyay to presume that the Barddhamān region or the region to the west bank of the Bhāgīrathī was not under Gaṇesh. But we do not know of any other ruler of this region up till now.

Jit Mal or Jadu, the son of Gaṇesh, was converted into Islam by Nur Qutb-ul-Islam. There is some confusion about the successor of Gaṇesh. From the evidence of coins the only conclusion that can be drawn is that Gaṇesh was the ruler of the whole of Bengal and that on his death the Muslim faction set up Jalal in western Bengal at Sātgāon while Mahendradeva, another son, was set up by the Hindu faction at Pānduā. Most probably, Mahendradeva was deposed by Jalal who became the undisputed sovereign of the whole of Bengal. Jalal's son Shamsuddin Ahmed's reign was darkened by crimes and follies and he was ultimately murdered in *circa* A.D. 1442 by two slaves named Sadi Khān and Nasir Khān. Nasir Khān attempted to capture power but was killed by the noblemen who put Nasiruddin from the family of Shamsuddin Ilias Shāh on the throne.

The political condition of the entire Barddhamān district as at present constituted is not clearly known and a great part of it must have been full of jungles. But the Gangetic part certainly continued to remain under the rule of Lakhnauti. An inscription of Nasiruddin Mahmud Shāh found at Saptagrām proves his hold over the Gangetic area of the Barddhamān district. The next king, Ruknuddin Barbak Shāh, son of Nasiruddin Mahmud Shāh, reigned from A.D. 1455 to A.D. 1476. Literary activities which had been stunted by the Muslim invasion, appears to have

¹ Raverty — *Tabaqat-i-Nasiri*, p. 763.

¹ Sukhamoy Mukhopadhyay in his *Bāṅglār Itihāser Duto Bachhar*, Vol. II, pp. 1-40 has marshalled all evidence on this subject.

received a fresh impetus from the reign of Ganesh Danujamaradanadeva. Ruknuddin Barbak Shāh extended his patronage to literary activities and Maladhar Basu, the poet of *Srikrishnavijaya*, acknowledges his gratitude to the king who in all likelihood was Ruknuddin Barbak Shāh. Maladhar Basu was a resident of Kulīngrām in the Barddhamān district and he received the title of Guṇarāj Khān from the king of Lakhnauti. Maladhar Basu's son was also honoured by the title of Satyarāj Khān. The last king of this dynasty, Jalaluddin Fateh Shāh, was assassinated by an Abyssinian palace guard who ascended the throne under the title of Sultān Shāhzādā. After a few month's reign he was killed by another Abyssinian, Malik Indil who ascended the throne under the title of Saifuddin Feroz Shāh. Two inscriptions of this king have been found at old Kalna which also show that the Barddhamān district or at least the Gangetic part of that district continued to be under his suzerainty. The next king was Nasiruddin Mahmud Shāh II of unknown parentage who was killed after a reign of two years by one Sidi Badr who ascended the throne under the title of Shamsuddin Muzaffar Shāh who in turn was killed after two years by his minister Sayyid Husain who ascended the throne under the title of Alauddin Husain Shāh. The active life of Śrī Chaitanya who was born during the reign of Jalaluddin Fateh Shāh, was under the reign of this king. Alauddin Husain Shāh spent much time and resources of the state in a fruitless war with Orissa. He died in A.D. 1519 and was succeeded by his son Nasiruddin Nusrat Shāh. During the reign of this king Babar entered India. In A.D. 1526, Babar defeated Ibrahim Lodi at Pānipat and his son Humayun occupied northern India as far east as the left bank of the Goghra bordering on the territory of Nusrat Shāh. By diplomatic manoeuvres Nusrat kept Babar in check till the latter decided that to go to Bengal would be improper.

Nusrat Shāh's son, Alauddin Feroz Shāh II, ascended the throne in A.D. 1532 and about a year later was assassinated by his uncle Abdul Badr who ascended the throne under the title of Giyasuddin Mahmud Shāh. He was defeated and killed in battle by Sher Khān and the whole of Bengal passed under Sher Khān who later defeated Humayun and became the emperor of India.

The Śūr dynasty founded by Sher Shāh was ousted by the return of Humayun and was completely eclipsed by the defeat of Muhammad Shāh Adil, the nephew of Sher Shāh, at the battle

Abyssinian
Kings

Alauddin
Husain Shāh

of Pānipat in A.D. 1556 by Akbar. Muhammad Khān was Governor of Bengal after the Śūr dynasty had declared independence and was killed in A.D. 1555 and Muhammad Shāh Adil appointed Shahbaz Khān as the Governor of Bengal. About this time an Afghan family, the Karranis, had occupied western Bengal including the Barddhamān district in A.D. 1564. Sulaiman Karrani, the first Sultān of this dynasty, acknowledged the suzerainty of Akbar but his successor Daud Karrani declared independence. Akbar sent his General Munim Khān to subdue Daud Karrani. Munim Khān occupied Tanda and made Barddhamān the advance base of his operations against Daud. The army under Rājā Todarmal advanced from Barddhamān to Garh Mandaran and Munim joined him at Cheto. In the battle of Tukaroi in Medinipur district Daud was completely defeated and Bengal became a province of the Mughal empire, though it was only a *de jure* annexation, the actual Mughal administration in Bengal being still far off. Daud Karrani was allowed to retain Orissa after the battle of Tukaroi but he broke the peace again. In the battle of Rajmahal on 10 July 1578 he was defeated, taken prisoner and executed by Khan-i-Jahan, the Mughal General.

In A.D. 1580, the imperial officers stationed in Bengal rebelled and killed the Governor, Muzaffar Khan Turbati. This necessitated a military campaign for putting down rebels and those of the Afghan chiefs who had taken advantage of the confused situation to make a bid for power. One of them, Qutlu Lohani, who had his headquarters in Orissa, defeated the Faujdar of Hugli at Salimabad in Barddhamān district. He also defeated, at Mongalkote, near Barddhamān, another Mughal detachment which had been sent against him. The Mughal armies had to fight against Qutlu Lohani again in 1583. During the campaign, the imperial army marched through Barddhamān, crossed the Dāmodar and defeated the Afghans. At this time, Barddhamān and Sātgaon remained the outposts of the Mughal empire in Bengal in the west and south-west respectively. Roving bands of Afghans moved about in the district in search of plunder. In 1585, an imperial detachment crossed the Ajay and put the Afghans to flight, after defeating them in a battle.

Some idea of the economic condition of the people, at the time of Man Singh's viceroyalty of Bengal, may be had from the *Chandīmaṅgal* of Mukundaram Chakravarti. Mukundaram was a native of village Daminya in Barddhamān district. The zamindar of the area was Gopinath Neogy or Nandy who resided at

Defeat of Daud
Karrani. Bengal
becomes a Subah
under Akbar

Salimabad town. A host of officials like the Sarkar, Poddar and Dihidar preyed on the people, making illegal exactions and defrauding them. The zamindar Gopinath was arrested probably on account of his inability to pay the dues of the government and the poet had to emigrate to Bankura. Another celebrated poet, who flourished in Bardhaman at this time, was Ruparam who composed a *Dharmamaṅgal* poem.

In 1606, Qutbuddin Khān Koka, a foster-brother of Jahangir, was appointed the Governor of Bengal. Sher Afghan Istajhi, a Turkish nobleman, was at that time the jagirdar or faujdar of Bardhaman. His wife was Meherunnessa who was a lady famous for her beauty. Qutbuddin Khān Koka paid a visit to Bardhaman, shortly after his arrival in Bengal. There was a fight between Sher Afghan and Qutbuddin in the course of which both were killed. Meherunnessa became the consort of Jahangir who conferred on her the title of Noor Jahan.

The tomb of Sher Afghan and Qutbuddin lie side by side within the town of Bardhaman.

In 1614, Iftikhar Khān was the faujdar of Bardhaman. His son Mirza Makki was entrusted with the task of reducing the zamindars of Hijli and Chandrakona in the Medinipur district to submission but his attempt did not meet with success. In 1617, Mirza Makki, who was then the faujdar of Bardhaman as also of Akbarnagar (Rajmahal), was more successful in the punitive expedition against Birbhum and against the zamindar of Chandrakona. In 1621, the then faujdar of Bardhaman had to engage in a punitive expedition against the zamindar of Hijli in the Medinipur district, on the order of the then Governor of Bengal, Ibrahim Khān.

Shah Jahan (Prince Khurram) rebelled against his father Emperor Jahangir in 1622. He was then in the Deccan. He left Burhanpur in the Deccan in October 1623 and crossing the Tapti, entered the town of Masulipatam and thence proceeded to Orissa. Mirza Ahmed Beg Khān, the Governor of Orissa, fled to Bardhaman on the approach of Shah Jahan and then retreated further to Akbarnagar (Rajmahal). Orissa thus fell to Shah Jahan without a blow. Ibrahim Khān, the Governor of Bengal, also did not make any serious attempt to oppose the prince. Mirza Salih, the faujdar of Bardhaman, however, strengthened the defences of the town and prepared to resist Shah Jahan. He ultimately was forced to surrender when the town was besieged

Prince Khurram
rebels and
occupies
Bardhaman

by the army of Shah Jahan. Bardhaman was occupied by the rebel prince who gave it as a fief to Bairam Beg.

Bardhaman figured as one of the advance bases of operations against the Portuguese of Hugli. Shah Jahan ascended the throne of Delhi in 1628 and appointed Qasim Khān Juyini as the Subahdar of Bengal. He instructed Qasim Khān to seize Hugli and to send the Portuguese residents of that place in captivity to Delhi. The Portuguese of Chittagong were pirates who used to raid the coastal areas of Bengal, plunder the inhabitants and reduce the able-bodied among them to slavery. The Portuguese of Chittagong used to visit the Portuguese of Hugli and naturally the latter were also suspected of being pirates. They had also insulted Shah Jahan when he came to Bengal as a rebel in his father's lifetime.

Qasim Khān made elaborate preparations for the capture of Hugli. He sent one contingent to Bardhaman with the ostensible objective of chastising the zamindar of Hijli. He sent the navy from Sripur to close the mouths of the Gaṅgā. As soon as the navy reached Sankrail, ten miles (16 km.) below Calcutta, the contingent at Bardhaman started for Hugli. This contingent was joined by the one sent down from Makhsusabad (Murshidabad), and the combined attacks of the army and the navy brought about the defeat of the Portuguese and the capture of Hugli. This happened in 1632.

In 1657, one Abu Rai, a merchant and banker of Bardhaman, was appointed the Kotwal and Chowdhury of Rekabi Bazar and Mughultuli in Bardhaman. He owed this appointment to his ability in supplying a detachment of the army, passing through Bardhaman with provisions, at short notice. His grandfather Sangam Rai, a resident of Kotlimahalla of Lahore, a Kshatriya by caste, settled at Baikunthapur near Bardhaman while on his way back from a pilgrimage to Puri. Banku Bihari, son of Sangam Rai, was the father of Abu Rai. Abu Rai's son Babu Rai acquired the pargana of Bardhaman and three other estates from Ram Rai, a zamindar of Bardhaman. He was succeeded by his son Ghanashyam Rai who caused the large tank known as Shyām Sāgar to be dug. His son Krishnaram Rai obtained a *firman* from Aurangzeb in A.D. 1689 by which he was made the zamindar and Chowdhury of Bardhaman and some other parganas. He was ordered not to realize any new tax and to encourage cultivation and to maintain law and order in the area. The *nazarana* for the lands was two lakhs of rupees. The names

Bardhaman Raj
Abu Rai, Babu
Rai, Ghanashyam
Rai and Krishna-
ram Rai

of the estates were Baga, Shahabad, Shujapore, Rekabi Bazar, Bazar Ebrahampur, Azmatshahi, and Sudharpur, in Sarkar Sarifabad; Chaumaha, Heyatpur, Shahapur and Majanpur in Sarkar Salimabad; Senpahari, Mankundi, Sudhanagari, Jahanabad in Sarkar Mandaran and Lakshmipur, Mankhur and Bagdaina.

Ibrahim Khān became the Subahdar of Bengal in 1689. He was an old man when he came to Bengal, and he lacked martial qualities. His weak administration encouraged lawlessness. In 1695, Shova Singh, a zamindar of Chetua-Barda in the present Ghatal Subdivision of Medinipur, entered into an alliance with Rahim Khān, an Afghan chief of Orissa, and attacked the Zamin-dar of Barddhamān, Krishnaram Rai. Krishnaram Rai was defeated and slain (1696) and the town of Barddhamān was captured by Shova Singh. Krishnaram's son Jagat Rai managed to escape but all the other members of Krishnaram's family were made captive by Shova Singh. A number of ladies of Krishnaram's family committed suicide by taking poison. Krishnaram's daughter Satyabati killed Shova Singh with a dagger when he tried to take her by force and then killed herself with the same dagger. Krishnaram Rai excavated the tank which is known as Krishnasāgar.

Jagat Rai had gone to Dhaka to seek the help of the Subahdar Ibrahim Khān who merely ordered the faujdar of Hugli to curb Shova Singh. The faujdar was a timid man, who fled from Hugli on the approach of Shova Singh's men, who plundered the town.

The town was ultimately cleared of Shova Singh's men by the courageous action of the Dutch of Chinsurah. Shova Singh then fell back on Barddhamān and met his death at the hands of Satyabati as already related.

The disturbances created by Shova Singh and Rahim Khān did not cease with the death of Shova Singh. Rahim Khān became the leader of the combined forces of Shova Singh and himself, and assumed the title of Rahim Shah. The disturbance assumed the proportion of a rebellion. Rahim Shāh and Shova Singh's brother Himmat Singh plundered Makhsusabad (Murshidabad) and Rahim Shāh took Rajmahal and even Maldah.

Ibrahim Khān was dismissed by the Emperor for his incompetence, who appointed his own grandson Azim-us-shan as the Subahdar. Meanwhile, Zabardast Khān, the son of Ibrahim Khān, was ordered to put down the rebels. Zabardast Khān defeated the rebels, at Bhagwangola in the Murshidabad district and then drove them out of Makhsusabad and Barddhamān

Rebellion of
Shova Singh

Krishnaram
killed

Azim-us-shan
appointed
governor

(May 1697). Zabardast Khān encamped at Barddhamān during the rains and paid his respects to Azim-us-shan on his arrival near Barddhamān in November that year, but he was so ill-received by the latter that he resigned his command and left Bengal with his father.

Azim-us-shan halted at Barddhamān for nearly a year without taking any action against the rebels. His inaction encouraged Rahim Khān to come out of hiding and renew the plundering raids into Hugli and Nadia districts. He advanced to Barddhamān and the Subahdar tried to obtain a cessation of hostilities through negotiation but this ended in the murder of his chief minister. The Subahdar, therefore, had to take strong measures and ultimately Rahim Khān was defeated and slain near Chandrakona. Azim-us-shan built a mosque in Barddhamān, which bears his name.

Jagatram Rai, who had been restored to the estate and honours of his father, the deceased Raja Krishnaram Rai, after the revolt of Shova Singh, made further additions to the family estates and was honoured with a *firman* by the Emperor Aurangzeb. He was treacherously murdered in 1702, and left two sons Kirti Chandra Rai and Mitra Sen Rai. Mitra Sen Rai was granted a fixed monthly amount from the exchequer. The elder brother, Kirti Chandra Rai, inherited the ancestral zamin-dari, and added to it the parganas of Chitua, Bhursut, Barda and Manoharshahi. Kirti Chandra was a man of bold and adventurous spirit. He fought with the Rājās of Chandrakona and Barda who rebelled against Murshid Kuli Khān near Ghatal, and dispossessed them of their petty kingdoms. He also seized the estates of the Rājā of Balghara, situated near the celebrated shrine of Tarakeswar in Hugli. He subsequently proceeded to Murshidabad and got his name registered as proprietor of the new properties. But the boldest achievement of Kirti Chandra was his attacking and defeating the powerful Rājā of Bishnupur. The end of the seventeenth century had left the Birbhum and Bishnupur Rājās at the summit of their fortunes. Their territories lay beyond the direct control of the central power, and as frontier chiefs they were of so much importance in keeping the border that the viceroys treated them rather as allies than as subjects.

Kirti Chandra founded the town of Kanchannagar and excavated the tank known as Yadeswardih. The tank Rājisāgar was excavated under the orders of Kirti Chandra's mother. Ghana-

Kirti Chandra Rai

ram Chakraborti, the poet who composed the celebrated *Dharma-maṅgal* lived in Krishnapur in Barddhamān district, while Kirti Chandra was the zamindar. In 1736, a *firman* was granted to Kirti Chandra by emperor Mahammed Shāh of Delhi, conferring on him the Zamindary of Chandrakona. He died in 1740 and was succeeded by Chitra Sen.

The next Subahdar, worthy of note, was Murshid Kuli Khān, who was appointed Subahdar in 1717. His connexion with Bengal began in 1700 when he was appointed Diwan of Bengal and faujdar of Makhsusabad. In 1701, he was appointed also as Diwan of Orissa and faujdar of Medinipur and Barddhamān.

He ruled Bengal virtually independently of the Emperor of Delhi. His son-in-law Shuja-ud-din succeeded him in 1727. Shuja-ud-din died in 1739 and was succeeded by his son Sarfaraz Khān who was defeated and killed in battle by Alivardi Khān, the Deputy Governor of Bihar, in 1740. Alivardi Khān owed his rise to Shuja-ud-din and his treachery alienated many people. The Deputy Governor of Orissa, Rustam Jang, who was the son-in-law of Shuja-ud-din, refused to recognize his authority and Alivardi set out for Orissa to subdue him. While on his return journey from Cuttack he learnt at Mubarak Manzil (now called Shahinbandi) in the Hugli district that a Maratha army from Nagpur under Bhaskar Pandit had entered Bengal. He retreated to Barddhamān in April 1742 where the Marathas surrounded him. They cut off his supplies, and driven by hunger, he had to attempt a retreat to Makhsusabad via Katoya. He had only three thousand horsemen and one thousand musketeers with him. His retreat was rendered more difficult by the presence of a large number of camp followers. At Nigun Sarai, fourteen miles from Katoya, a desperate rear-guard action was fought by a commander of the Nawab, who managed to reach Katoya with the remainder of his army.

Bhaskar Pandit wanted to return to the Deccan but he was induced by Mir Habib, who had been the deputy of Rustam Jang of Orissa, to make a dash for Murshidabad, the capital. Murshidabad was plundered by the Marathas but they decamped as soon as Alivardi reached Murshidabad. From June 1742 Kātoyā became the headquarters of a Maratha army of occupation. The faujdar of Hugli was imprisoned by them and a Maratha garrison under Sesh Rao was posted there. The district west of the Bhāgīrathī thus temporarily passed into the hands of the Marathas.

The Marathas committed unspeakable atrocities on the helpless population of these districts. Gaṅgārām, an eye-witness, says : "They snatched away gold and silver, rejecting everything else. Of some people, they cut off the hand ; of some the nose and ears ; some they killed outright. They dragged away the beautiful women. ... After looting in the open, they entered the villages and set fire to the houses. ... They constantly shouted 'Give us rupees, give us rupees'." Another eye-witness, Vāneshwar Vidyālaṅkāra, the court *paṇḍit* of the Maharaja of Barddhamān wrote. "Shāhu Rajah's troops are niggard of pity, slayers of pregnant women and infants, of Brāhmins and the poor, fierce in spirit, expert in robbing the property of every one and committing every kind of sinful act. ... Their main strength lies in their marvellously swift horses. If it comes to a battle, they secretly decamp to some other country."¹

In 1742, while Bhaskar Pandit was celebrating the Durgā Pūjā at Katoya, Nawab Alivardi Khān fell upon him suddenly, after crossing the Gaṅgā at Uddharanpur and the Ajay, a mile north of Katoya and put him to flight. The Marathas retreated to Medinipur but they were chased by Alivardi Khān out of Bengal and up to Chilka lake in Orissa.

On March 1743, Raghuji Bhonsle, the Rājā of Nagpur, accompanied by Bhaskar Pandit, arrived at Kātoyā to realize the *Chauth* or ¼th of the revenue, which had been promised to Rājā Shahu by the Mughal Emperor and which Rājā Shahu had assigned to Raghuji. But Raghuji had to retreat on the arrival of the Peshwa Bālāji Rao, in the presence of whom Alivardi promised to pay the *Chauth* of Bengal to Rājā Shahu, besides 22 lakhs of rupees to the Peshwa for the expenses of the army.

Next year, Bengal was again invaded by Bhaskar Pandit. Alivardi, in order to get rid of the Marathas, invited Bhaskar Pandit and his officers to an interview and got them assassinated. This action made the Marathas leave Bengal alone for more than a year.

In 1745, the Marathas again invaded Bengal and Bihar. In December that year a battle was fought between Alivardi and Raghuji Bhonsle at Katoya. Raghuji was defeated and returned to Nagpur, but Mir Habib remained with a section of the Maratha force. In April 1746, he was also defeated by Alivardi and

Bhaskar Pandit
killed

¹ Sarkar, Jadunath — *The History of Bengal*, Vol. II, University of Dacca, Dacca, 1948, pp. 457-58.

Marathas attack
Barddhamān

driven out of Bengal. In November that year Alivardi's general Mir Jafar marched into Medinipur district and in December defeated Mir Habib's lieutenant Sayyid Nur in a battle near Medinipur town. He, however, retreated to Bardhaman at the approach of Mir Habib and Janoji Bhonsle, the son of Raghuji. Mir Jafar now conspired with the faujdar of Rajmahal to murder Alivardi and as a result both of them were dismissed from service.

Alivardi himself came down to Bardhaman and in a severely contested battle, defeated Janoji. An end to the Maratha troubles could not be effected before 1751, in which year a treaty of peace was signed between Raghuji and Alivardi. Alivardi agreed to pay 12 lakhs of rupees annually to Raghuji as the *Chauth* of Bengal.

Alivardi Khān died in 1756 and with his death closes the chapter of Muslim rule in Bengal. Within 10 years following his death the English emerged as the paramount political power in Eastern India. There was dispute about succession after the death of Alivardi Khān. He had nominated his third daughter's son Siraj-ud-daula to be Nawab after him but his childless daughter Ghasiti Begum had adopted a child and aspired to secure the throne for this minor child. The English entered into a palace intrigue to secure succession of Ghasiti Begum's adopted child. Siraj-ud-daula by a master stroke of audacity, made Ghasiti Begum captive and plundered her treasures. He then turned on the English who had offended him by digging a ditch and raising fortifications at Fort William on the plea of security. They had also abused the *firman* given by the Mughal Emperor whereby they enjoyed free trade on the payment of a lump sum as customs duty. The individual servants of the Company were also engaged in private trade and claimed immunity from internal customs, thus abusing the Mughal *firman*. On 4 June 1756, Siraj-ud-daula seized the Cossimbazar factory of the English and on 19 June 1756, captured Fort William. Fort William was retaken by Clive after half an hour's skirmish on 3 January 1757. In February 1757, Siraj-ud-daula concluded a rather dishonourable treaty with the English without a fight. The English hatched a conspiracy to replace Siraj-ud-daula by a Nawab who would be more friendly towards them. Their choice fell on Mir Jafar. On 13 June 1757, Clive began his march on Murshidabad. An army under Major Eyre Coote occupied Katoya where Clive joined him and on 22 June the combined army crossed the Bhāgīrathī and reached Palāshi. It is well known that through the treachery of Mir Jafar, Siraj-ud-daula was defeated in the battle, was taken

Siraj-ud-Daula
and the battle
of Palāshi

prisoner at Bhagwangola and later killed by Miran, the son of Mir Jafar.

Mir Jafar was placed on the throne of Murshidabad by the English on promise of payments to the English of Rs. 227 lakhs annually, a sum which he knew he would hardly be able to pay. In 1760, Mir Jafar was forced to abdicate by the English and Mir Kassim was made Nawab in his place. Mir Kassim gave away the revenues of Bardhaman, Medinipur and Chittagong districts to the East India Company in settlement of the amount due to be paid to the Company.

The Rājā of Bardhaman, at the time the district was ceded, was Tilakchand. His father Mitra Sen Rai was the second son of Jagat Ram Rai. Chitra Sen Rai, successor of Kirti Chand, was conferred the title of Rājā by the Mughal Emperor by a *firman* in 1740. Chitra Sen Rai built the famous Siddheswari Temple in Kalna in 1740. Chitra Sen Rai died childless in 1744 and was succeeded by his cousin's son Tilakchand. Tilakchand also received a *firman* from the Mughal Emperor conferring on him the title of Rājā and some other estates were added to the zamindari. It is not clear from the available records whether Rājā Tilakchand, the zamindar of Bardhaman, played any important part in the battle of Palāshi, but his relation with the English was anything but cordial. In 1755, he put an embargo on Company's business within his zamindari owing to the attachment of his property in Calcutta by the orders of the Mayor's court, but Alivardi Khān had settled the dispute in favour of the Company.

However, the immediate effect of the transfer of power, as the British records show, was that the revenues of the districts of Bardhaman and Nadia were mortgaged and assigned to the Company in January 1758 as a token of gratitude by Mir Jafar who was placed on the *masnad* of Bengal after the Battle of Palāshi. Finally, the district of Bardhaman along with the districts of Medinipur and Chittagong were ceded to the Company by Nawab Mir Kassim of Bengal in September 1760. This cession was made by Mir Kassim for the payment of the army of the East India Company.

Quite a number of temples were built during the rule of Tilakchand. In 1752, Lakshmikumari the mother of Tilakchand, erected a Śrī Krishna temple at Kalna. Chhangakumari, the wife of Chitra Sen Rai, erected a Jagannāth temple at Kalna and at the same place is situated another idol of Jagannāth known as Bhāṇḍārḥārī Jagannāth because the idol was brought by Chitra Sen Rai after

conquering Bhāṇḍārḥātī. In 1754, Chhangakumari established a *Śivaliṅga* at the same *Jagannāthbāṭī* named Śrī Rāmeswara Śiva. In 1755, Brajakishori, the mother of Kirtichand, erected the Baikunṭhanāth Śiva temple at Kalna. The terracotta works on this temple were very beautiful but have now decayed. In 1764, Lakshmikumari, the mother of Tilakchand, established a Śiva idol in the Siddheswari temple. A number of temples were built by Tilakchand at Dainhat. Bisankumari, one of his consorts, built the Baradwari ghāt on the Bhagirathi in Khas Haveli and established a Śiva temple there. In 1747, Ramdev Nag established a Śiva temple in Kalna. This Ramdev Nag was the *Patgīdar* under Tilakchand for Mulajore and had dispossessed the poet Bharatchandra of his paternal territory which led the poet to write *Nagastaka* poem. In 1766, one Tulsi Devī, a companion of the consort of Tilakchand, erected the Kāśināth Śiva temple in Kalna. In 1767, one Krishnachandra Barman erected the Gopāl temple in Kalna. In 1769, one Rādhikā Devī, a palace maid, erected the Śiva temple to the east of the Siddheswari temple in Kalna.

Hugh Watts was the first English officer sent to Barddhamān by the Council at Calcutta in 1759 to ensure realization of the assigned revenue of Barddhaman under the treaty agreement with Mir Jafar. The Barddhamān Rājā reacted against this imposition and there was even an open fight between the forces of the Barddhamān Rājā and the sepoys of the East India Company. Major Watts reported to Governor Holwell about a serious uprising in Barddhamān. The Council acted quickly and Lt. Nollekens was sent to suppress the uprising. After the cession of the revenue of Barddhamān by Mir Kassim in 1760, Sumner was sent to Barddhamān as the English Resident. He made an assessment of the probable total value of the Barddhamān zamindari at Rs. 41,58,000 and on the basis of his report the Court of Directors demanded a revenue of Rs. 30,00,000 from the Rājā of Barddhamān. Sumner was followed by Graham, Johnstone, Hay and Bolts. None of these gentlemen had a reputation for honesty and integrity and especially Hay and Bolts were guilty of having estates in their own names within the zamindari. Apart from the salaries which they received from the East India Company those English Residents forced the Rājā of Barddhamān to pay them Rs. 80,000 a year as consideration money.

The English and the Rājā of Barddhamān relations not cordial

Rājā Tilakchand of Barddhamān wielded all the powers of a feudal chieftain in his district. He was not very regular in payment of his revenue and often absconded from Barddhamān for which he was reprimanded. On November 7, 1760 Governor Vansittart even threatened to deprive him of the zamindari should he be irregular in payment of revenue. Fear of deprivation of his ancestral zamindari might have driven Tilakchand to an armed rebellion. Previously, it was reported that he was recruiting men into his service and actually about 15,000 men were in his pay-roll. The Rājā also appears to have strengthened his position by an alliance with the zamindar of Birbhum. A battle took place on 29 December, 1760 at a pass of the river Bānkā near Sangot-Gola. Rājā Tilakchand was completely defeated by the British forces led by Martin White.

The Maratha raids had greatly impoverished the country; fields lay barren, and even the mulberry plantations for growing silk were completely destroyed. The prosperity of the Barddhamān district was on the wane after the Maratha raids and the East India Company's inordinate demands gradually rose from Rs. 30,00,000 to nearly Rs. 40,00,000 in 1769-70. Then followed the terrible famine of 1770. Hunter in his *Annals of Rural Bengal* has given a graphic description of the famine. About one third of the inhabitants perished; many of the husbandmen had to sell their cattle; the entire seeds were eaten up; the artisans sold their implements; and even children of the peasantry were sold in slavery. During the famine Rājā Tilakchand died and the heir of the once extremely opulent Rājā had to melt down the family gold and also to beg for a loan from the government to perform his father's obsequies. Rājā Tilakchand died at the age of 37 only leaving a minor son, Tejchand as his heir. John Graham, the Resident at Barddhamān, forced the Rani Vishnukumari to accept one Brojakishore Rai as the *diwan* or manager. The Rani's seal was taken away in 1772 and the person of the young Rājā was under the tutelege of Brojakishore Rai and through him of Graham. It was also alleged that Warren Hastings himself exacted large sums of money from the Rani of Barddhamān. The *Maharani* managed the affairs of the zamindari from A.D. 1776 to 1779 and handed over charge to her fourteen years old son Tejchand.

The records of 1782 disclose that the house was steadily sinking into ruin. The English Resident under orders of the Calcutta Council heaped a number of personal indignities on the Rājā.

The Raja was imprisoned in his own palace; portions of his territory were sold for arrears of revenue. While the English were heaping indignities on the Rājā, the Rājā in desperation retaliated by making his territory less and less profitable for the English to trade in.

The Permanent Settlement

Under the Permanent Settlement of 1793 Rājā Tejchand entered into an agreement to pay a revenue of Rs. 40,15,109 and in addition *pulbandi* charges of Rs. 1,93,721.¹ There is a long series of correspondence regarding the appropriation of *pulbandi* money by the British officers placed in charge of supervision of the embankments. Due to neglect of embankment repairs agriculture suffered. In common with other zamindari estates of west Bengal, dismemberment of the Barddhamān estate started soon after the Permanent Settlement and in 1797 the Board of Revenue ordered sale of portions of the zamindari for realization of arrears of revenue. The principal purchasers were Dwarakanath Singh of Singur, Chhaku Singh of Bhastara, the Mukherjees of Janai and the Banerjees of Telinipara. This laid the foundation of the Bengali landed aristocracy in the districts of Barddhamān and Hugli. After the death of his mother Rājā Tejchand invented a device to save the zamindari from further ruination. The zamindari was divided into a number of lots called *patni* and the rents of these lots were farmed out to these *patnidars*. He also prevailed upon the government to enact the *Patni Taluk Sales Act* whereby the *patnis* were liable to be put to auction sales in default of payment of rents by the *patnidars*.

The immediate effect of the transfer of the district to the British thus resulted in the impoverishment and the near ruin of the most powerful and influential authority of Barddhamān. In the early days of the trade of the East India Company, the English used to pay for the goods purchased with gold and silver imported by them. After the East India Company got the *diwani* no further gold or silver was imported and the goods were paid for out of the revenue earnings in Bengal. Even revenue from Bengal was sent outside India to finance British campaigns in Europe. It may not be incorrect to assume that this system of investment out of the revenues continued till 1832 when the Reform Bill abolished the mercantile character of the East India Company.

¹ *Pulbandi* was a charge payable by the zamindar for the maintenance and supervision of bridges and embankments of the rivers.

During the first struggle for Indian independence, otherwise known as the Sepoy Mutiny, Mahatabchand, the then Mahārājā of Barddhamān, did everything in his power to help the British. He placed elephants and bullock carts at the disposal of the authorities and kept open the roads between Barddhamān and Birbhum and between Barddhamān and Katoya, so that there was no interruption of intelligence between the seat of government and the anxiously watched stations of Birbhum and Baharampur. In 1864, the Mahārājā was appointed as an additional member of the Viceroy's Legislative Council. He was the first Bengali to have this honour.

The British Crown assumed the government of India by the proclamation of Queen Victoria in 1857. The Permanent Settlement with its concomitant huge revenue demands put all the zamindars to the rack. There is no record to show how this pressure on the zamindars was gradually but inexorably transmitted down to the *ryots* and affected the latter's economy. The Permanent Settlement regulations had made pious declarations for protection of the *ryots'* rights but no machinery was set up to enforce these pious wishes. On the contrary, subsequent regulations gradually made the conditions of the peasantry worse. The *haftam* regulations had given the zamindars the power to enter upon the homesteads of the peasants and to distrain his chattels. Another regulation mentioned in the letter of the Board of Revenue of 7 June 1794 states: "Whatever lands shall be disposed of by order of Government for recovery of assessment, all engagements which shall have been contracted with the dependent *talukdars* and under-farmers shall stand cancelled." Quite a large number of peasants must have been ruined by the application of this regulation. The *Barddhamān Sanjivani* in 1878, therefore, criticized the government for its failure to protect the *ryots* who were labouring under various hardships on account of the Permanent Settlement. Jatin Banerjee of Channa in Galsi thana area was the first to preach the adoption of revolutionary methods for attaining independence. The Sakti Samiti, an athletic club, was established in the Kalna town. The members of the club had to take a vow to abjure foreign goods, tobacco and liquor. A similar club called the Joydev Sevak Sampradai was established in Raniganj in 1908.

The people of Barddhamān reacted sharply to the proclamation of 1905 partitioning Bengal into two parts. A number of meetings were held in the district, protesting against the measures.

Queen Victoria assumes sovereignty

Freedom Struggle begins

Vandemataram became the war cry and 60 boys had to leave school for crying *Vandemataram* at Asansol. A number of students of the Barddhamān Raj College were expelled for a month for the same offence. Feelings ran high and there were a few cases of assaults on Europeans. A National School was opened at Kalna in 1908. During this period labour unrests in industrial works were given a *Swadeśi* slant by the labour leaders, who urged workers to boycott English goods. The Peace Celebrations of 1919 were boycotted by the people. The Khilafat movement also spread to some extent among the Muslims of the district. A number of meetings were held. The Asansol Khilafat Committee raised contributions and sent Rs. 2,670 to the Central Khilafat Committee and Rs. 200 to the National Muslim University at Aligarh.

A *hartal* was observed throughout the district on 18 March 1923 to observe the anniversary of Gandhiji's conviction. The people of the district also participated in the demonstrations on 18 July in connexion with the national flag. In 1924, the Congress and the Swaraj Party decided to capture the local bodies. The Swaraj Party's nominees were elected to six out of the ten seats at the election of the Commissioners of the Kalna Municipality, while at Katoya, the leader of the local non-cooperators was elected Chairman of the Municipality. In 1930, when Gandhiji was again arrested, there were more or less complete *hartals* at Barddhamān and at the head-quarters of the subdivisions. There were a number of convictions during first half of June 1930 in connexion with the Civil Disobedience Movement. The picketing of liquor shops was carried out with great vigour in the second half of June 1930 causing a loss of about Rs. 43,000 in the excise revenue for that month as compared with the revenue realized in June 1929. The number of persons convicted in connexion with the Civil Disobedience Movement was 115 in the first half of August 1930. Civil Disobedience Movement was at a low ebb by the end of 1930 and there were indications that people were being attracted to the terrorist movement. In September 1931, bombs were thrown into the thana compound at Kalna and in the quarters of the Sub-Inspector of Police, Memari. Subhas Chandra Bose paid a visit to Barddhamān in December 1931 and addressed a meeting. In 1933, a dacoity was committed by a party of armed terrorists at Noapara and a gun was taken away from the householder. In the same year five live bombs, containing potassium chlorate and

red sulphide and a seal of the Hindusthan Republican Army were recovered from a deserted house in Satgachhia.

The conditions were such that the Government thought it fit to extend the provisions of Chapters II & III of the Bengal Public Security Act 1932 to the Asansol Subdivision as a precautionary measure against the proposed holding of the Congress Session in Calcutta. Kazi Nazrul Islam, the noted Bengali poet, was born at Churulia in Raniganj. His poems provided inspiration to those who believed in terrorism and the use of force for the attainment of independence. He dedicated his famous book *Agniveena* to Sri Barindra Kumar Ghosh, a noted revolutionary and brother of Sri Aurobindo.

The people of Barddhamān responded to the call of the country during the Quit India movement of 1942. On 17 August processions were taken out in the town of Barddhamān. The processionists converged before the court buildings and began picketing. The police dispersed the processionists and picketers by a vigorous *lāṭhi* charge. On 13 September a *hartal* was observed in the town of Kalna in protest against the arrest of local leaders. The post office of Kashiara was burnt as also the railway station of Kalna. On 16 September the national flag was hoisted over the court building at Kalna. Political agitation in different forms continued till the eve of Independence.

CHAPTER III

PEOPLE

The Census of 1971 enumerated 39,16,174 persons as inhabiting the district of Bardhaman. The total male population was of the order of 20,76,210 and the females numbered 18,39,964. Bardhaman is the third most populated district in West Bengal, coming after 24-Parganas and Medinipur. Bardhaman district encompasses an area of 7,028.0 sq. km. In physical size also Bardhaman district is the third largest district in West Bengal after 24-Parganas and Medinipur. Bardhaman district thus accounted for 8.02 per cent of the area, and 8.88 per cent of the population of the State of West Bengal. The density of population in the district stood at 557 persons per sq. kilometre. It was the sixth most densely populated district in the State, coming after Calcutta, Howrah, Hugli, 24-Parganas and Nadia — in that order.

The first estimation of the population of the district was made in 1813-14 by W. B. Bayley, the then Judge and Magistrate of Bardhaman. According to Bayley's estimates, Bardhaman had a population of 14,44,487 persons and the district then encompassed an area of 2,689 sq. miles (or 6,964.5 sq. km.). Thus the average density of population was approximately 602 persons to a sq. mile (or 207 persons per sq. km.).

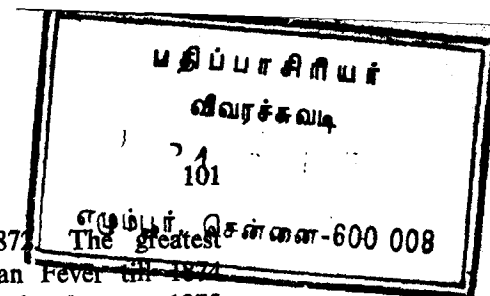
The first general census was taken in 1872. The Census of 1872 coincided with the peak of the terrible epidemic called the Burdwan Fever which ravaged the district between 1862 and 1874. Any increase in population that might have taken place between Bayley's time and the Census of 1872 had been completely wiped out by the fever. The result of this census was to show for the district, as now constituted, a population of 14,86,400 persons. Thus the average density of population in 1872 was approximately 610 persons to a square mile (or 213 persons per sq. km.).

It can be presumed that before the Burdwan Fever broke out, first in Kalna Subdivision and then in areas within Katoya and Bardhaman Sadar Subdivisions, population did register a sizeable increase from what it was in 1813-14. For example, in 1869 the population of Bardhaman town was estimated at 46,121 whereas the Census of 1872 gives a population of 32,687 persons, a decrease of 29.13 per cent in three years.

PEOPLE

Population continued to decline after 1872. The single cause of decline remained the Burdwan Fever till 1874 though the virulence of the fever was checked by the year 1875 except in some parts of the district. The district remained subject to a remittent type of fever; malaria and cholera were endemic in Kalna and Katoya Subdivisions, as a result of which the death rate remained higher than the rate of birth and immigration till 1891. As a result of these causes, between 1872 and 1891, the population of the district declined by nearly 0.32 per cent per year. The cumulative decline was of the order of 6.16 per cent in nineteen years. This overall decline took place despite phenomenal increase of population in what was then Raniganj (now Asansol and Durgapur) Subdivision. Asansol, or better Raniganj Subdivision as it was then called, registered a growth of 0.87 per cent per year between 1872 and 1891, over the population of 1872. The decline in population between 1872 and 1891 was most noticeable in the Sadar Subdivision, followed by Kalna and Katoya Subdivisions.

The Census of 1901 showed a total of 15,32,475 persons as living in the district of Bardhaman; 7,64,742 of them were males and 7,67,733 were females. This figure represented an excess of 46,075 persons over what the population was in 1872, or in other words between 1872 and 1901 the population had increased by 3.1 per cent. This increase was recorded despite the steady decline between 1872 and 1891. It can be thus presumed that in the decade between 1891 and 1901 there was a substantial growth, when the population jumped from 13,91,880 to 15,32,475 or registered a growth of 9.8 (in the decade) or 0.98 per cent per annum. Natural growth, i.e. the balance of birth over death, accounted for only 3.8 per cent of this growth, while the balance of immigration over emigration accounted for the other 6.0 per cent of this growth. In fact, the 1891-1901 decade saw a huge influx or immigrants from other districts of the State as well as from the neighbouring States to Bardhaman. This completely reversed the trend of two previous decades when there had been excess of emigration over immigration, despite the fact that Raniganj Subdivision did attract a sizeable number of immigrants even during those lean decades. In the 1891-1901 decade, Raniganj Subdivision continued to attract bulk of the immigrants into the district for work in coal fields and iron foundries at Kulti. There were also new settlers in its sparsely populated rural areas. In the decade under review, emigration from Sadar and Kalna



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Subdivisions fell off as health conditions improved. Improvements were also noticeable in the population of Barddhamān town. From a population of 32,687 in 1872 it had risen to 35,022 persons in 1901, a rise of 11.02 per cent in thirty years. Raniganj and Asansol towns showed a steady and continuous increase in population from 1872 onwards. Katoya and Kalna towns, on the other hand, had a steady decrease in population ever since the beginning of the Burdwan Fever and thereafter.

The Census of 1931 showed that the district contained 15,75,699 inhabitants, 8,14,891 of whom were males and 7,60,808 females. This figure represents an increase of 43,224 persons in thirty years from 1901, or in other words, between 1901 and 1931 the population had increased by 2.7 per cent or 0.9 per cent per decade on an average. But the growth had not been a steady one. Between 1901 and 1911 there were repeated epidemics of cholera, those of 1907 and 1908 being especially virulent; malaria continued to levy its annual toll; as a result of all these, the rate of increase in population fell off between 1901 and 1911. During the next decade, that is 1911 to 1921, every police station of the district, excepting those in Asansol and the present Durgapur Subdivision, suffered a decrease in population. The volume of decrease was highest in Barddhamān Sadar Subdivision, followed by Kalna and Katoya Subdivisions. Decrease was particularly sharp in Raina, Khandaghosh and Galsi police stations of Barddhamān Sadar Subdivision and Ketugram police station of Katoya Subdivision and Purbasthali of Kalna Subdivision. The only police station of Asansol (now of Durgapur) Subdivision to suffer a decline was Kanksa. Repeated floods in the Damodar and the Ajay in 1913, 1916, 1917, 1918, 1919, 1920 and 1921 were partially responsible for the depletion in population. But as the immigration to the district between 1911 and 1921 actually increased and emigration fell off (when compared to the previous decade), the real cause of the depletion is to be sought in either the decline in the rate of birth or increase in the rate of death or in a combination of both. After the floods the low lands would remain water-logged for a long time and repeated floods would make the low lands of the district veritable breeding grounds of malaria and influenza; in the decade under review these two diseases took a heavy toll of lives in the district. But after 1921 the district began to show a steady rate of population growth. From 1921 onwards the demographic history of the district is a history of ever increasing growth which rose to alarming proportions between 1951 and

1961. From around 1921-22 public health authorities began to take preventive measures against malaria by draining off water-logged areas, establishing free dispensaries and distributing quinine free of cost, etc. As a result of these measures the death rate fell off and immigration into the district increased. There was thus a big rise in population in the 1921-31 decade. This was in tune with the all Bengal population trend. In the fifty-year period from 1872 to 1921, the population had decreased by 3.3 per cent. Though there were some decades in which population recorded some growth, those were not enough to reverse the general trend. But from 1921 onwards, the population not only increased steadily but the rate of growth increased from decade to decade at an alarming pace. The only area in Barddhamān district which did not conform to this general pattern was Asansol Subdivision (present day Asansol and Durgapur Subdivisions) which was formerly known as Raniganj Subdivision. Ever since 1872, there had been uninterrupted increase of population in Asansol (and Durgapur) Subdivision. The increase was mainly due to immigration, though the natural growth through birth had also had its effect. Secondly, this Subdivision, though sometimes subjected to droughts, had never been flood-prone. Malaria took a much lighter toll of lives in this Subdivision than it did in the other three Subdivisions. Opening of coal-mines in the Raniganj coal-fields area, between 1870 and 1921, had been the greatest single factor in attracting immigration, arresting emigration and limiting dependence on variable agricultural production. As a result of this between 1872 and 1921 there was growth of 70 per cent or 14 per cent per decade or 1.4 per cent per year. The growth attained significant proportions in Kulti, Hirapur, Asansol, Barabani, Jamuria, Raniganj, Andal and Faridpur police station areas. Only Kanksā police station area conformed to the pattern of the rest of the district.

The cumulative growth of population between 1931 and 1941 amounted to 20.0 per cent over the population of 1931 or, in other words the rate of growth was 2 per cent per year. The Census of 1951 recorded a 15.9 per cent rise in population over what it was in 1941. This rise took place despite the effects of shortfall of agricultural production of 1941, cyclone and flood of October 1942, famine of 1943, cholera and other epidemics of 1943-44, and cyclone and flood of 1950. Cyclones and floods of 1942 and 1950, famine of 1943 and the communal riots of 1946, however, did not cause much loss of life. The epidemics of 1943-44, on

the other hand, had claimed a greater toll of lives in the district. The communal riots of 1946 and the subsequent partition of the country in 1947 brought in their wake streams of refugees to the district.

According to the Census of 1951, the district was inhabited by 21,91,667 persons and in 1961 Census the district was found to contain 30,82,846 persons. This means that in the decade there was an absolute increase of 8,91,179 persons or in other words the population rose by 40.66 per cent or by 4.66 per cent per year. In the period under discussion, 5,34,541 births were reported from the district and there were 2,00,194 deaths. Natural growth, therefore, accounted for an excess of 3,34,347 persons in 1961 over 1951. Natural growth, therefore, accounted for only 37.52 per cent of the total growth and 62.48 per cent of the growth was due to immigration. Opening of coal-mines in the Raniganj belt and then the establishment of iron foundries, potteries, etc. in Asansol, Burnpur, Kulti and Barakar were mainly responsible for attracting the bulk of immigrants. Even after 1921, when Barddhamān Sadar, Kalna and Katoya Subdivisions began to register growth in population, the share of immigrants in the growth remained insignificant. Immigration, however, had a significant effect on the growth of population in these three alluvial subdivisions only after 1947. Even then in the 1941-51 decade Asansol Subdivision attracted more immigrants than any other in the district. The founding of the steel works in Burnpur in 1936 was partly responsible for this volume of immigration into Asansol Subdivision. The largest number of immigrants into the district in the 1951-61 decade settled down in Asansol and Durgapur Subdivisions, because this decade saw the rise of the Asansol-Durgapur industrial complex. This decade also saw the almost total elimination of endemic malaria. Many flood-prone and single-crop areas in Barddhamān Sadar and Kalna Subdivisions became flood-free and double or even triple crop areas after the Damodar Valley Corporation had taken care of the problems of flood control and irrigation and the Government had taken measures to introduce fertilizers, pesticides and high-yielding varieties of seeds.

The table following, prepared on the basis of data provided by the different Censuses gives us a picture of variation of population in the district.

POPULATION OF BARDDHAMĀN DISTRICT & SUB-DIVISIONS IN SOME SIGNIFICANT YEARS WITH YEARLY PERCENTAGE VARIATION

Area	Popula- tion 1901	Popula- tion 1921	% variation of popula- tion per year 1901-21	Popula- tion 1931	% variation of popula- tion per year 1921-31	Popula- tion 1951	% variation of popula- tion per year 1931-51	Popula- tion 1961	% variation of popula- tion per year 1951-61	Popula- tion 1971	% variation of popula- tion per year 1961-71
Barddhamān District (adjusted)	15,32,475	14,34,771	-0.32	15,75,699	+0.98	21,91,667	+1.95	30,82,846	+4.06	39,16,174	+2.70
Barddhamān Sadar Sub-division (unadjusted)	6,83,776	5,89,849	-0.84	6,25,295	+0.60	8,02,057	+1.41	11,49,038	+4.33	14,15,303	+2.32
Kalna Sub-division (unadjusted)	2,27,812	2,05,954	-0.48	2,18,737	+0.63	3,05,751	+1.99	4,16,220	+3.61	5,29,727	+2.73
Katoya Sub-division (unadjusted)	2,49,899	2,35,004	-0.30	2,68,587	+1.42	3,14,594	+0.86	4,26,514	+3.55	5,32,494	+2.48
Asansol Sub-division (unadjusted)	3,72,383	4,03,964	+0.42	4,63,080	+1.44	7,69,265	+3.31	10,91,074	+4.18	14,38,650	+3.18
										(Including Durgapur Sub-division)	

Population of
Sub-divisions

During the 1971 Census, 14,15,303 persons were found to be living in Barddhamān Sadar Sub-division which encompassed an area of 3,129.5 square kilometres. Thus the Sub-division covering 44.5 per cent of the total area of the district had 36.1 per cent of the population of the district. Kalna Sub-division had a population of 5,29,727 persons and encompassed an area of 997.5 square kilometres. Thus the Sub-division covering 14.3 per cent of the total area of the district accounted for 13.5 per cent of the population. Katoya Sub-division was spread out over 1,060.0 square kilometres and had a population of 5,32,494 persons; this Sub-division thus accounted for 15.1 per cent of the total area of the district and 13.6 per cent of the population. Durgapur Sub-division, the newly created and carved out of the former Asansol Sub-division, encompassed an area of 975.0 square kilometres and had a total population of 5,55,074 persons. Durgapur Sub-division thus comprised 13.9 per cent of the area of the district and 14.2 per cent of the population. Asansol Sub-division, now much reduced, comprising an area of 838.5 square kilometres had a total population of 8,83,576 persons. Thus the Sub-division covering 11.9 per cent of the total area of the district comprised, 22.6 per cent of the total population.

Population of
Police stations

For the purposes of revenue and judicial administration, as well as for policing, the sub-divisions within the district are divided into areas under the jurisdiction of police stations or thanas. In 1972, there were 27 thanas; Budbud police station, the twenty seventh one, was formed with areas from Galsi and Ausgram police stations of Sadar Sub-division in 1967. Judging by area, the Raina police station within Barddhamān Sadar Sub-division happens to be the largest thana now (previously Ausgram was the largest thana), covering an area of 484.6 square kilometres. Chittaranjan, in Asansol Sub-division, covering an area of 21.7 square kilometres is the smallest police station in the district. According to the Census of 1961, Barddhamān Kotwali police station (covering an area of 406.9 sq.km.), having a population of 2,28,771 persons, is the most populous thana in the district. Chittaranjan police station is the smallest police station in the district in respect of population also, having 30,855 persons within its jurisdiction, according to the Census of 1961. The table following, prepared on the basis of the data of 1961 Census, gives the population of different police stations.

POLICE STATION-WISE DISTRIBUTION OF MALE AND FEMALE
POPULATION : 1961

Sub-division/Police Station	Persons	Males	Females
Barddhamān Sadar Sub-division	10,97,149	5,64,379	5,32,770
Memari P.S.	1,72,984	88,327	84,657
Jamalpur P.S.	1,10,185	56,354	53,831
Raina P.S.	1,48,008	75,389	72,619
Khandaghosh P.S.	79,395	40,015	39,380
Barddhamān P.S.	2,28,771	1,23,026	1,05,745
Bhatar P.S.	1,24,371	62,658	61,713
Galsi P.S.	1,17,095	59,778	57,317
Ausgram P.S.	1,16,340	58,832	57,508
Kalna Sub-division	4,16,220	2,11,547	2,04,673
Manteswar P.S.	1,06,846	54,072	52,774
Purbasthali P.S.	1,43,373	72,881	70,492
Kalna P.S.	1,66,001	84,594	81,407
Katoya Sub-division	4,26,514	2,14,336	2,12,178
Ketugram P.S.	1,31,114	65,541	65,573
Katoya P.S.	1,73,063	87,628	85,435
Mongalkote P.S.	1,22,337	61,167	61,170
Durgapur Sub-division (estd. 1968)	3,70,478	2,17,790	1,52,688
Durgapur P.S.	91,516	60,156	31,360
Ondal P.S.	98,959	60,469	38,490
Faridpur P.S.	64,592	36,460	28,132
Kanksa P.S.	63,522	32,773	30,749
Budbud P.S.	51,889	27,932	23,957
Asansol Sub-division	7,72,485	4,50,930	3,21,561
Asansol P.S.	1,60,832	95,546	65,286
Hirapur P.S.	87,434	51,366	36,068
Raniganj P.S.	92,026	54,544	37,482
Jamuria P.S.	1,44,236	85,301	58,935

Sub-division/Police Station Persons Males Females
Table *contd.*

Barbani P.S.	65,000	35,944	29,056
Kulti P.S.	1,50,066	87,545	62,521
Salanpur P.S.	42,036	23,156	18,880
Chittaranjan P.S.	30,855	17,522	13,333

Rural/Urban
distribution
of population

Barddhamān is one of the highly urbanized districts of West Bengal. According to the Census of 1961, of 30,82,846 persons, 5,61,078 persons or 18.2 per cent of the population of the district lived in the urban areas, which accounted for 3.12 per cent of the total district area. Another indicator of urbanization in India, that of sex-ratio, can be used to get an idea of the extent of urbanization of the district. In the district as a whole there are 858 females per 1000 males and in the urban areas of it there are only 699 females per 1000 males. Out of a total of 30,82,846 persons, 10,39,951 persons were employed as income-earners; 4,80,168 persons were engaged in agriculture and 5,59,783 persons were in non-agricultural pursuits. Of these 5,59,783 persons engaged in non-agricultural pursuits, 1,93,254 persons lived in urban areas of the district. There were 2,33,980 persons in the district engaged in urban type vocations, namely in manufacturing industries, construction, trade and commerce, transport-storage and communication and in other services of the tertiary sector; out of these 2,33,980 persons, 1,33,393 persons or 57.01 per cent were residents of urban areas of the district.

According to the Census of 1961, there were 18 or 19 towns of all descriptions in the district. 6 of these towns had municipalities. The 12 or 13 of the towns had no municipalities. Of the 12 or 13 non-municipal towns, the Durgapur Steel Plant township is a notified area and Chittaranjan, Burnpur, Durgapur Coke-oven Plant townships come under the jurisdiction of the respective companies.

Barddhamān is the largest town in the district both in area and population. It is the administrative head-quarters of the district. Its history goes back to antiquity. In the 16th century, it had been the seat of a *jagirdar* and from the 17th century it had been the seat of a big zamindar family. The town has flourished mainly as an administrative centre of secondary importance and as a centre of trade in grains, cash crops and minerals and as a nodal point in communication.

The other two towns of Barddhamān Sadar Sub-division, namely Memari and Guskara are small non-municipal towns, or to be very precise — overgrown villages. Both the towns are situated in the heart of areas getting benefits of irrigation from the DVC system, raising three crops of food grains and other food-stuff. These towns have flourished as grain-trade centres, well connected by roads and railway.

The only town in Kalna Sub-division, Kalna is the sub-divisional head-quarters of the district administration and as such there is a preponderance of white collar workers among the working force of the town. The town is an old one and it had once been a famous seat of handicrafts. Employment in small-scale (including handicrafts) industries still account for a sizeable number of persons employed in income earning pursuits. A sizeable number of persons are employed in trade and commerce in food crops, cash crops and handicrafts.

There are two towns in Katoya Sub-division, both having local self-governing municipalities. Both are old towns. Katoya is the sub-divisional seat of the district administration and it shares the characteristics of Kalna town, described in the preceding paragraph. Dainhat is a small town; it had been a centre of several handicrafts, some of which are still being practised. The working population of the town are mainly engaged in small-scale and/or handicraft industry and in trade and commerce in handicrafts and in food and non-food crops. Like Memari and Guskara, this town is also a pre-industrial market town, dealing in handicrafts and agricultural produce.

Asansol Sub-division is the most urbanized sub-division in the district. There are a number of towns in the Sub-division though only two of these have local self-governing agencies. Of these towns with municipalities, Asansol is the Sub-divisional seat of district administration and Raniganj is in the heart of the coal-mining area. Chittaranjan, the locomotive factory town, and Burnpur, the steel-factory town, come under the civic administration of the Indian Railways and Indian Iron and Steel Company Ltd., respectively. Ukhra and Jamuria, the coal-mining towns, Kulti, Barakar and Dishergarh, Mining-cum-iron and refractory factory towns and Niamatpur are all non-municipal towns. Raniganj, Ukhra, Jamuria, Asansol, Burnpur, Kulti and Barakar form a conurbation of coal-mining, iron and steel manufacturing, engineering goods producing and refractory manufacturing towns.

Durgapur Sub-division is also a highly urbanized Sub-division. It comprises one old town and one recently developed group of towns. Old town Ondal is a railway township with some mining activities and its origin goes back to the early years of the Eastern Railway. Durgapur town is a conglomeration of townships that have been planned and set up alongside the many factories located in the area. Among these, the Steel Plant township is managed by Hindusthan Steel Limited while the Coke-Oven Plant township is maintained by the Durgapur Projects Limited.

Raniganj is perhaps the oldest town in Asansol and Durgapur Sub-divisions. It started to grow as a town with the opening of coal mines that began in the last quarter of the 18th century. By the end of the second decade of the 19th century, the town was already humming with the activities of miners and traders. Rail-links provided the town with further energy to grow at the beginning of the second half of the 19th century. For a long time Raniganj town had been the sub-divisional seat of the district administration.

Asansol, the sub-divisional head-quarters of the district administration, is the second oldest town in Asansol and Durgapur Sub-divisions. It also owes its initial growth to coal-mining activities around the town that began in the first quarter of the 19th century. Establishment of railway communication, founding of an iron foundry in the nearby village (as it was then) of Kulti in 1871, establishment of refractory factories in and around the town from the beginning of the present century, shift of the sub-divisional head-quarters of the district administration from Raniganj to Asansol, establishment of iron and steel manufacturing units of the Indian Iron and Steel Company in the contiguous village from around 1919 and establishment of engineering industrial units from around 1942-43 gave the town the reasons to grow fairly rapidly from what it was in 1901 to what it became in 1970.

Chittaranjan grew into a town from a cluster of sparsely populated obscure villages, within a few years, with the establishment of the locomotive manufacturing factory by the Indian Railways in 1950. Durgapur's growth as town also took place under similar circumstances. From what were sparsely populated agricultural villages interspersed by dense *sāl* and *mahuā* jungles, in more-or-less unarable lateritic country, Durgapur developed into a teeming industrial town within a few years.

The table in Appendix-B, prepared on the basis of data furnished by the Censuses, gives some demographic parameters of towns in Barddhamān district with indications of the prime function of each of the towns mentioned.

It will appear from the table at Appendix-C that the urban population of the district has grown at a higher rate than the district as a whole or the rural areas of the district.

The table in Appendix-C gives a comparative picture of the rate of growth of urban and rural population of the district in some significant years.

According to the Census of 1971, 30,25,106 persons or 77.16 per cent of the total district population lived in the rural areas of the district.

According to the Census of 1961, there were 2,665 inhabited mauzas (*mauza* is a village for revenue and administrative purposes) in the district. There were 115 mauzas which were uninhabited. 25,21,768 or 81.15 per cent of the population of the district lived in the villages. The rural population comprised 13,28,665 males or 78.88 per cent of the total male population and 11,93,103 females or 83.79 per cent of total female population of the district.

In 1951, there were 2,649 mauzas in the district inhabited by 18,67,726 persons that is 85.22 per cent of the total population of the district lived in rural areas. The rural population comprised 9,78,450 males or 84.29 per cent of total male population and 8,89,276 females or 85.21 per cent of total female population.

In 1931 Census, 14,45,814 persons or 91.75 per cent of the total district population were found to be living in the villages. The rural population comprised 7,38,239 males or 90.59 per cent of total male population and 7,07,575 females or 93.00 per cent of the total female population of the district.

At the beginning of the century, in the 1901 Census, it was found that 14,45,747 persons or 94.34 per cent of the total district population were living in the villages. The rural population comprised 7,17,434 males or 93.81 per cent of the total male population and 7,28,313 females or 94.84 per cent of the female population of the district.

Diminishing population of rural areas, *inter alia*, give an indication of the progress of urbanisation in the district.

The table following based on the population data of the respective years and area of the district as 1971 indicates the density

Density of
Population

of population in the district as a whole and in urban and rural areas in 1901, 1931, 1961 and 1971.

DENSITY OF POPULATION : NUMBER OF PERSONS
PER SQ. KM. IN BARDDHAMĀN
(area and population unadjusted)

	1971		1961		1931		1901	
	Persons per sq. km.	Total area in sq. km.	Persons per sq. km.	Total area in sq. km.	Persons per sq. km.	Total area in sq. km.	Persons per sq. km.	Total area in sq. km.
District	559	7,007	440	7,007	225	7,007.95	220	6,964.51
Rural	446	6,789	371	6,789	209	6,928.25	209	6,910.12
Urban	4,107	218.4	2,573	218.4	1,672	77.70	1,595	54.39

Density of population throughout the district or throughout the rural and the urban areas of the district is not even. While the density is very high in the industrial and mining sub-division of Asansol, it is comparatively low in the alluvial regions of Sadar, Katoya and Kalna Sub-divisions. Given below is a sub-division-wise break-down of urban and rural density of population as in 1961.

DENSITY OF POPULATION IN URBAN & RURAL AREAS
OF DIFFERENT SUB-DIVISIONS : 1961

Sub-division	Persons per square kilometre		
	Total	Rural	Urban
Sadar Sub-division	345	311	3,669
Kalna Sub-division	417	397	4,347
Katoya Sub-division	402	379	2,009
Asansol (including Durgapur) Sub-division	675	487	2,340

Except certain portions of Asansol Sub-division, which are lateritic, the district consists of old and new alluvium. Washed by a number of rivers flowing at close intervals, the rural tracts of the district are generally very suitable for agriculture. After the construction of the canal irrigation system, particularly of the Demodar Valley Corporation, agriculture in the district has become very profitable. The district, especially the three eastern sub-divisions of Sadar, Katoya and Kalna, had from times immemorial been the settled habitat of people having agriculture as the means of life. All these factors together have contributed to the generation of high population pressure on land. Between 1958-59 and 1962-63, on an average, 12,04,000 acres or 3,788.81 square kilometres of land were under cultivation in the district. According to the Census of 1971, there were 2,68,391 persons in the district working either as owner cultivators or as share-croppers and there were 3,31,239 persons working as agricultural labourers. An analysis of rural population pattern reveals that on an average

4 non-workers depend on a worker in rural areas of the district ; so, the cultivators and share-croppers with their dependants will roughly be of the order of 10,73,564 persons. But an agricultural labourer is incapable of supporting 4 persons on his income. A study of the population-occupation pattern reveals that there are approximately as many dependants on agricultural labourers as their own number. So the population supported by landless labourers including themselves is twice 3,31,239 or 6,62,478 persons. The total number of persons of all descriptions depending on agricultural land in the district thus comes to 17,36,042 persons (10,73,564 plus 6,62,478). The density of agricultural population on land available for agriculture is, therefore, 177 persons per square kilometre of agricultural land.

The table following gives a picture of sex-ratio in different tracts of the district as found in 1961 Census.

Sex-ratio

		No. of females per 1000 males
Barddhamān District	Total	886
	Rural	918
	Urban	785
Barddhamān Sadar Sub-division	Total	942
	Rural	961
	Urban	809
Kalna Sub-division	Total	925
	Rural	965
	Urban	921
Katoya Sub-division	Total	978
	Rural	982
	Urban	941
Asansol Sub-division	Total	772
	Rural	778
	Urban	766
Durgapur Sub-division	Total	791
	Rural	814
	Urban	762

The reason for the uneven distribution of sexes in different Sub-divisions is not far to seek. Asansol and Durgapur Sub-divisions are primarily industrial and mining areas. Among the working people of the rural areas, persons engaged in mining, transport and storage account for a sizeable portion and among the residents of the urban areas, workers engaged in manufac-

turing industry, especially heavy industry, engineering industry and chemical industry and persons engaged in transport and storage business predominate. Many of these persons are first or second generation immigrants from other districts and other States. They often come to their places of work, leaving their womenfolk and other dependants in their respective places of origin. This practice leads to imbalance in sex-ratio. The sex-ratio tends towards parity where settled population pre-dominates. The urban areas of Katoya and Kalna, which are relatively untouched by modern manufacturing industry of any recognizable scale, therefore, show a tendency toward parity.

The district of Bardhamān, especially its three eastern Sub-divisions of Sadar, Kalna and Katoya, lying at the centre of the fertile plains of the Raḍhā country, has been inhabited, since the early Christian era, by people who have contributed largely to the growth of the mainstreams of Bengali language and culture. It is, therefore, natural that people having Bengali as their mother-tongue will far out-number those speaking other languages in this region. According to the 1961 Census, 25,38,707 persons, that is 82.34 per cent of the total population of the district, returned Bengali as their mother-tongue. In Sadar, Kalna and Katoya Sub-divisions, people having Bengali as their mother-tongue, accounted for more than 90 per cent of population. In the highly industrialized mining Sub-divisions of Asansol and Durgapur, where wage-earning immigrants from outside the State live in large numbers, however, the people having Bengali as their mother-tongue, did not account for more than 63.41 per cent of the total population of these two Sub-divisions taken together.

With rapid industrialization taking place in the western parts of the district, a steady decrease in the percentage of Bengali speakers has been accompanied by a corresponding increase in that of Hindi speakers over the 60-year period between 1901 and 1961. In the sixty year period from 1901 to 1961 although the Bengali speaking population of the district has increased by 80.10 per cent or roughly at the rate of 1.32 per cent per year, the share of Bengali speakers in the total population has decreased from 91.98 per cent in 1901 to 82.34 per cent in 1961 which is a measure of the influx of non-Bengali speaking population into the district over the same period.

In the numerical strength of its speakers, Hindi is the second major mother-tongue of the inhabitants of the district. Besides

LANGUAGE
Bengali mother-
tongue group

Hindi mother-
tongue group

returning 2,60,542 persons in the district as Hindi speaking, the Census of 1961 enumerated 7, 147, 4, 18, 841, 1 & 926 persons as Bihari, Bilaspuri, Gharhwali, Maithili, Marwari, Nagri-Hindi and Rajasthani speaking, respectively. Whether or not some of the listed languages are languages or mere dialects is a debatable question; but it is possible that a large majority of speakers of the listed languages or dialects have returned Hindi as their mother-tongue. It will, therefore, be advisable to group these speakers, without prejudicing the cause of their respective mother-tongues, with the Hindi speaking population, bringing their total to 2,62,486 or 8.51 per cent of the total population of the district. In Asansol Sub-division, Hindi speakers numbered 2,24,291 or 20.56 per cent of total population of the Sub-division in 1961.

As regards the growth of the Hindi speaking population in the district, we find, that in 1901 there were 73,292 of them forming 4.78 per cent of the then district population. In 1931, Hindi speakers numbered 81,259 persons and accounted for 5.15 per cent of total district population.

Speakers of the Sāntālī language form the third largest linguistic group in the district. In 1961, they numbered 1,50,642 persons and accounted for 4.88 per cent of the total district population. Males and females among the Sāntālī speaking population were more or less evenly distributed with males comprising 51.35 per cent and females 48.65 per cent of the total Santali speaking population. 1,46,118 persons out of 1,50,642 or 97.00 per cent of the total Sāntālī speaking population lived in the rural areas. The rural character and the even distribution of the sexes show that the Sāntālī speakers are permanent settlers in the district.

The rate of growth of the share of Sāntālī speakers in the total district population from 1901 to 1961 shows that the Sāntālī speakers are not autochthones of the district and that they have grown in number more by immigration than through births. In 1901, Sāntālī speakers numbered 39,428 and accounted for 2.57 per cent of total district population and in 1931 they numbered 91,535 and composed 5.80 per cent of the then district population. In a generation from 1901 to 1931 the growth of Sāntālī speaking population was of the range of 132.15 per cent or roughly 4.41 per cent per year; and in a generation from 1931 to 1961 the Sāntālī speaking population grew by 282.06 per cent or roughly at the rate of 9.40 per cent per year. This growth could not have been achieved without sizeable immigration.

It is curious to note that some people who are ethnically and

Sāntālī mother-
tongue group

culturally identified as Sāntāls, do not declare Sāntālī as their mother-tongue. In 1961, there were altogether 1,54,657 ethnic Sāntāls in the district of whom 1,50,642 declared Sāntālī as their mother-tongue. This means that 4,015 Sāntāls had declared some other language as their mother-tongue.

Urdu mother-tongue group

In 1961, people having Urdu as their mother-tongue numbered 73,807 persons forming about 2.39 per cent of the total district population. In 1901, Urdu speakers numbered 1,209 and accounted for only 0.08 per cent of the than district population. In 1931, Urdu speakers numbered 10,625 and accounted for 0.66 per cent of the total district population.

So far as Barddhamān district is concerned, Urdu is by and large the mother-tongue of Muslim immigrants from Uttar Pradesh and Bihar. That should not, however, mean that all Muslims of northern India who have moved into the district, invariably belong to Urdu mother-tongue group. On the contrary, many Muslim immigrants from rural areas of Bihar, where Muslim concentration is not very thick, have returned Hindi as their mother-tongue.

Oriya mother-tongue group

According to the Census of 1961, Oriya was the mother-tongue of 17,511 persons forming about 0.56 per cent of total district population. Most people of this group are relatively non-permanent immigrants from Balasore, Cuttack and Sambalpur districts of Orissa who have come to earn a living from urban occupations. Most of them have land at home where their families and kinsmen live. This relatively non-permanent nature of Oriya speakers is reflected in the sex-wise distribution of persons of this linguistic group. 15,473 persons, out of a total of 17,511 were males and only 2,038 were females.

Nepali mother-tongue group

According to the Census of 1961, there were altogether 2,017 persons in the district who were immigrants into the district from Nepal. But Nepali speakers in Barddhamān numbered more than twice this figure. It is reasonable, therefore, to presume that the rest of the Nepali speaking population are of Indian origin. In 1961 Census, 5,459 persons constituting 0.17 per cent of the then district population, declared Nepali as their mother-tongue. They are mostly employed in urban and mining areas of the district as watch-and-ward men in industries and mines and as policemen or men in armed services. They are mostly non-permanent immigrants into the district, as their sex-wise distribution tend to show (in 1961 it was found that to 4,116 males there were 1,343 females only).

In the Census of 1961, people belonging to as many as 55 mother-tongue groups were located in the district of which 11 were from countries outside the Indian sub-continent.

The table following gives the variations in population belonging to the three major speech communities in the district.

GENERATION VARIATION IN POPULATION IN MAJOR MOTHER-TONGUE GROUPS

	1961	1931	1901
Bengali :			
Total population	25,38,707	13,73,532	14,09,606
Period percentage variation	+84.83	-2.55	—
Percentage of total district population	82.34	87.16	91.98
Hindi :			
Total population	2,62,486	81,259	73,292
Period percentage variation	+223.02	+10.87	—
Percentage of total district population	8.51	5.15	4.78
Santali :			
Total population	1,50,642	91,535	39,428
Period percentage variation	+282.06	+132.15	—
Percentage of total district population	4.88	5.80	2.57

Knowledge of a second language, other than one's mother-tongue, sufficient for primary verbal communication, is known as bilingualism.

Tribals like the Santals, Koras, Oraons, Hos and Mundas, who have distinctly separate mother-tongues, are found to be adept bilinguals. Some tribes, as for example the Bhumijis, have now no separate mother-tongue. A number of ethnic Santals, in 1961, had returned Bengali as their mother-tongue.

Bilingualism

According to the Census of 1961, there were 11,919 persons belonging to Koras tribe in the district; of them only 3,000 or 25.17 per cent of total Kora population, declared Koda as their mother-tongue; 6,916 persons or 58.02 per cent of the ethnic Koras returned Bengali to be their mother-tongue; 1,558 or 13.07 per cent of Koras declared Santali to be their mother-tongue,—women being predominant (1,058 of the Santali-speaking Koras were women) among them. Of the Bengali speaking Koras, only 232 or 3.35 per cent were bilinguals and none of them knew Koda. On the other hand, 1,255 or 41.83 per cent of Koda-speaking Koras were bilinguals and 1,009 or 80.39 of the Koda-speaking Koras declared Bengali to be their second language.

The tribals of the district having separate mother-tongues of their own become adept bilinguals for several reasons. Most often than not, social and economic circumstances compel them to live amidst Bengali-speaking people, thus making the learning of a

Character of
Bengali language
of the district

second language easy. Of late, school going tribal children are also picking up Bengali very quickly as in most primary and secondary schools in the country-side education is imparted through the medium of Bengali language only.

According to G. A. Grierson¹, the dialects of Bengali spoken in the district can be categorized as belonging to two main branches of the language. Dialects spoken in the alluvial parts of the district comprising Barddhamān Sadar, Kalna and Katoya Sub-divisions roughly belong to the Central branch of Bengali akin to Standard Bengali. The dialects of Bengali spoken in the lateritic parts of the district, comprising roughly Asansol and Durgapur Sub-divisions, belong to the Western branch of the language. But, according to Grierson, "In Burdwan, it is impossible to fix a dividing line, and to say definitely, or even approximately, that on one side of it Central, and on the other Western Bengali is spoken." It is because, as Grierson himself has pointed out, Western Bengali dialects are not spoken in their extreme form in the district and gradually merge into Central Bengali as one moves from West to East.

According to Sunitikumar Chatterji², the dialects of Bengali fall into four main classes, agreeing with four ancient division of the country; Radhā, Pundra or Varendra, Vaṅga and Kāmarūpa. The alluvial portion of Barddhamān district comprising Sadar, Kalna and Katoya Sub-divisions make what was known as eastern Radhā country while the lateritic portion of the district comprising Durgapur and Asansol Sub-divisions fall within former Jungle-Mahal or Jharikhand country which later became a part of the western Radhā country.

The speech of the higher class literate or upper castes in the eastern part of the district is little different from the standard colloquial Bengali even in the remote villages. Lexical repertoire of the women folk and the peasants and artisans from the so-called lower classes and castes, however, abounds in words of local currency. Some of these words, collected by Muhammed Ayub Hossain³ from three police station areas of Katoya Sub-division, namely Katoya, Ketugram and Mongalkote are being appended as under :

¹ Grierson, G. A. — *Linguistic Survey of India, Vol. V, Indo-Aryan Family : Eastern Group*, Calcutta 1899, p. 27, pp. 55, 60.

² Chatterji, Sunitikumar — *The Origin and Development of the Bengali Language, Part I*, Calcutta 1926, p. 136.

³ Chawdhuri, Dulal (ed.) — *Lokasamskriti, Vol. I, No. I & II, 1378 B.S.*, Calcutta.

SAMPLE DIALECT LEXICON FROM KĀTOYĀ SUB-DIVISION

- | শব্দ | অর্থ |
|-------------------|--|
| (১) অই | বিস্ময়সূচক অব্যয়
যথা : অই, কাল এসে আজ
যাবে কি হে? |
| (২) আদি পদি | শেষ
তুর কাজের কি আদি পদি নাই? |
| (৩) অসুমার | অশুভগতি
অ (নঞর্থক) + ফা.শুমারি |
| (৪) আকাবাকি | তাড়াতাড়ি
তু. আঁকুবাঁকু, আঁকুপাঁকু, সা. হাঁকোপাঁকো। |
| (৫) একলম্বোড়ে | ঈর্ষাকাতর, যে একলা থাকতে ভালোবাসে।
তু. একলম্বোড়ে < একল + ম্বোড়ে, একলা বিচরণশীল ম্বোড়ের
মতো প্রকৃতি যার। |
| (৬) আগা দেওয়া | মানসিক পূর্বাভাস
(pre-monition)
< অগ্র + ইডিয়ম |
| (৭) আঁচলচেলে | পরমুখাপেক্ষী
যে আঁচল পেতেই আছে। |
| (৮) আজল | সাদাসিধে, বোকা, স্ত্রীলিঙ্গে 'আজুলি'
< আদর। |
| (৯) আজলামো | ন্যাকামো, না জানার ভান
< আদর + কমিক |
| (১০) আতলুস | শ্রমকাতর, নীর পুতুল |
| (১১) আতানে বাতানে | নির্জনে, গোপনে |
| (১২) আন | আত্মসম্মান
যথা : হ্যাঁলো, তোর আন নাই? |
| (১৩) আনুতে | জনো
অনুসর্গ। যথা : তোমার কথার আনুতে আমি এখানে আসি না। |

শব্দ	অর্থ
(১৪) আবাত্ত	সাদাসিধে
(১৫) আলগিদরেমো	আদুরেপনা
(১৬) আসাম	ভাতের ফেন, মাড় অর্ধতৎসম < আচাম তু. যাজবল্লক্য সংহিতা ৩।৩২১
(১৭) আড়বাড়ভাঙ্গা	অবিবাহিত ছেলে বা মেয়ের চেহারার দিক থেকে খুব বেড়ে যাওয়া আড়=প্রস্থ+বাড়=দৈর্ঘ্য। ইডিয়ম
(১৮) আড়োল	যে যাঁড়কে ডালো ডাবে মুক্কাহীন (castrate) করা হয়নি < অর্ধ (?) + ল

Character of
Santali
language of
the district

Santali, according to Grierson, is a remarkably uniform language. There are only two dialects and even these do not differ much from the standard form of speech.

Santali has, to some extent, been influenced by the neighbouring Indo-Aryan languages. Even the purest form of Santali spoken in Santal Parganas district of Bihar is not free from the influence of the *dehāri* Hindi as spoken in the district. The Santali speakers of Bardhaman district speak a kind of Santali that can be called the Standard Colloquial Santali of Bengal. As it is spoken by Santals, many of whom are in urban and industrial occupations and live in close proximity of Bengalis with whom they have to maintain daily communication, the Standard Colloquial of Santals of West Bengal has been influenced by Bengali.

RELIGION

Hinduism and Islam are the two principal religions of Bardhaman District. Christianity is the other numerically significant religion. Sikhism, Jainism and Buddhism are faiths followed by small groups of people. The table below makes the position clear.

তু.—তুলনীয়
সি.—সাঁওতালী

DISTRIBUTION OF POPULATION BELONGING TO MAJOR RELIGIOUS COMMUNITIES IN BARDDHAMĀN DISTRICT IN DIFFERENT GENERATIONS

	1971	1961	1931	1901
Total population	39,16,174	30,82,846	15,75,699	15,32,475
Hindu population	32,19,642	25,98,875	12,38,872	12,21,027
Hindu population as percentage of total	82.21	84.30	78.62	79.67
Percentage variation	+23.88	+109.77	+1.46	...
Muslim population	6,72,227	4,67,669	2,92,471	2,87,40
Muslim population as percentage of total	17.16	15.17	18.56	18.75
Percentage variation	+43.75	+59.90	+1.76	...
Christian population	10,409	7,963	5,440	2,960
Christian population as percentage of total	0.27	0.26	0.34	0.19
Percentage variation	+30.72	+46.37	+83.78	...
Sikh population	10,443	5,855	...	...
Sikh population as percentage of total	0.27	9.19	...	...
Percentage variation	+78.36	...	...	...

Growth of population belonging to the two major religions in the 30-year period between 1901 and 1931 was negligible and was more or less of the same order, with Muslim population growing at a slightly faster rate. But the growth of the Christian population in the same period was remarkable. It might have been due to immigration into the district of large number of Europeans, Anglo-Indians and Christian tribals from elsewhere, due to the opening up of mines and establishment of manufacturing industries. In the next 30-year period of 1931 to 1961 Hindu population registered a very high rate of growth but the rate of growth of Muslim population over the same period was less than half of the rate of growth of Hindu population. The reason for the high rate of growth of Hindu population and low rate of growth of Muslim population may be found in one single factor. The communal riots of 1946-47 and 1950 and Partition of the country in 1947, resulted in large scale influx of Hindu refugees from the then East Pakistan (now Bangladesh) and in emigration of some Muslims from the district to Pakistan. The resultant effect had been a rise in the share of Hindus in total population and fall of the share of Muslims in total population.

In the decade under discussion, the rate of growth of Sikh population has surpassed the rate of growth of all other religious communities. The share of Sikhs in the total district population is the same now as the Christians in this respect. Bulk of these Sikhs are emigrants from the Punjab and Haryana. They have immigrated into the district in the wake of the expansion of road transport in the post-Independence era.

The statement below gives the distribution of males and females, in the rural and urban areas of the district, of the major religious communities in March 1961 and March 1971.

DISTRIBUTION OF MALE & FEMALE POPULATION OF DIFFERENT RELIGIOUS COMMUNITIES IN RURAL & URBAN AREAS OF BARDDHAMĀN DISTRICT IN 1961 & 1971

Religious community	Tract	1971		1961	
		Male	Female	Male	Female
Hindus	Total	17,12,014	15,07,628	14,02,341	11,96,534
	Rural	12,76,305	11,64,865	11,23,749	9,94,072
	Urban	4,35,709	3,42,763	2,78,592	2,02,462
Muslims	Total	3,50,787	3,21,440	2,46,364	2,21,305
	Rural	2,93,753	2,77,780	2,02,177	1,97,115
	Urban	57,034	43,660	44,187	24,190
Christians	Total	5,667	4,742	4,358	3,605
	Rural	3,036	2,426	391	941
	Urban	2,631	2,316	3,467	2,664
Sikhs	Total	5,946	4,497	4,065	1,790
	Rural	1,888	1,318	1,459	631
	Urban	4,058	3,179	2,606	1,159
Jains	Total	493	434	1,411	514
	Rural	307	277	354	310
	Urban	185	157	1,057	204
Buddhists	Total	227	178	436	117
	Rural	65	49	34	30
	Urban	186	157	402	87
Other Religions	Total	955	957	1	5
	Rural	950	956	1	4
	Urban	5	1	nil	1
Religion not stated	Total	121	88	nil	nil
	Rural	121	88	nil	nil
	Urban	nil	nil	nil	nil

It is apparent from the preceding table that bulk of the *ādivāsīs* or tribals, including Santals, Koras, Oraons, Mundas and Bhumijis have returned Hinduism and Christianity as their religion. If we take the category "Other Religions" as including the religion of the Santals, the Korās, the Oraons, the Mundas and the Bhumijis, it becomes evident that the majority of these tribals have not returned their ethnic religion as their faith and have preferred to be known as Hindus and possibly as Christians. This is firstly, because most of the tribal religions do not have any proper name. When asked to name their religion, it becomes rather difficult for the tribals to answer. Secondly, when the tribals live in the vicinity of the Hindus, often the tribal deities become absorbed in the pantheon of folkish Hindu religion and assume a syncretic entity. The tribals participate in Hindu festivals in addition to the observance of their traditional tribal festivals and rituals.

The sect allegiance of common Bengali Hindus, in Rāḍha region, is far from very clear. Relatively well-off cultivators in the rural areas, mostly drawn from the so-called upper Hindu castes, traders and businessmen from the Nabasākha castes, absentee landlords and white-collar workers of local origin in urban areas are often found to have family deities which are worshipped daily. It is perhaps not too difficult to specify the different castes and cults to be found in Barddhamān district from the occurrences of certain festivals and popularity of certain divinities.

There is no Gaṇeśa cult or Gāṇapatya sect among the Bengali Hindus of the district. Bengali Hindus, however, invoke Ganesa as the initial act of worship of all Puranic gods and goddesses. Ganesa's blessings are also sought at the start of all commercial ventures, for he is believed to be the bestower of all success. Traders keep images of Ganesa at their seats of business and perform daily services of the deity for which no Brahmin priest is usually employed. There is no temple of Ganesa worth the name, nor are there any special festivals held in his honour in the district.

Among the Bengali Hindus of the district one hardly comes across any awareness of *Surya* or the Sun as a major Vedic and Puranic god, whose worshippers known as *Saurya-upāsakas* are found in other parts of India. So far as *Surya* worship is concerned, it is now limited to certain rituals followed by some

Major sects and cults of the Hindus

Gaṇapati or Gaṇeśa as a major cult head and the Gāṇapatya sect

Sūrya or Sun as the major cult head and Saurya sect

Brahmins. Devout Brahmins, especially of priestly vocations, invoke *Surya* after their morning ablutions.

Typical Bengali festivals like *Makar Sankranti* held on the last day of the Bengali month of *Paush* (January-February) on river banks and *Bārūni-Snān* held on the last day of the Bengali month of *Chaitra* (March-April), though connected with the Sun, can in no way be associated with the Vedic and Brahminical forms of sun worship.

The cult of Dharma is mainly a local cult of Rāḍha region of West Bengal of which Barddhamān is an integral part. From the frequency of the festival of *Dharmer Gajan* and the multiplicity of the seats of Dharma worship, it appears, south Birbhum, west and central Barddhamān and Bankura are the major areas of Dharma worship in West Bengal.

Dharma deities are to be found in villages all over Barddhamān district. But the Dharmas differ from one another in shape and form of the stone symbols, in the nature of their adherents and priests, in the timing of the annual festivals and in the proper names by which they are known. Among the numerous Dharmas, *Dharmaraj* of Patun, two *Dharmathakurs* of Manteswar, Dharma of Khudkuri and of Damra are of more than local importance. Buroraj of Jamalpur is in a special class. Dharma of the village of Burwan, in Memari P.S., by the river Balluka, is the earliest known Dharma.

There is no sect of Dharma worshippers as such, but Bagdis, Hanris, Doms and people of other so-called lower castes and untouchables are usually active devotees of this divinity. The priest of *Dharmathakur* of Patun is a Bagdi. The *sebāit* or the keeper of one *Dharmathakur* of Manteswar village is a *Nāpit* or barbar by caste and of another *Dharmathakur* of the same village is a Bagdi, *sebāit* or the keeper of the *Dharmaraj* of Khudkuri is an Aguri or Ugra-Kshatriya and the priest of the deity is a Brahmin. While the *sebāits* of most of the Dharma deities in Gopabhum pargana are Sadgopas or Gopas, the priests are from among the Brahmins and Sadgopas.

Dharma, as is well-known, is not a Vedic or a Puranic divinity. But with the employment of Brahmins for Dharma worship, more and more Brahminical rites have come to be incorporated in Dharma worship. Brahmins and upper-caste Hindus, including Ugra-Kshatriyas and Sadgopas of Barddhamān, have shown a tendency to integrate the cult of Dharma with the more respectable Brahminical worship of Śiva, Viṣṇu and Surya, and

especially with Śiva, by attributing to Dharma certain powers and functions usually associated with these Puranic divinities. Often the similarity of rituals connected with the *Gājan* festival of Dharma and the *Gājan* festival of Śiva is stressed to show the essential unity of these two godheads.

In the process of incorporation of Dharma in the local Hindu pantheon, the forces of religious integration have worked at two levels. At the upper level, the upper castes and Nabasākha castes have, to some extent, accepted this non-Puranic worship and have permitted, at places, the services of Brahmin priests, liberality being prompted as much by religious toleration as by the desire of bringing alien communities to the fold of Brahminical Hinduism. At the lower level, the original backward class devotees of Dharma have consistently tried to stress the conceptual points of unity of their divinities with known Brahminical deities for enhancing the status and prestige of their own divinities, as also to raise the status of their respective communities. In most places where Brahmin priests do the services of the deity and/or Sadgopas happen to be the keepers of the deity, Dharma is taken to be a manifestation of Śiva, the lord of agriculture. The most significant case of Dharma-Śiva syncretism comes from Jamalpur village. The famous Buroraj of Jamalpur in his name retains the *Buro* of *Buro-Śiva* and *Raj* of *Dharma-raj*. This village in Purbasthali police station is inhabited mainly by Bagdis, Bauris and Sadgopas. There are some Gopa and Brahmin families in the village also. The annual festival and *Gajan* of Burorāj is held on the full-moon day and night of the Bengali month of *Vaisākh* (April-May). Throughout West Bengal, the annual festival and *Gājan* of most of the *Dharmathakurs* are held on the day and night of the full-moon of *Vaisākh*, while the annual festival and *Gājan* of Śiva is held on the concluding day of the Bengali year—in the month of *Chaitra* (April). During the annual festival of *Burorāj*, Gopas, Sadgopas and Brahmins sacrifice goats and the untouchables like the Bagdis, Doms and Hanris sacrifice geese and pigs. The most interesting part of the festival, however, is the ritual fight between the Bagdis and Sadgopas for the flesh of the sacrificed goats.

Late Pandit Haraprasad Sastri identified Dharma with Buddha on a linguistic analogy, since in *Amarakosha*, an early Buddhist text, Buddha has been referred to as *Dharmaraj*. He pointed out further that the annual festival of Dharma is held on the full-

moon day of *Vaisākh*—supposedly the birthday of Buddha. Prof. Suniti Kumar Chatterji, on the other hand, thinks that since Dharma is worshipped mainly by people living outside the pale of Sanskritic influence, identification based on linguistic logic should not include Sanskritic languages. Moreover, the annual festivals of all Dharma, are not held on the full-moon day of *Vaisākh*. Dr. Chatterji himself finds an identification of Dharma with the tortoise, as the term 'dharma', in his opinion, is derived from a word denoting tortoise in one of the languages of the Austric Family. And Dharma icons, in his opinion, are shaped like tortoises. Some other scholars have emphasized the supposed tortoise like shape of the stone images of Dharma to come to a different conclusion and prove the affinity between Dharma and tortoise or Kurma, the latter being an incarnation of Vishnu and vehicle of the aquatic goddess Yamunā. Other researchers have identified Dharma with *Surya* or the sun-god of the *Vedas*. As regards the attributed powers and functions, there is a remarkable similarity between the two divinities. The suggestive meanings of the rituals connected with both forms of worship also point to certain affinities. Probably, the fertility-causing power of the sun generated in the Austric people of Bengal, outside the pale of Sanskritic influence, the same kind of idea that inspired the Vedic people to worship the sun. The resultant effect had been the growth of a regional form of sun worship in the cult of Dharma.

It may be of some interest to know that on the occasion of the annual festival of Dharma as many as fifteen large fairs are held at different places of the district.

Sakti worship or the cult of adoring the female or the mother principle is a major cult of the Rāḍha region of Bengal. In the absence of a clear-cut religious demarcation, it is difficult to say whether the Sakti cult or the Vaishṇava-Bhakti cult attracts a larger following. The central theme of the Sakti cult is the female or the kinetic principle's association with the male or static principle. Female divinities, having male consorts or Bhairavas and being endowed with creative powers, are generally conceived as Saktis. In Brahminical Hindu religion Sakti is conceived as the divine mother and the female counterpart of Śiva, the supreme creator. But among the common people of a rural agricultural society, Sakti is often the presiding deity of fertility cults of folkish or even tribal origin.

Kālī is the most widely worshipped deity among the different manifestations of Sakti. But Kali is seldom worshipped in

Sakti cult and
śākta sect

Kālī, as a
manifestation
of śakti

Puranic form; everywhere she takes on a local form. Thus Devī Kalyāṇesvarī or *Devīsthān* in Barakar P.S. is none but Kālī. Kaṅkālesvarī of Kanchannagar is yet another manifestation of Kālī. Bāgdevī of Nasratpur in Purbasthali P.S. (not to be confused with Sarasvatī) is Kālī who facilitates agricultural operations. Kālī of Dhanya-Kherur and Tarakshya Devī of Susuna are other Kālīs. Devī Ambikā of Ambika-Kalna is Siddhesvarī-Kālī or Kālī with four arms. The present temple of Siddhesvari was commissioned in A.D. 1740. Mankar had been a seat of Sakti worship from times immemorial. The caste deity of the Vaidyas of Mankar is Ānandamayee. Besides Ānandamayee, there are also Panchakālī and Barakālī of Mankar once worshipped by Agambagish Ramananda.

Of all manifestations of Durgā in the district, Devī Yogadya of the village Kshiragram in Mongalkote P.S. is most interesting. The Devi is also known as *Kshir Bhavani*. She is a ten armed divinity like Durgā. Throughout the year the icon remains submerged in a tank called *kshir-dighi* and is brought out only during the annual festival of the divinity. She has been described as '*Bhutadhātṛī Mahāmāyā*' or the great kinetic illusion who nurses either the spirit of the dead or the primordial elements. To the west of Kshiragram is the village of Dhekur where the presiding deity is Dikkari. Dikkari is but another name for ten armed Bhavani. Devī Bahula, the presiding divinity of Ketugram village, may also be regarded as a manifestation of Durgā. She is seen as accompanied by Kārtik and Gaṇeśa. Her annual festival is held on the ninth-day of the new-moon fortnight in the Bengali month of *Āsvin*, when Durgā puja is held all over Bengal. Another such manifestation of Śakti is Chāmuṇḍā of Manteswar. Devī Phullarā of the village of Attahas in Ketugram P.S. is a Chāmuṇḍā of another class. Her annual festival is held on the eighth day of the new-moon in the Bengali month of *Āsvin*, synchronising with Durgā puja. Annual festival of Chāmuṇḍā, held in the new-moon half of the Bengali month of *Vaisākh*, (April-May) is a folk festival *per se*.

When we examine the cult of Chandī as practised in the district, we are led to the tentative conclusion that Chandī is a generic name given to several goddesses. In Bardhaman, the name of Chandī is often prefixed by such appellations as Borāi, Olāi, Kulāi, Patāi, Ekāi, Mangal etc. Majority of Chandis worshipped in the district are village deities with their modest shrines located under shady trees. Most of these deities have no

Durgā, as a
manifestation of
śakti

Chandī

representational forms; installed stones serve to represent the divinities.

Of the more influential Chandis housed in temples, Mangal-chandi (she has a representational form) of Kogram, Pataichandi of Pataihat and Ekaichandi of Ekaihat deserve special mention. Jāliyā Kaibarttas, Bagdis and other untouchables and śākta Tāntric Brahmins take direct interest in the worship of Mangal-chandi, Pataichandi and Ekaichandi. There is another Chāṇḍī Devī who travels between Chhota Bainan and Daminya in the trans-Damodar region in the south-east Barddhamān. This Chāṇḍī Devī has a representational form and the icon is made of bronze-alloy. She has four arms; the upper left hand is holding a lotus and the right a conch-shell, the two lower hands hold tridents. There is a lion to her left. Her right foot rests on the torso of the Buffalo-demon and the left on the severed head of the demon. Local people believe that the icon is the one which used to be worshipped by the sixteenth century poet of *Chandimangal*, Kavikānkan Mukundaram Chakravorty who hailed from the village Daminya. Other Chandis are Sakambhari, the presiding deity of Majigram, and Khandeswari, the presiding deity of Vaidyakhanda or Srikhanda, a seat of the Vaidyas of Barddhamān district.

The female divinity Manasā is a very influential divinity, especially among the so-called untouchable and lower castes of the district. She is worshipped throughout the length and breadth of the district. Her influence in the urban areas, like that of Dharma, Chāṇḍī and Chamunda, is, however, limited. Manasā or Bisahari is conceived as the goddess of serpents. Her image, when inside a temple, shows her in female form with snakes coiled round her neck, head and hands. But when her pedestal is in the open or under a tree, a twig of the *seej* tree or a pitcher with the painted face of a woman or a pitcher modelled like the face of a woman with snake motifs, serve to represent her. Manasā is much more popular among the so called untouchable castes on the fringe of Brahminical Hinduism than among the upper strata of the Hindu society. On the occasion of the annual Jhāmpān festival of Manasā, in several villages of the areas within the police stations of Ausgram and Memari, those who undergo voluntary physical penance come mostly from such untouchable castes as Dom, Hanri, Bagdi, Kaibartta and Muchi, etc.

Manasā

Old settled villages like Jujhati, Gobindapur, Burwan, Gangpur, Depur, Noada, Kejhua, Ahmadpur, Hasanhati, Baidyapur and Piditali along the old courses of the Damodar, like the Banka, the Behula, the Balluka and the Gangur, are all important seats of Manasā worship in the district.

The annual festival of Manasā, when celebrated with live snakes, is known as Jhāmpān Utsava. In very few places, in the district, now-a-days, the annual festival is held with live snakes. Of the villages where Jhāmpān is still held, Kalsa in Ausgram P.S., Keja in Memari P.S. and a few villages of Kalna P.S. deserve special mention.

Śiva, the creator, is in a static, poised and balanced state; Rudra, the destroyer, is in dynamic flux and Śiva, the preserver, or Neelkanṭha is an ascetic in a mood of calm meditation — these are the three main conceptions of this divinity in the Brahmanical Puranas. The same image of the deity is accepted as embodiment of varying conceptual attributes at different places. Illustrations are the famous Śivas of the district like Radheswar or Arara Pandaveswar of the village of the same name, Billeswar of the village of same name, Pantanjaliswar of Patun, Isaneswar of Kurmun, Kapileswar of Kogram-Ujani, Bhutnāth of Srikhanda, Mānkāreswar of Mankar, Ghosheswar of Katoya.

The cult of Śiva

The annual festival of Śiva observed at the end of the Bengali month of *Chaitra* is held in 21 different places in the district, of which the *Gajan* of Isaneswar Śiva at Kurmun deserves special mention. During the festival, the rules governing pollution by touch and inter-dining between different castes disappear.

The *Śiva-rātrī* or *Śiva-chaturdaśī* festival, held on the 14th night of the new-moon in the Bengali month of *Phālgun* (February-March) is another popular festival of Śiva. It is primarily a women's festival as most of the connected rituals are performed by them. Unmarried women perform rituals to be blessed with husbands like Śiva and married women observe the same rites for having children like Śiva.

Śiva's martial son Kārtik is worshipped in grand manner in the villages and rural towns of Katoya Subdivision. During the annual festival of Kārtik in the Bengali month of *Kārtik* (October-November) huge images of Kārtik are placed on high pedestals with steps called *thaka*. On the steps are placed relief illustrations depicting various contemporary social and political scenes. Mock fights are also held to celebrate the

Kārtik

annual festival of the military general of the gods. The festival comes to an end after the deities are taken round the various localities of the village. The festival is locally known as the *Kārtik Larāi* or Kārtik's battle.

Vishnu

The whole gamut of Vishnu worship in Bengal is coloured by Gauḍiya Vaishṇava Bhakti cult initiated by Srichaitanya and Nityananda. Gauḍiya Vaishṇava Bhakti cult began to spread in the areas now within Bardhamān district right from the life time of Srichaitanya. Uddharan Datta, born in A.D. 1482 in Saptagram in neighbouring Hugli district was a senior contemporary of Srichaitanya. Uddharan Datta was a *dewān* of the local raja of Naihati, three miles to the north of Katoya and resided in the neighbouring village of Uddharanpur. He was the man who initiated the worship of the deified heroes of Gauḍiya Vaishṇava Bhakti cult by installing the images of Nityananda and Chaitanya in Uddharanpur. Uddharan Datta was a follower of Nityananda. He was a Suvarṇabanik by caste. Another senior contemporary of Chaitanya was Narahari Sarkar of Srikhanda. He was born in a Vaidya family in A.D. 1480 or '81. Narahari was the court physician to the sultān of Gauḍa for sometime. He had installed an image of Chaitanya in form of Śrīgaurāṅga in Srikhanda. Krishnadas Kaviraj, the famous biographer of Chaitanya who wrote *Chaitanya-charitāmṛita*, was born in a Vaidya family of the village of Jhamatpur near Katoya in A.D. 1507. He died in A.D. 1583. Gangadhar Bhattacharya, a Brahmin of Rāḍhiya *śrenī*, hailing from the village Chakundi in Katoya police station area, was a senior contemporary of Srichaitanya. He was born in *circa* A.D. 1465. His son was the famous Gauḍiya Vaishṇava saint Srinivas Acharya. Jnanadas, the famous writer of Vaishṇava lyric poems, was born in A.D. 1532 in the village of Kandra in Katoya police station area in a Rāḍhiya Brahmin family. Jnanadas has become deified in his own village, his advent being celebrated annually on the full-moon day of the Bengali month of *Poush*.

Among the important seats of Gauḍiya Vaishṇava Bhakti cult in the district mention should be made of Radhaballabh Mandir of Mankar, established by Kanauji-Brahmin Bhaktalal Gosvami, Sripat Ambua-Kalna and Sripat Srikhanda. The worship of the image of Gauranga-Srichaitanya was first initiated in Sripat Ambua-Kalna and Sripat Srikhanda. Sripat Denur is associated with the names of Chaitanya's initiator Keshavbharati and Chaitanya's biographer Vrindavanadasa. Denur is a village in

Manteswar police station. Sripat Jhamatpur in Katoya police station is similarly associated with the name of Krishnadas Kaviraj, another biographer of Chaitanya. Sripat Kulingram, the place of nativity of Maladhar Basu Gunaraj Khan, the man who before the birth of Chaitanya ushered in an era of Vaishṇava Bhakti-dharma, is also an important centre of Vaishṇavism. Sripat Kantaknagar or Katoya happens to be the place where Chaitanya was initiated into Vaishṇava Bhakti cult. Gaurangabati in Katoya is celebrated as the place where Chaitanya had his initiation. Sripat Bagnapara is a celebrated seat of the Gosvamis of Rāḍha. The Sripat owes its origin to Vamsibadan Gosvami, a Rāḍhiya Brahmin, who is said to have been one of the followers of Chaitanya during his life time.

Ikhtyar-uddin Muhammad Bakhtyar's way to Nadia, from Bihar, lay through Birbhum and Bardhamān districts. The Turko-Afghan conquerors retained their hold over these areas, after the conquest of Gauḍa and before they annexed other areas of the present district of Bardhamān. There are old and often derelict mosques, *dargās*, *khanqas* and *āstānās* of the local Muslim saints in these areas.

Islam

The village of Saspur, about two kilometres to the east of Kalna town, is perhaps the oldest and the most important seat of religious congregation of the Muslims of the district. Three of the older mosques of Saspur are completely in ruins and are no longer in use.

Kalna

Near the mosque, Masjid-i-Jamia, there is a large ancient tank, called *Majlis sahib-ki-dighi*. It is said to have been excavated by an Afghan noble of the court of Gauḍa. This Majlis Sahib is credited with the excavation of another tank near the Mission House in Kalna town. Majlis Sahib, later in his life, became a Pir. His supposed *āstānā* still stands to-day near Masjid-i-Jamia and his descendants are venerated as Pirs. People, irrespective of religious affiliations, go to the *āstānā* and offer terracotta horses to the Pir to get cured of diseases. Every year on the first day of the Bengali month of *Māgh*, corresponding to the 14th or the 15th or the 16th day of January, the Urs, or the annual festival of the Pir, is celebrated. On the occasion of the Urs a fair is held.

The early Muslim warrior-saints, who helped the spread of Islam in the hitherto unconquered territories, became, in course of time, deified martyrs or heroes and became Pirs. Then there

were the Sufi mystics, who by their way of life became objects of veneration during their life times and became Pirs.

Mongalkote

Mongalkote, which from the early days of Turko-Afghan conquest, had been a major area of Hindu-Muslim interaction, in the district, is till to-day an important centre of Bengali folkish form of Islam. Mongalkote is known to be the place of eighteen *āuliās*. *Āuliās* comprise a sect of the Sufi mystics. On the occasion of the annual Urs of Pir Panjatan a fair is held in which Muslims and Hindus alike from afar congregate.

Silampur

There is another Pir, and perhaps the only Pir of some importance in Durgapur Subdivision, in the village of Silampur in Kanksa police station area. Kanksa police station has by far the largest concentration of Muslims in Durgapur Subdivision.

Barddhamān

The spread of Islam in the district, especially among the so-called low Hindu castes, was due mainly to the zeal of the preachers, saints and missionaries of the Sufi sect. The first saint to set his foot on the soil of the district came long before the Turko-Afghan conquest of Bengal. He was one Shah-Khwaja Khijir Rusi. Khwaja Khijir Rusi came and settled somewhere near the present town of Barddhamān in the eighth or the ninth century.

Sher Afghan, the first husband of Mehr-unissa who later became known as Nurjehan as the wife of Emperor Jehangir, and his killer Kutbuddin who was Jehangir's Subahdar of Bengal, lie entombed in the same Alamganj locality of Barddhamān town. Their tombs, however, cannot be considered as places of religious pilgrimage like Khwaja Anwar Sahib's *māzār*. Khwaja Anwar Beḡ was a general of Farrukhsiyar's army, who was killed near Barddhamān town, in one of the battles that raged on the death of Bahadur Shah I, on the question of succession. On becoming Emperor, in A.D. 1715, Farrukhsiyar built a *māzār* on his tomb; and the *māzār*, in course of time, has become a place of pilgrimage.

Sects

As elsewhere in Bengal, an overwhelming majority of the Muslims of the district are Sunnis of the Hanafi sect. Shiah are found in almost all areas of Muslim concentration, but they are a minority everywhere. A majority of Shiah belong to rural propertied classes. The relation between these two major religious groups of Muslims, is not marked by any tension or conflict in Barddhamān district. But the Sunnis usually do not enter into matrimonial alliances with Shiah.

If Shiah and Sunnis represent two horizontal divisions of the Muslim society, Saiyad, Sheikh, Moghal, Pathan, Mallik, Jolahs, etc., represent a ritual divisions, supposedly based on racial origin. Describing the ethnic situation of Barddhamān town, the eighteenth century poet Raygunakar Bharatchandra had spoken about these divisions.

Christianity

The first Christian Missionary to operate in the district was Captain Charles Stewart, an officer of the Company's army. Captain Stewart was, *inter alia*, a functionary of the Church Missionary Society, which had begun working in Bengal through a Corresponding Committee in Calcutta from 1807. Captain Stewart had established in 1816 two schools in two villages of the district, with funds provided by the Calcutta based Corresponding Committee of the Church Missionary Society. As elsewhere in India, Stewart had chosen education as the medium through which to propagate the message of the Gospel. In 1819, the Church Missionary Society had acquired a piece of land in Barddhamān town and built up a complex with a school, an orphanage, a chapel, a mission office and a few residential accommodations. In 1825, Church Missionary Society built up a similar complex in Kalna. But it could not run the Kalna mission with same amount of efficiency and enthusiasm. C.M.S., therefore, had to close down the Kalna Mission within a short time. The work of running the Kalna Mission was, however, taken up by another Protestant Mission called the Free Church of Scotland Mission. In addition to what were already there, the Free Church of Scotland Mission established a hospital and a dispensary. These readily endeared the Mission to the people.

A Mission called the Church of England Zenana Mission Society started functioning from Barddhamān town and Mankar, from some time in the ninth decade of the nineteenth century. Its operation was around the women, especially the working women belonging to the so-called lower Hindu and Muslim castes. But paucity of funds led to the closure of the Mission centre at Barddhamān town. The Mankar establishment, however, kept functioning.

In 1872-73, the Roman Catholic Mission built a cathedral in Asansol. The next year, the Mission established a convent school in the town. In 1878, the Wesleyan Methodist Mission came to Asansol and built a church for the Anglican and Protestant residents, of Anglo-Saxon origin, in the town. In the next three years the Mission had started maintaining three chapels in and

around Asansol town, for the native converts. The Wesleyan Mission is credited with the establishment of a few schools, an orphanage and a home for the lepers in Asansol Subdivision. In 1883, the Catholic Society of Jesuits opened an establishment in Asansol and started a theological seminary, which, however, was discontinued from 1889. After the closure of the seminary, the property was transferred to the Catholic Mission which opened a school styled as St. Patrick's School on the site. About the same time, another Protestant mission, known as Methodist Episcopal Society, also founded its establishment in Asansol town. The Missionaries of this mission began preaching Christianity in right earnest among the so-called low caste Hindus, tribals and other economically backward people.

The European Christian Missionaries of all shades are responsible rightly for the spread of modern western education, extension of medical care and generation of consciousness about hygiene. At the beginning, to most of these missionaries, the services they rendered were designed to convert the beneficiaries to Christianity. Soon, however, they realised that very few of the beneficiaries were ready for such conversion. This realisation did not make them abandon the humanitarian work they were doing.

The European Christian Missionaries, through their sustained work could convert practically no sizeable portion of any ethnic, linguistic, economic or social group of Hindus, Muslims or Adivāsīs to Christianity in Bardhaman district.

Brahmins, Bagdis, Bauris and Sadgopas are numerically the most powerful caste-groups in the district.

Brahmins are the most numerous group in the district. Apart from the fact that residence on the west of the Ganges (Bhagirathi) has always been considered to be of special religious merit, countless Brahmin families have been settled, over the ages, with rent-free lands (*devottar*, *brahmottar*, etc.) and such other grants by affluent persons of land owning and trading communities, rajas, maharajas, etc. to look after the spiritual well-being of the people or to officiate in rituals and temple services, thus accounting for their concentration in this region.

Most of these Brahmins belong to *Rādhīya śrenī*, a nomenclature derived from the old cultural geographical zone called the *Rādha*. The *śrenī* is endogamous but is divided into a number of exogamous *gotras*. Thus the Bandyopadhyayas belong to the *Sāndilya-gotra*, Chattopadhyayas to the *Kāshyapa-gotra*,

Mukhopadhyayas to the *Bharadwāja-gotra* and Gangopadhyayas to *Sābarṇa-gotra*. Apart from these surnames, all other surnames of the *Rādhīya* Brahmins are derived from professional or honorific titles.

Bagdis or Byagra-Kshatriyas form the second largest caste-group in the district. Of the total working force among the Bagdis, 38.42 per cent are agricultural labourers and 28.98 per cent are cultivators, the later category includes the share-croppers having legal rights.

The Bagdis belong to the Scheduled Caste. Caste *pañchāyats* set up on *ad hoc* basis from time to time are found only in big Bagdi hamlets, situated on the outskirts of villages. The verdicts of these *pañchāyats*, presided over by the elderly caste men, have no mandatory significance. In the rural areas where 95.8 per cent of the Bagdis live, decisions of members of upper Hindu castes usually prevail.

Among the working population among the Bauris, 40.15 per cent are engaged as agricultural labourers; 12.79 per cent constitute cultivators, most of them being holders of less than subsistence level holdings have to work as share-croppers and/or agricultural labourers on others' land. There is practically no economic stratification among them. They belong to the Scheduled Caste. Caste *pañchāyats*, set up on *ad hoc* basis, exercise some authority among them in matters relating to the holding of festivals or the settling of inter-family, intra-family and inter-personal disputes. They usually live in closely clustered hamlets on the outskirts of villages or in separate *pārās* in towns.

Sadgopas are quite numerous in Bardhaman district. They are divided into two large endogamous groups, possibly of geographical origin, namely, the Purva-Kuliyas and the Paschim-Kuliyas, according to their residence on the east or the west banks of the Bhagirathi. In Bardhaman district Paschim-Kuliyas predominate and claim a higher status. Sadgopas having the surname of Konar claim to be of superior ritual status on the ground of their descent from the eight chiefs who are said to have ruled over the Gopabhum Pargana.

In rural areas owners of considerable landed property are met with among the Sadgopas. Konars, wherever they are, are land-owners and big farmers. In trade and commerce in agricultural produce the Sadgopas, especially the Konars, have high place. This does not, however, mean that there are no middle sized or small farmers among the Sadgopas. Sadgopas are also found in white

CASTE & TRIBE

Castes :
Brahmin

Bagdi

Bauris

Sadgopa

collar jobs in urban areas. But more often than not, they have landed interests in the rural areas.

Aguri or Ugra-
Kshatriya

A great majority of the Aguris or Ugra-Kshatriyas, comprising about 75 per cent of the Aguris of Bengal, come from Bardhaman district. Whatever be their supposed ritual occupation as "Kshatriyas", a large majority of them are agriculturists and a great many are engaged in trade and commerce, especially in trade and commerce in foodgrains. Aguris, along with Brahmins and Sadgopas, are to be found among the large landowners and *jotedars* in the rural areas of the district. Aguris are also found in white collar jobs in urban areas. But even those Aguris who are in white collar jobs, trade and commerce, have also landed interests in rural areas. While middle sized farmers among the Aguris are frequently met with in the rural areas, small and subsistence farmers are seldom found.

Kayasthas

Kayasthas of the district preponderate in the urban areas and are mostly to be found in the white collar jobs and professions. Unlike the Aguris and Sadgopas, many of the Kayasthas in white collar jobs in urban areas, have no rural attachments or interests. Very few Kayasthas are found in trade and commerce. In rural areas, wherever the Kayasthas are (they are not to be found in almost all villages like the Brahmins, Sadgopas and Aguris), they are big landowners and *jotedars*. Middle sized farmers are also met with among the Kayasthas; but seldom do we get any small or subsistence farmer among them. Wherever they are, in the rural areas, the Kayasthas enjoy positions of leadership in economic, social and political fields, along with the Brahmins, Kshatriyas, Aguris and Sadgopas.

Muchi

According to the Census 1961, the Muchis or Mochis, Ruidases or Rabidases, Chamars or Charmakars together accounted for 2.75 per cent of the then district population. The traditional occupations of the Muchis are shoe-making and shoe-mending. A great majority of Muchis in rural areas are landless agricultural labourers and labourers in mines, quarries, forests, plantations and orchards. Small and subsistence level cultivators are also met with among the Muchis of the rural areas. In urban areas a majority of the working people among the Muchis are wage labourers in manufacturing industries. They belong to the Scheduled Caste.

Namasudra

According to the Census 1961, Namasudras constituted 2.42 per cent of total district population. According to the Census,

33.78 per cent of the working population among the Namasudras of the district was composed of middle sized, small and subsistence level farmers and share-croppers having legal titles, and 24.99 per cent of the working force of landless agricultural labourers. In urban areas many Namasudras are found to be unskilled wage labourers or menials in sundry services. They belong to the Scheduled Caste.

According to the Census 1961, Doms in the district accounted for 1.21 per cent of the district population. Doms of Rādhā have a long history. According to the myths, legends and folk-lore of Rādhā, the Doms used to be the soldiers and mercenaries in the armies of the chiefs, chieftains, feudatories, independent and semi-independent Rajas and zamindars of Rādhā during the medieval times and the early modern period.

Dom

Scavenging, sweeping, making of musical instruments in which hides and skins are required and basketry are the traditional occupations of the Doms. Besides being in these occupations, a sizeable number of Doms of rural areas are landless agricultural labourers; they are also to be found in mining, quarrying, forestry, manufacturing industry, construction, transport industry and sundry services as lowly paid unskilled wage labourers. They belong to the Scheduled Caste.

According to the Census 1961, the Haris of the district accounted for about 0.90 per cent of the district population. Haris are traditionally engaged in basket making and pig rearing. Some of them work as unskilled day labourers and agricultural hands. They belong to the Scheduled Caste.

Hari

According to the Census 1961, the Jāliā Kaibartta caste in the district accounted for 0.77 per cent of the total district population. Of the working population among the Jāliā Kaibarttas of the district, 58.60 per cent were engaged in fishing, their traditional occupation; 31.20 per cent were middle sized and small cultivators and share-croppers and 13.85 per cent were landless agricultural labourers.

Jāliā Kaibartta

Kaibarttas are divided into three sub-castes: Jāliā, Hāliā and Pātnī. While the Jāliās form the demographically largest group, Hāliās are totally absent from the district. Pātnī Kaibarttas are mostly boatmen. The Kaibarttas are a Scheduled Caste.

Māhishyas are an agricultural caste. While many of them are big farmers or *jotedars*, middle sized and small cultivators are

Māhishya

Sunri

also met with among the Māhishyas. Educated members of this caste are now found in white collar jobs in urban areas.

According to the Census 1961, Sunris accounted for 0.58 per cent of the total district population. Although liquor making happens to be their traditional occupation very few of them were engaged in household industries. 47.65 per cent of the working populace among the Sunris of the district were middle sized and small land holding cultivators; 13.33 per cent were engaged as workers in mining, quarrying, forestry, fishery, plantation and orchard and related works. Very few of them were engaged in household industry, manufacturing industry and trade and commerce. They belong to the Scheduled Caste.

Bhuinyā

According to the Census of 1961, the Bhuinyā caste constituted 0.57 per cent of the total district population. About 81.34 per cent of the working population among the Bhuinyās were engaged as unskilled and semi-skilled workers in mines, quarries, plantations, orchards, forests and fisheries. A majority of the rest were landless agricultural labourers; only 3.5 per cent of the Bhuinyā working population owned some agricultural land; that too mostly below subsistence farming level. They belong to the Scheduled Caste.

Dhobā

Dhobās in Barddhamān district in 1961 constituted 0.51 per cent of the then district population. The traditional occupation of the caste is washing and dyeing of clothes. They belong to the Scheduled Caste.

Baidyas or Vaidya

Medicine is the traditional field of occupation of the Vaidyas. But from the medieval times Vaidyas had been in almost all white collar occupations. This does not, however, mean that the Vaidyas do not have any landed interest. The Vaidyas of Srikhanda or Vaidyakhanda near Kātoyā, who did so much for the spread of Gauḍiya Vaiṣṇava Bhakti cult in the fifteenth century, had considerable landed interests. Vaidyas of Srikhanda are still very influential people. Sen-Barats of Alampur in the same subdivision, were, before the abolition of zamindari, owners of considerable estates. Kavirajas or the medicine men belonging to the *Āyurveda* system of medicine of Mankar, have from time immemorial, been enjoying fame and prestige. Wherever they are, the Vaidyas enjoy the status and prestige of leaders in social, economic, cultural and political life. Most often than not they rise to the leadership positions as coalition partners of the Brahmans, Kshatriyas, Kayasthas, Sadgopas or Aguris of the region.

Kshatriyas

The Rajputs or Kshatriyas of the district claim descent from the Punjabi and Rajput mercenaries and regular soldiers of the imperial armies that came from North India in the late medieval times. They are mostly rich landowners with considerable influence in the countryside. Many of them are highly educated and engaged in trade and business and in white collar jobs in urban areas. The most important of the Kshatriya families of the district is the Barddhamān Raj family. Among other old important families mention should be made of the Sinha-Ray family of Chakdighi in the Sadar Subdivision.

Teli

The traditional occupation of the Telis is oil pressing. The economically better off among them are either landed gentry or traders in food-stuff.

Tili

The traditional occupation of the Tilis is trade in oil; but they are now found in trade and commerce in all type of commodities, especially in food-stuff. In rural areas, owners of large landed properties are also met with.

Gandhavanik

Traditionally, Gandhavaniks are traders in spices and this avocation has built the fortune for many of them. But now-a-days, many of them are found in transport, storage and other business. They also carry on large-scale forward trading in agricultural produce.

Tāmbulivaniks

Tāmbulivaniks prepare and sell betel leaf which they buy from the cultivators. This might have been the original occupation of the members of the caste but now they are to be found in trade and commerce in a variety of commodities; some of them are land-holding cultivators; white collar jobs too are not alien to them. Barddhamān had for a long time been an important locale for the Tāmbulivaniks of West Bengal. Infact, in Mankar, Ujaninagar and Champainagar there are Tāmbulivanik families whose antiquity goes back to the medieval times.

Suvarṇavanik

In Ujaninagar, Champainagar and Karjona along the old courses of now derelict rivers, one comes across families of old settled Suvarṇavaniks. Originally traders in gold and gold ornaments, Suvarṇavaniks are now found in all manner of occupation. Most of them are affluent people.

The following table, prepared from the data of Census 1961, gives a picture of the economic situation of the Scheduled Castes in Barddhamān district as obtained in 1961. At the outset it may be mentioned that the Scheduled Castes constituted 24.45 per cent of the total district population, according to the Census of 1961.

More about Scheduled Castes

PARTICIPATION IN DIFFERENT KINDS OF WORK BY THE MEMBERS
OF THE SCHEDULED CASTES

	Persons		Males		Females	
	Urban	Rural	Urban	Rural	Urban	Rural
Population	67,376	6,86,507	37,039	3,54,319	30,337	3,32,188
Worker	23,441	240,144	19,965	194,430	3,476	45,714
Cultivator	579	53,655	549	48,590	30	5,065
Agricultural Labourer	702	79,852	579	65,989	123	13,863
In Mining, Quarrying, Live-stock, Forestry, Fishing, Hunting, Plantations, Orchards and allied activities	3,710	49,420	3,313	40,741	397	8,679
At Household Industry	391	6,933	304	3,742	87	3,191
In Manufacturing other than Household Industry	6,641	10,833	6,150	7,016	491	3,817
In Construction	1,054	2,245	783	1,836	271	409
In Trade & Commerce	2,677	4,288	2,545	3,201	132	1,087
In Transport, Storage and Communications	1,596	2,438	1,547	2,369	49	69
In other Services	6,091	30,480	4,195	20,946	1,896	9,534

According to the Census 1961, the Scheduled Caste population of the district was composed of 7,53,883 persons, constituting 24.45 per cent of the total district population. Of them only 2,63,585 persons, constituting 34.96 per cent of the district Scheduled Caste population, were engaged in gainful work; 80,554 of these persons or 30.56 per cent of the working populace among the members of the Scheduled Castes were landless agricultural labourers; 54,234 persons were cultivators, constituting 20.57 per cent of the Scheduled Caste working population. A majority of these cultivators were holders of small plots of land or were subsistence farmers and share-croppers with records of rights. A minority may have been middle sized farmers. A total of 53,130 persons, constituting 20.15 per cent of the Scheduled Caste working population, were in mining,

quarrying, forestry, fishery, plantation, orchard, etc. and 17,474 persons, constituting 6.62 per cent of the working population, were in manufacturing industries as unskilled, semi-skilled and skilled wage or salaried labourers. 7,324 persons, constituting 2.77 per cent of the Scheduled Caste working population were in household industries. 4,034 persons or 1.53 per cent, were engaged in transport, storage and communications; a majority of them possibly were engaged as unskilled, semi-skilled or skilled wage or salaried labourers. 3,299 persons or 1.25 per cent were engaged in construction, most of them presumably as wage or salaried labourers, rather than as technicians and contractors. A total of 6,965 persons, constituting 2.64 per cent of gainfully employed members of the Scheduled Castes, were engaged in trade and commerce; 85 per cent of them were small traders and petty shop-keepers. A total of 36,571 persons constituting 13.97 per cent of the Scheduled Caste working population, were in sundry services.

The table following prepared from the data of 1961 Census gives a picture of the economic situation of the Scheduled Tribes.

Scheduled
Tribes

TABLE ON THE SCHEDULED TRIBES OF BARDDHAMĀN
DISTRICT : 1961

	Persons		Males		Females	
	Rural	Urban	Rural	Urban	Rural	Urban
Population	1,72,767	7,376	91,004	3,690	81,763	3,686
Workers	91,047	3,449	53,504	2,060	37,543	1,389
As Cultivators	23,100	100	14,187	62	8,913	38
As Agricultural labourers	41,691	214	21,610	52	20,081	162
In Mining, Quarrying, Forestry, Fishing, Live-stock rearing, Hunting, Plantations & Orchards	13,348	798	10,396	526	2,952	272
At Household Industry	1,296	3	531	2	765	1
In Manufacturing other than Household Industry	2,660	912	1,403	577	1,257	335
In Construction	599	428	400	192	199	235
In Trade & Commerce	371	190	317	178	54	12
In Transport, Storage & Communications	464	109	379	104	85	5
In Other Services	7,518	695	4,281	366	3,237	329

People belonging to 16 different Scheduled Tribe groups are found in the district; together they number 1,80,143 persons and account for 5.84 per cent of the total district population, according to the Census 1961. Of this population 1,72,767 persons, or

95.91 per cent of the tribals, were found in the rural areas and only 7,376 persons, or 4.09 per cent of the tribals, were living in the urban areas.

The working force among the tribals comprised 94,496 persons and accounted for 52.45 per cent of the total tribal population. This compared very favourably with the percentage of workers among the Scheduled Caste population of the district. The largest number of them, however, worked as landless agricultural labourers and numbered 41,905, accounting for 44.34 per cent of the working people among the Scheduled Tribes; 23,200 persons belonging to the Scheduled Tribes were cultivators, constituting 24.55 per cent of the working population among the tribals. A total of 14,146 persons were engaged as unskilled, semi-skilled and skilled wage labourers and salaried labourers in mines, quarries, forestry, plantations and orchards; they constituted 14.98 per cent of the working people among the tribals. A total of 3,572 persons or 3.78 per cent of the tribal working force, were employed as unskilled, semi-skilled and skilled labourers in manufacturing (other than household) industries. Only 1,027 persons, constituting 1.08 per cent of the total tribal working force, were employed as wage labourers in construction sites. 8,213 persons were engaged in sundry jobs, constituting 8.69 per cent of total tribal working populace. The rest of tribal working population, constituting only 2.58 per cent of the same, were engaged in household industries, transport, storage and communication, etc.

sāntāls

Santals comprising 1,54,657 persons (78,876 males and 75,781 females), according to the Census 1961, accounted for 85.85 per cent of the total population of the Scheduled Tribes in Barddhamān district, and formed 5.01 per cent of the total district population. Of the total working population among Santals (comprising 80,213 persons and constituting 51.86 per cent of total Santal population), 35,780 persons were, in 1961, found to be landless agricultural labourers and they constituted 44.60 per cent of Santal working population. Cultivators and share-croppers with legal rights numbered 21,321 persons and accounted for 26.68 per cent of the Santal working population. Unskilled, semi-skilled and skilled wage and salaried labourers in mines, quarries, forestry, fishery, plantation and orchards numbered 11,163 persons and accounted for 13.91 per cent of the total Santal working population, 2,067 persons were employed in manufacturing industry as unskilled, semi-skilled and skilled

wage or salaried labourers and accounted for 2.57 per cent of total Santal working population.

Altogether 489 persons constituting only 0.60 per cent of total Santal working population were engaged in trade and commerce; they too were not big traders and most of them were only petty shop-keepers, etc.

The Santals seldom have any sizeable surplus of income to invest in education. Education, is a major input in any endeavour to enhance income. In absence of this crucial input, the Santals have generally remained in poverty. This poverty has kept the Santal society in an egalitarian state. There is very little economic stratification in the Santal society. This has helped the Santals to maintain their tribal unity and identity.

Santals never call themselves 'Santals'; they prefer to be known as Khervar or Kharwar, meaning 'man'. They also use the term Manjhi to describe themselves before an outsider.

The Sāntāls are divided into a number of exogamous clans called *Paris* in Santali language. Different authorities have given different numbers of these clans and explanations about their origins and functions. The consensus of opinion, is, however, in favour of identifying twelve clans namely, (1) Hansda, (2) Murmu, (3) Kisku, (4) Hembram, (5) Marandi, (6) Saren, (7) Choden, (8) Tudu, (9) Besra, (10) Baske, (11) Pauria and (12) Bedea. Except the Murmus, who are a priestly group of people, no occupational specialization characterizes these clans which are, in all probability, totemistic groups, each having a totem or an ancestral symbol. The bond between the members of the same clan is one of kinship, or as the Santals call it, *Jatia-pera* (i.e. friends of the same blood), as distinguished from *Bondhu-pera* (bond between different clans).

The Santal family is essentially patrilineal, with sons inheriting the surnames of their fathers' clans and married women adopting the surnames of their husbands' clans. It is also a patrilocal unit, as sons live in the households of their fathers and after their marriage the women go to live in the paternal residences of their husbands.

Previously, when a Santal village used to get over-crowded, some villagers under the leadership of an old villager used to move out of the place to a jungle, clear away a portion of the jungle, settle down there, after parcelling out the land among themselves into *reks*. Having thus cleared the forest and parcelling out the land into *reks* they would send their headman to the

zamindar or the title holder of the land to settle the rent for the whole area and thereafter would continue paying the rent as a villager through the headman. Apart from the headman, designated as Mānjhi, a full fledged Santal village of the past would have a Paranik, or an assistant to Mānjhi, a Jog-Mānjhi or the master or ceremonies like wedding, dance meet, etc. The Jog-Mānjhi was also the moral censor of the village. He used to be assisted in his work by a Jog-Paranik. The village priest was called the Naeke and he used to be assisted by the Kudam Naeke. The Kudam Naeke used to act as the sorcerer and the witch-doctor as well. The village messenger or the peon was called the Godet or the Kotāl. These primitive bureaucrats used to receive small rent-free lands for the services they rendered. Now, this type of Santal village, in which the whole village functions as a community and deals with the outside world through the Manjhi only in all such dealings, is rare in the district. Santals now live in the proximity of villages where Hindu peasants live or in the proximity of industrial towns and commercial centres; they often live in hamlets adjacent to big cosmopolitan villages. As day labourers, share-croppers, buyers, sellers, creditors, debtors, they have to communicate individually with non-Santals. All these have led to the break-up of the Santal 'communal system'. Functions of the many of the traditional Santal village officials have become redundant.

Intra-tribal, inter-family, inter-personal disputes and divergence of opinion regarding holding of festivals, migration, etc. are still decided by the Manjhi, always in consultation with Mode Hor (or five men), or the conventional Santal *panchāyat*. Even after the setting up of *panchāyats* in the shape of *gram-sabhas* and *anchal panchāyats*, the authority of the Manjhi and of the Mode Hor in Sāntāl intra-tribal affairs have not declined.

According to Census 1961, Koras formed the second largest community of the tribals of the district. Koras numbered 11,919 persons (comprising 7,014 males and 4,905 females) and constituted 0.38 per cent of the total district population and 6.62 per cent of the total Scheduled Tribe population of the district. 5,960 persons among them, or 50 per cent of the total Kora population, were found, in 1961, to be gainfully employed. Of those who were gainfully employed, 2,015 persons, or 33.81 per cent, were agricultural labourers; 1,751 persons, constituting 29.38 per cent of the Kora working population, were semi-skilled and unskilled workers in mines, quarries, plantations or

Korā

were engaged in hunting, fishing, etc. 1,271 persons, constituting 21.32 per cent of Kora working population, were either share-croppers or had subsistence plots of land to cultivate. 547 persons, or 9.17 per cent, were engaged in sundry services, mostly as menials. The traditional occupation of the Koras is earth moving. The Koras, who are still engaged in earth moving, seldom live in one place; they move along in groups with their nuclear or primary families intact, digging wells and tanks, making roads or doing other work on wages.

According to the Census 1961, Orāons numbered 5,699 persons and accounted for only 0.18 per cent of the total district population and 3.16 per cent of the total tribal population of the district. A majority of them are seasonal migrants from Manbhum and Ranchi districts of Bihar. It seems, the Orāons come into the district in search of seasonal work, leaving behind their women and children in Ranchi and Manbhum and go back after the work season is over. The very high rate of participation in gainful work among the Oraon population corroborates the assumption. In 1961 Census, it was found that 4,624 persons, or 81.12 per cent of the Orāons, were engaged in gainful work. A large majority of them, comprising 3,276 persons, constituting 70.84 per cent of Orāon working population, were found to be landless agricultural labourers. 760 persons, constituting 16.43 per cent of Orāon working population, were engaged as unskilled wage labourers in manufacturing industries.

Orāon

According to the Census 1961, there were altogether 2,981 persons in the district who were ethnically Mundās and they accounted for only 0.09 per cent of the then district population and 1.65 per cent of the Scheduled Tribe population of the district. The Mundā population of the district is composed mainly of immigrant settlers, rather than of seasonal immigrants. Rate of participation in gainful work, male-female ratio and relative preponderance of cultivators over agricultural labourers seems to corroborate the settled character of the Mundās of the district.

Mundā

A total of 1,381 persons, constituting only 46.32 per cent of the total Mundā population, were found to be gainfully employed. A majority of them, comprising 489 persons, constituting 35.40 per cent of the Mundā working population, were engaged in mines, quarries, forests, fisheries, plantations and orchards; 324 persons, constituting 23.46 per cent of the Mundā working population, were engaged in manufacturing industries

as unskilled, or at best, semi-skilled wage labourers; 236 persons, constituting 17.08 per cent of the Mundā working force, were either share-croppers or cultivators with subsistence holdings. Only 155 persons, constituting 11.22 per cent of the Mundā working force, were landless agricultural labourers.

In 1961, Bhumijis in the district numbered 1,232 persons (823 males and 409 females), Mahals numbered 1,100 persons (415 males and 685 females) and Maipahariyas numbered 640 persons (461 males and 179 females). Besides them, there were sprinkling of Lodhas and Mrus, mostly temporary migrants.

Property,
inheritance and
family structure

The *Dāyabhāga* system of inheritance obtains among the Bengali Hindus proper. The introduction of the Hindu Succession Act does not appear to have brought any significant change in the situation. The act confers rights on daughters to share paternal property equally with brothers but these beneficiaries seldom lay a claim to the ancestral property even now, as it is a long standing convention with the higher castes and affluent classes to look after a widowed daughter or sister when she is obliged to leave her husband's family. The undivided Hindu joint family, now found only among those who have considerable landed property and real estate, is usually composed of several elementary families having collateral kinship ties on the paternal line. Each son inherits an equal share in his father's portion of the property and remains a partner of the property as long as it remains joint. There is no bar to the acquisition of individual property out of one's individual income. The classical type of undivided Hindu joint family is the one in which all the members shared one household having one common kitchen. This type is fast disappearing and only vestiges of it are to be found. The more common type of joint family found in the district is the one in which the source of income, namely lands, business interests, etc., remain under joint ownership, but there are separate kitchens for each of the comprising primary families. It is often found that elementary families, sharing the same paternal house or living in different households on the same home-stead land have separate kitchens.

The Kshatriyas of the district follow the *Mitākshara* system of inheritance.

Among the first and second generation immigrants to the district, in white collar jobs, elementary families are the rule. Sometimes such elementary families are found to be extended to include married sons and/or old and infirm parents and/or

widowed sisters and/or unmarried brothers and/or sisters. Among white collar workers among the settled population in urban areas, as well as among the small industrialists and businessmen in urban areas, aforementioned types of extended families obtain. Agricultural labourers, share-croppers, small-plot holding cultivators, artisans in household industries, skilled, unskilled and semi-skilled labourers usually live in elementary families.

Although the joint family system is no longer quantitatively the most significant type of family structure, the kinship ties and kinship relations among the Hindus and Muslims still remain very strong and such relations include several lineages. Among the tribals, however, as also among some of the *Antyaja a-jalchal* castes, clanship relations are much more important than kinship relations.

Among the Santals, the Koras and the Bhumijis, the eldest son gets a bigger share in the paternal property from which the women are totally debarred. In certain cases, however, the women are entitled to inherit a cow, or a goat, or some family jewellery and clothings.

Most of the Muslims, living on agriculture, have extended families with first and/or second generation kinship ties on the paternal side. Those engaged in business and white collar jobs are equally divided between extended and elementary household groups; but artisans, more often than not, are found to prefer elementary families.

A sample survey, comprising 20 per cent of the households in the district, carried out during the Census of 1961, throws interesting light on the composition of households in relation to mode of income and landholding of the family. It is as follows:

SAMPLE (20% OF TOTAL) HOUSEHOLD BY (a) AVERAGE NUMBER OF MEMBERS AND (b) OCCUPATIONS, IN RURAL & URBAN AREAS OF BARDDHAMĀN DISTRICT, PER CENSUS 1961

Nature of Households (location & field of occupation)	Total number of Households	Total number of persons	Average size of Households (persons per family)
TOTAL	1,15,054	5,97,635	5.19
RURAL :			
(a) Households engaged neither in cultivation nor in household industry	93,768	4,92,651	5.25
(b) Households engaged in household industry only	46,844	1,97,360	4.21
c) Households engaged in cultivation only	45,135	2,86,950	6.35

SIZE OF HOLDING GROUP :

Less than 1 acre	3,980	17,981	4.50
1.0—2.4 acres	12,204	62,968	5.15
2.5—4.9 "	12,098	72,568	5.99
5.0—7.4 "	7,904	55,501	7.02
7.5—9.9 "	3,170	25,406	8.01
10.0—12.4 "	2,256	20,211	8.95
12.5—14.9 "	905	8,391	9.27
15.0—29.9 "	1,814	18,822	10.37
30.0—49.9 "	170	1,806	10.62
50.0 + "	27	203	7.51
Unspecified	606	3,093	5.10
URBAN	21,286	1,04,984	4.92

MATERIAL CULTURE

Dwelling houses

The average household in the district comprises 5.19 members, the same in the rural areas comprises 5.25 persons and that in the urban areas comprises 4.92 persons. From the size of the household it can be surmised that the elementary family with some tendency towards extension is the average family everywhere; and that the size and structure of the family is a resultant of the size and source of income upto a point. As the size of the income from land grows the family comes to comprise more people than one can have in an elementary family. But families, with very large income from land with enough surplus, prefer that the income from land should be divided between the elementary families comprising the joint family; and in such cases the size of the household gets small. A sample survey of 20 per cent of the total number of houses in the district was carried out during the 1961 Census. The result of the survey throws some light on the housing condition of the people. The first of the table, incorporating some data from the survey, is on the

DISTRIBUTION OF HOUSES USED WHOLLY OR PARTLY AS DWELLINGS VIS-A-VIS THEIR TENURE STATUS, IN BARDDHAMĀN DISTRICT, PER CENSUS 1961*

Total	Tenure status	No. of houses	Houses used as dwellings	Houses used as shops-cum-dwellings	Houses used as work-shops-cum-dwellings	Dwelling houses with other uses
Rural	Total	1,18,315	1,15,692	1,580	266	777
Urban	Owned	91,078	89,949	645	151	333
	Rented	27,237	25,743	935	115	444
Rural	Total	96,503	95,110	874	162	357
	Owned	83,202	82,363	460	118	261
	Rented	13,301	12,747	414	44	96
Urban	Total	21,812	20,582	706	104	420
	Owned	7,816	7,586	185	33	72
	Rented	13,996	12,996	521	71	348

* See Appendix D, for the situation in 1971.

tenure status of sample (20% of the total) houses, used wholly or partly as dwellings.

The next table, based on the same survey, gives an idea about room-man ratio in the district, in 1961, insofar as the houses used wholly as dwellings or partly as dwellings are concerned.

ROOM-MAN RATIO IN BARDDHAMĀN DISTRICT, PER CENSUS 1961

	Total	Rural	Urban
Total number of households	1,18,315	96,503	21,812
Total number of members	6,23,906	5,12,845	1,11,061
males	3,37,096	2,72,026	65,070
females	2,86,810	2,40,819	45,991
Total number of rooms	2,02,254	1,62,947	39,307
Household with no regular rooms	93	93	—
Number of households	535	535	—
Number of members	259	259	—
males	276	276	—
females	—	—	—
Household with 1 room	70,217	58,229	11,988
Number of household	2,95,158	2,49,668	45,490
Number of members	1,60,593	1,33,297	27,296
males	1,34,565	1,16,371	18,194
females	—	—	—
Households with 2 rooms	29,254	23,180	6,074
Number of households	1,67,641	1,34,106	33,535
Number of members	88,440	69,268	19,172
males	79,201	64,838	14,363
females	—	—	—
Households with 3 rooms	9,414	7,490	1,924
Number of households	68,304	54,846	13,458
Number of members	36,141	28,589	7,552
males	32,163	26,257	5,906
females	—	—	—
Households with 4 rooms	5,659	4,764	895
Number of households	50,291	42,963	7,328
Number of members	28,248	24,058	4,190
males	22,043	18,905	3,138
females	—	—	—
Household with 5 or more rooms	3,678	2,747	931
Number of households	41,977	30,727	11,250
Number of members	23,415	16,555	6,860
males	18,562	14,172	4,390
females	—	—	—

An overwhelming majority of dwelling houses in the district have walls made of mud.* This is especially the case insofar as the houses in the rural areas of the district are concerned. In urban areas, however, houses having brick-built walls out-

Housing materials

* See Appendix E.

number the houses with walls of clay and wattle-and-daubs of mud. Yet, mud happens to be second most used material for the construction of walls in urban areas as well.

Less than a quarter of all dwelling houses in the district have walls made of burnt bricks. In the urban areas such houses predominate. As the houses with mud-walls in urban areas are indicative of the poverty of their dwellers, the houses with brick-walls in rural areas are indicative of the affluence of their dwellers.

Around five per cent of the dwelling houses have walls made of grass, reed, leaves, bamboo or hay-wattle. More than ninety per cent of such houses are located in rural areas. In urban areas such dwellings are a rarity. Whether in rural or in urban areas, the poor unskilled workers with no fixed occupations, vagrants and beggars, live in such dwellings.

There are very few houses in the district having walls made of cement concrete and fewer still having walls made of stones. Most of such houses are located in older urban areas and belong to the wealthy.

All over the district vegetative materials, like hay, *sāl*-leaves, reeds, bamboo, and reed-wattle, are extensively used for roofing purposes.* In fact, roofs made of such simple materials outnumber all other roofing materials taken together. Nearly ninety per cent of the roofs of houses in the rural areas are made of vegetative materials. In urban areas, however, only about one sixth of dwelling houses have roofs made of organic substance.

Corrugated iron sheets are next most used roofing material. Corrugated iron sheets are three times more frequently used as roofing materials in rural areas than in the urban areas. In the urban areas the use of brick-lime-and-mortar, cement-concrete, terracotta tiles, shingles and slates and vegetative materials, in that order, are much more frequent than the use of C.I. sheets.

A little less than 10 per cent of dwelling houses in the district use terracotta tiles and shingles as roofing materials. Two-third of the houses having roofs of terracotta tiles or shingles are located in urban areas and one-third in the rural.

Though the use of cement concrete as roofing material is not very old, yet there are more houses in the district having roofs made of cement-concrete than those having roofs made of brick-mortar-and-lime. Distribution of buildings having concrete as

* See Appendix E.

roofing material, as between the rural and urban areas, shows near parity.

Asbestos cement sheets do not appear to be very popular roofing material for dwelling houses. Only about 1.5 per cent of houses of the district have such roofs. About 85 per cent of houses with asbestos roofs are situated in the rural areas. Very few dwelling houses in the urban areas use asbestos cement sheets as roofing materials.

Ground plans of houses, almost irrespective of their locale and building materials, are rectangular in shape with minimum of backward and forward projections. Irrespective of locale and materials used, the houses of the affluent people used to have a central courtyard with rooms arranged in linear order along the four arms of the courtyard. The rooms used to open on a gallery-like verandah running along in between the row of the rooms and the arms of the courtyard. Things began to change with the construction of residential quarters for their officers by industrial and mining concerns in Asansol and Durgapur Sub-divisions from the forties of the present century. Ground plans and elevations of houses constructed with brick and cement, at least in urban areas, began to change.

Mud houses in rural and urban areas are still made the way they had always been made. A majority of mud-walled houses have roofs made of straw. With bamboo and straw as the chief ingredients of the thatch cover, a particular form of hut has, from long use, come to stay in this part of Rādhā country. Usually, two or four thatches with convexilinear tops, drooping corner joints and curvilinear lower edges, constructed with hay spread over bamboo frames are joined together at top to make these structures. When only two thatches are used, the structure is called a *do-chālā*; with four it becomes a *chār-chālā*. When a *chār-chālā* is vertically repeated, on a slightly smaller scale, to cover a second storey, the structure becomes an *āt-chālā*. A *bāra-chālā*, three storied mud house, is rather rare. This mode of roof construction has so influenced the local style that even C.I. sheets are made to conform to this general structure.

Houses in Bardhaman villages are grouped together, according to caste-rank groupings and occupation groupings. The central part of the villages with proximity to the sources of water, are found to be occupied by Brahmans, Kayasthas, Vaidyas, Kshatriyas, Agiris and Sadgopas. Wealthy Muslims live in

House type :
Ground plans

Elevations

Village layout

separate localities, not very far from the central part of the villages and sources of water. Poorer people live in segregated localities, away from the central parts and the sources of clean water.

Sāntāl villages, or better hamlets, are mostly of a linear type with houses facing each other along a road or along pathways branching off from the main road. Most of the big villages of the district are, layout-wise, amorphous agglomerates. Linear type settlements are found along the courses of old rivers.

Urban slums

A noticeable feature of the industrial towns and cities in Asansol and Durgapur Subdivisions is the bustees or slums. These slums are usually composed of single-room or double-roomed one-storied tenements closely clustered together. Walls of the slum hutments are usually made of wattle-and-clay-daub and roofs are made either of terracotta tiles, shingles or of worn-out old C.I. sheets. People use narrow pathways to get into and come out of the slum tenements. The dwellers of several such tenements usually use common unhygienic latrines and sources of water. Often these tenements have no separate kitchens. The slums are usually owned by wealthy people, who themselves live in comfortable houses. They let these out to rent-farmers called *thikādārs*, who in their turn hire them out to actual dwellers. According to a survey conducted in 1972 by the Asansol Planning Organization of Government of West Bengal, in the urban areas of Asansol and Durgapur Subdivisions there are 1,05,242 slum dwellers, constituting approximately 16 per cent of the total urban population of these two Subdivisions. According to this survey, there is only 1 kitchen per 8 rooms or roughly per 6 families, consisting of five members each; there is only 1 balcony to 2 rooms; 81 per cent of the dwellers have no bathing space; 39 per cent of the slum dwellers use common latrines and 76 per cent of the rooms have no electricity. Supply of clean drinking water is the greatest problem faced by all slum dwellers. Slum dwellers are mostly unskilled and semi-skilled labourers of small and medium sized manufacturing industries, mining companies, trading companies, transport companies and unemployed people and their dependents. Large and well-organized industries and mines have residential quarters for their salaried menials and skilled and semi-skilled labourers.

Dress:
Male dress

The principal item of traditional dress worn by Bengali Hindu males engaged in non-manual work, is a *dhoti*; it is fastened round the waist with a pleated formation in the front called the

koñchā and another at the back, separating the legs, called the *kāchhā*. No under garment used to be worn previously under a *dhoti* but town-bred youngmen now usually wear a sewn short pant underneath. The *chāddar*, another piece of unsewn cloth of smaller width, once regarded as the only proper garment for covering the upper part of the male body, has largely lost its use, except in winter when it provides additional warmth. The English style shirt has been adopted by the males of all classes of people now. Many of the educated and well-to-do people of urban areas prefer the *pānjābi*, with the *dhoti*, as an upper garment. The *pānjābi* is a loosely sewn shirt, without collars, of long proportions. The *fatuā*, an under garment for the upper part of the male body, is being increasingly replaced by hosiery vests. More and more people of the urban areas, pursuing their studies in schools and colleges or working as skilled workers in industries or working as salaried white collar workers are now-a-days taking to western style tailored trousers and shirts. To them *dhoti* and *pānjābi* are becoming ceremonial dresses for traditional festive occasions.

In the rural areas, for the males, it is normally not customary to wear anything on the upper part of the body except in winter. The poorer people of the rural, and urban areas too, wear very short pieces of coarse cloth which are an apology for *dhotis*. They usually go barebodied but carry a *gāmchhā* or an all-purpose thin towel tied to their waists or slung from their shoulders which, when occasion demands, also serves as an upper garment.

Muslim males of Bardhaman, irrespective of social standing, use coloured *lungis* which are single-piece cloths with vertical ends sewn up, to cover the lower parts of the bodies. Most of them wear white *pyjāmās* on ceremonial occasions. Muslims invariably wear caps, usually white cotton cloth caps, during prayers. As regards the upper garments, the practice followed by the Muslims hardly differ from those followed by the Hindus of corresponding income and status.

The bulk of the rural folks go bare-footed. The well-to-do classes in rural areas are gradually taking to the use of foot-wear. In the urban areas, excepting the very poor, everybody uses foot-wear.

Irrespective of class, caste and status, a Bengali Hindu woman's dress formerly used to be the unsewn piece of cloth called the *sādi*, which draped both the upper and the lower parts

Female dress

of her body. The measurements (lengthwise and breadthwise), design and the texture varies with the social and economic status of the wearer. Married and unmarried Hindu, Muslim and *Adivasi* women usually prefer coloured *sādis* with wide borders. Widows belonging to the upper Hindu castes wear white *sādis* without borders, called *thāns*, according to convention. Although the Muslim and the *Adivasi* widow is under no such compulsion, the elderly among them show a preference for white *thāns*. The *chāddar*, once used to serve as an upper garment, as well for covering the head, is used only by the elderly women now-a-days. Formerly, Bengali Hindu and Muslim women did not wear any under garment. The educated females of well-to-do classes of urban areas first began to use the chemise as the all-covering under garment from the early twenties of this century. Then they began to wear blouses to cover the upper parts in addition to the chemise. During the Second World War, the chemise was replaced by a petticoat for the lower part, which necessitated compulsory wearing of blouses. The use of petticoat and blouse proliferated. Only those who could not afford went without them. Then came brassiers as under garment for the upper half of the body. Use of frocks and panties as dresses for young girls have also proliferated widely since the Second World War. Poor Muslim women who have to work outdoors do not observe any *purdah*. But all other Muslim women observe *purdah* and when they go out they usually wear a *borquā* over their dress.

Married Bengali Hindu women put on vermilion marks on the parting of their hair and wear one conch-shell (*sāṅkhā*) and one iron bangle on their wrists. The tribal married women are increasingly adopting the custom of putting vermilion (*sindur*) on the parting of their hair. Married Muslim women follow no such custom. Muslim women generally prefer glass bangles, while the Hindu women definitely show a preference for metal bangles.

Marriages amongst both Hindus and Muslims are generally monogamous. Divorces are rare although there are some instances in the urban areas. People generally marry within their caste. Prostitution is rare.

The table in Appendix A gives the age-groupwise distribution of the population and the marital status of each age-group.

APPENDIX A

AGE AND MARITAL STATUS : CENSUS 1961

Age Group	Total/ Rural/ Urban	Total Number of		Never Married		Married		Widower/Widow		Divorced/Separated	
		Males	Females	Males to female to population	Females to male to population	Males to female to population	Females to male to population	Males to female to population	Females to male to population	Males to female to population	Females to male to population
All ages	Total	16,58,976	14,23,870	53.35	43.44	43.58	43.52	2.79	12.58	0.27	0.44
	Rural	13,28,665	11,93,103	52.55	42.90	44.22	43.15	2.92	13.46	0.31	0.49
	Urban	3,30,311	2,30,767	56.54	46.27	41.04	45.45	2.27	8.01	0.12	0.21
0-9 Years	Rural	3,84,071	3,95,177	100	100	...	...	...	...	...	...
	Urban	75,434	69,818	100	100	...	...	...	...	...	...
10-14 Years	Rural	1,34,038	1,09,372	97.63	80.89	2.33	18.69	0.02	0.27	0.06	0.14
	Urban	33,645	26,127	99.18	92.54	0.75	7.38	...	0.03	...	0.03
15-19 years	Rural	1,00,281	1,00,811	87.08	19.44	12.62	78.69	0.21	0.99	0.09	0.85
	Urban	27,791	21,188	92.37	40.17	7.34	59.22	0.23	0.43	0.01	0.17
20-29 Years	Rural	2,39,554	2,11,951	32.81	2.96	66.06	92.17	0.69	3.86	0.44	1.01
	Urban	77,112	46,673	57.01	7.47	42.35	90.27	0.52	1.84	0.09	0.37
30-44 Years	Rural	2,71,268	1,98,573	5.22	0.74	91.59	80.24	2.67	18.21	0.52	0.80
	Urban	75,862	39,520	9.55	1.74	87.89	86.99	2.32	10.73	0.21	0.40
45-59 Years	Rural	1,39,957	1,12,305	1.76	0.58	87.63	44.67	9.88	54.08	0.73	0.67
	Urban	30,870	17,234	2.24	0.35	88.34	63.25	8.96	35.91	0.41	0.36
60-70 + Years	Rural	59,365	64,737	1.18	0.16	71.25	15.58	26.67	83.81	0.90	0.45
	Urban	9,593	10,206	4.02	0.27	69.39	29.46	25.99	69.54	0.34	0.56

APPENDIX B

AREA & POPULATION OF TOWNS IN SOME SIGNIFICANT YEARS
RATIO FOR 1961 :

Name of the towns	Main functional category	Population 1901	Population 1921	% variation per year 1901-21	Population 1931	% variation per year 1921-31
1	2	3	4	5	6	7
Barddhaman (M)	TII&I: Service	35,022	34,616	-0.05	39,618	+1.45
Memari (NM)	TI: Small Trade	—	—	—	—	Rural
Guskara (N-)	TII: Small Trade	—	—	—	—	—
Kalna (M)	TII: Service	8,121	8,425	+0.19	9,567	+1.35
Katoya (M)	TII: Service	7,220	6,823	-0.49	7,772	+1.39
Dainhat (M)	TI: Trade & Craft	5,618	4,843	-0.69	4,845	Static
Chittaranjan (NA)	S: Engg. Industry	—	—	—	—	Rural
Barakar (NM)	P&S: Mining Industry	—	—	—	—	Rural
Dishergarh (NM)	-do-	—	—	—	—	Rural
Kulti (NM)	S: Heavy Industry	—	—	—	11,574	—
Niamatpur (NM)	TI: Trade & Communication	—	—	—	—	Rural
Asansol (M)	TII: Service	14,906	26,499	+3.89	31,286	+1.81
Burnpur (including Steel Plant Township & outer Burnpur)	S: Heavy Industry & Engg. Industry	—	—	—	5,740	—
Jamuria (NM)	P: Mining	—	—	—	—	—
Raniganj (M)	P: Mining	15,841	14,536	-0.41	16,373	+1.26
Ondal (Rly. Town)	TI: Transport	—	—	—	3,110	—
Ukhra (NM)	P: Mining	—	—	—	—	—
Durgapur (including Steel Plant Area, Coke-Oven Plant Area, Durgapur Projects Ltd.) Township, etc.)	S: Heavy & Engg. Industry	—	—	—	—	—

Note : P : Primary Sector, comprising agriculture, mining, etc. S: Secondary communication, trade & commerce, TII: Tertiary II Sector, pertains to NM : Non-Municipal towns or towns for Census purposes. NA: Town under

WITH AVERAGE YEARLY PERCENTAGE VARIATION AND SEX-
BARDDHAMAN DISTRICT

Population 1951	% variation per year 1931-51	Population 1961	% variation per year 1951-61	Population 1971	% variation per year 1961-71	Females per 1000 of population 1961	Density of population in 1961 per sq.km.	Area in sq. km. 1961
8	9	10	11	12	13	14	15	16
75,376	+4.51	1,08,224	+4.62	1,44,970	+3.39	789	4,776	22.66
5,005	—	8,386	+6.75	—	—	764	1,384	6.06
—	Rural	7,017	—	—	—	754	1,441	4.87*
17,324	+4.11	22,603	+3.04	28,711	+2.70	931	4,363	5.18
15,533	+4.99	20,621	+3.27	28,822	+3.97	858	3,981	5.18
8,149	+3.41	10,519	+2.91	—	—	992	1,015	10.36
16,162	—	28,957	+7.92	40,749	+4.07	753	1,712	16.91
10,440	—	14,174	+3.58	—	—	718	4,375	3.24
7,842	—	9,437	+2.03	—	—	801	1,962	4.81
31,363	+8.66	34,280	+0.93	—	—	748	4,339	7.90
11,756	—	12,630	+0.74	—	—	817	1,958	6.45
76,277	+7.19	1,03,405	+3.55	1,57,388	+5.22	664	9,905	10.44
18,487	+11.10	65,284	+25.31	86,341	+3.23	653	1,678	38.90
—	Rural	17,216	—	—	—	651	2,768	6.22
25,939	+2.92	30,113	+1.61	39,039	+2.96	773	6,287	4.79
4,288	+18.94	18,645	+33.47	21,284	+1.42	656	6,731	2.77
—	Rural	7,871	—	—	—	696	1,074	7.33
—	Rural	41,696	—	2,82,593	+57.77	338	566	73.69

industry, etc. TI : Tertiary I Sector, comprising transport, storage white collar & non-productive services. M : Towns with Municipalities, Notified Authority. Rly. Town : Railway Town : Urban Agglomeration

APPENDIX C

RATE OF GROWTH OF URBAN AND RURAL POPULATION IN SOME SIGNIFICANT YEARS OF BARDDHAMAN DISTRICT.

	Popula- tion 1901	Popula- tion 1921	% variation 1901-21 per year	Popula- tion 1931	% variation 1921-31 per year	Popula- tion 1951	% variation 1931-51 per year	Popula- tion 1961	% variation 1951-61 per year	Popula- tion 1971	% variation 1961-71 per year
District as a whole	15,32,475	14,34,771	-0.32	15,75,699	+0.98	21,91,667	+1.95	30,32,846	+4.05	39,20,395	+2.71
Urban	86,728	95,742	+0.51	1,29,885	+3.56	3,23,941	+7.08	5,61,078	+7.32	8,95,289	+5.96
Rural	14,45,747	13,39,029	-0.37	14,15,814	+0.79	18,67,726	+1.46	25,21,768	+3.50	30,25,106	+1.99

APPENDIX D

HOUSES AND THE USES TO WHICH THEY ARE PUT IN THE RURAL AND URBAN AREAS OF BARDDHAMAN DISTRICT : 1971

	Total	Rural	Urban
Total No. of houses	7,97,430	5,90,565	2,06,865
Houses vacant	48,285	34,355	13,930
Occupied Houses used as :			
Residence	6,76,940	5,10,990	1,65,950
Shops-cum-residence	9,895	6,005	3,890
Workshops-cum-residence including household industry	5,335	4,015	1,320
Hotels, sarais, dharamshalas, tourist homes and inspection houses	1,395	895	500
Shops excluding eating houses	20,455	10,810	9,645
Business houses and Offices	2,935	1,745	1,190
Factories, workshops and worksheds	8,005	4,535	3,470
Restaurants, sweetmeat shops and eating places	2,515	1,555	960
Places of entertainment and community gathering (panchayatghar etc.) excluding places of worship	945	665	280
Places of worship (e.g. Temple, church, mosque, gurdwara etc.)	7,620	6,800	820
Others	13,105	8,195	4,910

APPENDIX E

DISTRIBUTION OF HOUSES BY PREDOMINANT MATERIAL OF WALL AND PREDOMINANT MATERIAL OF ROOF IN THE RURAL AND URBAN AREAS OF BARDDHAMAN DISTRICT : 1971

	Total	Rural	Urban
Total No. of houses	7,97,430	5,90,565	2,06,865
Predominant Material of wall :			
Grass, leaves, reeds or bamboo	20,485	15,885	4,600
Mud	4,71,175	4,38,380	32,795
Unburnt bricks	3,620	1,765	1,855
Wood	1,450	400	1,050
Burnt bricks	2,95,120	1,32,065	1,63,055
C.I. Sheets or other metal sheets	2,860	1,470	1,390
Stone	425	280	145
Cement concrete	2,008	145	1,855
All other materials and materials not stated	295	175	120
Predominant Material of roof :			
Grass, leaves, reeds, thatch, wood, mud, unburnt bricks or bamboo	4,13,185	3,82,615	30,570
Tiles, slate, shingle	79,620	48,730	30,890
Corrugated iron, zinc or other metal sheets	76,640	58,695	17,945
Asbestos cement sheets	24,835	19,890	4,945
Brick and lime	11,900	5,325	6,575
Stone	550	30	520
Concrete R.B.C./R.C.C.	1,90,055	74,850	1,15,205
All other materials and materials not stated	645	430	215

CHAPTER IV

AGRICULTURE AND IRRIGATION

Bardhaman is the only district in this state that is fortunate both in industry and agriculture. On an average about 78 per cent of the total population belongs to the agricultural populace while the non-agricultural sector accounts for the remaining 22 per cent. The number of cultivating families in 1961 was about 3.48 lakhs. In 1971 the number of cultivators and agricultural labourers taken together was 5,99,481.

The eastern, northern, southern and central areas of the district are extensively cultivated but the soil of the western portion being of extreme lateritic type is unfit for cultivation except in the narrow valleys and depressions having rich soil and good moisture. The cultivation in the district has improved since 1953 with the implementation of the irrigation projects undertaken by the Damodar Valley Corporation and the Intensive Agricultural District Programme, commonly known as the Package Programme. Up to 1953 the cultivation was entirely dependent on the monsoon, and irrigation facilities were rather inadequate and more or less primitive. The position has since been changed and an all-round agricultural development has become possible. Though agriculture is largely regulated by rainfall as in the other districts of this state, the developing irrigation system has been very helpful in minimising the effects of the vagaries of nature. After 1953 tillage became almost a certainty in most parts of the district, cropped area varied from year to year under the changing weather conditions and by double cropping. Besides, each year more and more of waste land is being reclaimed for agriculture and other purposes such as roads, buildings, irrigation channels, tanks, hospitals, schools and various other constructions. Uses other than agricultural are also taking up more and more of land every year and availability of land is decreasing. Whatever lands are available are being utilized for various construction purposes. This is why emphasis has been laid mainly on intensive cultivation in recent years. The table¹ following shows land utilization from 1958-59 to 1962-63.

¹District Hand Book on Agricultural Marketing for the District of Bardhaman, Directorate of Agriculture, West Bengal, 1970, p. 21.

LAND UTILIZATION IN BARDDHAMAN DISTRICT (In thousand acres)

	1958-59	1959-60	1960-61	1961-62	1962-63
Total area of the district	1,731.5	1,731.5	1,731.5	1,731.5	1,731.5
Area under forest	36.5	44.9	44.9	44.9	44.9
Area not available for cultivation	340.5	341.1	341.5	341.6	345.5
Other uncultivated land excluding current fallow	105.0	100.0	88.5	89.1	88.5
Current fallow	84.2	75.2	25.8	26.9	29.2
Net area sown	1,165.3	1,170.3	1,230.8	1,229.0	1,223.4
Area sown more than once	70.3	84.3	88.0	82.8	81.0
Total cropped area	1,235.6	1,254.6	1,318.8	1,311.8	1,304.4

It has already been stated that the pressure on land is very high and so each year some waste lands are being reclaimed for agricultural and other purposes. With increasing irrigation schemes, more and more thirsty lands are getting irrigation facilities. On the other hand, owing to rapid industrialization and pressing demand for cultivable land, the area under forest is gradually decreasing and consequently it has produced an adverse effect on agriculture and climate of the district. Taking the district as a whole the area under culturable waste has decreased during the last two decades. In the Settlement Report of 1927-28 the area under cultivable waste was 2,65,913 acres and under uncultivable waste 3,01,995 acres. According to the Ishaque Report of 1944-45, 61,116 acres were current fallow, 1,88,835 acres were cultivable waste and 3,14,426 acres were uncultivable. In the years that followed, more lands were reclaimed, notably in the Jungle Mahals. With increasing pressure on land, cultivable wastes are gradually being used for growing crops. There are, however, hardly any large compact parcels of waste land that can easily be brought under the plough.

There are no lakes in the district, but in the eastern portion, more particularly in the Katoya and Kalna subdivisions small swamps commonly known as *jheels* are in existence where water remains almost throughout the year. The more extensive of such marshes lie on the right bank of the Bhagirathi and have been caused by the oscillations of that river. The smaller internal rivers and streams are very often embanked for purpose of irrigation causing in most cases obstruction to the natural drainage. At present, however, there are no marshes or swamps suitable for recovery for the purpose of cultivation. Sometimes it is also not economical for the farmers to cultivate isolated

plots of waste land. In recent years, attempts were made in feasible cases to reclaim such waste lands for expansion of agriculture. Lands have also been reclaimed for various other constructions in connection with resettlement of displaced persons from East Bengal (Bangladesh), especially in Kālā and Kātoyā Subdivisions. Slow and gradual decrease in forest area has produced an adverse effect on agriculture and climate. The district, especially its western portion is threatened with the growing menace of erosion. A vast area in Kānksā, Āusgrām, Sālānpur and Andāl thanas testifies to this menace. In fact, the entire subdivision of Asānsol is in the grip of erosion. The hot wind coming from the Chhotanāgpur plateau finds easy access into the district owing to the rapid destruction of forests.

IRRIGATION

Irrigation
facilities :
Rivers

The district has several important rivers of which the Bhagirathi, the Damodar and the Ajay deserve special mention. Other minor rivers are the Kunur, the Khari, the Banka, the Barakar, the Brahmani and the Behula. Most of the rivulets and village channels draining respective localities in the rains dry up during the rest of the year. The Bhagirathi which forms the eastern boundary of the district is an old channel of the Ganges, now much silted up and it is only during the rains that small cargo steamers can ply with difficulty up to Katoya. The area on both sides of the stream gets abundant irrigation water and are, therefore, fertile, though not healthy. The Dāmodar runs in a south-easterly direction along the southern boundary of the district and finally turns due south near Jāmālpur to enter the district of Hugli. The Ajay flows in a north-easterly direction up to Mangalkot where it turns north and bends for some length until falling into the Bhagirathi. While the Dāmodar flood usually brings down huge amounts of coarse sand and deposits on fertile lands rendering them infertile, the flood water of the Ajay is rich in silt and benefits agriculture. The river system has been dealt with elaborately in Chapter I and is not repeated here. It may be only added that from the irrigation point of view the existing minor rivers which are tributaries either of the Ajay or the Dāmodar have little to contribute as they are in a decadent state.

Dams and
canals

The district had irrigation facilities from the remote past in the form of tank irrigation as well as inundation irrigation from the rivers and in the latter mode the Dāmodar used to play a

vital part. The flood-spill of the river used to deposit very rich silt on the spill area. The question was, however, to find out some permanent measures to solve the problem of the areas which not being endowed with this natural facilities, depended on the erratic rainfall in most of the years. The Durgapur Barrage Scheme of the Damodar Valley Corporation has greatly solved this problem.

The first artificial waterway, however, is the Eden Canal called after Sir Ashley Eden, an irrigation channel 22 miles (35.40 km) in length. Originally, this canal was constructed as a sanitary measure for flushing the old river beds in the districts of Bardhaman and Hugli with the water of the Damodar and to give a good supply of drinking water. It was first taken as a project in 1871 and its excavation completed in 1881. Irrigation commenced in 1888-89 and the average area irrigated from this canal at one time was about 21,000 acres annually. The channel at present irrigates about 7,770 acres of land. A portion of the canal comes under the Damodar Valley Project. The second artificial waterway is the Damodar Canal, the construction of which was commenced in 1926 and completed in 1933. The canal is 26 miles (40.90 km) in length and with its branches it covers 233 miles (375.10 km) irrigating about 18,100 acres of land. It originates from Randihā near Pānāgarh and is also called Anderson Weir after the name of the then Governor, Sir John Anderson. It was put into operation in 1935 and has since formed a part of the Damodar Valley Project.

The Damodar Valley Project is a joint effort of the Government of India and the State Governments of West Bengal and Bihar. By addition and alteration of some portions of the Damodar and the Eden Canals the Damodar Valley Project irrigates about 6,74,397 acres of land. The Mayurākshi Project which mainly serves the Birbhum district also irrigates about 26,000 acres of land in Ketugram P.S. of the Bardhaman district. Besides, there are about 500 small irrigation projects which irrigate 12,000 acres.

It has already been stated that in order to achieve increased food production, an Intensive Agricultural District Programme, popularly known as Package Programme, has been in operation in the district since 1962-63, the actual date of starting the programme being 12 August 1962. The recent achievements made in the field of agriculture and irrigation are mainly due to this programme. The DVC canal and Mayurākshi Irrigation

system are responsible for supplying irrigation water over a vast tract of arable land, while much attention is being paid for increasing the perennial irrigation potential in areas not covered by the existing irrigation systems. As such, several Small and Minor Irrigation schemes were implemented in the district in recent years.

Small
Irrigation
Scheme

Small Irrigation schemes fall under the broad classification of Minor Irrigation scheme. But the ceiling of expenditure on Small Irrigation schemes has been fixed at Rs. 10,000. Various schemes, namely, shallow wells, surface wells, excavation of irrigation and drainage channels, catchment *bundhs*, sluice gates, etc. are taken up and the beneficiaries are to contribute 50 per cent of the estimated cost of expenditure. The following statement gives an idea of irrigation under the small Irrigation scheme for the period from 1963-64 to 1968-69.¹

SMALL IRRIGATION UNDER DIFFERENT SOURCES OF IRRIGATION IN BARDDHAMAN DISTRICT : 1963-69

Sources of irrigation	No. of schemes completed					
	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69
Canals	31	48	22	28	10	6
Tube-wells	144	169	280	372	281	38
Wells	4	4	5	4	18	2
Tanks	77	118	186	172	137	45
Area benefited (in hectares)	2,149.60	2,880.00	4,100.60	4,158.60	3,680.00	600.00

Minor
Irrigation

Minor Irrigation includes sinking of Deep and Shallow tube-wells, distribution of River Pumping Sets and Lift Irrigation by pumping plants. All these projects under Minor Irrigation covered about 32,000 hectares (80,000 acres) under perennial irrigation in 1967-70. The next table will show the particulars of these schemes under Minor Irrigation for the period from 1965-66 to 1970-71.

The area irrigated by DVC Canal system in the *kharif* season of 1970-71 was 2,69,735.18 acres, while the area irrigated in the *Rabi* season the same year was 18,836.47 acres.²

The irrigation facilities provided by the DVC are supplemented by tanks and Deep tube-wells. The tank irrigation was

¹ A Short Note on the Progress of the Intensive Agricultural District Programme, Burdwan—Department of Agriculture & C.D., West Bengal, 1971, p. 14.
² Source: Executive Engineer, Damodar Canal Division, Bardhaman.

MINOR IRRIGATION IN BARDDHAMAN DISTRICT : 1965-71

Name of Scheme	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Deep Tube-wells						
Number of schemes completed	105	44	24	—	6	13
Expenditure incurred (in lakh rupees)	72.20	57.27	17.65	32.84	3.30	3.42
River Pumping Scheme						
Number of schemes completed	72	19	6	—	16	18
Expenditure incurred (in lakh rupees)	15.88	33.99	18.79	7.19	22.25	6.50
Shallow tube-wells						
Number installed	—	—	—	173	322	2,150
Expenditure incurred (in lakh rupees)	—	—	—	1.33	4.05	21.13
Lift Irrigation by Pumping Sets						
Number of pumps distributed	106	307	475	628	—	1,701
Expenditure incurred (in lakh rupees)	3.25	9.24	14.89	20.46	—	65.35

well-known even in ancient times. The district has many tanks, but for a long time they have been neglected, and are now overgrown with weeds and filled up with silts. Well irrigation was never practised on a large scale as the cultivator had a superstitious dread of irrigating lands with water raised from wells. Terrace cultivation in the undulating tracts in the western part of the district is the outcome of attempts to store rain-water. The slopes are converted into tiers of rice fields often of the smallest size conceivable, which are embanked along their lower edges. The rain-water in its downward course is thus arrested and instead of being allowed to pass down the slope in a torrent, is made to irrigate the fields one after another, each retaining its just share and no more.

Tank irrigation is useful in several ways. When the tanks are at a sufficiently high level, water can be passed on to the surface of the land by gravity. If the water level falls, the water can be raised artificially and passed on to the fields. Besides, the tanks by percolation keep the level of the sub-soil water fairly high. Bardhaman, according to Bentley¹, was supposed at one time to have possessed nearly 50,000 irrigation tanks. Even in 1925 about 4,00,000 acres in the district were reported to be

Tank
Irrigation

¹ Bentley, C. A. — *Malaria and Agricultural in Bengal*. Department of Public Health. Government of Bengal. Calcutta, 1925, p. 179.

irrigated from tanks. At present, however, the major portions of the district in almost all the subdivisions have been benefited by the DVC network and the Mayurakshi Project and, as such, the scope of operation of the Tank Improvement Department has been restricted to a great extent. But it has still its utility for small irrigation schemes as the canals do not serve the entire area of the district. Despite the progress of DVC and the Mayurakshi Project which supply water to a vast area of Sadar, Kalna and Katoya subdivisions, there are still isolated pockets in these areas where the major schemes can give little benefit owing to natural difficulties. Asansol subdivision, again, mainly depends on tanks which are the only source of irrigation in those areas. Prior to Independence (1947) there were altogether 83,820 tanks in the district of which 44,193 were irrigation tanks. The following statement gives the particulars of tanks improved in the district during the various Plan periods.¹

PARTICULARS OF TANK IMPROVEMENT WORK IN THE
BARDDHAMĀN DISTRICT DURING THE VARIOUS PLAN PERIODS

Plan period	No. of tanks improved	Cost involved (in Rs.)	Area improved (in acres)
First Plan	149	6,47,416	7,798.22
Second Plan	22	69,229	864.75
Third Plan	64	2,43,215	1,915.17
Fourth Plan	65	3,25,055.95	1,991.81

The improved tanks are useful in areas suffering from deficient rainfall and also supply water to double cropped areas where canal water is not supplied or supplied once a year.

For a variety of reasons, particularly the absence of irrigation facilities in the areas not served by any river valley project, Deep tube-wells have been thought of as an effective source of irrigation. The table below shows the progress of tube-well irrigation in the district for the five year period from 1965-66 to 1969-70.²

	1965-66	1966-67	1967-68	1968-69	1969-70
No. of completed Deep tube-wells	105	44	24	Nil	6
Area benefited (in hectares)					
Kharif	5100	7500	8000	8000	8000
Rabi	2100	3000	3500	3500	3500

¹ Source: Tank Improvement Officer, Bardhaman.

² Source: Project Executive Officer, IADP, Bardhaman.

Under this arrangement power pumps are used to lift irrigation water on to the adjoining fields. In 1970-71, about 1,701 pumps were distributed amongst cultivators at an estimated expenditure of 65.35 lakh rupees.

The district may be broadly divided into two main sub-tracts, one completely differing from the other in natural characteristics, scenery and population. The eastern portion is a delta consisting of wide plains, green in their seasons and dotted with trees and villages. The western portion consists mostly of rocky and rolling country scattered with coal pits and factories. This area, however, is not altogether barren, especially, at places with alluvial deposits. Owing to difference in geological origin, the soil of the district varies to a great extent from that of the central Bengal. The western portion of this district is rich with the deposition of the washed up silt from the hills of the Santal Parganas, Singbhum, Manbhum and Chhotanagpur plateau. The eastern portion is very rich with the deposition of alluvium of the Bhagirathi, besides the silt left by the Damodar and the Ajay. The soil is partly laterite clay and partly a red coloured coarse grained sand. The area covered with clay is reddish owing to the presence of iron in the region. The highlands are usually poorer than the low-lying tracts between the highlands. The alluvial area generally consists of old alluvium. The soil of Asansol is generally hard lateritic and the topography is undulating. The area requires heavy irrigation to make agriculture worth its name.

The soil of the Sadar, Katoya, and Kalna sub-divisions can be divided into three distinct soil-groups, namely, laterite, red soil and alluvium. The land containing laterite soil is undulating and have many rivulets. These rivulets are dry, except during the rains. Soils are from slightly to very highly eroded and are red. At places, the honeycomb-structured laterite beds have been exposed. Surrounding these are terraced paddy fields, extending down to the bed of the rivulets, the paddy fields present a grey colour on the top and red below. These soils can be observed in the police station of Ausgram.¹ Red soils occur in the police station of Ausgram and in the north and north-western part of Galsi police station. The soils of the alluvial tract may be further divided into two family groups

¹ Final Report of the Work done under the Scheme for Manurial, Varietal and Agronomic Trials to determine the optimum yields of Crop in West Bengal — Directorate of Agriculture, West Bengal, Calcutta, 1956.

River Lift
Irrigation

Agriculture
including
Horticulture

Soil & Crops

Deep
Tube-wells

depending upon the nature of the parent material, i.e. alluvial deposits from which they have been derived. The family names given to these two soil groups are Ganga Alluvium and Vindhya Alluvium. Soils which have originated from the Gangetic alluvium have been given the family name Ganga Alluvium and occur in the police stations of Kātoyā, Purbasthali and Kālnā. Vindhya Alluvium presents a soil which has been formed from the alluvium brought down by the rivers, originating in Chhotanagpur plateau, a physiographic continuity of the Vindhya range of hills. They occur in the police stations of Ketugram, Mangalkot, Manteswar, Memari, Raina, Khandaghosh, Jamalpur, Barddhamān Sadar, Bhatar and parts of Galsi and Ausgram.¹

Soils of both the Ganga and the Vindhya families may be further subdivided into a number of soil associations, depending upon their mode of formation, morphology indicating similar profile characteristics and geography. According to a survey report these soil associations have been referred to as Damodar Riverine lands, Damodar Flat lands, Damodar Uplands and Damodar Flat land over buried under laterite of Vindhya Family while Ganga Riverine and Ganga Flat lands are grouped under Ganga Family. The soil association in respect of Damodar Riverine lands having different soil types, are characterised by profiles, having layers with occasional bands of sand. The sand is coarse and of yellowish brown colour. This association occurs in the police stations of Ausgram on the northern-eastern part of the river Kunur, and on the northern part adjoining the river Ajay, in Memari, Jamalpur, Khandaghosh and in parts of Raina. Damodar Flat Lands offer an association having different soil types, which indicate some degree of weathering, leaching down of clay, mottling and accumulating in the lower parts of the soil profile. The colour of the coarse sand is brown. This soil association occurs in the police stations of Ketugram, Bhatar, western part of Manteswar, northern part of Barddhamān and Memari. Damodar uplands again present an association having different soil types of mature profile. Leaching of clay, sesquioxides, alkaline earths and alkali metals and their accumulation in the lower horizon is evident. They occur in the police station of Galsi, western part of Barddhamān, eastern part of Mangalkot, Manteswar and central Raina.

Ganga Riverine lands offer association of soils having immature

¹ *loc. cit.*

profile. Sands are grey to greyish white and fine in texture. Soils are rich in calcium. Free calcium carbonate occurs over most of the area either on the surface or in the sub-soil. These occur in the borders of Kalna and Katoya subdivisions adjoining the Bhagirathi. Ganga Flat lands present soil association having a slightly mature profile. At places the sub-soils are calcareous. It contains fine sand, white to white-grey in colour. These occur in the police stations of Kalna, Purbasthali and Katoya. Both the Ganga and Damodar riverine lands have an inundated sandy phase. A few inches of silt and clay help to establish hard type of grasses. In due course, these lands are reclaimed and cropped. Except during monsoon months and summer, these areas grow good vegetables and *rabi* crops. During summer these lands are bare and cattle are let in to graze on them closely.

Rice is the most important crop of the district and in the alluvial plains to the east little else is grown. The rice grown with its numerous varieties can be broadly grouped under the three primary classes distinguished from one another by distinct characteristics and these are: the *aus* or autumn, the *aman* or winter and the *boro* or the summer rice. Paddy covers about 86 per cent of the gross cropped area. Among commercial crops jute, *mestā* and sugarcane occupies about 5 per cent of the gross cropped area in 1965, while potato occupies 2 per cent. The table below gives the acreage under major and subsidiary crops in the district during 1965-70.¹

Major and
Subsidiary
Crops

ACREAGE OF MAJOR AND SUBSIDIARY CROPS IN
BARDHAMAN DISTRICT : 1965-70

Name of crop	(in acres)				
	1965-66	1966-67	1967-68	1968-69	1969-70
Rice	11,07,300	10,78,000	11,33,300	11,67,200	11,47,920
Wheat	9,500	12,200	20,000	28,800	41,366
Sugarcane	12,100	6,900	6,500	9,000	9,400
Potato	39,900	34,600	37,100	35,000	32,000
Jute	24,200	31,000	40,800	13,400	31,700
Barley	700	600	700	700	950
Maize	100	700	700	700	—
Gram	76,400	78,900	59,800	70,300	65,800
Mustard	5,100	8,000	4,500	9,500	10,800
Linseed	1,500	1,600	800	900	—
Fruits & vegetables	35,100	35,600	37,900	40,000	42,500

¹ Source : Project Executive Officer, IADP, Barddhamān.

The *aus* rice is a coarse grain. It is grown on high lands, and requires much less water than the other two varieties. It is mostly transplanted, but when sown broadcast, as is the general practice in the eastern part adjoining the Bhagirathi, it is a good deal troublesome to grow owing to competition with weeds. The *aman* rice, on the other hand, grows over an area larger than any other crop. It is generally cultivated on low lands with a clay soil, and requires much more water than *aus*. It is cultivated in lands which can accumulate water in rains and remain under water till the end of autumn. The finest rice belongs to this class. The *boro* is a coarse rice and is much less nutritious than any other category of rice. It is grown on soft mud on the sides of rivers, canals and lakes. Edges of rivers, subjected to strong tides, are the most suitable places for growing this class of paddy because of the possibility of overflow irrigation under the influence of tides. But at present, owing to formation of shoals and fall in the total discharge of the Bhagirathi, tides hardly provide any overflow. *Boro* is now cultivated either by *bunding* small rivulets or by lift irrigation.

In recent years the Agriculture Department has introduced a few good varieties of rice, both *aman* and *aus*, which have a higher yield and are more resistant to disease. Some flood-resistant varieties have also been introduced in flood-prone areas.

The high lands on which *aus* is grown generally produce two crops in the year. Three crops, namely, *aus* rice, potatoes and onions are grown where irrigation is available. *Aus* lands are almost always manured, except those near larger rivers which receive a yearly deposit of silt. As the same field generally gives two crops in the year, the practice is to apply as much of the manure as possible before rice is put in, and to let the later crop benefit by what is left after the rice has taken its share. This plan is adopted because the direct application of manure is not beneficial to such crops as the pulses, potatoes, etc. and in some cases it is positively injurious. As soon as the previous crop is off the field, the land is ploughed twice, once length-wise and once across the field. Ploughing does not begin usually till the middle of February, unless the rice is to be followed by one of the spring crops or potatoes. In some places the first ploughing is delayed till mid-April, but good cultivators are well aware of the advantages of early and frequent ploughing in the case of uplands. The fields are ploughed seven or eight times and by the end of April are well dried, and the roots of

the weeds and grasses are destroyed by the burning heat of summer. The plants come out in four or five days and when they have grown to a height of about nine inches it is necessary to take advantage of a good shower of rain and harrow the field. The greater parts of the weeds are thus removed, but sometimes as many as three weedings are needed. The harvest time for *aus* rice extends over the last three weeks of September. It is reaped while yet slightly green and if allowed to ripen fully would shed some of the grain, and the straw being brittle would break. It is cut close to the ground and laid in the field in parallel lines for about a week. It is afterwards made into sheaves and taken to the threshing floor.

Aman is usually grown on low-lying clayey lands. In April or May after a heavy shower, the land may be ploughed once, while the soil still contains a large quantity of water. This ploughing of the wet land instead of destroying the grasses encourages their growth. At the end of June, when the land is fully saturated with the monsoon rains, the low embankments round the field are repaired and water is allowed to collect within them. The grasses are then ploughed into the soil and the seedlings planted. Being a crop of the rainy season, *aman* rice does not generally require artificial irrigation, but in October and November, just when the plants begin to blossom, it is sometimes necessary.

Potato crop is cultivated extensively in the district. The localities generally selected for its cultivation are the old beds of rivers, and the best potato soil is a sandy loam having a very fine texture. Artificial irrigation is essential for the cultivation of this crop and the lands should be near the canals, tanks, marshes or some other form of reservoir. This crop is generally grown after autumn rice as a second crop, but a field which grows only potatoes gives a better and much earlier crop which brings greater profit to the cultivators, although early sowing is always attended with risk of serious injury from late rain.

Of the other crops, sugarcane, oilseeds and pulses are grown everywhere and some quantity of jute is also grown in the police stations of Kalna and Jamalpur. Maize is raised in the western border. In recent years the cultivation of wheat has become very popular and this crop is usually grown in the eastern, northern and central areas of the district. Cultivation of a variety of other winter crops including extensive cultivation of vegetables are features of recent years. The banks of the

Other crops

Progress of Scientific Agriculture

Agricultural implements

rivers, especially the Damodar, have always been famous for growing green water-melons, and bitters like *uchchhe*, *karatā*, and *patal*—crops which offer a very good return to cultivators.

Traditional implements are still in use, though, cultivators are gradually becoming aware of improved agricultural practices. In recent years, however, considerable headway has been made in the distribution of improved agricultural implements. The following statement gives the year-wise distribution of the improved agricultural implements and equipments between 1963-64 and 1965-66.¹

Name of implement and equipment	Period		
	1963-64	1964-65	1965-66
Mould Board plough	315	—	104
Paddy-weeder	74	—	1585
Seed-drill	—	483	600
Wheel-hoe	34	659	1430
Don	90	425	2000
Hand sprayer	40	113	307
Hand duster	13	12	20

Before the introduction of Intensive Agricultural District Programme, the use of improved implements was not a familiar thing among the cultivators. They were mostly dependent on the old implements which could be locally made and repaired. Since the inception of the Programme and up to 1970-71, 5,123 mould board ploughs, 2,213 paddy weeders, 1,848 wheel-hoes have been distributed. As regards other equipments 2,803 hand sprayers, 354 hand dusters and 9 seed dressers given to the farmers numbered 2803,354 and 9 respectively. All these implements and equipments were distributed through intensive training-cum-demonstration programme for demonstration in cultivators' fields and in Government farms. The quality of implements was also improved during this period.

Distribution of improved implements and equipments is being done on a 50 per cent subsidy and in the case of a cooperative

¹ Source: Project Executive Officer, IADP. Bardhaman.

society an incentive amounting to Rs. 1000 per annum. This has also been provided. An agricultural workshop has been set up at Bardhaman where new implements are designed and then tested in the cultivators' fields. When found suitable, these are passed on for large-scale production. Demonstration of improved implements is an important feature in the field of scientific agriculture and it is in the extensive demonstrations in cultivators' field that the farmers can be convinced about the improved practices. The following figures give an idea of such demonstrations in the district during the specified period of three years.¹

Year	Demonstrations Organized
1963-64	678
1964-65	7,367
1966-67	5,715

With the starting of the programme adequate arrangements have been made to supply good quality seeds to the cultivators in time. The programme of seed multiplication and distribution may be described briefly. The pedigree seeds from the agricultural research stations are supplied to the State multiplication farms and the quantities of nucleus seeds are raised in the State seed farms. The nucleus seeds are further multiplied in block seed farms and the seeds thus produced, termed as foundation seeds, are distributed among 'A' class registered growers. Every registered grower who is usually attached to a block selects one or two registered certified-seed growers in the village. In the seed villages under the registered growers, foundation seeds are supplied only to a few registered growers. Improved practices of agriculture are being followed in the seed villages under the guidance of the block extension staff. A certain percentage of the multiplied stock of the 'A' class registered growers is supplied departmentally for further distribution among 'B' class growers during the next season. Some

Seeds and manures

¹ Source: Project Executive - Saddhamān.

quantities of such multiplied seeds are also exchanged mutually among neighbouring farmers.

The production of foundation seeds in Government farms is at present restricted to a number of recommended varieties as approved by a committee known as the Variety Approval Committee. The seeds are tested for ascertaining their purity and germination proportion before distribution among the cultivators by the regional seed testing organization at Bardhaman. The seeds issued from Government farms are properly cleaned, dried, graded and treated with chemicals prior to their distribution through block agencies. In recent years, arrangements have also been made to distribute the improved seeds through the Co-operatives. It may be noted here that as an incentive the state Government has consented to give a premium of Rs. 8 per quintal for *aman* and Rs. 2 per quintal for *aus* paddy seeds supplied by the registered growers.

In 1965-66, as many as 100 varietal trials on paddy were laid out under different agro-climatic regions and situations under the supervision of the Assistant Seed Development Officers. In addition, a half-plot demonstration on improved variety of *aman* was conducted in each of the 11 villages. In 1964-65 and 1965-66, the total number of seed plots being 422 and 432 respectively in 33 blocks of the district.

Seed Farms

There are two District Seed Farms in the district, each having an area of about 200 acres. Quality seeds are being multiplied to meet the growing requirements of the cultivators. Besides, there are 17 block seed farms and one Japanese Model Farm with an area of 25 acres each for the purpose of multiplication of seeds. The names, locations and other particulars of the seed farms as existed in 1970-71 are given in the following table in order to have an idea of the size and nature of these farms. Losses sustained by some farms as shown in the table were mainly due to lack of irrigation. In some instances, incidence of crop diseases in spite of best plant protection measures, reclamation works and inclement environmental conditions contributed to low yield of crops. Adequate measures have been subsequently taken to improve the situation.¹

¹ A Short Note on the Progress of the Comprehensive Agricultural District Programme, Burdwan — Department of Agriculture & Community Development, West Bengal, Calcutta, pp. 8-10.

SEED FARMS IN BARDHAMAN DISTRICT WITH LOCATION AND OTHER PARTICULARS

Name of farm with location	Year of establishment	Area (in acres)	Cropped area (in acres)	Performance during 1960-70	
				Expenditure Rs.	Receipt Rs.
District Seed Farm, Bardhaman	1950-51	203.17	174.25	2,58,460.30	2,81,436.56
District Seed Farm, Kanksa	1957-58	205.00	127.66	1,62,480.44	1,13,387.92
Japanese Model Farm, Purbasthali-I Block	1965-66	27.14	21.66	22,369.96	12,989.75
Block Seed Farm, Memari-I Block	1958-59	27.55	21.77	33,896.77	34,204.06
Block Seed Farm, Bhatar	1958-59	24.19	21.00	36,355.05	35,756.23
Block Seed Farm, Ausgram-I Block	1958-59	26.29	19.50	24,025.63	29,571.71
Block Seed Farm, Mangolkot	1958-59	25.35	19.94	28,751.50	25,496.66
Block Seed Farm, Raina-I Block	1964-65	27.79	20.00	26,950.80	27,525.32
Block Seed Farm, Jamalpur	1964-65	25.94	22.00	32,588.84	36,310.18
Block Seed Farm, Katoya-I Block	1965-66	31.64	26.66	26,733.29	26,811.20
Block Seed Farm, Memari-II Block	1966-67	28.86	22.41	41,357.36	39,558.74
Block Seed Farm, Ketugram-I Block	1966-67	24.63	20.66	27,118.68	10,931.35
Block Seed Farm, Ketugram-II Block	1966-67	27.31	24.83	26,475.69	20,411.39
Block Seed Farm, Galsi-I Block	1966-67	25.58	21.50	24,713.13	21,341.68
Block Seed Farm, Kalna-I Block	1966-67	25.80	23.88	15,504.10	15,561.42
Block Seed Farm, Ausgram-II Block	1966-67	27.08	24.70	21,781.18	19,812.20
Block Seed Farm, Kanksa	1966-67	30.55	22.00	32,811.59	38,940.60
Block Seed Farm, Monteswar	1966-67	21.90	18.04	23,251.74	15,740.80
Block Seed Farm, Raina-II Block	1967-68	21.00	19.00	21,591.84	21,017.25
Block Seed Farm, Purbasthali-II Block	1966-67	29.24	27.09	25,805.05	19,923.40

Distribution
of seeds

During the period of Intensive Agricultural District Programme great stress has been laid on the distribution of quality seeds. There has been a marked improvement in seed distribution work since 1964-65 as will appear from the table below :¹

DISTRIBUTION OF SEEDS IN BARDDHAMĀN DISTRICT : 1964-69

Kind of seeds	(in quintals)				
	1964-65	1965-66	1966-67	1967-68	1968-69
Paddy	2,740	3,071	5,499	7,964	8,800
Wheat	592	1,294	1,997	4,421	2,306
Sugarcane	14,430	14,220	7,080	9,380	6,820
Jute	65.51	78.27	39.62	98.44	23.76
Potato	3,871	2,918	2,122	1,701	970

Agricultural
Diseases & pests

Among animal pests mention may be made of wild pigs, which dig up sugarcane plantations. Jackals and monkeys damage water melons, pumpkins and cucumbers. Bats, parrots and parakeets injure the guava and mango groves. Insects, however, cause the maximum damage to crops. The pests affecting the various crops are mentioned in the following statement.¹

Crop	Rests
Paddy	— Stem-borer, swarming caterpillar, earth-worms, rice grasshopper, rice bug and root borer.
Jute	— Stem-borer, swarming caterpillar, semi-looper, hairy caterpillar, stem weevil and white ants.
Sugarcane	— Top-shoot borer, stem-borer, white fly and leaf hopper, mealy bug, mealy wings and termites.
Vegetables, fruit, etc.	— Top-borer, fruit fly, hairy caterpillar, thrips and red fly.

Foot rot, smert and helminthosporium are the common diseases found locally among paddy, while stem-rot is the disease affecting jute. The diseases in sugarcane are red-rot, smut and wilt. In

¹ & 2 Source : Executive Officer, IADP, Bardhaman.

the case of vegetables, virus on brinjal, chilies, lady's-finger, tomato, pumpkin and potato is to be commonly found.

Plant protection work has become popular with the farmers after the introduction of the Package Programme. The work has further been intensified with the introduction of the high yielding seeds programme. At present, 30 different types of pesticides including soil insecticides and seed disinfectants are being used. Since 1969-70 granular insecticides have also become very popular. The table below would show the progress of plant protection measures in the district.¹

Plant protec-
tion

PROGRESS OF PLANT PROTECTION WORK IN BARDDHAMĀN DISTRICT : 1966-67 TO 1970-71

Year	Quantity of seed treated (in tonnes)	Quantity of pesticides distributed (in tonnes)	Area covered by plant protection measures (in hectares)
1966-67	2,850.149	177.665	37,358.8
1967-68	3,202.532	454.040	50,423.6
1968-69	1,788.314	394.592	58,026.8
1969-70	4,395.750	485.500	64,200.0
1970-71	6,040.406	390.000	80,120.0

Private dealers handling pesticides and equipments have been operating in the district since 1968-69 and in 1970-71, the approximate number of such dealers of pesticides was 300.

A good number of demonstrations in connection with plant protection work were held in recent years. To popularize prophylactic treatment, 21 acre-wide demonstrations were conducted in 1,100 acres of paddy land during the period from 1965-66 to 1967-68. Apart from demonstrations, a good number of trials are also conducted each year. In recent years, for instance, new pesticides were tried against hairy caterpillar on potato, mustard aphids, jute semilooper, red mites on lady's-finger, paddy pests in *kharif* and *rabi*, diseases of paddy and potato. Weedicides were tried in paddy, wheat, maize, groundnut and soyabean fields with good results. The objectives of most of these experiments were to show the efficacy of a particular insecticide or fungicide in controlling a particular pest or disease. The schedule of control for different crop pests and stored grain pests were also developed from this district.

¹ Source : Project Executive Officer, IADP, Bardhaman.

Plant
protection
club

As a prelude to the introduction of custom service in agriculture, five plant protection clubs were set up in three important blocks of the district during 1968-69. The club arranges for spraying pesticides on the cultivators' fields for a nominal charge. This type of organization has gained some popularity in the rural areas, the number of plant protection clubs being 25 in 1970-71.

High-yielding
varieties
programme

In 1966-67 the High-yielding Varieties Programme was initiated in selected areas of 12 West Bengal districts including Barddhamān where IADP was already in operation. The main plan of the scheme of intensive agriculture is to promote the use of fertilizer as it plays a key role in increasing the yield per acre. The improved varieties of paddy which are being used so far are generally not responsive to high doses of fertilizers. The yield of most of the existing improved varieties of paddy vary between 40 and 45 maunds per acre with 30 to 40 lbs. of nitrogen. Higher doses of fertilizer to these varieties are not useful as the yield does not increase proportionately. During the last few years, however, several new high-yielding varieties of paddy had been evolved in the State which include NC. 678, NC. 1281 and Kalimpong-I. All these varieties give yield between 50 to 70 maunds per acre. Several exotic varieties of paddy of the Formosa group, namely, Taichung Native-1, Taichung-65, Tainan-3, etc. have also been introduced recently, the yield-rate being 60-80 maunds per acre. In consideration of the best irrigation facilities and the minimum natural hazards, the ten blocks of the district selected for the introduction of the high-yielding varieties of paddy were Memari, Jamalpur, Galsi-I, Galsi-II, Ausgram-I, Barddhamān, Bhatar, Ausgram-II, Raina-I and Raina-II. Besides, high-yielding varieties of hybrid maize and Mexican wheat were also introduced in some selected blocks, the total cultivated area for all varieties in the selected blocks being 14,650 acres in 1966-67.

Staffing
pattern

Owing to the introduction of the Intensive Agricultural District Programme, the staffing pattern has been strengthened. The additional staff consists of one Project Executive Officer, assisted by 4 subject-matter specialists in Agronomy, Farm Management, Plant Protection, and Soils & Fertilizers. In addition there are several Class-II officers at the district level, such as, District Agricultural Officer, Assistant Jute Development Officer, Superintendent of Agricultural Marketing, Seed Development Officer, District Agricultural Information Officer, Evaluation Officer, Soil Analytical Officer. At the block level additional staff consists of

two additional Agricultural Extension Officers, one Cooperative Inspector, two Cooperative Supervisors and 10 village level workers over normal block staff.

Use of
fertilizers

When the Package Programme was introduced, fertilizers were distributed both by the private dealers and the local cooperatives. There were no satisfactory arrangements for supply of fertilizers to the interior villages owing to the absence of sales depots in those areas. With the initiation of the programme, however, the Apex Cooperative Marketing Society was given monopoly of distribution of fertilizers in the entire district. Arrangements were soon made to set up sales depots in the interior areas to enable the cultivator to get supply even in the distant villages in case of urgent need. The following table would show the number of depot holders and also the quantity of fertilizers handled by them for the period from 1966-67 to 1969-70.¹

NO. OF FERTILIZER DEPOTS IN BARDDHAMĀN DISTRICT :
1966-70²

Year	Number of depot holders	Quantity of fertilizers handled (in tonnes)
1966-67	400	26,179
1967-68	460	29,403
1968-69	500	51,900
1969-70	825	50,625

In addition to the above, there were at least 29 thana marketing societies through which the fertilizers were being distributed. As a result of improvement in the supply arrangements, encouraging rise in the consumption of the chemical fertilizers was noticeable as may be seen from the table below :³

CONSUMPTION OF FERTILIZERS IN BARDDHAMĀN DISTRICT :
1963-71 (IN TONNES)

Year	Ammonium Sulphate	Super Phosphate	Muriate of Potash	Total
1963-64	17,280	8,550	730	26,560
1964-65	18,360	10,900	1,230	30,490
1965-66	23,447	12,413	1,561	37,421
1966-67	17,052	8,241	886	26,179
1967-68	22,337	6,040	1,044	29,403
1968-69	34,100	14,400	3,400	51,900
1969-70	29,553	11,289	2,983	50,825
1970-71	45,545	11,153	3,794	60,492

1-3 Source : Project Executive Officer, IADP, Barddhamān.

While the consumption of nitrogenous fertilizers in the base year 1961-62 was only 7,720 tonnes, the same increased to 45,545 in 1970-71, i.e. the increase in consumption was by 590.0 per cent. Consumption of phosphatic fertilizers went up from 2,130 tonnes in 1961-62 to 11,153 in 1970-71 or 523 per cent. The consumption in respect of potassic fertilizer rose from 220 tonnes in 1961-62 to 3,794 tonnes in 1970-71 or by 1,724 per cent. This may also lead to the conclusion that the total consumption of fertilizers increased from 10,070 tonnes to 60,492 tonnes or by 600.7 per cent over the year 1961-62. It may be seen from the foregoing table that the consumption of fertilizer in 1966-67 and 1967-68 was low and this was mainly due to drought and inadequate and untimely supply.

Local manurial
resources

All the blocks of the district were brought under the local manurial resources scheme, the object of which was to develop manures from locally available resources. The training of farmers at the block level in the preparation of compost was also arranged. Subsidies up to 50 per cent of the costs were also advanced to cultivators for construction of *pucca* compost pits and improved cattle sheds. The following statement would give an idea of such training for the three year period from 1967-68 to 1969-70.¹

Year	No. of farm leaders trained	No. of pucca pits con- structed	No. of cattle sheds con- structed	Quantity of compost produced (in tonnes)
1967-68	11,297	5,988	476	3,73,124
1968-69	13,494	17,727	60	9,46,495
1969-70	11,173	2,590	—	1,97,250

The cultivators were also encouraged to take up green manuring and production of rural and town compost was also emphasised at the same time to increase organic manure. The table below sums up the overall achievement in this respect.²

PREPARATION OF ORGANIC MANURE IN BARDHAMAN
DISTRICT : 1963-66
(IN TONNES)

Year	Green manuring seed distributed	Rural compost	Town compost
1963-64	48.60	6,50,000	5,000
1964-65	496.35	5,99,711	6,500
1965-66	357.09	7,06,852	7,000

1 & 2 Source: Project Executive Officer, IADP, Bardhaman.

Intensive Agricultural District Programme, popularly known as Package Programme, was inaugurated in the district on 12 August 1962. Although the programme was started in the month of August, the work was actually implemented from April 1963. This programme is meant to demonstrate the potentialities of increase in food production through a multipronged, concentrated and co-ordinated approach to agricultural development in areas which can quickly respond to such production efforts. The objectives of the programme are to demonstrate the most effective ways of achieving rapid increase in food production in order to provide experience for its adoption in other districts. While it aims at the increase of the income of the cultivator and his family, it will also help to improve the economic resources and potential of the village. Lastly, with effective implementation of the programme, there will be a good agricultural base for more rapid economic development and improved community life.

The objectives of the programme are intended to be accomplished by cooperative effort of the Centre, State, District, Block, village institutions and the village people. The package of improved agricultural practices, such as, use of improved seeds, fertilizers, pesticides, improved implements and proper soil and water management methods for each important crop of this district based on latest research should be developed at the same time. Technical assistance to the individual cultivator is to be extended to develop farm production plan which is expected to provide information on improved farming methods suitable for his land and resources. Preparation of these farm plans will also ensure personal contact between the extension worker and the farmers. These plans will provide basis for extending credit through cooperative purchasing inputs like fertilizers, pesticides and other supplies needed for profitable returns. While the package programme is an educational process which helps cultivators and their families, villagers and agricultural labourers in learning modern agricultural techniques and improving their skills as well, the programme is also intended to help development of cooperative organizations and other village institutions offering direct assistance for increasing agricultural production.

There are some other vital aspects of the programme. It includes intensive educational, technical and farm management assistance being made available in every village. At the same time it aims at participation of all interested cultivators in individual farm planning for increased food production in phases.

ACTIVITIES OF
THE AGRICULTURAL
DEPARTMENT
AND OTHER
AGENCIES

Essential
features of the
programme

The programme also provides for adequate farm credit based on production potential through strengthened cooperative institutions. Arrangements are also to be made to ensure supply of essential production needs, like fertilizers, pesticides, improved farm implements and other equipments through cooperative societies while price incentives, marketing arrangement and services are also to be provided. Village planning for increased production, strengthening of village institutions, development of rural leadership, etc. are also some of the important features of the programme. Local works programme to utilise local manpower and to develop village roads, godowns, irrigation potentials, etc. are also included. Analysis and evaluation of results are other vital points.

Till 1970-71, 24 blocks out of 33 of this district were covered under this programme and package of practices have since been developed for all the important crops. At present scientific demonstrations are being conducted in cultivators' fields on major crops and on the efficient use of fertilizers and other package of improved practices under the supervision of technical staff attached to the District Agricultural Office. A soil testing laboratory has been set up in the district where soil samples taken from fields by trained staff are analysed in the laboratory for giving recommendations for better cropping and fertilizer use. There are two district-level and eighteen block-level farms where quality seeds are multiplied and are usually kept in the block stores constructed for the purpose of storing seeds. A seed testing laboratory has also been set up to ensure farmers the supply of quality seeds.

An agricultural information unit has also been established under the programme with one offset press, one photographic unit, one library and a mobile audio-visual unit. To equip the farmers with up-to-date information regarding scientific agriculture, leaflets on package of practices, brochures and regular bulletins are published and distributed amongst the farmers and extension workers. The agricultural implement workshop is utilised for popularizing the use of improved implements. The jeeps, tractors, trailers and other vehicles provided under the programme at block and district levels are serviced and repaired in this workshop so as to keep the units in working condition all through the year. The evaluation unit is functioning with a team of field workers for analysis and evaluation of progress. While fertilizers are being supplied through cooperative societies

and private dealers, agricultural credit is provided by the co-operative organizations, nationalised banks and the Government.

Intensive Agricultural District Programme was launched in the district in 1962-63 in 158 villages spread over 10 blocks and was further extended to 24 blocks covering 2,285 villages in 1963-64. In 1962-63, the area covered under the programme was 7,000 hectares which was about 2.9 per cent of the net cropped area. In the following year, i.e. 1963-64 the area covered was 37,000 hectares which was approximately 8.7 per cent of the gross cropped area. The progress till 1970-71 may be seen from the table below.¹

Working of
the programme

AREA COVERED UNDER IADP IN BARDDHAMĀN DISTRICT FOR THE PERIOD FROM 1964-65 TO 1970-71

Year	Area covered (in '000 hectares)	Percent to the gross cropped area
1964-65	86.0	20.2
1965-66	143.0	35.9
1966-67	155.4	36.5
1967-68	180.0	42.3
1968-69	186.0	43.6
1969-70	189.0	44.4
1970-71	235.4	47.2

During the period from 1966 to 1970 about 70,000 soil samples were analysed. Besides, the soil testing laboratory of the Fertilizer Corporation of India at Durgāpur also helped the local agricultural department in analysing soil samples of the neighbouring blocks. On the basis of these soil tests and field work by extension staff, soil texture-cum-fertility map for each block covered under the plan has been developed. This has enabled the extension staff to recommend fertilizer schedules for different crops under different soil conditions more precisely. The fertilizer recommendations based on soil test have already proved its superiority over generalized district recommendation. This will be evident from the following results of A B C type of scientific demonstration-cum-trials conducted in the district by the Agricultural Extension Workers for the period 1966-70.²

Soil testing &
fertiliser
recommendation

¹ A Short Note on the Progress of the Intensive Agricultural District Programme, Burdwan. Calcutta, 1971, p. 7.

² *ibid*, p. 13.

Year	No. of trials	Grain yield per acre (in quintal)			Cost per acre (in Rs.)			Return per acre (in Rs.)		
		A	B	C	A	B	C	A	B	C
1966	85	12.09	15.42	16.21	304.18	386.07	388.51	911.29	1,165.33	1,232.10
1967	55	10.99	15.69	16.33	410.72	546.31	549.52	1,024.90	1,407.34	1,490.72
1968	76	13.56	19.75	20.18	117.56	545.77	551.64	999.16	1,437.50	1,458.91
1969	19	14.29	19.44	19.67	406.87	552.47	555.50	998.88	1,348.71	1,392.81
1970	37	13.13	18.96	19.49	439.62	575.71	578.00	919.10	1,327.20	1,394.30

While A type demonstration shows the cultivator's normal practice, the B type represents the package of practices with generalized recommendation of fertilizers. The C type gives the results of package of practices with fertilizer recommendations as modified by soil test. From details of the results it may be observed that there has been an economy in the use of fertilizers in some cases and at the same time the use of extra fertilizers according to soil test yielded profitable return in many cases. It has been found after careful calculations that for an extra expenditure of Rs. 4.78 on the use of fertilizers according to soil test, the additional income has been Rs. 35.12, the cost-benefit ratio being 1 : 7.34.

Role of Cooperatives

Cooperatives have contributed to a great extent to the growth of agricultural farming in recent years. It may be said that a two-tier system of cooperatives has been developed in the district. While the primary societies are functioning at thana or village level, the thana level societies are attached to two zonal societies at Barddhamān and Memari which, again, have been functioning as agents of the Apex Co-operative Marketing Society at the State level.

Till 1965 there were altogether 19 large-sized cooperative marketing societies in the district and except for a few police stations in Asansol subdivision the entire district was covered by these societies. Out of these 19 large-sized societies six are attached to the Burdwan Central Co-operative Agricultural Production and Marketing Society at Memari for getting their supplies while the remaining 13 societies are functioning under the control of Burdwan Zonal Co-operative Multipurpose and Marketing Society at Barddhamān. There were five small-sized marketing societies in the district in 1967 and each of these societies had its jurisdiction over a few villages. In the same

year, the number of large-sized societies, each covering a thana area, was 23.

In case of large-sized societies, membership is open to four categories, namely, (i) Societies, (ii) Individuals, i.e. cultivators, (iii) Traders who have no voting right, and (iv) Government as State partner. The membership of these various categories upto 30 June 1963 is given below.¹

Societies (Service Cooperative and Credit Societies)	495
Individuals	6,135
Traders	663
State partnership	1 in each of the large-sized society

In 1967-68, these 23 large-sized cooperatives had societies numbering 1,801, while the membership of the individuals was 13,734. So far as small-sized societies are concerned, the membership is open to the individuals only. Up to June 1963 only five small-sized marketing societies were operating in the district having a strength of 388 members. In 1967-68, however, this number increased to 496. The two zonal societies located at Barddhamān and Memari had membership as per break up given below.²

Societies	487
Individuals	2,561
State partnership	Only Barddhamān Zonal Society

There are three Cooperative Banks catering agricultural credit in the district. The amount advanced as short term loan has already exceeded one crore rupees. The Burdwan Central Co-operative Bank alone advanced loans amounting to Rs. 73,32,000. These banks have also been advancing loans to the marketing cooperatives on pledging of produce to the extent of 75% of its market value, and an interest of 7% in addition to the godown charges, is levied. Under the cash credit accommodation scheme, marketing finance is also made available to the marketing societies.

¹ District Hand Book on Agricultural Marketing, Directorate of Agriculture, West Bengal, Calcutta, 1970, pp. 51-2.

² loc. cit.

Under this scheme, a sum of Rs. 1,00,000 was advanced to the Purbasthali Thana Large-Scale Marketing Society for rice and paddy marketing and Rs. 30,000 for fertilizers.

Formerly, fertilizers were being distributed by the dealers, private companies as well as by the cooperatives. The private dealers in most cases were dominating the field. But with the introduction of Package Programme, the Apex Co-operative Marketing Society was given monopoly distributorship in Chemical fertilizers. Owing to laws restricting private trade in rice and paddy, the cooperative societies could not make much progress in the matter of outright purchase and sale of paddy or rice. In the matter of distribution of sugar, however, the co-operative sector has done substantial business with profit. The cooperative societies, at present, are experiencing much difficulty in handling perishable commodities like potato. This is why there is a cry among the farmers for more cold storages and good godowns for storing perishable goods. In 1970 there were three cold storages under the cooperative sector, two units being located at Memari and one at Khejurdihi. Till December 1968 there were 27 cold storages in the private sector, and one was managed by the Government.

LIVE-STOCK AND
MEASURES TO
IMPROVE QUALITY
OF BREEDS

In 1966, the district had a total live-stock population of 16,60,959 consisting of 10,96,356 cattle, 94,026 buffaloes, 52,816 sheep, 4,08,398 goats, 7,847 pigs and 1,466 horses and ponies. In the same year the district had 6,65,009 chickens and 5,06,118 ducks.¹ The local cattle are usually of the non-descript type, ill-fed in most cases. There is hardly any separate land to raise fodder crops, all available cultivable area being utilized for growing important crops. The cows are poor milkers and the draft quality of the males is also poor. Next to cattle, the important live-stock resource of the district is poultry. Goats are kept everywhere mostly in the villages. A fairly considerable number of sheep is also kept, especially in the north-east, but their numbers vary with season as they are moved in search of pasture. Pigs are commonly found in the less developed areas in the west.

Under the Development Schemes sponsored by the State Government under the First and Second Plans, selected zones were taken up for intensive work connected with cattle develop-

¹ Source: Directorate of Animal Husbandry, West Bengal.

ment. Ketugram and Memari police stations were selected for the purpose. In the former, improved bulls were distributed to upgrade the local stock, while in the latter the work of upgrading was taken up through the technique of Artificial Insemination. In certain police stations, such as, Ausgram, similar work was undertaken under the Community Development Programme. In the areas covered by the CDP, ancillary programmes for cattle development, such as, better feeding, care and management, etc. were also taken up for implementation.

The results achieved during the first three Plan periods were encouraging. Yield of milk from improved cows was much more from indigenous cows. The grade cattle produced were also of improved type. In order to help the cultivators to arrange better feeding of their stock, cultivation of fodder crops in rotation with existing crops was also introduced. Demonstration centres were set up in cultivators' holdings for preservation of green fodder in the form of silage for feeding the stock during the lean months when there was hardly any grazing facility.

Normally the poultry birds are kept by the cultivators as a sort of backyard farming. During the Third Plan period poultry birds of improved strains were distributed to the villagers at concessional rates to improve the production level of the indigenous stock commonly reared by the farmers. There is a good demand for birds of the Rhode Island Red breed, while some villagers prefer the white Leghorn strain as well. In order to supply the farmers and other villagers with readily available improved birds and eggs, two State Farms, one at Barddhamān and the other at Durgapur were set up during the Second Plan period. Annual live-stock shows were also organized in selected areas during the various Plan periods to encourage the farmers improve their stock.

There is no Dairy Farm in the district. Most of the cultivators keep their own cattle in their houses and the average milk yield of this cattle is about 200 lbs. per lactation. In some areas, however, the average milk yield is higher, the average milk yield in Ketugram P.S. being 600 lbs. per lactation. But there is no local market for selling the milk. There is a Cooperative Dairy Farm at Barddhamān which collects milk from the rural areas and distributes the same in the urban areas of the district. A good number of *khāṇāls* can be found in the urban areas located at Asansol, Burnpur, Raniganj, Durgapur, Kulti, Andal and Panagarh. The keepers sell the cattle as well as milk in the town

Poultry

Dairy Farming

areas. Usually the cultivators sell their milk to the wholesale dealers for conversion into *chhānā* and also for sale as liquid milk wherever feasible.

So far as the district is concerned the dairy development activity is at present centred round the Durgapur Milk Supply Scheme. This scheme envisages establishment of a liquid milk plant at Sagarbhangā, Durgapur Block II to distribute pasteurised milk to the population in the industrial belt of the Durgapur zone. To meet the raw milk requirement of the dairy several milk collection-cum-chilling stations will be opened in selected milk pockets of the Barddhamān as also of Bankura districts. Through these milk collection-cum-chilling stations, raw milk will be purchased directly from the rural producer-suppliers for despatch to the dairy after chilling. Such chilling stations will be at Saktigarh, Katoya and Kalna. The Durgapur Dairy will have an installed capacity to handle 5,00,000 litres of pasteurised milk and 200 kilograms of butter per day.¹

Fish is consumed in large quantities by almost all classes of the people. The supply is mainly drawn from the Bhagirathi, the Damodar and the internal rivers and channels in which a large variety of fresh water fishes are found. The flow of water in the Damodar depends entirely upon the discharge of water by the DVC from barrages. The other rivers except the Bhagirathi dry up in hot months when fishes accumulate in depressions here and there to be caught by the fishermen. A considerable portion of the supply is also obtained from the numerous tanks in the eastern part of the district.

Hunter² has enumerated six different methods of catching fish which are practised in the district. These are: fishing by traps which are usually small cages of split bamboo placed in a current; fishing by *polo*, a conical basket; fishing by rod and line; spear fishing, and fishing by *huri* and *sikti*. The *huri* is a bunch of twigs and thorns tied together and thrown into the river where there is little or no current. Small fish and prawns take shelter among the twigs and are captured by means of a net called *sikti*. Fishing with rod and line is a favourite sport with the Bengalee.

¹ Source: Milk Commissioner, West Bengal. The State Dairy at Durgapur has started functioning from October 1972. It has a capacity to bottle 50,000 litres of milk and 1,200 kgs. of ice-cream per day. It receives milk from several cooperative societies through the chilling plants at Sonamukhi and Vishnupur, in Bankura district.
² Hunter, W. W. — *A Statistical Account of Bengal, Vol. IV*, London, 1876.

The types of fish available in the district are — *Ruhi*, *Katla*, *Mrigel*, *Kalibose*, *Ilis (Hilsa)*, *Chital*, *Air*, *Boal*, *Phalui*, *Tangra*, *Punti*, *Mourala*, *Chela*, *Bata*, *Sal*, *Sol*, *Lata*, *Kai*, *Chanda*, *Magur*, *Pabda*, *Rita*, etc. Of these the most common fish are the *Ruhi*, *Katla*, and *Mrigel* which are found everywhere in the rivers and tanks. The *Magur* is found in the tanks only, while there are a great number of other varieties which form an important part of the people's daily food.

Due to rapid silting up of the Ganga and the Damodar, the migration of *Hilsa* fish to the upper reaches for breeding purposes has become difficult and as such *Hilsa* fishery in these parts of the rivers within the district is almost lost. As the fishes of the carp family are becoming fewer day by day, the collection of spawn from these rivers is also becoming unattractive, though this particular collection work also forms a part of occupation of fishermen for about three months in a year.

Local markets depend mainly on supplies from the inland resources which mainly include tanks and *bils*. The increase in supply thus mainly depends on the work of improvement of derelict and semi-derelict tanks and *bils* which are lying scattered all over the district. River fishery also requires attention. The different river valley projects are likely to affect the fishes adversely and for this, regular flushing of the river beds is considered essential.

Prospects of pisciculture

The district of Barddhamān had a forest area of 227 square kilometres in 1961 while the same was increased to 362 square kilometres in 1964. The area of protected forests in 1964 was 197 square kilometres, the area of reserved forests being only 6 square kilometres. About 59 square kilometres of area accounted for unclassified state forests in the same year.¹ In 1961 the total geographical area of the district was 7,034 square kilometres, the percentage of forests and jungles to this geographical area being 3.22 approximately. The Forest Division with an area of 262 square kilometres consists mainly of *sal* trees to be seen in the laterite areas as well as in most other parts of the tract. With repeated cutting of *sal*, much of the forests have been replaced by other species which seldom fulfill the two objectives, namely, to increase the quality of trees which are

FORESTRY

¹ *West Bengal Forests: Centenary Commemoration Volume* — Forest Directorate, West Bengal, Calcutta, 1964. pp. 277-78.

Fisheries

useful and secondly, to clothe the lands with a vegetative cover to stop soil erosion and to conserve as much water as possible. The following table gives an idea of the progress of afforestation work done in the district for the five year period from 1960 to 1964.¹

(In hectares)

Year	Area Planted	Sal	Teak	Eucalyptus	Misc.
1960	231 (2,423)	313 (1,137)	8 (8)	—	(1,278)
1961	237 (2,660)	231 (1,363)	6 (14)	—	(1,278)
1962	255 (2,915)	205 (1,573)	42 (56)	8 (8)	(1,278)
1963	142 (3,057)	(1,573)	(56)	(3)	142 (1,420)
1964	141 (3,198)	50 (1,623)	40 (96)	41 (49)	10 (1,430)

The table below, again gives the average annual revenue and the average annual expenditure in rupees of the Forest Division for the period from 1961-62 to 1964-65.²

Year	Average annual revenue	Average Annual expenditure		Average annual surplus or deficit	Average annual surplus or deficit taking developmental expenditure also
		Normal	Developmental		
1961-62	2,18,790	2,76,339	3,28,340	57,549	—3,85,889
1962-63	2,16,909	2,76,257	3,69,590	59,348	—4,28,938
1963-64	2,68,789	2,66,463	2,98,988	2,321	—2,96,667
1964-65	3,18,965	2,76,191	3,07,200	42,774	—2,64,426

FLOODS, FAMINES AND DROUGHTS

Embankments along the Damodar and the Ajoy were raised long time ago to guard against inundation by these rivers. Initially these were constructed by individual efforts. A farmer or land owner whose field was threatened would construct a *bundh* to save it while the flood water would penetrate through some other points further down leading to the construction of a fresh *bundh* by some other affected person. The process would be repeated until the banks of the rivers were protected by a series of regular embankments. Before the second half of the 19th century, however, these embankments were neither very extensive nor strong enough to check the onslaught of the great floods fed by hill streams, such as the Damodar and the Ajoy. The early

¹ & ² West Bengal Forest : Centenary Commemoration Volume — Forest Directorate, West Bengal, Calcutta, 1964. pp. 27-78. Figures in () show progressive total.

history of the district is full of accounts of disastrous floods which breached the embankments and caused widespread damages. The earliest recorded flood in the district occurred in 1770 causing extensive damage to winter crop. The previous year being a year of scarcity owing to drought, the flood conditions intensified the famine that year. The inundation was first noticed on the 29th September when the waters of the Damodar rose as high as the top of the embankment, and soon the embankment gave way very near the western extremity of Bardhaman town. The damage was repaired with great effort only to be followed by a second rising of the river which led to the total destruction of the embankment. The town of Bardhaman was almost destroyed where not even a single mud house remained, and even those constructed with bricks suffered to a great extent. With the Ajay in spate, the whole tract between that river and the Damodar was under three or four feet of water. Sugar and cotton crops cultivated on extensive scale suffered badly and the whole of the embankment was in a state of ruin. The repairs were undertaken by the Maharaja, and a sum of Rs. 80,000 was remitted from the land revenue payable by him in consideration of his undertaking the repairs. It took almost two years for the cultivators to recover from the disaster.

Another disastrous flood occurred in the district in 1787 when the town was almost totally destroyed and many people lost their lives. Not a single mud house was found remaining, and even those built of brick had fallen or were so damaged that residence in them became extremely dangerous. The inundation of 1823, which started on the night of 26th September, was caused by the bursting of the embankments of the Damodar, the Bhagirathi and some minor streams. The flat part of the country near these embankments was completely under water running with a terrific force, and carrying with it dead bodies, roof of houses, palanquins and wreck of every description. The calamity lasted for three days, communications were cut off, and those living in brick built houses took refuge on the roofs. For many kilometres the thatched mud houses, as well as thousand of trees, were prostrated. A number of trees that had withstood the ravages of flood formed the resting places of men. The affected area extended for about twentyfour miles (38.60 km.) and the villages on both banks of the Bhagirathi, especially on the west bank, were submerged. The water in these villages rose to a height of three feet and at its height on the 2nd October, the water was about

Floods of
1787 & 1823

seven feet deep. It is interesting to note that on the 29th September a boat sailed across the country from Calcutta to Bardhaman. There was a great loss of lives. The crops were destroyed, the houses were submerged and the people were without food. There were cases where starving parents sold their children for a handful of rice. With the landmarks distinguishing the holdings swept away, great confusion and endless litigation followed.

Flood of 1855

The inundation of 1855 resulted in the destruction of the embankment on the right side of the Damodar. Previous to this time, the embankments had been in charge of zaminders within whose estates they lay. But their neglect caused the periodical breaching of the embankments and as such, Government took the matter into its own hands and maintained the embankments, a portion of the cost being debited to each landlord. After the destruction of the embankments on the right side of the Damodar in 1855 Government decided to abandon the right bank embankments keeping only those on the left bank. In order to provide relative immunity to the tract north of the river, new embankments were constructed along the whole of the left bank of the Damodar. The floods, however, could not be avoided and in August 1909 owing to heavy rains the Banka and other rivers overflowed large tracts of the district. The water took several days to recede and the crops were heavily damaged by their continued immersion. A good number of houses were damaged and at least five lives were lost.

Famine of 1866

Bardhaman was one of the districts in Lower Bengal in which the famine of 1866 was severely felt and the people, especially of the poorer section, had to suffer much. The autumn rice crop of 1865 was a full one but the winter crop fell far short of expectation. By March 1866, however, distress began to make itself felt and coarse rice which was selling at Rs. 1.25 to Rs. 2 per maund at that time in the previous year was selling at Rs. 4.50. In June the price rose to Rs. 5 a maund against Rs. 2.12 the usual rate for that month. There was a sudden influx of hungry people into the town of Bardhaman from the neighbouring districts of Medinipur, Bankura and Birbhum. The Maharaja of Bardhaman and various religious trusts distributed rice doles to these people. But soon it was found that charitable efforts were unable to cope with the increasing distress. Government aid was sought and in August a sum of Rs. 3,000 was granted by the Board of Revenue for the relief of the distress. A sum of Rs. 2,000 was further sanctioned and on receipt of these funds, the

Divisional Commissioner formed a committee consisting of officials and non-officials to find ways and means to cope with the situation. This committee was informed at its first sitting that the Maharaja of Bardhaman was prepared to provide for all the destitute persons in Bardhaman town entirely at his own expense, the arrangements being subject to the supervision and approval of the Commissioner. This magnificent offer was readily accepted, and from the 6th of September the work of gratuitous relief in the town was made over to the Maharaja. Cloths were distributed gratuitously to 2,183 persons in all, and money was paid to the paupers to enable them return to their homes, as the distress began to subside. The number of persons on the Muster Roll decreased gradually and on the 31st October the returns showed only 1,206 persons as being fed daily. Up to the 4th November of that year the total expenditure of the Maharaja amounted to Rs. 14,550.

The Raniganj Subdivision, which was then within the magisterial jurisdiction of the Bankura district, probably suffered most severely in the famine. There was a heavy exodus of the non-Bengalee working population from the town of Raniganj. In the middle of June, the exodus was halted, as small-pox had broken out among these people. Acute distress was manifest in June and a good number of people began to flock in from neighbouring areas, especially from Manbhum. The fund at the disposal of the Committee being quite inadequate, a grant of Rs. 2,000 was made by the Board of Revenue. This was again supplemented by a sum of Rs. 1,000 from a fund subscribed by the employees of the East Indian Railway Company and Rs. 500 from the Bankura Central Committee. Relief centres were opened at four places where gratuitous relief was given and cheap rice sold. In the town diseases spread owing to under-nutrition and to cope with the situation, a pauper hospital and, afterwards, a small-pox hospital were established. The number of deaths in the streets and hospitals was not negligible, and an average of fifteen a day was recorded during the months of July, August and September. In the same months about 1,500 persons were provided with employment on the roads. The number of deaths due to malnutrition increased gradually, and the distressed people flocking in from other places outside the district were found dying soon after their arrival from the attack of various diseases, such as, dysentery and diarrhoea. The total amount spent on relief in Raniganj subdivision was Rs. 7,568, and the

aggregate of the daily total of persons who received relief was 3,48,296 according to the records maintained by the Committee. From the middle of July to the middle of November the daily average was 2,902 persons under the relief operations.

In order to enable the Relief Committee to carry on the relief work at Bardhaman, Katoya and Kalna the Board of Revenue provided a sum of Rs. 3,000 while the Calcutta Central Relief Committee donated Rs. 2,000. Besides, Rs. 9,558 were collected as private subscriptions. The Katoya and Kalna relief centres were exclusively run by private subscriptions. This sum, however, was in addition to the expenditure incurred by the Maharaja and other private individuals.

According to the Famine Commissioners who were in charge of relief work, the people of this district did not suffer as severely as the people in the neighbouring regions. "The generally prosperous condition of the cultivating classes, caused by their proximity to the Calcutta markets, enabled them to offer a greater power of resistance to famine than that which could be offered by the cultivators of the less advanced districts to the west and south-west, and they also received much support from their landlords."¹ The daily labourers coming to the town swelled the crowd of paupers who had come from other districts which had suffered more severely. In most of the centres disease and deaths were unavoidable. Although the relief granted to the district was limited, it probably did not fall short of the requirements.

Famine of 1874

Prior to 1874 there has been in the district acute suffering from the effects of two years of marked adverse harvests and this situation was aggravated by nearly ten successive years of virulent epidemic fever. This means that not only the material resources of the people were reduced but their physical capacity was also seriously impaired. In 1872 there were late rains and they were also not evenly distributed. The outturn of winter rice, the main food supply of the people, was short and many plots of lands and even vast tracts remained uncultivated. There was sufficient and timely rain in Kātōyā Subdivision offering a good harvest. But elsewhere in 1873 the rains were unseasonable in distribution while in September and October of that year there was great deficiency.

¹ Peterson, J. C. K. — *Bengal District Gazetteers: Burdwan, Calcutta, 1910*, p. 102.

Towards the beginning of April the distress was gradually being felt in the north-west of the district. The people were found in a wretched condition and the labourers began to complain very loudly for want of work. A good number of people left the district, leaving their women and children, to seek employment elsewhere. Even the well off middle class families were nearly as loud in their complaints as the labourers. There was no employment for goldsmiths and the barbers complained that the people had given up shaving. No advances were made by the *joidars* to the cultivators while the priests complained that their sources of income had dried up. The weavers could not get any advances, mendicants, cripples and lepers found that charity was no more. The collector of the district after an extensive tour admitted that distress had spread all over the district and anaemic, clammy faces of the sufferers could be seen everywhere.

Relief work among the distressed started in April when gratuitous relief was extended to as many as seven thousand persons. This number rose to eleven thousand by the end of May and further increased to twenty-six thousand towards the end of June. During the next three months of July, August and September, the number of persons receiving charitable relief never fell below fifty-five thousand and the peak was reached in mid-August when the number was seventy thousand. In all 6,812 tons of rice were gratuitously distributed while 3,002 tons were advanced as loans and 1,495 tons paid as wages. At the same time a sum of Rs. 5,46,723 was spent on account of gratuitous relief, Rs. 62,277 in wages and Rs. 70,559 were advanced as loan. In January the average daily number of labourers employed in relief operations was 1,168; in February, the number was 3,513 and 3,359 in March. The number for April, May, June, July, August and September was 6,430, 9,613, 11,574, 7,571, 5,252 and 2,206 respectively. This form of relief ceased at the end of September, but on the 30th of November of that year 3,475 persons were still being fed at the cost of Government.

In 1884-85 the distress was caused by the failure of crops in two successive years. Local relief works had to be opened, gratuitous relief was distributed and loans were also advanced to the affected persons. The prices of essential commodities, however, never reached famine heights and the supply of rice in the market was never very insufficient.

Distress of
1884-85

During the year 1913-14 unusually high floods occurred in the district causing serious loss of life and property and damage to

Floods of
1913-14

standing crops, seedlings and houses. The District Officer took immediate steps to help the people by giving shelter, medical help, grain and money and they were aided by local bodies and public spirited gentlemen. Funds were also placed by Government at the disposal of the District Officer for gratuitous relief and for the grant of agricultural loan. Arrangements were also made for the distribution of food and clothing where necessary. From the outset special attention was paid to sanitary measures. Suspension of revenue was granted by Government in the temporarily settled estates in the flood affected area and the Collector of the district was instructed to show the utmost leniency and moderation in enforcing the sale law in regard to the permanently settled estates which had been affected by floods.

In the year 1917-18 some damage was caused to crops by floods of the rivers Ajay and Damodar. Financial assistance was extended to the affected persons under the Agriculturists' Land Improvement Loans Acts. Later in the year the district also suffered from deficient rainfall, resulting in failure of winter crops which caused acute distress particularly to the cultivating classes and landless labourers. To meet the situation, relief operations were started by the District Board concerned with their own funds supplemented by advances from Government Land Improvement and Agriculturists' Loans which were distributed according to requirements. Besides, various relief committees were organized to help the affected people. Government supplemented the resources of these bodies by allotting money for gratuitous relief.

In the year 1928-29 the weather conditions were generally favourable and the crops were excellent, but as they were not harvested until the autumn, the effect of the failure of crop in 1927-28 was felt in the early part of the year. The relief operations started in the later part of the year 1927-28 to combat scarcity in the district and these continued until November 1928. Land Improvement and Agriculturists' Loans were distributed liberally to deal with the situation.

In the middle of August 1934 heavy local rainfall and phenomenally rapid rise in the level of the Damodar as the result of rain storms in the Chhotanagpur hills, caused serious floods in the adjacent areas of the district. The town of Bardhamān was for a time under several feet of water; there were six feet of water on portions of the Grand Trunk Road and an area of 200 sq. miles (518 sq. kms.) in the district was inundated. The principal

Floods of
1917-18

Crop failure of
1928-29

Floods of
1934-35

damage in the affected areas was confined to huts and *kutcha* houses, of which 19,250 were destroyed. Fortunately food stocks were not seriously damaged. In some places the flood water facilitated the transplantation of paddy. A sum of Rs. 22,000 were distributed as gratuitous relief, mainly for the rebuilding of houses, and in each case Government provided approximately half of the amount, the remainder being contributed by the District Board. The Damodar flood, however, could not compensate for the continued lack of rain. The failure of crops in the district continued to cause anxiety, and the position of agriculturists became a matter of grave concern in November and December.

Apprehension felt at the end of 1935 that acute distress would later prevail in the district proved unfortunately true, and relief operations had to be undertaken by Government over a wide area throughout the first 9 months of the year. The distress was due to two successive bad harvests of *aman* paddy in 1934 and 1935. The measures adopted to deal with the situation included Test Relief Works, Gratuitous Relief, Agricultural Loans and Land Improvement Loans. On receipt of a report from the Commissioner of the Bardhamān Division, Government acted promptly, and early in January 1936 appointed an Additional Commissioner for the Presidency and Bardhamān Divisions to supervise and coordinate all relief measures, and placed under him a special staff of Sub-Deputy Collectors and Settlement Kanungos to work as relief officers. Each of these officers was placed in charge of organising Test Relief works and distribution of money for loans and relief in a selected area.

By the middle of March test works were in full swing throughout the district and the peak figure was reached by the end of April, dropping again in June. With the early onset of the monsoon at the end of May and the commencement of normal cultivation the attendance at test relief works began to fall. In July attendance fell so low and weather conditions became so impossible for earthwork that all test works were closed down and gratuitous relief had to be extended. Distribution of relief continued throughout the hot weather, and was increased everywhere during the monsoon season when test works were impossible. Monthly doles were distributed at the daily rate of 3 pice for an adult and 2 pice for a child, and for the first time in the distribution of famine relief the rate prescribed for women was not less than that prescribed for men.

Failure of crops
in 1935-36

The Bengal
Famine of 1943

The root cause of the famine of 1943 is to be found in the series of crop failures that Bengal experienced beginning from 1938, and in the conditions created by the War. Among the latter, mention may be made of the stoppage of normal imports from Burma, dislocation of trade and movements of foodgrains because of controls and nearness of Bengal to the theatre of War in the East. To this may be added such other factors as the demand from the army for supply of food and inflow of refugees from Burma; the rise in prices due to corrupt trade practices. The most tragic part, however, was the failure of the administration to foresee at the beginning of the war in 1939 or even as late as April 1943 when Burma fell, the situation that developed in 1943 and to take timely action to meet it.

With hostilities spreading to South-East Asia, an atmosphere of uncertainty led to the phenomenal increase in speculation and black-marketing. There was a partial failure of *aman* crop in 1942 which did not permit any saving or accumulation of stock. There was another widespread failure in agricultural production in 1943, which, coupled with the visitation of a devastating cyclone in some parts of lower Bengal, created a food crisis of the first magnitude. In this hour of grave trial the administration was found quite unprepared to meet the challenge.

Natural shortage together with dislocation of normal channels of distribution of supplies and the tendency on the part of consumers, producers, and traders to hoard sent up prices of food to unprecedented heights.

"In the Burdwan district the prices of medium rice rose from Rs. 7.50 a maund on 18 November 1942 to Rs. 10.50 per maund seven days after and to Rs. 11.50 per maund on 2 December 1942. On 7 January 1943, the prices stood at Rs. 14 and by May 1943 it had reached the high mark of Rs 29.75."¹ This was an extremely oppressive price for the poor and this high price rendered rice beyond the reach of the poor who began to starve. By August 1943, rice in most of the districts was selling at a price varying from Rs. 40 to Rs. 50 per maund while in Chittagong and some other parts of the province the price was quoted as high as Rs. 80 per maund in October 1943.

The Famine Enquiry Commission which inquired into the causes and effects of this tragedy was of opinion that "a million and half of the poor of Bengal fell victims to circumstances for

¹ Bhatia, B. N. — *Famines in India*, New Delhi, 1966, p. 523.

which they themselves were not responsible. Society, together with its organs, failed to protect its weaker members. Indeed there was a moral and social breakdown as well as administrative breakdown."¹

The work of famine relief started with the convening by the Government, of a conference of the District Officers at Calcutta in the middle of August, 1943. This was a time when people were already dying in hundreds on the streets of Calcutta. Relief measures were rather belated and inadequate. These measures included distribution of gruel or uncooked food to the needy; wages for test relief work, to be paid in cash or kind; agricultural loans, and sale of food grains at subsidised rates. The Famine Commission was very critical of the delay in starting relief and the inadequacy of the measures adopted by the Government in the earlier stages of the famine. Besides Government measures, many philanthropic private organizations also came forward and organized gruel kitchens and mass relief campaigns. By the end of 1943 Lord Wavell, who was then appointed the Viceroy, decided to employ the army to help the civil authorities in Bengal. With better organization and initiative, they ensured quick movement and distribution of foodgrains and ultimately brought the famine under control.

The floods of 1956 which assumed serious proportion in the month of September of that year was due to rain storm which was mainly concentrated in the lower valley down-stream of Maithon and Panchet Dams. This storm caused a heavy rainfall over a period of three days covering the catchment of 1,020 square kms. extending from Maithon and Panchet Hill Dams to Randiha. As a result of incessant rains for three days many mud houses collapsed, and a good number of agricultural labourers failed to get any employment. Damage was caused to crops partly through local excessive rainfall and partly overflow from rivers. About 17 per cent of the total area of the district was inundated by the September 1956 flood.² Portions of Khandaghosh and Raina police stations along the river Damodar starting from Khandaghosh upto the border of the district to the south were affected severely by flood. This area is on the right bank of the Damodar and within its spill area. Other flood affected areas included northern and eastern borders of the district from

Floods of
1956 & 1959

¹ Famine Enquiry Commission Report on Bengal, Calcutta, 1945, p. 107.
² Report on the Floods of September-October 1956 in Central, Western and Southern Districts of West Bengal, July 1957, p. 12.

a little east of Satkania right into the southern border of Kalna police station. The flooded area included portions of Ausgram, Mangalkot, Ketugram, Katoya, Purbasthali and Kalna police stations. It may be added that several isolated small areas in Asansol Subdivision also remained waterlogged for some time.

Figures received from the District Magistrate show that this district suffered severe damage from the flood of September 1956. Embankments along the Ajoy were breached and the G. T. Road (National Highway No. 2) was also damaged. Bardhaman-Arambagh Road running through the district had breaches also at several points. Besides, damage to *aman* crops within the area was considerable. There was damage to house properties, loss of human life and cattle due to this flood. There was also extensive damage to the DVC canal system already constructed in this area.

Flood of 1959

In 1959 an area measuring about 4,034 sq. kilometres of the Bardhaman district south of the river Ajay between the Bhagirathi on the east and the Damodar on the west was affected by flood. The affected areas included portions of Katoya, Purbasthali and Kalna. Besides, the Banka and Khari river basins as well as the Behula-Gangur river basin were affected. Rescue operations were conducted by the district authorities in the water-logged areas, and relief in the form of cash and dry doles was also extended to the deserving persons. At a later stage, house-building grants were also given for repair of hutments damaged by flood.

CHAPTER V

INDUSTRIES

OLD TIME
INDUSTRIES

The economic history of Bardhaman prior to the advent of the Europeans is virtually unknown. From various private documents and official records left by early European settlers it is evident that in agriculture, manufacture and commerce Bengal was the richest province under the Mughal administration.¹

During the 16th century, the Portuguese enjoyed a monopoly of oriental trade, their maritime empire extending from Japan to Brazil. Nuno da Cunha, the Governor of Goa from 1528 to 1538, first opened up direct trade with Bengal and the Portuguese poured into Europe especially at Antwerp and Amsterdam, in unexampled profusion those commodities of Bengal, on which Europe at that time set an extraordinary value. The splendid fortune of Portugal inflamed the cupidity of all the maritime nations of Europe and set before them the most tempting prospects. Subsequently, the Dutch and the English had appeared in the Bay of Bengal and before their indomitable competition the Portuguese trade withered away as rapidly as it had sprang up.

Throughout the 18th century, Bardhaman was one of the most prosperous districts of Bengal. Bharatchandra's description of the *bazar* in *Annadāmanāgal* portrays its affluence in the middle of the century. Among the merchandise the poet mentions a long list of textiles. Holwell also speaks of at least 15 kinds of cotton

¹ The best evidence about the wealth of Bengal about a century before British conquest is Bernier's *Voyages to the East Indies*. According to him Bengal's surplus rice was transported by sea to Masulipatam and to other ports on the Coromandal coast, Ceylon and the Maldives. Its sugar was exported to Golkonda, Arabia, Mesopotamia and Persia. Of commodities of value, in cotton cloths and silk stuff Bengal was the grand magazine, not only for the empire of the Great Mughals as far as Lahore and Kabul, but also for all the neighbouring kingdoms and for Europe. (Vide, Sinha, N. K. — *The Economic History of Bengal*, Vol. I, Calcutta, 1961, p. 109). Manrique, a friar of the Order of St. Augustine (early 17th century), described the great fertility of the banks of the Ganges and the magnificent fabrics of cotton which were exported from Bengal to all the countries of the East. Similar accounts were also given by Marco Polo, a Venetian (close of the 13th century) and Nicolo Conti, another Venetian who came to Bengal in the 15th century. Nichola Graf, a Dutch physician (close of the 17th century), admired the mosques and pagodas and gardens of Rajmahal, and the white walls and towers and minarets of Monghyr. The celebrated French traveller, Bernier, travelled in Bengal about the same time. The first English mercantile adventurer to come to Bengal was Ralph Fitch. He came overland in 1585. (Vide, Dutta, R. C. — *A Brief History of Ancient & Modern India*, Calcutta, 1891, pp. 161-63).

fabrics manufactured at various centres within the zamindari of Raja Tilakchand.¹ The prosperity of Bardhaman before Palashi was ascribed by Verelst to the cheapness and quality and the prodigious traffic of her manufactures. Besides the large investments of the different European nations, the Bengal raw silk cloths, etc. in vast amounts were dispersed to the West and North inland as far as Gujarat, Lahore and even Ispahan.² The industry of this and other western districts was considerably affected by the Bargi incursions. Many weavers and artisans migrated to eastern Bengal. The break up of the Mughal empire, the flow of cheaper Chinese silk and Dutch sugar dwindled Bardhaman's export cargo. The place still maintained her lead in manufacture, with the only difference being that by the end of the 18th century it was East India Company's monopoly. In the Bardhaman District Records³ we find the existence of two parallel sectors of trade, European and indigenous. While the former exercised an exclusive right of business over a wide range of goods from cotton and silk to salt and saltpetre, the latter was limited to trade in grains, mostly rice. In other words, industries requiring a relatively more advanced form of investment and enterprise were put out of reach of the natives, who were strictly confined to that particular branch of trade which depended mostly on agriculture.

In Bardhaman, by the time of the Decennial Settlement, the Company by its policy of investment had already established a very close grip over some of the most important native industries like cotton textiles, silk, sugar, lac, etc. A powerful network of factories grouped around eight major centres, each under a Commercial Resident, had been built throughout the district which at this time included parts of modern Medinipur, Howrah, Hugli, Birbhum and Nadia districts.⁴

¹ Holwell — *Interesting Historical Events*, pp. 195-96.

² Verelst's correspondence with the Court of Directors, dated 5 April 1769, quoted by Sinha, N. K. — *op. cit.*, p. 109.

³ Guha, Ranajit & Mitra, A. (Ed.) — *West Bengal District Records* (vol. II), New Series: Burdwan, Letters Issued 1788-1800. Calcutta, 1956, p. Lxxviii.

⁴ "The Commercial Resident, rather than the Collector, wielded the power of the public purse. Mr. Keating possessed the patronage only to the amount of £ 3,000 per annum, and all valuable appointment in his gift required the confirmation of the Calcutta authority. But Mr. Cheap, as commercial chief, had from £ 45,000 to £ 65,000 to spend each year on behalf of the Company. The whole industrial classes were in his pay and in his person Government appeared in its most benign aspect. On the Collector devolved the harsh task of levying the taxes; the Commercial Resident had the pleasant duty of redistributing them." (Vide, Hunter, W. W. — *The Annals of Rural Bengal*, Calcutta, 1965, p. 182.)

In 1892, E. W. Collins reported that at Memari and Radhakantapur there were some 200 families of silk weavers who produced annually about Rs. 35,000 worth of silk known as *garad*. The chief seat of *tussar* silk industry was Mankar where 460 families were engaged in its production. Bardhaman's total production of *tussar* was estimated at 3,00,000 yards valued at Rs. 1,25,000. *Tussar* silk-worm was not cultivated; it came from the jungles of Chhotanagpur and its supply was irregular. Its demand was, however, constant as all the Hindus wear silk when performing religious ceremonies. As in the case of cotton, the women of the weaver's family reeled and twisted the silk thread. From the Bengal Administration Report for 1903-04 we find that there was a general decrease in *tussar* silk products in Bengal, but the decrease was most marked in Bardhaman, being 41,780 yards against 1,64,380 yards in the previous year. From the 1929 Report on Survey of Cottage Industry in Bengal one gets the impression that the industry was in a dying condition due to insufficient supply of cocoons and oppression by *mahajans*. Deforestation of Singhbhum affected cocoon supply. There were only 6 looms at Memari, 15 at Radhakantapur and only a dozen weavers at villages Sripur and Khya. Similar was the condition of villages Bagtikra, Ghoranash, Musthuli, Chanduli, Singri, Sribati, Gopekanji and Madhabpur in thana Katoya, Dainhat, Jagadabad and Dhem in Manteswar police station. In Manteswar *kete* cloths were made from *tussar* refuse and in other places of Katoya Sub-division *tussar dhutis*, *sādis* and *thāns* were prepared by throw-shuttle handlooms mostly for the local market. A part of it was exported to Madras.

Down to the year 1756, a considerable trade in Bengal sugar was carried on with Madras, Malabar, Bombay, Surat, Sind,

buting them." (Vide, Hunter, W. W. — *The Annals of Rural Bengal*, Calcutta, 1965, p. 182.)

It may also be mentioned that cotton textiles also suffered from numerous feudal restriction. Besides the existence of tolls, in cash and in kind, imposed on the sale of raw cotton in the village markets, there were other levies, most important of which was *suti mahal* or duties collected on thread or on cloths manufactured at the *auranges* throughout the district. There existed in Burdwan at this time five *suti mahal* estates, each held by an under-farmer who, on payment of a fixed amount of rent to his principal, was authorised to collect duties on cloth and thread exported into or imported from the *aurang*. (*West Bengal District Records*, New Series, Burdwan, Letters Issued 1788-1800. (Ed.) Guha, R. & Mitra, A. — Calcutta, 1956, p. lxxxii-iii). Collins, E. W. — *Report on the Existing Arts, and Industries in Bengal*. Calcutta, 1892. pp. 8-9.

Muscat, Persia, Mocha and Jedda and much of it came from the irrigated lands of Barddhamān which seems to have been the chief sugar producing district in the middle of the 17th century. As late as 1756 the annual export of sugar was about 50,000 maunds. Between 1756 and 1776 the price of Bengal sugar increased by 50 per cent and it failed to compete with Java sugar.¹ Cultivation of sugarcane rapidly declined. Bengal sugar could not enter the English market due to heavier import duty on it as compared with sugar coming from the British West Indies. The long voyage round the Cape of Good Hope was also detrimental to the quality of Indian sugar. In 1836, sugarcane cultivation received some stimulation when the duty on Bengal sugar was brought at par with the West Indian sugar. With the decrease in mulberry cultivation, sugarcane cultivation increased remarkably, particularly in the last three decades of the 19th century.² But in Barddhamān sugar production did not look up probably because its irrigation system was completely destroyed by then. The Commercial Resident of Sonamukhi appealed to the Collector of Barddhamān on 17th Sept. 1795 to repair two branches of the bunds near to the Company's sugar factory at Edeelpore where the stocks were in danger of inundation. Captain Colebrook's report on the Damodar system appeared in the same year. The Company tried to solve the problem by patch-work and by compelling the Raja of Barddhamān to bear the cost. Such half-hearted measures obviously failed. On the other hand, new irrigation system in Bihar (particularly in Sahabad district) and the introduction of expensive but far more efficient machinery by European entrepreneurs gave Bihar a lead in sugar production.³ "The indigenous sugar mills of Barddhamān known as *kulhu* (stigmatised by Thomson and Mylne who invented the new iron mill for crushing sugarcane as 'the barbarous and wasteful method of cane culture') consisted essentially of a

¹ Sinha, N. K. — *op. cit.*, p. 124.

² The growth of sugarcane cultivation in the first phase was due to foreign demand but in the last four decades of the 19th century it was entirely due to internal demand. By then, Bengal was an importer of foreign sugar rather than an exporter. Bengal started exporting sugar to Europe on a large scale when the revolt in the sugar producing colonies of France during the French Revolution practically destroyed the sugar industry there. In the eighties of the 19th century, the foreign demand very nearly disappeared when cheap beet sugar from Germany captured the market. But even this new trend was very short lived because the soils of Bihar were found more suitable for indigo cultivation to which the Company quickly switched over.

large wooden or stone mortar in which a huge wooden pestle is made to revolve by the traction of a pair of bullocks. ... The cane is cut up into short strips, which are placed in the mortar and are crushed by the pestle as it rolls over them." In 1885, the Commissioner of Barddhamān reported, 'when crushing out the juice and converting the same into *gur* (raw sugar), most of them generally take advances from the money-lenders to enable them to manufacture or dispose of their *gur* on the spot, or in the nearest market'.⁴ Oppression by these money-lenders probably killed all the interest the Barddhamān peasant had in sugarcane cultivation.

There were several indigo plantations and factories in the district in seventeen eighties. On May 1788, E. Hay, Secretary to the Government, wrote to J. Kinloch, Collector of Barddhamān, permitting Honor. Bannean to carry on indigo manufacture.⁵ The estates attached to these factories were very vast. Indigo cultivation continued to expand in Barddhamān till 1860—the year of 'indigo peasants' revolt. Messrs. Moran & Co.'s market reports reveal that 1,020 maunds of indigo came from Barddhamān in 1874-75. The production dwindled to only 268 maunds in 1894-95. The Prussian discovery of the chemical-dye began to tell on the indigo trade and by the close of the 19th century it became extinct.

The Barddhamān district's share in the Company's monopoly trade in saltpetre, opium, drugs and salt was negligible. Distillation was an important industry and licensing formed an important part of the Collector's duties. From a letter dated 9th September, 1791 from the Secretary to the Board of Revenue to the Collector of Barddhamān, it appears that some gun-powder used to be manufactured at Barddhamān by an agent named Mr. Farguherson.

Barddhamān was famous for its copper and brass utensils.

The new (iron) crushing mill known as *Behess* mills after a Sahabad estate, could crush nearly three times as much sugarcane as the old one and the juice extracted was more refined and the yield of sugar was higher by at least 25%.

The Government did not advance money for the cultivation of sugarcane as it did for indigo and poppy. Government believed that sugarcane cultivation was confined to the well-to-do ryots, and the aid of money-lenders is seldom sought (vide, *Proceedings of the Indian Agricultural and Horticultural Society*, May 1884, No. 37). In actual practice, however, a new group of credit financiers had taken full control over the cultivation and marketing of sugar-cane at the close of the 19th century. Mitra, Asok (Ed.) — *West Bengal District Records, New Series: Burdwan, Letters Received 1788-1802*. Calcutta, 1955. p. 10.

This indigenous industry did not suffer from foreign competition till the 19th century. Collin reported: "The extent of the industry may be calculated from the fact that the imports of copper, brass, and zinc in the year 1887-88 valued over 90 lakhs, a very large quantity of which must have been locally worked up into articles of use or ornaments. In almost every town there are shops of braziers, but more than one-fourth of the total number in Bengal are found in Bardhaman Division. There are over 1,300 families of brass workers in the Bardhaman district alone, and the chief seats of the industry are Sahebgunge, Bonpus, Dainhat, Dewangunge, Purbasthali and Culna. Each town is famous for some particular branch of trade. There are some place which make a speciality of casting, others of making beaten-out articles. At Dainhat and Mutiari in Bardhaman large vessels and cooking pots of beaten metal are made."¹ The 1929 *Report on the Survey of Cottage Industries in Bengal* mentions Begunkhola (Katoya Subdivision), Chupi (Kalna Subdivision), Jabui, Sahera Bazar, Dignagar, Kaitara and Kamarpara (Sadar Subdivision) as centres of brass and bell-metal industry besides those listed by Collins in 1892. At Dainhat the utensils were made from bell-metal plates and brass sheets, while at Begunkhola and Ketugram thanas they were made by moulding. Bell-metal utensils were made of imported Australian copper and tin from Singapore and Penang and were marketed throughout northern India. Copper *dekchis* of Dainhat were in heavy demand.² Blacksmiths were found in all the large settlements for its manufacture and repair of agricultural implements and other hardware articles of general use. Village blacksmiths were paid in kind, viz. so much grain per harvest for keeping the agricultural implements in repair. Good quality cutlery were made in a few places, especially Kanchannagar which supplied the Stationery Departments of Bengal and Bombay with knives and scissors³ during the last century. Though the industry was on the decline due to foreign competition, yet some of the larger factories were manufacturing articles worth Rs. 6 to Rs. 8 thousand during the third decade of the present century.

¹ Collins, E. W. — *op. cit.* p. 4.

² Weston, A. T. — *Report on the Survey of Cottage Industry in Bengal*. Calcutta, 1929.

³ Collins, E. W. — *op. cit.* p. 5.

Collins reported that pottery was found everywhere in Bengal but the best earthen utensils were made in Bardhaman district on the banks of the Bhagirathi where the clay was specially suitable for the manufacture of durable earthenware. Catering to the needs of the coal belt, potters of Rupnarayanpur had at one time thrived. There were about 150 families of potters, each employing four men and women on an average in the villages of Alldu, Machidi and Ramchandrapur. The oven they used consisted of a big hole dug in the earth over which a platform of broken pieces of earthenware was raised 2 to 3 ft. from the ground. An opening in the platform was used to fire coal. The pots after they had been sun-dried were arranged in a gallery each stratum being covered with a layer of coal-dust, straw and mud before another was placed over it. The burning operation continued for about 6 or 8 hours with an occasional addition of fuel. The consumption of coal amounted to about 5 maunds for about 120 vessels of big size and the cost of coal was about Rs. 1-6 (Rs. 1.37 p.). After the operation was over the pots were allowed to cool and then taken out. The loss due to breakage was, however, 20 to 25 per cent.¹ In 1890, Messrs Burn & Company's pottery at Raniganj employed some 600 men for the manufacture of bricks, tiles, drain pipes and *terracotta* or ornamental ware for vases as well as architectural decoration. It appears that *terracotta* designing and modelling was a very old art in which the potters had specialised in this part of Bengal. Burn & Company, however, failed to revive this industrial art because the coolie boys were made to copy stereotyped drawings and the designers and modellers could not produce anything original.² For glazing, the potters used a clay called *belutti* found near Kalna. Native potters, however, did not understand the art of fusing glazes.³

Weaving of woollen blankets was an old time industry of Asansol. Even during the third decade of the present century a few families of *bhediwalas* carried on this industry. Each family engaged two men in weaving and two women in spinning and preparing the wool. A person could weave in three days a blanket measuring 7½ feet × 4½ feet with the assistance of a woman. The cost of raw materials was about Rs. 2 and the finished product about Rs. 7. Most of the *bhediwalas* had their

¹ *ibid.*

² Collins, E. W. — *op. cit.* p. 6. The workmen earned Rs. 15 to Rs. 20 per month.

³ *ibid.* p. 7.

Reasons for
the decay of
the old-time
industries

own flocks of sheep but they also purchased wool at Rs. 40 per maund.¹ Very primitive *charkūs* and looms were used for spinning and weaving which is the main reason for the decay of this industry.

The outstanding features of the history we have so long traced, are decline of industry and loss of capital during early British period and rise of new industries based on commercial agriculture and coal during the 18th century. The premier industry of the district was the manufacture of cotton and silk goods, which though a cottage industry, was by no means small in volume or insignificant in its total effect upon the economic wealth of Bengal. For, not only did Bardhaman clothe her own population with the products of her looms, but she had a considerable surplus left over for export. Some people opine that the decline was mainly due to hostile tariffs imposed by England on Bengal piece-goods. In effect, these tariffs quickened the pace of adoption of cotton textile machinery in England. In fact, cotton and silk industries had begun to decay due to oppression and monopolistic control² even before the competition of machine-made goods began to be felt in this country. The Industrial Revolution only hastened this decaying process.³

The indigenous trade and industry suffered from serious limitations. Firstly, it was hampered by *sayer* collections which continued in spite of prohibitory orders and regulations. River-borne commerce was in particular affected by the collection of tolls, known as *sayer chalanta*, at the *ghats* and *ganjas*. In May, 1786 the Raja demanded that he should be allowed "either the deduction (of Rs. 82,868 from his *jama* on account of the abolition of *sayer chalanta*) or authority to collect the duties-notwithstanding the *Purwannahs*."⁴ This was of course refused. In November, 1786 the Board of Revenue authorised Collectors to inflict corporal punishment on those found guilty of exacting illegal

¹ Weston, A.T. — *op. cit.*

² The predatory methods used by the early English traders to establish this monopoly are well-known. What differentiated the epoch of Bolts from the last decades of the 18th century was the fact that by the middle eighties the Company had already succeeded in either expelling from the districts altogether or bringing under its direct control the numerous adventurers of European origin whom the Government had for a long time regarded as unwelcome partners in the internal trade of the country. There are several letters in the Bardhaman District Records to show how the Government followed a very cautious policy about issuing licences for commerce and manufacture to European applicants.

³ Sinha, J. C. — *op. cit.* pp. 275-76.

⁴ Proceedings of the Board of Revenue, 7 June 1786.

duties like *rahadari* and *chalanta*, and to confiscate a part or even the whole of the estate of a zemindar within whose jurisdiction the offence was committed. But even this did not put a stop to the abuse, for the zemindars, pressed hard by the Government's revenue demands, could not do without such illegal gratification.¹ The levy of Police Tax in December 1792 'upon the merchants traders and shop-keepers' to pay for the expenses of the police establishment in the district seriously affected the trade and manufacture of the district. The district officers in order to increase the amount of receipts of Police Tax, insisted on extending the area of taxability to include not merely *bonafide* traders, merchants and shop-keepers, but also artisans and manufacturers of all kinds. The weavers were the hardest hit. Many of them who worked for the Company's investment, received advances in grain and not in money, but the moment they took it out for sale at a market-place they would be, according to the Collector's interpretation, liable to taxation as dealers in grain. Unfortunately, this view was upheld by the Board and the Council. Consequently, in the five years that the Regulation was in force (it was rescinded in 1797), the weavers of Bardhaman were put to great distress. Abuses in assessment and collection were the rule and many weavers who refused to pay were sent to jail for extremely petty demands which in many cases did not exceed a few annas. In fact, imprisonment was considered by the Collector as the most effective method of correcting defaulters. The result was that apart from the hardship caused to the weavers, the tax undermined the Company's investment itself, for many of them were working on contract for the Company's factories.² New

¹ The case of Nundoomar Roy of Smarunge (who was a *dewan* to Raja of Bardhaman as reported by V. Bures, the Collector of Bardhaman on 30th August 1793, actually illustrates how the grants of *sayer* rights together with rent-free lands often amounted to an evasion of law. *Vide*, Guha, Ranjit & Mitra, A. (Ed.) — *op. cit.* p. 391. Smarunge was named after Hon'ble Charles Stuart who granted the *Sunnud* to Nundoomar Roy.

² With reference to several correspondences from the Collector in the *Burdwan District Records* (pp. 89-90, to the Commercial Resident at Surul, p. 108 to the Governor General in Council, p. 111 to the Commercial Resident at Calcutta, pp. 115-16 and 121-22 to the Commercial Resident at Sonamukhi, p. 142 to the Commercial Resident at Radhanagar, pp. 198 and 231 to the Board of Revenue and p. 256 to the Judge of Hooghly). R. Guha and A. Mitra Comments "It is a fine study in the inner contradictions of a bureaucracy to see how in many of those letters the Commercial Residents assume the role of defenders of the might of the oppressed weavers against the tyranny of the Collector and his peons. As in the case of land revenues here also the fiscal policy of the Company almost defeated its own purpose by immoderate demands. *Vide*, Guha, Ranjit & Mitra, A. — *op. cit.*

industries were started in Barddhamān as in other places in the State as a result of the Swadeshi Movement, the impact of Western education and the stimulus given by the Industrial Revolution in Europe to countries producing enough raw materials for sustaining modern industries.

POWER

The supply of electricity for public utilisation commenced in this district in the year 1920 when Burdwan Electric Supply Co. Ltd., a private licensee, granted licence under Indian Electricity Act, 1910 for running an electricity undertaking at Barddhamān. The electricity was then generated by small steam engine sets installed by the above Company at their power-station. This was followed by another private licensee, viz. Dishergarh Power Supply Co. Ltd. which installed a steam power-station of substantial capacity at that time. Dishergarh Electric Supply Co. started distribution of power at high voltage to collieries in the area as well as other distributing licensees of which Assansol Electric Supply Co. was the first. Subsequently, Associated Power Supply Co., another private licensee, also started their business of supply of electricity within the specified area in the year 1934. The distributing licensees which were subsequently purchasing electricity in bulk from the above two Companies were Barakar Electric Supply Co., Raniganj Electric Supply Co. and Jamuria Electric Supply Co.

Prior to constitution of the West Bengal State Electricity Board, the then Electricity Development Department of Govt. of West Bengal, took over the undertaking of Burdwan Electric Supply on 15.3.53 on revocation of the licence of the above-Company. In the meantime, however, Damodar Valley Corporation, an autonomous body constituted under the provision of Damodar Valley Corporation Act, 1948, commenced their supply of energy in the district. With the availability of power from the Damodar Valley Corporation, the West Bengal State Electricity Board instead of operating the small power-station of the Company at Barddhamān arranged to purchase electricity from the Corporation for their sub-station at Barddhamān from 9.3.56. Subsequently, the Board arranged to purchase electricity at a few more places. At the same time an industrial complex was also planned at Durgapur, a small village in the district. The requirement of power for this industrial complex was initially arranged to be met by the Corporation and subsequently the Govt. of West Bengal undertook the construction of a thermal power-station of moderate capacity through the Durgapur Pro-

jects Ltd. The project authority was accorded sanction under the provision of Section 28 of the Indian Electricity Act, 1910 to run the business of electricity within the area specified for the purpose. It was also arranged that surplus power available from the station would be purchased by the West Bengal State Electricity Board for distribution in some areas of the district as well as transmitting the same towards Bankura/Birbhum and the greater Calcutta complex. The district being industrially a developed one, the consumption of electricity for the purpose of industry is almost 10 times the consumption for other purposes.

Prior to 1970, as limited funds were available for rural electrification, it had not been possible to spread the distributing network of the Board sufficiently in this district. As on 31.3.70 the number of electrified mauzas in the district was 452 against the total number 2,665 (1961 Census); the number of deep tube-well electrified for the purpose of irrigation in the district at the same time was only 151. At the end of November 1973, 1,008 mauzas, 232 deep tube-wells, 29 river lift pumps and 545 shallow tube-wells have been provided with electricity. The table below gives an idea of the use of energy in the rural areas of the district for the period from 31.3.70 to 30.11.73.¹

	31.3.70	31.3.71	31.3.72	31.3.73	30.11.73
Mauzas Electrified	452	520	576	813	1,008
Deep Tube-wells	151	158	183	193	232
River Lift Pumps	—	—	—	11	29
Shallow Tube-wells	—	—	6	143	545

The sale of electric energy in the district is also shown in the table below for the three-year period from 1969-70 to 1971-72.

SALE OF ENERGY IN BARDDHAMĀN DISTRICT
(MILLION K.W.hr.)

1969-70	Industry	Non-Industry	Total
W.B.S.E.B.	54.08	13.49	67.57
Asansol	2.02	9.13	11.15
Bankura	0.65	1.87	2.52
Dishergarh	98.53	8.25	106.78
Jamuria	0.55	0.40	0.95
Raniganj	2.21	2.41	4.62
Associated Power Supply Co.	160.41	4.32	164.73
Durgapur Projects Ltd.	200.03	11.46	211.49
D.V.C	483.39	74.82	558.21
Total	1,003.87	126.15	1,130.02

¹ Source: The State Electricity Board, West Bengal.

1970-71	Industry	Non-Industry	Total
W.B.S.E.B.	48.35	14.20	62.55
Asansol	1.68	9.45	11.13
Bankura	0.82	1.96	2.78
Dishergarh P.S.C.	93.49	8.51	102.00
Jamuria	0.59	0.44	1.03
Raniganj	2.34	2.58	4.92
Associated Power Co.	161.27	4.35	165.62
Durgapur Projects Ltd.	150.16	11.95	162.11
D.V.C.	561.15	42.08	603.23
Total	1,019.85	95.32	1,115.37

1971-72	Industry	Non-Industry	Total
W.B.S.E.B.	48.28	17.86	66.14
Asansol	1.82	11.22	13.04
Bankura	0.89	2.08	2.97
Dishergarh	85.79	9.21	95.00
Jamuria	0.60	0.43	1.03
Raniganj	2.61	2.57	5.18
Associated Power Co.	173.37	4.58	177.95
Durgapur Projects Ltd.	133.99	10.67	144.66
D.V.C.	631.72	54.87	686.59
Total	1,079.07	113.49	1,192.56

INDUSTRIES AND MANUFACTURERS OF THE DISTRICT

Minerals

Until the beginning of the 19th century the Asansol Sub-division was a rural area. The discovery of coal and the opening of the first coal mine near Raniganj in 1774 marked the beginning of an industrial complex. Within 20 years extraction of coal became the major economic activity of the subdivision, the output approximately being 36,000 tonnes a year.

The principal mineral resources of the district are thus concentrated in this subdivision which include coal (non-coking but blendable), fire-clay and a kind of inferior iron ore. In course of assessment of the coal resources, particularly in the hitherto unexplored alluvial areas, the Geological Survey of India undertook regional exploration in recent years. Some of these areas in the district are Andal, Kulti-Salanpur and Shamdih-Bolkunda. Assessment of the lay and disposition of the Dishergarh seam and its proved reserves of coal, required for deep mining in the seam, are the main objectives of this intensive exploration. Some other areas of the Raniganj Coalfield, which have prospects of developing other seams at comparatively shallow depths, are also to be explored in detail in the near future.

There are some mineral based industries like light engineering small-scale industries in the district.¹

¹ *Techno-Economic Survey of West Bengal*, National Council of Applied Economic Research, New Delhi, 1962, p. 126.

Clay varies widely in chemical and physical properties from place to place. In the district white and cream coloured tertiary clays occur within the Durgapur beds near Durgapur. These beds crop out in excavations to the north of the railway station and are also exposed as seams up to several metres in thickness in the locality. The clays are quarried by Messrs. Burn & Co. and utilized at their Durgapur works for manufacturing bricks and tiles. The district is also rich in argillaceous alluvium which produces bricks and tiles by open burning at number of places in the coal fields. These products, many of which are of inferior quality, supply local needs.¹

In the Raniganj coalfields fire-clay occurs like coal seams, sometimes maintaining constant thickness over a wide area. These fire-clays are mostly carbonaceous and occur above, below and within the coal seams, and sometimes as separate bands in the sandstone sequence. Ramnagar-Salanpur area, Samdih-Ajay-Kasta area contain the fire-clay deposits in the Raniganj coalfield.

Iron-ores also occur in some areas and mention may be made in this connection of laterite ores of the eastern part of the Raniganj coalfield. These occurrences, however, do not prove of much economic value for commercial exploitation of iron at present. But these may have a small demand from time to time, as for instance, a certain amount of soft limonitic ore is used as a desulphuriser in coking and gas plants.

As regards coal chemicals, it is interesting to recall that this was one of the main objectives behind the creation of Durgapur, especially the coke-oven group of plants set up by the State Government. It was planned that the coaltar, benzene, naphtha, etc. available as by-products from the coke-ovens would be fractionated at another plant to yield xylene, phenols, toluene, etc. which in turn could support industries for paints, insecticides, disinfectants, plastics, pharmaceuticals, etc. In this context, the role of Durgapur Chemicals Limited and other industries have been discussed in a separate section in this chapter.

Coal is the most important mineral of West Bengal and contributes about 99 per cent of the State's mineral production both in terms of value and output. This assures the retention of the second position of this small State in the overall mineral production of the country besides maintaining its contribution of

Tertiary clays

Fire-clays

Iron-ores

Coal chemicals

Coal Industry

¹ Hunday, A. & Banerjee, S. — *Memoirs of the Geological Survey of India*, Vol. 97, Delhi, 1967.

about 30 per cent of the coal production in this country." As a source of fuel, coal continues to hold its own even in this nuclear age. Such major industries like the railways, power, paper, cement and textiles consume millions of tonnes of coal every year. Again, coking coal or metallurgical coal is a vital raw material for the making of steel which is recognised by all as an index of a nation's economic progress. Indeed, the entire future prospect of the mineral industry in this State will continue hinge on coal.

Coals are produced mainly from the Lower Gondwana region commonly known as the Raniganj coalfield. This is the principal coalfield in the State. This coalfield around Raniganj and Asansol is the eastern most of the Damodar Valley coalfields. It covers an area of about 1,550 sq.km. of proved coal bearing area. Since the working of the first coal mine in 1774 by Summer and Heatley, a quantity of about 362 million tonnes of coal has been produced from this field until 1950.¹ According to Hunday and Banerjee, this figure appears to exclude the amount of coal lost at the site due to fire, flooding, etc.

The chief colliery areas in the district are at Ramnagar, Dishergarh, Salanpur, Asansol, Gaurangdih, Churulia, Charanpur, Kalipahari, Shibpur, Raniganj, Toposi, Kenda, Purushottampur, Ukhra and Kajora. Within the Trans-Ajay portion of the field lie the colliery groups of Poripur, Kasta, Arang, Raswan and the Hingla. Extension of the coal-field to the south of Damodar river is included in the Bankura district of West Bengal and in the Manbhum district of Bihar.

The annual output of coal from the Raniganj coalfield has increased from 6.6 million tonnes in 1931 to over 11.18 million tonnes in 1951 while in 1962 the output was about 18.74 million tonnes.² The production statistics of the Raniganj coalfield from the year 1958 for a five year period is given below :

ANNUAL OUTPUT OF COAL FROM RANIGANJ COALFIELD⁴
(1958-62)

Year	Output (in tonnes)	Percentage of total Indian output
1958	1,44,43,769	31.40
1959	1,51,92,065	31.70
1960	1,66,36,209	30.00
1961	1,72,00,889	30.00
1962	1,87,37,100	30.50

¹ *ibid.*, p. 94.

² *ibid.*, p. 100.

³ & ⁴ *ibid.*, p. 111.

Recent
development

By 1960, the coal output had increased to 16.18 million tonnes. "These figures reflect the story of waves of migrants who came to work in the coal mines, of the entrepreneurs and traders who urbanized areas of Barakar, Sitarampur, Asansol, Raniganj, Andul and Ukhra as mining and trade centres. Starting with a single-line railway track connecting Calcutta with Raniganj in 1855, the then East India Railway became a major network, consuming a third of the coal output of the subdivision."¹

In 1970-71, the number of collieries operating in the Asansol Sub-division was 205, employing about 1.4 lakh workers.² It may be added also that out of the total number of workers employed in various industries in the Subdivision, nearly 33 per cent of the working force account for the mining industries. The future employment pattern of the Sub-division may, however, change with the increasing mechanization in coal mining and due to effects of fuel substitution on future demands for coal.

The Raniganj coalfield has been worked since 1774 and the total production until 1950 was about 362 million tonnes. "The recoverable reserves may prove to be less than 10 per cent or so of the total on account of the included shale and stone bands within the coal seams. The actual recoverable reserves will also depend on the efficiency of mining practice in future and on the measures that may be enforced to prevent loss of coal due to selective mining. If the coal seams in the Raniganj measures below Panchet in the southern part of the coalfield are taken into accounts, the reserves are certainly enormous."³ It may be also added that except for coking coal these reserves, which are practically the double of those estimated in 1928, would last a long time at the current rate of consumption. While improved technique of coal extraction based on improved coal mining machineries may affect the gradual employment of more and more workers in the mines, the prospects of coal-based industries in the region appear to be bright and will help to open other avenues of employment.

The mining activities of the district are almost wholly confined to the areas lying to the west of Raniganj in Asansol Sub-division. Mining and manufacturing together provide employment to more than half the total population of the entire subdivision.

Mining

¹ Krishnamurthy, S. R. — *The Lead Bank Survey Report : District Burdwan — West Bengal*, Calcutta, 1970-71, p. 70.

² *ibid.*, p. 70.

³ Hunday & Banerjee : *Memoirs* (Vol. 97), Delhi, 1967, p. 109.

The table below gives the occupational distribution of the working force, in percentage, in the Asansol Subdivision as obtained in 1961.

OCCUPATIONAL DISTRIBUTION OF WORKING FORCE, IN PERCENTAGE, IN THE ASANSOL SUBDIVISION, 1961¹

Occupation	Percentage
Agriculture	17.95
Mining	32.86
Household industry	1.38
Manufacturing	20.19
Construction	3.03
Trade & Commerce	7.18
Transport	5.03
Other services	12.38

While coal accounts for about 99 per cent of the total mineral output of this sub-division, coal reserves in this area are estimated to be over 12,900 million tonnes, a little less than one-third of India's total.² In 1965, there were 212 collieries in the sub-division providing employment to 1,50,000 persons. These coal mines are located in eight police stations of Asansol Subdivision, the total number of police stations being 12. It may be interesting to note that there is no mining in Kanksa, where agricultural activity is predominant, at Hirapur where iron and steel plants of the HISCO are situated and at Durgapur which is another steel centre in the sub-division. The next table shows the number of collieries, coal raising and employment in collieries, by different police stations, in Asansol Subdivision.

The total number of mines in the district in 1973 was 278. This number does not include the three mines which had been transferred to Bharat Coking Coal Limited, out of the total number of mines nationalized under the Nationalization Act of non-coking coal mines. Recently, the number of mines has been reduced to 70 on reconstitution into bigger units. The total number of workers employed in the mining industry, in 1973 was 1,43,892 including 1,021 officers.³ The total production from the mines in Bardhaman district for the period from February 1973 to January '74 was 18.46 million tonnes. The target for the Fifth Plan period is 29.44 million tonnes which is expected to be achieved partly by reorganization and deployment of additional machinery in existing mines and partly by opening new mines.

¹ Chaudhuri, M. R. — *The Industrial Landscape of West Bengal*, Calcutta, 1971, p. 124.

² Asansol Planning Organisation — *Interim Development Plan, Asansol-Durgapur*, p. 4.

³ Source : Coal Mines Authority Limited, Calcutta.

NO. OF COLLIERIES, COAL RAISING AND EMPLOYMENT IN COLLIERIES, BY DIFFERENT P.S., IN ASANSOL SUBDIVISION, FOR THE YEAR 1965¹

Sl. No.	Name of P.S.	Number of collieries	Raising in 1965 ('000 metric tonnes)			Employment ('00 persons)
			Coking	Non-coking	Total	
1.	Faridpur	26	—	3,247	3,247	225
2.	Andal	46	—	3,783	3,783	231
3.	Raniganj	27	—	2,736	2,736	156
4.	Jamuria	40	—	4,492	4,492	374
5.	Asansol	12	—	1,044	1,044	94
6.	Barabani	19	—	1,434	1,434	103
7.	Kulti	20	345	2,051	2,396	240
8.	Salanpur	22	—	648	648	77
9.	Hirapur	—	—	—	—	—
10.	Durgapur	—	—	—	—	—
11.	Kanksa	—	—	—	—	—
12.	Chittaranjan	—	—	—	—	—
	Total for Asansol Sub-division	212	345	19,435	19,780	1,500

The Coal Mines Labour Welfare Organization was set up by the Government of India under the Coal Mines Labour Welfare Fund Act 1947 for financing measures for promoting the welfare of labourers employed in the coal mining industry. The main objects for which this fund is to be utilized are promoting the welfare of labour employed in the coal mines including housing and provision of dispensary services. The main source of income of the fund is a cess levied @ 49.21 paise per metric tonne on all coal and coke despatched from collieries by rail and road. The cess is appointed in the ratio of 7:5 between the General Welfare Accounts and the Housing Accounts.

There is one Central Hospital at Asansol which is functioning with 350 beds. Two regional hospitals are also functioning in the coalfield area, at Chora and Salanpur. There are six aurvedic dispensaries at the coalfield run by the Fund. A Family Welfare Centre attached to each of the Regional Hospitals

ACTIVITIES OF THE LABOUR WELFARE ORGANIZATION IN THE DISTRICT

Medical facilities

¹ Chaudhuri, M. R. — *The Industrial Landscape of West Bengal*, Calcutta, 1971, p. 126.

is also functioning. Besides, 12 Maternity and Child Welfare Centres are being run by the Mines Board of Health. For the treatment of T.B. patients the Fund has arranged for 150 beds of which 100 beds are attached to the Central Hospital, Asansol and 50 at Searsole. In addition to the above, there are 61 beds reserved at the various sanatoria for the treatment of colliery workers and their dependants suffering from T.B. Payment for diet and subsistence allowance are also allowed in the case of deserving patients. X-ray facilities have also been provided and X-ray plants have already been installed at the Regional and Central Hospitals of the coalfield. The organization has also decided to supply X-ray plants to be installed at the colliery hospitals. Under the scheme, one X-ray plant has so far been supplied at the Sripur Colliery Hospital which is already working. Care is also taken by the authorities for treatment of cancer patients. Besides treatment at the Central Hospital, Asansol, two beds have been kept reserved at the Chittaranjan Cancer Hospital, Calcutta, for the treatment of colliery patients and their dependants suffering from cancer. Free advice on family planning is given and contraceptives are supplied free of cost at the Fund's hospitals and at the clinics opened for the purpose in rural and urban areas.

Educational &
recreational
facilities

Educational and recreational facilities have been extended to the colliery workers and their dependants in recent years. The following statement gives an idea of the educational and recreational activities.

Name of institute or centre	No.
Multipurpose Institutes	10
Women's Welfare-cum-Children's Educational Centre	10
Adult Education Centre	10

There is also the usual provision for giving scholarships, both general and technical, to the deserving students. Besides 154 general and 3 technical scholarships, renewals of scholarships of the previous years are made, while 24 stipends are also given to the colliery children reading in the Industrial Training Institutes. Study tours, cultural activities and games are also encouraged. Other festivities include functions like Republic Day and Independence Day Celebrations and observance of Gandhiji's Birthday. Film shows are also arranged on various occasions.

The Fund provides financial assistance in the form of lumpsum payment of monthly allowance and children's education allowance

for miners' children in the event of death of the workers or when they are permanently incapacitated by accidents in mines. Until recently, the housing condition of persons employed in the coal mining industry was far from satisfactory. In recent years, the Coal Mines Labour Welfare Organization has taken some positive steps to solve the housing accommodation of the workers. The Organization has so far constructed 20,625 houses and 2,995 houses are under construction under various housing schemes. The Organization pays grant-in-aid to colliery management and other bodies for implementation of water-supply schemes in the coalfield.

Housing
condition

At present 25 Cooperative Credit Societies, 123 primary stores and wholesale Central Cooperative Stores are functioning in the coalfield areas of the district.

Cooperative
Societies

The Fund is responsible for the enforcement of Coal Mines Pithead Bath Rules, 1966 and Mines Maternity Benefit Act and Rules which stress the provision of pithead bath and creches in collieries and provision for payment of Maternity Benefits by the Colliery Management.

Coalmining workers at one time were the most poorly paid and most poorly quartered labour in the country. After the Independence of the country, however, conditions of colliery labour improved, step by step, in keeping with the improvement of the lot of organized labour in other industries. Total emoluments offered in the colliery today is now much better and attracts even people from those strata of society which shunned colliery work in the past.

The collieries have been nationalized recently. This will benefit the industry both in terms of economy and in terms of the prospects for better management of the underground wealth. Establishments of coal-based industries in the area is a practical proposition which will open up further avenues for employment of both educated skilled and semi-skilled youths.

The most industrialized zone of the district comprises areas under Asansol Subdivision and the Durgapur industrial complex, the rapid development of the latter being the chief reason for creating a new administrative unit known as the Durgapur Subdivision. The various Five Year Plans created the new industrial areas of Durgapur and Chittaranjan, adding to the urban centres of the region, such as Asansol, Kulti, Burnpur and Raniganj.

MAJOR
INDUSTRIES

The traditional industrial base of the region chiefly supported by coal, iron and steel has undergone a rapid diversification and new industrial ventures which include mainly heavy engineering, fertilizers and coal-based chemicals, are now making a dominant impact on the region's industrial scene. The planned utilization of the water resources of the Damodar and a sustained programme of hydro-electric and coal-based thermal power generation have gone a long way to help this process of diversification and modernization by providing the infrastructure for the region's growth.

Between 1955 and 1965 a series of large and medium industries came into existence in Durgapur. A number of small industries also grew up to service these bigger industries. Already in 1970-71, there were about 20 large and medium industries and about 40 small industries. The total investment during the period was about Rs. 600 crores and the number of persons employed in the registered factories only was 60,000. The principal industries besides Durgapur Steel Plant and the Durgapur Projects are ACC-Vickers-Babcock (AVB) producing cement making machinery, boilers, pressure vessels, etc., Alloy Steel Plant (unit of SAIL) producing a variety of alloy steels, Durgapur Chemicals Limited (a State Government Undertaking) producing basic organic and inorganic heavy chemicals, Durgapur Thermal Power Station (unit of the DVC), Mining & Allied Machinery Corporation (a Central Government undertaking) producing coal mining, bulk handling equipments and other heavy machinery. Among the major industries of Asansol and Durgapur areas, at least some deserve individual treatment and these have been described below in some details.

Durgapur
Industrial
complex

Kulti Works

The site for Kulti Works in Asansol Subdivision was selected in 1871. It was the oldest unit for manufacturing pig-iron and iron casting in India. The factory was named the Bengal Iron Works and its origin is associated with the name of James Erskine. In 1880-81, the works was taken over by the Public Works Department of the Government of India and was renamed as The Barakar Iron Works. In 1899, again, the factory was leased out by the Government to a new concern operating under the name and style of Bengal Iron & Steel Company Limited. In 1892, Martin & Company jointly sponsored by Sir R. N. Mookerjee and Sir Acquin Martin, were engaged as the Managing Agents for the Works. In 1901, the management started negotiation with the India Office, in the United Kingdom,

for the manufacture of steel and later a steel making unit was set up with assurance from the Government that they would purchase their requirement of steel from this concern in India rather than in England. As the Government failed to keep its promise, the steel making unit was shut down after only a few weeks of production. In 1926, however, the Company was renamed as the Bengal Iron Company Limited. In 1936, this Company went into voluntary liquidation and was merged with the newly created Indian Iron and Steel Company Limited (IISCO).

Kulti was selected as the site for the works by James Erskine because of the discovery of iron ore near Kulti and the surrounding areas of Raidih and Matidih, limestone at Raghunathpur, good metallurgical coal near Kendua and the neighbouring areas, and water-supply at Barakar. The works has at present only the Iron Foundry but the importance of Kulti in association with Burnpur is to be taken into account for a proper understanding of the development of heavy industries of the district. Kulti at present receives its supply of iron and steel for casting from the Burnpur Works and is owned by the Indian Iron and Steel Company and as such, may be treated as a subsidiary unit to Burnpur. The Kulti Works, owned by the IISCO since 1936, is now being expanded as the biggest foundry in the East.

The Indian Iron and Steel Company (IISCO) came into being in 1919 and set up its blast furnaces in the area of the jungle villages of Hirapur, Satna, Narsinghbad, Napuria and Dharampur. The works produced only pig-iron and a few bye-products. As there was little demand for pig-iron in the Indian market, production was chiefly for export. By 1925, the IISCO showed a record of increased production and profit and this progress was maintained till 1930-34, when owing to economic depression the world demand for iron quickly declined. From 1934, again it made a remarkable recovery and its participation in steel production started with the Steel Corporation of Bengal (SCOB). The SCOB came into existence in 1937 and its steel making plants were set up near the IISCO furnaces. The SCOB plants were found essential for absorbing the IISCO pig-iron which had limited local and foreign market. Under an agreement, SCOB procured the entire supply of the hot-iron for steel making. Actual production of steel was started in 1939.

During the Second World War period and the years that followed foreign export was completely stopped as a result of

The Burnpur
Works

increased demand in the country. On January 1, 1953 the SCOB merged with the IISCO and the integrated SCOB-IISCO factory at Burnpur was then renamed as the Burnpur Works. This integrated plant, starting from the basic raw materials, has been manufacturing pig-iron and steel in various forms. After the merger, the IISCO launched the 1953 Expansion-Programme, covering all aspects of production including the ore mines. This expansion programme led to the closure of blast furnaces at the Kulti Works.*

Expansion
during Five
Year Plans

The First Five Year Plan of the Government of India envisaged an expansion schedule for the IISCO, for augmentation of production of saleable steel and pig-iron to 7,00,000 tonnes and 4,00,000 tonnes a year or alternatively 6,20,000 tonnes of saleable steel and 5,00,000 tonnes of pig-iron. The production targets accordingly were included by IISCO in their 1953 extensions. By the end of Third Plan, the Company completed the major extension visualised in 1950. This improved the production facilities to a great extent. But owing to continuous labour trouble in 1953-54, the 1953 extensions did not materialize within the period of the First Plan. The Second Five Year Plan made a proposal to modify the 1953 extension programme to develop a production of one million tonnes of ingot steel. IISCO retained the 1953 extension programme with slight modification to suit the requirement as formulated under the First Plan. The outcome of the two extensions was the enhancement of production in all departments, which can be seen from the following table.¹

Name of items	Before expansion	After '53 extension	After '55 extension	Yearly capacity after two extensions (million tonnes)
Pig-iron	57	129	129	1.55
Pig-iron	40	112	112	1.34
Ingot	40	80	84	1.00
Saleable steel	26	52	67	0.80

The information given here in respect of Kulti Works and the Burnpur Works is mainly based on the *Report of a Preliminary Inquiry on the Growth of Steel Towns in India*, published by the UNESCO RESEARCH CENTRE, Calcutta, June, 1959.
Source: The Indian Iron & Steel Co. Ltd.

From the early part of 1958, new units started coming up for production and by the end of 1960 the Company availed itself of the production of all sections. The cost of the project may also be indicated in this connection. The original estimates for 1953 and 1955 extensions were Rs. 31.5 crores and Rs. 15.0 crores respectively. On the completion of the projects the total expenditure amounted to Rs. 57.8 crores. Increase in price of raw materials, e.g. steel, cement, etc., increase in customs duty, freight, and finally some modifications of the original plan were the chief factors that contributed to this higher expenditure. The foreign component was met from a World Bank loan while the Government of India granted a loan of Rs. 7.90 crores and also a special advance of Rs. 10.18 crores from the Iron & Steel Equalisation Fund. The Company also collected Rs. 7 crores by issuing new shares and spent Rs. 9.26 crores from reserve to meet the expenditure of the above projects. Production from the extended and integrated plant for a five year period from 1966-67 can be seen below.¹

PRODUCTION OF INGOT AND SALEABLE STEEL FROM THE IISCO PLANT (IN '000 TONNES)

	Ingot	Ingot Saleable Steel
1966-67	897	709
1967-68	791	613
1968-69	777	640
1969-70	700	568
1970-71	627	508

In 1973, the Government of India took over of the management to ensure smooth working of the Company in every direction. The Company has recently drawn up a programme for plant rehabilitation in order to attain the original installed capacity of one million ingot tonnes per year.

In connection with installation of the Durgapur Coal Mining Machinery Plant, the Government of India first invited the attention of the Soviet and the British experts in the early part of 1956. In January 1957, the Soviet team submitted to the Government of India a preliminary report, recommending the immediate establishment of a Coal Mining Machinery Plant with

Durgapur Coal
Mining Machinery Plant

¹ Source: The Indian Iron & Steel Co. Ltd.

an initial capacity of 30,000 tonnes per year, capable of expansion at a later stage. It may be mentioned here that the British team had advocated a comparatively smaller unit. Towards the close of 1957, the Government of India agreed to set up a 30,000 tonnes Coal Mining Machinery Plant (CMMP) at Durgapur on the lines suggested by Soviet experts. The Project Report submitted by the Soviet team stimulated the construction of an integrated plant with a capacity of 30,000 tonnes, capable of supplying the country's mining industry with a wide range of machinery covering all fields of mining operations—coal mining, loading, under-ground transporting, raising, ventilating and dewatering. Twenty-seven types of coal mining machines were to be manufactured at the plant. The range of products varied from tiny face-pumps of 150 kilograms to giant winding engines weighing nearly 150 tonnes including auxiliaries.

In view of the anticipated higher demand in mining machinery during the Third and Fourth Plans, the Government of India decided to increase the capacity of the CMMP to 45,000 tonnes and accordingly, fresh contract was signed with the Soviet Organization Prommashexport in December 1960 for revised Detailed Project Report and working drawings, and for plant and equipment in July 1962. In the beginning, the project, along with the Heavy Machine Building Plant at Ranchi was included in the list of projects covered by the Second Soviet credit of 112.5 million Roubles or Rs. 59.53 crores while the expansion of the CMMP was provided for in the first Soviet credit for Third Plan projects, amounting to 178.58 crores of rupees. It may be stated here that the Soviet collaboration in the construction of the CMMP is not in the form of a package deal but in the form of separate contracts entered into at different stages. At every stage of its work, the option of accepting these intermediate contracts has always been with the Government of India. The Indian side was wholly responsible for the construction and commissioning of the plant at every stage, and the Soviet side was only to render the necessary help.

Location

The CMMP is spread over an area of 86 acres or 4,80,000 square metres in Durgapur and has 15 main production and ancillary shops, besides five storage buildings. Out of a total area of 1,24,620 square metres of the plant, the main production and ancillary shops, which were designed by the Soviet side, occupy 95,472 square metres. The rest of the area is occupied by buildings, such as the administrative and engineering

buildings, fire depot, garage, etc. The main units of the CMMP are the Cast Iron Foundry, Steel Foundry, Forge Shops, Structural Shop and the three Machine and Assembly shops. There are, besides, other ancillary shops such as the Fitting and Heat Treatment Shops, Wood-working shop, Skull Cracker and Scrap Preparation Yard, Oxygen Plant, Boiler House, Compressor House, etc. All these main production shops as well as the ancillary shops have been arranged in such a way as to ensure the most rational working of the entire plant.

Nearly 84 overhead travelling cranes, 262 conveyors and elevators, and 80 job cranes have been installed in the plant which considerably expedite the erection of equipment and transportation of materials. The major part of the equipment installed in the plant has come from the Soviet Union. It may be pointed out here that coal mining industry in this country was in a most unenviable position, the reason being obviously the lack of necessary mining equipment. Formerly, the limited mining machinery that was employed was mostly imported. The only exceptions were mine cars, cages and headgear pulleys which were manufactured in small quantities at Indian plants. The imported machinery again, failed to meet the requirements of the coal mining industry and the fact was that it did not suit the conditions of Indian mines and came in the way of introducing the most efficient and economic methods. It was in this situation that the Government of India recommended the launching of the present project.

The Coal Mining Machinery Plant, along with the other two projects at Ranchi, was transferred to the Heavy Engineering Corporation (HEC) in May 1959. Later, the Government decided to form a separate corporation dealing with the mining machinery and allied industries in order to execute the work more efficiently. In the circumstances, the Mining and Allied Machinery Corporation (MAMC) was set up with an authorised capital of Rs. 20 crores and the CMMP was transferred to the new corporation from the HEC on April 1, 1965.¹ A brief account of the MAMC has been given below.

Mining and Allied Machinery Corporation Limited (MAMC) which was originally one of the units of the Heavy Engineering Corporation Limited, Ranchi, was separated in April 1965 to

Mining & Allied Machinery Corporation Limited, Durgapur.

¹ Source : Based on an article entitled 'Durgapur Coal Mining Machinery Plant' by Gopalakrishnan, K. in *Soviet Review*, Vol. II, No. 27, June 29, 1966.

form an independent corporation. The MAMC plant has an installed capacity for the production of 45,000 tonnes per annum of a variety of underground mining machinery. The composition of product-mix, as recommended in the Detailed Project Report in 1961, was based on the coal raising targets for the Fourth and Fifth Five Year Plans which was estimated at 136 million and between 180 to 200 million tonnes respectively. These targets did not materialize and during 1969 coal output was expected to be around 74 million tonnes only and in consequence, the MAMC plant has been languishing for lack of adequate orders.

In view of the inadequate demand for mining equipments it was decided that the MAMC plant should organize manufacture of new products having substantial demand in the Indian and foreign markets. It was also agreed that a technical and economical examination should be undertaken to find out what should be the main lines of diversification. The Government of India in the Ministry of Steel and Heavy Engineering had also expressed the desirability of undertaking such an enterprise. Accordingly, new products have been recently taken up for manufacture by MAMC under its programme of diversification which include: (i) Equipments for bulk handling of raw materials for ports, power station, etc., (ii) Casting and forging for the railways, (iii) Coal Washing Plant and Ore Benefication Plant, (iv) Heavy Duty Gear Box (up to 500 HP) and Fluid Coupling, (v) Front-end Loader for export to USSR & Medium-duty Gear Box for export to USSR, (vi) Spare for Ropeways, and (vii) Forged-neck flanges for steel plants, fertilizer and chemical industries.

The affairs of the corporation are managed by a Board of Directors appointed by the President of India. The Capital investment was about Rs. 2,698.85 lakhs as on 31.2.71. The manpower position of the plant on 1.4.72 was as follows:

Managerial posts	64
Other Officers	564
Supervisor (Technical)	265
Supervisor (Non-Technical)	30
Clerical	402
Unclassified and Para-Medical Staff	397
Production worker	3,803
Employed in Maintenance Services	674
Total	6,199

Organizational
set-up

The Corporation runs a 80-bed hospital with facilities for specialized treatment in general medicine, pathology, surgery, ophthalmology, dentistry, obstetrics, gynaecology and anaesthesia. A Blood Bank has also been added recently. There is a co-operative multipurpose society which has received a loan of Rs. 1.30 lakhs from the Corporation while the Corporation has also granted loan to the MAMC Cooperative Dairy Society and the Cooperative Credit Society amounting to Rs. 10,300/- and Rs. 10,000/- respectively at a nominal rate of interest. The Societies are all provided with rent free accommodation or land. The Corporation also runs a canteen for the industrial workers where meal, tea and snacks are available at subsidised rates. The cooperative canteen for non-industrial employees is also provided with free accommodation.

Welfare
measures

The employees are provided with accommodation either in the Corporation's township or in the State Housing Colony at a subsidised rent. Those of the low paid employees who could not be provided with accommodation are paid a monthly compensatory allowance. The Corporation runs a Higher Secondary School where tuition is free up to Class VIII for the wards of the employees. School buildings, free of rent, for two primary schools have also been provided by the Corporation.

While power is supplied by the Durgapur Projects Limited, raw materials for the various products are mostly supplied by the primary manufacturers like the Durgapur Steel Plant and the Alloy Steel Plant. The table below gives an idea of the total production and value of different items manufactured by the Corporation for the three-year period from 1969-70 to 1971-72.¹

Production

Year	Total production (in tonnes)	Value (in lakhs of rupees)
1969-70	5,764.4	283.93
1970-71	7,742.1	487.99
1971-72	11,990.7	1,020.01

The Durgapur Steel Plant which is one of the units of Hindustan Steel Limited (HSL) and located on the bank of the Damodar river, was born of the recommendation of the Colombo Plan Mission which had visited India in April 1955. The Mission, headed by Sir Eric Coates, in their Report submitted in August 1955 recommended the establishment of an one million

Durgapur
Steel Plant

¹ Source: Public Relations Officer, Mining and Allied Machinery Corporation Limited.

tonne plant at Durgapur. The factors taken into account for locating the plant at Durgapur were its proximity to the coal-field, the four-track main line of the Eastern Railway, the Grand Trunk Road and the eastern market of steel products in and around Calcutta, the availability of power from DVC and water from the Durgapur Barrage.

The construction work of the Plant started in 1957 and the first blast furnace was commissioned on 29.12.59 while the first steel ingot was produced on 25.4.60. The manufacturing process was based upon British technology. It was initially commissioned with 1-million tonne capacity with further scope of expansion to 1.6 million tonnes and 3.4 million tonnes capacity. Most of the units have since expanded to 1.6 million tonnes capacity excepting some balancing facilities to be provided, which are under consideration.

Organization

The entire share of Durgapur Steel Plant is held by the Government of India. The Government of India has entrusted its management to a board called Hindustan Steel Limited. The functions, powers and the constitution of the Board of HSL are laid down in the Articles of Association. According to the Articles of Association, it is the duty of the Directors of the Board to administer the business of the Company. For this they have been authorised to exercise all such power and do all such acts and things as may be permissible under the Articles of Association so that the offices and management of the Company can be ensured. The Board is accountable both to the Government and the Parliament for the efficient conduct of business and submit a duly audited Annual Report of performance to the Government which places the Report before the Parliament for information.

In September 1972, the number of technical and non-technical employees of the plant was 24,824 and 3,232 respectively. The total amount of capital expenditure incurred on Durgapur Steel Plant was 2,732.9 million rupees as on 31.3.71. The wage structure as shown in 1972 is given below.

Category of Workers	Scale of pay Rs.
Highly skilled	450-720 392-582 330-510
Skilled	290-410 225-327
Unskilled	230-284 200-221

The important materials needed in bulk in a steel plant are coal, iron-ore and lime-stone. Coal is the prime source of heat in the manufacture of iron and steel. Most of the coal consumed is used to make coke, the fuel required in blast furnaces. Not all types of coal, however, are suitable for making coke. The steel industry relies on a type which yields metallurgical coke. This is a hard porous coke which allows air to pass freely, despite the great weight it must support in blast furnaces. Iron-ore, again, is the most valuable raw material in steel making. Most ores are iron oxides, a rust-like chemical combination, of which a considerable portion is iron while the balance contains small quantities of phosphorus, silicon, manganese, sulphur and aluminium. Lime-stone is used in the furnaces as a flush. This material acts as a cleaner. It is also used when iron is refined into steel in steel making furnaces.

Sources of supply of raw materials & power

Durgapur draws its coal supplies from three sources, — Jharia, Barakar and Dishergarh. Iron-ore comes from Bolani and Barajamda areas in Orissa; lime-stone from Birmitrapur in Orissa, Argada in Bihar and Satna in Madhya Pradesh, and dolomite from Birmitrapur and Jayanti areas. To maintain production of iron and steel the plant requires about 15,000 tonnes of raw materials daily. These are supplied by a fleet of railway wagons every day.

Raw materials

The steel plant runs its own coal washery. Water is supplied by the barrage on the Damodar river and power by the Damodar Valley Corporation.

The well-equipped Research and Control Laboratory of the Steel Plant plays an important role in maintaining and improving the quality of products. It has three wings — Metallurgical, Chemical and Inspection. The laboratory directs research in the proper choice of raw materials and their economic utilization.

The suitable blend of coking coal received from different sources is prepared and charged in coke ovens to produce metallurgical-coke. This coke, iron-ore, lime-stone along with other raw materials are charged in blast furnaces to make hot metal. A portion of hot metal is diverted to pig casting machines and the rest is consumed in open hearth furnaces for the purpose of making steel. The metal which is diverted to pig casting machines is meant for sale to outside customers, while steel in the steel melting shop is produced in the form of 8-ton ingots. These steel ingots are rolled and sometimes re-rolled in different units of Rolling Mill in different sections and shops, depending upon

Manufacturing process and items manufactured

the product mix and market demand. Other items of production include B.G. Sleepers and Wheel Sets which are primarily meant for Railways. By-products are also sold after processing of crude tar benzol obtained from condensation of gas. Thus the Plant incorporates in its operations modern steel making techniques and quality control and offers wide variety of iron and steel products ranging from crossing sleepers and heavy structurals, medium and light structurals, track materials, rods in coils, wheels and axles to merchant sections, flat products like plates, sheets, strips, tin-plates and electric resistance welded pipes.

The following table gives an idea of the gross value of sales of products manufactured at Durgapur Steel Plant for the period from 1965 to 1970.¹

GROSS VALUE OF SALES—DURGAPUR (MILLION RS.)

Product	1965-66	1966-67	1967-68	1968-69	1969-70
Pig Iron	98.7	69.2	94.6	135.4	157.0
Ingots	1.7	—	—	12.0	60.7
Semis	124.8	98.2	99.3	101.6	90.6
Finished Steel	384.2	303.5	275.9	350.1	348.7
Scrap & Defectives	24.9	18.6	16.4	22.6	64.7
Coke	5.4	1.7	1.7	2.7	9.6
By-products	8.4	8.4	9.2	21.0	23.4
Total	648.1	499.6	497.1	645.4	754.7

It has already been stated that the easy availability of coal, water and power as well as roadways and market prompted the planners to locate the Durgapur area for building a giant public sector steel industry and other large, medium and small industries. Besides the giant Steel Plant, the other metallurgical and pharmaceutical industries which have been established under the initiative of the Government of India are the Alloy Steel Plant, Durgapur Chemicals, Coke Oven Project and the Fertilizer Plant.

The Alloy Steel Plant at Durgapur, established in 1965, with an initial investment of Rs. 70 crores is India's first plant of its kind. It is equipped to manufacture all the initial grades of carbon, alloy and special quality engineering steels. The main

Alloy Steel Plant

¹ Source: Sales Statistics: 1969-70, published by the Central Sales Organization, Hindustan Steel Limited, Calcutta, 1970. p. 7.

plant came from Japan while the technical know-how was provided by a Canadian firm. Vacuum degassing for sophisticated steels at the Alloy Steel Plant is an example of the latest technique of steel making adopted in India. The table below shows the mill-wise production under the Alloy Steel Plant.

ALLOY STEEL PLANT—MILL-WISE PRODUCTION (IN TONNES)

Mill-Products	1965-66	1966-67	1967-68	1968-69	1969-70
STEEL INGOTS					
SMS I	—	—	3,350	27,914	51,709
SMS II	11,539	12,252	10,482	11,845	13,906
Total	11,539	12,252	13,832	39,759	65,615

FINISHED PRODUCTS

Forge Shop	120	2,374	2,718	3,517	5,024
Bar Mill	—	20	3,275	9,229	17,185
Billet Mill	—	—	582	9,837	15,204
Sheet Mill	—	—	—	829	3,723
Total	120	2,394	6,575	23,412	41,136

The steel produced at the plant has been classified according to quality. The statement below will give some idea of the various types of products despatched from this Plant in 1969-70.

ALLOY STEEL PLANT—QUALITY-WISE DESPATCHES—1969-70¹ (IN TONNES)

Quality	Ingots	Rolled	Forged	Sheets/ Plates	Total
Carbon Construction Steel	—	10,643	2,036	1,325	14,004
Alloy Construction Steel	2,147	9,575	973	478	13,173
Case Hardening Steel	—	7,351	373	125	7,849
Nitriding Steel	—	88	72	—	160
Ball Bearing Steel	—	72	15	—	87
Spring Steel	—	745	7	—	752
Valve Steel	—	39	—	—	39
Carbon Tool Steel	—	224	5	—	229
Die Block Steel	—	—	276	—	276
Shock Resisting Steel	—	—	78	—	78
Hot Work Tool Steel	—	2	68	—	70
Cold Work Tool Steel	—	7	39	—	46
High Speed Steel	—	23	43	—	66
Stainless Steel	—	6	65	336	407
Others	—	123	—	—	123
Total	2,147	28,898	4,050	2,264	37,359

¹ *ibid.* p. 526.

Amenities

The Durgapur Steel Plant offers its workers a lively township with amenities for better living and urban facilities. The Plant incurs a sizeable expenditure for the welfare of the employees every year, besides providing for retiring gratuity and company's contribution to the Provident Fund and other funds. An area of over 4,000 acres has been developed for construction of houses and other buildings for the employees of the Durgapur Steel Plant and the Alloy Steel Plant. For accommodation of DSP employees 14,410 houses have already been constructed. More houses are under construction under a phased programme with the object of providing 80 per cent of the employees with houses. The houses are allotted to the employees on the basis of their pay, seniority and marital status. The company's allotment policy is based on the rules framed by the Government of India for their own employees. Trainees, apprentices and graduate engineers are given hostel accommodation as far as practicable. Hostel accommodation is provided for the nurses. The rent is deducted from the salary bills of the employees every month.

Adequate filtered water-supply is made available to all the houses in the township. The Plant purchases power in bulk from DVC and distributes it through its own distribution system. Several sector markets have also been built in the township so that consumer goods are available for the employees within a short distance from their residences. A non-Company Housing Scheme has also been drawn up for the benefit of employees under which land will be allotted to the employees for residential purpose on payment of prescribed rates.

The Company runs 15 Primary Schools, two Boys' H.S. Schools and one Girls' H.S. School to provide educational facilities to the wards of its employees. In April 1971, the number of students reading in DSP schools was 14,000 including 9,000 students of primary schools. The children are given free mid-day tiffin in the schools. Forty scholarships for prosecuting higher studies are also awarded to the eligible students every year. The modern educational appliances, such as coaching through the audio-visual system, well-equipped laboratory, library, auditorium, etc. have been provided for the students. Besides, extra-curricular activities are encouraged.

All the employees of the Steel Plant and their families get free medical benefits at the Steel Plant hospital. Besides the Central Hospital, the Steel Town has three Health Centres —

two in A-zone and the other in B-zone. The B-Zone Health Centre has 21 beds in its Children's Ward and T.B. and Chest Ward in A-Zone has 50 beds. On an average, about 3,500 out patients are treated daily at the hospital out-door departments and other medical centres.

The employees of the Plant are entitled to transport, subject to availability of buses, at concessional rates for attending office and the Plant. Besides, some buses in each shift operate between Durgapur Railway Station, Andal Railway Station, Kajora Railway Station and the offices and the Plant. Besides the official transport, ambulance is available to transport patients, whenever necessary, from the residence to the hospital. Transport like jeep, small car, truck and buses can be hired by the employees, when available, at concessional rates for use within the Durgapur area. According to the recent wage agreement, suitable provision is being made by the Plant for making advances to the workers on reasonable terms for the purchase of cycles and scooters.

The Steel Plant has a Contributory Provident Fund Scheme for all its employees. Provident Fund contribution by the employees is compulsory after one year of service. There is also provision for retiring gratuity which is to be paid on the basis of the last full basic wage and 50 per cent dearness allowances drawn. An employee is eligible for this benefit after 15 years of continuous service which is considered to be the minimum qualifying period. For the industrial employees of the Plant, a monthly production incentive scheme is also in operation.

The DSP Employees' Co-operative Society renders useful service to the residents of the township, through the supply of rationed commodities and other consumer goods at reasonable rates. The Society happens to be one of the biggest co-operatives in the State and is run by an elected body from among the share holders who are all plant employees. There is another scheme commonly known as the Death Benefit Scheme which stipulates financial assistance to the families of the members of the Scheme in the event of their death.

The Durgapur Fertilizer Plant is the first fertilizer plant in West Bengal and the sixth in the series of such plants managed by the Fertilizer Corporation of India, the other five being in Sindri (Bihar), Nangal (Punjab), Trombay (Maharashtra), Gorakhpur (Uttar Pradesh) and Namrup (Assam). While these five are producing plants, the plant at Durgapur is now standing

Provident Fund

Employees' Co-operative

Durgapur Fertilizer Project

on the threshold of production. Estimated to cost a little over Rs. 48 crores and built on a thousand acre site leased out to the Fertilizer Corporation of India by the West Bengal Government at a nominal rent, the Durgapur fertilizer factory is expected to produce annually 1,40,000 tonnes of nitrogen in the form of 3,05,000 tonnes of urea fertilizer. Its main raw material naphtha is supplied by the Indian Oil Corporation through an underground oil pipe line connecting their oil terminal at Haldia port with their refinery at Barauni. Urea with its rich content of nitrogen (46%) is considered by experts as the most suitable fertilizer for the three principal crops, viz. paddy, jute and tea that are grown in this State. When the factory goes into full production its product will help to grow 1.4 million tonnes of extra food grains sufficient to feed 14 million people.

The factory has been designed mainly by Indian engineers and foreign collaboration has been kept at the minimum. In the near future the factory will help in the growth of several ancillary industries like carbon dioxide bottling plant, polythene-lined bag manufacturing unit and chemical industries. The Durgapur Fertilizer Plant has earmarked 15,000 tonnes of industrial grade ammonia every year for the chemical industry. Besides, its product will attract new dealers resulting in expansion of trade and transport of fertilizers and thus creating avenues of employment.

A part of the land on which the factory stands at present is being gradually developed as an experimental farm. The crops that are grown in this farm round the year with different doses of fertilizers are shown to the farmers with the object to making them witness the miracles the chemical fertilizers can perform to change the farming system. Besides the experimental farm, there is Soil Testing Laboratory together with a Green House attached to the factory. Soil samples sent by the farmers from all over West Bengal are tested here free of cost and detailed formulations for the application of fertilizers are given to the farmers, free of cost. During the last five and a half years since its inception, the Soil Testing Laboratory has tested 30,159 soil samples and given advice on fertilizer application to about 30,000 farms either direct or through the Agriculture Department of the West Bengal Government. Attached to the factory, there is also a Training Institute where training is given to the fresh engineering graduates. Training is also given to young people

with limited school education so that after the prescribed years of training they may be found suitable for skilled jobs.

The F.C.I. Durgapur Division, has built a township opposite to the factory site and about two kilometres north of the Grand Trunk Road. The employees can stay there paying ten percent of their pay. There is a 30-bed hospital equipped with a clinical laboratory, X-ray and operation theatre where treatment is entirely free for the employees and their dependents. There is also a recreation club, a library, a marketing centre and a primary school. For high school education the children go to other schools in the F.C.I. buses for which a nominal cost is charged.*

Housing and other facilities

The Durgapur Projects Limited is a West Bengal Government undertaking. The various sections of the integrated Durgapur Projects Limited are given below :

The Durgapur Projects Limited

(i) A Coke Oven Plant with its by-products and tar distillation plants ; (ii) A Thermal Power Station ; (iii) A gas grid between Durgapur and Calcutta supplying gas for domestic and industrial needs ; and (iv) A new industrial complex offering industrial sites and modern facilities.

The Durgapur Coke Oven and By-products Plant consisting of two batteries was commissioned in 1959. The ovens were originally designed for a minimum daily output of 1,300 tonnes of coal yielding about 1,000 tonnes of first grade coke per day. As the country has limited deposits of good coking coal, a special process of selective blending of coal is used by the Durgapur Coke Ovens, mixing a relatively high proportion of weak coking coal of Dishergarh seam with minimum quantities of good coking coal of Laikdih or Jharia seam to produce the most dependable hard coke. The coke produced in the plant is Grade-I metallurgical hard coke ideally suitable for foundries, blast furnaces, ferro-alloys and chemical industries. In addition to hard coke, the plant yields coal tar and chemical by-products of the benzol, toluene and xylene group. Hard coke obtained from the Coke Oven plant is sold to different foundries, Jamshedpur Steel Works of the Tatas, Railway Workshops, Ordnance Factories, etc., and there is still an extensive demand for the by-product coke.

* The information given here in connection with the Durgapur Fertilizer Factory is mainly based on a souvenir titled *Durgapur Fertilizer Factory* published on behalf of the F.C.I. by National Advertising Agency, New Delhi.

Durgapur
Power Plant

The Durgapur Thermal Power Station has an installed capacity for running two generating sets of 30,000 KW each forming part of the integrated Durgapur Project. The power station produces cheap power for the Project, burns surplus coke oven gas in the boilers and supplies steam for various operations of the coke plant. The surplus power is made available to the State Electricity Board and to various industrial units in the Durgapur area. The Project was completed with foreign collaboration at a total cost of Rs. 675 lakhs and the power station went into commission in June, 1960. Later, the Government of India sanctioned for expansion of the power station by addition of two 75 MW thermal units.

A 171 km. pipeline from Durgapur to Calcutta has been constructed. This pipeline supplies purified coke oven gas to the consumers in the metropolitan city of Calcutta since July 1963. Before the pipeline was constructed, coke oven gas was being used in the boilers of thermal power plant and for underfiring of the coke ovens as fuel. A Tar Distillation Plant with a capacity of distilling 100 tonnes a day was set up for obtaining a number of chemical products from tar. A modern Coal Washery Plant has also been constructed to supply coal of different varieties to the coke oven and thermal power plants with the help of conveyor belt. The plant was commissioned in 1966 along with the expansion of the Thermal Power Plant and doubling of the capacity of the Coke Oven Plant.

Durgapur Projects Limited have acquired an area of about 1,500 acres for the development of private and public sector industries at Durgapur. Land in the industrial area has been allotted to different private and public sector industries on long-term lease. Durgapur Projects Limited have also arranged for roads, drains, supply of water, power and coke oven gas in the industrial area.

D.V.C. Thermal
Power Station

In the field of power which is its third important function after flood control and irrigation, the Damodar Valley Corporation has already made satisfactory progress which is evident in the installation of a large high-pressure thermal 75 MW set at Durgapur. This has created conditions which have transformed a wilderness into the magnificent industrial complex which one may see today in Durgapur. Power is supplied by the Corporation to the various steel and coke oven plants and a host of major and minor industries. The investment comes to Rs. 26

crores and the unit employs about 750 workers. The station was started with foreign collaboration, German and American.

Sankey Wheels Limited, an engineering firm, was registered on 17.8.64 with an authorised share capital of Rs. 2,50,00,000. It is a public limited company with British collaboration and is the manufacturer of pressed steel wheels for commercial, military and animal drawn vehicles. For raw materials the firm depends mainly on the steel mills within the country such as HSL, TISCO & IISCO while some raw materials are also imported from U.K., Japan and U.S.A. Power is supplied by the Durgapur Projects Limited. Main items of manufacture include pressed steel wheels for cars, jeeps, slow moving vehicles, tractors and trucks. The annual sale value of the products for 1971 was Rs. 286 lakhs. The annual production capacity of the plant is between 3,00,000 and 3,80,000 wheels and the Company has recently applied for further expansion for an annual production capacity of 5,30,000 wheels. The total number of employees in the firm in 1972 was 773 of which 454 were technical hands.¹

Sankey Wheels
Limited

Indian Oxygen Limited with its main office at Calcutta started an oxygen compressing station at Burnpur in 1941, on a very modest scale employing only 10 workers. Liquid oxygen at the time was supplied from the Company's production plant in Calcutta through a special railway wagon. In 1943, production of dissolved acetylene started at Burnpur. Within a decade and a half the demand for gases increased greatly and the opening of a new factory at Asansol was considered necessary. In 1958, accordingly, the factory at Asansol came into existence and production of oxygen and dissolved acetylene was started immediately. Shifting of office, plant and machinery, etc. from Burnpur to Asansol was completed in May 1959. In order to cope with increased demands of gases, the distribution system was improved and steel works at Burnpur were connected with direct pipelines from the Asansol factory supplying oxygen. In 1960, the factory started production of argon and nitrogen.

Indian Oxygen
Limited

At present the Asansol factory has an annual production capacity of 61,16,000 cu.m. of oxygen, 4,08,000 cu.m. of dissolved acetylene, 1,22,000 cu.m. of argon and 6,12,000 cu.m. of nitrogen. The total strength of workers in office and factory in 1972 was 318. It may be added that apart from gases, the Company's unit at Asansol sells welding electrodes, electric and gas welding

¹ Source : Labour Officer, Sankey Wheels Limited.

and cutting equipments and other welding consumables and accessories. The ownership is vested in a joint stock company and a board of directors looks after the management. Raw materials are obtained from Bombay and Calcutta while power comes from the Dishergarh Power Supply Company. The main items manufactured and their value for the year ending 30.9.71 is given below.¹

Items	Quantity (in cu.m.)	Ex-factory value (in Rs.)
Oxygen	49,44,500	
Dissolved Acetylene	2,90,000	
Argon	66,000	90,10,000
Nitrogen	27,000	

Durgapur
Chemicals Limited

The Durgapur Chemicals Limited is a Government of West Bengal undertaking which started production in 1968. The Company supplies chemical products to different industries spread all over India as well as to various establishments located in the district including such local firms as Durgapur Steel Plant, Alloy Steel Plant, Bengal Paper Mill Limited, Damodar Valley Corporation, Chittaranjan Locomotive Works, Durgapur Projects Limited and Fertilizer Corporation of India. The chemicals usually supplied are caustic soda, liquid chlorine, sodium pentachlorophenate, etc.

A.C.C. Vickers-
Babcock Limited

A.C.C. Vickers-Babcock Limited is a manufacturer of boilers and machinery, and this industry was set up with British collaboration, the total investment in the project being 15 crores of rupees. In 1972, the number of persons employed in the industry was 2,036 including officers, supervisors and labourers, the number of skilled and semi-skilled workers being 811 and 326 respectively.

Graphite India

Graphite India Limited with its head office in Calcutta has set up a plant at Durgapur which produces industrial raw materials, namely graphite electrodes, anodes, paste and specialised items which are essential raw materials for special steel (for electric furnace), caustic soda, ferro alloy, ferro manganese, etc. The capital investment comes to Rs. 5 crores and the management is vested in a board of directors. The number of employees in 1972 was 529 of which 413 were non-technical em-

Source : Officer on Special Duty, Indian Oxygen Limited.

ployees. The raw materials for the industry are obtained from Messrs Indian Carbon Limited, Indian Oil Corporation, Hindustan Steel Limited (Bhilai) and power is provided by the Durgapur Projects Limited.

PIBCO Limited was set up at B. C. Roy Avenue, Durgapur, on June 1969 in collaboration with Messrs Johns-Manville Limited, U.S.A. The Company started production of mineral wool from January 1970 and has plans to manufacture products of mineral wool. The ultimate capacity of the plant is expected to be 19,500 metric tonnes per annum. Raw materials are obtained from Rajasthan, Gujarat, West Bengal and Bihar while power is supplied by the Durgapur Projects Limited. In 1971, the gross annual value of the product manufactured was Rs. 15.65 lakhs. The product is manufactured under the patented process of M/s. Johns-Manville, U.S.A. while this is being marketed through M/s. LLOYD Insulations (India). With the steady increase in the number of petro-chemical projects, oil refineries, etc. that are being set up in the locality, there are good prospects for marketing of the products.

PIBCO Limited

Durgapur works of Jessop & Company Ltd. is situated a mile away from the Durgapur Railway Station. With the increase in demand for mechanical castings, springs for rolling stock and machine tools, the industrial site at Durgapur was acquired where construction was started in 1964-65. The unit went into production in 1966. The capital investment of the company at Durgapur is to the tune of Rs. 1,64,00,000 and the concern is managed by a board of directors. About 450 tonnes of high duty iron casting, 150 tonnes of laminated springs and 40 tonnes of coil spring are to be produced by the Durgapur unit every month.

Jessop & Co.
Limited

As a part of the plan to achieve self-sufficiency in railway rolling stock, the Government of India established a locomotive factory at Chittaranjan which is situated about 7 miles from Asansol near Mihijam Station. Various factors have contributed to the growth of this area as a centre of locomotive industry. "Only 10 miles away from Damodar Valley Coal Belt, Chittaranjan is very near the steel producing centres of Burnpur and Jamshedpur. Availability of labour from local areas in internal market and the port facilities of Calcutta are among other factors that prompted the growth of locomotive industry at Chittaranjan." The development of the locomotive industry at this place

Chittaranjan
Locomotive
Works

¹ Choudhuri, M. R. — *The Industrial Landscape of West Bengal, Calcutta, 1971, p. 132.*

Hindustan
Cables Limited

opened up a new avenue for the utilization of steel produced in the industrial belt. Originally designed to produce 120 locomotives of average size, equivalent to 96 WG locomotives, and 50 spare boilers a year, the Chittaranjan Locomotive Works has been expanded to produce WG, WT, WP and WL type locomotives equivalent to 200 average size locomotives. Since it commenced production in 1950, up to the end of March 1969, the Works delivered 2,254 steam locos.¹ The first India built A.C. Electric locomotive was commissioned on November 16, 1963. Most of the electric equipments are imported at present. Production of electric locomotives was taken up in 1961. By the end of March 1969, it had produced 19 WDS-4A diesel shunting locomotives also. The indigenous content of steam locos is 97 per cent and of AC electric locos about 76 per cent.

Prior to Independence, the telephone cable requirements of Indian Posts & Telegraphs Department were being met by imports. In the First Plan period an agreement for technical collaboration was signed with M/s. Standard Telephones & Cables Limited, London, in November 1949 and later, a factory was set up near Chittaranjan about 233 kilometres north-west of Calcutta in the industrial belt of the Damodar valley. The factory went into regular production in September 1954.

Since then, the factory has increased its output steadily every year. In 1960-61, over 1,077 linear miles of telephone cables of various types worth over Rs. 1.50 crores were manufactured in the factory. At present the company manufactures mainly underground dry core telephone coaxial cables and plastic cables and wires of various types and sizes for meeting the requirement of the Indian Posts & Telegraphs Department. The Posts & Telegraphs Department is the main customer and consumes about 98 per cent of the products while the balance 2 per cent is sold to Indian Railways, Defence Department, other Central and State Government Departments and also to private customers. The products are usually delivered to all P & T Circle stores depots, all P & T Controllers of telegraph stores and all P & T Telephone Districts within the country on formal order from the Chief Controller of Telegraph stores, Calcutta and from D.G., P & T Office, New Delhi.

Hindustan Cables Ltd. is a Government of India undertaking and the only manufacturer of underground dry core telephone

¹ Source : *West Bengal — An Analytical Study*, New Delhi, 1971.

cables and coaxial cables in India. The products have been acclaimed as the best in this country, maintaining a very high quality and standard. During the period 1967-71, the annual value of production and sales was found to be ranging from Rs. 6 crores to Rs. 9 crores.¹ As the Posts & Telegraphs Department has considerably increased its demand for cable in recent years, the company has not been in a position to export any surplus after meeting domestic needs.

Sen-Raleigh Limited was formed in 1949 with technical know-how from the U.K. and West Germany with the object of manufacturing bicycles in this country. The factory was established at Kanyapur, near Asansol in 1951 and manufacture started in 1952. In the beginning, the total strength of staff was 150 and the actual turnover was between 50 to 75 cycles per day. In 1973, more than 3,500 persons were employed in this industry, the average daily production being 1,500. Kanyapur is a self-contained unit with 10,000 persons living in the colony. It may be added that, Sen-Raleigh was the first in West Bengal to have an industrial housing scheme subsidised by the Government. More than 60 per cent of the workers are housed in the township which is spread over 600 acres of gently rolling land. The township is well-planned with gardens, a big park, playgrounds and long avenues of trees that give shade. The company has provided free primary education for the children of the workers while higher education to workers' children is subsidised. There is also a junior technical school for imparting technical education. The factory is not covered by ESI Scheme but in the township there is a well-equipped clinic under the care of three qualified doctors. There is also an arrangement with an Asansol nursing home to reserve beds for Sen-Raleigh employees. There are two recreation clubs with various recreational facilities. There is one Employees' Multipurpose Society with a membership of more than 2,500 employees. There is also provision for annual bonus, provident and retirement benefit funds.

In recent years, Jaykaynagar, under the Aluminium Corporation of India, a concern of the J.K. Group of Industries, has been responsible for the production of a considerable amount of aluminium. The factory lies midway between Asansol and Raniganj and the source of supply of aluminium ore is the Corporation mines at Lohardaga in the Ranchi district and at

Sen-Raleigh
Limited

Aluminium
Industry

¹ Source : Senior Sales Officer, Hindustan Cables Limited.

Khamar in Palamau district in Bihar. In 1950, the factory had 30 reduction furnaces or cells, one coke-fired remelting furnace and one oil-fired remelting furnace. The number of workers in the factory was 1,433 and the total output of ingots in the same year was 1,200 tonnes. The total output of rolled or finished aluminium products was 1,09,000 lbs. of utensils and 497 tonnes of sheets and circles. In 1961, the maximum capacity of the works was 2,337 tonnes of ingots and 2,134 tonnes of sheets and circles annually. The total number of persons employed in 1973 was 2,087.

Labour welfare

The management has made arrangements for living quarters for all the employees of the company. Free medical aid is given to all the employees of the works. There is a well-equipped dispensary where all cases of injury are attended by qualified doctors. There is one Junior Free Basic School in which the children of the employees receive education. The management also contributes a suitable amount of money per month for the conveyance of children of the employees for higher education at Asansol. The production bonus system is also in existence in all production departments. Annual sports and cinema shows are held as a part of recreational measures for the workers. There are also adequate canteen facilities and rest shelters.

The Bengal Paper Mill, Raniganj

The Bengal Paper Mill at Raniganj is one of the largest paper mills in the country and in 1950 produced 11,412 tonnes of paper and paper products. The daily average of labour employed was 1,050. The factory gets its supply of materials from various sources—bamboo from Bihar, Orissa and Madhya Pradesh; *sabai* grass from West Bengal, Bihar and Orissa; hemp cuttings mostly from Searpur near Benaras; and rags and waste-paper from Calcutta.

Tiles

Asansol is a very large centre for producing tiles, clay products, pottery and refractories. In 1950, Messrs Burn & Company had four works in Raniganj and one in Durgapur. The Bihar Potteries Limited have works at Rupnarayanpur and the Bengal Refractories Limited have works at Jamgram in Panuria. In 1950, all these units together employed 2,000 labourers daily. The sources of raw materials for these units are fire clay which is obtained from local fields and also from adjacent Bihar fields.

Other industries

Iron utensils are made throughout the district. The manufacture of cutlery is carried on at Kanchannagar, a suburb about five kilometres west of the western extremity of Bardhaman town.

Brass and bell-metal utensils are manufactured at various places in the district. Bonpas in Sadar Subdivision and Dainhat and Begunkhola in Kātoyā were once noted for this industry. This industry which once employed quite a large number of artisans, has declined. The wares manufactured at Bonpas are preferred for their superior polish and make. Other old time industries which are still to be found in the district, include cutlery, cart-making, clay image making, dairy, gold and silver smithy, lime making, mat-making, pottery, sweetmeats, tile making, leather work, carpentry, blacksmithy, oil crushing, cane and bamboo products, *gur* making, wood and stone carving, etc.

There has been a spectacular growth of heavy and large-scale industries in the Asansol-Durgapur belt of the district in the past two decades. A major portion of small scale industries except rice mills are located in Asansol Subdivision, while cottage and village industries are mostly concentrated in the eastern subdivisions of the district.

Handloom weaving

The handloom weaving, an important cottage industry of the district, is at present mainly located at Kātoyā, the Katwa Industrial Centre being the main handloom centre of the district. The old centres of cotton weaving are Purbasthali, Kalna and Manteswar and in these three places nearly 2,000 persons were daily employed as weavers during 1908-09. As the industry still supports a good number of people in the rural areas, the State Government is keen on extending all possible help to the artisans working at the existing handloom centres. It is with this end in view that the Katwa Industrial Centre has been organized in recent years. The following statement gives an idea about the number of handlooms both in the cooperative sector and outside the cooperative sector for a selected number of years.¹

Name of Handloom centre	Year	No. of looms in the cooperative sector	No. of looms outside the cooperative sector	Total
Katwa Industrial Centre, Katoya	1965-66	4,394	11,590	15,984
	1966-67	4,394	11,590	15,984
	1967-68	4,394	11,590	15,984
	1968-69	4,418	11,566	15,984
	1969-70	4,418	11,566	15,984
	1970-71	4,418	11,566	15,984

¹ Source : Joint Director of Industries (Handloom), West Bengal.

Other cottage and small-scale industries

Other cottage and small-scale industries are not concentrated in any particular area but are scattered all over the district. Small-scale industries include rice mills, saw mills, automobile servicing, power looms, iron foundries, non-ferrous and alloy castings, flooring tiles, optical lenses, fire bricks, structural metal products, etc. The group-wise number of industrial establishments in the district registered with the Directorate of Industries as on 30.6.71 are shown below.

INDUSTRY-WISE DISTRIBUTION OF THE SMALL-SCALE INDUSTRIAL UNITS IN BARDDHAMĀN DISTRICT REGISTERED WITH THE DIRECTORATE OF COTTAGE & SMALL SCALE INDUSTRIES UP TO JUNE 1971.*

Sl. No.	Type of Industry	No. of units	Total employment	Total fixed capital ('000 Rs.)
1.	Process allied to agriculture	—	—	—
2.	Food beverages	49	603	2,410.8
3.	Tobacco	4	34	20.8
4.	Textiles including textile wearing apparel	33	208	217.8
5.	Footwear (except rubber)	—	—	—
6.	Wooden products (except furniture)	16	91	1,209.8
7.	Furniture	53	610	2,310.8
8.	Paper & paper products	1	10	62.0
9.	Printing & allied industries	27	165	923.4
10.	Leather & leather products	2	22	94.0
11.	Rubber products	5	44	1,235.5
12.	Chemical & chemical products	66	1,056	7,504.2
13.	Non-metallic mineral products	28	3,108	2,220.4
14.	Basic metal products	96	2,294	5,059.2
15.	Manufacturing of metal products	50	510	2,301.0
16.	Manufacturing of machinery (except electrical machinery)	38	945	11,924.8
17.	Manufacturing of elec. machinery & apparatus	41	180	1,611.3
18.	Manufacturing and repair of transport equipment	57	752	3,579.6
19.	Manufacturing of scientific & measuring instruments	1	16	62.9
20.	Manufacturing of Photographic and optic goods	2	5	47.4
21.	Manufacturing and repair of watch and clock	5	20	64.0
22.	Pen and pencil	—	—	—
23.	Button making	—	—	—
24.	Plastic products	1	10	95.3
25.	Celluloid articles	—	—	—
26.	Others	30	678	3,318.0
Total		625	11,361	44,281.8

* Source : Directorate of Cottage and Small Scale Industries, Government of West Bengal — *Statistics on Industrial Potential*, Calcutta 1971, p. 20.

Small-scale industries

According to a recent survey of the Bureau of Applied Economics and Statistics, there were 38,120 units of small industrial establishments in the district in 1965-66 providing employment to 78,360 persons.¹ About 20 per cent of such establishments was situated in urban areas of the district. So far as the number of establishments is concerned, the district occupies the fifth position by claiming 6.66 per cent of the total establishments and seventh position as regards workers in West Bengal.² The total number of units in the district registered with the Directorate of Cottage and Small-Scale Industries, West Bengal was 625 as on June 1, 1971. Basic metal industries claimed the highest percentage, i.e. 15.4, followed by chemicals and chemical products (10.6 per cent) and manufacturing of machines (except electric machines) 9.3 per cent. Other important types of industries are manufacturing and repair of transport equipment, wooden furniture, manufacturing of metal products, food beverages, etc.

The total fixed capital investment for these 625 units during the period was 44,281.8 thousand rupees. Manufacturing of machinery (except electrical machineries) with only 9.3 per cent of the total units, claimed 26.9 per cent of the total fixed capital investment. Other units such as basic metal industries, manufacturing and repair of transport equipment account for 16.9 per cent, 11.4 per cent and 8.1 per cent of the total fixed capital respectively. These registered units provided employment to 11,361 persons during the period.

In the context of the urgent need for increased employment opportunities and scarce capital resources, the growth of small industries assumes increased importance for Durgapur. The major industries in Durgapur are the basic or heavy engineering type and as such are not quite suited to function as parent firms for the promotion of ancillary industries. Nevertheless, the requirements of spares and occasional items are considerable, and within certain limits the small-scale industries in Durgapur can develop healthy economic contacts with the major units. The State Government's Cottage and Small-Scale Industries Department in recent years have taken steps for the consolidation and

Small industries in Durgapur

¹ & ² Source : *The Lead Bank Survey Report, District Bardhaman — West Bengal, 1970-71*. Published by the United Commercial Bank, Calcutta, 1972. There are also some small-scale industries which are agro-based and raw material-oriented, such as, rice mills, oil mills, etc. (vide, *Techno-Economic Survey of West Bengal*, National Council of Applied Economic Research, New Delhi, 1962, p. 121).

promotion of small-scale industries in Durgapur. The Durgapur Rural Industries Project, started in February 1967, with financial assistance from the Government of India, now covers a wide area, consisting of the Durgapur industrial area and the surrounding development blocks in Bardhaman and Bankura districts. The Project Office has been functioning as the main instrument of the C. & S.S.I. Department in administering the various schemes of assistance. In 1968-69, out of 375 registered small-scale units under the Project, 36 were located within Durgapur City.¹ A brief account of the working of the Rural Industries Project in the district follows.

Rural Industries Project

Rural Industries Project (RIP) Programme was launched by the Planning Commission of India in 1962 to deal with the increasing unemployment and underemployment in the country. The principal objectives of the Programme included creation of employment opportunities, diversification of rural occupations, raising income and standard of living of rural artisans, utilization of local raw materials and the introduction of improved technology in traditional industries. There are altogether four projects under the Programme in West Bengal of which Rural Industries Project, Durgapur is one. This project is composed of 2 development blocks of Bardhaman, i.e. Durgapur-Faridpur and Kanksa, and 4 blocks of Bankura District.

Making of the Project

The project started functioning in 1966-67 and by 31.3.71 altogether 603 rural industrial units were registered under the project, the number of existing and new unit being 500 and 103 respectively. Total investment in these 603 units, as on 31.3.71 was Rs. 1.32 crores while the gross value of production of these units on the same date was 6.40 crores. Through the working of these 603 units it was possible to provide employment to 6,000 full time and 5,500 part time workers. In 1970-71, 40 tile-making units and 11 brick units employed 1,785 persons and about 600 persons were provided with work under 2 registered units in stone quarry. The other schemes initiated by the Project included handpounding of rice, palm-gur making, *khandsāri*, etc.

Since its inception, the Rural Industries Project has initiated schemes for running of new industries in the region. The RIP has introduced plastic industry in the rural area by importing

¹ Durgapur Development Authority — Administration Report : 1967-68 & 1968-69.

machines and technicians from Bombay and Calcutta. Plastic films and bags, tapes, pipes, buttons and moulded articles are the main products. Two new paint factories are also operating in the area and these have been initiated by the RIP. The RIP has also extended necessary assistance in the form of loan to various chemical industries for making pesticides, disinfectants, naphthalene balls, candles, soaps, etc. Although there are 42 such industries employing 840 persons, stress has also been laid on the development of husking mills, wheat grinding, oil milling, bakery and confectionary as part of agro-based industries in the region. There were 93 such agro-based industries in 1970-71 employing, 1,860 artisans. The RIP has also encouraged forest based industry such as saw mill, cabinet making, packing boxes and crates. Bee keeping is another forest based industry initiated by the RIP. There are good concentrations of artisans in some areas under the guidance of the RIP but shortage of power and raw materials at present stand in the way of quick development of these areas.

Dariapur Dhokra Artisans Co-operative Industrial Society Ltd., located at Dariapur, has been established recently to help development of *dhokra* metalcraft. *Dhokra* metalcraft has been one of the traditional tribal crafts of West Bengal and was rediscovered a few years ago. The artisans are chiefly concentrated in the western part of the State and produce a variety of metal castings which are appreciated by art-loving people. The technique is known as the lost wax metal casting. The process involves replacement of wax-coated clay cores with metal by traditional hollow casting method.

Handicrafts

The other handicrafts include painting on *muga* cloth, table-mats, decorative mats and wood carving. Panchagram Samabay Kutir Silpa Pratisthan Limited, located at Amadpur, is well known for handling these handicrafts. Natungram, P.O. Patuli, is another centre noted for wood carving.

During the Second Plan period arrangements were made for procurement of raw materials, provision of power at concessional rates, supply of machine and machine parts on hire-purchase basis and of imported materials and machinery for the benefit of the industrial units in the district. Supply of controlled materials and marketing assistance were also made available to them. Loans were also granted to deserving persons under the State Aid to Industries Act of 1931 during the various Plan periods. These were advanced by the Block Development Officers at

State aid to industries

Industrial
cooperatives

block level and the District Industrial Officer at the district level. In 1960, there were 105 handloom cooperatives in the district which had in their fold about 5,250 handloom artisans.¹ Most of these cooperatives are struggling hard to-day for their very existence. There are, however, some cooperatives which have made some progress and the name of Saktigarh Industrial Powerloom Co-operative Society Limited housed in the Industrial Estate, Barsul, may be mentioned in this connection. In recent years, industrial cooperatives relating to bell-metal, leather, blacksmithy, etc. have also been formed but these and similar other cooperatives are not functioning satisfactorily.

Training
Institutes

In 1960, there were 25 training institutes in the district for imparting technical training to the industrial workers.² These include Industrial Training Institute, Durgapur; Government Mining School, Sitarampur; Maharajadhiraj Bijoy Chand Institute of Engineering & Technology, Barddhamān.

Training-cum-Production Centres at Block level were also in existence at Barsul, Ahmadpur, Rasulpur and other places. The training was mainly related to handloom, carpentry, footwear, brick-making and rope-making. It may be added that some of the large-scale industries such as Chittaranjan Locomotive Works at Chittaranjan, Indian Iron and Steel Company Limited at Burnpur and Sen-Raleigh Limited at Asansol have their own arrangement for admitting apprentices for technical training.

Trends of
employment in
manufacturing
industries

On the subject of trends of employment in manufacturing industries, the *Lead Bank Survey Report* on the district has provided group-wise projections in manufacturing, excluding household industries and these are shown below.³

EMPLOYMENT IN MANUFACTURING INDUSTRY IN ASANSOL
SUB-DIVISION (Figures in Thousand)

Groups of industry	1971	Percentage	1981	Percentage	1986	Percentage
Basic metals	76	43.2	88	31.9	96	26.9
Engineering	54	30.7	106	38.4	146	41.3
Chemicals	6	3.4	18	6.5	26	7.4
Refractories	7	4.0	10	3.6	13	3.7
Other industries	33	18.7	54	19.6	73	20.7

With the above projections for employment in various industry groups, the *Lead Bank Survey Report* has also made an estimate

¹ & ² Source : District Industrial Officer, Barddhamān.

³ Source : *The Lead Bank Survey Report : District Burdwan, West Bengal, 1970-71*, United Commercial Bank, p. 78.

of the capital investment needs for the industrial growth of the sub-division which is shown below :

ESTIMATES OF CAPITAL REQUIREMENTS IN ASANSOL
SUB-DIVISION (in Million Rupees)

Groups of Industry	1971	1981	1986
Basic metals	3,469.0	4,436.7	5,033.8
Engineering	752.8	1,420.6	1,904.5
Chemicals	134.7	446.4	677.6
Refractories	59.1	93.3	127.4
Other industries	161.7	292.3	415.3
Total	4,577.3	6,689.3	8,158.6

It has already been stated that there are good prospects of investment in large and medium engineering industries, coal-based industries and basic metals. There are also good prospects of development of various ancillary industries. By 1986, the population of Durgapur is expected to be a little more than a million which is exactly two times of the present population. This means at least 60,000 more jobs have to be found by that date. While the additional employment will be mainly in the manufacturing industries, the increase in the number of employees in other spheres such as construction and household industry is also expected. Besides, there is the tertiary sector which in the course of its gradual development may be expected to respond to the needs of the increasing urbanization. In the Durgapur urban area the scope for any increased employment in the primary sector is very much limited, while according to a rough estimate at least an investment of Rs. 150 crores would be required for creating 60,000 jobs in the secondary and tertiary sectors.¹

Prospects of
investments in
Durgapur

There are at present some bottlenecks for the development of the Durgapur urban area which include poor conditions of public transport and lack of adequate educational, medical and recreational facilities. There is also a great need for low cost public housing. The Durgapur Development Authority at present is working to remove these bottlenecks through the implementation of an all-round development plan.

¹ Source : *The Lead Bank Survey Report : District Burdwan, West Bengal, 1970-71*, United Commercial Bank, Calcutta.

Welfare of
industrial
labour

In 1971, three model labour welfare centres were functioning at Durgapur, Sagarbhangha and Kanyapur. These provided medical, educational, cultural and recreational facilities to workers' children and supplied to them, free of cost, primary books, pencils, slates, etc. The oldest centre is Durgapur Model Labour Welfare Centre which started functioning from 1.9.58. It functioned as an ordinary labour welfare centre for the period from 1958 to 1963 and subsequently, it was converted into a model labour welfare centre. Total attendance at these three labour welfare centres for the period from 1.1.71 to 31.12.71 is given below.¹

Name of the Model Labour Welfare Centre	Total attendance
Durgapur	28,437
Sagarbhangha	51,979
Kanyapur	43,134

There are also several audio-visual centres equipped with radio sets, facilities for sports and games, libraries and reading rooms. The Independence Day and the Republic Day are regularly observed at the labour welfare centres. Important functions like Rabindra Jayanti and Netaji's Birth Day are also held. Film shows and musical functions are held occasionally for the education of the workers.

Most of the large-scale industries of the district have their registered offices at Calcutta which are affiliated to the different Chambers of Commerce. As such, these have no separate organisations in the district. There are, however, a few employers' organisations which function locally, viz. Burdwan Chamber of Commerce and Durgapur Small Industries Association. An up-to-date list of the labour organisations, functioning in the district in 1970-73, with their respective memberships and dates of registrations, is appended to this chapter.

During the past few years, there had been a number of cases of labour unrest in the district mainly originating from demands for better wages, bonus and amenities, retrenchment of workers and disciplinary action against employees. The following table gives an idea of the number of work stoppages in its various aspects for the period from 1970 to 1972.²

¹ Source : Deputy Labour Commissioner (Labour Welfare), West Bengal.
² Source : Labour Directorate, West Bengal.

STATEMENT ON WORK STOPPAGES (STRIKES & LOCKOUTS) 1970-72

Cause	1970		1971		1972	
	No. of work stoppages	No. of men involved	No. of work stoppages	No. of men involved	No. of work stoppages	No. of men involved
Wages & Allowances	20	12,537	11	3,587	9	2,321
Bonus	1	60	3	4,589	2	3,880
Non-implementation of awards	6	5,925	—	—	1	90
Personnel Welfare	6	526	3	1,114	9	5,616
Employment, promotion, upgrading	1	30	1	142	—	—
Indicipline	5	846	6	13,167	6	3,755
Go-slow	1	47	1	375	3	493
Retrenchment	2	990	5	3,250	1	3,000
Lay off	1	58	—	—	2	53
Miscellaneous	1	12	—	—	1	43
Total	4	535	8	6,701	6	3,989
Total	48	21,566	38	32,925	40	23,240

In Durgapur Steel Limited, the number of labour disputes rose from 20 in 1967 to 47 in 1968 falling to 32 in 1969 with a rise to 40 in 1970 dropping again to 28 in 1971. Important cases of disputes were protest against discharge, demands for employment and promotion, and upgrading. In Durgapur Projects Limited, the number of disputes did not assume much significance during the years 1967-71. The number of disputes was highest in 1971 with 15 cases while it varied from only 2 to 9 in the years 1967 to 1970. The demands mainly centred round protests against transfer, dismissal, discharge and demands for employment. The number of disputes in Alloy Steel Plant was only 7 in 1968 and this number dropped to 5 in 1969 rising again to 10 and 12 in 1970 and 1971 respectively. The principal factors leading to the disputes were demands for better wages and allowances and for promotion and upgrading. The Mining and Allied Machinery Corporation had only one dispute each in the years 1968 and 1969. They rose to 7 in 1970 falling to 5 in 1971. In this unit the principal cause of dispute related to discharge, dismissal and transfer. In Ophthalmic Glass again, the number of disputes was only 2 in 1971.¹

Industrial
Relations at
Durgapur

¹ Source : Government of West Bengal — Labour in West Bengal, 1972.

Labour and
Employers'
Organisation

A three-tier Consultative Committee was inaugurated on 19.5.72 in the Durgapur Steel Plant and Alloy Steel Plant by the Union Minister for Steel & Mines, the three participating unions being INTUC, CITU and AITUC. The aim of the committee is to bring about a consensus among the managements and the workmen and not simply a settlement between the managements and the unions only. The Plant Level Committees at Durgapur Steel Plant and Alloy Steel Plant have set up various sub-committees to investigate disputes quickly and to submit their findings to the Plant Level Committees. A Large number of settlements have been reached in recent times mainly through negotiation at the Plant Level Committees and what is significant is that all the three unions have signed such settlements.

The following table shows the method of termination of work stoppages in the district for the period from 1970 to 1972.¹

METHODS OF TERMINATION OF WORK STOPPAGES : 1970-72

Methods of termination	1970		1971		1972	
	No. of cases	No. of men involved	No. of cases	No. of men involved	No. of cases	No. of men involved
Conciliation	19	4,599	17	6,673	20	12,868
Bipartite agreement	8	631	8	10,442	9	667
Unconditional resumption	13	14,831	7	8,294	4	3,786
Unilaterally by management	1	47	1	821	—	—
Otherwise	7	1,458	5	6,695	7	5,919
All combined	48	21,566	38	32,925	40	23,240

There are two posts of Inspector of Minimum Wages, attached to the offices of two Assistant Labour Commissioners at Durgapur and Asansol. The Inspector posted at Durgapur looks after the working of the act in Durgapur Subdivision while the other Inspector works for Asansol. There is one more Inspector, Minimum Wages with headquarters at Chandernagore who is in charge of Sadar, Katoya and Kalna Subdivisions.

In the year 1973, the Inspector in charge of Bardhaman Sadar, Kalna and Katoya Subdivisions conducted 99 inspections in different scheduled employments and altogether 11 claim cases under the Minimum Wages Act, 1948 were instituted before the

¹ Source : Labour Directorate, West Bengal.

authority under the Act. In Asansol Subdivision the Inspector conducted 303 inspections in the same year, the number of cases instituted being 6. The number of inspections made in Durgapur Subdivision during the period was 140 while the number of cases instituted was 21.²

² Source : Labour Directorate, West Bengal.

APPENDIX

LIST OF TRADE UNIONS IN THE DISTRICT OF BARDDHAMAN :
1970-73*

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
1.	Asansol Subdivisional Stone Quarry Workers' Union	Chattapathar, G. T. Road (East)	2.1.70	100	Independent
2.	Asansol Subdivisional Light Engineering Workers' Union	Thana Road, Asansol	8.1.70	35	AITUC
3.	Carew Employees' Association, Asansol	Gopalpur, Asansol	17.1.70	50	AITUC
4.	Burdwan B. C. Hospital Special Ayas' Union	B. C. Road, Barddhaman	19.1.70	100	Independent
5.	Kastha Silpi Sangha, Barddhaman	B. C. Road, Barddhaman	19.1.70	41	Independent
6.	Burdwan Cooperative Societies' Employees' Union	Barddhaman	20.1.70	204	Independent
7.	Burdwan Bidi Mazdoor Union	B. C. Road, Barddhaman	22.1.70	210	AITUC
8.	Glass Workers' Union, Raniganj	Raniganj	6.2.70	54	AITUC
9.	Burdwan District Kathgola & Carpentry Works Sramik Union	Kalitala, Barddhaman	12.2.70	150	Independent
10.	Nursing Home Employees' Union, Asansol	Thana Road, Asansol	19.2.70	30	AITUC
11.	Sarkari Gudam Thikadar Mazdur Sabha, Barddhaman	Thana Road, Asansol	19.2.70	50	AITUC
12.	J. K. Ropeways (Coal Board) Employees' Union, Lachipur	Madanpur, Barddhaman	20.2.70	138	Independent
13.	United Contractors Workers' Union (Durgapur Sub-division)	Benachiti, Durgapur-4	20.2.70	375	Independent
14.	Burdwan Zilla Telkal Sramik Union	Kalitala, Barddhaman	25.2.70	83	Independent

*Source : Registrar of Trade Unions, West Bengal.

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
15.	Rajbandh Special Casting Employees' Union	Benachiti, Durgapur-4	25.2.70	52	Independent
16.	Chitra Cinema Hall Workers' Union	Radhanagar Road, Barddhaman	27.2.70	18	UTUC
17.	Burdwan District Dokan Karmachari Samity	Kalitala, Barddhaman	2.3.70	200	Independent
18.	Eastern Railway, Catering Workers' Union	Kalitala, Barddhaman	2.3.70	120	Independent
19.	Burdwan Seeban Silpee Samity	Kalitala, Barddhaman	5.3.70	99	Independent
20.	Durgapur Subdivision Automobiles (Garage & Allied) Employees' Union	Benachiti, Durgapur-4	5.3.70	76	AITUC
21.	Burdwan District Rajmistri and Grihanirman Sramik Union	Memari	10.3.70	113	Independent
22.	Memari Thana Bidi Mazdoor Union	Bamunpara Mor, Memari	10.3.70	400	Independent
23.	Durgapur Subdivisional Press Employees' Union	Benachiti, Durgapur-4	18.3.70	55	Independent
24.	Sykho Glass (Pvt. Ltd.) Sramik Union	Kalitala, Barddhaman	24.3.70	100	AITUC
25.	Hindustan Cables Majdur Union (H.C.M.U.)	H.C.L. Township, Hindustan Cables	24.3.70	25	UTUC
26.	Burdwan Zilla Rice Mill-Mazdur Union	B. C. Road, Barddhaman	26.3.70	307	UTUC
27.	Memari Thana Dokan Karmachari Samity	Rasulpur	28.3.70	94	AITUC
28.	Memari Thana Chirakal Sramik Union	Memari	6.4.70	27	AITUC
29.	Associated Timber Industries Sramik Union	Rupnarayanpur	16.4.70	35	Independent
30.	Barddhaman Town Rajmistri, Griha-O-Pathanirman Sramik Union	Kalitala, Barddhaman	27.4.70	82	BPTUC

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
31.	Central Coal Mines Rescue Stations Staff Association	Sitarampur	27.4.70	74	AITUC
32.	Galsi Dokan Sangstha Karmachari Samity	Galsi	4.5.70	79	WBSEF
33.	Rice Mill Workers' Union, Kalna	Dangapara, Kalna	4.5.70	50	AITUC
34.	Thikadar Mazdoor Union, Burnpur-Kulti	Kulti	12.5.70	300	HMS
35.	Durgapur Chemicals Ltd. Canteen Employees' Union	Benachiti, Durgapur-4	25.5.70	32	AITUC
36.	Fertilizer Corpn. India Ltd., Security Staff Assn., Durgapur	Sagar Bhanga Colony, Durgapur-1	13.6.70	82	AITUC
37.	Asansol Silicate Factories Employees' Union	Asansol	17.6.70	60	CITU
38.	Asansol Sub-divisional Kathgola Mazdoor Union	Girjapara, Raniganj	18.6.70	30	BPTUC
39.	Mining & Allied Machinery Corpn. Security Employees' Assn., Durgapur	Viswakarnanagar, Durgapur-10	19.6.70	118	INTUC
40.	Durgapur Foundry & Engineering Works Mazdoor Union	Hattola Road, Durgapur-1	3.7.70	76	AITUC
41.	Ausgram Block-2 Co-operative Agricultural & Marketing Society Employees' Union	Abhirampur, Ausgram	17.7.70	47	CITU
42.	Khan Mazdoor Sangh, Bardhaman Division	Safiquenagar, Ukhra	8.8.70	397	Independent
43.	Ajoy Valley Colliery Majdoor Union	Moirra Colliery, Ukhra	14.8.70	7,053	Independent
44.	Mining & Allied Machinery Corporation Sramik Union	Viswakarnanagar, Durgapur-4	9.9.70	2,150	AITUC
45.	Sen-Raleigh (Asansol Works) Employees' Association	Provat Hotel, G.T. Road, Asansol	17.9.70	250	AITUC
46.	Eastern Railway Traction Distribution Workers' Assn.	Asansol	29.9.70	600	Independent

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
47.	Jessop & Co. Ltd. Workers' Assn., Durgapur	V. K. Nagar, Durgapur-10	5.10.70	94	INTUC
48.	Durgapur Steel Sramik Union	Benachiti, Durgapur-13	6.11.70	2,406	AITUC
49.	Ophthalmic Glass Plant Mazdoor Union	Durgapur-10	12.11.70	200	Independent
50.	Raniganj Flour Mills Mazdoor Union	Girjapara, Raniganj	17.11.70	51	CITU
51.	Hind Refractories Sramik Union, Durgapur	Sagarbhanga, Durgapur-11	18.11.70	95	AITUC
52.	Hindusthan Pilkington Glass Works Employees' Association, Asansol	Chatapathar, Asansol	24.11.70	182	CITU
53.	Asansol Taxi Drivers' & Cleaners' Union	A. Garden Road, Asansol	24.11.70	60	CITU
54.	Consumers' Co-operative Society Employees' Union, Asansol	A. Garden Road, Asansol	24.11.70	63	CITU
55.	Rickshaw Mazdoor Union, Asansol	Dhadka Road, Asansol	24.11.70	296	CITU
56.	Asansol Hawkers' Union	A. Garden Road, Asansol	24.11.70	56	CITU
57.	West Bengal Apex Cooperative Agriculture & Marketing Society Workers' Union	Memari	7.1.71	75	CITU
58.	ACC-Vickers Babcock Sramik Union	Ghosh Market, Durgapur,	18.1.71	403	AITUC
59.	Colliery Mazdoor Sabha of India	Sishubagan, Raniganj	20.1.71	10,120	CITU
60.	Asansol Bakery Workers' Union	A. Garden Road, Asansol	3.3.71	60	CITU
61.	Dishergarh and Associated Power Company's Employees' Union	Jhalbagan, Dishergarh	27.3.71	108	INTUC
62.	Durgapur Projects Employees' Multi-purpose Cooperative Society Employees' Union	Durgapur-2	6.4.71	34	CITU

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
63.	I. I. & Co. Ration Distributors Employees' Union, Burnpur-Kulti	Puranhat, Burnpur	10.4.71	80	CITU
64.	The West Bengal Co-operative Land Mortgage Banks Employees' Association	Barddhamān	10.4.71	132	Independent
65.	Rickshaw Mazdoor Union, Raniganj	Raniganj	20.4.71	52	CITU
66.	Asansol Subdivisional Bidi Majdoor Union	Asansol	17.5.71	100	CITU
67.	Asansol Subdivisional Retail Fruit Sellers' Union	Thana Road, Asansol	27.5.71	50	AITUC
68.	Eastern Rly. Sanitary Workmens' Assn.	Thana Road, Asansol	27.5.71	180	AITUC
69.	Bihar Potteries Refractory & Ceramic Works Sramik Union	Rupnarayanpur, P.O.-Hindustan Cables	11.6.71	52	CITU
70.	Mining and Allied Machinery Corporation Workers' Union	V. K. Nagar, Durgapur-10	17.6.71	250	Independent
71.	Graphite India Workmen's Union	Sagarbhangha Housing Colony, Durgapur	18.6.71	40	Independent
72.	Indo American Electricals Sramik Union	Sagarbhangha, Durgapur-11	9.7.71	60	AITUC
73.	Lorry Transport Mazdoor Sabha, Barddhamān	Provat Hotel, G. T. Road, Asansol	27.7.71	80	AITUC
74.	Durgapur Subdivisional Bakery Sramik Union	Kapoor Market, Durgapur-13	14.8.71	80	AITUC
75.	Burdwan Cycle-Rickshaw Sramik Union	Barabazar, Barddhamān	18.8.71	251	Independent
76.	I I S Co. (Kulti Works Mazdoor Union)	Kendua, Kulti	24.8.71	462	Independent
77.	Samla Collieries Workers' Union	Pandaveswar	1.9.71	421	Independent
78.	Burdwan Rickshaw Mazdoor Union	86, B. C. Road, Barddhamān	6.9.71	300	Independent

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
79.	The Chief Mining Adviser's Office (Rly. Board) Staff Association	136, K. S. Road, Railpar, Asansol	7.9.71	55	Independent
80.	Burdwan District Food Corporation of India Godown Workmen's Union	Upper Chelia-danga, Asansol	22.9.71	75	UTUC
81.	Vehicle Depot Mazdoor Union, Panagar	Bud Bud, Barddhamān	23.9.71	306	Independent
82.	Durgapur Projects Sramik Union	EN-8, Coke Oven Colony, Durgapur-2	23.9.71	714	AITUC
83.	Gala Mazdoor Panchayat, West Bengal	2, Md. Hussain Street, Asansol	6.10.71	1,279	HMS
84.	Durgapur Dairy Workers' Association	Sagarbhangha Colony, Durgapur-11	8.10.71	25	AITUC
85.	India Refractories Mazdoor Union	Kulti	22.10.71	265	Independent
86.	Sodepur Central Works & Stores Employees' Union	Dishergerh	27.10.71	76	Independent
87.	A. V. B. Workmen's Union, Durgapur	LR-160, A. V. B. Colony, Durgapur-6	10.11.71	109	INTUC
88.	Heckett Engineering Co. (India Branch) Employees' Union	Puranhat, Burnpur	10.12.71	128	CITU
89.	Durgapur Small-Scale Industries Mazdoor Sangh	Viswakarnanagar, Durgapur-10	30.12.71	41	BMS
90.	Coal Mines Workers' Union, Barddhamān	Madhaiganj Road, Ukhra	3.1.72	915	Independent
91.	Gushkara Rice and Oil Mills Workers' Congress	Gushkara	7.1.72	102	Independent
92.	Philips Carbon Black Workmen's Union	E/31, Sagarbhangha, Durgapur	17.1.72	14	INTUC
93.	Durgapur Mahakuma Dokan Karmachari Sangh	Viswakarnanagar, Durgapur-10	17.1.72	91	BMS

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
94.	Burdwan Zilla Bus Paribahan Karmachari Sangstha	86, B. C. Road, Barddhaman	25.1.72	137	INTUC
95.	Durgapur Fertilizer Corporation of India Workers' Union	111-164, F.C.I. Township, Durgapur-1	31.1.72	51	INTUC
96.	Saktigarh Textile & Industries Mazdoor Congress	B. C. Road, Kalitala, Barddhaman	4.2.72	34	INTUC
97.	Kumar Engineering & Spun Pipe Works Workers' Union	P.O. & Vill.-Baidyapur	4.2.72	29	INTUC
98.	Colliery Sramik Congress, Asansol	Ushagram (E), Asansol	4.2.72	158	INTUC
99.	Apeejay Structural Workers' Union	Amlazora, P.O. Rajbandh	4.2.72	22	INTUC
100.	J. K. Nagar, Aluminium Workers' Union	Ushagram, Asansol	8.2.72	198	INTUC
101.	Burdwan Cycle Rickshaw Owners' Assn.	Barabazar, Barddhaman	11.2.72	31	INTUC
102.	Hein Lehmann (I) Ltd. Mazdoor Sangh	Sagarbhangha Housing Colony, Durgapur-11	12.2.72	30	BMS
103.	Durgapur Projects Ltd. Mazdoor Sangh	V. K. Nagar, Durgapur-10	21.2.72	104	BMS
104.	Dry Cleaning & Laundry Workers' Union, Raniganj	Girjapara, Raniganj	3.3.72	19	CITU
105.	A. V. B. Employees' Co-operative Society Employees' Union	LR-233, A. V. B. Colony, Durgapur-6	3.3.72	16	CITU
106.	Bardhaman Chirakal Karmachari Samity	B. C. Road, Barddhaman	4.3.72	85	INTUC
107.	M. H. S. Shany Workmen's Union	Sagarbhangha Colony, Durgapur-11	7.3.72	46	INTUC
108.	Graphite India Ltd. Mazdoor Sangh	V. K. Nagar, Durgapur-10	20.3.72	33	BMS
109.	Kalna Mahakuma Darjee Union	Lalbag, Kalna	20.3.72	148	UTUC
110.	Hindusthan Steel & Metal Co. Mazdoor Sangh	Sagarbhangha Housing Colony, Durgapur-11	24.3.72	25	BMS

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
111.	Hindusthan Refractories and Ceramics Workers' Union	Sagarbhangha Colony, Durgapur-11	30.3.72	51	INTUC
112.	Durgapur Thikadar Mazdoor Sangh	Viswakarma-nagar, Durgapur-10	15.4.72	33	BMS
113.	Durgapur Contractor Workers' Union	Benachiti, Durgapur-13	25.4.72	60	INTUC
114.	Hein Lehmann Workmen's Union	Sagarbhangha Housing Colony, Durgapur-11	25.4.72	74	INTUC
115.	Alloy Steel Workers' Union	6/9, Guru Nanak Road, Durgapur-5	12.5.72	498	INTUC
116.	Rajbhandh Special Costing Industries (Pvt.) Ltd. Workers' Union	V. K. Nagar, Durgapur-10	12.5.72	68	INTUC
117.	Damodar Iron & Steel Works (P) Ltd. Workmen's Union	P.O. & Vill.-Baktar Nagar	12.5.72	101	INTUC
118.	Katoya Subdivisional Bus Workers' Union	P.O. Katoya Bus Stand, Barddhaman	18.5.72	70	Independent
119.	Dawns Co. (Pvt.) Ltd. Workers' Union	V. K. Nagar, Durgapur-10	26.5.72	20	INTUC
120.	Pib Co. Ltd. Workers' Union, Durgapur	V. K. Nagar, Durgapur-10	26.5.72	63	INTUC
121.	Durgapur Mill-men's Union	Raghunathpur Ambagan, Amrai	26.5.72	98	INTUC
122.	Power Tools & Appliance Co. Workmen's Union	Sagarbhangha Colony, Durgapur-11	26.5.72	31	INTUC
123.	Indo-American Electricals Workmen's Union	Sagarbhangha Housing Colony, Durgapur-11	26.5.72	56	INTUC
124.	Durgapur Dev. Authority Workers' Union	12/9 Bineston Avenue, B-Zone, Durgapur-5	26.5.72	115	INTUC
125.	Durgapur Dairy Workmen's Union	Sagarbhangha Housing Colony, Durgapur-11	31.5.72	24	INTUC
126.	Durgapur Taxi Workers' Union	Benachiti, Durgapur-13	31.5.72	112	INTUC

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Sl. No	Name of the Union	Address	Date of Registration	Membership	Affiliation
127.	Bardhaman Pura Mazdoor Karmachari Sangathan	G. T. Road, Barddhaman	8.6.72	46	INTUC
128.	Barakar Electric Supply Workers' Union	Kulti	19.6.72	25	INTUC
129.	Bengal Paper Mill Mazdoor Congress	Raghunathchak, Ballavpur	20.6.72	160	INTUC
130.	Hindusthan Steel Workmen's Union	15/5, Vivekananda Road, Durgapur-4	20.6.72	500	Independent
131.	DSP Employees' Cooperative Society Ltd. Workers' Union	Ghosh Market, Durgapur-13	20.6.72	58	Independent
132.	Shankey Wheels Workmen's Union, Durgapur	Durgapur Projects B-Zone Colony, Durgapur-2	27.6.72	182	Independent
133.	Pura Sramik Karmachari Samity, Asansol	16, Raha Lane, Asansol	27.6.72	107	INTUC
134.	Bihar Potteries Workers' Union	H. C. Colony, Hindusthan Cables-P.O.	30.6.72	161	INTUC
135.	Bihar Potteries & Refractory Ceramic Works Labour Union	Rupnarayanpur, Hindusthan Cables-P.O.	5.7.72	115	AITUC
136.	Hindusthan Steel & Metal Workmen's Union	Sagarbhangha Colony, Durgapur-11	18.7.72	84	INTUC
137.	Gushkara Bus Workers' Congress	P.O. & Vill. Gushkara	18.7.72	68	INTUC
138.	Panagar Engineering Works Workers' Union	P.O.-Panagar Bazar	20.7.72	52	INTUC
139.	B. P. Mill Contractors' Mazdoor Congress	Ballavpur, Barddhaman	20.7.72	171	INTUC
140.	Western Kajora Colliery Workers' Union	V. K. Nagar, Durgapur-10	22.7.72	102	INTUC
141.	Raniganj Oil Mills Sramik Congress	M. G. Road, Raniganj	22.7.72	45	INTUC
142.	J. K. Ropeways Coal Board Workers' Union	V. K. Nagar, Durgapur-10	25.7.72	216	INTUC
143.	Durgapur Rickshaw Pullers' Association	Maya Bazar, Durgapur-7	25.7.72	100	INTUC

INDUSTRIES

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
144.	Hawkers' Union, Barddhaman	86, B. C. Road, Barddhaman	4.8.72	103	INTUC
145.	National Refractories Workers' Union	Salanpur	4.8.72	102	Independent
146.	Durgapur Chemicals Sramik Union	Coke Oven Colony, Durgapur-2	11.8.72	176	AITUC
147.	Food Corporation Workers' Union, (Durgapur)	F.C.I. Township, Durgapur-12	14.8.72	30	INTUC
148.	D. V. C. Diploma Engineers Association	3rd Unit Colony, DTPS, Durgapur-7	5.9.72	61	Independent
149.	Wood Industries Centre Workmen's Union, Durgapur	Wood Industries Colony, Durgapur-2	9.9.72	82	INTUC
150.	Phillips Carbon Black Cooperative Society Workmen's Union	Sagarbhangha Housing Colony, Durgapur-11	16.9.72	27	INTUC
151.	Bengal Refractories Staff & Workers' Union	Sitarampur, Barddhaman	28.9.72	21	INTUC
152.	Kusumgram Bazar Dokan Karmachari Samity	Kalitala Bazar, P.O.-Kusumgram	9.10.72	94	Independent
153.	Bengal Refractories Labour Union	G. T. Road, Asansol	10.10.72	77	AITUC
154.	Durgapur Bus Workmen's Association	Sagarbhangha Colony, Durgapur-11	28.11.72	61	INTUC
155.	J. K. Nagar Aluminium Sramik Union	G. T. Road, Asansol	30.11.72	516	AITUC
156.	Burdwan District Chirakal Mazdoor Congress	133, G. T. Road, Mehedi Bagan, Barddhaman	7.12.72	71	Independent
157.	Hein Lehmann Labour Union	Sagarbhangha Colony, Durgapur-11	21.12.72	60	NLCC
158.	Burdwan Cycle Rickshaw Sramik Congress	Powerhouse Para, P.O. & Dist.-Barddhaman	19.1.73	311	Independent
159.	Durgapur State Dairy Workers' Union	Viswakarnanagar, Durgapur-10	29.1.73	35	INTUC

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
160.	Durgapur Projects Workmen's Union	Coke Oven Colony, Durgapur-2	31.1.73	397	WBPC
161.	Bharat Ophthalmic Glass Workers' Union	V. K. Nagar, Durgapur-10	31.1.73	134	INTUC
162.	Durgapur Notified Area Authority Workmen's Union	Sagarbhangha Colony, Durgapur-11	29.1.73	95	WBPC
163.	Durgapur State Transport Board Workers' Union	Viswakarnanagar, Durgapur-10	7.2.73	317	INTUC
164.	Burdwan District Taxi Workers' Union	Sagarbhangha Colony, Durgapur-11	16.2.73	21	INTUC
165.	India Refractories Workmen's Union	Kendua Bazar, Kulti	22.2.73	54	INTUC
166.	Burdwan Zilla Tell Kali Karmachari Sangstha	Bijoy Toran Bus Stand, Bardhaman	22.2.73	46	INTUC
167.	Life Insurance Corporation Workers' Union, Asansol Division	G. T. Road, West Asansol	24.2.73	238	A.I.L.I.C. Employees' Federation
168.	Durgapur Motor Vehicles (Lorry) Workers' Union	6/2, Guru Nanak Avenue, Durgapur-5	26.2.73	60	INTUC
169.	Colliery Mazdoor Sangh, West Bengal	26, S. B. Balla Lane, Asansol	26.2.73	300	INTUC
170.	CEDB-Staff Association, Durgapur	Durgapur-3	26.2.73	86	Independent
171.	Eastern Railway Vendors' and Bearers' Union	26, S. B. Raha Lane, Asansol	1.3.73	45	INTUC
172.	Durgapur Projects Mazdoor Union	Benachiti, Durgapur-3	2.3.73	650	INTUC (Lenin Sarani)
173.	Burdwan Tula Karigar Sangstha	Bijoy Toran Bus Stand, Bardhaman	9.4.73	39	INTUC
174.	Burdwan Zilla Bidi Sramik Union	Bijoy Toran Bus Stand, Bardhaman	9.4.73	142	INTUC
175.	Koyala Mazdoor Congress	G. T. Road, Asansol	17.4.73	500	HMP
176.	Durgapur Small-Scale Industries Workers' Union	Sagarbhangha Housing Colony, Durgapur-11	28.4.73	94	INTUC

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
177.	Indian National Coal Mines Engineering Workers' Association (INMEWA), West Bengal	Ningah Colliery, P.O.-Ningah, via.-Kalipahari, Bardhaman	25.5.73	2,011	Independent
178.	Coal Mines Staff Association	27, G. T. Road, Asansol	9.6.73	1,076	INTUC
179.	Burdwan Zilla Rice Mill Sramik-O-Karmachari Congress	G. T. Road, Bardhaman	11.6.73	234	Independent
180.	Durgapur Engineering Co. Workers' Union	Panagarh Bazar, P.O.-Panagarh Bazar	16.6.73	18	INTUC
181.	Coal Mines Officers' Association of India	P.O.-Ukhra	25.6.73	506	Independent
182.	Lachipur Colliery Workers' Union	Viswakarnanagar, Durgapur-10	18.7.73	192	INTUC
183.	Kapur Mining Equipment Mazdoor Congress	'A' Block, Kanyapur, P.O.-Kanyapur	18.7.73	32	INTUC
184.	Raniganj Electric Supply Employees' Union	Raja P. N. Nalia Road, Raniganj	18.7.73	53	INTUC
185.	Durgapur Cement Works Workers' Union	6/2, Guru Nanak Avenue, Durgapur-5	6.8.73	30	INTUC
186.	Kalna Mahakuma Powerloom Employees' Union	Talbona, P.O.-Nebhuji Bazar	22.8.73	200	Not Known
187.	Jamuria Electric Supply Workers' Union	Jamuriahat Cinema Mor	11.9.73	11	INTUC
188.	Asansol Market Shop Owners' Association	Asansol M. Bazar, Asansol	12.9.73	195	INTUC
189.	Durgapur Thana Dokan Karmachari Parishad	Benachiti, Durgapur-13	6.12.73	120	INTUC
190.	Hindusthan Pilkington Glass Works (H.P.G.W.) Supervisory Staff Welfare Association	K. S. Road, Railpar, P.O.-Asansol	13.12.73	64	Independent

BARDHAMAN

Sl. No.	Name of the Union	Address	Date of Registration	Membership	Affiliation
191.	Ajoy Industries Workers' Union	P.O. Kulti	24.12.73	N.A.	N.A.
192.	Eastern Railway Traffic Staff Association	Loco Tank Colony, P.O.-Bardhaman	27.12.73	282	Independent

ABBREVIATIONS

HMS	...	Hind Mazdoor Sabha
HMP	...	Hind Mazdoor Panchayat
BMS	...	Bharatiya Mazdoor Sangha
WBSEF	...	West Bengal Shop Employees' Federation
NLCC	...	National Labour Co-ordination Council
CITU	...	Centre of Indian Trade Unions
WBPC	...	West Bengal Pradesh Congress
AITUC	...	All India Trade Union Congress
UTUC	...	United Trade Union Congress
BPTUC	...	Bengal Provincial Trade Union Congress
INTUC	...	Indian National Trade Union Congress
N.A.	...	Not Available

CHAPTER VI

BANKING, TRADE AND COMMERCE

The earliest reference to the existence of a system of banking in this district, is traceable in Kavikankan Mukundaram's *Chandimangala*, a work of circa A.D. 1595. That refers to the activities of a "class of shroffs usually called *poddars* who exchanged *cowries* (shells) and silver coins, the usual currency of a Bengal market." These persons "acted as bankers and money-changers and remitted money for others from one town to another and issued letters of exchange." The Bengal District Records of the 18th century show that revenue was not paid by the zamindars to the officers of the East India Company direct, but was collected through the agency of these shroffs. As losses due to misappropriation by the middlemen in various ways was inherent in this system, it was abolished in 1778.

The banking house of Jagat Seth played a part so significant in the economic life of Bengal that Burke compared it with that of the Bank of England. The adjoining district of Murshidabad was the main centre of activities. With huge cash in their coffer they were not only the bankers and treasurers of the Nawab but also of the revenue-farmers and zamindars. Inland traders must have also thronged their *kuthis* for the supply of credit for their terms were lenient. Plassey marked the end of their prosperity and the decline of the house was very rapid after the brutal murder of its leading members at the instance of Mir Kasim. After the grant of the *Diwani*, this institution ceased to be the channel of revenue payment and when the treasury was transferred to Calcutta, the Seths practically ceased to act as bankers to the Company. Their sources of wealth dried up and their trade in rupee passed into the hands of the smaller shroffs in league with each other.

The indigenous bankers suffered a serious set-back following the rise of agency houses and joint stock companies at the beginning of the 19th century. But, as noticed by the Banking Enquiry Committee in 1929-30, they played an important role in the financing of agriculture, industry and trade. They usually combined banking with some form of trade, wholesale or retail.

The district monograph on Bardhaman of the All India Rural Credit Survey published by the Reserve Bank of India in 1958

BANKING AND FINANCE

History of indigenous banking in the district

Rural indebtedness

contains valuable information on the state of rural indebtedness in this district. The average size of cultivated holdings per family of cultivators of all categories was 4.1 acres, whereas those holding 14.8 acres on an average per family were classed as big cultivators, 8.9 acres as large cultivators, 2.7 acres as medium cultivators and 0.8 acres as small cultivators. The proportion of indebted families amongst cultivators was 72.6 per cent as compared to 59.1 per cent amongst the non-cultivators. The average debt per indebted family was Rs. 366 for cultivating families and Rs. 228 for non-cultivating families. The average debt per indebted family was higher in big cultivators group and lowest in small cultivators' group, being respectively Rs. 720 and Rs. 261. The agencies from which loans were taken during the year under study or to which debts were outstanding at the end of the year were divided into nine classes, namely, Government, cooperative institutions, relatives giving interest-free loans, landlord, agriculturist money-lenders, professional money-lenders, traders, commission agents and commercial banks. A study of the relative position of the various credit agencies, as given in Appendix I, shows that the professional money-lenders played a predominant role. About 54 per cent of the borrowings of cultivators (as well as non-cultivators) was supplied by this agency, the proportion being 66 per cent in the case of small cultivators. The next important source of borrowing was relatives which accounted for about 32 per cent of the total borrowings of cultivators (as well as non-cultivators). This source supplied 40.4 per cent, 37.8 per cent and 35.4 per cent of the total borrowings by the big cultivators, large cultivators and medium cultivators respectively. The agriculturist money-lenders supplied 8.2 per cent in the case of cultivators and 5.4 per cent in the case of non-cultivators. About 10 per cent of the total borrowings was supplied by this agency. Other private agencies like landlord, traders and commission agents and commercial banks did not supply or supplied only a very negligible proportion of the loans to the cultivators and non-cultivators. State Government chiefly provides finance to agriculturists under the Land Improvement Loans Act, 1883, and the Agriculturists Loans Act, 1884. This source accounted for only 4.4 per cent in the case of cultivators and 8 per cent in the case of non-cultivators.

Transactions in cash or kind between private credit agencies (other than commercial banks) and agriculturists are now

regulated by the Bengal Money Lenders Act of 1940, which enjoins upon every money-lender to obtain a licence valid for 3 years from appropriate authorities, maintain a cash-book, ledger and a receipt book and observe other relevant formalities. Under the Act, the borrower is not liable to pay any amount in respect of the principal and interest of a loan which together with any amount already paid, exceeds twice the amount of the original loan. He is also not bound to pay simple interest exceeding 10 per cent on unsecured loans and exceeding 8 per cent on secured loans. The money-lenders so licensed under the Act numbered 105 in Sadar subdivision, 221 in Asansol subdivision, 40 in Durgapur subdivision, 12 in Kalna subdivision and 9 in Katoya subdivision in 1970.

There are many branches of well-known joint-stock banks in the municipal and non-municipal towns of the district which play an important role in mobilising the savings of the people. The State Bank of India has opened sub-offices at Raina on 20 April 1970, Bhatar and Dainhat on 21 April 1970, Pandaveswar on 15 February 1971 and Murgasol on 28 June 1971; and branch offices at Asansol, Burnpur Bardhaman, Chittaranjan, Kalna, Katoya, Durgapur and Memari were opened on 21 November 1925, 21 December 1944, 3 July 1950, 17 July 1951, 22 November 1951, 30 January 1960, 30 April 1960 and 6 July 1970 respectively; pay offices at Raniganj, opened in April 1928, Durgapur on 15 May 1963 and 15 October 1965, Bardhaman on 7 December 1964, Rupnarayanpur on 16 October 1965 and Laudoha on 14 December 1965; satellite offices at Saktigarh and Galsi opened on 12 April 1971 and 13 April 1971 respectively and development office at Bardhaman opened on 1 March 1971. The United Bank of India has like-wise branches at Asansol, Bardhaman, Katoya, Durgapur Steel Project, D.V.C. Colony Durgapur, Alloy Steel Project Durgapur, Memari and Kalna which were opened on 15 September 1939, 27 May 1948, 20 December 1957, 22 November 1958, 26 August 1961, 21 June 1965, 31 October 1968 and 31 January 1969 respectively. The United Commercial Bank has branches at Asansol (G. T. Road), Raniganj, Barakar, Durgapur, Bardhaman, Asansol (Masjid Bari Lane), Bahula, Kulti and Disergarh which opened respectively on 19 January 1945, 18 October 1945, 18 February 1958, 30 March 1963, 31 July 1964, 24 July 1968, 14 March 1969, 22 June 1970 and 23 June 1970. The branches of Allahabad Bank are located at Bardhaman, Ukhra, Asansol, Andal and

Joint-stock
banks

Guskara which were established on 25 August 1967, 29 June 1967, 14 August 1968, 3 April 1969 and 30 December 1969 respectively. The Bank of India opened branches at Asansol (date of opening not available), Durgapur on 19 June 1963, Niamatpur on 16 May 1966, Jamuria on 23 May 1966, Raniganj on 2 April 1969 and Hiranagar on 29 December 1970. The Bank of Baroda has two branches, one at Asansol and the other at Durgapur, the latter being opened on 26 April 1967. The Central Bank of India has sub-offices at Bardhaman, Asansol and Durgapur, opened on 5 December 1941, 1 November 1948 and 3 August 1960 respectively. It has also opened a pay office at Panagarh on 17 December 1969. The Punjab National Bank has branch offices at Asansol and Durgapur and a pay office at Bardhaman, the last two being opened on 15 May 1963 and 9 November 1968 respectively. The Dena Bank has a solitary branch at Asansol opened on 24 September 1969. Of these, the branches of the State Bank of India, the Central Bank of India, the Punjab National Bank, the Allahabad Bank, the Bank of India and the Dena Bank had deposits amounting to Rs. 1756.86 lakhs in 1969, Rs. 1902.16 lakhs in 1970 and Rs. 2,318.99 lakhs in 1971, and made advances to the tune of Rs. 442.50 lakhs in 1969, Rs. 961.46 lakhs in 1970 and Rs. 932.37 lakhs in 1971.

There are two Central Cooperative Banks in the district, namely, the Burdwan Central Cooperative Bank Ltd., having operational jurisdiction over Sadar, Durgapur and Asansol subdivisions and the Kalna-Katwa Central Cooperative Bank Ltd. with operational jurisdiction over the Kalna and Katoya subdivisions. The position of the Burdwan Central Cooperative Bank Ltd. established on 26 January 1917 from 1966-67 to 1970-71 was as below.

		1966-67	1967-68	1968-69	1969-70	1970-71
No. of members	Individual	364	368	371	369	371
	Societies	772	768	759	586	497
(in thousand Rs.)						
Working capital		23,639	22,489	22,542	30,197	32,151
Loan issued		7,887	8,193	5,449	14,645	12,763
Loan outstanding		13,282	15,140	15,078	18,228	24,364
Deposits		14,268	13,923	14,762	17,524	20,145
Profit		114	121	104	361	42

The district has a land mortgage bank styled as the Burdwan Cooperative Land Mortgage Bank Ltd. which was established on 26 December 1941. Its position during 1966-67, 1967-68, 1968-69, 1969-70, 1970-71 was as follows:

	1966-67	1967-68	1968-69	1969-70	1970-71
Membership	2,713	2,841	3,067	3,373	3,509
(in thousands Rs.)					
Working capital	2,468	2,942	3,192	3,506	3,992
Loan issued	741	695	465	704	704
Loan outstanding	2,181	2,605	2,780	3,162	3,590
Deposit	9	11	14	16	20
Profit	19	25	14	31	18

The number of agricultural credit societies was 736 in 1966-67, 735 in 1967-68, 716 in 1968-69, 426 in 1969-70 and 371 in 1970-71. Their position during these years is indicated below.

	1966-67	1967-68	1968-69	1969-70	1970-71
Membership	68,430	70,273	73,421	63,660	61,660
(in thousands Rs.)					
Working capital	17,202	17,609	17,861	20,048	22,265
Loan issued	8,803	6,515	5,771	11,497	7,226
Loan outstanding	12,050	12,198	12,310	15,061	17,271
Deposit	1,303	1,407	1,405	1,274	1,244
Profit (+)*	270	310	269	355	217
Loss (—)*	151	267	513	205	575

The Life Insurance Corporation of India has five branches in the district, one each at Bardhaman, Kalna, Durgapur and two at Asansol. Besides, there is also a development centre at Memari. It had a total business of Rs. 6.82 crores in 1965-66, Rs. 6.28 crores in 1966-67, Rs. 7.91 crores in 1967-68, Rs. 8.32 crores in 1968-69 and Rs. 9.82 crores in 1969-70.

Life Insurance

* The respective figures represent the performance of the different societies which have been grouped together according as they earned profit or incurred loss during the same year.

The State Government renders financial assistance to cottage and small-scale industries of different categories under the Bengal State Aid to Industries Act. Besides, the Industrial Finance Corporation of India advanced loans amounting to Rs. 20 lakhs to Dhakeswari Cotton Mills Ltd., Rs. 38 lakhs to Sen-Raleigh Industries of India Ltd. during the First Five Year plan; Rs. 35 lakhs to India Refractories Ltd., Rs. 110 lakhs to Aluminium Corporation of India Ltd., Rs. 45 lakhs to Sen-Raleigh Industries of India Ltd., Rs. 77 lakhs and Rs. 8 lakhs (in U.S. dollar) to the Bengal Paper Mills Co. Ltd. and Rs. 20 lakhs to the Parasea Collieries Ltd. during the Second Five Year plan; Rs. 20 lakhs to Khas Kajora Coal Co. Ltd., Rs. 20 lakhs to India Refractories Ltd., Rs. 116 lakhs (U.S. dollar) to Graphite India Ltd., Rs. 30 lakhs to Alluminium Corporation of India Ltd., Rs. 45 lakhs to Apeejay Structurals Ltd., Rs. 15 lakhs to Durgapur Engineering Co. Ltd., Rs. 5 lakhs to Hein & Lehmann (India) Ltd. and Rs. 32 lakhs to Saktigarh Textiles Industries Ltd.; besides standing as underwriter for Rs. 20 lakhs to Bengal Paper Mills Co. Ltd. during the Third Five Year plan; Rs. 51.28 lakhs to Alluminium Corporation of India Ltd. and Rs. 20 lakhs to Damodar Enterprises Ltd. during 1967-68, Rs. 6.90 lakhs to Hein Lehmann (India) Ltd. and Rs. 56.20 lakhs to Sen-Raleigh Ltd. during 1968-69 and Rs. 12 lakhs to Khas Kajora Coal Co. Ltd. and Rs. 20 lakhs to Parasea Collieries Ltd. during the Fourth Five Year plan.

The important agricultural commodities of this district that are marketed are paddy, rice, jute, potato and sugar-cane. Of these commodities, the marketing of rice and paddy through the normal channels has ceased following the introduction of West Bengal Rice (Movement Control) Order, 1964 and West Bengal Essential Commodities (Restriction on Movement) Control Order, 1965. The village growers instead of selling their produce to the *aratdars* or to the local mills are now required to deliver it to the Procurement and Supply Branch of the Food and Supply Department of the State Government under statutory obligation or to the authorised agencies like Food Corporation of India which entered the field under the West Bengal Food Grains Control (levy) Order, 1966. In consequence, the market functionaries like *beparis*, *aratdars*, brokers and rice mills, as the case may be, are now simply agents through whom rice or paddy is procured by the Procurement and Supply Branch of the Food and Supplies Department.

The classification of rice or paddy markets into Primary, Secondary and Terminal ones has become a matter of historical interest since January 1964.

Prior to the introduction of these restrictive measures, about 70 per cent of paddy came to the mills through such agencies as *faria*, village merchant, *bepari* and *aratdar* who formed a chain in the matter of procuring paddy from the producer. Only 10 per cent or so of the mills' intake was assembled through the agency financed by the mills. The cooperative marketing societies had practically no share in this respect. The entire stock of rice after milling used to pass from the mills through the agency of brokers either for the export markets in Calcutta, Murshidabad, Howrah, Hugli, Nadia and 24-Parganas (paddy was not generally exported outside the district) or to the intermediate markets of the district. From the brokers the commodity passed on to the *aratdars* (stockists) who in their turn distributed it to the small wholesaler for the movement to the consumers through the medium of the retailers. The period from January to March is the peak period for arrival of paddy when 60 per cent of the marketable surplus is generally assembled.

The most important feature in the marketing of jute which is the second big cash crop of the district is that the growers sell an overwhelmingly large proportion of jute in the villages to the peripatetic dealers. In its movement there are three distinct stages, namely, (1) from village to the primary assembling markets, (2) from the primary assembling markets to the *aratdars* and *kutchi*-baling centres (secondary markets) and (3) from secondary markets to the wholesale jute markets in Calcutta or to the mills. In primary sales, about 60 per cent of the marketable surplus is disposed off by the growers as loose and unassorted stock at their own houses and 37 per cent in *hats* to the *farias*, *paikars* and *beparis* who are the first link in the chain of intermediaries supplying jute to the secondary markets. Only a small percentage of the big growers whose holdings are located in the vicinity of the secondary markets bring their produce for sale in these markets. The growers retain a very small quantity for domestic consumption.

In the marketing of potato (which is the third important commercial crop of Bardhaman) it is the growers who play an important role in assembling the commodity. About 70 per cent of the market arrivals is assembled by the growers themselves and about 30 per cent by the middlemen. The *aratdars* in the

assembling markets maintain godowns and hold the stock on behalf of the growers for sale on commission and also conduct export outside the district. In the primary markets, there are traders acting as middlemen between the growers and wholesalers. The establishment of a large number of cold storages in the district has encouraged potato cultivation in recent years and also contributed to a marked improvement in its marketing. A list of some important assembling markets are arranged in order of importance on the basis of the estimated quantity of potato assembled during 1964-65, 1965-66 and 1966-67 is appended below.

Name of Markets	Quantity assembled (in thousands of quintals)		
	1964-65	1965-66	1966-67
Memari	100	125	184.4
Asansol	125	120	115
Barddhamān	40	50	60
Kalna	20	25	20
Guskara	8	8.5	9.5
Jamalpur	5	5	5.3
Katoya	5	5.3	6.2

As in the case of other agricultural products the price of potato depends mainly on its variety, size, demand and supply, production position elsewhere and lastly on the extent of cold storage facility.

In Barddhamān the following types of market charges are levied in transaction of rice, paddy, jute and potato: (i) commission — the *aratdars* receive commission for undertaking the responsibility of storing the commodities prior to disposal and the *dalal* (broker) receives brokerage for his services in bringing the buyers and sellers together. These charges are payable usually in cash by the sellers generally; (ii) *dhalta*, deducted from the sellers of merchandise (jute and paddy) makes up for the possible loss in weight in favour of the buyer, on account of impurities, driage, etc. This is compulsorily levied (and even in cases where the condition of the produce does not warrant such deduction) at the rate of 2.5 kg. per bag of 75 kgs. of paddy sold by the growers; at the rate of 1.5 kg. per bag of the same weight

by the *aratdars* from the village merchants and at the rate of 1 kg. per bag of the same weight by the millers from the *aratdars*: (iii) *Iswarbritti*, a kind of market charge realised from the growers and village merchants by the *aratdars*, wholesalers or millers at the rate of 16 paise for each transaction of Rs. 100 on such commodities as paddy, rice and potato; (iv) *Kayali* or weighment charge including loading and unloading charge is realised from the sellers at the rate of 6 paise per bag of 75 kgs. Usually this weighment is done by the paid workers of the *aratdars*, village merchants and wholesalers. In consequence of these charges the growers are to part with about Rs. 3 to Rs. 4 on every transaction worth Rs. 100. These malpractices are, however, gradually disappearing. Export trade of the district mainly consists of such commodities as paddy, rice, jute and potato. Jute is mainly exported to Calcutta. Import trade is constituted of pulses, wheat, oilseeds, paddy and rice. Pulses and oilseeds are imported from Bihar, U.P., M.P., wheat from Calcutta, paddy from Birbhum and rice from Calcutta and Bankura. The district is surplus in rice, paddy and potato and as a result balance of trade is usually favourable for the district. The nature of trade in different commodities of the district annually is indicated in the table below.

IMPORT OF AGRICULTURAL PRODUCE INTO BARDDHAMĀN DISTRICT : ANNUAL AVERAGE

Articles	Sources	Volume (in thousand tonnes)
Rice	Bankura, Calcutta, Birbhum, Orissa	50.2
Paddy	Birbhum & Orissa	4
Pulses	Nadia, Birbhum, U.P., M.P., Bihar	50
Rape & Mustard seeds	Punjab, M.P., Gujarat, Rajasthan and U.P.	100

EXPORT OF AGRICULTURAL PRODUCE FROM BARDDHAMĀN DISTRICT : ANNUAL AVERAGE

Articles	Destination	Volume (in thousand tonnes)
Rice	Calcutta, 24-Parganas, Hugli, Nadia	88.64
Paddy	Howrah, Hugli, 24-Parganas, Nadia	17.5
Potato	Birbhum, Nadia, Murshidabad, 24-Parganas, Bihar	25
Jute	Calcutta and industrial areas of Howrah, Hugli and 24-Parganas	150.64

Fairs & melas

A list of *hats* and markets dealing in agricultural commodities is given in Appendices IIA, IIB and IIC at the end of this chapter.

The fairs and *melas* held chiefly on religious occasions and mostly in rural areas provide opportunities for sale of huge quantities of country produce as also some quantity of industrial products, chiefly consisting of articles of daily necessity. A detailed list of fairs and *melas* held in the district round the year is given in Appendix at the end of this chapter.

Cooperative

There are 12 large-sized primary cooperative agricultural marketing societies in the Sadar, Durgapur and Asansol subdivisions of this district. Their position during the period from 1966-67 to 1970-71 was as below.

	1966-67	1967-68	1968-69	1969-70	1970-71
No. of members	6,573	7,166	7,468	7,147	7,024
Working capital	2,175	4,152	5,403	3,181	3,421
Value of sales	8,144	8,897	8,485	7,931	5,256
Profit*	212	140	99	46	44
Loss*	25	25	30	226	67

There are six wholesale consumers' cooperative societies in these three subdivisions, namely, Burdwan Wholesale Consumers' Cooperative Society Ltd., Asansol Wholesale Consumers' Cooperative Society Ltd., Durgapur Wholesale Consumers' Cooperative Society Ltd., Raniganj Coalfield Colliery Workers' Central Cooperative Society Ltd., Ukhra Colliery Workers' Central Cooperative Stores Ltd., and Disergarh Colliery Workers' Central Cooperative Stores Ltd. Their position during the period from 1966-67 to 1970-71 was as follows :

	1966-67	1967-68	1968-69	1969-70	1970-71
No. of members	175	672	428	455	531
Working capital	6,635	6,597	5,515	5,818	5,572
Purchase	59,208	54,815	57,332	61,026	41,924
Sale	60,956	60,976	58,851	61,969	43,668
Profit*	108	55	55	100	21
Loss*	25	315	78	27	165

* The respective figures indicate the performance of the different societies which have been grouped together according as they earned profit or incurred loss during the same year.

Most of the industries in the district, big or small, are affiliated with one Chamber of Commerce or the other which have their head-quarters in Calcutta.

Dissemination of trade news, etc. is mainly done by the commercial journals and newspapers published from Calcutta and house magazines published from the place where the industry is located. The Calcutta station of the All India Radio also broadcasts market news regularly.

Prior to the introduction of metric system, the traditional weights and measures in vogue in the district were as indicated below.

Merchants' associations

Organs for dissemination of trade news

Weights & measures

Weights — maund, seer, *poā*, *chhatṭāk*, *kancccha*, *tolā*, *siki*

Weights (Avoirdupois) — ton, hundredweight (cwt.), quart, stone, pound, ounce, dram

Weights (jewellers') — *tolā* or *bhari*, *mashā*, *ānnā*, *rati*, *dhan*

Liquid measure (Indian) — maund, seer, *poā*, *chhatṭāk*

Liquid measure (English) — Gallon, quart, pint, gill

Apothecaries' measure (English) — gallon, fluid pint, fluid ounce, fluid dram, minims or drops

Linear measure — mile, yard, foot, inch

Land measure — *bighā*, *kāthā*, *chhatṭāk*, also acre and hundredth part of an acre called *satak*

Cloth measure — *gaj*, *hāth*, *girā*, *anguli*

APPENDIX—I

BORROWINGS CLASSIFIED ACCORDING TO CREDIT AGENCY AND IN TERMS OF PERCENTAGES TO TOTAL

Credit Agency	Big cultivators	Large cultivators	Medium cultivators	Small cultivators	All cultivators	Non-cultivators	All families
Government	—	2.0	5.5	8.0	4.4	8.0	5.1
Cooperative	0.9	0.9	2.5	2.0	1.6	0.2	1.3
Relatives	40.4	37.8	35.4	14.5	31.4	32.1	31.5
Landlord	—	—	—	0.2	—	0.3	0.1
Agriculturist money-lenders	6.1	7.1	10.1	8.3	8.2	5.4	7.7
Professional money-lenders	52.4	51.1	46.3	66.1	53.9	53.6	53.8
Traders & Commission agents	—	0.2	—	0.7	0.3	0.3	0.3
Commercial banks	—	—	—	—	—	—	—
Others	0.2	0.2	0.2	0.2	0.2	0.1	0.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

BARDDHAMAN

APPENDIX IIA

'A' CLASS MARKETS OF BARDDHAMAN DISTRICT

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
1 Memari	1906	Daily	Memari	Paddy, Pulses, Potato, Vegetables, Jute & Onion	Wholesale & Retail	650
2 Raniganj	1806	"	Raniganj	Spices, Pulses, Potato, Rice, Vegetables, Fish, Meat and Eggs	"	5,000 to 6,000
3 Asansol Munshibazar	1900	"	Asansol	Rice, Paddy, Spices, Vegetables, Potato, Pulses, Fish, Meat, Eggs & Fruits	"	8,000 to 12,000
4 Nadanghat	1850	Sunday & Wednesday	Purbasthali	Paddy, Rice, Vegetables, Potato, Pulses, Spices, Gur, Fish	"	1,500 to 2,000
5 Kalna	1850	Daily	Kalna	Rice, Paddy, Potato, Vegetables, Spices, Jute, Paddy-straw	"	1,000 to 1,500
6 Katoya	1896	Daily except Sunday	Katoya	Jute, Rice, Pulses, Paddy-straw, Cane Gur	"	700
7 Barddhaman Barabazar	1820	Daily	Barddhaman	Rice, Pulses, Vegetables, Fish, Gur, Oil-cakes	"	6,000

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APPENDIX IIB

'B' CLASS MARKETS OF BARDDHAMAN DISTRICT

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
8 Raniganj market	1922	Daily	Barddhaman	Potato, Rice, Vegetables, Fish	Wholesale-cum-Retail	1,000
9 Daluibeazar hat	1880	Monday & Friday	Memari	Potato, Vegetables, Onion, Pulses, Rice, Mustard oil, Water-melon	"	250 to 700
10 Barakar market & hat	1920	Bazar—Daily Hat—Wednesday & Saturday	Kulti	Mustard oil-cake, Spices, Mustard oil, Pulses, Gur, Potato, Gram, Onion, Vegetables, Meat, Fish, Eggs, Rice & Paddy	"	2,000 to 2,500
11 Niamatpur market	1890	Daily	"	Rice, Spices, Gur, Mustard oil, Mustard oil-cakes, Pulses, Potato, Vegetables, Meat, Fish, Eggs, Onion, Gram	"	1,000 to 1,500
12 Jamuria hat & Bazar	1920	Bazar—Daily, Hat—Sunday & Thursday	Jamuria	Vegetables, Rice, Onion, Mustard oil-cakes, Gur, Mustard oil, Pulses, Spices, Gram, Potato, Fish, Meat, Eggs	"	3,000 to 6,000

BARDDHAMAN

13 Panagar Bazar	1900	Daily	Kanksa	Paddy, Gur, Mustard, Rice, Potato, Onion, Spices, Pulses, Gram, Vegetables, Meat and Fish	Wholesale-cum-Retail	500 to 600
14 Domohani hat	1930	Wednesday and Saturday	Barabani	Rice, Pulses, Spices, Vegetables, Sheep, Goats, and Poultry, etc.	"	1,000 to 2,000
15 Pachandi hat	1754	Thursday only	Ketugram	Potato, Vegetables, Cows, Buffaloes of all kinds, Sheep and Goats	Retail	6,000 to 8,000
16 Nibhuj Bazar	1878	Daily	Kalna	Paddy, Rice, Pulses, Jute, Paddy-straw, Vegetables, Potato, Fish, Meat and Groceries	"	450 to 750
17 Manteswar hat	1930	Monday & Thursday	Manteswar	Gram, Vegetables, Jute, Potato, Onion & Fish	"	200 to 250
18 Purbasthali market	1927	Daily	Purbasthali	Rice & Vegetables	"	100
19 Sure-Kalna daily market	1925	Daily	Jamalpur	Potato, Vegetables, Rice, Fish & Molasses	"	300
20 Raniganj (New)	1938	Daily	Barddhaman	Vegetables, Fish, Rice & Potato	Wholesale-cum-Retail	700

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N.B. The classification of markets into A, B and C is based on the average volume of transaction of the principal commodities as well as average volume of attendance.

APPENDIX IIB (Contd.)

Name of market	Year of Days of sitting starting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
21 Tetul tala	1945	"	"	Retail	1,000
22 Saktigarh	1936	"	Rice, Fish, Milk, Vegetables & Potato	Wholesale-cum-Retail	300
23 Hat Gobindapur	1924	"	Vegetables, Fruits, Potato, Fish & Eggs	Retail	600
24 Satgachhia	1931	Memari	Fish, Vegetables, Oils, Oil-cakes, Salt, Coal, Spices & Potato	"	350
25 Ajhapur	1932	Jamalpur	Vegetables, Rice, Potato, Molasses & Fish	"	300
26 Jamalpur	1918	"	"	"	500
27 Sehara Bazar	1922	Raina	Paddy, Rice, Vegetables, Fish, Milk & Potato	"	1,000
28 Ausgram	1923	Ausgram	Vegetables, Rice, Fish & Potato	"	200
29 Mankar hat	1918	Galsi	Paddy, Rice, Vegetables, Fish & Eggs	Wholesale-cum-Retail	1,800
30 Galsi	1917	"	"	"	1,500

BARDDHAMAN

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31 Satidanga cattle market	1935	Sunday	Galsi	Cattle only	Wholesale-cum-Retail	300
32 Bhanra hat	1938	"	Barabani	Rice, Pulses, Vegetables, Potato, Onion, Eggs, etc.	Retail	600
33 Andal market	1938	Daily	Andal	Rice, Pulses, Spices, Vegetables, Fruits, Eggs, Meat, Gur, etc.	"	1,000
34 Agrawip hat	1950	Monday	Katoya	Vegetables	"	..
35 Natunhat hat	1852	Friday & Monday	Mangalkot	Cattle, Paddy, Gur & Vegetables	Wholesale-cum-Retail	800 to 1,000
36 Dainhat	1901	Friday & Tuesday	Katoya	Jute, Paddy, Potato, Vegetables & Pulses	"	1,500
37 Madhabitala	1900	Daily	"	Vegetables	Retail	100 to 200
38 Srikhanda	1751	Sunday & Thursday	"	Potato & Vegetables	"	200 to 400
39 Jamalpur cattle market	1945	Sunday	Purbagthali	Cattle, Rice, Vegetables, etc.	Whole sale & Retail	5,000 to 7,000
40 Burnpur hat	1936	Sunday, Tuesday, Wednesday & Friday	Asansol	Rice, Pulses, Potato, Spices, Vegetables, Eggs, Meat, etc.	Retail	1,500
41 Ichhapur Cattle hat	1952	Tuesday & Saturday	Memari	Gow, Buffalo, Vegetables & Pulses	Wholesale & Retail	100 to 250
42 Amadpur market	1899	Daily	"	Potato, Vegetables, Pulses, Coconut Oil, Gur, Spices & Eggs	Retail	100 to 150

APPENDIX II C

'C' CLASS MARKET OF BARDDHAMAN DISTRICT

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
43 <i>Jemari hat</i>	1909	Sunday & Thursday	Salanpur	Rice, Paddy, Pulses, Potato, Onion, Vegetables & <i>Gur</i>	"	500 to 800
44 <i>Gopalpur hat</i>	1937	"	Kanksa	Vegetables, Potato, Onion, Pulses, Rice, <i>Chhana</i> , <i>Ghee</i> , Mango & Eggs	"	300 to 500
45 <i>Churulia hat</i>	1927	"	Jamuria	Potato, Vegetables, Rice, <i>Gur</i> , Onion & Pulses	"	200 to 500
46 <i>Paruria hat & market</i>	1892	Sunday & Thursday Bazar—Daily	Barabani	Rice, Vegetables, <i>Gur</i> , Mustard-cake, <i>Chira</i> , Mustard oil, Pulses, Potato, Fruits, Gram, Paddy, Onion, Tobacco & Eggs	"	500 to 1,000
47 <i>Rajbandha hat</i>	1932	Monday & Friday	Kanksa	Vegetables, Rice, Potato, <i>Gur</i> , Onion & Pulses	"	200 to 500

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48 <i>Bhunara hat</i>	1937	Sunday	Barabani	Vegetables, Potato, Onion, <i>Gur</i> , Mustard-cake, Pulses, Eggs, Meat & Mustard oil	"	200 to 500
49 <i>Chobka hat</i>	1900	Tuesday & Saturday	Kulti	Vegetables, Rice, Potato, Onion, Spices & Pulses	Retail	2,000 to 3,000
50 <i>Haripur hat</i>	1830	Sunday & Thursday	Andal	Vegetables, Potato, Onion, Rice, Fish, Meat & Eggs	"	1,000 to 1,500
51 <i>Sanctoria hat</i>	1893	"	Kulti	Vegetables, Rice, <i>Gur</i> , Potato, Mustard, Spices, Onion, Fish, Meat, Eggs & Mustard Oil	"	800 to 1,200
52 <i>Sripur hat</i>	1933	Sunday & Thursday	Jamuria	Vegetables, <i>Chhana</i> , Mustard, Rice, <i>Gur</i> , Potato, Mustard oil, Gram, Pulses, Spices, Onion, Fish, Meat & Eggs	"	1,500 to 3,000
53 <i>Kenda hat</i>	1948	Tuesday & Friday	"	"	"	700 to 1,000
54 <i>Pandaveswar hat</i>	1900	Monday & Friday	Andal	"	"	800 to 1,200
55 <i>Radhanagar hat</i>	1910	Sunday & Wednesday	Kulti	"	"	2,000 to 4,000
<i>Ukhra hat</i>	1900	Tuesday & Saturday	Andal	"	"	1,000 to 2,000

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APPENDIX II C (Contd)

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
57 J. K. Nagar hat	1945	Sunday, Wednesday & Friday	Raniganj	"	"	2,000 to 4,000
58 Kendua hat and market	1900	Sunday, Friday and Tuesday	Kulti	Vegetables, <i>Chhatu</i> , Mustard, Rice, <i>Gur</i> , Potato, Mustard oil, Gram, Pulses, Spices, Onion, Fish, Meat & Eggs	Retail	2,000 to 4,000
59 Durgapur hat and market	1900	Wednesday and Saturday Market—daily	Faridpur	"	"	2,000 to 3,000
60 Lalgañi hat	1900	Tuesday	Barabani	Dry cattle, Milch cattle, Beef-cattle & Buffaloes	"	500 to 1,000
61 Simudhawara hat	1942	Monday, Thursday, Wednesday & Saturday	Kulti	Rice, Vegetables, Potato, Onion, Fish & Eggs	"	700 to 1,000
62 Kanksa hat	1920	Sunday and Thursday	Kanksa	Vegetables, Potato, Onion, Rice, Paddy, Pulses, Mustard, Mustard oil, Gram, Spices, Fish & Eggs	"	1,500 to 2,500
63 Baharan hat	1939	Wednesday & Sunday	Ketugram	Potato, Vegetables & Onion	"	100 to 250

64 Niroi hat	1903	Monday & Friday	"	Potato & Vegetables	"	150 to 200
65 Gangatikuri hat	1925	Wednesday & Saturday	"	Potato, Brinjal & <i>Kachu</i>	"	100 to 150
66 Gopalpur hat	1800	Tuesday & Saturday	Ketugram	Potato, Brinjal, <i>Kachu</i>	Retail	50 to 100
67 Kandra hat	1917	Wednesday & Sunday	"	Potato, Vegetables, Onion & Eggs	"	300 to 500
68 Mangram hat	1906	"	"	Potato & Vegetables	"	150 to 300
69 Ankona hat	1893	Friday & Monday	"	Potato, Vegetables, Onion & Eggs	"	200
70 Rajoor hat	1929	"	"	Potato, Brinjal & <i>Kachu</i>	"	75 to 150
71 Kaichar hat	1908	Sunday	Mangalkote	Cattle, Potato, <i>Kachu</i> , Onion & Khero	"	500 to 800
72 Dhatrigram hat	1750	Monday, Wednesday & Saturday	Kalna	Potato, Onion, Vegetables, Pulses & Rice	Wholesale & Retail	1,000 to 1,500
73 Poler hat	1912	Tuesday & Saturday	Purbasthali	Rice, Onion, Vegetables, Jute, Pulses & Fish	"	200 to 300
74 Patuli market	1893	Daily	"	Jute, Whole pulses, <i>Gur</i> , Vegetables, Rice, Paddy, Fish & Potato	"	400 to 500

APPENDIX II C (Contd.)

BARDHAMAN

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
75 Sibrala market	1950	"	"	Paddy, Rice, Jute, Potato, Onion, Vegetables, Pulses & Paddy-straw	"	200 to 400
76 Kusumgram hat	1900	Monday & Tuesday Saturday—cattle market only	Manteswar	Vegetables, Milch cow, Milch buffalo, Dry Cattle, Bullock, Buffalo for draft	Wholesale & Retail	200
77 Bibir hat	1914	Monday & Thursday	Purbasthali	Paddy, Rice, Jute, Potato, Vegetables, Fish & Whole pulses	"	700 to 800
78 Kasthasali market	1915	Daily, except Monday and Friday	"	Paddy, Rice, Vegetables & Fish	"	300
79 Beker hat	1877	Monday and Thursday	"	Rice, Paddy, Jute, Pulses, Potato, Vegetables & Fish	"	600 to 1,000
80 Chuppi hat	1922	Monday & Friday	"	Rice, Paddy, Potato, Vegetables, Whole pulses & Fish	"	500 to 600
81 Nadaihati hat	1902	Thursday & Friday	Kalna	Potato, Onion, Vegetables, Fish & Rice	"	200 to 330

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82 Lakshminagar hat	1853	Sunday, Friday & Wednesday	Purbasthali	Rice, Vegetables, Fish, Jute, Pulses, Potato, Onion & Garlic	"	200 to 300
83 Bagnapara market	1910	Daily	Kalna	Rice, Paddy, Fish & Vegetables	"	200
84 Ichhapur hat	1952	Tuesday & Friday	Memari	Cow, Buffalo & Vegetables	Wholesale & Retail	100 to 250
85 Bhatar market	1802	Daily	Bhatar	Paddy, Rice, Pulses, Gur, Eggs, Mustard oil & Mustard oilcake	"	150 to 250
86 Chaubaria hat	1890	Sunday & Thursday	Jamalpur	Vegetables, Onion, Potato & Sweet potato	"	400
87 Sadipur hat	1896	Wednesday & Saturday	"	Potato & Vegetables	"	25
88 Paratal hat	1853	Monday & Friday	"	Potato, Vegetables & Fruits	"	150
89 Alpara hat	1751	Monday & Friday	"	Potato, Brinjal, Karala & Rice	"	200
90 Gonpur	1932	Tuesday & Saturday	Bardhaman	Vegetables and Potato	"	300
91 Borsul	1934	Sunday & Wednesday	"	Rice, Fish, Milk, Vegetables and Potato	"	600
92 Mondakona	1926	Monday & Thursday	Memari	Vegetables, Fish & Potato	"	250

APPENDIX II C (Contd.)

BARDDHAMĀN

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
93 Bohar	1937	Wednesday & Sunday	Menari	Fish, Vegetables & Potato	Wholesale & Retail	300
94 Palsit	1947	Tuesday & Saturday	"	Fish, Vegetables & Potato	"	200
95 Kuchut	1942	"	"	"	"	200
96 Bijur	1925	Monday & Friday	"	"	"	200
97 Sridharpur	1932	Thursday & Saturday	"	"	"	150
98 Debipur Station	1941	Daily	"	"	"	150
99 Jaugram Station	1940	Saturday & Tuesday	Jamulpur	Vegetables, Rice, Potato, Molasses & Fish	"	400
100 Sahajpur	1924	Monday & Friday	Raina	Potato, Vegetables, Rice & Fish	"	200
101 Chhota Baiman	1935	Sunday and Wednesday	"	"	"	200
102 Pasand	1923	Monday & Thursday	"	"	"	200

103 Barati	1929	"	"	"	"	300
104 Chak Chandan	1928	Sunday & Wednesday	"	"	"	300
105 Palasan	1926	Friday & Monday	Raina	Potato, Vegetable, Rice & Fish	Wholesale & Retail	300
106 Aharbelma	1952	Sunday & Thursday	"	"	"	200
107 Eklakshmi	1935	"	"	"	"	300
108 Kaithi	1927	Saturday & Wednesday	"	"	"	350
109 Sahebganj hat	1929	Daily	Bhatar	"	"	350
110 Orgram hat	1932	Monday & Friday	"	"	Retail	260
111 Bamunara hat	1934	Thursday & Sunday	"	"	"	200
112 Mahata hat	1937	Wednesday & Saturday	"	"	"	250
113 Barabelun	1940	Daily	"	"	"	250
114 Kargana hat	1935	"	"	"	"	200
115 Silgrya hat	1937	Sunday and Wednesday	"	"	"	200
116 Kamarpara	1929	Daily	"	"	"	200

APPENDIX II C (Contd.)

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
117 Bhatar	1926	"	Bhatar	Potatos, Vegetables & Fish	Retail	500
118 Belenda hat	1952	Wednesday and Sunday	"	"	"	500
119 Nityanandapur	1938	Monday & Friday	"	"	"	200
120 Dignagar	1928	Saturday & Wednesday	Ausgram	"	"	400
121 Bhedia hat	1930	Monday & Friday	Ausgram	Potato, Vegetables, Rice and Fish	"	400
122 Billagram	1932	Wednesday & Saturday	"	Rice, Pulses, Vegetables, Potato, Onion & Eggs	"	350
123 Bahanura hat	1938	Sunday	Barabani	"	"	600
124 Sidhuli hat	1930	Monday & Friday	Andal	Rice, Pulses & Potato	"	350
125 Hijaigora	1943	Sunday, Tuesday, Thursday & Friday	Jamuria	Rice, Pulses, Gur, Mustard oil, Spices, Vegetables, Potato and Eggs	"	1,500
126 Kajora market	1939	Daily	Andal	Rice, Vegetables, Spices, Eggs, & etc.	"	500

127 Bahula hat	1948	Monday & Friday	"	Rice, Vegetables, Potato, Pulses, Eggs & Fish	"	400
128 Ayodhya hat	1940	"	"	Rice, Pulses, Potato and Vegetables	"	300
129 Singi hat	1920	Wednesday & Saturday	Katoya	Potato, Onion & Vegetables	Retail	200 to 300
130 Panchberia	1901	Tuesday & Friday	"	"	"	200 to 400
131 Dinabandhu hat	1952	Daily	"	Vegetables & Fish	"	300 to 500
132 Gidhgram	1901	Monday & Friday	"	Potato, Onion & Vegetables	"	150 to 300
133 Khajurdihi hat	1901	Monday & Thursday	"	Vegetables	"	100
134 Nigon hat	1922	Tuesday & Saturday	Mangalkote	Paddy, Rice, Vegetables & Potato	"	300 to 500
135 Shyamabazar hat	1850	Monday & Friday	"	Potato & Vegetables	"	400
136 Ketugram	1926	Tuesday & Saturday	Ketugram	Potato, Vegetables, Eggs & Cattle	"	200 to 300
137 Srigopalpur hat	1950	Tuesday	"	Cattle & Vegetables	"	800 to 1,500
138 Sribati hat	1890	Wednesday & Saturday	Katoya	Potato, Onion & Vegetables	"	150 to 300
139 Kaithan	1894	"	"	Potato & Vegetables	"	500

APPENDIX II C (Contd.)

BARDDHAMAN

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
140 Mangalkote	1900	Daily	Mangalkote	Potato & Vegetables	Retail	200 to 300
141 Bairagyatola	1821	Tuesday & Sunday	Mangalkote	"	"	150 to 200
142 Dadhia Bairagyatola	1806	Tuesday & Saturday	Ketugram	"	"	300 to 400
143 Kumarpur hat	1922	Monday & Friday	"	"	"	150 to 200
144 Chakta hat	1947	Tuesday & Friday	"	"	"	100 to 200
145 Bagnapara	1910	Daily	Kalna	Potato, Vegetables & Fish	"	200
146 Singerkon	1910	Monday & Thursday	"	Paddy, Rice, Vegetables & Potato	"	200 to 300
147 Satgachhia	1950	Daily	"	Rice, Vegetables and Grocery	"	200 to 300
148 Poler hat	1912	Tuesday & Saturday	Purbasthali	Rice, Vegetables, Potato and Jute	"	300 to 500
149 Patuli Bazar	1893	Daily	"	Jute, Whole pulses, Rice, Vegetables, Paddy & Gur	"	500 to 800
150 Mestalla hat	1920	Wednesday & Saturday	"	Potato & Vegetables	"	100

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151 Puturi	1900	Tuesday & Saturday	Monteswar	Potato, Vegetables, Onion & Fish	Retail	300 to 500
152 Raigram	1850	"	Kalna	"	"	150 to 200
153 Belerhatpur	1854	Daily	"	Rice, Vegetables & Fish	"	200
154 Bhaturia	1923	Sunday & Wednesday	Purbasthali	Paddy, Rice, Potato, Vegetables, Pulses & Jute	"	800
155 Dogachhia	1912	Monday & Friday	"	Paddy, Rice & Vegetables	"	300
156 Belerhat	1860	Sunday & Thursday	Kalna	Potato, Onion & Vegetables	"	200
157 Rautgram	1852	Wednesday & Sunday	Monteswar	Vegetables & Potato	"	200
158 Maldanga	1915	Monday & Thursday	Monteswar	Paddy, Rice, Potato, Vegetables, Kachiu	"	1,200
159 Kulingram	1923	Monday & Friday	Jamalpur	Vegetables, Rice, Potato, Molasses & Fish	"	500
160 Nabagram	1938	Wednesday & Saturday	"	"	"	300
161 Sankari	1919	Tuesday & Saturday	Khandaghosh	Vegetables, Rice, Fish & Potato	"	500

APPENDIX II C (Contd.)

BARDDHAMAN

Name of market	Year of starting	Days of sitting	Police Station	Principal Agricultural commodities dealt with	Mainly wholesale or retail	Daily average attendance
162. Khandaghosh	1917	Wednesday & Saturday	Khandaghosh	Vegetables, Rice, Fish & Potato	Retail	500
163. Waripati	1923	Tuesday & Saturday	"	"	"	300
164. Bowaichandi	1926	"	"	"	"	1,000
165. Ukrid Shibala	1932	"	"	"	"	200
166. Jubila Sibola	1931	Monday & Friday	"	"	"	200
167. Boro	1920	Monday & Friday	Raina	"	"	300
168. Raina	1918	Wednesday & Saturday	"	"	"	700
169. Amarpur	1926	Tuesday & Saturday	Ausgram	"	"	200
170. Ramnagar hat	1929	Monday & Friday	"	"	"	200
171. Khatnagar	1927	Tuesday & Sunday	"	"	"	500
172. Bhuiyara	1934	Monday & Friday	"	"	"	200

BANKING, TRADE AND COMMERCE

173. Ramgopalpur hat	1925	Tuesday & Saturday	Galsi	Vegetables, Potato, Molasses, Pulses, Spices, Eggs & Milk products	"	1,600
174. Kundra hat	1925	Thursday & Sunday	Andal	Rice, Potato, Vegetables & Eggs	Retail	400
175. Natundanga hat	1947	Saturday, Tuesday & Friday	Faridpur	Rice, Pulses, Vegetables, Potato, Onion & Gur	"	400
176. Sribati hat	1890	Wednesday & Saturday	Katoya	Potato, Onion & Vegetables	"	150 to 300
177. Chanditala hat	1907	Monday & Thursday	Kalna	Potato, Vegetables, Onion & Fish	"	300 to 500
178. Baidyapur	1854	Daily	"	Rice, Vegetables & Fish	"	220

APPENDIX III

LIST OF IMPORTANT FAIRS AND MELAS OF BARDDHAMĀN DISTRICT

Name of place where <i>Melā</i> or Fair is held (Location)	Time (English month) when <i>Melā</i> is held	Local religious or other occasion of the <i>Melā</i>	Duration of the <i>Melā</i> or Fair	Average attendance
(1)	(2)	(3)	(4)	(5)

Sub-division :
Sadar*Thana Barddhaman*

Tubgram	June-July	Dasahara	2 days	500
Kaligram	"	Jaydurga Puja	3 "	2,000
Mirzapur	"	"	3 "	4,000
Sonpur	May-June	Kalipuja	3 "	5,000
Hat Gobindapur	"	Manasa Puja	2 "	2,000
Kurmun	April	Charak	7 "	6,000
Sadarghat	December-January	Paush Parban	1 "	5,000
Mahanta				
Asthal	July-August	Jhulan	5 "	2,000
Nababhat	February-March	Shiva Ratri	1 "	8,000
Kanchannagar	June-July	Ratha Jatra	1 "	1,000
Hutudeyan	February	Urs Mela	2 "	500
Nerodighi	"	Garib Newaj Pir Mela	4 "	300
Rayan	"	Shiva Ratri Mela	4 "	500
Alampur	March	Burapir Mela	4 "	300
Matial	February	Satya Pir Mela	2 "	300

Thana Ausgram

Suata	December	Mahapravur Astana	3 "	3,000
Beranda	February	Radhakrishna	3 "	1,500
Guskara	March	Shiva Ratri	3 "	1,800
Budra	"	Manasa	1 "	100
Ramchandra-pur	May	Didi Thakurani	3 "	3,000
Beluti	January	Kalidaha Mela	6 "	1,000
Suata	January	Bamanpirer Mela	2 "	2,000
Dignagar	July	Rath	1 "	500
Bhota	February	Maghi Purnima	3 "	600
Kairapur	April	Debi Mela	3 "	1,000
Bagrai	"	Sa-Sahiba Mela	2 "	800
Dharampur	May	Dharma Raj Mela	1 "	400
Takipur	October	Kalipuja	2 "	1,000

(Contd.)

(1)	(2)	(3)	(4)	(5)
<i>Thana Galsi</i>				
Mankar	February	Bhawani Puja	3 days	500
Chak Tentul	March	Charak	5 "	500
Kasba	January	Behula Bhasan	7 "	1,500
Ramgopalpur	March	Ananda Mela	3 "	700
Pursha	January	Pir Saheb	4 "	1,000
Gohagram	March	Charak	1 "	500
Irkona	February	Sri Panchami	3 "	2,000
Ura	January	Paush Samkranti	3 "	500
Baradighi	February	Pirer darga	2 "	400
Bara Sona	February	Barasona Mela	4 "	600
Paraj	April	Paraj Mela	5 "	1,000
Baradighi	February	Pirer Mela	4 "	500
Mankar	February	Bhaba Mela	5 "	500

Thana Khandagosh

Daspukur	February	Pir Saheb	3/4 "	500
Bonwari	June	Ambubachi	2/3 "	300
Onari	February	Onari Purbapara	12 "	2,000
		Mela		
Baheragara	January	Pir Saheb	7/8 "	1,000
Gaitanpur	"	Gouranga Thakur	1 "	1,000
Nasika	June	Dharamraj	3 "	1,000
Khetkuri	March	Gajan	3/4 "	1,000
Nawhat	February	Urs Mela	8 "	1,500
Aladipur	"	Baruopir Mela	2/3 "	500
Sagrai	May	Gajan	3/4 "	700
Gopalbera	January	Pir Saheb	1 "	2,000
Kesabpur	March	Pir Saheb Mela	4 "	1,300

Thana Memari

Bohar	April	Pir Gadai Saheber	4 "	20,000
		Mela		
Keja	June	Manasa Puja	2 "	8,000
Chotkhanda	August	"	3 "	25,000
Gayespur	March	Pir Aulia Saheb	2 "	500
		Mela		
Saragachi	April	Rangila Saheber	3 "	500
		Mela		
Gopeganter	May	Chandi Mela	2 "	700
Palsa	"	Mahotsab Mela	4 "	500
Patra	"	Sasthi Mela	1 "	500
Dadpur	June	Mamdotal Gajan	2 "	700
		Mela		
Mandalgram	August	Jagatgouri Mela	2 "	3,000
Memari	July	Jhapan Mela	1 "	700
Galsi	August	"	1 "	1,500

(Contd.)

(1)	(2)	(3)	(4)	(5)
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Thana Jamalpur

Jaugram	February	Sivaratri Mela	7 days	5,000
Rankindaha	April	Chaitra Sankranti	1 "	200
Siali	January	Kali puja	7 "	300
Kulingram	January-February	Madangopal Thakur Mela	20 "	800

Thana Bhatar

Mahata	January	Gobindajee's Mela	4 "	400
Muratipur	February	Fakir's Mela	4 "	200
Eruar	July	Kali puja	3 "	300
"	Jan.-Feb.	Saraswati Puja	3 "	1,000
Bamsor	February	Pirer Mela	4 "	1,000
Mandardihi	March	Maulavi Saheber Mela	4 "	500
Nunari	March	Fakir Saheber Mela	4 "	1,000

Thana Raina

Bora	February	Makar Saptami Mela	2 "	1,000
Daminya	"	Kalpataru Mela	2 "	600
Madhabdihi	Feb.-March	Ahar Chandi Mela	5 "	1,000
Bora	May	Nrisingha Chaturdashi Mela	2 "	800

*Asansol Sub-division :**Thana Asansol*

Ghagarbhuri	January	Kalipuja	1 "	5,000
Asansol	April	Siva Puja (Charak)	3 "	2,000
Dhaka	February	Kalipuja (Naibari)	1 "	2,000

Thana Jamuria

Darbardanga	January	Dhamasala	1 "	2,000
Benasol	February	Kendili Mela	3 "	5,000
"	March	Ramraja Puja	3 "	5,000
Nandi	March	Saraswati Puja	3 "	600
Shibpur	March	Sivaratri Mela	1 "	500
"	April	Pir Saheber Mela	2 "	200
Kumardiha	"	"	2 "	200
Jamuria	"	Dharmarajer Gajan	2 "	500
Damodarpur	September	Chata Para (Santhal Festival)	2 "	4,000
Saltor	April	Dharmarajer Gajan	2 "	500
Pariharpur	September	Chat Parab	2 "	2,000

(contd.)

(1)	(2)	(3)	(4)	(5)
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Thana Hirapur

Alunthia	February	Saraswati Puja	1 day	400
Thunut	February & October	Mankeswari Mela	3 "	3,000
Purushottam-pur	March	Chaitra Sankrantir Mela	1 "	500
Kalajhariya	February	Urs Mela	1 "	1,000

Thana Raniganj

Rai Raian-bari	February	Dharmaraj	7 "	4/5,000
Ronai	"	Pir Saheb	5 "	7/8,000
Sairsol	June	Rathajatra	7 "	3/4,000

Thana Andal

Dakshin	April	Siva Puja	4 "	2,000
Khanda	"	"	2 "	1,000
Khandra	March	Kali puja	1 "	5,000
Ukhra	June	Rathajatra	4 "	10,000
"	July	Jhulan Jatra	7 "	5,000
Mahal	January	Rayani Puja	1 "	1,000
Pandaveswar	"	Siv Puja	3 "	5,000
Kahjora	March	Siv Gajan	2 "	1,000
Rumprosadpur	"	"	3 "	700
Andal South Bazar	April	Mahabirjhandra	3 "	

Thana Faridpur

Durgapur	June	Rathajatra	1 "	1,000
Katabera	"	"	1 "	500
"	November	Gostha Mela	7 "	1,000
Oyaria	"	"	3 "	1,000
Ichhapur	May	Ganga Puja	3 "	2,000
Sarpai	"	"	3 "	1,000
Sagarbhanga	April	Gajan	2 "	1,000
Mejidihi	"	Dharmaraj	2 "	500
Nadiha	"	Siv Gajan	2 "	500
Faridpur	"	Dharmaraj	2 "	300
Katabera	October	Gosthastami Mela	2 "	

Thana Kanksa

Gopalpur	March	Siva Ratri Mela	1 "	2,000
"	February	Maghi Saptami	1 "	2,000
"	March	Chaitra Sankranti	4 "	2,000
Bhabnabera	January	Paush Sankranti	4 "	1,000
Silampur	"	Makar Sankranti	3 "	1,000

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(Contd.)

(1)	(2)	(3)	(4)	(5)
<i>Thana Kulti</i>				
Barakar	February	Siva Ratri	2 days	5,000
Shibmandir	"	"	2 "	3,000
Neamatpur	January	Paush Sankranti	1 "	5,000
Pataldanga	February	Saraswati Puja	1 "	5,000
Kalyaneswari	April	Pirer Mela	15 "	2,000
<i>Thana Barabani</i>				
Domohani	November	Gosala Mela	3 "	5,000
<i>Thana-Salanpur</i>				
Jitpur	February	Siva Ratri	1 "	1,000
Jemari	"	"	3 "	2,000
<i>Kalna Sub-division :</i>				
<i>Thana Kalna</i>				
Chanditala	July	Ashar Nabami	3 "	1,500
Hat	February	Dharamraj Puja	3 "	1,550
Medgachhi	January	Jat Mela	1 "	2,000
"	February	Uttarayana	1 "	500
Malatipur	January	Gopal Mela	1 "	150
"	February	Makar Saptami	1 "	2,500
Sargaria	May	Sitala Puja	2 "	1,000
Atgharia	August	Manasa Puja	1 "	300
Maslandpur	June	Siddheswar Puja	1 "	500
Simlon	September	Manasa Puja	1 "	200
Krishnapur	October	"	1 "	300
Scitanpur	"	Kalimata Puja	2 "	500
Gopalpur	August	Manasa Puja	1 "	200
Belarhat	September	Durgapuja	1 "	100
Uplati	August	Manasamata	1 "	150
Bhatra	July	Sasthi Puja	1 "	200
Manteswar	March	Doljatra	2 "	300
Birilia	July	Kalimata	1 "	200
"	November	Bastu Puja	1 "	100
Narikeldanga	July	Jhapan	1 "	1,500
Baidyapur	June	Rakhi	7 "	1,500
"	October	Rash Festival	3 "	500
"	June-July	Rathajatra	3 "	1,500
"	July	Nabami Puja	1 "	500
"	April	Chaitra Samkranti	1 "	200
Udaypur	"	Jhapan	3 "	1,300
Kadipara	August	"	1 "	200
Akalpaush	"	"	1 "	200

(contd.)

(1)	(2)	(3)	(4)	(5)
Tehata	August	Manasa Puja	1 days	300
Narenga	January	Dewan Mela	1 "	300
Jhikra	January	Manasa Puja	1 "	500
Kodaldanga	July	"	1 "	500
Dharmadanga	September	"	1 "	200
"	February	Bagdebi Puja	1 "	200
Puranhat	September	Gajalakshmi Puja	1 "	500
"	May	Manasa Puja	1 "	500
Ekehari	April	Charak Puja	1 "	200
Jamurtala	May	Jhapan	1 "	100
Sarbamangal	May	Sarbamangala	1 "	200
Satgachhi	March	Doljatra	1 "	200
Kanchragerish	April	Jatadhari Puja	1 "	200
Kumarpara	May	Sitala Puja	1 "	200
Singarkon	April	Jagatgouri Puja	1 "	500
"	March	Dol Mela	3 "	2,500
Krishnapur	"	Goshthabihar	1 "	500
Kola	August	Jhapan	1 "	150
Barabhar	September	"	1 "	150
Chaugaria	"	"	1 "	160
Kulti	"	"	1 "	125
Bagnapara	February	Mahotsav Mela	4 "	3,000
Gramkalna	"	Makar Saptami	1 "	1,500
Isabpur	April	Kali Mela	2 "	1,000
Raniband	July	Ashar Nabami Mela	2 "	2,000
<i>Thana Purbasthali</i>				
Jamulpur	May	Siv Puja	30 "	10/1,200
"	February	"	2 "	4/5,000
"	May	Buroraj Mela	3 "	10,000
Bhandartikuri	August	Manasa Puja	1 "	4/5,000
Palaspuli	March	Sitala Puja	1 "	2/3,000
Shibnagar	February	Sivratri Mela	3 "	3,000
Polerhat	August	Brahmani Mela	3 "	5,000
<i>Thana Manteswar</i>				
Kharampur	January	Urs Mela	4 "	1,200
Jashu Bhagra	May	Buroraj Thakur	4 "	2,000
Raigram	February	Gorachand Mela	5 "	5,000
Kusumgram	"	Pir Saheber Mela	5 "	2,000
Susuni	May	Tarikhya Puja	5 "	4,000
Manteswar	April	Charak Puja	2 "	5/600
Ichudanga	February	Buroraj Mela	1 "	200
"	May	"	3 "	2,000
Kule	February	Pir Saheber Mela	2 "	500
Bhelia	March	Ronza Sarif Mela	4 "	500

(contd.)

(1)	(2)	(3)	(4)	(5)
Katoya Sub-division :				
<i>Thana Katoya</i>				
Karajgram	January	Panchanantala Mela	1 days	400
Kaithan	"	Kaithan Hattala	1 "	200
		Mela		
Kurulia	"	Panchanantala Mela	1 "	300
Chanduli	June	Ganga Puja	1 "	500
Dulgram	January	Panchanantala Mela	1 "	500
"	June	Ambubachi	1 "	150
Agradwip	March	Baruni	7 "	1,000
Gopalpur	January	Panchanantala	4 "	800
		Thakur Mela		
Khajurdihi	February	Bhairabnath Mela	2 "	800
Singi	July	Kshetralal Puja	3 "	1,000
Srikhanda	November	Srikhanda Bardanga	3 "	1,000
		Mela		
<i>Thana Ketugram</i>				
Uddharanpur	January	Paush Sankranti	15 "	25,000
Berugram	"	Gopaldas Babaji's death	3 "	2,000
Dakshindihi	"	Katanti	1 "	10,000
		Chaturdashi		
Dadhia	February	Bairagitata	15 "	70,000
Ankhona	"	Pirer Mela	3 "	3,000
Naihati	April	Gajan Mela	3 "	60,000
Aiyapur	February	Saraswati Puja	3 "	5,000
Billeswar Rasui	"	Billwanath Mela	2 "	500
Kendara	March	Sahsaheber Mela	2 "	200
Konarpur	June	Kala Chandtala	2 "	500
		Mela		
Amgaria	December	Amgaria Mela	5 "	1,000
<i>Thana Mangolkot</i>				
Kasiara	February	Bairagitata Mela	6 "	4,000
Babudihi	"	Sivaratri Mela	3 "	5,000
Kharija	March	Kshirgram Mela	6 "	20,000
Kshirgram				
Mangolkot	February	Pir Saheber Mela	7 "	3,000
Sitalgram	January	Dhananjay Pandit's death	3 "	1,000
Chaitanyapur	March	Sivaratri	3 "	2,000
Nutanhat	April	Basanti Puja	4 "	1,000
Kogram	January	Ujani Puja	3 "	2,000
Jhilera	"	"	3 "	500
Palisgram	February	Musafir Mela	2 "	500
Kshirgram	May	Jogadya Mela	1 "	5,000
Nutangram	February	Jatindra Mela	2 "	500

CHAPTER VII

COMMUNICATIONS

The itinerary of Hiuen Tsang shows that from Tāmralipti¹ (Tamluk), the pilgrim travelled for over 188.37 km. to Karnasuvarna² in the Murshidabad district. It thus seems that some sort of road must have been there between Tāmralipti and Karnasuvarna through the present Barddhamān district at least in the 7th century A.D., if not earlier.

Mukundaram Chakraborty, the 16th century Bengali poet, lived in the village (then *tālūq*) Daminya under Selimābād thana (now Jamalpur thana on the east coast of the Damodar). He had to leave his home owing to the oppression of a new zemindar. As narrated by him in his *Chandimangala*, he went south, crossed the village Bhalia (Bhelo or Bhelia) and the Mundeswari and the Dwārakeswar rivers till he reached a village called Patuli. After that he had to cross three other rivers, namely, Narayan Parasar and Amodar, and lastly, the Silai (Silabati) river till he reached Ararā (near Salbani railway station in the Medinipur district at present).³ Man Singh, the *Subedar* of Bengal and Orissa, might have followed the same route as that of Mukundaram in A.D. 1590 during his sojourn in Orissa.⁴

Ketakadas Kshemananda, the 17th century Bengali poet, in his *Manasamangala* records a river route by which Behula, the heroine of the legend floated on a raft. This describes an old course of the Damodar which flowed from Barddhamān to Magra-Tribeni-Kalna area in a north-east direction till it merged with the Bhagirathi. The relics of this course can be traced now through the courses of the Banka-Behula-Balluka-Gangur rivers.

¹ Vide, Cunningham, A. — *The Ancient Geography of India*, Varanasi, 1963 reprint, p. 425.

² The kingdom of Karnasuvarna was about 4450 li in circuit and its capital was above 20 li in circuit. Watters considers the place to be to the north-east and not north-west of Tāmralipti (vide, Watters, T. — *On Yuan Chwang's Travels in India : A.D. 629-645*, Delhi, 1961 edition, p. 192). Cunningham locates Karnasuvarna elsewhere which may not be accepted in view of recent archaeological findings in the Murshidabad district (vide, Cunningham, A. — *loc. cit.*).

³ Chakraborty, Mukundaram — *Kabikānkan Chandi* (in Bengali), Basumati edition, Calcutta, p. 4; Sen, S. — *Bangala Sahityer Itihas* (in Bengali), Vol. I, No. 1, Calcutta 1959, pp. 512-14.

⁴ Sen, S. — *op. cit.* p. 516.

Several places by this river route can still be located, namely Jujhati, Gobindapur, Barddhaman, Gangpur, Kejya, Mandalgram, Deypur, Neyada, Kejua, Ahmadpur, Hasanhati, Narikeldanga, Baidyapur, Pirtali, Gaharpur, Tribeni, etc.¹

The next historical person to visit places by road is perhaps Sri Chaitanya. Apart from his journeys to Katoya, he made a long trip to Gaya along the road that passed along the Bhagirathi which traversed some portions of the district. He also travelled south by the road along the bank of the Bhagirathi and its Adi Ganga channel. The map of Van den Broucke (A.D. 1660) shows that there was a road between Medinapoer (Medinipur?) in the south and Barduaan² (Barddhamān?) in the north which extended eastward and then proceeded north-west to places like Kasimbazar, Suti, etc. It also shows a road passing east-west through Jessor (Jessore?), and Oegli (Hugli?) to Barddhaman and then extending north-west. During the rule of the Nawabs, there were a number of roads in the district as delineated in Rennell's map (A.D. 1764-76). Barddhaman was an important town in those days and had also roads leading from and to different places in the country. There were two roads running from Barddhaman to Chandernagore and then to Calcutta, one to Ghyrretty cantonments by Dhaniakhali, one to Tamluk, one to Buz-Buz, one to Nadia, one to Jalangi, one to Rajmahal, one to Sainpahary (Tinpahar on the Sahibganj Loop of the Eastern Railway), one to Lakaracondah (now a village in the district of Birbhum, a few miles from the Panchra station of the Eastern Railway), one to Radhanagar, one to Chandrakona and one to Farakkabad (at the junction of the Ganga and the Bhagirathi).³ Gangaram, the author of the *Maharashtra Purana* (written in A.D. 1751), in describing the Maratha raids, during the days of Alivardi, states that the Maratha horsemen under the leadership of Bhaskar Rao Pundit entered and surrounded the

¹ Sen, S. — *op. cit.* Vol. I, Pt. 2, Calcutta 1963, p. 258.

² This road is most probably the celebrated Badsahi or old military road, constructed perhaps by the *Subedars* of Bengal during the 15th century. After Barddhamān it forms part of the Katoya road for 8 miles (12.88 Km.) up to Karjana. Thence it moves direct to Mongalkote and touches the district again in Ketugram. As we know, this road was dotted every 8 miles (12.88 Km.) by tanks and mosques (*vide* Hill, K. A. L. and Banerji, P. K. — *op. cit.* p. 6; Peterson, J. C. K. — *op. cit.* pp. 136-37). At present, it is partly the Barddhamān-Medinipur road running south of the Damodar. Poet Mukundaram Chakraborty might have passed along this road.

³ Datta, K. K. — *Studies in the History of Bengal Subah : 1740-70*, Vol. I, Calcutta 1936, pp. 387-88.

Barddhaman town, keeping Birbhum to their left and passing through Gopabhum (the present Ausgram police station area)⁴ on their expedition. It may be that they came along another road of importance to the south of the Damodar which is called the Barddhaman-Bankura road passing through the Khandaghosh police station area. This road was once of great importance, forming part of the Grand Trunk Road, before the Barddhaman-Barakar section of the latter was constructed in A.D. 1835 to avoid the Damodar crossing.

During the early British rule, roads were considered to be strategically important and in a letter of the Judge and Magistrate dated 9th March 1802, it has been stated that the "three grand and most useful roads leading to Hooghly, Cutwa and Culna, which may properly be termed the ports of the district, have been completely made."⁵ Clive had earlier gone to Katoya along the old route leading from Hugli to Murshidabad, along the right bank of the Bhagirathi. Col. Caillaud⁶ followed a route *via* the Kiul Valley, Chakai, Deogarh, Sarath and Lakarakunda into the Barddhaman district. Captain Knox on his famous march for the relief of Patna covered between 219 and 230 miles (370.3 km.) from Barddhaman to Patna in 13 days, going through Rajmahal and Bhagalpur, and thence along the north bank of the Ganges to Hazipur.⁴ The Patna Third Road from Calcutta passed through Barddhaman, Ukhra, Kharagdiha, Jamui, Lachham, Nawada, Bihar and Fatuha as stated by Rennell in 1778.⁵ Major Adams returning from Patna to Calcutta in 1763 after having driven Mir Kassim Ali beyond the Karmanasa might have followed the Patna Second Road which passed through Barddhaman, Dignagar, Nagar, Sawath, Deogarh, Jamui, Lachham and Nawada.⁶ In that year, the English troops also passed along a route across the Chhotanagpur uplands from the Barddhaman district to the south of the Gaya district till they ultimately reached the western border of the Sahabad district.⁷ The British had thus realised the impor-

¹ Mustafi, Byomkesh (ed.) — *Maharashtra Purana* (in Bengali), in the *Sahitya Parishad Patrika*, 1313 B.S., part 13, pp. 68-69.

² Peterson, J. C. K. — *ibid.* p. 137.

³ Oldham, C. E. A. W. — 'Routes, Old & New, from Lower Bengal Up the country', in *Bengal Past & Present*, 1924, p. 29.

⁴ *loc. cit.*

⁵ *loc. cit.*

⁶ *loc. cit.*

⁷ *loc. cit.*

tance of improving roads and then the famous Grand Trunk Road began to draw their attention.

SELECTED ROADS

The Grand Trunk Road

The Grand Trunk Road enters the district at the 52nd mile from Calcutta and leaves it at the 149th mile.¹ It appears that at the time of the grant of Diwani to the East India Company in 1765 there was a road from Hugli to Barddhaman where it was crossed by the Rajmahal-Medinipur Road. There was also a road leading to Bankura at that time. It appears² that from 1775 to 1786 the Board of Revenue looked after all roads of military importance and from 1786 till 1854 the charge of roads lay with the Military Board. The Grand Trunk Road, however, began to be maintained by the Public Works Department from 1854 onwards. It was only 20 feet wide in 1760 and widened by another 10 feet in about 1790. The Maharaja of Barddhaman received an allowance of Rs. 10,000 at the time of the Permanent Settlement on account of losses occasioned by this new road. This road began to come into importance during the early years of the 19th century when the Collector had informed that it was in a poor state of repair. The bridge over the Banka *nālā* was opened in 1802 and further repairs were made to the road in 1825. Steps were taken in 1829 to make it a trunk road, fit for wheeled traffic all the year round. The next eight years saw the work of improvement on the road. There were some realignments in subsequent years and the road took its present form by 1850. While assuming the charge of the road in 1854 (which they held till 1887), the Public Works Department put up boundary pillars at every quarter of a mile of the road. The side lands were made over to the Collector for letting them out for revenue purposes and it was decided in 1888 that any profit accruing therefrom should be transferred to the credit of the Public Works Department. The Collector made a number of settlements on the side lands from time to time though encroachments were not rare necessitating suits to be filed by Government.³

¹ Mukherjee, S. — *The Final Report on the Survey and Settlement of the Grand Trunk Road in the district of Hooghly and Burdwan, 1914-17.*

² Cf. Crawford, D. G. — *Hooghly Medical Gazetteer*, Calcutta, 1903, p. 83: "The history of the Grand Trunk Road begins in 1804, when the construction of the present road was begun in the place of an older road which had been greatly eroded by the Hooghly. In 1820 the Judge of the Nizamat Adalat on circuit calls attention to the state of the road, which he says is very indifferent, and in some places next to impossible, especially west of Pandua." "In 1836 it had been carried beyond Burdwan and in 1843 had come into full use..."

³ Hill, K. A. L. and Banerji, P. K. — *op. cit.* p. 26-28.

Kalna being the country seat of the Barddhaman Raj, the road leading to Kalna from Barddhaman was constructed by the Raj and was made over to the Road Cess Committee subsequently. It is said that the Maharaja had the road built of bricks, and a large number of people were employed to do the work very quickly. At every eight miles along this road a rest house, an elephant-shed, a stable, two Siva temples and a tank were built.¹ As late as the early years of this century, staging bungalows of that period were seen at Satgachhia and Kalna.²

Barddhamān
Kalna Road

A number of roads radiate from the district head-quarters and the subdivisional towns to different places in and outside the district. The industrial complexes of Asansol and Durgapur have also become the meeting points of many roads leading to several places. In recent years, Durgapur has become a focal point wherefrom roads lead to Bankura and the neighbouring places. The list of bus routes in the Appendix shows the number of roads on which the buses ply. Of these roads mention, however, may be made of Raniganj-Suri Road, Raniganj-Ballavpur Road, Barakar-Chittaranjan Road, Panagarh-Illambazar Road, Andal-Ukhra-Sardi Road and the roads in the Durgapur township.

Other roads

In the early years of the East India Company, the British were mostly concerned with the construction and repairs of the roads of military importance. A special civil department of public works was, however, set up in 1854. Save the roads of military importance other roads were then regarded as only of local importance to be looked after by local bodies. At that time, matters relating to the construction or repairs of buildings and roads were delegated to Provincial Governments who, in their turn, delegated them further to the local bodies, retaining direct responsibility for only a small fraction. The road system naturally continued to decay over years rather than improve with the growth of population or modes of transport.

ROAD
TRANSPORT

Before the formation of the District Boards in 1885, the District Cess Committees used to look after and construct roads in the State out of a cess levied on land. The District Boards later on took over the work relating to the construction and

¹ Bandyopadhyaya, Brojendranath (ed.) — *Sambad Patre Sekaler Katha* (in Bengali): 1830-1840, Vol. II, Calcutta, 1355 B.S., p. 614.

² Peterson, J. C. K. — *op. cit.* p. 139.

maintenance of roads and upto 1912 a certain percentage of the public works cess realised by Government was made over to them as road cess by transfer into the "District Fund". Since 1913, however, the District Boards obtained the entire proceeds of the "public works cess". They also received an annual grant out of the provincial motor vehicles tax receipts from the State Government since 1932. The Union Boards since 1919 were also entrusted with the construction and maintenance of minor roads in their respective unions. The funds lying with both these Boards were, however, meagre and it was difficult for them to tackle the fast-growing problems connected with the construction and maintenance of roads. The expenditure on road construction had gone up and in the years during the Second World War, the District Boards were denied grants from the motor vehicles tax receipts. The funds with the Union Boards too were mostly consumed by the village watch and ward, and there was hardly any sum left for road construction.

The Jayakar Committee, consisting of members from both the houses of the Central Legislature and headed by M. R. Jayakar, recommended in 1928 that the Central Government should take greater and more active interest in road transport which was becoming a matter of great national importance. The Government of India in 1929 set up a Central Road Fund with the proceeds of a tax surcharge on petrol to be able to make annual block grants to provinces for subsidising provincial works on roads. The cost of improving road communication in the province continued to be met from the Central Road Fund till the formulation of the post-war road development plan and the partition of the State in 1947. As the fund could not be fully utilised every year, a Special Officer, A. J. King, was appointed in 1934 by the Government of Bengal to make a more scientific planning of road development in the province and to suggest measures for the most effective way of utilising the grants received from the Central Road Fund. The King Report suggested the fullest use of the existing roads, both metalled and unmetalled, and the providing of other roads to act as feeders to the existing trunk and metalled roads. It did not recommend construction of roads likely to compete with railway and steamer services. King noted that the Bardhaman District had approximately a total length of 4,251 miles (6,844.11 km.) of metalled and unmetalled roads of various classes maintained by different authorities. The table in the Appendix gives the length of roads

maintained by different authorities as observed by King.¹ King envisaged four different classes of roads to cover the entire province, namely (1) The Trunk Roads providing through communication by reasonably direct routes across the province, connecting the head-quarters of the districts; (2) Inter-District Main Roads connecting head-quarters of the neighbouring districts by routes more direct than those provided by the Trunk Roads; and (3) & (4) the District Main and the District Secondary Roads providing further communications into the interiors of the district. The report was submitted to the provincial government early in 1939 but the Second World War intervened and the entire proposal was shelved for the time being. But the road system being of great importance even during the war years, Government of India convened a conference of the Chief Engineers of provinces and states at Nagpur in 1943. The Nagpur Plan envisaged the construction of a classified category of roads graded according to their importance national, provincial or local. It suggested that there should be (1) National Highways to ensure uninterrupted road communication throughout the country. (2) Provincial Highways connected with the National Highways and the highway system of the neighbouring provinces, and joined to the roads leading to the district head-quarters and other important areas within the province connecting the rural areas through roads of lower categories. (3) Local system of roads within a province composed of the District Roads—broadly divided into two classes: (a) Major District Roads and (b) Other District Roads. The District Roads would branch off from the National or Provincial highways and lead the channels of trade from them to the outlying areas within a district. (4) The Village Roads would connect villages and groups of villages with each other, joining up with the nearest district roads or other highways and also serving as feeder roads to local railways or river points. It will appear that the classification made by the Nagpur Conference was almost similar to that made by King. The only difference lies in that King did not provide for any village road and he did not recommend roads running parallel to the railways, while the Nagpur Plan had no such inhibition.

The Nagpur Plan

A Post-War Road Development Plan made in 1946, was, however, taken up by the Government of Bengal on the basis of the Post-War Road Development Plan.

¹ King, A. J. — Government of Bengal, *Comprehensive Report on Road Development Projects in Bengal*, Vol. II, Calcutta 1938, p. 160.

Jayakar Committee

Central Road Fund

The King Report

of the King Report modified by the Nagpur Formula. It envisaged the construction and improvement of National Highways, Provincial Highways, Major District Roads, Other District Roads and Village Roads during the 20 years beginning from 1946-47. As the Nagpur Report had suggested phasing of the entire plan, the Government of Bengal adopted a five-year programme for priority works and stress was put on the construction and improvement of the National Highways and the provincial highways followed by the Major District Roads. But again the partition of the State intervened in 1947 and the old plan had to be modified. A District Development Committee was set up meanwhile with non-official participants which looked into the pre-partition plan as related to the district and made new suggestions on the basis of which a revised plan was chalked out by the State Government. Under the Development plan, the Barddhamān district had a share of improving or constructing roads to the extent of National Highways 124 miles (199.64 km.), Provincial Highways 124 miles (199.64 km.), Major District Roads 178 miles (286.58 km.), Other District Roads 304 miles (489.44 km.), and Village Roads 650 miles (1,046.5 km.).¹ The development plan drawn up in 1948 took up a five-year project, but after work had been in progress for two years the whole plan was reviewed by the Planning Commission of India.² The Planning Commission allotted the funds for the first five-year plan period (1951-56) to which was added the sums already spent since 1948 and upto 1950-51. There was also the share received from the Central Road Fund. Besides, the expenditure on the development of National Highways was the responsibility of the Government of India, which included the sum already spent on the National Highways upto the end of 1950-51.³ Although the road development programmes were taken up by the Government, the District Boards continued to maintain their own metalled roads and unmetalled roads as the Union Boards continued to maintain the village roads. But Government began to take up large mileages of the roads maintained by such local bodies from time to time for improvement and re-construction under the plan. It also took over a number of other roads maintained by local bodies for current maintenance including

¹ Lahiri, K. — *Road Problems of West Bengal*, Calcutta 1950, p. 25.

² Government of West Bengal, Development (Roads) Department, *Five-Year Road Development Programme, 1951-56*, Calcutta 1954.

³ *loc. cit.*

roads which did not find place in the development plan. As the funds of the local bodies were meagre, Government took over the important district roads on which public buses plied and others on which new bus routes might be opened.¹

The following roads were thus taken up during the first five-year plan period (1951-56) in the district.

ROAD CONSTRUCTED OR REPAIRED IN BARDDHAMAN DISTRICT:
1950-56²

Class of road	Name of road	Amount of estimate (in lakhs)	Actuals upto 1950-51	Provision during 1951-56 (in lakhs) ³
State Highways	Illambazar-Panagarh	4.00	—	4.00
Major District Roads	Manteswar-Kusumgram-Memari	24.00	4.64	19.36
	Saptagram-Guptipara-Dhātrigrām-Samudragarh-Navadwip. Purbasthali (section Guptipara to Purbasthali)	37.80	2.61	35.19
	Pandua-Kalna	9.00	—	9.00
	Barddhaman-Katoya	10.00	—	10.00
	Barddhaman-Kālnā	10.00	—	10.00
	Mankar-Balgana	9.00	—	9.00
Village Roads	Kutruki-Golgram	0.75	—	0.75
"Bus Route" Roads	Sagra-Raina	5.00	—	5.00
Central Road Fund Works	Construction of Barddhaman Arambagh Road from 10th to 22nd mile	10.78	9.24	1.54
	Construction of cold weather R.C. creteway on the bed of the Damodar river at Sadarghat, Barddhaman	0.33	—	0.33
	Improvement to the road from the G.T. Road (near Asansol) to Rupnarayanpur	12.92	—	12.92

¹ *ibid.* p. 3.

² *ibid.* pp. 6-19.

Five-year
plans

The road development programme of the First Five-year plan was thus mainly concerned with connecting the district and subdivisional towns with one another and with the State capital. The Second Five-year plan was mainly concerned with connecting all thana head-quarters with the road network of the district and subdivisional towns. The Third Five-year plan put stress on construction of major bridges and linking of the villages to the road network. The basic objectives and outlines of the Fourth Five-year plan was made on the basis of the National Road Development Programme of 1960. "The 20-year road development programme, 1960-80, adopted at the All India Chief Engineers' Conference held in 1957, proposed to raise the surfaced road mileage to 52 miles per 100 square miles of area."¹ The fourth plan proposes to rectify some deficiencies in the existing road network. It envisages construction of missing links in the existing road network, bridging rivers strengthening weak culverts and bridges, broadening road pavements, making short distance feeder roads, etc.

Durgapur
Expressway

The Durgapur Expressway is a very important road development project of the district. The alignment of the Expressway is to run parallel to the Howrah-Bardhaman Chord line of the Eastern Railway upto Palsit and then parallel to the existing Grand Trunk Road. The construction of the Durgapur Expressway has been necessitated by the rapid industrial development of the Durgapur-Asansol region. The rapid growth of the Calcutta conurbation had already made a serious congestion of traffic in the Grand Trunk Road between the Durgapur-Asansol region and the Calcutta conurbation. A recent survey of road transport conducted by the Ministry of Transport in connection with the economic assessment of the Durgapur Expressway reveals that over 75 per cent of all traffic originating from or terminating in the Asansol-Raniganj-Durgapur area moves eastward or south-eastward away from the area along the Grand Trunk Road. This also includes a considerable volume of intra-regional movement between Asansol-Raniganj and Durgapur. Goods vehicles constitute more than half of the total vehicular traffic along this road, materials carried being mostly coal and building accessories.²

¹ Government of West Bengal, Development and Planning (T & CP) Department, *Calcutta Metropolitan Planning Organization, Regional Planning for West Bengal*, Calcutta 1965, p. 56.
² *ibid.* p. 58.

Village roads were looked after by the District Boards, Local Boards and the Union Boards. Government have, however, taken over a number of such roads in course of construction or repair of state roads or major district roads, etc. The need for rural roads has, however, been stressed in the Fourth Five-year plan. The previous plans were mainly concerned with connecting administrative centres, while this plan emphasises construction of several rural roads connecting important villages and trade centres. In this plan 116 miles of village roads were proposed to be taken up for construction.¹ The construction of rural roads would help "in promoting agro-based industries, sustaining regional markets, monetizing agricultural sector and, above all, in dispersing small and medium-sized industries in the country side. This road network would also help in achieving a more balanced spatial distribution of population and economic activities."² Roads in the district are maintained mainly by Public Works and Public Works (Roads) Departments of the State Government and by Zilla Parishad and the different municipalities. The following table gives the length of roads maintained by such authorities in recent years.

Roads
authorities

LENGTH OF ROADS (IN KILOMETRE) IN BARDDHAMĀN DISTRICT:
1968-69

Maintained by	As on (Date)	Surfaced			Lower type	
		Black Top	Cement concrete	Water bound macadam	Motor- able	Un- motor- able
Asansol Municipality	31.3.68	30.75	4.05	31.74	15.25	16.49
Bardhaman Zilla Parishad	31.3.69	55.00	—	220.00	1608.00	612.00
Bardhaman Municipality	31.3.68	66.88	—	—	—	18.40
Dainhat Municipality	31.3.69	3.43	0.79	3.88	21.31	—
Kalna Municipality	31.3.69	10.24	—	9.79	8.40	8.40
Katoya Municipality	31.3.68	31.24	—	2.53	3.31	3.03
Public Works and Public Works (Roads) Departments of the State Government	31.3.69	1150.22	3.55	25.00	3.00	75.49
Raniganj Municipality	31.3.69	7.50	—	0.27	0.50	1.00

¹ *ibid.* p. 57.

² *ibid.* p. 58.

The following table further gives the length of roads in the district under the control of the Public Works and the Public Works (Roads) Departments of the State Government over the years beginning from the first year of the First Five-year plan till 1966.

LENGTH OF ROADS (IN MILE) UNDER CONTROL OF PUBLIC WORKS AND PUBLIC WORKS (ROADS) DEPARTMENTS IN BARDHAMAN DISTRICT: 1951-66

Year	National Highway	State Highway	Major district road	Other district road	Village road
1951	99	20	0	33	0
1956	99	20	34	43	16
1961	99	39	200	57	17
1966	99	39	221	122	34

Bus passengers
in Asansol

The Public Works Department of the State Government has undertaken during the Fourth Plan period (between 1969 and 1974) construction of new roads in the district for about 64 miles (103.04 km.) and of new bridges for about 2375 Rft., costing nearly Rs. 2.25 crores. It has already been shown that the Zilla Parishad owns a good length of roads in the district. The roads of the Parishad are taken up by Government from time to time for development or repairs, and the Parishad in its turn also takes up the roads belonging to the Anchal Panchayats for repairs and re-construction. A list of Zilla Parishad roads in the district has been given in Appendix F.

The Asansol Planning Organization made a study¹ on the conditions of bus passengers in 1966 in the Asansol area and found that the average capacity per bus was about 30 passengers, very low in comparison with that of the modern buses. It then recommended that buses with bigger capacity should be made to run on the roads there and in that way there would be a decrease in the number of buses greatly needed in tackling traffic problems. It found that about 20 to 30 per cent of the total bus trips were cancelled very often and recommended that the number of cancellations should be reduced. It observed that the number of buses plying during peak hours were not in any way

¹ See Government of West Bengal, Asansol Planning Organization, *Bus Passenger Study for Burdwan District, Asansol, 1971*.

related to the passenger movement and slack-hours traffic, and recommended that the time table for buses should be replanned so that the volume of passengers can be correlated with the number of bus trips and thus clear the peak-hour traffic smoothly. It also recommended some Express Buses on major routes specially along the Grand Trunk Road from Barakar to Panagarh. It also found that arrangements for bus stands were inadequate, that these were the causes for traffic jam; and hence it recommended location of bus stands at suitable places.

The survey revealed that so far as local trips were concerned (within 1.5 miles), walking accounted for 91.2 per cent and vehicular traffic the rest. As regards intra-regional trips (over 1.5 miles), walking accounted for 39.3 per cent and vehicular traffic for 60.7 per cent of the total trips within that range. The total picture of trip-movement was as follows: auto-vehicle, 13.46 per cent; others, 11.57 per cent; walking, 74.91 per cent.

The Town and Country Planning Organisation of the Ministry of Health of the Government of India made certain recommendations on the surveys made by the Asansol Planning Organisation at that time. They opined that the pressing problem of road transport in the region should be solved by separating transit traffic from intra-regional traffic, by improving the condition and standard of the existing road system, by developing a planned local road system and the rationalising the modern pattern of passenger trips, both local and intra-regional, with a view to promoting transit by buses and suburban railways to reduce the volume of traffic on roads. It also observed that the high ratio of trips by walking from places above one mile was mainly due to inadequate transportation facilities and poor economic condition of the people. It suggested that the normal walking time should be taken as 15 minutes covering a distance upto one mile, and that transportation facilities should be increased to discourage the necessity of covering distances larger than one mile by walking.

In the background of overcrowding of buses, the Asansol Planning Organisation counted the total number of passengers of buses on a typical day (24 hours). They selected 22 stations for this purpose, 14 of which were located on the Grand Trunk Road. The survey revealed the present position (deficiency and excess) of the buses moving in the district. The following table gives the abstract of bus passenger movement on that particular day.

Inventory of
bus passengers
movement: 1970

**BUS PASSENGER MOVEMENT IN A DAY IN BARDDHAMAN
DISTRICT: 1970 (SURVEY MADE AT 22 STATIONS)**

Stations	No. of buses actually crossed the stations	Volume of passenger carried			Total allowed by licence	Excess carried	Buses to be added
		Inside	Outside	Total			
For all the 22 stations (each station has two check points, one on either side of the road)							
24 hour picture							
Total	3,978	2,02,201	31,428	2,33,629	1,19,340	1,14,289	3,809
Average per bus trip	1	51	8	59	30	29	—
Peak hour picture							
Total	438	25,063	5,419	30,482	13,140	13,342	444
Average per bus trip	1	57	12	69	30	39	—

For the Stations on Grand Trunk Road only

24 hour picture	2,468	—	—	1,34,591	74,040	60,551	2,018
Peak hour picture	275	—	—	18,631	8,250	10,381	346

So far as the total passenger traffic is concerned, the highest traffic was found between Raniganj and Asansol for both up and down trips. The lowest traffic occurred between Kanksa and Durgapur. In terms of intensity of traffic, that is, passenger carried per bus trip, the portion between Raniganj and Asansol came next to the portion between Barddhaman and Mankar. The route between Raniganj and Asansol was considered the most congested route followed by the route between Barddhaman and Mankar. The following table gives a section-wise analysis of traffic on the Grand Trunk Road and the number of survey stations therein are the same as in the preceding table.

**TRAFFIC ANALYSIS ALONG GRAND TRUNK ROAD, BARDDHAMAN
DISTRICT: 1970**

For up trips Survey Station (Combined)	24 hour picture			Peak hour picture		
	Total No. of Bus trips	Total No. of passen- gers counted	Average No. of passen- gers carried per bus	Total No. of Bus trips	Total No. of passen- gers counted	Average No. of passen- gers carried per bus
1-3	183	7771	48	23	986	43
4-6	187	12591	67	18	1808	100
7-8	96	4400	46	19	1034	54
9-11	218	10579	48	25	1358	54
12-14	301	18318	61	36	2426	67
15-16	214	13182	62	19	1280	67
Total	199	66849	56	140	8899	63
For down trips						
1-3	153	7875	51	18	1082	60
4-6	181	12311	68	26	2177	84
7-8	106	5626	53	17	1006	59
9-11	196	10999	56	21	1405	67
12-14	341	20805	61	37	2710	73
15-16	192	10126	53	16	1359	85
Total	1269	67742	57	136	9739	71

The above table thus gives an indication as to the general state of crowding in the buses of the district as follows: 90 per cent of passengers were found carried beyond the licensed capacity. In a 24-hour count 102 per cent of passengers were found carried beyond the licensed capacity during peak hours. The survey further revealed that out of a total number of 2,33,629 passengers counted, 2,02,201 passengers were accommodated inside while 31,428 passengers were carried in a precarious condition on the sides, roofs and backs of buses.

The Asansol Planning Organisation, however, recommended an additional fleet of 193 buses in 1970 in the district and suggested that only 60 per cent of the demand be met immediately and the rest 40 per cent be met after further investigations on improvement of time table, route rationalisation as also improvement of bus terminus, etc. They have also recommended some additional buses on different routes.

Volume of
traffic: Asansol
market area,
1969

The market area of Asansol is a diffused linear development along the Grand Trunk Road for about three miles (4.83 Km.) with a bulge at the centre. The north of the road being mainly covered by railway land, the market has developed on the southern side of the road, though a few shops can still be seen on the north. Naturally, there is a constant flow of pedestrians across the Grand Trunk Road.

The Asansol Planning Organisation made a study of the volume of traffic passing two points on the G.T. Road during peak hours on three days recently. The following table shows the average of the peak hour traffic composition for three days.

VOLUME OF TRAFFIC AT GRAND TRUNK ROAD AND STATION
ROAD CROSSING, ASANSOL : 1969

Type of Vehicle	Friday (4-30 p.m. to 5-30 p.m.)	Sunday (10-30 a.m. to 11-30 a.m.)	Monday (10-30 a.m. to 11-30 a.m.)
Bus	70	76	62
Truck	100	73	78
Taxi	34	36	39
Car	214	223	258
Motor Cycle & Scooter	65	80	84
Sub-total (fast-moving)	483	488	521
Rickshaw	219	262	129
Hand cart	27	23	8
Cycle	457	505	542
Others	1	4	9
Sub-total (slow-moving)	704	794	688
Total	1,187	1,282	1,209

Volume of
traffic in
Asansol area:
1936-37

The traffic volume survey conducted by the Asansol Planning Organisation can be compared with the survey done near about Asansol (136th mile of the Grand Trunk Road) in 1936 and 1937, seven days continuously in each year, and contained in the King report.¹ It will be seen from the tables how the volume of traffic has increased in recent years. The following table taken from the King report gives the picture of the surveys conducted day and night during the pre-war years.

¹ King, A. J. — *op. cit.* pp. 192-93.

VOLUME OF TRAFFIC NEAR ASANSOL (AT 136TH MILE OF THE
G. T. ROAD) : 1936-37

Type of vehicle	1936 (25th Oct.- 31st Oct. day & night)	1937 (27th Feb.- 5th March day & night)
Lorries	260	348
Buses	315	408
Cars & taxis	1,933	1,920
Motor cycles	48	65
Sub-total (fast-moving)	2,556	2,741
Four-wheel carts, Hackney carriages, etc.	265	193
Bullock carts	1,535	1,146
Other types of vehicles including rickshaws and cycles	3,377	4,934
Sub-total (slow-moving)	5,177	6,273
Total	7,733	9,014

With the development of roads during the five-year plan periods, there has been a corresponding increase in the number of motor vehicles in the district. It is seen that there were 2,506 goods and 1,581 passenger vehicles registered there on 31 March 1956, which rose to 4,394 and 3,635 on 31 March 1964, thus recording 75.34 and 129.92 per cent increases respectively within a span of eight years only.¹ There were 5,706 motor cycles and scooters, 4,886 motor cars including jeeps, 309 taxi cabs including auto-rickshaws, 1,184 stage carriages (buses), 4,241 trucks and 667 other conveyances in the district as on 31.3.72.

The Durgapur State Transport Service started functioning since August 1, 1963 to cater to the requirement of the fast-growing industrial complex around Durgapur.

Durgapur State
Transport
Service

There were 25 buses in operation over 5 routes covering 125 kilometres (77.64 miles) of route-length in 1964-65, which figure rose up to 62 buses in operation over 11 routes covering 558 kilometres (346.58 miles) of route-length in 1965-66. The buses ran a total length of 17.6 lakh kilometres (11 lakh miles), serving 50.75 lakh passengers in 1964-65 and a length of 32.1 lakh kilometres (19.94 lakh miles) and serving 135.05 lakh passengers in 1965-66.

¹ Government of West Bengal, Development and Planning (T & CP) Department, *Regional Planning for West Bengal*, Calcutta 1965, p. 55.

The average number of buses plying per day during 1964-65 was 21; between April 1965 and July 1965, 22; and between August 1965 and March 1966, 50.

Persons employed in the service numbered 215 in 1964-65 and 408 in 1965-66 and the gross earnings amounted to Rs. 9.8 lakhs in 1964-65 and Rs. 20.0 lakhs in 1965-66.¹

RAILWAYS*

The first railway line passing through the district, namely the section from Pandua to Raniganj via Khana Junction, was an extension of the first railway line of the State which ran between Howrah and Hugli.² The section was opened on 3 February 1855 extending over 82.56 miles (132.94 km.). The line was further extended from Raniganj to Siarsol (1.70 miles i.e. 2.73 km.) on 21 July 1863, then to Sitārapur (15.15 miles i.e. 24.39 km.) on 1 January 1865 and beyond the latter on 1 January 1871. At the time of the extension of the railway on 3 February 1855, Barddhamān was chosen as the centre of festivities. Lord Dalhousie, the then Governor-General, could not go to Barddhamān for the official opening of the line because of indisposition but attended a service in this connection at the Howrah Station. The party invited for the occasion comprised nearly a thousand guests who, after the inaugural ceremony by the Governor-General, left in two trains for Barddhamān and reached there in two hours and fifty minutes. A loop line extending for 20.78 miles i.e. 33.45 km. (precursor of the present Sahibganj loop) was opened between Khana Junction and the river Ajay on 3 October 1868, and extended further on different dates subsequently. The Grand Chord Line of the present Eastern Railway (former East Indian Railway) between Sitarampur and Barākar (5.43 miles i.e. 8.74 km.) was opened on 1 January 1865 and beyond Barākar at a later date. The Howrah-Barddhamān Chord on the same railway was opened on 1 January 1917 from a point six miles (9.66 km.) from Howrah to Saktigarh.

The Bandel-Barharwa branch of the Eastern Railway passing through the Kalna and Katoya Subdivisions of the district was opened on 1 April 1912 between Bandel Junction and Navadwip (40.47 miles i.e. 65.15 km.), then extended to Katoya (24.44 miles

i.e. 39.34 km.) on 15 May 1915 and beyond Katoya on 1 May 1913. The Andal-Sainthia Branch line (43.82 miles i.e. 70.55 km.) was opened on 10 December 1906 passing through a few stations of this district. The branch line from Andal to Gaurangdih via Ukhra Junction was opened in stages between 1 May 1864 and 1 June 1895, sprawling over 14.04 miles (22.6 km.). The said line was also extended to Sitarampur via Ukhra Junction (17.38 miles i.e. 28 km.) between 15 April 1894 and 15 April 1902.

There are railway lines serving the coalfield areas of the Asansol Subdivision, namely Barabani-Tapasi, Kālīpāhāri-Damodar and Barachak-Hirapur sections. The line between Bhimgara Junction and Palasthali also passes through the industrial belt. The line between Asansol and Damodar stations measuring 4.62 miles (7.43 km.) and forming part of the Asansol-Adra section of the South-Eastern Railway was opened on 12 June 1889 and was extended further by December 1889.

The following table¹ sets forth figures regarding arrivals and despatches of agricultural commodities to and from different rail-heads of the district in recent years.

ARRIVALS AND DESPATCHES OF AGRICULTURAL COMMODITIES, VEGETABLES, FRUITS, FISH AND EGGS TO AND FROM DIFFERENT RAIL-HEADS OF BARDHAMAN DISTRICT : 1964-67

Sl. No.	Name of Station	1964-65		1965-66		1966-67	
		Arrivals (in quintals)	Des- patches (in quintals)	Arrivals (in quintals)	Des- patches (in quintals)	Arrivals (in quintals)	Des- patches (in quintals)
1.	Barddhamān	1,43,000	70,500	1,41,400	70,500	1,49,950	1,82,200
2.	Memari	7,800	48,200	7,800	49,200	7,800	49,200
3.	Gushkara	1,14,770	nil	1,14,770	nil	1,10,270	nil
4.	Rasulpur	nil	32,000	nil	32,000	nil	31,000
5.	Saktigarh	nil	4,500	nil	4,500	nil	4,800
6.	Raniganj	2,77,434	nil	2,77,934	nil	6,02,494	nil
7.	Ondal	4,500	nil	4,500	nil	4,500	nil
8.	Asansol	3,33,200	500	3,33,200	500	3,15,830.5	500
9.	Barakar	19,688.6	nil	7,128.6	nil	7,128.6	nil
10.	Sitarampur	29,386	56	29,446	56	29,446	56
11.	Mankar	11,000	18,000	11,000	22,950	10,675	6,975
12.	Khana	34,930	14,440	34,630	14,440	34,630	13,640
13.	Kalna	1,800	41,600	1,800	41,600	1,800	41,600
Total		9,77,514.6	2,29,796	9,63,608.6	2,35,746	12,74,524.1	330,571

¹ Government of West Bengal, Finance Department, *Economic Review : 1966-67*, Calcutta 1967, p. 53. The Service had 112 buses of which 40 were in working condition in the middle of 1972.

² This line was opened on 15 August 1854 and extended to Pandua in the Hugli district on 1 September 1954.

* Source : Government of India, Ministry of Railways (Railway Board), *History of Indian Railways*, Simla 1954.

¹ Government of West Bengal, Directorate of Agriculture, Marketing Branch, *District Handbook on Agricultural Marketing for the district of Burdwan*, Calcutta 1970, p. 60.

Transport by Railway is the cheapest for goods for long distances. It can provide storage facilities for goods at important rail-heads, cover the risks of goods in transit, and can despatch large consignments at a time. The railway receipt can also be used as a negotiable instrument for securing credit or for disposing of the commodity in transit. Motor trucks are, however, usurping the work of the railways with regard to perishable goods by providing a speedier service.

Passenger traffic by railway has considerably increased in the recent years. King's report¹ says that 36,39,422; 2,01,773; 11,24,912; 2,78,814; 1,38,664; 3,05,992; 29,035; 34,487 and 2,72,598 passengers travelled in 1936 on the Main, Howrah-Bardhamān Chord, Bandel-Barharwa, Grand Chord, Andal-Sainthia, Andal-loop, Ukhra Branch and Sitarampur-Jamtara lines respectively of the present Eastern Railway. It will be seen from Appendix G how the number of passengers has gone up 1969-70.

Light railways

There were three light railways* in the district, namely Ahmadpur-Kātoyā Railway (A. K. Railway), Barddhamān-Kātoyā Railway (B. K. Railway) and Bankura-Damodar River Railway (B. D. Railway) running on 2 feet 6 inches gauge managed by M/s. McLeod & Co., Calcutta. The gross earnings of each of the railways did not exceed Rs. 10 lakhs a year. As Companies running the railways, the A. K. Railway was registered in 1915, the B. K. Railway in 1913 and the B.D.R. Railway in 1914. A. K. Railway running for 32.26 miles (52 km.) was opened in two stages, namely Ahmadpur to Panchandi (24.62 miles i.e. 39.63 km.) being opened on 30th May 1917 and Panchandi to Kātoyā (7.64 miles, i.e. 12.30 km.) being opened on 29th September 1917. B. K. Railway running for 32.47 miles (52.27 km.) was opened on 1st December 1915. B.D.R. Railway running for 59.95 miles (96.51 km.) opened in three stages, namely Bankura to Indas (42.34 miles, i.e. 68.16 km.) being opened on 15th December 1916; Indas to Seharabazar (11.66 miles, i.e. 18.77 km.) being opened on 1st April 1917 and Seharabazar to Rainagar (5.95 miles, i.e. 9.57 km) being opened on 6 June 1917.

¹ King, A. J. — *op. cit.* p. 170.

* Excluding the defunct Dasghara-Jamalpurganj section of the Bengal Provincial Railway which was opened on 1.9.1917 for a length of 8.31 miles (13.37 km.).

Government provided land free of cost to the companies for the construction of the railway lines and there had been contracts between the Government and the companies regarding the construction, maintenance and working of the lines.¹

The A. K. and B.D.R. Railways have been taken over by the Government of India through the Eastern and the South-Eastern Railways since 1 July 1967. The B. K. Railway has likewise been purchased by the Government of India through the Eastern Railway since 1 April 1966. The table on page gives the statistics of working of these railways at the beginning and a few years back from now.

The following table further gives the statistics of the earnings and expenditure of the A. K. Railway and B.D.R. Railway in the years preceding and following the assumption of management by the Government in recent years.

EARNINGS OF A. K. RAILWAY AND B. D. R. RAILWAY : 1966-71²

Year	(Figures in Lakhs of Rupees)			
	A. K. Railway		B. D. R. Railway	
	Gross earnings	Working expenses	Gross earnings	Working expenses
1965-67 (Last complete year of Company management)	8.45	13.83	9.16	19.34
1968-69	9.48	11.20	11.77	23.10
1969-70	8.29	13.10	12.81	34.20
1970-71	6.94	12.33	10.63	25.27

The district has a number of waterways famed in mediaeval Bengali literature. The story of Chand Sadāgar³ as narrated in the *Manasāmaṅgala* of Ketakādās Kshemānanda locates his residence at Champaknagar which has been identified with the village Kasba-Champai near Panagarh. It is said that the fleet of ships of Chand Sadagar sailed to the seas from this place. Ujani (modern Kogram) on the Ajay in Mangalkot police station was another centre of trading communities in the middle ages. Thus the Damodar and the Ajay seem to have been the trade

WATERWAYS,
BRIDGES &
FERRIES

¹ vide Government of India, Ministry of Railways (Railway Board), *History of India Railways*, Simla, 1954, p. 248.

² It includes the earnings and expenditure of the large number of stations on these railways falling in other districts.

³ *Manasāmaṅgala* — Bhattacharyya, B. B., ed. New Delhi 1961, pp. 1, 31.

EARNINGS OF LIGHT RAILWAYS IN BARDHAMAN DISTRICT : 1919-51

Year	Name of railway	Total capital outlay including suspense to end of each year	Gross earnings	Net earnings	Percentage of net earnings on total capital outlay	Total income	Percentage of total income on total capital outlay	Proportion of expenses to earnings
1919-20	A. K. Railway ¹	19,74,361	1,22,315	56,589	2.36	91,492	4.63	61.91
1935-36		20,72,648	87,757	3,292	0.16	77,725	3.75	96.25
1950-51		21,20,575	4,58,483	75,172	3.54	75,172	3.54	83.60
1919-20	B. K. Railway ²	18,12,488	1,70,823	67,538	3.73	67,538	3.73	60.46
1935-36		20,40,485	1,12,556	74	—	80,975	3.97	99.93
1950-51		21,92,273	4,86,227	20,577	0.94	76,251	3.48	104.23
1919-20	B.D.R. Railway	35,49,983	2,26,327	82,530	2.32	1,39,609	3.93	63.53
1935-36		40,01,461	1,10,745	35,642	0.87	1,47,532	3.69	131.28
1950-51		42,68,800	7,78,931	5,678	0.13	1,45,807	3.42	91

¹ It includes the earnings and expenditure of the stations falling also within the Birbhum district.
² It includes the earnings and expenditure of the stations falling also within the Bankura district.

routes of ancient Bengal so much known to the poets of that age. Rennell's map¹ reproduces several routes of inland navigation of his period, namely, (1) waterway moving north-east which is navigable throughout the year, running for about 60 miles (96.6 km.) and falling to the river Ganges below Falta (most probably it is the Damodar river), (2) waterway navigable throughout the year, passing by Kalna, (3) waterway navigable for a part of the year, branching off from the main Bhāgirathī and passing through Agradwīp and Katoya to Surut on the one hand and Plassey on the other, (4) waterway navigable between Barddhamān and Krishnanagar, running east-west, (5) waterway navigable for a part of the year, running south-east from Selimabad to Bankipur, (6) waterway navigable during a part of the year, running north-west, being the upper course of No. 1 above. It seems that some of these courses are now dry while the courses of the Damodar, the Bhāgirathi and a few others still exist. The Damodar, the Khari, the Ajay and the Bhāgirathi are still the chief waterways of the district. The Bhāgirathi is navigable by large boats throughout the year while the Damodar is navigable only during the rains. Before the construction of the East-India Railway, coal from the Raniganj coalfields was sent down the Damodar on barges. King² had noted a tri-weekly and a bi-weekly steamer service between Calcutta and Kalna and Calcutta and Katoya respectively in 1937, but those are to be found no more as other speedier modes of transport have come to operate.

As to the artificial waterways, the first such was the Eden Canal named after Sir Ashley Eden. It is an irrigation channel 22 miles (35.42 km.) in length reaching from Kanchannagar, in the western suburb of Barddhamān, to Jamalpur where the Kānā river and the Kānā Damodar join it. The construction of the canal was taken up as a project in 1874, and was completed in 1881. The second artificial waterway is the Damodar Canal, the construction of which was started in 1926 and completed in 1933. The main canal, being a little over 26 miles (41.86 km.) in length while along with its distributaries and village channels, it has a length of a little over 214 miles (344.54 km.).³ It

¹ Reproduced in K. K. Datta's *Studies in the History of the Bengal Subah* : 1740-70, Calcutta 1936.

² King, A. J. — *op. cit.* p. 159.

³ Mitra, A. — *Census 1951 : West Bengal : District Census Handbook : Burdwan*, Calcutta, 1953, p. VIII.

originates from Rondiha near Panagarh, and is also called Anderson Weir after the then Governor, Sir John Anderson. It has since formed part of the Damodar Valley project. The third waterway is what is called the Damodar Valley Navigational Canal.¹ This canal links the Durgapur industrial area with the Hugli industrial belt, flowing into the Hugli river near Tribeni. It is 86 mile (138.46 km.) long. The bed-width of the canal ranges between 172' and 60'. The clear headroom under the bridges over the minimum water-level in the canal is 17'. The minimum average depth that can be maintained in this canal is 7', which allows a safe draft of 6'. The draft can be used by barges with a capacity of about 20 tons. The navigation canal runs parallel to the G.T. Road. Provision has been made for loading and unloading berths at Rajbandh, Panagarh, Paraj, Galsi, Sadarghat, Borsul, Memari, Boinchee, Pandua and Magra. This canal not only establishes a link between the coal belts and industrial nodes but also between the rich agricultural areas of Barddhamān district and the Calcutta industrial belt. It is estimated that once the canal is fully used, the volume of traffic may be as high as two million tons. The anticipated break-up would be as follows: coal—10,00,000 tons per year; agricultural products—5,00,000 tons per year; construction materials—2,00,000 tons per year; colliery stores—50,000 tons per year; industrial products—2,00,000 tons per year; and inter-canal transport—50,000 tons per year. This canal may also have a significant impact on reducing the pressure on the G.T. Road.

Ferries

The ferries of the district are maintained by different departments of the State Government, the municipalities and the Zilla Parishad. The ferry at Sadarghat on the Damodar is the largest so far as the revenue earned is concerned. It is leased out for three years at a time. It is interesting to note that the average annual income from this ferry during 1932-35 was Rs. 3,672 whereas the bid conducted in 1969 fetched a sum of Rs. 2,26,100 from it for three years. The Collector through his Estates Acquisition Department maintains 105 ferries in the district. A list of Zilla Parishad ferries and revenue earned therefrom has been given in Appendix E.

¹ Government of West Bengal, Calcutta Metropolitan Planning Organisation. *Regional Planning for West Bengal*, Calcutta, 1965, p. 59.

Air transport has been a feature of recent years. Four air-strips were constructed in the district during the Second World War to meet the war emergencies. They were located at Ninga near Asansol, Andal, Madhaiganj near Ukhra and Birudiha near Panagarh. The air-strips at Ninga and Birudiha are still in working order, the former being occasionally used for importing tobacco, tea, oranges, etc. from Assam and North Bengal, though passenger planes also alight there at times. The air-strip at Birudiha is restricted to the use of VIPs. There is also an air-strip at Kalajharia owned by M/s. Indian Iron & Steel Co. Ltd.

There are a few bi-cable and mono-cable ropeways in the Asansol Subdivision mainly used for stowing sand in collieries. They are called the J. K. Ropeways of the Coal Board. The bi-cable ropeways from the Damodar river to Jambad Kajoria coalfields has a length of 7 miles (11.27 km.) running from the Ajay river to Jambad Kajoria coal fields. Another bi-cable ropeways of the length of 35 miles (56.35 km.) between Chasnala and Burnpur workshop, has about a length of 8 miles (12.88 km.) within the district. Two mono-cable ropeways also run from the Damodar river to Sripur colliery (Ninga section).

Facilities for tourists and travellers were rendered early by Sher Shah (1540-45) who had a *sarāi* built every two *kos* of road, including the one leading from the Punjab to the city of Sonargaon in Bengal. These *sarāis* had separate lodgings for different classes of people along with provisions for hot and cold water, board and lodging and grain for horses.¹ The *Badsahi* (royal) or military road constructed by the Muhammadan Subadars of Bengal, running from Midnapur through the town of Barddhamān to Rajmahal and thence to Monghyr had a mosque at every 8 miles (12.88 km.). Pir Baharam Sayir at Barddhamān is considered to be one such mosque, and the mosque at Karjana, 8 miles (12.88 km.) north of Barddhamān was seen to be in ruins during the first decade of this century. Another mosque was found at Kalutanr or Sayir 8 miles (12.88 km.) further north. At Sarbalpur on the road which runs 8 miles (12.88 km.) south of Barddhamān and at Mongalkote towards the north of Karjana there were similar mosques pointing to the fact that the travellers were provided with facilities for temporal and religious observances in those days.² The District Board (now the Zilla Parishad)

OTHER MEANS OF
TRANSPORT

TRAVEL AND
TOURIST
FACILITIES

¹ Elliot, H. M. — *The History of India, As Told By Its Own Historians*, Vol. IV, ed. J. Dowson, Allahabad (1st Indian edition), 1964, pp. 417-18.

² Peterson, J. C. K. — *op. cit.* pp. 136-37.

maintains a number of bungalows on the Grand Trunk Road and elsewhere which are now called Inspection or Dak Bungalows a list of which has been given in Appendix C. There is a Circuit House in the district head-quarters and a few *dharmasālās* at Asansol, Barākar and Niamatpur. The railways too have retiring rooms at important stations. There are also a number of Inspection Bungalows maintained by the Forest Directorate and different Engineering Directorates of the State Government, the names of which appear in Appendix D. The different industrial units (e.g. M.A.M.C., ACC—Vickers Babcock, etc.) of Durgapur have their own Inspection Bungalows. The latest in tourist facilities is perhaps provided by the Tourist Department of the State Government which has opened a luxury Tourist Lodge at Durgapur overlooking the river Damodar and the Durgapur Barrage. Modern in design and amenities this lodge is a two-storied 20-room building having a 2-acre plot in front, part of which is covered by a garden.

POSTS & TELE- GRAPHS & TELEPHONES

In the medieval days there were provisions for *dāks* or postal communication in the country, and runners carried letters from one part to another. Those runners were called *tappies* (ordinary *dāk*-runners) and *cassids* (mounted postmen). The *cassids* took letters to different parts along 'post-roads', and one such road ran from Calcutta to Barddhamān in those days.¹

It is generally believed that the Barddhamān and Kātoyā Post Offices are the oldest in the district and that the latter was a Head Post Office in 1882 being downgraded to a Sub-post Office later. At the beginning of the First Five Year Plan there were 263 post offices in the Barddhamān postal division comprising the revenue district of Barddhamān. At that time Barddhamān Head Post Office was the only office controlling the accounts of all the post offices in the district. Subsequently, Asansol Sub-Post Office was upgraded to a Head Post Office controlling the accounts of all the post offices in Asansol revenue subdivision. During the First Five Year Plan 135 new post offices were opened in the district and 71 during the Second Five Year Plan. 24 post offices were further opened during the first two years of the Third Five Year Plan.

¹ Datta, K. K. — *Studies in the History of Bengal Subah*, 1740-70. Volume I, Calcutta, 1936, pp. 393, 413.

Apart from the upgrading of the Asansol Post Office to a Head Post Office situated in a colliery-based industrial belt, the establishment of new projects and townships in Durgapur area also called for the extension of postal services. Formerly, in the Durgapur area there were only two extra departmental branch offices at Waria and Bhiringi and a Sub-Office at Durgapur, near the railway station. With the rapid expansion of the project area nine delivery Sub-Post Offices and one non-delivery Sub-Post Office had to be opened in the area, in the following order. (1) Durgapur C.S.O. (Durgapur-1); (2) Durgapur Coke Oven C.S.O. (Durgapur-2); (3) Durgapur Steel Project S.O. (Durgapur-3); (4) Durgapur Township 'A' zone C.S.O. (Durgapur-4); (5) Durgapur Township 'B' zone C.S.O. (Durgapur-5); (6) Durgapur Thermal Power Station S.O. (Durgapur-6); (7) Durgapur Brick Field C.S.O. (Durgapur-7); (8) Alloy Steel Project C.S.O. (Durgapur-8); (9) Durgapur Regional Engineering College C.S.O. (Durgapur-9); (10) Durgapur Industries Board 'C' zone N.D.S.O.

There are a number of registered organisations of owners and employees in transport and communications in the district, a list of which appears in the Appendix H.

ORGANISATION OF
OWNERS AND
EMPLOYEES

APPENDIX-A

STATIONS OF THE EASTERN RAILWAY IN BARDDHAMĀN DISTRICT:
1972

Name of the section	Name of the station	Distance from Howrah (km.)
Howrah-Mughalsarai (Main Line)	Debipur	75
	Bagila	79
	Memari	82
	Rasulpur	88
	Palsit	87
	Saktigarh	83
	Gangpur	88
	Barddhamān Jn.	95
	Khana Jn.	108
	Galsi	118
	Paraj	124
	Mankar	132
	Panagarh	143
	Rajbandh	150
	Durgapur	158
	Waria	167
	Andal Jn.	175
	Raniganj	182
	Kalapahari	195
	Asansol Jn.	200
	Barachak	205
	Sitarampur Jn.	209
	Salanpur	214
	Rupnarayanpur	221
	Chittaranjan	225
Howrah-Barddhamān Chord	Jaugram	65
	Nabagram	69
	Masagram	72
	Palla Road	78
	Saktigarh	83
Howrah-Mughalsarai Grand Chord	Gangpur	88
	Kulti	214
	Barakar	218
	Kumardhubi	220
	Jhapater Dhal	112
Sahibganj Loop	Banpas	118
	Noadar Dhal	123
	Gushkara	128
	Pichkurir Dhal	134
	Bhedia	139
B. A. K. Loop	Ambika Kālā	82
	Bagnapara	86
	Dhatrigram	91
	Samudragarh	97
	Bhandartikuri	110
	Purbasthali	113
	Lakshmipur	119
	Belershat	122
	Patuli	127
	Agradwip	131
	Dainhat	137
	Katoya Jn.	114
	Gangatikuri	155

APPENDIX B

BUS ROUTES IN BARDDHAMĀN DISTRICT¹: 1971

Name of route	Existing sanc- tioned permits	Recommendation for addi- tional bus by Asansol Plan- ning Org.
Barddhamān—Chittaranjan	4	1
Barddhamān—Barakar via G.T. Road	8	2
Barddhamān—Barakar via Raniganj	2	Nil
Bally—Barakar	5	Nil
Barddhamān—Asansol via G. T. Road	8	5
Barddhamān—Asansol via Jamuria	2	Nil
Barddhamān—Raniganj	7	1
Barddhamān—Sitarampur via Durgapur	1	Nil
Barddhamān—Sibpur via Durgapur	4	1
Barddhamān—Sibpur via Rajbandh	1	1
Barddhamān—Sibpur via Andal, Ukhra	3	Nil
Barddhamān—Illambazar	2	Nil
Barddhamān—Durgapur	8	1
Barddhamān—Ramgopalpur	2	Nil
Barddhamān—Odrahati	3	2
Barddhamān—Gushkara via Suri Road	9	5
Barddhamān—Nabagram via Budbud	—	Nil
Gushkara—Illambazar via Ban Nabagram	—	Nil

¹ Government of West Bengal, Asansol Planning Organisation, *Bus Passenger Study for Burdwan District, Asansol, 1971*, pp. 20-31.

(Contd.)		
Name of route	Existing sanctioned permits	Recommendation for additional bus by Asansol Planning Org.
Gushkara—Bhedia <i>via</i> Baragram	1	1
Balgana—Randiha <i>via</i> Gushkara	1	Nil
Barddhamān—Panagarh <i>via</i> Gushkara	1	Nil
Gushkara—Kashembazar	—	—
Durgapur—Bolpur	—	—
Benachiti—Bolpur <i>via</i> Durgapur	1	1
Mankar—Raniganj <i>via</i> Durgapur	1	2
Barddhamān—Gushkara <i>via</i> Budbud	1	1
Barddhamān—Suri (Express)	2	Nil
Barddhamān—Gushkara <i>via</i> Galigram	1	3
Barddhamān <i>via</i> Gushkara,	1	1
Balgana, Budbud		
Budbud—Balgana	5	Nil
Durgapur—Benachiti (Kashembazar)	5	Nil
Durgapur—Illambazar	2	1
Durgapur—Navadwip (Express) D.S.T.S.	4	Nil
Durgapur—Sreerampur <i>via</i> Barddhamān Railway Station	1	Nil
Barddhamān—Kālnā <i>via</i> Kalna Road	17	1
Barddhamān—Kālnā <i>via</i> Memari	2	Nil
Barddhamān—Kālnā <i>via</i> Malamba	1	Nil
Barddhamān—Sitarampur <i>via</i> Memari and Satgachhia	1	Nil
Barddhamān—Sitarampur <i>via</i> Kālnā Rd.	1	Nil
Barddhamān—Manteswar <i>via</i> Memari	4	1

(Contd.)		
Name of route	Existing sanctioned permits	Recommendation for additional bus by Asansol Planning Org.
Barddhamān—Manteswar <i>via</i> Kālnā Rd.	1	1
Barddhamān—Navadwip <i>via</i> Kālnā Rd.	2	Nil
Memari—Maldanga <i>via</i> Satgāchhia	6	Nil
Kalna—Ghupi	1	Nil
Patuli—Kalna	2	Nil
Kalna—Manteswar	4	Nil
Kalna—Katoya	2	Nil
Kalna—Baidyapur	4	Nil
Kalna—Nadanghat	1	Nil
Navadwip—Kalnaghat <i>via</i> Nadanghat	1	Nil
Kalna—Pandua	—	—
Barddhamān (Express) <i>via</i> Dhatrigram, Katoya	2	1
Barddhamān to Malamba <i>via</i> Memari and Satgachhia	1	Nil
Barddhamān—Memari <i>via</i> Parhati		
Memari—Malamba <i>via</i> Parhati	1	Nil
Barddhamān—Bara Palasan	1	1
Barddhamān—Madhyamgram <i>via</i> Malamba	2	2
Barddhamān to Nadanghat <i>via</i> Bhandardihi and Malamba	13	6
Kalna—Bagnapara		
Memari—Bijur	—	—
<i>Katoya Section</i>		
Barddhamān—Dainhat	9	10
Barddhamān—Katoya	2	3
Barddhamān—Nutanhat	2	6
Kashemnagar—Katoya	—	—
Nutanhat—Katoya	—	—

(Contd.)		
Name of route	Existing sanctioned permits	Recommendation for additional bus by Asansol Planning Org.
Gushkara—Katoya	?	?
Barddhamān—Gushkara via Balgana	4	1
Barddhamān—Balgana	1	1
Balgana—Kātōyā (extended upto)	—	—
Ḳatoya—Palsona	—	—
Barddhamān—Patuli via Katoya (Express Service)	1	1
Barddhamān—Nasigram	4	4
<i>Trans-Damodar Section</i>		
Barddhamān—Arambagh	19	9
Local Seharabazar trips	—	—
Barddhamān—Raina	9	Nil
Barddhamān—Chhota Bainan	4	Nil
Barddhamān—Mocedanga	3	1
Barddhamān—Kaiti	2	1
Barddhamān—Bankura via Metadanga (by R.T.A. Bankura)	1	2
Barddhamān—Eklakshimi	2	Nil
Barddhamān—Tarakeswar	11	2
Barddhamān—Barsul	2	Nil
Barddhamān—Sikshaniketan	1	Nil
Memari—Tarakeswar	3	Nil
Masāgram—Tarakeswar	2	Nil
Barddhamān—Jaugram	2	Nil
Barddhamān—Bally	8	2
<i>(Asansol Subdivision)</i>		
Asansol—Barakar via Kulti	22	6
Asansol—Barakar via Dishergarh	11	3
Asansol—Panchet Hill	2	1
Asansol—Maithon	2	1

(Contd.)		
Name of route	Existing sanctioned permits	Recommendation for additional bus by Asansol Planning Org.
Puruliya—Asansol	1	1
Raniganj—Katrās	3	1
Asansol—Karmataur via Salanpur	2	1
Asansol—Jamtara via Barākar	3	Nil
Asansol—Sindri	1	Nil
Asansol—Dhanbad via Barakar	3	2
Mejjaghat—Karmataur via Raniganj	1	1
Asansol—Deoghar	1	1
Raniganj—Jharia	1	1
Asansol—Jamtara via Salanpur	1	1
Burnpur—Chittaranjan via Asansol, Barakar	2	1
Gaurandi—Barakar via Asansol	2	Nil
Gaurandi—Maniganj via Asansol	1	Nil
Asansol—Jamuria via Gaurandi	2	2
Barddhamān—Chittaranjan via Barakar	4	1
Mejjaghat—Kalyaneswari via Asansol and Barākar	1	1
Rupnarayanpur—Raniganj via Salanpur	2	Nil
Asansol—Kalyaneswari via Dishergarh	1	1
Rupnarayanpur—Asansol via Barākar	2	Nil
Asansol—Rupnarayanpur via Salanpur	1	Nil
Andal—Barākar via Raniganj	1	1
Kulti—Chittaranjan	2	1
Asansol—Mejjaghat via Namuria	5	2
Asansol—Raniganj via Jamuria and Domohani	10	3
Asansol—Churulia	3	1
Asansol—Ukhra via Jamuria	1	Nil

(Contd.)		
Name of route	Existing sanc- tioned permits	Recommendation for addi- tional bus by Asansol Plan- ning Org.
Asansol—Pandaveswar <i>via</i> Domohani, Jamuria	1	3
Samlakendra—Asansol Court <i>via</i> Jamuria, Domohani	3	1
Mejiaghat—Nunakaraghat	2	Nil
Panagarh—Barakar <i>via</i> Asansol	1	1
Asansol—Raniganj <i>via</i> G.T. Road	7	1
Asansol—Mejiaghat <i>via</i> G.T. Rd.	1	1
Asansol Court—J.K. Nagar (extended to Dighari)	3	1
Gopalpur—Asansol <i>via</i> Rani- ganj	2	Nil
Asansol—Durgapur <i>via</i> Rani- ganj	2	Nil
Mechan—Asansol <i>via</i> Raniganj	2	1
Asansol—Raniganj <i>via</i> J.K. Nagar	2	Nil
Asansol—Gushkara	1	Nil
Panagar—Asansol <i>via</i> Raniganj	1	2
Panagar—Asansol <i>via</i> Raniganj, Gopalpur	?	?
Shibpur—Asansol <i>via</i> Raniganj	2	1
Asansol—Shibpur <i>via</i> Jamuria	2	1
Gourbazar—Asansol <i>via</i> Raniganj	5	2
Rakshitpur—Asansol	?	?
Illambazar—Asansol <i>via</i> Raniganj	2	1
Bangora—Asansol <i>via</i> Raniganj	2	1
Ukhra—Raniganj <i>via</i> Baktarnagar		
Sibpur—Raniganj	1	1
Andal—Ukhra	2	Nil
Madaipur—Durgapur Railway Station	—	—
Ukhra—Raniganj	?	?
Asansol—Burnpur	21	1

(Contd.)		
Name of route	Existing sanc- tioned permits	Recommendation for addi- tional bus by Asansol Plan- ning Org.
Asansol—Surajnagar	?	?
Dehika—Mejiaghat <i>via</i> Asansol, Domohani, Jamuria, Raniganj	1	1
Asansol—Radhanagar	3	Nil
Asansol town—Court	?	?
Asansol—Samla <i>via</i> Raniganj	1	1
Asansol—Panagar Base	1	1
Burnpur—J.K. Nagar <i>via</i> Hutton Road	1	Nil
Burnpur—J.K. Nagar <i>via</i> G.T. Road.	1	1
Burnpur—Chatapathar	?	?
Burnpur—Sen Releigh <i>via</i> Asansol	2	1
Panchgachhiya—Burnpur <i>via</i> Sen Raleigh	?	?
Asansol—Barddhamān	8	2
Burnpur—Durgapur	3	1
Asansol—Barddhamān <i>via</i> Jamuria	2	Nil
Dighari—Sripur	1	Nil
Asansol Court—Sripur Colliery	1	1
Asansol Railway Station—River side	1	1
Asansol—Kumardihi <i>via</i> Chanda	1	2
Dishergarh—Durgapur	1	1
Dhakeswari—Durgapur <i>via</i> Muchipara	3	1
Asansol—Ukhra <i>via</i> Raniganj	1	Nil
Asansol—Bahula <i>via</i> Raniganj	1	1
Asansol—Kajora (extended up to Haripur)	1	1
Churulia—Durgapur <i>via</i> Domohani, Jamuria	1	Nil
Raniganj—Chittaranjan	?	?

(Contd.)		
Name of route	Existing sanctioned permits	Recommendation for additional bus by Asansol Planning Org.
Gourbazar—Raniganj	1	Nil
Raniganj—Sibpur <i>via</i> Andal	1	1
Sibpur—Durgapur <i>via</i> Andal	2	Nil
Sibpur—Asansol <i>via</i> G. R. Road	?	?
Barākar—Mejiaghat <i>via</i> Asansol	2	1
Barākar—Durgapur <i>via</i> G. R. Rd.	4	3
Kalyaneswari—Durgapur <i>via</i> Barākar	1	1
Asansol—Durgapur <i>via</i> Muchi-para	3	3
Burnpur—Domohani	1	Nil
Mejiaghat—Chittaranjan <i>via</i> Asansol & Sitarampur Rly. Station	1	1
Bhurighat—Asansol <i>via</i> Raniganj	1	1
Khetardihi—Asansol <i>via</i> Jamuria	1	Nil
Darbardangalghat—Asansol Court	1	Nil
Asansol—Jamuria <i>via</i> Chanda	1	1
Mahishila Colony—Burnpur <i>via</i> Court	1	1
Bangara—Raniganj <i>via</i> Kajora	1	2
Durgapur—Andal <i>via</i> Benachiti	1	Nil
Panagari—Raniganj	1	Nil
Durgapur Notified Areas (D.S.T.S.)	32	Nil
Durgapur—Raniganj (D.S.T.S.)	5	Nil
Durgapur—Arambagh <i>via</i> Bankura	1	1
Durgapur—Sainthia <i>via</i> Illam-bazar	1	Nil
Durgapur—Asansol Court	8	2
Durgapur—Chittaranjan	5	1
Durgapur—Puruliya <i>via</i> Beliatore	3	2

(Contd.)		
Name of route	Existing sanctioned permits	Recommendation for additional bus by Asansol Planning Org.
Durgapur—Berhampur	4	Nil
Bankura—Durgapur	—	—
Gorabari—Durgapur	—	—
Bishnupur—Durgapur	—	—
Sonamukhi—Durgapur	—	—
Tiluri—Durgapur	—	—
Bankura—Digha	1	—
Metadanga—Durgapur	—	No bus trips required
Radhanagar—Durgapur	—	—
Raghunathpur—Durgapur	—	—
Barākar—Kandra	—	—
Asansol—Ajayghat	—	—
Chittaranjan—Asansol	—	—
Santaldihi—Asansol	—	—
Panchet—Barakar	—	No extra bus trips
Dishergarh—Asansol	—	—
Barakar—Raniganj	—	—
Chittaranjan—Raniganj	—	No extra bus trips
Ranchi—Durgapur	—	—
Ranchi—Dumka <i>via</i> Dhanbad	—	—
Dhanbad—Karo	—	—
Dhanbad—Bhagalpur	—	—
Asansol—Pariharpur <i>via</i> Girmint	—	—
Asansol—Girmint	—	—
Bankura—Calcutta	—	No extra bus trips
Burnpur—Raniganj	—	—
Ban Nabagram—Barddhamān	—	—
J.K. Nagar—New town	—	No extra bus trips
D.S.T.S. No.-4	—	—
D.S.T.S. No.-7	—	—
D.S.T.S. No.-5	—	No extra bus trips
Gopalpur—Ramnagar	—	—
Raniganj—J.K. Nagar	—	—
Durgapur—J.K. Nagar	—	—
Asansol—Haripur	—	—

(Contd.)

Name of route	Existing sanctioned permits	Recommendation for additional bus by Asansol Planning Org.
Asansol—Domohani	—	—
Asansol—Navadwip	—	No extra bus trips
Durgapur—Panagar	—	—
Puruliya—Calcutta	—	—
Durgapur—Ramnagar	—	—
Barddhamān—Dhanbad	—	—
Barddhamān—Puruliya	—	No extra bus trips
Barddhamān—Benachiti	—	—
Asansol—Digha	—	No extra bus trips
Asansol—Andal	—	—
Nachan—Benachiti	—	—
Asansol—Benachiti	—	—
Asansol—Kulti	—	No extra bus trips
Barākar—Jamuria via Asansol	—	—
Raniganj—Jamuria	—	No extra bus trips
Raniganj—Kalyaneswari	—	—
Raniganj—Domohani	—	—
Asansol—Adra	—	—
Bardhamān—Jamuria	—	No extra bus trips
Jamuria—Mejiaghat	—	—
Barakar—Kulti	—	—
Bahula—Barakar	—	—
Asansol—Chirkunda	—	—
Barddhamān—Gopalpur	—	—
Barddhamān—Digha	—	No extra bus trips
Barddhamān—Bolpur	—	—
Asansol—Bolpur	—	—
Barddhamān—Andal	—	No extra bus trips
Raniganj—Bankura	—	—

APPENDIX C

LIST OF DAK BUNGALOWS IN BARDDHAMĀN DISTRICT UNDER ZILLA PARISHAD : 1972

Name	Location		Controlling authority
	Police Station	Subdivision	
Asansol Dak & Inspection Bungalow	Asansol (at 138th mile of G.T. Road)	Asansol	Administrator, Zilla Parishad, Barddhamān
Barddhaman Dak & Inspection Bungalow	Barddhaman	Barddhaman	-do-
Gushkara Inspection Bungalow	Khandaghosh	-do-	-do-
Kalna Inspection Bungalow	Kalna	Kalna	-do-
Kandra Inspection Bungalow	Ketugram	Katoya	-do-
Kanksa Inspection Bungalow (Panagarh)	Kanksa	Durgapur	-do-
Katoya Inspection Bungalow	Katoya	Katoya	-do-
Khandaghosh Inspection Bungalow	Khandaghosh	Barddhaman	-do-
Kusumgram Inspection Bungalow	Manteswar	Kalna	-do-
Memari Inspection Bungalow	Memari	Barddhaman	-do-
Malandighi Inspection Bungalow	Kanksa (at 6th mile of Ajay Road)	Durgapur	-do-
Mongalkote Inspection Bungalow	Kalna	Kalna	-do-
Nadanghat Inspection Bungalow	Purbasthali	-do-	-do-
Raina Inspection Bungalow	Raina	Barddhaman	-do-
Raniganj Inspection Bungalow	Raniganj (near Raniganj Rly. Station)	Asansol	-do-

LIST OF DAK BUNGALOWS—Contd.

Name	Location		Controlling authority
	Police Station	Subdivision	
Rupnarayanpur Inspection Bungalow	Salanpur (near Rupnarayanpur Rly. Station)	Asansol	Administrator, Zilla Parishad, Barddhamān
Sagrai Inspection Bungalow	Raina	Barddhaman	-do-
Satgachhia Inspection Bungalow	Memari	-do-	-do-
Srikhanda Inspection Bungalow	Katoya	Katoya	-do-
Uchalan Inspection Bungalow	Raina	Barddhaman	-do-

APPENDIX D

LIST OF INSPECTION BUNGALOWS (OTHER THAN ZILLA PARISHAD'S), REST HOUSES, etc. IN BARDDHAMĀN DISTRICT : 1972

Name	Location		Controlling Authority
	Police Station	Subdivision	
Asansol Inspection Bungalow	Asansol (At 139th mile of G. T. Road)	Asansol	Assistant Engineer, Public Works Directorate, Asansol Subdivision, Asansol
Balgana Inspection Bungalow	Barddhaman	Barddhaman	Executive Engineer, Damodar Canal Division, Asansol
Barakar Inspection Bungalow	Kulti (near Barakar bridge)	Asansol	Executive Engineer, Public Works Directorate, Barddhaman Division, Barddhamān
Budbud Inspection Bungalow	Budbud	Barddhaman	-do-
Edilpir Inspection Bungalow	Barddhaman	-do-	As in Sl. No. 2
Galsi Inspection Bungalow	Galsi	-do-	-do-

APPENDIX D—Contd.

Name	Location		Controlling authority
	Police Station	Subdivision	
Guhagram Inspection Bungalow	-do-	-do-	As in Sl. No. 2
Kalna Inspection Bungalow	Kalna	Kalna	Executive Engineer (Roads), Hugli Construction Division, Chinsura
Kanainatshal Inspection Bungalow	Barddhaman	Barddhaman	As in Sl. No. 2
Katoya Inspection Bungalow	Katoya	Katoya	Executive Engineer (Roads), Barddhaman Construction Division, Barddhamān
Palla Inspection Bungalow	Memari	Barddhaman	As in Sl. No. 2
Rajbandh Inspection Bungalow	Kanksa (At 107th mile of G. T. Road)	Durgapur	As in Sl. No. 3
Rest House at Aduria (Panagarh Range—on the road side of Srichandrapur-Aduria Road. About 2 miles east from 11th mile road side of Panagarh-Illambazar Road)	Ausgram	Barddhaman	Divisional Forest Officer, Barddhamān Division
Rest House at Arrah (Durgapur Range—On the road side of Durgapur-Sibpur Road via Khatpukur. One mile north of G. T. Road)	Kanksa	Durgapur	-do-
Rest House at Ausgram (Gushkara Range—on the Gushkara-Ausgram road side. About 6 miles off from Gushkara Rly. Station)	Ausgram	Barddhaman	-do-
Rest House at Parsadih, Maithon (Asansol Range—Barakar-Maithon Road, via Kalyaneswari)	Salanpur	Asansol	Divisional Forest Officer, Barddhamān Division
Rest House at Ramnabagan, Barddhaman Divisional Head-quarters, Barddhaman	Barddhaman	Barddhaman	-do-

APPENDIX D—Contd.

Name	Location		Controlling authority
	Police Station	Subdivision	
Srirampur Inspection Bungalow, Navadvip	Purbasthali	Katoya	Divisional Forest Officer, Barddhamān Division
Temporary Cottage Type of Rest House at Amulia (Asansol Range—On the road side of Barabani-Amulia Road via Sarshatali just near Ajay river on the north)	Barabani	Asansol	-do-
Temporary Cottage Type of the Rest House at Khandari (Panagarh Range—on the west of Buddud-Mankar Road and along road side of Mankar-Khandari Road)	Ausgram	Barddhaman	-do-
Temporary Cottage Type Rest House at Nabaghana-pur (Ukhra Range—on the road side of Ukhra-Sibpur Road via Kataberia. About 5 miles (8.05 km.) off from Ukhra Railway Station of the north-east)	Faridpur	Durgapur	-do-
Temporary Cottage Type Rest House at Orgram (Gushkara Range—On the Gushkara-Ausgram road side. About 6 miles (9.66 km.) off from Gushkara Railway Station)	Ausgram	Barddhaman	-do-
Coke-Oven Inspection Bungalow	Durgapur	(Coke-Oven Colony)	Durgapur Steel Project
D.V.C. Circuit House	Durgapur	(Coke-Oven Colony)	
Chummery House	Durgapur		
Tagore House	-do-		-do-
Youth Hostel	-do-		Education Deptt., Govt. of West Bengal.

APPENDIX E

ZILLA PARISHAD FERRIES IN BARDDHAMĀN DISTRICT : 1972

Name	Location		Revenue earned (in Rs.)	Name of river
	Sub-division	Police station		
Kasba	Sadar	Galsi	180	Damodar
Ekloky (Eklakshmi)	"	Raina	200	Darakeswar
Silley	"	Galsi	165	Damodar
Kulpara	"	"	150	"
Dewanganj	Katoya	Katoya	2,028	Bhagirathi
Begunkola	"	Ketugram	42	Ajay
Sankai	"	"	1,830	"
Uddharanpur	"	"	1,387	Bhagirathi
Malatipur or Gram Kalna	Kalna	Kalna	4,550	"
Nasaratpur	"	Purbasthali	2,825	"
Jaluidanga	"	"	750	"
Mertala	"	"	101	"
Char Kamalnagar	"	"	35	"
Kamalnagar	"	"	125	"
Tamaghata	"	"	551	"
Majida	"	"	121	"
Kasthasali	"	"	175	"
Edrapur	"	"	800	"
Sankarpur	"	"	645	"
Narikeltala	"	"	600	"
Hat Kalna	"	Kalna	76	"

APPENDIX F

ZILLA PARISHAD ROADS IN BARDDHAMĀN DISTRICT : 1972

Year	Metalled (miles)*	Unmetalled (miles)	Village roads (miles)
1952-53	390	663	704
1953-54	312	658	710
1954-55	307	655	729
1955-56	310	1,024	384
1956-57	307	1,054	384
1957-58	304	1,024	384
1958-59	297	1,037	382
1959-60	296	1,038	380
1960-61	259	1,029	380
1961-62	257½	1,026	380
1962-63	248	989	380
1963-64	247	982	380
1964-65	184	985	380
1965-66	180½	982	380
1966-67	180½	985	380
1967-68	181	985	380
1968-69	181	989½	380
1969-70	181	992½	380
1970-71	181	992½	380
1971-72	181	992½	380

*Metalled roads are mostly to be found in Asansol area. The Coal Road Construction Division of the Government of India took away some of the metalled roads since 1964-65, hence the depletion in figures from then onwards.

APPENDIX G

NO. OF PASSENGERS AND EARNINGS ON ORIGINATING BASIS FOR STATIONS IN BARDDHAMAN DISTRICT ON THE EASTERN RAILWAY: 1969-70

Name of station	No. of passengers	Amount (Rs.)	Tonnes	Amount (Rs.)
Debipur	2,35,923	84,852	5,647	39,134
Bagila	1,27,826	45,332	—	1,71,275
Memari	6,85,109	4,95,109	20,930	—
Rosulpur	1,89,951	85,876	4,519	36,058
Palsit	93,423	41,336	—	—
Saktigarh	2,59,944	1,62,716	17,298	2,81,650
Gangpur	56,211	21,256	—	—
Barddhaman Jn.	30,12,165	52,12,310	507	3,839
Talit	26,576	16,917	774	5,971
Khana Jn.	1,27,674	1,02,331	6,100	41,123
Galsi	15,794	13,951	2,685	28,799
Paraj	18,301	11,853	1,354	14,636
Mankar	62,304	63,400	7,074	84,549
Panagarh	1,12,606	5,50,791	25,077	14,86,738
Rajbandh	14,814	8,558	72,793	32,71,918
Durgapur	8,81,843	40,90,073	35,426	15,26,946
Waria	1,59,023	2,40,980	11,987	1,85,971
Andal Jn.	7,12,891	9,14,366	1,04,01,097	25,07,75,183
Raniganj	5,08,063	12,88,159	52,527	27,78,097
Kalipahari	31,874	35,560	1,167	52,860
Asansol Jn.	16,39,264	72,95,588	19,75,375	5,49,48,799
Barachak	7,049	7,231	—	—
Sitarampur	3,88,819	5,32,896	22,21,290	6,76,00,548
Salanpur	19,643	19,500	—	—
Rupnarayanpur	39,297	70,146	19,634	15,40,264
Chittaranjan	2,79,149	5,94,312	473	22,672
Jaugram	2,12,954	1,05,007	4,993	35,109
Nabagram	1,06,743	45,096	—	—
Masagram	1,85,924	95,112	2,716	18,236
Palla Road	85,073	38,035	—	—
Kulti	89,771	1,80,183	97	1,243
Barakar	2,41,815	6,39,471	19,85,727	4,82,15,852
Kumardubi	1,26,571	2,31,333	2,300	79,077
*Jhapater Dhal	—	—	—	—
Banpas	76,258	52,978	4,703	48,104
Gushkara	3,23,595	3,32,192	10,228	1,12,555
Bhedia	2,01,502	1,06,045	4,388	46,860
Ambika Kalna	5,08,269	3,74,899	8,773	71,346
Baghnapara	92,653	69,991	1,709	27,427
Dhatrigram	1,36,064	94,644	477	4,094
Samudragarh	1,73,776	1,00,798	1,051	9,381
Bhandartikuri	75,724	39,128	—	—
Purbasthali	1,96,237	1,00,799	1,254	6,032
Lakshmipur	77,728	32,644	—	—
Belcherhat	61,008	31,837	—	—
Patuli	1,71,498	1,06,818	1,833	31,816

Opened from 1st November, 1970.

APPENDIX G—Contd.

Name of station	No. of passenger	Amount (Rs.)	Tonnes	Amount (Rs.)
Agradwip	1,25,296	61,630	—	—
Dainhat	2,34,868	1,66,998	2,330	45,098
Katoya Jn.	6,65,499	6,63,250	24,464	2,28,967
Gangatikuri	1,04,444	48,324	520	3,169
Kajoragram	1,87,250	2,03,544	—	—
Siduli	56,987	59,226	—	—
Ukhra	1,78,965	2,01,104	3,654	59,758
Pandaveswar	2,19,211	2,33,952	2,743	23,061
Sonachora	1,806	1,825	—	—
Tapsi	26,113	40,448	586	20,061
Ikra	13,410	12,751	—	—
Churulia	9,400	4,088	5,342	56,818
Gaurandi	4,088	2,246	3,888	89,490
Jamuria	22,255	22,219	3,002	14,378
Barabani	20,956	20,792	102	1,595
Chinchuriya	21,546	10,665	—	—
<i>Narrow Gauge Section</i>				
Barddhaman Jn.	2,35,930	1,88,662	890	13,046
Kshetia	20,339	4,259	—	—
Karjana	30,371	8,522	—	—
Amarun	27,301	11,790	—	—
Bhatar	92,008	38,307	12	126
Balgana	1,03,560	53,380	90	724
Negun	1,05,586	55,464	316	4,454
Kaichar	1,01,582	60,603	13	183
Bankapasi	77,271	35,754	—	—
Srikhanda	45,231	16,646	—	—
Sripat Srikhanda	81,545	31,231	—	—
Katoya Jn.	2,34,901	1,82,047	471	9,129
Karmadanga	—	—	—	—
Jnandas Khandra	1,48,494	73,425	—	—
Komarapur	60,489	35,520	—	—
Nerole	58,912	26,131	5,252	47,988
Nirodegram	—	—	—	—
Pachandi	1,36,979	61,104	473	7,022
Ambalgram	80,410	25,837	—	—
Katoya Jn.	3,00,430	2,17,268	5,715	60,847

APPENDIX H

REGISTERED ORGANISATIONS OF OWNERS AND EMPLOYEES IN
TRANSPORT AND COMMUNICATIONS IN BARDHAMAN DISTRICT :
1972

Registration No.	Name and address	No. of members
7726	Asansol Lorry Transport Workers' Union, Asansol	50
8512	Asansol Bus and Asansol Bus Assistant Employees' Union, Asansol	60
8637	Asansol Truck Owners' Association, Asansol	71
8909	Asansol Subdivisional Taxi Owners' Union, Asansol	100
9610	Asansol Taxi Drivers' and Cleaners' Union, Asansol	60
5222	Asansol Bus Association, Asansol	20
5436	Asansol Bus Workers' Union, Asansol	100
5478	Asansol Subdivisional Automobile Workers' Union, Asansol	60
5682	Asansol Subdivisional Bus Workers' Association, Asansol	500
5532	Asansol Automobile Workers' Union, Asansol	—
6159	Asansol Subdivisional Automobile Sramik Union, Asansol	—
2134	Bardhaman Zilla Motor Karmachari Samity, Bardhaman	—
2501	Bardhaman Rickshaw Workers' Union, Bardhaman	840
6857	Bardhaman Sadar Subdivisional Motor Mazdoor Sabha, Bardhaman	115
7823	Bardhaman (Sadar Subdivision) Lorry Drivers' and Cleaners' Association, Bardhaman	130
8208	Bardhaman Zilla Motor Transport Sramik Union, Bardhaman	840
8903	Bardhaman District Auto (Sales and Service) Workers' Union	50
9944	Bardhaman Cycle Rickshaw Mazdoor Union, Bardhaman	25

APPENDIX H—Contd.

Registration No.	Name and address	No. of members
9963	Bardhaman Rickshaw Mazdoor Union, Bardhaman	300
10208	Bardhaman Zilla Bus Paribahan Karmachari Sanstha, Bardhaman	137
10251	Bardhaman Cycle Rickshaw Owners' Association, Bardhaman	31
6153	Durgapur Taxi and Motor Workers' Union, Durgapur-1	—
6562	Durgapur Thana Rickshaw Sramik Union, Durgapur-1	—
6592	Durgapur Rickshaw Chalak Union, Durgapur-1	695
6702	Durgapur Taxi Owners' Association, Durgapur-3	—
9121	Durgapur Subdivisional Automobiles Employees' Union, Durgapur-4	70
10019	Durgapur Subdivisional Rickshaw Sramik Union, Durgapur-2	301
10493	Durgapur Taxi Owners' Union, Durgapur-4	112
4580	Kalna Rickshaw O Ghorar Gari Chalak Union, Kalna	—
6046	Katoya Subdivisional Bus Workers' Union, Kalna	222
10444	Katoya Subdivisional Bus Workers' Union, Katoya Bus Stand	70
5445	Rickshaw Mazdoor Union, Katoya	125
9612	Rickshaw Mazdoor Union, Asansol	246
9782	Rickshaw Mazdoor Union, Raniganj	52

ECONOMIC TRENDS AND MISCELLANEOUS OCCUPATIONS

The Census of 1961 divides the general population of the district into two broad categories of workers and non-workers of which the former comprises the following nine livelihood classes : (I) Cultivator, (II) Agricultural Labourer, (III) Mining, quarrying, forestry, fishing, hunting and activities connected with livestock, plantations, orchards and allied spheres, (IV) Household industry, (V) Manufacturing other than household industry, (VI) Construction, (VII) Trade and Commerce, (VIII) Transport, storage, and communications, and (IX) Other services.

The distribution of the total population of the district according to the above classification, is given in the table below :

Category No.	Description	Persons	Number of Males	Females
	Total No. of persons enumerated	30,82,846	16,58,976	14,23,870
I-IX	TOTAL WORKERS	10,39,951	9,11,439	1,28,512
I	Cultivators	2,95,752	2,71,693	24,059
II	Agricultural labourers	1,84,416	1,44,861	39,555
III	Mining, quarrying, forestry, fishing, hunting, etc.	1,62,305	1,46,368	15,937
IV	House-hold industry	31,712	21,516	10,196
V	Manufacturing other than house-hold industry	1,15,952	1,04,987	10,965
VI	Construction	19,407	17,894	1,513
VII	Trade & Commerce	64,704	61,933	2,771
VIII	Transport, storage & communications	33,917	33,917	408
IX	Other Services	1,31,786	1,08,678	23,108
X	NON-WORKERS	20,42,895	7,47,537	12,95,358

The following statement indicates the percentages of workers and non-workers belonging to the different livelihood classes, specifying their proportions under rural and urban categories :

PERCENTAGE OF WORKERS & NON-WORKERS

	Total Workers	Livelihood classes									Non- workers	
		(%)	I	II	III	IV	V	VI	VII	VIII		IX
District Total		33.72	9.59	5.98	5.26	1.03	3.76	0.63	2.10	1.10	4.27	66.28
Rural Total		33.39	11.64	7.23	5.96	1.15	1.85	0.32	1.33	0.48	3.43	66.61
Urban Total		35.21	0.40	0.37	2.13	0.47	12.33	2.04	5.53	3.87	8.07	64.79

Among the Scheduled Caste population of the district in 1961, the proportion of workers was 34.96, mostly engaged as agricultural labourers and cultivators, the respective percentages being 30.2 and 20.6. Labour participation among the Scheduled Tribes of the district was 52.45 percent, agricultural labourers accounting for 44.3 percent and cultivators 24.5 percent of the total workers.

Occupational
classification of
non-agricultural
workers

The non-agricultural workers of the district are classified according to their occupations in the following table which brings out the relative importance of the various callings.

Occupational Categories	Total	Male	Females
Professional, technical & related workers	25,980	23,467	2,513
Administrative, executive & managerial workers	10,356	10,196	160
Clerical and related workers	36,865	36,425	440
Sales workers	68,152	65,284	2,868
Farmers, fishermen, hunters, loggers and related workers	25,726	22,708	3,018
Miners, quarrymen and related workers	78,888	71,701	7,187
Workers in transport & communication	27,307	27,185	122
Craftsmen, Production process workers and labourers not classified elsewhere	2,25,367	1,88,930	36,437
Service, sport and recreation workers	52,436	40,785	11,651
Workers not classified by occupation	8,706	8,204	502

Numerical details of the various categories of non-working population of the district are given in Table-A next page.

PRICES

In an underdeveloped economy, prices of foodgrains tend to dominate those of other commodities. Since rice forms the staple food-crop of the district, a study of its prices will reflect the trend of general level of prices. The Permanent Settlement of Land Revenue in Bengal in 1793 and the events following the passage of Charter Acts of 1813 and 1833 (treaty) affected the erstwhile self-sustained economy of this province and had impact upon prices too. During the latter half of the 19th century, such phenomena as the opening of railways, failure of monsoons, heavy export, depreciation of currency, the Burdwan Fever, and lastly, stock-holding in the face of rising prices, especially during famines, exerted tremendous upward thrusts on prices. The two tables B & C will show the extent of rise in the prices of common rice in the district during the period from 1798 to 1938.

TABLE — A

Categories of Non-working Population	District Total		Rural Total		Urban Total	
	Males	Females	Males	Females	Males	Females
Full-time students or children attending schools	2,15,548	1,07,563	1,63,841	69,365	51,707	38,198
Persons in household duties	—	6,03,897	—	4,98,971	—	1,04,926
Dependant infants and disabled persons	4,75,750	5,69,504	4,01,011	4,95,657	74,739	73,847
Retired persons living on agricultural or non-agricultural royalty, rent, dividend, other means	12,390	7,173	8,501	6,663	3,889	510
Beggars, vagrants, independent women & others of unspecified source of income	5,622	5,862	4,402	5,311	1,220	551
Inmates of penal, mental and charitable institutions	471	60	419	34	52	26
Persons seeking employment for the first time	22,046	631	14,384	154	7,662	477
Persons employed before but now out of employment and seeking work	15,710	668	10,256	394	5,454	272

TABLE — B

PRICE OF RICE

Year	Common rice (seers of 80 tolas per rupee)	
	1798 ¹	1887 ⁴
1798 ¹	45	
1866 (June) ²	8	
1871-72 ³	25.5	
1887 ⁴	22	

¹ The price quoted was current during September 1798 (vide 'Letter from the Collector of Burdwan to the Clerk and Inspector of Public Granaries, Fort William' in *West Bengal District Records (New Series)*, Burdwan, Letters issued 1788-1800, Calcutta, 1956, p. 249).

² The price was the highest during the Famine of 1866 (vide Hunter, W. W. — *A Statistical Account of Bengal*, Vol. — IV. London, 1876, p. 95. Peterson, J. C. K. — *Bengal District Gazetteers: Burdwan*, Calcutta, 1910, p.100).

³ *Annual Administration Report of the Bengal Presidency, (1871-72)*.

⁴ Source : Board of Revenue, Bengal.

TABLE — C

Average of years	Common rice (seers per rupee)
1888-1892 (5 yrs.) ¹	15.85
1893-1902 (10 yrs.)	13.16
1903-1913 („)	11.40
1914-1918 (5 yrs.)	8.81
1919-1923 („)	6.25
• 1924-1928 („)	9.87
1929-1933 („)	10.44
1934-1938 („)	10.28

The fall in price of rice during the decade 1929-38 was due to the world-wide economic depression of the thirties. With the declaration of the Second World War in September 1939, prices began to rise again reaching the unprecedented highest in August 1943 in the different subdivisions of the district as shown in the table below.²

Year	Subdivision			
	Sadar	Asansol	Katoya	Kalna
	(Price in rupees per maund)			
1939	3.91	3.62	3.75	4.23
1940	4.80	4.64	4.72	5.15
1941	N.A.	N.A.	N.A.	N.A.
1942	N.A.	N.A.	N.A.	N.A.
1943				
(August)	37.65	32.00	37.65	33.67

¹ Source: Board of Revenue, Bengal.
² Source: Board of Revenue, Bengal.
 N.A. means 'Not Available'.

The rise was chiefly due to continuing inflation and voluminous British purchases in India to meet the requirement of the allied army against sterling securities in the paper currency reserve, drastic reduction in the supply of essential commodities, particularly foodgrains, loss of imports of foodgrains from Burma, the delay in ensuring planned movement of supplies from surplus to deficit areas, hoarding and profiteering and "carelessness and lack of foresight of those in authority."¹

The unprecedented situation necessitated Government control over procurement and distribution of foodgrains, etc. and also called for other measures like Bengal Foodgrains Control Order 1942, Bengal Foodgrains' Prices Control Order 1943, etc. District stores of rice and paddy were created to serve as buffer stocks for stabilizing prices.² In consequence and following the harvesting of the winter crop, by December 1943, prices of rice came down below the maximum level fixed by the Government under the Food Grains' Prices Control Order, the figures being as follows: Sadar Rs. 14.55 per maund, Asansol Rs. 13.33 per maund, Katoyā Rs. 14.55 per maund and Kalna Rs. 15.24 per maund as against the maximum of Rs. 22 per maund fixed by the Government for the district. By March 1945, prices came further down to Rs. 12.59 per maund in Sadar Subdivision. Rs. 13.33 in Asansol, Rs. 12.80 in Katoyā and Rs. 13.33 in Kalna. But from the middle of 1947, prices started rising again. Introduction of statutory rationing in Asansol municipal area with effect from October 1948 coupled with measures like West Bengal Black Marketing Act of 1948 and various executive orders to prevent hoarding, cordoning of surplus districts, checking forward trading in foodgrains, etc., could not check the rising price level, which reached the height of Rs. 37.62 per maund at Kalna and Rs. 30.50 at Katoyā in April 1952. However, owing to various causes including the special emphasis placed on agriculture in the First Five Year Plan prices receded to Rs. 14.87 per maund at Barddhamān, Rs. 13.60 at Asansol, Rs. 13.88 at Katoyā and Rs. 20.00 at Kalna in December 1953. The following table gives the average price per maund of common rice in different subdivisions of the district during the years 1947-1955.

¹ Majumdar, R. C., Ray Chaudhuri, H. C. and Dutta, K. K. — *An Advanced History of India*. London, 1953. p. 875.
² *Manual of Distribution of Civil Supplies in Districts (Part I)*. p. 42.

Year	Subdivision (Prices in rupees per maund)			
	Sadar	Asansol	Katoyā	Kalna
1947	14.20	15.00	13.50	13.75
1948	17.50	16.58*	14.70	17.64
1949	17.37	17.50+	—	—
		18.05*		
		17.50+		
1950	18.20	22.90*	18.07	21.03
		16.14+		
1951	19.94	20.22*	22.77	27.37
		16.14+		
1952	20.00	21.25	22.37	30.27
		17.50+		
1953	21.16	20.09	20.59	21.90
1954	16.04	15.77	14.87	16.66
1955	17.55	16.20	16.68	16.37

But in the following years rise in population including influx of refugees, flow of people to urban areas and other factors worsened the situation and the prices began to rise again. By December 1963, rice was selling at Rs. 100 and Rs. 89.75 per quintal in the wholesale markets of Barddhamān and Kalna respectively. This necessitated re-imposition of price control from 8 January 1964, re-introduction of statutory rationing in the industrial areas of Asansol Subdivision from March 1966 and the enforcement of various restrictive measures on the storage, movement and consumption of foodgrains, etc. The maximum wholesale prices per quintal of coarse, medium, fine and superfine varieties of rice were fixed at Rs. 60.28, Rs. 64.38, Rs. 71.50 and Rs. 75.97 and the corresponding retail prices at Rs. 63.63, Rs. 67.73, Rs. 74.85 and Rs. 79.31 respectively.

Compulsory levy of paddy and rice at controlled prices was imposed on big producers with effect from 1 December 1965. In April 1968, retail prices of rice were ruling as high as Rs. 1.40, Rs. 1.81, Rs. 2.10 and Rs. 1.50 per kilogram in the markets of Barddhamān, Asansol, Kalna and Katoyā respectively. The

* Bureau of Applied Economics and Statistics, West Bengal.
+ *Hindusthan Standard*, dt. 4.5.1968.

retail prices of different varieties of rice ruling at the ration shops in January 1969 varied from Rs. 1.20 to 1.38 per kilogram.

The following table, which gives the index number of retail prices of certain food articles during the agronomically significant months of February and October of 1956, 1961, 1966 and 1969, reflects the extent of price rise during the period 1950-69.*

INDEX NUMBER OF RETAIL PRICES OF FOOD ARTICLES
DISTRICT : BARDDHAMĀN, CENTRE : BARDDHAMĀN
(BASE : NOVEMBER 1950 = 100)

Food articles	1956		1961		1966		1969	
	Feb.	Oct.	Feb.	Oct.	Feb.	Oct.	Feb.	Oct.
Cereals :								
Rice	110	127	119	131	156	156	254	285
Rice products	99	119	129	129	184	194	207	220
Wheat products	75	75	75	74	99	97	143	144
Pulses :								
Mung	87	80	120	120	210	220	247	243
Musuri	98	93	113	98	163	200	224	221
Kalai	85	104	101	104	149	189	162	176
Other pulses	82	91	107	104	173	176	190	190
Mustard oil	63	103	120	106	149	173	169	190
Salt	78	75	92	100	92	92	154	138
Spices	75	79	174	194	371	404	394	477
Sugar & Gur :								
Sugar	100	105	132	145	147	154	292	231
Gur	86	55	72	90	96	131	178	173
Milk & Milk products :								
Milk	83	91	108	108	133	133	167	133
Ghee	84	89	106	110	165	174	213	222
Vegetables :								
Potatoes	28	56	24	100	40	82	44	82
Onions	93	78	96	153	115	158	224	176
Other non-leafy	67	82	77	110	83	164	81	179
Leafy	61	100	57	143	84	172	92	184
Fish	98	81	143	153	159	202	250	229
Meat	93	92	108	103	187	188	209	223
Egg	75	85	107	121	173	196	208	237

Owing to the absence of modern technology, a much larger number of persons is engaged in agriculture in simple operations like ploughing, sowing, weeding, transplanting, reaping and threshing than would otherwise be needed. Hence, there are differences in wages paid to each of them depending upon the

WAGES

Rural

* Source: Bureau of Applied Economics and Statistics, West Bengal.

nature of the work, its importance and the type of person (male, female or child) employed. While men are engaged for all agricultural operations, the services of women and children are mostly requisitioned for transplanting and harvesting.

Because of its casual nature, agricultural employment shows seasonal fluctuations reducing wages of slack season to a very low level.* The average daily earnings of agricultural labourers rose considerably during the period 1956-69, as will appear from the table in Appendix I, yet they are lower than those of unskilled labourers in non-agricultural sectors.

The present (as in 1973) wage rate of daily labourers, known as *munish*, varies between Rs. 3 and Rs. 5 according to season. Payment of wages partly in cash and partly in kind is much in vogue in this district. During the off-season of agriculture a labourer is usually paid between Re. 1 and Rs. 1.50 besides tiffin and one principal meal and during agricultural season he gets between Rs. 2.50 and Rs. 3.00, besides tiffin and one principal meal. Sometimes in lieu of cooked food he is given 1 kg. of rice and some *dal*, vegetables, and fuel, etc. for getting his meals prepared by himself.

Attached labourers, styled as *mahinder* or *hal kishan* engaged primarily as farm hands, are also required to do household duties. Their annual wage varies between Rs. 350 and Rs. 400, besides tiffin, major meals and clothing. They are also given half an acre of agricultural land along with seeds, manures and such appliances as plough and bullocks, all free of cost, for the subsistence of their family. Sometimes in lieu of land, they are supplied with 10 to 12 maunds of paddy, free of cost. Another type of attached labourers known as *nagare kishan* or *botare kishan* who, though primarily employed on annual basis on an annual wage ranging between Rs. 300 and Rs. 350 plus tiffin and meals (but without the provision of land or paddy for subsistence of his family), is free to render his services to other employers during the period he has no job to perform for his principal employer, but he must give his services when so required by the latter.

The minimum wages payable to industrial workers in the district are now regulated either by arbitration awards or by the Minimum Wages Act of 1948. As the wages thus fixed do not

Urban wages

* The State Government for the first time fixed minimum agricultural wages in terms of the Minimum Wages Act of 1948.

vary much from district to district, it would be of interest to compare the wage structures obtaining in certain representative industries of the district setting a standard to the wage structures in other industries as well. As regards wages in the iron and steel industry and coal industry, these are regulated by the awards of the respective wage boards. The wage structure (shown below) in the following industries is valid for 1972.

A. GRAPHITE INDIA LIMITED, DURGAPUR

Categories	Monthly wages (in Rs.) excluding allowances	
	Minimum	Maximum
Unskilled	142.50	160.50
Semi-skilled II	154.50	179.50
Semi-skilled I	171.00	200.50
Skilled II	187.50	228.50
Skilled I	206.25	251.75
Highly skilled II	221.25	271.25
Highly skilled I	258.75	326.75
Skilled specialist	267.00	335.00
Special II	282.00	359.00
Special I	300.00	377.00

B. MINING AND ALLIED MACHINERY CORPORATION LTD., DURGAPUR (A GOVERNMENT OF INDIA UNDERTAKING)

Semi-skilled	154.50	200.50
Unskilled	142.50	169.50

C. JESSOP & CO., DURGAPUR

Unskilled	140.50	160.50
Semi-skilled	154.50	179.50
Skilled	187.50	228.50
Highly skilled	221.25	271.25

D. SANKEY WHEELS LIMITED, DURGAPUR

Unskilled	142.50	160.50
Skilled	187.50	232.50

E. ACC-VICKERS-BABCOCK LTD., DURGAPUR

Unskilled	142.50	160.50
Semi-skilled I	154.50	170.50
Semi-skilled II	173.50	188.50
Skilled	187.50	228.50
Highly skilled I	221.50	271.50
Highly skilled II	279.25	423.25
Non-Matric clerical staff	176.25	200.25
Undergraduate	180.00	221.00
Graduate	210.00	375.00
Drivers & Dog Handlers	186.50	237.50
Supervisory I	247.50	432.50
Supervisory II	345.00	499.00

F. INDIAN OXYGEN LIMITED, ASANSOL

Unskilled	55.00	88.00
Semi-skilled II	61.00	103.00
Semi-skilled I	63.00	110.00
Skilled IV	68.00	130.00
Skilled III	94.00	180.00
Skilled II	78.00	148.00
Skilled I	68.00	130.00

G. CHITTARANJAN LOCOMOTIVE WORKS, CHITTARANJAN

Unskilled	70.00	85.00
Semi-skilled	75.00	110.00
Skilled	110.00	180.00
Highly skilled II	130.00	212.00
Chargeman 'C'	205.00	280.00
Chargeman 'B'	250.00	380.00
Chargeman 'A'	335.00	425.00

STANDARD
OF
LIVING

The spiralling of prices after 1956 affected all expenditure groups as will appear from the following table which gives figures for 1956, 1961, 1966 and 1969 with base November 1950=100 and which further shows that the consumer price index for all items of consumption followed closely the index for food articles.

CONSUMER PRICE INDEX NUMBER

(Base : November 1950=100)
Annual averages

EXPENDITURE LEVEL

Items of consumption	Year	Rs. 1- Rs. 100	Rs. 101- Rs. 200	Rs. 201- Rs. 350	Rs. 351- Rs. 700	Rs. 701 and above
Centre : Bardhaman						
Food	1956	100.7	98.9	98.8	95.3	93.2
	'61	118.0	116.5	115.2	115.3	112.3
	'66	170.2	166.7	163.8	166.6	160.9
	'69	232.5	223.8	218.7	218.4	208.1
All combined	1956	101.8	100.0	98.0	97.3	97.2
	'61	116.4	114.9	112.6	112.1	110.2
	'66	159.9	154.5	149.4	147.5	140.5
	'69	209.5	197.3	187.2	180.1	166.3

It is not possible to give an idea of the family budgets of the different income groups as sufficient information is lacking. But the following table, prepared by the Bureau of Applied Economics, and Statistics, West Bengal, will indicate the trend of family budgets of different income groups during the period 1950-51 to 1960-61.

FAMILY
BUDGETSPERCENTAGE EXPENDITURE ON DIFFERENT GROUPS OF ITEMS
OF CONSUMPTION BY DIFFERENT EXPENDITURE LEVELS

Centre : Bardhaman

Groups of items of consumption	Average of years	Monthly expenditure level (in Rs.)				
		1-100	101-200	201-350	351-700	701 and above
Food	1950-51	59.02	62.85	58.45	51.31	38.96
	1955-56	65.17	62.03	53.62	47.23	39.12
	1960-61	68.71	65.34	59.53	51.91	37.28
	1950-51	5.20	4.97	4.75	4.70	4.77
Clothing	1955-56	8.04	8.55	7.97	7.91	7.80
	1960-61	7.01	7.42	6.75	7.12	5.36
	1950-51	6.72	4.58	4.07	3.48	3.73
	1955-56	6.38	5.03	5.02	4.62	3.70
Fuel & light	1960-61	6.33	5.61	4.52	5.26	4.59
	1950-51	3.73	3.65	4.62	4.22	5.70
	1955-56	3.97	5.47	4.73	7.75	7.30
	1960-61	4.40	4.58	6.58	3.64	2.28
Miscellaneous	1950-51	15.33	23.95	28.11	36.39	46.84
	1955-56	16.44	18.92	28.66	32.49	42.08
	1960-61	13.55	17.05	22.62	32.07	50.49

EMPLOYMENT
EXCHANGES

The district has at present six Employment Exchanges, namely, Sub-Regional Employment Exchange at Assansol, District Employment Exchange at Bardhaman, Sub-Regional Employment Exchange at Durgapur, Coal Field Employment Exchange at Raniganj, Coal Field Employment Exchange at Sitarampur and University Employment Information and Guidance Bureau at the Bardhaman University.

The following table which gives unit-wise figures of registration, placements, vacancies notified, live register at the close of the year and monthly average number of employer, using the Exchanges during 1970 will convey an idea of the magnitude of unemployment in the district and the efforts of these six units, to relieve it.

EMPLOYMENT EXCHANGES IN BARDHAMAN DISTRICT : 1970

Year	No. of registrations	No. of placements	Vacancies notified	Live Register at the end of December '70	Monthly average no. of employers using the Exchange
Sub-Regional Employment Exchange : Asansol					
1970	13,820	327	1,489	27,458	12.2
District Employment Exchange : Bardhaman					
1970	11,907	620	914	18,786	13.8
Sub-Regional Employment Exchange : Durgapur					
1970	25,113	1,048	2,240	33,847	10.0
Coal Field Employment Exchange : Raniganj					
1970	6,942	934	1,240	4,177	5.3
Coal Field Employment Exchange : Sitarampur					
1970	5,143	397	568	1,307	3.1
University Employment Information and Guidance Bureau : Bardhaman University					
1970	204	13	—	—	—

The Exchanges are experiencing shortage of experienced staff nurse, experienced and trained mid-wife, qualified compounder, health visitor, dresser, X-Ray technician, operation theatre assistant, fire officer, qualified and experienced instrument mechanic, topographical surveyor, shaper, laboratory assistant (metallurgy), trained secondary teachers in rural areas and teachers in science subjects.

The exchanges report excess supply of unskilled workers, turners and diploma-holders in engineering subjects.

Within the framework of the Five Year Plans, the Community Development Programme aiming at ameliorating the socio-economic condition of the rural people was first launched in this district in 1952 with the inauguration of the Bardhaman and Ausgram-I development blocks. The programme now covers the whole district with 33 blocks, the particulars of which are given in the table below:

COMMUNITY
DEVELOPMENT

Name of Subdivision	Name of Block	Date of inauguration	Present state	Date of conversation* to the present stage
Sadar	Bardhaman	2.10.52	Post Stage-II	1.4.53
	Ausgram-I	"	"	"
	Ausgram-II	1.4.56	"	1.4.69
	Bhatar	"	"	1.4.68
	Memari-I	"	"	"
	Memari-II	"	"	"
	Raina-I	2.10.57	Stage-II	1.10.67
	Raina-II	"	"	"
	Jamulpur	1.4.58	Post-Stage-II	1.4.71
	Khandaghosh	2.10.61	Stage-I	1.4.63
Kalna	Galsi-I	"	"	"
	Galsi-II	"	"	"
	Purbasthali-I	1.4.57	Post Stage-II	1.4.69
	Purbasthali-II	"	"	1.4.70
	Kalna-I	2.10.57	"	"
Katoya	Kalna-II	"	"	"
	Manteswar	1.4.58	"	1.4.71
	Ketugram-I	1.4.57	"	1.4.70
	Ketugram-II	"	"	"
	Mongalkote	1.4.56	"	1.4.68
Durgapur	Katoya-I	1.4.58	"	1.4.71
	Katoya-II	"	"	"
	Faridpur-	"	"	"
	Durgapur	2.10.57	"	1.4.70
	Kanksa	2.10.61	Stage-I	1.4.63
Asansol	Andal	1.4.61	"	1.4.64
	Hirapur	1.4.61	"	1.4.64
	Salanpur	1.4.62	"	"
	Barabani	1.8.62	"	"
	Raniganj	"	"	"
	Kulti	2.10.62	"	"
	Asansol	"	"	"
	Jamuria-I	"	"	"
	Jamuria-II	"	"	"

Other important details relating to these blocks are given in the following table :

Name of Block	Area in sq. miles	Area in sq. km.	No. of villages	Total population (as per 1961 Census)
Bardhaman	148.3	384.2	153	1,20,547
Ausgram-I				
Ausgram-II	231.8	600.4	176	1,31,650
Bhatar	160.0	414.4	107	1,24,371
Memari-I				
Memari-II	164.9	427.1	220	1,72,984
Raina-I				
Raina-II	187.1	484.6	208	1,48,008
Jamulpur	101.5	262.9	123	1,10,185
Khandaghosh	100.5	260.3	111	79,395
Galsi-I	184.0	476.5	161	1,53,674
Galsi-II				
Purbasthali-I				
Purbasthali-II	133.0	344.5	190	1,43,373
Kalna-I				
Kalna-II	134.2	347.6	215	1,66,001
Manteswar	117.9	306.4	144	1,06,846
Ketugram-I				
Ketugram-II	137.1	355.1	122	1,31,114
Mongalkote	140.9	364.9	132	1,22,337
Katoya-I				
Katoya-II	131.3	340.0	140	1,73,063
Faridpur-Durgapur	118.0	305.7	113	1,34,412
Kanksa	108.8	281.8	91	63,522
Andal	45.2	117.1	35	98,959
Hirapur	17.1	44.3	24	22,150
Salanpur	43.7	113.2	77	42,036
Barabani	60.4	156.4	52	65,000
Raniganj	32.8	85.0	30	92,026
Kulti	32.5	84.2	53	1,50,066
Asansol	26.7	69.1	39	57,427
Jamuria-I				
Jamuria-II	90.6	234.7	74	1,44,236

In 1970-71, there were a total of 14,966 teachers employed in schools for general education in the district, of whom 6,511

Learned
Professions

were trained and 8,455 untrained. In 1968-69, a total of 63 teachers (including 7 women) were employed in schools for professional education and another 585 teachers (including 126 women) in schools for social (adult) education. Schools for oriental studies accounted for another 124 teachers in the same year. In 1967-68, colleges for general education employed a total of 463 teachers of whom 75 were women, and colleges for professional education 326 teachers including 8 women. The teachers have their respective associations for safeguarding and promoting their interests. The drawbacks besetting secondary education are, 1) frequent change of school or of profession by teachers in urban areas, especially of the science and technical streams, due to economic reasons and lack of residential facilities, and 2) dearth of qualified teachers in rural areas.

In 1961, there were a total of 2,648 doctors in the district, of whom 2,608 were men and 40 women. Allopathic physicians and surgeons numbered 1,045 (including 12 women), Homoeopathic physicians 467 (including 3 women), Ayurvedic physicians 266 (including 3 women) and other unclassified physicians 599 (including 20 women). Most of the allopaths are enrolled as members of the West Bengal Branch of the Indian Medical Association which has units in the district. Of the 1,045 allopaths, 564 practised in urban areas and 481 in the countryside, while out of 469 homoeopaths, 186 were in urban and 283 in rural areas, and out of 266 ayurvedic physicians only 84 were in urban and 182 in rural areas. These figures clearly indicate the preponderance of allopaths in the towns and of homoeopaths and ayurvedic physicians in the villages. The homoeopathic practitioners had two associations, namely, All India Homoeopathic Medical Association and All India Institute of Homoeopathy — to look after their interests. The former had branches at Durgapur, Asansol, Kulti, Kalna and Burnpur. These two associations merged in 1975 to form the Homoeopathic Medical Association of India. The problems of homoeopaths are chiefly connected with prevalence of a large number of underqualified physicians among them and lack of employment opportunities in public and private sector organisations.

Doctors

Bardhaman, being one of the most important industrial districts of West Bengal, absorbs a large number of engineers of all descriptions. In 1961, there were 3,436 (including 21 women) engineers, architects and surveyors in the district of whom 960 (including 13 women) were civil engineers or overseers, 307 (in-

Engineers

cluding 1 woman) mechanical engineers, 475 electrical engineers (including 1 woman), 810 surveyors (including 2 women) and the rest unclassified architects and engineers. A number of associations like the Institution of Engineers (India) looks after the interests of the profession.

According to the 1961 Census, there were 516 (including 26 women) chemists, physicists, geologists and other physical scientists. Biologists, agronomists and veterinarians numbered only 72 (including 2 women). In the same year, there were 793 writers, artists, musicians and related workers (including 64 women) in the district of whom 466 (including 56 women) lived in towns and the rest in villages.

DOMESTIC AND PERSONAL SERVICES

According to the Census of 1961, the total number of persons engaged in the district as house-keepers, cooks, domestic servants, maids, etc. was 27,257 of whom 9,888 were females. Of these, 27,257 persons, 10,980 (including 3,117 women) worked in the towns and the rest in villages. In these days of high cost, it is difficult for most middle and lower middle class people to engage wholetime servants. People of these groups usually remain content with services of maid-servants on a part-time basis, their pay in Bardhaman town in the first half of 1972 ranges between Rs. 8 and Rs. 10 per month without meal, but with a breakfast and such perquisites as a piece of *sari* on the occasion of the Durga Puja festival. In Asansol, the rates are Rs. 18 to Rs. 20 per month, other perquisites remaining the same. It is the higher income groups which can afford to have wholetime servants or cooks, the latter being mostly women. Male servants prefer to work in various establishments as butlers, cooks, bearers, waiters and the like. In Bardhaman town the female servant-cum-cook's wage is usually Rs. 25 to Rs. 30 per month besides food and clothing; the corresponding wage in Asansol is between Rs. 30 and Rs. 40 per month.

Barbers

The barber has had an important place in Hindu society because of the services rendered by him in connection with religious ceremonies and ritual like *upanayan*, *marriage*, *shradh* and the like. But the traditional ties that once bound him with the rest of the community have weakened and the relationship is becoming more and more formal. During the Census of 1961, 2,481 barbers were found in the district of whom 66 were women. Of these, 1,148 (including 20 women) persons lived in towns and

the rest in villages. Their charges vary from rural to urban areas as also from pavements to haircutting 'saloons'. In the first half of 1972, a pavement barber in Bardhaman town charged 15 paise for a shave and 40 paise for hair-cut, the corresponding rates in saloons being 20 paise and 60 paise respectively. In Durgapur and Asansol, the rates were a bit higher.

Tailors

In 1961 Census, 5,780 persons were enumerated as tailors, cutters, and related workers in the district of whom 167 were women. Though they are spread all over the district, they are mostly to be found in the urban areas, the number being 3,193 (including 30 women). In the villages tailoring is a simple art and is confined to making shirts, *panjabis*, *kurtas* and *pyjamas*. It is in the urban areas that tailoring has become a specialized art for modern fashions of both sexes. Tailoring charges differ from rural to urban areas and also according to the quality of the materials as of the works. But the prevailing rate in Bardhaman town for making a cotton half-shirt is Rs. 1.50, a cotton full shirt or a *panjabi* Rs. 2.50, a cotton *pyjama* 0.75 paise to Re. 1, a cotton blouse Rs. 1.25, a full veil blouse Rs. 2 to Rs. 2.50, a silk/terelene/terycot/terene blouse Rs. 3, silk/terene/terelene/terycot bush shirt Rs. 5, a full shirt Rs. 6 and a full suit Rs. 50 to Rs. 60. In Asansol town, the charge of making a cotton half shirt Rs. 3, a cotton full shirt Rs. 3.50, a cotton *pyjama* Re. 1, a cotton blouse Rs. 3, silk/terene/terycot blouse Rs. 3.50 and with lining Rs. 5, silk/terene/terelene bush-shirt Rs. 9 and a full suit (woollen/terene/terelene/terycot) Rs. 85. The tailors are usually employed on commission basis; the remuneration is 50 per cent of the making charge.

Washermen

The Census of 1961 put the total number of launderers, cleaners, pressers, washermen, *dhobis*, etc. at 2,538 persons of whom 194 were women. They are also mostly to be found in towns, the number being 1,684 (including 95 women). In Bardhaman and Asansol their usual charges for washing *dhotis*, *saris*, shirts and *panjabis* were during the first half of 1972 between 20 paise and 25 paise per piece. Coloured *sari* 25-50 paise per piece, silk *sari* Rs. 3 per piece and a woollen suit Rs. 6. Double the above rates are usually charged for all urgent washing.

Carpenters, masons, etc.

There were 6,633 carpenters and allied workers in the district in 1961. The wage of a carpenter is usually Rs. 6 per day. Brick-layers, masons and allied workers number 9,910 (including 976 females). The daily wage of a mason is usually Rs. 6 and a mason-helper Rs. 3.50.

APPENDIX I

AVERAGE DAILY WAGE OF AGRICULTURAL LABOURERS IN BARDDHAMAN DISTRICT (in Rs.)

	Field Labour			Other Agricultural Labour			Herdsmen			Normal daily working hours
	Men	Women	Children	Men	Women	Children	Men	Women	Children	
1956										
January	2.12	1.88	1.44	1.96	1.62	1.19	1.37	1.25	0.75	8
February	1.81	1.56	1.06	1.62	1.25	0.81	1.37	1.25	0.75	8
March	1.75	1.50	0.96	1.69	1.37	0.81	1.31	1.19	0.81	8
April	1.81	1.62	1.06	1.69	1.50	0.81	1.31	1.19	0.81	8
May	1.75	1.75	0.96	1.69	1.37	0.81	1.31	1.12	0.81	8
June	1.88	1.62	1.12	1.87	1.56	1.00	1.37	1.31	0.88	8
July	2.12	1.81	1.00	2.00	1.56	1.00	1.62	1.37	1.00	8
August	2.25	1.94	1.19	2.19	1.75	1.06	1.50	1.31	1.00	8
September	2.00	1.88	1.25	1.88	1.50	1.00	1.31	1.75	1.00	8
October	1.75	1.56	0.81	1.69	1.56	0.94	1.31	1.25	0.81	8
November	1.81	1.56	0.94	1.75	1.37	0.94	1.44	1.28	0.87	8
December	2.00	1.75	1.12	1.88	1.53	1.06	1.50	1.31	0.87	8
1961										
January	1.68	1.37	0.93	1.58	1.12	1.06	1.25	1.25	0.62	6
February	1.74	1.44	0.93	1.74	1.37	0.96	1.25	1.00	0.62	6
March	1.74	1.44	0.93	1.74	1.25	1.00	1.25	1.00	0.62	6
April	1.81	1.50	0.93	1.74	1.37	1.00	1.25	1.00	0.62	6
May	1.93	1.68	1.12	1.93	1.62	1.21	1.44	1.12	0.87	6
June	1.96	1.77	1.12	1.83	1.69	1.27	1.75	1.00	1.16	8
July	2.46	2.21	1.25	2.24	1.87	1.59	1.79	—	1.11	8
August	2.12	1.95	1.31	1.87	1.69	1.28	1.78	—	1.12	8
September	1.84	1.65	1.30	1.95	1.78	1.27	1.95	—	1.11	8
October	1.75	1.56	1.24	1.91	1.74	1.21	1.75	1.00	0.91	8
November	1.74	1.43	1.00	1.74	1.41	0.96	1.12	1.00	0.63	8
December	2.24	2.06	1.13	2.41	1.87	0.94	1.57	1.00	1.00	8

1966											
January	2.44	2.25	1.00	2.25	1.75	—	1.25	0.75	0.92	8	
February	2.31	2.12	1.00	2.50	2.00	—	1.25	0.75	0.87	8	
March	2.25	2.00	—	2.25	2.12	—	1.25	0.75	0.86	8	
April	2.12	2.00	—	2.00	2.00	—	1.50	0.75	1.00	8	
May	2.25	2.00	—	2.25	2.00	—	1.25	0.75	0.92	8	
June	2.53	1.69	—	2.81	2.50	—	1.25	1.25	1.08	8	
July	3.12	3.00	—	3.00	2.50	—	1.50	1.25	1.12	8	
August	3.28	2.84	—	3.00	2.50	—	1.50	1.50	1.25	8	
September	3.12	3.00	—	3.00	2.50	—	1.50	1.50	1.16	8	
October	3.44	3.25	—	3.00	2.50	—	1.00	—	1.00	8	
November	3.40	3.08	—	3.50	2.00	—	1.37	1.25	1.25	8	
December	3.88	3.50	—	2.50	2.00	—	2.00	1.75	1.25	8	
1969											
January	3.37	3.18	—	3.00	2.50	1.75	2.50	2.00	1.75	8	
February	3.44	3.19	—	3.00	2.50	1.75	2.50	2.00	1.75	8	
March	3.37	3.12	—	2.75	2.50	1.75	2.25	2.00	1.75	8	
April	3.40	3.00	—	3.00	2.50	—	2.75	2.00	1.75	8	
May	3.25	2.92	—	3.00	2.00	1.75	2.75	2.00	1.75	8	
June	3.00	2.90	—	3.10	2.75	2.00	3.00	2.50	2.00	8	
July	3.00	—	—	2.00	—	—	2.75	—	2.00	8	
August	3.00	—	—	2.50	—	—	2.75	—	2.00	8	
September	3.00	2.50	—	3.00	2.50	—	2.00	—	1.75	8	
October	3.00	2.25	—	2.62	2.12	—	2.00	—	1.75	8	
November	2.75	2.50	—	2.75	2.25	—	2.00	—	2.00	8	
December	3.00	2.75	—	3.00	2.50	—	2.00	—	2.00	8	

(—) Not available.

APPENDIX II

COMPOSITION OF LIVELIHOOD CLASSES IN BARDHAMAN
DISTRICT : 1971

Category No.	Description	Persons	Number of Males	Females
	Total number of persons enumerated	3,916,174	2,076,210	1,839,964
I—IX	Total Workers	1,093,807	999,659	94,150
I	Cultivators	265,022	258,581	6,441
II	Agricultural Labourers	334,459	273,486	60,973
•III	Livestock, Forestry, Fishing, Hunting and Plantations, Orchards and allied activities	15,999	15,110	889
IV	Mining and Quarrying	103,769	98,255	5,514
V	Manufacturing, Processing, Servicing and Repairs :			
	(a) Household Industry	23,108	21,206	1,902
	(b) Other than Household Industry	122,762	118,565	4,197
VI	Construction	10,535	10,065	470
VII	Trade and Commerce	67,260	65,945	1,315
VIII	Transport, Storage and Communications	49,203	47,726	1,477
IX	Other Services	101,692	90,720	10,972
X	Non-workers	2,822,365	1,076,551	1,745,814

APPENDIX III

In 1981 Census the population of the district has been classified into three main groups, namely, main workers, marginal workers and non-workers — each mutually exclusive of the others. The main worker is one who has done economically productive work for at least 183 days during the year preceding the date of enumeration. The marginal worker is somebody who has participated in economically productive work for less than 183 days during the year preceding enumeration. And the non-worker is he who has not done any economically productive work all during the last one year.

The distribution of the total population of the district according to the above classification is given in the table below:

COMPOSITION OF THE LIVELIHOOD CLASSES IN BARDHAMAN
DISTRICT : 1981

Category number	Description	Persons	Number of Males	Females
	Total No. of persons enumerated	48,08,886	25,36,405	22,72,481
I to IX	Total main workers	13,46,772	11,95,218	1,51,554
I	Cultivators	3,13,535	3,02,973	10,562
II	Agricultural labourers	4,08,296	3,19,252	89,044
V(a)	Household Industry (Manufacturing, Processing, Servicing Repairing)	51,111	41,360	9,751
III, IV, V(b) and VI to IX	Other workers	5,73,830	5,31,633	42,197
	Marginal workers	2,26,620	94,176	1,32,444
	Non-workers	32,35,494	12,47,011	19,88,483

In 1981 the proportion of workers to total population was 28.01 as against 27.93 in 1971. The percentages of the different category of workers to total workers in 1981 as compared with those in 1971 are given in the table below:

Category number	Description	1971	1981
I	Cultivators	24.23	23.28
II	Agricultural labourers	30.58	30.32
V(a)	Workers in household industry	2.11	3.80
III, IV, V(b)	Other workers	43.08	42.60

CHAPTER IX

GENERAL ADMINISTRATION

THE PRESENT
DISTRICT SET-UP

The general administration of the district is under the charge of a District Magistrate and Collector who is under the administrative control of the Commissioner of Bardhaman Division stationed at Chunchura in Hugli district. Subject to the control and supervision of the District Magistrate, the general administration of the four outlying subdivisions in the district is in charge of a Subdivisional Officer in each of the subdivisions of Asansol, Durgapur, Kātoyā and Kalna. At the headquarter station, namely at Bardhaman, the District Magistrate and Collector is assisted by two Additional District Magistrates having concurrent powers and jurisdiction with the District Magistrate. At Asansol an Additional District Magistrate exercising powers of the District Magistrate and Collector is stationed. At the district headquarters is stationed the Superintendent of Police of the district who is assisted by two Additional Superintendents of Police at the headquarter station while at Asansol an Additional Superintendent of Police is posted to look after the police work in the subdivision. The District Magistrate and the Additional District Magistrates are members of the Indian Administrative Service while the Superintendent of Police and the Additional Superintendents of Police are members of the Indian Police Service. At the headquarter station a Deputy Magistrate is appointed the Subdivisional Officer. The Subdivisional Officer of Sadar is generally in charge of executive work in the Sadar Subdivision and all general administration as may be delegated to him by the District Magistrate. The Subdivisional Officer at Asansol is usually a junior member of the Indian Administrative Service. The Subdivisional Officers of Durgapur, Kātoyā and Kalna are usually members of the West Bengal Civil Service though occasionally a junior member of the Indian Administrative Service may be appointed to such posts. There are twenty Deputy Collectors, members of the West Bengal Civil Service, posted at the headquarter station besides the Subdivisional Officer. Of these, ten are employed in general administration, one as an Executive Officer of the Zilla Parishad, one as Settlement Officer for Bankura and Bardhaman, one as District Panchayat Officer, one as Special Land Acquisition Officer and one as Regional Transport Officer, one is an Additional

Regional Transport Officer, one is Charge Officer of the Bankura-Bardhaman Settlement, one is Revenue Officer of the Damodar Irrigation Division, one is Revenue Officer of the Damodar Valley Revenue Division and one is Additional Land Acquisition Officer. At Asansol, besides the Subdivisional Officer, there is one Deputy Magistrate and Deputy Collector and one Munsif Magistrate in charge of general administration and criminal cases. There are five other Deputy Magistrates and Deputy Collectors of whom three are employed in general administration, one is a Special Railway Magistrate and one is Subdivisional Land Reforms Officer. At Durgapur two Deputy Magistrates and Deputy Collectors are in charge of the general administration besides the Subdivisional Officer. There are two other Deputy Collectors who are in charge of civil defence work and another Deputy Collector holding charge of the Accounts Office of the Durgapur State Transport Board. At Kātoyā, besides the Subdivisional Officer, three Deputy Collectors and Deputy Magistrates are in charge of general administration and criminal work. At Kalna, besides the Subdivisional Officer, two Deputy Collectors and Deputy Magistrates are in charge of the general administration and criminal work. A Deputy Superintendent of Police is posted in each of the subdivisions — Asansol, Durgapur and Kalna as Subdivisional Police Officer while at Kātoyā an Assistant Superintendent of Police acts as the Subdivisional Police Officer.

The old divisions of the office of the District Magistrate and Collector were (1) Judicial Munshikhana, (2) Revenue Munshikhana, (3) Treasury, (4) General Department. With the separation of judiciary from the executive and abolition of zamindari much of the original significance of these divisions has been lost. Nevertheless, these divisions are still maintained in form. The Judicial Munshikhana deals with the Magistracy, licences under the Indian Arms Act, the Motor Vehicles Act, the Places of Public Amusement Act, Cinematograph Act, the Explosive Substances Act, the Petroleum Act, etc. It also deals with the Chaukidari matters and local self-government matters. The Revenue Munshikhana, except for some residuary work, has converted itself into the Estate Acquisition and Land Reforms office. The Treasury in Bardhaman has been taken over by the State Bank of India and as such, there is no Treasure Chest under the Treasury Officer at present. The Treasury, however, retains its accounts section. The receipts and payments are the responsibility of the bank

while the accounts thereof are maintained by the Treasury Officer on the basis of *challans* and schedules of receipts and schedules of payments. The bills for payments of demands on the Government are passed for payment by the Treasury Officer. The Officer is usually a Deputy Collector. All correspondence are dealt with by the General Department which also deals with work not relegated to the other departments.

THE CENTRAL
GOVERNMENT
SET-UP
Asansol

The district has the usual complement of the Central Government Offices.

In Asansol there are the offices of the (1) Assistant Central Intelligence Officer (with another at Burnpur); (2) Assistant Collector, Central Excise; (3) Assistant Coal Superintendent; (4) Regional Commissioner, Coal Mines Provident Fund; (5) Assistant Labour Commissioner; (6) Assistant National Savings Officer; (7) Field Publicity Officer, Information and Broadcasting; (8) Inspector, Explosives; (9) Inspector, Mines Labour Welfare; (10) Director, Mines Safety; (11) Regional Director, Workers' Education Centre; (12) Offices of the Posts & Telegraphs Department; (13) Divisional Superintendent, Eastern Railway; (14) Income Tax Officers, etc.

Barddhamān

In Barddhamān town there are the offices of the Assistant Commissioner, Income Tax; Deputy Central Intelligence Officer; Assistant Engineer, Construction subdivision; Project Evaluation Officer; Superintendent, Central Excise; Superintendent, Post Offices, Barddhamān Division; Assistant Engineer, Eastern Railway, etc.

Durgapur

In Durgapur there are the offices of the Assistant Central Intelligence Officer; Assistant Engineer, Food Storage; Central Public Works Department; Deputy Labour Commissioner; Director, Thermal Power Station Personnel Training Institute; Divisional Engineer, Telegraphs, etc.

ORGANIZATIONS
UNDER STATU-
TORY BODIES

The Damodar Valley Corporation has its sub-stations with local offices at Chittaranjan, Hirapur, Kalipahari and Kult. The Asansol Mines Board of Health has its offices at Asansol. The Life Insurance Corporation of India has its Asansol Divisional Office at Asansol. The offices of the Asansol Planning Organization is at Asansol. At Durgapur there is the office of the Chief Executive Officer, Durgapur Development Authority. There is also the office of the Durgapur Notified Area Autho-

rity at Durgapur. The Fertilizer Corporation of India Ltd. has the offices of its General Manager at Durgapur.

The municipalities of Barddhamān, Asansol, Kalna, Kāṭoyā, Raniganj and Dainhat have the usual number of administrative, public health and other officers and staff.

CHAPTER X

REVENUE ADMINISTRATION

EARLY HISTORY

It would seem, on the evidence of *Ain-i-Akbari* (A.D. 1590), that the whole of the present district of Barddhamān was firmly under the Mughal central authority and that there was a uniform and fully integrated system of revenue assessment and collection. On the evidence of Mirza Nathan's *Baharistan-i-Ghaybi*¹ and of *Fathiyya-i-Ibriyah*, it seems, however, that insofar as Subah Bangla was concerned, the assessment of land-revenue of different Sarkars and Parganahs made by Todar Mal in 1582 and the system of management of land-revenue laid down by him were not fully effective. Moreover, it was not always the Asal Toomar Jamma but Peshkushes or payments acknowledging the suzerainty of the Mughal authority that were realized from the various zamindars, rājās, mahārājās and other chiefs and chieftains. These Peshkush-paying local chiefs, as well as *jāgirdārs* were the pre-Permanent Settlement zamindars of Bengal. The status of these zamindars and their relationship with the Mughal authority differed considerably.²

It seems that the areas within Sarkar Madaran, now comprising the Subdivisions of Asansol and Durgapur were imperfectly integrated in the Mughal administrative system and that the revenue management of these areas was left to the traditional chiefs. Mughals seem to have remained content with formal acknowledgement of suzerainty and Peshkushes as symbolising such acknowledgement. Many of the tenurial systems that had no sanction in either Todar Mal's system of land-revenue management or in any subsequent Mughal system of revenue administration thrived unchecked in the areas under these zamindars. These deviant forms included the Mandali system where the whole village paid its dues through the village headman and the Sanja rent system, i.e. a sort of a rent in kind.³

¹ Borah, M. I. (tr. & ed.) — Mirza Nathan's *Baharistan-i-Ghaybi*, Vol. I, Gauhati, 1939.

² Firminger, W. K. — *Fifth Report of the Select Committee of the House of Commons on the Affairs of the East India Co.*, 1812. Vol. III, Calcutta, 1917; Sinha, N. K. — *The Economic History of Bengal*, Vol. II, Calcutta, 1962; Ray Chaudhury, Tapan — *Bengal During the Time of Akbar & Jehangir*, Calcutta, 1953.

³ Ghosh, Benoy — *Paschim Banger Samskriti*, Calcutta, 1957; Sen, Anukul Chandra & Chaudhuri, Narayan — *Barddhamān Parichiti*, Calcutta, 1973 B.S.; Mukhopadhyay, Rakhaldas — *Barddhamān Rajbansanucharit*, Burdwan, 1321 B.S.

It seems that in the new alluvial portions of the district, comprising the Sarkars Sulaimanabad and Sarifabad, the Mughal revenue management system became solidly entrenched in the reign of Shah Jahan and that the Sarkars were wholly integrated within the central administrative system of Bengal. Towards the end of Shah Jahan's reign a Kshatriya trader of Punjabi extraction residing in the village of Baikunthapur named Abu Rai was made the Kotwal and Chaudhuri of Rekabibazar and Moghultuli under the Foujdar of the Parganah of Barddhamān, in 1657. This was the beginning of the Zamindari of Barddhamān.¹

In the *Ain-i-Akbari* (A.D. 1590), Barddhamān is mentioned as a *mahāl* or *parganā* of Sarkār Sarifabād, and was, as then constituted, assessed at 46,903½ Akbarshāhi rupees of 175 grains troy of silver each. The present district area, however, at Todar Mal's settlement fell within various *sarkārs*, portions of which were afterwards amalgamated into one great zamindāri, including also the whole of Bankura and Panchet (Manbhum) together with parts of Hugli and Birbhum.

The settlement was revised in 1658 by Prince Shāh Shuja, the son of the Emperor Shah Jahan, and again in 1722 by Murshid Kuli Khan, better known as Nawāb Jafar Khān. In his settlement Barddhamān is mentioned as a '*Chakla*', comprising the *Sarkars* of Sarifabād, Madāran, the greater part of Salimabād or Sulaimanabād, and a portion of Sātgaon of Hugli, and included the great estates of the Barddhamān house, one-third of Birbhum, and the whole of Bankura and Panchet. The *Chakla* contained 61 *parganas*, and was assessed at a revenue of 22,44,812 *sikka* rupees. On the 27th September 1760, Barddhamān, which then contained an area of 5,174 sq. miles, and was described as being the most productive district within the whole Province or *Subah* of Bengal, was ceded to the East India Company, together with the districts of Medinipur and Chittagong, by Nawāb Mīr Muhammad Kasīm Khān, Governor of Bengal. By the Imperial *farman* which made the grant, the Company acquired the right of free perpetual tenure in the land, and these rights extended over the whole *Chāklā* of Barddhamān. This great zamindari when ceded to the Company, was estimated to yield a net revenue of 31,75,391 *sikka* rupees but for many years afterwards the Company's officers had the

¹ Mukhopadhyay, Rakhaldas — *op. cit.*; Sen, Anukul Chandra & Chaudhuri, Narayan — *op. cit.*

greatest difficulty in collecting even a portion of this sum. The first 'Superintendents' appointed by the Company were Mr. Johnstone, Mr. Hay and Mr. Bolts. Dissatisfied with the collections for 1760-61 they farmed out the estate at public auction for a period of three years with the result that the revenue was increased from Rs. 31,75,391 to Rs. 38,58,429, the total gross revenue from the district in 1765 being estimated at Rs. 44,84,049. The increase was, however, more apparent than real and it was not till 1771 that this revenue was realized in full.

A most interesting account of the early revenue history of the district under British rule is given in *Sharistadar Grant's* famous review of the revenues of Bengal, which is incorporated in the Fifth Report of the Select Committee on the Affairs of the East India Company. After comparing the zamindari of Bardhaman, "the most compact, best cultivated, and, in proportion to its dimensions, by far the most productive in annual rent to the proprietary sovereign", with the "boasted Hindoo territory of Tanjore" and the great zamindari of Benares he goes on to point the moral of his comparison, "This pre-eminence of the ceded British territory in financial circumstances, hath been attained chiefly in a period of ten years by repeated *hustabood* investigation, and bringing to the credit of the exchequer the *Keffyet* or profitable increase discovered to have been privately realized from the country by the zamindar and other intermediate Agents of Government, in addition to the *Jumma Ausil* and *Abwab* already authoritatively established. The Company's management of Burdwan is approved of on all sides, and by the most enlightened of our English financiers held up as an example worthy of general imitation. The circumstances which distinguished it were briefly as follows.

"In September 1760, the whole district, with all the other ceded lands, became subject to the British Government; it was rated proportionately, in the moment of transfer, by original and increased assessments, at a standard considerably higher than that of any other zamindari jurisdiction of the *subah*; yet then or afterwards, no diminution of its rental, such as was suddenly effected by M. R. Khan in 1765, could even have been dreamt of. On the contrary, with the extension of local knowledge, the revenues were progressively improved, and always surpassed the share that should be proportionately forthcoming. When Bengal altogether was rated at or yielded the largest income to the exchequer, before the Company's acquisition of the Dewanny,

First English
Superintendents

Messrs. Johnstone, Hay and Bolts, were the first appointed English Superintendents. They appear to have acquired an intimate knowledge of the resources and capacity of the country placed under their charge, insomuch as to ascertain the portions of the country cultivated, uncultivated, alienated, and most productive lands. In their researches, though aided by uncommon intelligence, they probably obtained the most satisfactory information through the custom, which then was tolerated, of admitting European farmers. They held a considerable part of the district in their own hands and were accused of selecting for themselves the most profitable parganas leased.

"In violation of the financial practice of the Mogul Empire, the rents of Burdwan were let at public sale in 1169 A.H. (1762) for three years to irresponsible temporary farmers, from whose engagements, if fulfilled, a *Keffyet* or annual profit would have accrued to Government of 13 lakhs of rupees above the aggregate assessments of *Ausil* and *Abwab*. The needy adventurers who became contractors at the sale of course failed in their agreements, and to crown the measures of imputed mismanagement, and impost of 9 annas per bigha was levied on all the *Bazee Zomeen* found in the district to make good the deficiencies of the stipulated *malgoozary*. The territory thus alienated, and ascertained by Mr. Johnstone, after an arduous scrutiny by 70 persons for eight months, in 1763-64 A.D., was 568,736 bighas, making near a fifth part of all the arable productive ground in the zemindary; which, estimated at 2 rupees per bigha, being the valued medium rent of all the lands in Burdwan, yield an annual income to the possessors of 11,37,472 rupees. These possessors are, undoubtedly, for the most part, the official land-owner himself clandestinely, his minions, and the *mutseddies* of the *Khalsa*; whose acquiescence to such collusive benefices, under the sanctified appellations of religious or charitable gifts, at different times became necessary, as they were in their nature wholly fraudulent and sure to be resumed if made known to the Mussulman Government. Mr. Johnstone, who had the principal part in all these transactions, was subjected to all the opprobrium that could hence be attached to his public character by the suggestions of his powerful political enemies, and of the aggrieved multitude, and was soon afterwards for those reasons prescribed by his ruling countrymen. Finally Mr. Verelst, in 1172 A.B. (1765) appointed Supervisor of Burdwan, profiting by the errors and local infor-

mation of his predecessors, his own financial experience matured by further *hustabood* investigations on the spot, restored the ancient system of managing the revenue an adherence to which brought back the most effective standard of the collections regularly in 1778, to the full amount of the supposed inflated contract price of the three years' settlement in 1171 (1764) fixed on the impolitic ground of extra farming, and ultimately involving a real instead of the nominal Keffyet or improvement before mentioned of 13 lakhs." According to Mr. Grant's analysis, the revenue of the zamindari when ceded to the British Government in 1760 amounted in all to *sikka* Rs. 31,75,391, after allowing for a deduction of *sikka* Rs. 51,543 on account of collection charges. This sum consisted of the "Ausil Jumma", the imperial revenue collected by Akbar and his successors which in 1722 amounted to *sikka* Rs. 23,07,277, and various *abwabs* or cesses imposed after that date by the subahdars of Bengal, amounting in all to Rs. 9,19,657. Of the latter, the most interesting was the *chouth mārāthā*, a cess imposed by Ali Vārdi Khān on the pretence of raising the well-known tribute exacted by these marauders from the Mahratha kingdom. In the year 1771, the gross revenue was increased to 43,28,509 *sikka* rupees and in 1783 to 43,58,026 *sikka* rupees. On these figures Mr. Grant in 1787 estimated the annual net revenue at *sikka* Rs. 40,00,000 after deducting Rs. 3,30,000 on account of charges. These charges included the *Salānāh mushāharā*, or proprietary allowance made to the Mahārājā, which was estimated at 10 per cent on the imperial revenue and amounted to *sikka* Rs. 2,30,000; *sikka* rupees 50,000 on account of collection charges; and *sikka* rupees 50,000 on account of embankment charges or *pulbandi*. This estimate was accepted as a basis for the Permanent Settlement, and in 1789 the Mahārājā executed an agreement to pay Government a land-revenue of 40,15,109 *sikka* rupees and 1,93,721 *sikka* rupees on account of *pulbandi*, making a total of 42,08,830 *sikka* rupees. But in spite of the Permanent Settlement, the affairs of the estate did not fully recover and the disastrous effects of the famine of 1770 and the bond of debt and arrears which it had left in its train were still felt. The estate fell into arrears. The disorganisation and mismanagement became so pronounced that Mahārānī Bishnu Kumārī, the mother of Mahārājā Tej Chandra, compelled him to execute a deed of sale assigning the entire estate to her. She was a woman of considerable business capacity and she might

ultimately have succeeded in saving the whole estate if her life had been prolonged. Many of the lands had been parcelled out among a large number of farmers or *ijārādārs*—the settlements extending from five to ten years. Most of these *ijārādārs* withheld payment and the proprietor found it wellnigh impossible to realize his rents through the courts with the same punctuality with which he was compelled to pay this Government revenue. The inevitable result of this sub-infeudation was the accumulation of arrears in the Government demand. In 1794, we find the Collector referring to the Board of Revenue a letter from the Maharaja complaining of his difficulties:—

"The difficulty I found in realizing the instalment *kist* of revenue for Agrahayan from the Maharaja induces me to listen to his earnest request of representing to you the hardship he sustains from one of his renters, who, destitute of good faith, and availing himself of the delay that necessarily attends the institution of law process for the recovery of arrears of rent, is encouraged to withhold from him his just dues. The Maharaja begs leave to submit for your consideration, whether or not it can be possible for him to discharge his engagements to Government with punctuality which the Regulations require, unless he is armed with powers as prompt to enforce payment from his renters as Government has been pleased to authorize the use of in regard to its claim on him. He seems to think that it must have proceeded from oversight rather than from any just and avowed principle, that there should be established two methods of judicial process under the same Government,—the one summary and efficient for the satisfaction of its own claim; the other tardy and uncertain in regard to the satisfaction of claims due to its subjects,—more especially in a case like the present, where the ability to discharge the one demand necessarily depends on the other demand being previously realized."* The translation of the Maharaja's protest which is annexed to the Collector's letter, will show the difficulties with which he had to contend.

"The arrear of rent on account of *pergunnah* Baleya, to the end of Pouse 1200 B.S., amounts to *sikka* Rupees 43,743, and the arrear on account of 1199, amounts to *sikka* Rupees 3,900, in all 47,643, now due from Barranessy Ghose, farmer of the *pergunnah*, who absents himself and fails in the performance of his engagements. I have many times represented his conduct

* Letter from the Collector of Barddhamān, 9th May 1794.

to the Hazoor, and twice made application to the Adawlat; but without obtaining any satisfaction of the demand. I therefore request the case may be represented to the Board of Revenue and application made to have the defaulter apprehended, and sent to the cutcherry, to discharge his engagements."

As a result of this reference Regulation XXXV of 1795 for better enabling individuals to recover arrears of rent or revenue due to them, and Regulations XXXVI and XXXVII of 1795 defining the powers of the Courts in relation to each other were passed, and the Governor-General in Council decided that the districts then comprised within the zilla of Burdwān should be formed into two districts with a separate Judge and Collector, for each. Those measures proved quite inadequate. The Mahārājā of Bardhaman was summoned to attend the Board of Revenue, and was threatened with the forfeiture of his estates but to no purpose. Munshi, afterwards Rājā, Naba Krishna Deb was appointed *kroak suzawal*, or attaching officer, but could do nothing. Matters finally reached a climax when the Collector of Burdwān, despairing of realising the sums due, suggested the sale of the estate in lots as the only way of recovering the arrears of revenue, and in 1797 the Board commenced selling portions of the estate each lot consisting of several villages. The principal purchasers of the lots thus sold were Dwarka Nath Singh of Singur, Chhaku Singh of Bhastara, the Mukherjis of Janai and the Banerjis of Telinipara. Thus was laid the foundation of the landed aristocracy of Burdwān and Hooghly. The Mahārājā, alarmed at the dismemberment of the estate, himself bought up several lots in the names of the officials and dependants, and on the death of the Mahārānī, which occurred about this time, resumed the management of the estate. The difficulty experienced by the Mahārājā in paying his revenue suggested to him the advisability of binding tenants to the same conditions to which he himself was bound by Government, and one of his acts was the creation of *patnī* tenures or perpetual leases, a measure which ultimately proved the salvation of the estate.

The main conditions of this tenure are the hypothecation of the land as security for the punctual payment of the rent, and the liability of the tenure to summary sale in the event of default. The *patnī* system gradually extended, and by 1825, nearly the whole estate of the Mahārājā was leased out in this manner. The *patnidārs*, finding how much trouble this mode of settlement took off their shoulders, created *dar-patnīs*, or

patnīs of the second degree, upon the same terms and with the same rights over the land as they themselves had; and the *dar-patnidārs* created *se-patnīs*, or *patnīs* of the third degree. The subordinate tenure-holders possess their land upon the same terms and subject to the same liabilities as the original *patnidārs*. When the *patnī* system was first introduced, the Mahārājā used to let the land to the highest bidders at public auction, held in his Revenue Court. In case of arrears, the lands were publicly sold in the Court, and as much of the arrears was recovered as their sale fetched. These transactions were sometimes ignored and set aside. The natural result was that great irregularity and confusion ensued. Under the Permanent Settlement the zamīndārs were declared to be entitled to make any arrangement for the leasing of their lands that they considered suitable. But by Regulation XLIV of 1793 such leases were subject to two conditions: first, that the rent should not be fixed for a period exceeding ten years and, second, that in a sale for arrears of Government revenue they should at once become void. Regulation V of 1812 rescinded the first restriction and Regulation XVIII of the same year distinctly declared that zamīndārs were entitled to grant leases fixing the rent in perpetuity. In practice, such leases, which were really *patnī* leases, had frequently been given. Before the passing of Regulations V and XVIII of 1812, however, such leases were illegal and even after that date it was doubtful whether such as had been formerly created in contravention of the provisions of Regulation XLIV of 1793 were valid.

Ultimately, in 1819, at a suggestion by the Mahārājā, the Board of Revenue recognized all *patnī* tenures by a regular legal enactment, and Regulation VIII of 1819 was passed with this object. The preamble to the Regulation describes the history, incidents, and peculiarities of this tenure as follows:

"Furthermore, in the exercise of the privilege thus conceded to zamīndārs under direct engagements with Government, there ~~has been created~~ a tenure which had its origin in the estates of the Mahārājā of Burdwān, but has since been extended to other zamīndārs. The character of this tenure is that it is a *tāluk* created by the zamīndār, to be held at a rent fixed in perpetuity by the lessee and his heirs for ever; the tenant is called upon to furnish collateral security for the rent, and for his conduct generally, or he is excused from this obligation at the zamīndār's discretion; but even if the original tenant be excused, still, in

case of sale for arrears, or other operation leading to the introduction of another tenant, such new incumbent has always in practice been liable to be so called upon at the option of the zamindār. By the terms, also, of the engagements interchanged it is amongst other stipulations provided that in case of an arrear occurring, the tenure may be brought to sale by the zamindār. And if the sale do not yield a sufficient amount to make good the balance of rent at the time due, the remaining property of the defaulter shall be further answerable for the demand. These tenures have usually been denominated *patni taluks*; and it has been a common practice of the holders of them to underlet on precisely similar terms to other persons, who on taking such leases went by the name of *darpatni-talukdars*; these, again, sometimes similarly underlet to *se-patnidars*. The conditions of all the title-deeds vary in nothing material from the original engagements, executed by the first holder. In these engagements, however, it is not stipulated whether the sale thus reserved to himself by the granter is for his own benefit or for that of the tenant, that is, whether in case the proceeds of sale should exceed the zamindār's demand of rent, the tenant would be entitled to such excess; neither is the manner of sale specified; nor do the usages of the country nor the Regulations of Government afford any distinct rules, by the application of which to the specific cases the defects above alluded to could be supplied, or the points of doubt and difficulty involved in the omission be brought to determination in a consistent and uniform manner. The tenures in question have extended through several districts of Bengal, and the mischiefs which have arisen from the want of a consistent rule of action for the guidance of the Courts of Civil Judicature in regard to them have been productive of such confusion as to demand the interference of the Legislature."

Section 3 of Regulation VIII of 1819 accordingly declared that 'the tenures known by the name of *patni taluks* as described in the preamble to this Regulation, shall be deemed to be valid tenures in perpetuity, according to the terms of the engagement, under which they are held. They are heritable by their conditions; and it is hereby further declared that they are capable of being transferred by sale, gift, or otherwise, at the discretion of the holder, as well as answerable for his personal debts, and subject to the process of the Courts of Judicature, in the same manner as other real property'. The Regulation also vested *patni talukdars* with the right of letting out their *taluks* in any

manner they might deem most conducive to their interest, and the engagements so entered into by them were declared legal and binding.¹

The tenure system was simple. Nearly 80 per cent of the land in the district was let out in *patni*. Most of these *patnis* comprised either a whole mouza or several mouzas added together.²

It appears that the Bardhaman district reached a high state of development in revenue matters even before the Permanent Settlement and rents of many ryots had remained unaltered from that time.

The north-eastern portion of the district adjacent to the districts of Nadia and Murshidabad showed certain special features, viz. existence of *utbandi* tenures and *poali jamā*. The holding in *utbandi* tenancy is not fixed either in area or in position but consists of a valuable parcel or parcels of land ascertained by measurement or inspection made at least once a year. The rent is paid for each year or season in respect of the parcel or parcels of land as ascertained by the measurement or inspection to have been under cultivation by the ryot. The legal disadvantage of the *utbandi* tenant was that by the provisions of Section 180 of the Bengal Tenancy Act he was prevented from securing occupancy right. In times when the number of cultivators available was less than the available land, the *utbandi* system was advantageous both to the tenant and to the zamindar. Later, when competition for land grew the *utbandi* system gave rise to several evil effects. It put a discount on enterprise by taxing the more valuable crops and giving no security of tenure. It often left the tenants in perpetual uncertainty about his true liability. In 1923, the Bengal Tenancy Act was amended and Section 180(A) added, thus removing the legal difficulty in the way of acquisition of occupancy right by the *utbandi* tenants. The *poali jamā* was a curious tenancy found only in a few villages in the north-east of the district appertaining to the estates of late Baikuntha Nath Sen of Bardhaman. The tenants under this system paid a small cash rent and half the produce.³

TENURES AND
TENANCIES ON THE
EVE OF THE ESTATE
ACQUISITION ACT

Tenancies

Peterson, J.C.K. — *Bengal District Gazetteers, Burdwan*, Calcutta, 1910, pp. 144-51.
Hill, K.A.L. & Banerjee, P.K. — *Final Report on the Settlement & Survey Operations in the District of Burdwan 1927-1934*, Calcutta, 1940.
ibid.

Under-ryots

Non-agricultural holdings

Most of the under-tenants had by custom the right of occupancy in the holdings which contained their homesteads.¹

1. Sarti mokarari: This kind of holding was found mostly in Barddhamān town and in Kalna. The rent was not liable to enhancement during the continuance of the lease. But it was liable to be terminated at any time by the landlord if he required the land for his own use. In case of termination compensation was due for the structures erected on the land by the tenant. In practice the landlord seems never to have exercised his option.²

2. Panchaki: Such tenures were found only in some mouzas, in Khandaghosh thana. These were held at a very low rent and were permanent mokarari by custom. Their origin is obscure.³

3. Begar: Under this system *bāstu* lands were given to poor people. It was more prevalent in the western part of the district than elsewhere. There was no rent payable in cash, but in lieu of rent the tenant had to give a number of days' labour in a year without wages.⁴

Chakran lands

1. The Ghatwali chakran: Originally, these *chakrans* were granted to persons for guarding the *ghats* or passes over the hills for entry into the zamindari. The duty of the ghatwals who formed a series of army posts was to repel raiders from outside.⁵

2. Thanadari lands: The *firman*s of the Mughal Emperors enjoined on the zamindar the duty of maintaining public peace and tranquility and of suppressing robbers and thieves. For the performance of such duties the Raja of Barddhamān had set up thanas and chowkies in his zamindari, giving land to thanadars in lieu of service. In 1782, there were 100 thanas and 422 subordinate chowkies under the Raja. With the reforms of Cornwallis, the thanas and the police force came under the direct control of the East India Company and an area stated to have been 9,896 bighas of thanadari lands was assessed to a revenue of Rs. 15,743 and added to the malguzari land of the Barddhamān zamindari.⁶

Chowkidari & Paharadari Chakran tenure

At the time of the resumption of *Thanadari* land with the formation of modern police thanas under Cornwallis' Reforms, another kind of personnel for the maintenance of law and order at the village level called *Chowkidars* were allowed to retain service tenures over their *Chakran* lands. A similar service tenure was known as *Paharadari* tenure. *Chowkidari* and

¹⁻⁶ Settlement Report.

Paharadari lands began to be resumed after the enactment of Village Chowkidari Act of 1870. The *Chowkidars* and *Paharadars* in the employ of the zamindars were made the servants of the state and began to be paid in cash.¹

The origin of the *Simanadari Chakran*, another kind of service tenure, is lost in obscurity. Before the resumption of this kind of *Chakran* land, these were found to be in existence in Asansol Sub-division and areas to the south of the Damodar. In the resumption proceedings these were treated as *Chowkidari Chakran*. The resumption of these lands began in 1815 and continued till 1821.²

Simanadari

Besides the service tenures, other rent free tenures included *Devottar* for the services of Hindu deity, *Brahmottar* for the services rendered by Brahmin priests and *Ayma* for the services to Islam rendered by devout Muslims.

Other rent free grants

Before we go into the details of the present system of land and land revenue management, it is necessary to discuss the reasons why the system initiated by the British in 1793 known as Permanent Settlement had to be discontinued. The system was found to be; (1) unproductive and incapable of sustaining agricultural growth, and (2) inequitable and unjust. It was unproductive because the ryots and the actual tillers of the soil who had to pay high rent were left with very little income to invest for the betterment of the land and agriculture. On the other hand, the revenue paying zamindar or talukdar were little interested in investing anything for the betterment of land and agriculture, and preferred to spend almost all their unearned income in conspicuous consumption. The zamindars could not even collect their rent from the ryots of their *farflung* zamindari; so they rented out parts of their zamindari to *pattanidars*. At times there would be six or seven intermediaries between the zamindar and the ryot. While the revenues payable to the Government by the zamindars were fixed in perpetuity, the rent paid by the ryots were not fixed and these were raised from time to time.

Land Reforms

To mitigate the effects of such an unproductive and inequitable system, the West Bengal Estate Acquisition Act of 1953 was passed, annulling the Permanent Settlement of 1793. The West Bengal Land Reforms Act was passed in 1955.

^{1,2} *ibid.*

PRESENT SYSTEM
OF SURVEY,
ASSESSMENT AND
COLLECTION OF
LAND REVENUE,
ETC.

Land Reforms

The West Bengal Estates Acquisition Act of 1953 came into force in two stages, in April 1955, and in April 1956 and intermediary rights in land thus ceased to exist. The actual tiller of the soil thus came in direct relation with the State and he became a tenant of it.

The West Bengal Estates Acquisition Act of 1953 and the West Bengal Land Reforms Act of 1955 provided for the abolition of intermediary interests in land thus bringing all *ryots* under the State. According to these two Acts the ex-intermediaries can retain upto 25 acres of agricultural and 15 acres of non-agricultural lands in their *khas* possession. These ceilings also apply to all tenants. The lands held in excess of ceilings have vested in the State for distribution among landless labourers and cultivators having uneconomic holdings. The procedure of distribution of such land along with some other relevant provisions has been laid down in the West Bengal Land Reforms Act of 1955.

The West Bengal Land Reforms (Amendment) Act of 1971 brought down the previous ceiling of 25 acres per individual in respect of agricultural land to a lesser area per family. The maximum is seven standard hectares (about 20 *bighas*) and the minimum is 2.50 standard hectares, according to the number and nature of members of the family. There was a High Court case over this new ceiling and the case is sub-judice.

After the passing of the West Bengal Estate Acquisition Act in 1953 and the West Bengal Land Reforms Act in 1955* a Revisional Survey and Settlement Operation was undertaken from the attestation stage to prepare new record of rights and to ascertain the amount of compensation to be paid to the old intermediaries whose interests had been acquired by the State. A sum of Rs. 50,45,197 has been paid as compensation to the ex-intermediaries of the district during the period from January 1972 to February 1974. A sum of about Rs. 2 crores is yet to be paid to the remaining ex-intermediaries. The task of collection of land revenue rests with an Additional District Magistrate and Collector in charge of Land Revenue. He is assisted by five Senior Land Revenue Officers, each in charge of one subdivision, namely, Bardhaman Sadar, Kalna, Kātoyā, Durgapur and Asansol.

For the purposes of land revenue assessment, imposition and collection the district is divided into thirty-four Land Revenue

* For the progress of Land Reforms, see the Appendix at the end of the Chapter.

Circles. Each Land Revenue Circle is headed by a Junior Land Revenue Officer. The imposition and collection of land revenue and cesses on mines is the responsibility of a special Junior Land Revenue Officer in charge of Asansol Land Revenue Circle for Mines and Minerals. Following is a table of demand and collection of land revenue in the district for some years.

Year	L. R. Demand	L. R. Collection
1969-70	Rs. 76,41,007.56	Rs. 39,89,789.29
1970-71	Rs. 81,10,027.15	Rs. 28,96,268.61
1971-72	Rs. 1,01,63,907.73	Rs. 32,07,590.10
1972-73	Rs. 97,71,938.48	Rs. 31,23,243.97

The following is a statement on income-tax insofar as these concern Bardhaman district for a number of years. The figures have been made available by the Commissioner of Income-Tax, West Bengal.¹

Year	No. of assesseees	Demand raised in '000 Rupees	Collection made in '000 Rupees including arrears
1961-62	6,239	7,204	8,184
1962-63	7,222	8,815	8,364
1963-64	7,885	8,963	8,957
1964-65	10,466	6,307	10,147
1965-66	9,074	10,254	11,710
1966-67	12,806	13,586	12,573
1967-68	15,675	15,474	13,575
1968-69	17,137	12,918	13,324
1969-70	18,803	13,683	23,277

Agricultural Income-Tax is levied, administered and collected by the State Government.² The table below contains the relevant particulars.

Year	No. of assesseees	Demand raised in Rupees	Collection made in Rupees
1965-66	1,888	3,03,851	3,13,695
1966-67	1,917	2,95,753	2,88,418
1967-68	1,920	2,88,908	3,17,504
1968-69	1,950	3,98,064	3,63,992
1969-70	1,985	4,19,756	3,79,411

¹ Source : Income Tax Officer, Budget & Statistics, West Bengal.

² Source : Commissioner of Agricultural Income-Tax, West Bengal.

Central
Excise

The table following prepared on the basis of data provided by the Collector of Central Excise & Customs, gives the figures of revenue proceeds from Excise Duties levied by the Central Government, from the district in three selected years.¹

STATEMENT SHOWING COMMODITY-WISE CENTRAL EXCISE
REVENUE REALISED DURING THE YEARS 1961-62, 1966-67 & 1970-71
(in rupees)

Name of commodity	1961-62	1966-67	1970-71
Tobacco	23,78,931	26,00,627	29,80,215
Motor spirit	72,098	1,88,337	2,69,68,931
Kerosene	—	—	88,55,775
R.D. oil	—	—	6,78,66,932
Paints & Varnishes	2,17,470	5,55,334	6,21,716
Caustic soda	—	—	1,60,404
Sodium silicate	—	—	4,93,664
Sulphuric acid	—	1,03,570	2,37,108
Fertilizer	—	—	15,44,227
Paper	51,28,678	76,88,863	96,97,537
Rayon yarn	—	—	1,36,059
Cotton yarn	—	—	1,72,770
Cotton fabrics (P.L.)	—	21,684	11,454
Glass & Glassware	7,24,764	30,67,710	35,11,031
China & porcelainware	6,875	3,640	6,480
Pig-iron	23,81,490	1,62,31,149	1,99,51,483
Steel ingot	—	25,20,957	70,18,755
Iron & steel products	3,64,44,257	16,45,773	16,14,42,885
Aluminium	11,16,749	37,50,243	1,15,42,253
Radio sets	—	—	60
Electric wires & cables	—	32,87,331	44,07,817
Metal container	—	—	54,363
Biscuits	—	—	—
V.N.E. oil	5,101	—	—

¹ Source : Collector of Central Excise and Customs, West Bengal.

The following table prepared from the data provided by the Commissioner of Excise, West Bengal, gives the revenue proceeds of State Excise duties collected from Barddhamān district in three selected years.

State Excise

Commodities	Revenue collected in Rs.		
	1950-51	1960-61	1970-71
India made foreign spirit & liquors	1,93,736	6,53,982	20,00,051
Country spirit	29,56,519	48,35,050	1,30,49,264
Pachwai	19,78,177	23,94,414	16,30,666
Todi	71,674	85,245	1,55,313
Commercial spirit	—	26,070	11,550
Medicinal & toilet preparation	1,53,168	—	35
Opium	5,45,494	30,369	8,468
Ganja	2,33,590	72,693	1,01,394
Bhang	35,478	28,901	23,368
Miscellaneous commodities & fines	78,103	64,079	1,14,971

A Superintendent of Excise is in charge of the administration of State Excise in the district.

The most important source of revenue for the State Government are the Commercial Taxes. The district is divided into two charges for the purposes of imposition, administration and collection of Commercial Taxes, namely, the Barddhamān charge and the Asansol charge.

Commercial
Taxes

The Bengal Finance (Sales Tax) Act was passed in 1941 and came into operation in this district on 1.7.1941. In 1970-71, there were altogether 2,403 registered dealers under the purview of the Act; 1,353 dealers were in Asansol charge and 1,050 dealers in Barddhamān charge. In the same year the revenue proceeds amounted to a sum of Rs. 1,47,63,226, i.e. Rs. 1,26,40,947 came from Asansol and Rs. 21,22,279 from Barddhamān.

West Bengal Sales Tax Act was enacted in 1954 and came into operation in this district on 28.4.1954. In 1970-71, there were 70 registered dealers in the district under this Act; 62 in Asansol and 8 in Barddhamān. Revenue proceeds from the tax in the district, in the same year amounted to Rs. 3,21,370; Rs. 3,02,159 came from Asansol and Rs. 19,211 from Barddhamān.

Bengal Motor Spirit Sales Tax Act came into existence in 1941. In 1970-71, there were 164 registered dealers in the district; 117 were in Asansol and 47 were in Barddhamān. In the

same year the revenue proceeds of the tax amounted to Rs. 47,97,064 ; Rs. 33,46,934 was collected from Asansol and Rs. 14,50,080 from Barddhamân.

Bengal Raw Jute Sales Tax Act came in force in 1941. In 1970-71, there were no registered dealers in the district under the Act and no revenue was collected on account of this tax.

West Bengal Tax on Paddy purchased by rice mills came into operation in 1970. In 1970-71, there were altogether 124 rice mills in the district which came under the purview of the Act ; 117 were in Barddhamân and 7 were in Asansol. The total collection from the tax was Rs. 7,03,651 in 1970-71.

The Central Sales Tax Act came into force in 1956. In 1970-71, altogether 1,094 dealers came under the purview of the Act ; 772 of them came under the Asansol charge and 322 under Barddhamân charge. In the same year the revenue proceeds amounted to Rs. 1,47,63,226, of which Asansol's share amounted to Rs. 1,26,40,947 and Barddhamân's to Rs. 21,22,279.

Entertainment
Tax

The District Collector is in the charge of administration of Entertainment Tax.

Given below is a statement on revenue proceed of this tax in the district from 1961-62 to 1970-71.

Year	Entertainment Tax receipts in Rs.
1961-62	3,62,936.64
1962-63	4,22,422.50
1963-64	4,48,000.45
1964-65	5,62,281.70
1965-66	6,77,130.79
1966-67	7,12,693.10
1967-68	7,91,173.45
1968-69	7,13,823.64
1969-70	8,20,221.04
1970-71	8,05,400.00

Other important sources of revenue for the State Government, administered by the district Collector include Tax on Motor Vehicles and Duty on the Consumption of Electricity.

Non-Tax
revenue

The State Government earns some revenue from sources other than taxes. Among these, mention should be made of receipts from the sale of Judicial and Non-Judicial Stamps and Fees on Registration of deeds and documents, etc. Given below is a statement on the number of documents registered and receipts and expenditure in terms of rupees from 1961 to 1971.

Year	Documents registered	Receipts Rs.	Expenditure Rs.
1961	1,09,459	6,29,644	2,02,877
1962	1,15,191	6,70,374	2,38,778
1963	1,25,413	7,95,791	2,44,039
1964	1,11,734	9,36,423	2,72,072
1965	1,15,491	11,34,106	3,19,889
1966	1,17,214	12,25,277	3,51,311
1967	1,38,184	15,27,619	4,82,345
1968	1,38,242	16,46,811	5,92,103
1969	1,26,758	15,01,537	7,17,283
1970	1,07,480	12,70,671	6,36,300
1971	1,17,392	14,20,001	6,59,293

APPENDIX I

PROGRESS OF LAND REFORMS IN BARDDHAMĀN DISTRICT
(LAND REDISTRIBUTION UNDER E. A. & L. R. ACTS)

Progress upto	Acreage of agricultural land vested	Acreage of agricultural land distributed	Total number of Beneficiaries	Scheduled Caste Beneficiaries	Scheduled Tribe Beneficiaries
31.12.1978	75,967	28,743	62,689	25,879	12,517
30.4.1980	77,624	31,659	75,739	32,932	14,840
31.12.1981	78,502	36,853	93,920	42,135	18,187

Recording of Bargadars under L. R. Act
as amended in 1972

Progress upto	Number of beneficiaries
31.1.1978	36,805
30.4.1980	65,223
31.12.1981	87,226

CHAPTER XI

LAW, ORDER AND JUSTICE

In the latter half of the 18th century, dacoity was greatly prevalent in the district. According to an estimate made by the Magistrate of Birbhum in 1769 there were then 2,000 dacoits in Birbhum, Barddhamān and Rajshahi. "These marauders, taking full advantage of the unsettled state of the country collected in large bodies, and on one occasion the officer charged with the duty of arresting one of their leaders asked for a battalion of sepoys and a howitzer. Frequently, they were actively aided and abetted by the local zamindars or their servants. Of the dacoities committed in 1819 we read that one-half occurred in the estates of the Maharaja Pratap Chand Bahadur of Burdwan, 'a powerful and contumacious individual'. But in his estates not a single dacoit was tried or apprehended. And in the next year the pargana of Burdwan was actually attached by the orders of the Magistrate of Birbhum, as the zamindar would not appear to answer a charge of declining to aid the Police."¹ Dacoity continued unabated even in the first decade of the present century and it was frequently attended with murder.² Coming to a quantitative assessment of its incidence, we find that in 1869 dacoity cases numbered only 10 but the figure rose to 97 in 1969.³ The following table gives the respective figures of cognizable, non-cognizable offences and their proportion to area and population during 1869 and 1969.⁴

INCIDENCE OF
CRIMES

	No. of cognizable offences reported	No. of non-cognizable offences reported	Total
1869	1,494	2,324	3,818
1969	7,204	3,297	10,501
Proportion of crime to area (in sq. miles)	1869 1 to 1.8	1 to 1.1	1.4 to 1
	1969 1 to 0.38	1 to 0.82	3.9 to 1
Proportion of crime to population	1869 1 to 666	1 to 419	1 to 255
	1969 1 to 533	1 to 1165	1 to 366

¹ Peterson, J. C. K. — *Bengal District Gazetteers: Burdwan*, Calcutta, 1910. pp. 162-63

² *ibid.*, loc. cit.

^{3,4} Source : Report on the Police of the several districts of the Lower Provinces, 1869 and current report of Deputy Inspector General of Police, West Bengal.

It appears from the above table that the over-all crime situation in the district did not become alarmingly disproportionate to the growth in population during the past hundred years, especially if we take into consideration the fact that the district in 1869 and 1969 did not comprise identical territories and also the vast the growth of industries and consequent urbanisation, especially in recent years. However, incidence of certain categories of heinous crimes like murder and sex-crimes have recorded steep rise since 1961, as the table below would indicate.¹

Year	Dacoity	Burglary	Cattle theft	Ordinary theft	Murder	Sex-crime
1961	86	944	38	2,874	53	7
1966	87	1,063	26	2,580	60	23
1969	97	790	14	2,738	81	72

In 1969, this district had 8.82 per cent of the total population of the State of West Bengal. In this context, a comparison between the incidence of crime in this district and the whole of West Bengal may be interesting. Taking all the above categories of crimes together, the district's share over the identical period of 9 years, was 11.5 per cent of the total incidence of crime in the State. On the basis of 9 years' averages (1961-1969), the district compares with the State's totals (excluding Calcutta) in the following manner: dacoity 13.9 per cent, burglary 10 per cent, cattle theft 3.7 per cent, ordinary theft 12.7 per cent, murder 11.1 per cent and sex-crimes 4.5 per cent.

RAILWAY CRIMES

Year	Dacoity	Robbery	Burglary	Murder	Theft*	U/S 109 Cr. P.C.	U/S 3 & 4(1) of Bengal Criminal Law Amendment Act
1961	2	6	10	0	565	214	521
1966	2	1	0	0	451	305	535
1970	2	5	0	5	588	452	685

¹ Source : Deputy Inspector General of Police, C.I.D., West Bengal.

* Under the heading falls theft in running goods trains, goods trains in yards, running passenger trains, waiting rooms, pick-pocketing and thefts of various other types.

The preceding statement gives relevant information regarding crimes committed in railways under the control of the Government Railway Police at Barddhamān, Asansol, Andal and Katoya during the years 1961, 1966 and 1970.

The increased participation of the State in the matter of transportation and distribution of food-stuffs and other essential commodities led to the promulgation of a new set of laws during the last two decades or so which do not fall within the main crime statute, the Indian Penal Code, but their infringement is no less significant to the society. The numbers of this new type of offences in the district during 1967, 1968 and 1969 were 1381, 1735 and 663 respectively as against 17,843 14,572 and 7,408 in the State during the same period.

Any discussion on the incidence of crime is liable to be incomplete unless the apprehension figures are reviewed against conviction statistics. The following table gives the relevant figures of cases lodged with the police and magistrates, cases prosecuted and cases convicted by courts during the period 1967-1969.¹

Year	Cases lodged		Cases prosecuted		Cases convicted by courts	
	G.R.	Non-G.R.	G.R.	Non-G.R.	G.R.	Non-G.R.
1967	7,687	3,729	5,697	4,114	479	2,330
1968	6,722	4,648	5,278	3,255	316	3,126
1969	7,204	3,297	5,440	3,660	409	2,032
Average of these three years	7,205.3	3,891.6	5,471.6	3,676.3	401.3	2,496

It is worthwhile to note the system of police administration in the district before it was supplanted by a regular police force under the British rule. In 1657 A.D., Abu Rai of the Barddhamān family was appointed the Kotwal of Rekabibazar and Mughaltuli of Barddhamān town under the Faujdar in recognition of his services in the matter of supply of provisions to the army of the Emperor of Delhi.² In 1694, Krishnaram Rai, a great grandson of Abu Rai, was conferred the zamindary of

¹ Source : Deputy Inspector General of Police, C.I.D., West Bengal.
² Mukhopadhyay, Rakhaldas — *Barddhaman-Rajbansanucharita*. Burdwan, 1321 B.S., pp. 2-3. He was also accorded the title of Chaudhuri.

Railway Crime

Enforcement

Prosecutions and convictions

ORGANIZATION OF THE POLICE FORCE

Barddhamān as also the title of Chaudhuri by a *firman* from the Mughal Emperor Aurangzeb.¹ The general preservation of law and order was the responsibility of Faujdars who represented the executive and military authority of the Government within the limits of their respective *sarkars* and for this purpose they maintained a contingent of sepoys whose number varied from 500 to 1,500.² Among the districts where a Faujdar was appointed, Barddhamān was one.³ Besides, inferior officers called thanadars, assisted by a small number of 'burkandazes' or armed guards, were appointed for each thana under the control of local shikdars who in their turn were directly subordinate to the Faujdars.

Another organisation for the maintenance of peace and order in the country was the zamindary establishment, an innovation of the Mahomedan rule. Zamindars were appointed by the State to collect revenue, and conduct the civil and criminal administration of the provinces committed to their charge and a large establishment was placed at their disposal for the purpose. This system probably worked well so long as the central administrative machinery was strong and effective. Both the faujdary and zamindary police worked in harmony and in the exercise of police duties the zamindars appear to have been subordinate to the Faujdar who was in charge of a 'pergunnah' comprising many zamindaries. With the decline of the Mughal empire, the zamindars tried to be independent of Faujdars and things came to such a pass that by 1773, far from maintaining peace and order in their localities, the zamindars themselves 'too frequently protected the criminals'.⁴

At the time when the Chakla of Barddhamān came into the hands of the British Government in A.D. 1760, there were, under the orders of the Maharaja, three distinct bodies for protection of the country from external aggression or internal disturbance and crime. These were first, a military force, who received cash salaries from the Rajah's treasury, and who were, therefore, known by the name of 'nagdees'; second, a regular police force, officered by thanadars and naib thanadars and comprising in its ranks chaukidars, paiks and peons; and third, a body of paiks who discharged the double duty of collectors

¹ *Ibid.*, pp. 4-5.

² Misra, B. B. — *The Central Administration of the East India Company, 1773-1834*. Manchester, 1959, pp. 302-03.

³ Khan, Saiyid Ghulam Hussain — *Seir-ul-mutakherin*, Vol.—III, pp. 178-79.

⁴ Proceedings of the Governor-General in Council, April 19, 1774.

of rent and of village watchmen, and were commonly known as the "*mal saranjami*" or "*gram saranjami*" paiks. The latter two classes were supported by assignments of rent-free land.¹ The strength of the first category was reduced since 1787 and the Collector in a letter to the Board reported that he could not discover that the Raja "had ever...maintained troops or bodies of men for the purpose for which it was intended."² Writing in 1866 McNeile characterised the personal guards entertained by the Rajah as the "existing representatives of the old nugdees."³ The second or the thanadari force was superseded by the regular district police and sank to the level of the third force or *gram saranjami paiks* performing zamindary as also police duties and formed the rural police force or the village watch of the district.⁴

It appears from an account given by Frederick John Shore in 1837 that an average police station then had one darogah, one writer, one jamadar and about 12 burkandazes.⁵ In 1838, a Police Committee constituted under the chairmanship of W.W. Bird with a view to improving the Mofussil Police and to drawing up a plan for the more efficient organization of that body in Bengal, submitted that the worst defects of the existing system were the union of executive and judicial functions in the same body and its centralised administration and recommended that there should be a separate police force under a Superintendent and Assistant Superintendent in each district. Its recommendation regarding the separation of judicial and executive functions was accepted, but was not implemented until the passage of the Act V of 1861 and that too on the recommendation of the Police Commission of 1860 which advocated constitution of a unified force under an Inspector General of Police with a European Superintendent of Police in each district who was to be departmentally subordinate to the former but locally placed under the District Magistrate. The direct command and control of all police establishments in the district was vested in the Superintendent who in turn was to be under the administrative and judicial control of the District Magistrate. The police organisation laid down in 1861 is substantially the same to day.

¹ McNeile, D. J. — *Report on the Village Watch of the Lower Provinces of Bengal*. Calcutta, 1866, p. 82.

² Letter from the Collector to the Board of Revenue No. 299 dated 9th May 1837.

³ McNeile, D. J. — *ibid.*, p. 85.

⁴ Hunter, W. W. — *A Statistical Account of Bengal*, Vol. IV. London, 1876, pp. 147-149.

⁵ Shore, F. J. — *Notes on Indian Affairs* (1837). Vol. II, pp. 378-95.

Present Police
Personnel

The Barddhamān District Police force is under the Superintendent of Police who is assisted by three Additional Superintendents of Police at Sadar, Durgapur and Asansol, six Deputy Superintendents of Police—one each at Sadar, at Asansol, for Discipline and Training, for District Intelligence Branch, for District Enforcement Branch and for Statutory Rationing, Asansol and three Subdivisional Police Officers at Kalna, Kāṭoyā and Durgapur. There are also 26 Inspectors, 248 Sub-Inspectors, 251 Assistant Sub-Inspectors, 3 Jamadars, 130 Head Constables, 49 Paiks and 2,657 Constables, a total force of 3,377 men representing one policeman to every 0.8 square mile and to every 1,161 of the population. For the purpose of Police administration, the district is divided into nine Police Circles, namely, Sadar 'A', Sadar 'B', Kalna, Kāṭoyā, Asansol, Raniganj, Hirapur, Chittaranjan and Durgapur and twenty-nine police stations. The following statement gives the distribution of the police stations into their respective circles in each of the subdivisions of the district.

Sadar Subdivision

Sadar 'A' Circle :

Barddhamān P.S.

Galsi ..

Ausgram ..

Bhatar ..

Sadar 'B' Circle :

Khandaghosh P.S.

Memari ..

Raina ..

Jamalpur ..

Kalna Subdivision

Kalna Circle :

Kalna P.S.

Purbasthali ..

Manteswar ..

Kāṭoyā Subdivision

Katoya Circle :

Kāṭoyā P.S.

Ketugram

Mongalkote ..

Asansol Subdivision

Asansol Circle :

Asansol P.S.

Raniganj Circle :

Jamuria P.S.

Raniganj ..

Hirapur Circle :

Barabani P.S.

Hirapur ..

Chittaranjan Circle :

Kulti P.S.

Salanpur ..

Chittaranjan ..

Durgapur Subdivision

Durgapur Circle :

Durgapur P.S.

Andal ..

Faridpur ..

Kanksa ..

Bud Bud ..

Coke-oven ..

New Township ..

The total cost of the district police establishment including allowances and contingencies was 1,26,91,055 during 1972-73.¹

The Superintendent of Police is also *ex-officio* Additional Superintendent of Railway Police and commands the G.R.P. forces employed for the enforcement of the provisions of the Indian Railways Act of 1890 within the district. The G.R.P. stations are located at Barddhamān, Andal, Asansol and Kāṭoyā, and platform posts at Durgapur, Raniganj and Sitarampur. The strength of the railway police in the district consisted of 10 Sub-Inspectors, 9 Assistant Sub-Inspectors, 1 J.C.O., 17 Head Constables and 135 Constables during 1970.²

Besides the regular police set-up, there are semi-official organisations with analogous objectives like the National Volunteer Force, Home Guards, etc., the personnel of which are recruited from the local people, usually on a part-time basis. The N.V.F. was employed very successfully during the National Emergency in 1965 and is now engaged in anti-smuggling and inter-district foodgrain cordoning duties. The Home Guards are like-wise employed in anti-smuggling duty in connection with cordoning and also during certain important festivals.

Though not falling within the ambit of the regular police force, the rural police consisting of Chaukidars and Dafadars is a legacy of the past and may be said to be the survivals of the old bodies like *gram saranjami paiks*, *burkandazes*, *pharidars*, *ghatwals*, etc. who held lands in return for police service. The majority of these were replaced by paid Chaukidars under Act VI of 1879 — though the process of constituting them into a separate force began with the passage of Bengal Chaukidari Act of 1861 — and the Chaukidari and Ghatwali lands were resumed and resettled with the zamindars. These men are now under the Anchal Panchyats. There were 212 dafadars and 1,717 chaukidars in the district in 1968-69³

The earliest reference to the existence of a prison in this district is traceable in Kavikankan Mukundaram's *Chandi-mangal*, a work of circa 1600 A.D. It is stated therein that a merchant named Dhanapati was confined to prison for his failure to show the king 'Kamale-Kamini'.⁴ Raygunakar Bharatchandra's

¹ Source: Superintendent of Police, Barddhamān.

² Source: Superintendent of Police, G.R.P., Howrah.

³ *Annual Administrative Reports Of The Panchayati Raj Bodies* for the Year 1968-69.

⁴ Chakraborty, Kavikankan Mukundaram — *Chandimangal* (edited by B. B. Bhattacharyya). Calcutta, 1966, pp. 253-54.

Railway Police

National Volunteer
Force & Home
Guards

Rural Police :

JAILS AND LOCK-UPS

History

Vidyasundar (a work composed in 1752 A.D.) also refers to the existence of a prison in this district where thousands of thieves and dacoits were kept confined.¹ It is interesting to note that both the works, whose dates of composition differ by a century and a half, specifically mention that the prisoners had to maintain themselves by begging in the town throughout the day under the vigilance of the paiks. Bharatchandra himself was arrested, while on an errand in Barddhamān and was condemned to prison-life, but he managed to escape to Medinipur.² But it was not until about the middle of the 19th century that we get a somewhat clear account of jails of the district.

The daily average number of prisoners in 1872, after the transfers from Hugli and Bankura, was 263.78 (including 20.11 females) which gives one prisoner always in jail to every 7,713 of the total district population, one male prisoner to every 4,086 of the male population and one female prisoner to every 51,662 of the female population.³ In 1872, the figure of death was given at 15 or 7.18 per cent of the average jail population. The Inspector General of Jails found in January 1872 a large number of prisoners in an anaemic condition, many in hospitals suffering from fever and several others showing signs of weakness with manifest symptoms of scurvy. "Cholera was sporadic... during the year and dengue fever was violent, but there was no care of either in the jail." The jail was housed in a long masonry building, divided into numerous well-ventilated compartments having arched roofs. The prevailing low tone of the health of the prisoners adversely affected the manufacturing department. Writing in 1910, Peterson mentions only manufacture of mustard oil, *daris* and carpets, *newar* tape and wheat flour as the industries carried on in the Barddhamān jail.⁴

Present set-up

At present, the district has a district jail at Barddhamān, a special jail at Asansol and two sub-jails at Kalna and Katoya. In the Barddhamān District Jail, there is a wholetime Superintendent in charge, 1 Jailor, 1 Deputy Jailor, 4 Clerks, 1 Teacher, 1 Medical Officer and 1 Pharmacist. Besides, there are the watch and ward staff consisting of 3 head warders, 48 warders and 2 female warders. In the Asansol Special Jail, there is a

¹ Bharatchandra, Ray-Gunakar — *Vidyasundar*, Basumati Sahitya Mandir, Calcutta, p. 9.

² *ibid.*, p. II.

³ Hunter, W. W. — *A Statistical Account of Bengal*, Vol. IV, London, 1876.

⁴ Peterson, J. C. K. — *Bengal District Gazetteers: Burdwan*, Calcutta, 1910.

Superintendent in charge, 1 Jailor, 1 Deputy Jailor, 3 Clerks, 1 Medical Officer and 1 Pharmacist. The watch and ward staff consists of 3 head warders, 47 warders and 2 female warders. In each of the sub-jails at Kalna and Kātoyā, the respective Sub-Divisional Officer acts as part-time Superintendent assisted by a wholetime sub-jailor. The watch and ward staff for each sub-jail consists of 2 head warders and 6 warders.¹

The following table pertaining to the year 1970 gives the classification of prisoners according to their prison terms in the District Jail, Barddhamān, Special Jail, Asansol and Sub-jail, Kalna.²

Jail population

Prison Terms	District Jail, Male Female Barddhamān		Special Jail, Male Female Asansol		Sub-jail, Male Female Kalna	
Up to 1 month	4,011	117	3,440	1,636	34	2
Above 1 month and not exceeding 3 months	18	—	434	20	25	2
Above 3 months and not exceeding 6 months	7	—	738	3	16	—
Above 6 months and not exceeding 1 year	5	—	130	—	3	—
Above 1 year and not exceeding 2 years	2	—	43	—	—	—
Above 2 years and not exceeding 5 years	3	—	16	—	1	—
Above 5 years and not exceeding 10 years	3	—	18	—	—	—
Over 10 years	—	—	—	—	—	—
For life	7	—	4	1	—	—
Sentenced to death	—	—	—	—	—	—
Total	4,056	117	4,823	1,660	79	4

The following table classifies the total convicts admitted during the year 1970 into six age-groups — under 16 years of age, from 16 to 21 years, from 22 to 30 years, from 31 to 40 years, from 41 to 60 years and above 60 years.

Age-group (years)	District Jail Barddhamān		Special Jail Asansol*		Sub-jail Kalna		Sub-jail Katoya	
	Male	Female	Male	Female	Male	Female	Male	Female
Under 16	173	8	941	0	1	—	37	—
16 to 21	582	8	342	79	13	2	143	—
22 to 30	870	30	1,869	699	26	2	233	1
31 to 40	2,098	62	971	681	27	—	122	2
41 to 60	329	9	700	201	10	—	89	—
Above 60	4	—	—	—	2	—	12	—
Total	4,056	117	4,823	1,660	79	4	636	3

¹ Source: Inspector General of Prisons, West Bengal.

² Source: Inspector General of Prisons, West Bengal.

* The figures also include the prisoners remaining at the close of the previous year.

The total number of convicts and under-trial prisoners in the four jails of the district during 1970 was 24,929, which shows that one out of every 156 persons of the district was behind the bars. The total cost for guarding and maintaining the prisoners in the different jails of the district during 1970 was as follows : Barddhaman District Jail Rs. 4,64,220 ; Asansol Special Jail Rs. 5,71,896 ; Kalna Sub-jail Rs. 66,111 and Kāṭoyā Sub-jail Rs. 73,979.

The average number sentenced to labour in Barddhaman District Jail during 1970 was 104.53. In the District Jail, the total credits from jail manufactures amounted to Rs. 5,963 and total debits to Rs. 3,236 leaving a net profit of Rs. 2,727. The average profit per head sentenced to labour was Rs. 26. Prisoners are given training in the weaving of bed-sheet and *gānchhā*, in tailoring and in certain other industries like smithy, etc. which facilitates their rehabilitation after release.

Prison discipline

Only 32 cases of minor offences were committed by the prisoners of Barddhaman District Jail during 1970, which mainly related to breach of jail rules (19 cases), prohibited articles (8 cases), assaults, etc. (3 cases) and others (2 cases), and were dealt with by the Superintendent in the following manner : hand cuffing 12 cases, warning 8 cases and other punishments 12 cases.¹

Welfare of Prisoners

Except in the District Jail nothing much has been done by way of reformatory activities. Although there is no borstal school attached to the District Jail, there is a wholtime teacher there under the scheme for imparting elementary education to all convicts under 50 years of age, serving prison terms of three months or more. Convict teachers are also engaged in teaching work. 32 prisoners passed the primary standard in 1970. There is also a library in this jail. Newspapers and periodicals are supplied to classified prisoners at Government cost. Government publications are supplied, free of cost, for use of all prisoners. Documentary and instructive films are shown occasionally to all prisoners. They also take part in various indoor and outdoor games.

Non-official visitors

For all the four jails in the district there are non-official visitors drawn from educated people of the respective towns. They periodically visit the prisoners, listen to their complaints, etc. suggest ameliorative measures to the jail authorities.

¹ Source: Inspector General of Prisons, West Bengal.

These prisoners are kept segregated in Barddhaman Jail and as far as practicable in other jails also. In the former jail there is a school where they receive instructions.¹

Juvenile delinquents

Under the Mughals the Muhammedan Criminal Law served as the basis of criminal justice, applicable to both Muslims and non-Muslims, while, so far as civil justice was concerned, the former were governed by the Muhammedan civil law. In conformity with this arrangement, Akbar Commissioned two types of institutions, one under the quzi, administering the Islamic law, both civil and criminal, and the other under the *mir-i-adl* exercising jurisdiction over matters not specifically provided for by the religious laws of the respective communities.² Under the Mughals the zamindars had no legal authority to administer criminal justice. But with the weakening of the Nawab's power, the zamindars assumed judicial authority and by the latter half of the 18th century they were the *de facto* judges in every district within their jurisdictions.³ The "zamindars — assumed that power for which no provision was made by the law of the land, and they exercised it with a view, not to justice but their own interest."⁴

ORGANISATION OF COURTS

In March 1761, an English revenue official, styled as Resident was appointed at Barddhaman.⁵ His duties "were primarily those of an officer entrusted with the supervision of the revenues; but he was also concerned with the courts of justice."⁶ An account of the then existing local courts at Barddhaman has been left by Verelst, who was appointed Supravisor of Barddhaman in Sept., 1765. These were as follows :⁷

History

Sudder Cutcherry—In this court are received all the land-rents and revenues of the province, all accounts relative to them adjusted, all purchases and sales of land and property confirmed, all differences between landlord and tenant heard and determined, and from hence all orders respecting the rents and revenues are issued.

Buxey Duftore—This court superintends the conduct of all

¹ Source: Inspector General of Prisons, West Bengal.

² *Ain-i-Suyurghal*, Vol-I, p. 232.

³ *Proceedings of the Select Committee at Fort William* : August 16, 1769.

⁴ Field, C. D. — *The Regulations of the Bengal Code* (Introduction), p. 135.

⁵ Firminger, W. K. — *Historical Introduction To The Bengal Portion Of The Fifth Report*, Calcutta, 1962 (Reprint). p. 150.

⁶ Firminger — *op. cit.*, p. 156.

⁷ Verelst, H. — *A View of the Rise, Progress and Present State of the English Government of Bengal*, London, 1772. Appendix, pp. 219-20.

the forces, guards, and other persons employed for the protection of the province in general, the prevention of thefts and disturbances of the peace of the inhabitants; and orders respecting such persons are issued from this office; at the same time it provides for their pay and obedience.

Fouzdarry — The jurisdiction of this court is wholly confined to criminal matters, and the judgement of criminal offences.

Burrah Adaulat — It is a court of meum and teum for all demands above 50 rupees, and does not interfere in any claims under the amount of that sum.

Ameen Duftore — It is, in a great measure, a court subordinated to the Sudder Cutcherry, as all complaints are first made to the former, and referred from thence to the latter. They relate entirely to the business of the revenue, and the conduct of those employees the collections.

Chootah Adaulat — It takes cognizance of all suits for debts not exceeding 50 rupees.

Bazee Zemeen Duftore — It is a court for settling all differences relative to charity lands and other public supports. Each person's property in claims of this kind are ascertained, and from thence all orders respecting them are issued.

Bazee Jumma Duftore — This court takes cognizance of adulteries, abortions and other crimes, that more immediately concern the peace and happiness of private families. Grants for lands and public works for the accommodation of travellers, such as tanks or ponds of water, *serais* or resting places, etc. are issued from this court.

Kharidge Duftore — The landholders' accounts, when settled, are sent to this court for payment; and in such cases where the debtor is incapable of paying the amount, a power is lodged in this court to compromise the debt.

In January 1776, Reza Khan's plan for criminal justice was adopted. It provided for 23 criminal courts in all, establishing one in each district, specified therein. Barddhamān was one such district. By the regulation of 11 April 1780, Mufassal

Dewani Adalats were established at six stations including one at Barddhamān. The jurisdiction of each of these *adalats* extended to all cases of property, including those of inheritance and succession to zamindaries and talukdaries, but persons connected in any way with the collection of revenue, however, continued to be immediately under the Provincial Councils. By the Regulation of 6 April 1781, the number of these Mufassal Dewani Adalats was raised to eighteen with a view to reducing their extensive jurisdiction so as to make an equitable distribution of justice easy. The jurisdiction of the Court of Mufassal Dewani Adalats at Barddhamān now became confined to Chakla of Barddhamān, and the district of Satsikka and thana of Kātoyā. During this year, the Judges of these *adalats* were appointed Magistrates also, although they were not given any criminal jurisdiction to try cases. It was only in 1785 that they were given power to try petty offences. In 1787, as a measure of economy, the offices of Judge, Collector and Magistrate were united in the same person (except in the cities of Dacca and Murshidabad), but under distinct rules for his guidance in each capacity. But in 1790, Cornwallis succeeded in convincing the Court of Directors of the necessity of separating judicial and executive powers, and appointed a separate official to do the collector's work in each district, while the offices of the Judge and the Magistrate were kept united in the same officer. This was reiterated in Regulation IX of 1793. By Regulation 36 of 1795, the district was bifurcated and formed into two districts, the northern portion being denominated the district of Barddhamān and the southern portion the district of Hugli. A Dewani Adalat superintended by one Judge was established in each district and the said officer was also vested with the office of the Magistrate.* In 1803, provision was made for appointment of a Sadar Amin in every Zillah and in 1805 native law officers of the Zillah were appointed to this new office. But the undefined character of rights and tenures under the Permanent Settlement opened the flood-gate of litigation. The problem was solved by relieving the Judges of their magisterial functions by 1823 so that they could devote their time and energy exclusively to civil justice. The general structure established for administration of civil justice was: "Below the city and zillah courts were two classes of

* The revenue jurisdiction of the newly formed district of Hugli was, however, separated only in 1819.

inferior Judges. First in order, were the Registrars of those courts who could decide cases for amounts not exceeding Rs. 200, subject to revision by the Judges. The rest and lowest grade of Judges were the Native Commissioners, who under Regulation XL of 1793 could decide civil suits for sums of money or personal property of a value not exceeding 50 Sicca rupees. Of these officers, the head Commissioners were called *Sudder Ameens* and the rest were called *Moonsiffs*.¹

In 1829, the Divisional Commissioners of Revenue and Circuit were appointed with the powers of the Judges of Circuit and they were to hold sessions of the several Magistrates not less than twice a year in each district. The Provincial Courts were relieved of their criminal jurisdiction. By 1831, the office of the Magistrate was transferred to the Collector and the Regulation VII of the same year invested the Judges with full powers to hold sessions, so that the Divisional Commissioners might be relieved of the pressure of work. In consequence the Magistrate-Collector became the principal officer of a district and the District Judge came to be known as the District and Sessions Judge. In 1832, the offices of the *qazis* and *muftis* were abolished. In 1836, the Government proposed to set up 'one civil and sessions judge, one magistrate and one collector in each *zillah*'. This arrangement was first tried in Murshidabad, Medinipur and Barddhamān but was gradually extended to all the districts of Bengal.² In 1810, provision was made for the appointment of Assistant and Joint Magistrates to afford relief to the *Zillah* Magistrates who were authorised to refer cases arising out of petty offences to such officers for trial. In 1843, uncovenanted Deputy Magistrates were appointed in order to strengthen the police and criminal administration. In 1859, the offices of the Collector and the Magistrate were again united. The Magistrate-Collector once again became the sole head of the district.

By 1861, the uniformity in the substantive and procedural law of the country was achieved with the passage of the Indian Penal Code and Indian Criminal Procedure Code. In 1968, the West Bengal Separation of Judicial and Executive Functions Act was passed "with a view to give effect to the directive principle in article 50 of the Constitution to separate the Judiciary from the

Executive in the public services of the State of West Bengal. ..."

The Act classified Magistrates into two classes, namely, (i) Judicial Magistrates who are appointed in consultation with the High Court, and (ii) Executive Magistrates who are appointed without such consultation. The former deal primarily with cognizance, investigation, inquiry into and trial of any offence under the Indian Penal Code or under any other local or special law, while the latter are to be mainly concerned with prevention of offences and other executive and administrative function. The functions of these Magistrates were separated mainly by amending the Code of Criminal Procedure 1898 in a suitable manner. The Act was given effect to in this district from 25 May 1970.

The present set-up for administration of civil justice consists of the District and Sessions Judge at the head, 3 Additional District and Sessions Judges, 3 Subordinate Judges and 12 Munsifs. They are distributed in the following manner : The District and Sessions Judge, 2 Additional District and Sessions Judges, 2 Subordinate Judges and 4 Munsifs at Barddhamān ; 1 Additional District and Sessions Judge, 6 Subordinate Judges and 3 Munsifs at Asansol ; 2 Munsifs each at Kāṭoyā and Durgapur and 1 Munsif at Kalna.

Present set-up

The workload of the courts exercising civil jurisdiction within the district will appear from the following table which gives a year-wise break-up of the number of suits instituted in these courts of the various categories of judicial officers between 1969 and 1973.¹

Civil Justice

Year	District Judge	Addl. District Judges	Subordinate Judges	Munsifs
1969	69	22	626	3 707
1970	74	23	637	3 635
1971	43	24	544	2 862
1972	70	33	523	3 031
1973	59	46	621	3 030

The present workload will be better understood by classifying the suits into various categories — suits, cases, appeals and criminal cases. The table below indicates the magnitude of judicial

¹ Cowell, H. — *History and Constitution of the Courts and Legislative Authorities in India*, Calcutta, 1936, p. 24.
² *Cambridge History of India* — Vol. VI, p. 24.

¹ Source: District and Sessions Judge, Barddhamān.

work in the district during the aforesaid five years.¹

Suits :	1969	1970	1971	1972	1973
Title	3,182	2,795	2,186	2,193	2,274
Money	605	756	636	850	766
S.C.C.	548	711	557	496	609
Rent	5	24	28	20	12
Cases :					
Execution cases	1,825	1,098	1,104	1,039	811
Judicial Miscellaneous cases	1,498	1,503	1,336	1,525	1,602
Appeals :					
Regular Appeals	531	535	469	438	345
Criminal Cases :					
Sessions	154	149	145	154	255
Criminal Appeals	91	102	61	61	81
Criminal Motions	118	92	67	89	126
Special Court cases	9	23	15	11	7

The following table gives the year-wise totals of hearings given to various types of cases pending before the different courts. It may be mentioned that a single case is disposed of after several hearings.²

Year	Under ordinary Procedure	S.C.C. Procedure	Civil Appeals
1969	3,263	537	421
1970	3,352	568	520
1971	3,326	630	510
1972	3,045	441	420

The Hindu Marriage Act of 1956 provides for the right of either partner to seek a divorce under certain conditions specified in the law. As the following figures would indicate, the society has not moved very much from its traditional ideas concerning marriage.³

Year	Suits instituted	Suits allowed	Suits rejected
1969	19	9	8
1970	20	7	8
1971	9	3	3
1972	21	7	8
1973	11	3	1

¹ Source : District and Sessions Judge, Barddhamān.

² Source : District Judge, Barddhamān.

³ Source : District Magistrate, Barddhamān.

Besides the District and Sessions Judge and 3 Additional District and Sessions Judges, there were in 1973/2 Assistant Session Judges (1 each at Barddhamān and Assansol), 5 Sub-divisional Judicial Magistrates (1 each in the 5 sub-divisions of the district) and 11 Judicial Magistrates (4 each in Barddhamān and Assansol and 1 each in Kalna, Kātoyā and Durgapur) responsible for dispensation of criminal justice side by side with the Executive Magistrates whose jurisdiction has also been delimited by the Act. In 1970, besides the 5 Sub-divisional Magistrates there were 15 courts of Stipendiary Magistrates with first class powers, 7 Magistrates and 1 Honorary Magistrate with second class powers and 1 Magistrate with third class powers in the district.¹

The following table gives the year-wise break-up of the number of cases instituted, the number of cases disposed of and the number of cases left pending over the three years from 1970 to 1972 in the different courts under the administrative control of the Sessions Judge, Barddhaman.²

Year	Cases instituted	Cases disposed of	Cases pending
1970	28,259	16,119	22,363
1971	14,975	16,726	20,902
1972	19,390	17,415	22,792

Another table below gives the workload of the different criminal courts from 1966 to 1970 (up to 24.5.1970).³

Year	Cases instituted	Cases disposed of	Cases pending
1966	28,566	19,245	8,592
1967	31,727	18,227	12,691
1968	41,096	22,740	17,571
1969	31,919	20,350	10,223
1970	27,035	7,139	19,578
(from 1.1.70 to 24.5.70)			

¹ Source : District Judge, Barddhamān.

² Source : District Magistrate, Barddhamān.

³ Source : District Magistrate, Barddhamān.

Criminal Justice

Workload

Divorce

State assistance

In civil litigations state assistance is available under Orders 33 and 34 of the Civil Procedure Code which provide for remission of stamp fees due from parties belonging to the Scheduled Tribes. A panel of Government pleaders maintained by the Scheduled Castes and Scheduled Tribes Welfare Department makes legal assistance available to them. In criminal cases, State assistance is available in the shape of arrangements for the defence of an otherwise undefended accused charged with murder.

Bar Association

There are two Bar Associations in Barddhamān, namely, Barddhaman Bar Association and Lawyers' Bar Association. The former is composed of 150 barristers, advocates and pleaders, while the latter of 45 muktears and advocates. In Asansol also there are 2 associations one styled Asansol Bar Association with 91 members, composed of advocates holding a law degree and pleaders, and the other known as Asansol Lawyers' Association consisting of 44 advocates and muktears. In Kātoyā too there are two associations, one named as Bar Association with 21 advocates and pleaders enrolled as its members and the other known as Muktears' Bar Association being composed of 14 muktears and advocates. Durgapur has one association designated United Lawyers' Bar Association having 39 advocates and muktears as its members. Kalna has also one association known as Bar Association with 17 pleaders and advocates enrolled as its members.¹

Probation of Offenders' Act

The Probation of Offenders Act, 1958 was enforced in the Barddhamān district on 2 May 1960 and two Probation Officers were posted there, one with headquarters at Barddhamān and having jurisdiction over the subdivisions of Sadar, Kātoyā and Kālānā and another with headquarters at Asansol and with jurisdiction over that subdivision only. Later on, with the creation of the Durgapur subdivision, the Probation Officer, Asansol was placed in charge of that subdivision too, his headquarters remaining same.*

The Act provides for non-institutional treatment of juvenile as well as adult offenders who have committed offences other than punishable with death or imprisonment for life. Any court

¹ Source: District Judge, Barddhamān.

* Source: Chief Probation Officer, West Bengal.

within the limit of cases triable by it, is empowered to deal offenders under this Act. The purpose is reformation and rehabilitation of the offenders through supervision and guidance of the Probation Officer generally without separating him from his family and environment.

Although there is no special provision in the Act exclusively for juvenile offenders under 18 years of age, the special provision of section 6 of the Act which imposes restriction on imprisonment of offenders under 21 years of age automatically includes the juvenile offenders also in this regard.

The special provisions are as follows :

(1) The court shall call for a report from Probation Officer and consider that report before sentencing any such offenders to imprisonment.

(2) The court shall record its reasons for sentencing any such offender to imprisonment instead of releasing him on probation.

The District Magistrate, Barddhamān is the local controlling authority of the Probation Officers and office accommodation for the Probation Officer, Barddhamān has been provided in the Collectorate Building, Barddhamān and that of the Probation Officer, Asansol at the S.D.O's office Buildings at Asansol.

The Probation officers and two orderly peons constitute the administrative set up of the district, the departmental control being of the Inspector-General of Prisons, West Bengal exercised through the Chief Probation Officer, West Bengal.

No. of offenders dealt with under this Act in this District in the year 1976 divided into three age-groups are given below :

Below 18 years	— 7
18 — 21 years	— 2
21 years & above	— 6

CHAPTER XII

OTHER DEPARTMENTS

AGRICULTURE

The chief officer in charge of Agriculture in the district is the District Agricultural Officer stationed at Barddhamān. For the areas taken up for Package Programme of intensive agriculture the Project Executive Officer is also stationed at Barddhamān and is in charge of the package programme. There is an Agronomist, with the rank of Additional District Agricultural Officer, stationed at Barddhamān in charge of collection and compilation of soil data. There is a Gram Sevak Training Centre in Barddhamān under a Principal to which is attached an Agronomist for the purpose of imparting education to the Gram Sevaks in collecting and interpreting soil data. The agricultural farm at Barddhamān is under a Farm Manager and there is an Assistant Jute Development Officer stationed also at Barddhamān. For the purpose of evaluation of progress of agriculture an Evaluation Officer is attached to the District Agricultural Office. The District Agricultural Marketing Officer for Barddhamān district is stationed at Barddhamān and there is a Subdivisional Agricultural Marketing Officer attached to each of the subdivisions. There is a Tank Improvement Officer at Barddhamān.

Executive Engineer (Agri-Irrigation), Central Division, is stationed at Barddhamān. A Research, Training and Testing Centre is under a Research Engineer stationed in the premises of the Barddhamān Agricultural Farm. Under the Executive Engineer (Agri-Irrigation), there is an Assistant Engineer with headquarters at Barddhamān. The Executive Engineer (Agri-Mechanical) is in charge of the Drilling-cum-Mechanical Division with his office at Lakshmipur within Barddhamān town. An Assistant Engineer (Agri-Mechanical) is also posted at Barddhamān.

COMMUNITY DEVELOPMENT

The district is covered by thirty-four Community Development Blocks. These are, in Sadar Subdivision : (1) Barddhamān, (2) Khandaghosh, (3) Bhatar, (4) Jamalpur, (5) Ausgram I, (6) Ausgram II, (7) Raina I, (8) Raina II, (9) Memari I, (10) Memari II, (11) Galsi I, (12) Galsi II ; in Asansol Subdivision : (1) Asansol, (2) Kult, (3) Jamuria I, (4) Jamuria II, (5) Hirapur, (6) Salanpur, (7) Barbani, (8) Raniganj ; in Kātoyā Subdivision : (1) Kātoyā I, (2) Kātoyā II, (3) Ketugram I,

(4) Ketugram II, (5) Mongalkote ; in Kalna Subdivision : (1) Purbasthali I, (2) Purbasthali II, (3) Kalna I, (4) Kalna II, (5) Manteswar I, (6) Manteswar II ; in Durgapur Subdivision : (1) Faridpur, (2) Ondal, and (3) Kanksa. Each Block is under a Block Development Officer who is generally a member of the West Bengal Civil Service, though officers of the Subordinate Agricultural Services are also appointed. The Block Development Officer is assisted in several fields of development work by the Agricultural Extension Officer, the Inspector of Cooperative Societies, the Industrial Extension Officer, the Panchayat Extension Officer, the Veterinary Assistant Surgeon, the Fishery Extension Officer, the Social Education Officer and a Sub-Assistant Engineer. There is also a Lady Social Education Officer and two Gram Sevikas for women's programme at the Block headquarters. There is a Gram Sevak in each Panchayat area.

The Superintendent of Livestock, Western Range, is stationed at Barddhamān while another Superintendent of Livestock, in charge of Central Semen Collection, is stationed at Barddhamān where semen is collected and stored for use in the several Artificial Insemination Centres in the district. The district is in charge of the District Livestock Officer stationed at Barddhamān. Artificial Insemination Centres are located at Barddhamān, Satgachhia, Memari, Saktigarh and Kalipura.

ANIMAL HUSBANDRY & VETERINARY SERVICES

Animal husbandry

The Superintendent of Veterinary Services, Barddhamān Range has his headquarters at Barddhamān. The district is in charge of the District Veterinary Officer. There is a State Veterinary Hospital at district headquarters under a Veterinary Assistant Surgeon. Itinerant duty is performed by two Itinerant Veterinary Surgeons and an Inspector.

Veterinary

The district is in charge of the District Industrial Officer who is assisted in his work by several Industrial Extension Officers attached to each Block. There is a Wood Industries scheme at Durgapur under a Superintendent. A Training-cum-Production Centre for carpentry and black-smithy is located at Ghuskara under a Superintendent who is assisted by a Supervisor. This unit has a branch at Saktigarh where two Supervisors, one for carpentry and the other for black-smithy, are posted. There is also a model carpentry and black-smithy centre at Saktigarh under a Superintendent.

COTTAGE & SMALL-SCALE INDUSTRIES DEPARTMENT

COOPERATION

Barddhamān district is divided between two Assistant Registrars of Cooperative Societies, one stationed at Barddhamān and the other at Kāṭoyā, each assisted by a District Auditor of Cooperative Societies stationed at Barddhamān and Kāṭoyā respectively. At the Block level the work of cooperation is in charge of an Inspector of Cooperative Societies attached to the Block who works under the supervision of the Assistant Registrar.

DEVELOPMENT
& PLANNING
DEPARTMENT

The Director of Asansol Planning Organisation under the Development and Planning Department is posted at Asansol. There is Tourist Lodge under a Caretaker under this department at Durgapur.

EDUCATION
DEPARTMENT

The District Inspector of Schools with his complement of Assistant Inspectors and Sub-Inspectors comprise the Inspectorate in the district for Secondary and Primary education. The District Inspector of Schools is also the *ex-officio* Secretary of the District School Board. There is a District Social Education Officer who looks after the District and the Rural Libraries. The District Officer for Physical Education and Youth Welfare looks after the games, sports and general youth welfare schemes. The District Inspectress of Schools in charge of the women's education for Barddhamān, Birbhum and Hugly districts is stationed at Barddhamān. Other organisations under the Education Department include the Junior Basic Training College Siksha Niketan at Kalna Nabagram (under a Principal). There is a Junior Basic Training College at Barddhamān (under a Principal). A polytechnic at Asansol (Dhadka) under the Education Department is in charge of a Principal. The following battalions of National Cadet Corps are stationed in Barddhamān district. The 4th Bengal Battalion, the 44th Bengal Battalion and the 5th Bengal Girls' Battalion are stationed at Barddhamān; the 10th Bengal Battalion, the 24th Bengal Battalion, the 6th Bengal Girls' Battalion and the 3rd E.M.E. Battalion are stationed at Asansol; the 54th Bengal Battalion is stationed at Kāṭoyā; the 6th Bengal Engineering Company of the Regional Engineering College is stationed at Durgapur. The N.C.C. group headquarters of Barddhamān is stationed at Barddhamān whilst that of Asansol is stationed at Asansol.

EXCISE
DEPARTMENT

The Excise Department is under the Collector while immediate charge is held by the Excise Superintendent. Barddhamān district

is divided between two Excise Superintendents, one for the eastern area stationed at Barddhamān and the other for the western area stationed at Asansol. The Excise Superintendents with their staff of Inspectors, Sub-Inspectors and petty officers are in charge of realisation of excise revenue as well as in charge of the prevention work. There is no prohibition in the district.

An Assistant Superintendent of the Agricultural Statistics Branch of the Finance Department is stationed at Barddhamān. For the collection of commercial taxes this district is divided into two charges. The Commercial Tax Officer, Barddhamān Charge, is stationed at Barddhamān and the Commercial Tax Officer, Asansol Charge, is stationed at Asansol.

FINANCE
DEPARTMENT

The Superintendent of Fisheries, Western Circle, is stationed at Barddhamān. The district is in immediate charge of the District Fisheries Officer assisted by an Assistant Fisheries Officer both of whom are stationed at Barddhamān. It also has a Fish Seed Farm under a Farm Manager.

FISHERIES

Some areas in Asansol and Durgapur Subdivisions are under statutory rationing. At Asansol town there are two Rationing Officers while there is one Rationing Officer each at Barakar, Kulti, Chittaranjan, Burnpur and Ranigunj. At Durgapur town there are two Rationing Officers for Durgapur East and Durgapur West. The Rationing Officers are under the Director of Rationing, West Bengal, Calcutta. For the non-rationed areas an Assistant District Controller of Food and Supplies is stationed at Barddhamān to look after the district distribution. He is assisted by a Subdivisional Controller of Food and Supplies stationed at each of the subdivisions of Barddhamān, Asansol, Kāṭoyā and Kalna.

FOOD &
SUPPLIES

The Divisional Forest Officer, Barddhamān, is stationed at Barddhamān.

FOREST
DEPARTMENT

The office of the Superintending Engineer, Damodar Irrigation Circle is located at Kanainatshal near Barddhamān town. The Executive Engineer, Damodar Irrigation Division has his office at Barddhamān and subordinate to him are the Offices of the Subdivisional Officer, Damodar Canal Subdivision I and the Damodar Canal Subdivision III while the Damodar Canal Sub-

IRRIGATION &
WATERWAYS

division II is located at Ghuskara. The Damodar Canals Headquarters Subdivision is located at Barddhamān. At Kāṭoyā is located the Kāṭoyā Irrigation Subdivision under an Assistant Engineer. The Executive Engineer, Damodar Headworks Division is stationed at Durgapur where is also located the Damodar Canal Subdivision and Damodar Headworks Subdivision each under an Assistant Engineer. Ghuskara Irrigation Subdivision is located at Ghuskara under an Assistant Engineer.

MINES & POWER

A Professor in charge of Mining is stationed at Raniganj who holds evening and morning classes in mining. The office of the Chief Mining Officer is located at Asansol.

PUBLIC HEALTH
ENGINEERING

The Public Health Engineering branch of the Department of Health is in charge of Rural Water-supply. The office of the Executive Engineer, Public Health Engineering, Barddhamān Division is located at Barddhamān.

PANCHAYATS

There is a District Panchayat Officer who is assisted in his work by the Panchayat Extension Officers at the Block level.

PUBLIC WORKS
DEPARTMENT

P.W.D. (Roads)

The office of the Executive Engineer, Barddhamān Division is located at Barddhamān and under him are three subdivisions each under an Assistant Engineer, one located at Barddhamān, one at Asansol and the other at Kāṭoyā.

The office of the Executive Engineer, Barddhamān Construction Division is located at Barddhamān and under him is the office of the Subdivisional Officer, Barddhamān Construction Division (also located at Barddhamān in charge of an Assistant Engineer). The office of the Subdivisional Officer, Kalna Construction Division under an Assistant Engineer is, however, under the charge of the Executive Engineer, Hugly Construction Division with his office located at Chinsurah.

P.W.D. Construc-
tion Board

The office of the Executive Engineer, Barddhamān Division of the Construction Board is located at Barddhamān where is also located the office of the S.D.O., Barddhamān Construction Board Subdivision under an Assistant Engineer. The Office of the Executive Engineer, Barddhamān University Division with two subdivisions, Barddhamān University Subdivision I and Barddhamān University Subdivision II, each under an Assistant Engineer, is located at

Barddhamān. At Asansol there are two subdivisions of Construction Board each under an Assistant Engineer while at Durgapur there is one subdivision of the Construction Board also under an Assistant Engineer. The office of the Executive Engineer, Puruliya Division, is located at Durgapur.

The office of the Assistant Controller of Weights & Measures also is located at Barddhamān.

WEIGHTS &
MEASURES

There is a Regional Engineering College at Durgapur under a Principal and full complement of staff.

Regional
Engineering
College

CHAPTER XIII

LOCAL SELF-GOVERNMENT

HISTORY OF
LOCAL SELF-
GOVERNMENT IN
THE DISTRICT

Local self-government ordinarily means the administration of a locality smaller than the State by a body representing the local people, having some autonomy and raising a portion of its income through local taxation and spending it on local services like public health, water supply, communication, etc. distinct from the services rendered by the State and Central Governments.

As to municipal administration in *mofussil* towns the earliest statute was Act No. X of 1842 which in its turn was replaced by Act No. XXVI of 1850. In both these statutes of the Council of India, the people of a town were expected to take the lead in forming a municipal organization, but people's participation at that time proved a failure. Barddhamān municipality was formed in 1865 under the Bengal Act called the District Municipal Improvement Act or Act III (B.C.) of 1864.¹ That Act provided that not less than seven of the inhabitants, appointed by government, together with the Commissioner of the Division, the Magistrate of the District and the Executive Engineer, by virtue of their offices, were to act as municipal commissioners. Many municipal functions were provided for by the Act and the commissioners were to transact business generally at meetings presided over by the Magistrate. The Magistrate could exercise any of the powers vested in the Commissioners under the Act except in the matters of fixing the rate of taxation, determining the amount to be set apart for the police and resolving upon expenditure for improvements. The principle of election was adopted in three towns of this State, namely Serampore, Krishnanagar and Barddhamān under Act II (B.C.) of 1873 and in the last town it was introduced 'since the close of the year' 1974-75.² The new law named the Bengal Municipal Act, 1876 or Act V (B.C.) of 1876 superseded Act III (B.C.) of 1864 and Act II (B.C.) of 1873. It provided for the elective system and empowered the Commissioners to expend municipal funds for many useful works. Hunter considered the towns, then existing, hardly urban in the strict sense of the word, consisting as they were of blocks of villages, grouped together for municipal

purposes.¹ The city of Barddhamān (Burdwan) was itself made up of 93 little villages, lying close to each other and surrounding the town proper — the whole group constituting the Barddhamān municipality. The first general election in the municipality was held on the 5th June 1876 when 12 Commissioners were elected out of 21 candidates. The number of voters who voted was only 649 out of 9,536 rate-payers entitled to vote. No contested election took place again until 1879-80 when 8 candidates were nominated for 3 vacancies. In 1880-81, there were 6 vacancies, and 6 candidates appeared uncontested. The municipal commissioners appreciated the dignity of their office by regular attendance at meetings and by taking warm interest in the administration of the affairs of the municipality.² Hunter gives a list of the municipalities with their income and expenditure for the year 1871 as reproduced below³ :

	Year of estab- lishment	Popula- tion	Gross municipal income		Gross municipal expenditure		Rate of taxation per head		
			£.	s.	£.	s.	R.	a.	P.
Barddhamān	1865	32,321	5,450	—	5,450	—	1-10-11	3-4	3
Kalna	1869	27,336	1,185	—	980	2	0-6-11	0-10	8
Raniganj	1876	19,578	871	12	871	12	0-7-1	0-10	8
Kātoyā	1869	7,963	513	14	513	14	0-10-4	1-3	1
Dainhat	1869	7,562	398	8	368	8	0-8-5	1-0	8

In 1869-70, the total revenue of Barddhamān municipality amounted to £. 5,654-8s.-9d. and the expenditure to £. 5,096-15s.-10d. The income of this municipality during the decade ending 1901-2 averaged Rs. 1,13,000 and the expenditure Rs. 1,00,300. In 1903-4, out of a total income of Rs. 1,43,000, Rs. 39,000 was derived from a tax on houses and lands, Rs. 24,000 from a water-rate, Rs. 17,000 from a conservancy rate, Rs. 6,000 from a tax on vehicles, Rs. 4,000 each from tolls and from rents, Rs. 3,000 from markets and Rs. 5,000 from educational institutions. The incidence of taxation was Rs. 2-8-7p. per head of the population. In the same year the expenditure of Rs. 1,10,000

¹ Hunter, W. W. — *Statistical Account of Bengal*, Vol. IV, London, 1876, p. 55.

² *Report on the Administration of Bengal*, 1880-81, Calcutta, 1881, p. 21. Other subsequent Acts regarding municipal administration were Act III (B.C.) of 1884, Act III (B.C.) of 1886, Act IV (B.C.) of 1894, Act XV of 1932, etc.

³ Hunter, W. W. — *op. cit.*, p. 57 ff.

¹ *Annual Report on the Administration of the Bengal Presidency for 1864-65*, Calcutta, 1865, p. 126.

² *Report on the Administration of Bengal: 1874-75*, Calcutta, 1876, p. 139.

included Rs. 4,000 spent on lighting, Rs. 2,000 on drainage, Rs. 32,000 on conservancy, Rs. 11,000 on medical relief, Rs. 12,000 on roads and Rs. 7,000 on education.¹ In 1908-09, the income amounted to Rs. 1,29,000, the principal heads of receipt being the tax on houses and lands, Rs. 41,000; water-rate, Rs. 26,000; conservancy, Rs. 18,000 and grants and contributions from Government and other sources, Rs. 15,000. The incidence of taxation per head of population was Rs. 2-8-9. During the same year the total expenditure amounted to Rs. 1,20,000, distributed as follows: establishment, 7.41 per cent; lighting, 4.46 per cent; water supply, 15.53 per cent; drainage, 1.6 per cent; medical, 11.8 per cent; public works, 15.07 per cent and education, 6.69 per cent.² The water-works constructed in 1884-85 at a cost of Rs. 2,35,500 was a boon to the residents of the town. Of this amount government contributed Rs. 50,000 as a grant, Rs. 11,000 as the price of the old sluice at Jujuti, which was taken over from the municipality, and the Maharaja of Barddhamān made a contribution of Rs. 50,000, while the balance of Rs. 1,24,500 was raised by loan in the open market.³

Kalna

The income of the Kalna municipality during the decade ending 1901-02 averaged Rs. 13,000 and the expenditure Rs. 11,000. In 1903-04, the income was Rs. 16,000 of which Rs. 4,000 was derived from property tax and Rs. 4,000 from a tax on vehicles, etc. and the expenditure was Rs. 14,000.⁴ The average incidence of taxation in 1907-08 was Rs. 1-13-7 per head. In 1907-08, the income was Rs. 15,000, the chief sources being property tax of Rs. 4,900 and the conservancy rate totalling Rs. 3,500. That year the expenditure was Rs. 14,000, of which a sum of Rs. 4,700 was spent on conservancy and Rs. 2,100 on road repairs.⁵

Raniganj

The Raniganj municipality had an average income of Rs. 19,000 during the decade ending 1901-02 and the expenditure averaged Rs. 16,000. In 1903-04, the income was Rs. 22,000, of which Rs. 12,000 was derived from a tax on houses and

¹ *Imperial Gazetteer of India : Provincial Series : Bengal* : Vol. I, Calcutta, 1909, p. 273.

² Peterson, J. C. K. — *Bengal District Gazetteers, Burdwan*, Calcutta, 1910, p. 167.

³ *ibid.*, p. 168.

⁴ *Imperial Gazetteer of India : Provincial Series : Bengal* : Vol. I, Calcutta, 1909, p. 274.

⁵ Peterson, J. C. K. — *op. cit.* p. 170.

lands and the expenditure was Rs. 20,100.¹ In 1901, the number of rate-payers was 1,692 forming 10.3 per cent of the total population of 16,398. The municipality was administered by 12 commissioners in 1907-08 of whom 8 were elected and 4 nominated. The income and expenditure in 1907-08 were Rs. 18,528 and Rs. 21,249 respectively. The income was mainly derived from the rate on holdings which was levied at 7½ per cent on the annual valuation and from the conservancy rate. Nearly one-third of the expenditure was then spent on conservancy and about one-fifth on medical relief.²

Katwa (Katoya)

The Katwa (Katoya) municipality had an average income of Rs. 7,800 and an average expenditure of Rs. 7,000 during the decade ending 1901-02. In 1903-04, the income was Rs. 10,200, half of which was derived from property tax, the expenditure totalling Rs. 8,300. At that time, the municipality was administered by 12 commissioners of whom 8 were elected and 4 nominated. In 1908, it had only one sq. mile of area and the rate-payers formed 33.03 per cent of the whole population with an average incidence of taxation of Rs. 1-1-2 per head.

Dainhat

The income and expenditure of the Dainhat municipality averaged Rs. 3,900 and Rs. 3,500 during the decade ending 1901-02. In 1903-04, the income was Rs. 5,400 chiefly derived from property tax, the expenditure totalling Rs. 4,900. It was administered by 12 commissioners, 8 being elected and the rest nominated by government. In 1908, the municipal limits covered 4 sq. miles. The rate-payers formed 22.6 per cent of the population, the average incidence of taxation per head being 7 annas 10 pies. In 1907-08, the income totalled Rs. 4,870. That year, the expenditure was Rs. 4,743, the principal heads being general establishment, conservancy, medical and public works which accounted for 15.6, 31.6, 24.3 and 11.2 per cent of the total expenditure respectively.

Asansol

The Asansol municipality was constituted in 1896. The income and expenditure during the decade ending 1901-02 averaged Rs. 14,000. In 1903-04, the income was Rs. 20,300, half of which was derived from a tax on houses and lands and the expenditure was Rs. 20,400 including Rs. 9,000 spent on conservancy. It had 12 commissioners nominated by govern-

¹ *Imperial Gazetteer of India : Provincial Series : Bengal* : Vol. I, Calcutta, 1909, p. 275.

² Peterson, J. C. K. — *op. cit.* p. 169.

ment, of whom 7 were appointed *ex-officio*.¹ In 1907-08, it had an area of 3.73 sq. miles. The rate-payers formed 12.8 per cent of the population and the average incidence of taxation was Rs. 1-2-1 per head. In 1907-08, the income amounted to Rs. 24,000 which was mainly derived from the rate on holdings at 7½ per cent on the annual value of the holding. Earnings from holding rates amounted to Rs. 14,000 and from the conservancy rate to Rs. 4,900. The expenditure that year was Rs. 26,000, the principal items of expenditure being drainage 12.04, conservancy 56.0 and public works 13.6 per cent of the total amount.

Rural Local-
Self Government

Lord Mayo's resolution on provincial finance, 1870 highlighted the policy of decentralization in the matter of finance giving local governments the charge of certain departments of the public service mainly in connexion with local requirements, and the need for supplementing the grants previously made for those services from the Imperial revenues. The urge for carrying out local improvements, backed by the financial policy of Lord Mayo, led to the passing of the Road Cess Act X of 1871 (The District Road-Cess Act, 1871) which was the first step in the direction of local self-government in rural Bengal. This Act was amended by Bengal Act IX of 1880 (The Cess Act, 1880) which was passed for the construction, charges and maintenance of district communications and other works of public utility and of provincial public works.

The District Board and the Local Boards in subdivisions were formed under the Bengal Local Self-government Act, 1885 (Bengal Act III of 1885). The District Board along with the Local Boards looked after the roads, ferries, bridges, pounds, village sanitation and water-supply, and medical relief outside the municipal areas. In the first decade of the twentieth century, it had 19 members including the Chairman who was the Magistrate of the district. Of the remaining 18 members, 6 were elected and 12 nominated by government, 4 of whom held their posts *ex-officio*.² In 1907-08, excluding the opening balance, its receipts amounted to Rs. 3,80,000 including Rs. 1,70,000 realized from road cess, Rs. 1,59,000 contributed from provincial revenues and on account of government works executed by it, Rs. 10,000 obtained from ferries and Rs. 10,000 from pounds.³ The expenditure in 1907-08 totalled Rs. 3,28,000 spread over

civil works (including government works undertaken by the Board) Rs. 2,32,000; education Rs. 55,035 and medical Rs. 12,857.¹ The receipts of the District Board from all sources in 1950-51 was Rs. 13,05,849 while the expenditure on all heads that year was Rs. 11,94,859.

There were also four Local Boards in the first decade of the twentieth century under the District Board entrusted with the maintenance of village roads, pounds, ferries and primary education in each subdivision of the district. They received fixed allotments from the District Board for the purpose. Of them, the Burdwan Local Board consisted of 15 members, while the Local Boards at Asansol, Katoya and Kalna had 9 members each. At that time the Burdwan Local Board had a non-official Chairman, while the Chairman for the other Local Boards were the Subdivisional Officers holding the posts *ex-officio*. The Local Boards became defunct in 1940.

The Village Chaukidari Act, 1870 (Bengal Act VI of 1870) was an Act to provide for the appointment, dismissal and maintenance of the village watch and ward. No authority in respect of local sanitation, communication, education or similar other functions vested in this body.² The deficiency in these matters was corrected by the Bengal Local Self-Government Act, 1885, which provided for Union Committees to look after pounds, schools and roads. In this district such committees were located at Memari, Mankar, Srikhanda, Sribati, Baidyapur and Bagnapara with areas of 12, 12, 8, 10, 10 and 10 sq. miles each.³ Each of these committees was administered by a Board of 9 members and they were entrusted with the administration of the village roads within their jurisdiction. To trace the history of these committees, in 1889 the Government of India agreed that the want of sanitary progress in villages was largely due to the non-existence of village unions as has been stated by A. N. Moberly, Chairman, District Board in his report dated 8.9.1912.⁴ In 1894... it was decided to introduce the system of union committees experimentally in localities which offered the best conditions for its success. The Union Fund was to consist of the net income of the local pound, of grants from the District Board and of the sums levied by the committees under relevant provisions of the

¹ Peterson, J. C. K. — *op. cit.* p. 171.

² Peterson, J. C. K. — *op. cit.* p. 165.

³ *loc. cit.*

¹ *ibid.*, p. 166.

² Roy, N. C. — *Rural Self-Government in Bengal*, Calcutta, 1936, p. 134.

³ *ibid.*, p. 167.

⁴ *Note on the Union Committees in the District of Bardhaman.*

Act. Moberly opined that none of the Union Committees, excepting Baidyapur Union which spent a few rupees on clearing jungle, had spent any money nor did they ever raise any amount by local taxation.¹ It is interesting to note that the Government and its local officials liked the existence of the Union Committees, while the District Board did not like them on the grounds that they were inefficient and that there were no meaning in preferential treatment to some villages forming Union Committees excluding several others. Moberly recommended that the Subdivisional Officers were to be made *ex-officio* members of the Union Committees in their subdivisions for at least two years.² Moberly's inspection notes say that the Memari Union Committee managed 20 villages, obtained Rs. 200 in 1909-10 and Rs. 200 in 1911-12 from the District Board; that the Bagnapara Union Committee managed 17 villages and had received Rs. 200 from the District Board which was spent on roads; that the Baidyapur Union Committee consisted of 10 villages, received Rs. 200 which was spent for maintaining village roads and for clearing jungles; that Srikhanda Union Committee consisted of 19 villages and received Rs. 400 and Rs. 225 in two spells and had 17 roads totalling 17½ miles of length; that Sribati Union Committee had 17 villages under it and that Mankar Union Committee was more than once proposed to be made a municipality because the village had a large population.³

The *chowkidari* and municipal functions resting with two separate bodies, namely the Panchayats under Bengal Act VI of 1870 and the Union Committees under Bengal Act III of 1885 combined to form the Union Boards under the Bengal Village Self-Government Act, 1919.

There were 209 Union Boards in the district of whom 85 had also Union Benches and 85 had Union Courts. The Union Boards were all constituted from 1919 onwards but the Bench and Court powers were vested from 1923 onwards.

The table-1 in the Appendix shows the number of Union Boards in different subdivisions before being replaced by the Panchayati Raj bodies. The table, however, includes the Union Boards of the 10 Development Blocks of the Asansol Subdivision which still exist.

¹ *ibid.*, p. 4.

² *ibid.*, p. 16.

³ *ibid.*, pp. 25-32.

MUNICIPALITIES

Bardhamān
Municipal
Corporation

The Bardhamān Municipal Corporation area consists of twenty-five wards spread over an area of 8.75 sq. miles (22.60 sq. kms.). It had a population of 1,49,281 according to the Census of 1971. The number of rate-payers during 1972-73 was about 24,000, the percentage of the rate-payers to the population being 16.1. It has twenty-five elected members of whom one is the Chairman. During 1972-73, 23 meetings were held by it and the average percentage of all members present at each meeting was 59.8.

The Corporation charges house rate @ 7½ per cent on the annual value of holdings; water-rate @ 4½ per cent for holdings without house connexions within the water-supply area and 6 per cent for holdings with house connexions; lighting rate @ 3 per cent for the holdings within lighting areas and conservancy rate @ 10 per cent on the annual value of holdings within the conservancy area for all holdings with or without privies according to the report for 1972-73. The incidence of total taxation per head of population that year was approximately 18.4 per cent on the annual value of holding. The incidence of taxation per head of population amounted to Rs. 9 and the municipal income per head of population was Rs. 17.

The Corporation maintains 11 free primary schools including a girls' primary school. There were about 3,000 students in 1972-73 and the number of teaching staff was 53. The Corporation incurs an annual expenditure of about Rs. 2,80,000 of which the State Government shares an amount of Rs. 78,162.

The following table would show the income and expenditure of the Corporation for 1972-73 under different heads.

Income	Rs.	Expenditure	Rs.
Balance in hand	4,71,140	General administration & collection charges	3,49,912
Municipal rates and taxes	15,51,967	Public safety	2,03,374
Realization under special acts	23,293	Public health and convenience	20,65,826
Revenue derived from property	88,863	Public instruction	2,78,232
Grants and contributions	12,47,046	Miscellaneous	1,23,404
Miscellaneous	23,902	Extraordinary & debt	1,56,842
Extra-ordinary & debt	4,08,406	Actual balance	6,37,027
Grand total	38,14,617		38,14,617

The table-2 in the Appendix would further show the position with regard to demand, collection, remission, etc. for the year 1972-73.

The percentage of total expenditure incurred on the principal items in 1972-73 was as follows : general establishment and collection charges, 11.3 ; lighting, 6.7 ; water-supply, 12.7 ; drainage, 6.2 ; conservancy, 31.6 ; medical, 2.3 ; vaccination, 1.1 ; public works, 14.1 and education, 9.2.

Kalna
Municipality

Kalna Municipality covers an area of 5.18 kms. with a population of 28,594 according to the Census of 1971 of whom 5,055 (17 per cent) are rate-payers.

The current demand for 1971-72 was Rs. 1,77,141 and the total collection, inclusive of arrear and current dues, was Rs. 1,64,963. The total remission granted to rate-payers owing to flood amounted to Rs. 11,809. There was, however, a demand for outstanding dues at the close of the year to the extent of Rs. 99,823.

The table-3 in the Appendix shows the income and expenditure figures of the municipality for the year 1971-72.

In 1971-72, the town was affected by flood of the Bhagirathi. A large number of dwelling houses on the river-side were submerged and damaged. Some areas of the town were threatened with cholera and mass inoculation was given for the safety of the people. The municipality also moved government for allotting Rs. 25,000 for purchasing wheel-barrows to eliminate the practice of carrying night-soil as headload.

Katoya
Municipality

Katoya Municipality sprawls over an area of 5.18 sq. km. and has a population of 28,832 according to the Census of 1971 of whom 4,000 (14.37 per cent of the total population) are rate-payers. The following table shows the demand and collection figures for 1970-71 and 1971-72.

DEMAND, COLLECTION, ETC. OF KATOYA MUNICIPALITY : 1970-72

	Demand Rs.	Collection Rs.	Remission Rs.	Balance Rs.
1970-71	4,28,685	2,01,331	11,647	2,15,707
1971-72	5,09,513	2,24,945	32,098	2,52,470

The rates of holding, conservancy, lighting and education in 1971-72 were respectively $7\frac{1}{2}$, $6\frac{1}{4}$, 2 and 2 per cent of the annual valuation of one's premise.

The income and expenditure figures of the municipality for 1971-72 are detailed in table-4 in the Appendix.

As to public health activities, the municipality filled up some insanitary tanks with street sweepings. Disinfectants were sprayed at unhealthy places and mass vaccination given free of charge. As to the supply of drinking water, it sunk and re-sunk several tube-wells in the area. A scheme has also been prepared for converting all the service privies into sanitary ones with financial aid from the State Government.

The Dainhat Municipality in the Katoya Subdivision covers an area of 10.36 sq. km. with a population of 12,906 according to the Census of 1971. It has 2,988 rate-payers forming 23.22 per cent of the total population. In 1972-73, the arrear and current demands were Rs. 48,010 and Rs. 34,218 respectively, while the arrear and current collections amounted to Rs. 34,786 and Rs. 16,756 respectively. The table-5 in the Appendix shows the income and expenditure position of the municipality during 1972-73.

Dainhat
Municipality

As to street lighting, there were 121 electric street lamps in 1972-73 as against 110 in 1971-72.

Tube-wells are the only source of water-supply. The municipality has provided for 36 shallow tube-wells and 58 cylinder-fitted ones. The municipality took a loan from government to the extent of Rs. 75,000 in 1972-73 for the improvement of the shallow tube-wells, though the main trouble with such tube-wells is the recurring cost of repair.

The municipality maintains several good-size drains, but the development grant for 1972-73 for construction of drains remained unspent as no contractor was agreeable to accept work at the accepted rate on account of high price of cement.

As to public health activities in 1972-73, 296 primary vaccinations and 3,602 re-vaccinations were given as against 135 and 1,814 respectively during the previous year.

The only allopathic charitable dispensary is in a bad state. The municipality contributed Rs. 1,664 for its upkeep and its expenditure, including pay and dearness allowance of the staff, amounted to Rs. 3,816. The attendance of the patients was 714. The Medical Officer gets a total monthly remuneration of Rs. 163.

Difficulty arises in the matter of births registration because over 80 per cent of mothers are delivered at home by the local illiterate *dāīs*, and the municipality has no adequate agency to record them. Death figures are more accurate as they can be obtained from the burning *ghat* register. However, the birth and death figures for 1972-73 stood at 120 and 38 respectively.

Most of the roads under the control of the municipality are *kutchas*. Though the municipality has made flat soling on several roads under the development schemes, dressing them with *khoā*, mortar, etc. remains yet to be done. Government have granted two-third of the cost on condition that the municipality would bear one-third of the cost, and the work is expected to be completed soon.

In 1971-72, the municipality ran 14 primary schools. It wants to introduce free primary education.

It received a loan of Rs. 7,500 in 1972-73 for repairing tube-wells and re-sinking shallow tube-wells within its area.

The Asansol Municipality covers an area 10.44 sq. km. with a population of 1,55,968 according to the Census of 1971 including 11,500 rate payers (7.32 per cent of the total population). It is divided into 25 wards. The following figures show the amount of demand, collection and remission of the municipality for the year 1972-73.

	Arrear Rs.	Current Rs.	Total Rs.
Demand	42,51,716	27,05,470	69,57,186
Collection	5,74,063	13,76,065	19,50,128
Remission	2,04,258	1,08,844	3,13,102

The demand during 1971-72 was Rs. 27,26,863, and the decrease in 1972-73 resulted from a reduction of valuation made on application by rate payers against the revision of assessment which became effective from 1st April 1971.

The table-6 in the Appendix shows the income and expenditure position of the municipality during 1972-73.

In the public health sector the municipality gave 9,701 inoculations in 1972-73 as against 9,568 of the preceding year. There were attacks of small-pox and chicken pox in the cases of 15 and 82 persons respectively but none died. Primary vaccination was administered to 2,138 and 2,291 children in 1971-72 and 1972-73 respectively, while re-vaccination was administered to 43,193 and 37,703 during the said years. The sanitary staff registered births and deaths. The number of births registered was 2,061 in 1971-72 and 2,643 in 1972-73, while the number of deaths registered was 807 in 1971-72 and 2,106 in 1972-73.

The present water-supply plant of the municipality was designed for 2 gallons of water per day per head which was

quite inadequate. Moreover, the entire population could not be supplied with water as per above requirement. A new water-supply scheme, estimated to cost Rs. 10,48,000, started functioning with effect from 15th May 1972, but the supply continued only up to the middle of August 1972 and thereafter there was no supply up to March 1973. The scheme is still under execution by the Public Health Engineering directorate of the State Government. The present water-supply main covers only an area of about 4 sq. miles. The municipality supplied drinking water by hiring trucks to areas having no proper water-supply at a cost of Rs. 1,96,844 in 1972-73 of which a sum of Rs. 50,000 consisted of a loan advanced by the State Government.

A small portion of the town covering an area of 1.28 sq. miles has underground sewerage system. This scheme was put into commission in 1938 and hence has become age-worn.

The municipality introduced free and compulsory primary education from 1st April 1964 under the Urban Primary Education Act, 1963. Prior to this it had 4 primary schools. At present, the municipality maintains 22 primary schools in all. During 1972-73, a sum of Rs. 6,86,729 was spent for education out of which a sum of Rs. 18,532 was spent for one Junior High School of the municipality.

The Raniganj Municipality covers an area of 4.79 sq. km. with a population of 40,104 according to the Census of 1971. It is divided into 15 wards. It runs 5 primary schools including 2 Bengali, 1 Urdu, 1 Hindi for boys and 1 Bengali for girls. In 1971-72, 146 gastro-enteric cases from outside the town were admitted to the Raniganj hospital. The present Primary Health Centre in the town was run by the municipality before it was made over to the State Government. In 1971-72, food samples were taken in 22 cases under the Prevention of Food Adulteration Act out of which 7 cases were found adulterated by the Government analyst. The number of births and deaths that year was 2,256 and 344 respectively as against 2,383 and 270 of the previous year. The public health staff administered primary and secondary vaccinations respectively to 510 and 4,670 persons and anti-cholera inoculation to 5,624 persons. The municipality has 12 km. metalled and 2.5 km. unmetalled road, and in 1971-72 it constructed roads and drains at a cost of Rs. 40,180. Parks and play-grounds are being constructed by the municipality and arrangement has been made for filling up the Shashti Garia tank for the purpose under the

Raniganj
Municipality

Development schemes of 1963-64. The cost of the work was a sum of Rs. 10,639.

The State Government took up the water works remodelling scheme of the municipality at an estimated cost of Rs. 12,86,000, two-third of which was borne by Government as grant and one-third as loan. The scheme was for supplying filtered water to about 30,000 people of the town @ 15 gallons per head per day, it being so estimated in 1956 and completed in 1968. Machineries, tanks, filter beds, etc. were installed according to the requirements of the then population which appear to be inadequate now as the population has increased and the municipality has to run its machines for more than 18 hours at a stretch. House connexions of water taps numbered 1,008 up to 1970-71, and in 1971-72, 38 new connexions were made. New pipe-lines were laid in Chamki Mohalla areas measuring 500 ft. in length and the old supply main has been replaced by over-size pipes measuring 1,000 ft. in some *basti* areas. Water was supplied day and night during the *pujās* and festivals of all communities and during marriage ceremonies additional supplies were made to 47 families for three hours at a cost of Rs. 5 each.

Electricity for street lighting was supplied by the Raniganj Electric Supply Co. Ltd. on the basis of a contract with the municipality. There were 556 street lights including 192 tube lights under the control of the municipality in 1971-72. The table-7 in the Appendix shows the income and expenditure position of the municipality as obtaining in 1971-72.

The Durgapur Notified Area Authority was constituted in 1962. It spreads over an area of about 155 sq. kms. bounded on the east by an imaginary line from Bidhannagar to Nadiha via Jadavendra Panja Avenue, by the Steel Township to the north, by the Damodar river to the south and by Gopal Math to the west. It had a population of 2,82,593 in 1971 of whom 8,500 were rate payers. It held 6 meetings during 1971-72. It supplies water and electricity to the residents within its area consisting of 35 villages and 9 industrial townships and attends to their conservancy and drainage and public health requirements.

Though water is supplied by the Durgapur Projects Ltd. and the Durgapur Steel Plant in Durgapur and Benachiti areas, recently the Notified Area Authority has constructed a R.C.C. water reservoir at Benachiti with a one-lakh gallon capacity for supplying water in the Bhiringi-Benachiti Area.

The Authority has 93 kms. of drains within Durgapur area

of which 80 kms. of drains are *kutchha* and the rest are *pucca*. The sweepings are carried by trucks and tractors and are used to fill up low-lying areas.

The main supply of electricity is made by the Durgapur Projects Ltd., while the West Bengal State Electricity Board supplies electricity for street lighting in Bhiringi-Benachiti and Gopalmath areas. All roads of the Durgapur industrial area on either side of the G.T. Road from Muchipara to Faridpur are provided with street lights.

The Authority runs an outdoor dispensary since 1970 in the Benachity area. During 1971-72, 16,337 new and 16,995 old patients attended the dispensary.

The Authority constructed and maintained up to 1971-72 metalled roads for a length of 27 kms. and un-metalled roads for 16 kms. It also repaired village roads totalling a length of 208 kms. in the said period.

As to the income position of the Authority in 1971-72, it had an opening balance of Rs. 3,20,198 to which was added the total receipts of Rs. 17,53,142. The receipts included rates on holdings (arrear, current and interest), taxes on profession, lighting rate, water rate, amount realized from pounds, hackney carriages, food licences, conservancy services. Large sums were also received for development schemes, as motor vehicles grants and as subvention for payment of dearness allowance from government. As to expenditure that year, the Authority spent sums for its general administration, public safety, water-supply, dispensary, etc. The table-8 in the Appendix shows the actual receipts and expenditure figures of the Authority for 1971-72.

The Zilla Parishads came into being under the West Bengal *Zilla Parishads* Act, 1963 to provide for the re-modelling of Local Government with a view to associating the local authorities with development activities and bringing about democratic decentralization and people's participation in planning and development.

In 1968-69, Barddhamān Zilla Parishad had 69 members, of whom 67 were men and 2 women. The Zilla Parishad had 6 meetings held during that year and the average attendance was 22. The Parishad had 6 Standing Committees during the year. The table overleaf gives information about their meetings and membership :

PANCHAYATI
INSTITUTIONS

Zilla Parishad

Durgapur
Notified Area
Authority

Standing Committees	No. of meetings	No. of members	Average attendance
Finance & Establishment	10	11	6
Public Health	7	16	8
Public Works	11	12	7
Agriculture & Irrigation	5	12	10
Industry & Cooperation	3	12	6
Public & Special Welfare	6	12	5

Appointed by the State Government, the Executive Officer who is a member of the West Bengal Civil Service, runs the administration of the Parishad. He secures coordination between the Parishad, its Standing Committees and the various district-level officers concerned with the panchayati functions.

The Block level panchayats are known as Anchalik Parishads. They correspond to the Panchayat Samitis of the other States of India and are constituted under the West Bengal *Zilla Parishads* Act, 1963. All Anchalik Parishads are conterminous with the Blocks.

The areas, population and number of members of each of the 23 Anchalik Parishads during 1968-69 are given in the table below (exclusive of the 10 Blocks of the Asansol Subdivision which have no Anchalik Parishads as those are mainly colliery

Anchalik Parishad	Area in sq. miles	Population	No. of members *
Ausgram I	94.01	66,093	19
Ausgram II	137.50	65,493	22
Bhatar	166.88	1,24,249	30
Barddham n	157.10	1,20,281	31
Memari I	80.40	96,800	26
Memari II	87.82	75,808	24
Jamalpur	101.52	1,09,593	32
Raina I	102.87	80,131	25
Raina II	88.03	68,123	23
Khandaghosh	100.95	79,459	26
Galsi I	89.53	77,735	26
Galsi II	84.00	70,081	28
Purbasthali I	60.00	65,675	23
Purbasthali II	74.00	77,810	27
Kalna I	63.89	73,988	27
Kalna II	67.39	69,285	24
Manteswar	117.00	1,07,455	32
Mongalkote	141.26	1,22,438	33
Ketugram I	74.84	74,810	15
Ketugram II	66.96	32,209	24
Katoya I	66.00	79,571	27
Katoya II	64.34	52,093	23
Kanksa	108.00	63,223	19

* Each of the Anchalik Parishads had 2 women members.

and industrial areas and Government felt that the panchayats of the normal pattern would serve no purpose there, all the amenities available from the panchayats being provided by the colliery and industrial managements).

The Standing Committees of the Anchalik Parishads which were in operation are named in table-9 in the Appendix along with their respective number of meetings and average attendance.

The sources of income of the Anchalik Parishads are receipts from the Panchayat department; allotment received from other departments of government for execution of specific projects; allotment received from the Zilla Parishad; receipts on account of tolls, rates and fees levied by the Anchalik Parishads; gifts, contributions, trust endowment and other receipts. The income-composition of the Anchalik Parishads for 1968-69 are given in table-10 in the Appendix.

Heads of expenditure of the Anchalik Parishads are establishment charges which include salary and other allowances of personnel, allowances for the members, contingencies, etc.; allotment to Gram and Anchal Panchayats; expenditure for development works and other expenditures. Table-11 in the Appendix would give the expenditure composition of the Anchalik Parishads for 1968-69.

The district had 193 Anchal Panchayats during 1968-69. Figures relating to them are given in table-12 in the Appendix.

A Secretary supervises the day-to-day business of each Anchal Panchayat. There are *dafadars*, *chowkidars* and other staff. The staff of the Anchal Panchayats valid for 1968-69 are given in table-13 in the Appendix.

Table-14 in the Appendix gives the income composition of the Anchal Panchayats for 1968-69.

The heads of expenditure of the Anchal Panchayats valid for 1968-69 along with the closing balance are furnished in table-15 in the Appendix.

The number of Gram Panchayats within each Anchalik Parishad along with their number of members and their sex-composition are furnished in the next table.

Anchal Panchayat

Gram Panchayat

Anchalik Parishad

Anchalik Parishad	Gram Panchayat	Members	Sex Composition	
			Male	Female
Ausgram I	37	390	390	—
Ausgram II	43	453	452	1
Bhatar	70	808	806	2
Barddhamān	71	822	816	6
Memari I	58	659	659	—
Memari II	52	538	538	—
Jamalpur	85	952	952	—
Raina I	61	723	721	2
Raina II	49	524	524	—
Khandaghosh	60	712	711	1
Galsi I	68	754	747	7
Galsi II	64	628	627	1
Purbasthali I	43	481	480	1
Purbasthali II	65	668	663	5
Kalna I	55	617	617	—
Kalna II	59	651	651	—
Manteswar	94	1,062	1,060	2
Mongalkote	78	880	876	4
Ketugram I	62	716	715	1
Ketugram II	49	375	374	1
Katoya I	75	808	807	1
Katoya II	50	606	604	2
Kanksa	42	507	504	3

The table below gives the sources of income of the Gram Panchayats along with their respective amounts of income for 1968-69.

Anchalik Parishad	Opening balance	Allotment from Anchal Panchayats	Receipts from gifts endowments	Allotment from other sources	Total income
	Rs.	Rs.	Rs.	Rs.	Rs.
Ausgram I	17,164.31	29,087.15	14,926.41	—	71,177.87
Ausgram II	18,630.20	16,140.97	27,117.99	9,505.87	71,395.03
Bhatar	18,011.48	24,214.76	350.00	—	42,576.24
Barddhamān	24,373.94	20,766.94	3,363.39	—	48,504.27
Memari I	14,757.28	8,747.58	14,206.00	12,750.01	50,460.87
Memari II	14,455.59	19,927.08	8,797.32	3,090.87	46,270.86
Jamalpur	15,048.75	33,480.66	2,500.00	3,717.00	54,746.41
Raina I	19,869.60	30,529.62	—	—	50,399.22
Raina II	7,143.72	23,726.44	—	—	30,870.16
Khandaghosh	5,335.85	22,849.18	—	—	28,185.03
Galsi I	13,537.11	23,000.72	8,379.49	—	44,917.32
Galsi II	9,897.32	20,372.14	3,487.32	—	33,756.78
Purbasthali I	9,608.70	15,594.84	2,032.33	—	27,235.87
Purbasthali II	17,017.07	20,398.00	1,872.20	—	39,287.27
Kalna I	9,938.68	35,062.53	6,965.25	—	51,966.46
Kalna II	13,567.81	24,736.40	—	—	38,304.21
Manteswar	8,841.75	23,228.74	257.56	—	32,328.05
Mongalkote	805.52	22,372.60	—	—	23,178.12
Ketugram I	6,100.90	14,648.50	2,031.87	989.00	23,770.27
Ketugram II	2,068.80	5,443.00	1,159.71	2,659.80	11,331.31
Katoya I	5,839.59	14,657.98	810.00	—	21,307.57
Katoya II	11,740.98	11,654.52	411.37	—	23,806.87
Kanksa	1,963.53	1,870.00	—	—	3,833.53

The Gram Panchayats incurred substantial expenditure for development works, besides other works. The table below gives their expenditure figures for 1968-69 :

Anchalik Parishad	Expenditure for develop- ment works	Other expenditure	Total expenditure	Closing balance
	Rs.	Rs.	Rs.	Rs.
Ausgram I	45,722.59	1,970.21	47,692.80	23,485.07
Ausgram II	45,488.25	11,424.78	56,913.03	14,482.00
Bhatar	23,907.20	1,325.46	25,232.66	17,343.58
Barddhamān	24,865.93	734.11	25,600.04	22,904.23
Memari I	40,365.52	2,887.64	40,365.52	10,095.35
Memari II	31,245.41	1,433.05	34,133.05	12,137.81
Jamalpur	37,323.72	1,301.29	38,756.77	15,989.64
Raina I	31,782.80	255.54	33,084.09	17,315.13
Raina II	24,413.00	2,400.00	24,668.54	6,201.62
Kandaghosh	20,178.56	1,373.89	22,578.56	5,606.47
Galsi I	25,308.75	1,302.15	26,682.64	18,234.68
Galsi II	15,555.95	2,527.49	16,858.10	16,898.68
Purbasthali I	14,589.88	1,089.99	17,117.37	10,118.50
Purbasthali II	22,742.63	3,975.72	23,832.62	15,454.65
Kalna I	38,364.10	572.60	42,339.82	9,626.64
Kalna II	21,798.45	1,093.14	22,371.05	15,933.16
Manteswar	20,258.65	815.15	21,351.79	10,976.26
Mongalkote	19,694.88	1,806.21	20,510.03	2,668.09
Ketugram I	17,289.09	1,443.92	19,095.30	4,674.97
Ketugram II	7,812.60	317.22	9,256.52	2,074.79
Katoya I	15,282.38	1,770.49	15,599.60	5,707.97
Katoya II	9,801.09	75.19	11,571.58	12,235.29
Kanksa	1,011.69	—	1,086.88	2,746.65

In 1968-69, 38 Nyaya Panchayats were functioning in the district. The following table shows their activities during that year in respect of criminal cases.

Nyaya
Panchayats

CRIMINAL CASES DISPOSED OF (1968-69)

No. of cases of convictions		No. of cases of acquittal		No. of persons involved	
Of previous year	Of current year	Of previous year	Of current year	Of previous year	Of current year
35	56	9	70	39	188

The following table shows the number of civil cases during the aforesaid year.

CIVIL CASES DISPOSED OF (1968-69)

Cases brought forward from the preceding year		Cases of the current year	
No. of cases	Average value of suits Rs.	No. of cases	Average value of suits Rs.
28	2,200	65	4,637

That year, orders of the Nyaya Panchayats in respect of 90 criminal cases and 61 civil cases were set aside by higher courts.

The West Bengal *Panchayat* Act, 1973 (Act XLI of 1973) received the assent of the President of India on 17th January 1974. It is meant for reorganizing the Panchayats in the rural areas of West Bengal. The new Act supersedes the West Bengal *Panchayat* Act, 1957 and the West Bengal *Zilla Parishads* Act, 1963 and provides for the formation of the Zilla Parishad, Panchayat Samitis. Thus following in line with the other States of India, a three-tier system in place of a four-tier system of rural bodies has been introduced in this State. The present Act provides for direct election to all the three tiers. Notifications under the Act have, however, exempted the Union Boards of the 10 Development Blocks of Asansol Subdivision from its purview — and the Union Boards relics of the past still exist in the industrial subdivision of the district.

TOWN PLANNING

Asansol
Planning
Organization

Regional planning is undertaken for formulating national policy. It has been said that plans for industrial and urban dispersal in the State in the context of planning for newly growing areas like the Asansol-Chittaranjan-Durgapur complex required the formulation of regional plan.¹ Planning was needed for industrial location, planned urbanization, natural resource development, comprehensive infrastructure development, manpower training and utilization, etc.² In this background, the State Government recognized the need for a multipurpose approach to the solution of the problems of the Asansol-Durgapur-Chittaranjan industrial, mining and urban complex and set up the Asansol Planning Organization on 28th January 1964. The Organization assumed responsibility for preparing an integrated master plan for the coordinated development of this area, both on the physical and the socio-economic plants. The jurisdiction of the Organization extends to the whole of the Asansol and Durgapur Subdivisions and can be extended further, if necessary. As there already exists the Durgapur Development Authority at Durgapur, performing similar functions, it has been decided that the Asansol Planning Organization would work in close collaboration with it. The Organization has made several empirical

¹ Government of West Bengal, Calcutta Metropolitan Planning Organization — *Regional Planning for West Bengal*, Calcutta 1965, p. 96.

² *loc. cit.*

studies and has prepared plans concerning its area. Though it is primarily devoted to serve its own area, it has also made extra-regional researches and improvement plans. Some of its plans have either been approved or sanctioned. The Organization is now coordinating the first stage of the preparation of the Fifth Five-year Plan for the entire Bardhaman division.

The Organization has a 20-member advisory body including representatives of local industries and local authorities. The personnel of the Organization consists of the Additional District Magistrate, Asansol as its Director and a number of officers with different technical qualification. They prepared many survey reports, formulated plans, etc. covering the growth and development of the industrial areas of Asansol, Durgapur, Santaldih, etc.

The Organization incurred an expenditure as stated below during 1973 (upto 31 December 1973) on the following accounts: pay of officers and staff, Rs. 2,43,535; travelling allowances, Rs. 6,582; other allowances, Rs. 965; contingency, Rs. 23,885; and stipends Rs. 720.

The Durgapur Development Authority (DDA) is a statutory body set up under the Durgapur Development and Control of Building Operations Act, 1958 (Act XXVII of 1958).¹ It came into existence on 30th April 1959. The major function of the Authority is the planned development of Durgapur and the control of building operations in the area. Along with the promotion of industries and development of township, the Authority took up the task of acquisition of land and the creation of common facilities like water-supply, roads, drainage, etc. It has thus enlarged its function from building control to planned development.

The Authority is constituted by the State Government under Section 3 of the Act. It has four sub-committees, namely, building sub-committee, allotment sub-committee, allotment sub-committee (special) and allotment sub-committee for township. The building sub-committee considers and approves applications for building under Section 6 of the Act. The allotment sub-committee considers applications for allotment of land in the industrial zone. The allotment sub-committee (special) considers applica-

OTHER LOCAL
SELF GOVERNING
BODIESDurgapur
Development
Authority

¹ Durgapur Development Authority — *Administration Report* : 1965-66 & 1966-67.

APPENDIX

STATEMENT OF DEMAND, COLLECTION & REMISSION IN RESPECT OF
BARDDHAMAN MUNICIPAL CORPORATION FOR 1972-73.

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Table—2	Demand Rs.	Collections Rs.	Remissions & rebate Rs.	Outstanding balance Rs.
Tax on houses and lands				
Arrear Current	2,36,622.56	5,48,444.52	13,802.49	
Total	5,14,951.94	10,09,803.50	50,244.81	8,74,630.08
	7,51,574.50	15,58,248.02	64,047.30	
Tax on animals, vehicles, cart registrations etc.				
Arrear Current	—	—	—	—
Total	2,103	2,103	—	—
Tax on professions and trades				
Arrear Current	1,51,944	23,551.75	2,961	
Total	97,868	41,345.65	693.60	1,81,260
	2,49,812	64,897.40	3,654.60	
Tolls on ferries				
Arrear Current	8,115	—	—	—
Total	800	800	—	8,115
	8,915	—	—	—
Water-rate				
Arrear Current	94,733.77	—	—	—
Total	3,56,813.46	—	—	—
	4,51,547.23	—	—	—
Lighting				
Arrear Current	93,938.78	—	—	—
Total	2,09,442.27	—	—	—
	3,03,381.05	—	—	—
Conservancy				
Arrear Current	3,62,266.79	—	—	—
Total	6,28,155.83	—	—	—
	9,90,422.62	—	—	—

BARDDHAMAN

APPENDIX

INCOME AND EXPENDITURE OF KALNA MUNICIPALITY : 1971-72

Table—3	INCOME Rs.	EXPENDITURE Rs.
Tax on holding	69,394.44	20,473.79
Tax on animals and vehicles	2,484.25	39,226.94
Tolls on ferries	38,231.66	27,107.50
Licences	14,299.72	22,704.61
Conservancy rate	66,222.43	31,754.07
Water-rate	54,492.38	1,89,661.12
Realization under Special Act	2,152.06	5,997.45
• Revenue derived from municipal properties and power apart from taxation	9,705.75	3,806.59
Grants and contributions	2,89,016.29	1,810.34
Miscellaneous	10,552.59	42,024.91
Extraordinary debt—loan	46,571.25	23,814.20
		30,261.67
		3,399.50

LOCAL SELF-GOVERNMENT

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APPENDIX

Table—4 INCOME AND EXPENDITURE OF KATOYA MUNICIPALITY : 1971-72

INCOME		EXPENDITURE	
	Rs.		Rs.
Rates and taxes		General administration and collection charges	55,985
Realization under Special Act	1,95,612	Lighting	24,698
Revenue derived from municipal properties and powers apart from taxation	22,610	Water-supply	28,514
Grants and contributions	6,313	Drainage	42,533
Total receipts excluding opening balance	3,44,616	Conservancy	1,94,363
Total receipts including opening balance	9,03,663	Vaccination	4,595
Cash balance as on 31st March 1972	10,50,722	Public works	1,02,899
	3,16,879	Public instruction	2,00,910
		Miscellaneous	27,199
		Ordinary expenditure	7,02,723

BARDDHAMAN

APPENDIX

Table—5 INCOME AND EXPENDITURE OF DAINHAT MUNICIPALITY : 1972-73

INCOME		EXPENDITURE	
	Rs.		Rs.
Rates and taxes		Office establishment	1,135
Tax on	20,629	For	
—animals and vehicles	3,828	—collection of rates	2,820
—professions	4,048	—lighting	5,314
—lighting	5,482	—water-supply	31,195
—conservancy	26,815	—drainage	10,521
—warrants and interests	718	—conservancy	5,659
Rent of land	689	—hospital	1,259
From markets and slaughter houses	162	—public works	39,281
From burning <i>ghat</i>	3,372	—vaccination	587
Sale proceeds of night-soil	42	—maternity	240
Government dearness allowance	29,057	—unpaid bills	484
Additional dearness allowance	2,780	Miscellaneous	11
Grants @ Rs. 7.50	2,790	Dearness allowance	37,258
Personal pay	990	Additional dearness allowance	3,559
Government grant on development scheme	38,565	Additional relief	3,559
Government grant (for motor vehicles)	7,781	<i>Piia</i> relief	1,060
Pound	60	Printing charge	1,909
Donation	3,497	Provident fund	539
Other items	62	Law charge	109
Government loans	25,000	Grant @ Rs. 7.50	2,694
Advance	460	Personal pay	893
Deposit	658	Advance to staff	855
		Election	500

LOCAL SELF-GOVERNMENT

APPENDIX

INCOME AND EXPENDITURE OF ASANSOL MUNICIPALITY : 1972-73

Table—6	INCOME	Rs.	EXPENDITURE	Rs.
	Tax on holdings	6,53,351	Office establishment	1,16,115
	Tax on animals and vehicles	5,488	Collection establishment	2,59,532
	Tax on professions and trades	91,416	Refunds	501
	Water rate	3,49,275	Pensions and gratuities	7,823
	Lighting rate	91,803	Street lighting	51,769
	Conservancy rate	7,13,907	Water-supply	
	Warrant fees	203	—capital outlay	5,600
	Interest on overdue tax	5,438	—establishment and repairs	5,18,986
	Education cess	1,57,578	Drainage	
	Pound rent	350	—construction	13,327
	Hackney carriage	170	—establishment, etc.	2,71,200
	Licence fee under prevention of Food Adulteration Act	2,724	Private privies, cess pools and road cleaning establishment	
	Sale proceeds of road refuse	725	Charges for Health Officer and Sanitary Inspectors	8,86,964
	Conservancy receipts other than taxes and rates		Vaccination	1,06,147
	Fees and revenue	7,630		22,523
	—from education	2,431	Other sanitary requirements	19,672
	—markets and slaughter houses	1,050	Markets and slaughter houses	7,822
	Government grants for		Public works establishment	47,482
	—development	60,004	Buildings	14,485
	—education	40,124	—New works and repairs	97,553
	—pay of midwife	3,097	Roads—new works and repairs	6,86,729
	—dearness allowance	7,91,300	Schools	1,874
	Recoveries for services to private individuals	1,478	Interest due on account of current year	12,753
	Miscellaneous	20,870	Printing charges	6,927
	Government loan	69,680	Law charges	21,770
	Advances	65,584	Provident fund	40,213
	Deposits	1,33,609	Investment in government securities	1,499
			Repayment of loans	79,369
			Advance	1,33,025
			Deposits	

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APPENDIX

INCOME AND EXPENDITURE OF RANIGANJ MUNICIPALITY : 1971-72

29 Table—7

INCOME	Rs.	EXPENDITURE	Rs.
Rate on holding (including water, conservancy and lighting rates)	4,10,805	Office establishment	20,420
Trade tax	29,554	Collection establishment	46,619
Cart registration fees	2,633	Lighting	18,854
Interest	7,310	Water-supply	56,195
House connexion fees	5,700	Establishment and repair	6,073
Excess water fees	358	Overtime allowance to staff	5,228
Miscellaneous	3,158	Stores and Miscellaneous	1,02,037
Cycle rickshaw	7,406	Drainage	
Rent	2,382	—capital outlay	6,454
Conservancy receipts	18,100	—establishment	31,186
Education	2,400	Private privies and cess pools	1,20,761
Government subvention	2,23,526	Road	
Motor vehicles tax	14,366	—watering	2,989
Sale proceeds of lands and tanks	3,200	—Cleaning	1,09,644
		Vaccination	5,694
		Anti-malaria activities	5,483
		Public works	
		—establishment	11,594
		—roads (repair)	21,037
		—stores	2,640
		Schools	96,297
		Contributions	2,085
		Law charges	6,437
		Provident fund	32,920
		Disposal of the dead bodies of paupers	2,271

LOCAL SELF-GOVERNMENT

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Table—8 RECEIPTS AND EXPENDITURE OF THE DURGAPUR NOTIFIED AREA AUTHORITY : 1971-72

RECEIPTS		EXPENDITURE	
	Rs.		Rs.
Opening balance		General Administration	89,980
Rate on holdings	3,20,198	—Office establishment	57,292
—Arrear	53,669	—Collection establishment	8,194
—Current	9,25,870	—Other charges of rates	5,855
Interest on tax	1,234	—Survey of land	8,443
Tax on profession	74,084	—Rent	47,689
Lighting rate		Public safety-lighting	
—Arrear	4,219	Water-supply	86,196
—Current	1,22,350	—Establishment	13,824
Water rate		—Capital outlay	4,224
—Miscellaneous	2,546	—Repair	264
—House connexion fees	1,020	—Miscellaneous	
Realization under Special acts		Drainage	
—Pound	752	—Capital outlay	42,114
—Hackney carriage	2,606	—Repair	5,364
—Food licence fees	3,607	Conservancy—Road cleaning (establishment)	1,80,689
Conservancy receipts (other than taxes)	8,891	Charges on account of Health and Sanitary Inspectors	24,557
From Provident Fund	40	Hospital and Dispensary Vaccination	34,075
From fines under Court Cases	1,367	Other Sanitary requirements	6,097
Interest on investment	31,000	—Refund	55
Amount drawn from fixed deposit	81,521	—Aboriculture	492
Refund	234	—Salary Savings	6,909
Grants from Government		—Schemes Registration of births and deaths	240
—For development schemes	1,12,244	—Public Works establishment	76,834
—For motor vehicles	11,484	—Road repair	42,840

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LOCAL SELF-GOVERNMENT	
Subvention for payment of dearness allowance	1,09,530
Advance	872
Deposits	2,00,276
Total receipts	17,53,142
Opening balance	3,20,198
Grand Total	20,73,340
Miscellaneous	
—Law charges	2,166
—Printing charges	5,546
—Provident Fund	56,128
—College	2,744
—Bus passenger shed	6,622
House connexion fees	100
Contribution	450
—Miscellaneous	8,211
—Disposal of dead	421
—Advance	6,77,284
—Deposits	1,46,757
—Total expenditure	16,79,528
Closing balance	3,93,812
Grand Total	20,73,340

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Table—9

MEETINGS OF THE STANDING COMMITTEES OF THE ANCHALIK PARISHADS

Name of the Anchalik Parishad	Finance & Establishment No. of Average meetings attend- ance	Public Health No. of Average meetings attend- ance	Public Works No. of Average meetings attend- ance	Agri. & Irrigation No. of Average meetings attend- ance	Industry & Cooperative No. of Average meetings attend- ance	Public & Social Welfare No. of Average meetings attend- ance	Primary Education No. of Average meetings attend- ance
Ausgram I	2	7	2	4	1	4	—
Ausgram II	3	5	3	4	1	3	—
Bhatar	—	—	—	—	—	—	—
Barddhamān	4	7	4	6	4	4	—
Memari I	1	4	—	—	—	—	—
Memari II	3	5	2	4	3	1	—
Jamulpur	1	9	1	8	2	9	—
Raina I	6	5	3	5	4	6	—
Raina II	6	6	4	6	5	5	—
Khandaghosh	5	5	5	6	2	6	1
Galsi I	5	4	1	4	5	4	—
Galsi II	2	6	1	6	3	6	—
Purbasthali I	3	4	—	—	1	4	—
Purbasthali II	4	4	6	4	3	5	—
Kalna I	5	5	4	3	5	5	1
Kalna II	3	6	2	3	6	4	—
Manteswar	5	1	1	5	1	6	—
Mongalkote	4	6	—	—	—	—	4
Ketugram I	5	6	2	6	4	4	—
Ketugram II	7	5	2	3	3	4	—
Katoya I	7	5	2	3	4	5	—
Katoya II	10	5	3	5	1	4	2
Kanksa	3	7	—	—	—	2	—

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APPENDIX

Table—10

THE INCOME-COMPOSITION OF THE ANCHALIK PARISHADS FOR 1968-69

Name of the Anchalik Parishad	Opening balance Rs.	Grants from Panchayat department Rs.	Allotment from other departments for specific projects Rs.	Allotment from the Zilla Parishad Rs.	Receipts from tolls, rates and fees recei- ved by the Anchalik Parishad Rs.	Gifts, contributions, trust endowments Rs.	Other receipts Rs.	Total income including opening balance Rs.
Ausgram I	18,553.75	9,085	2,755	2,827.56	4,440	—	1,943.84	38,111.31
Ausgram II	28,025.82	9,035	6,949	2,827.56	2,355	—	14,835.00	51,136.22
Bhatar	47,465.97	7,785	—	8,735.28	480	—	9,506.00	79,301.25
Barddhamān	1,59,944.88	9,035	—	15,893.24	7,540	—	598.00	2,01,919.12
Memari I	17,997.58	9,535	13,549	4,736.92	1,720	—	—	48,136.50
Memari II	11,353.50	17,035	32,310	2,214.28	1,185	—	—	64,097.78
Jamulpur	26,915.20	10,425	15,520	19,794.98	640	—	3,248.30	73,295.18
Raina I	38,335.67	9,035	43,535	2,214.28	2,900	—	—	99,268.25
Raina II	170.90	7,785	46,360	15,979.28	—	—	—	1,04,282.61
Khandaghosh	45,590.10	7,785	31,875	3,281.87	43,399	—	—	88,965.96
Galsi I	35,325.59	9,535	16,825	2,214.28	2,310	—	964.30	67,174.17
Galsi II	54,336.05	9,035	14,500	3,333.28	2,010	350.00	575.62	83,714.33
Purbasthali I	34,361.63	9,035	13,640	2,214.28	50	—	—	59,876.53
Purbasthali II	18,278.28	9,035	23,894.28	—	—	—	17,890.00	51,207.56
Kalna I	11,923.39	9,035	13,752	9,814.28	—	—	655.70	48,662.67
Kalna II	7,651.59	10,910	7,534.20	7,534.20	—	—	—	40,503.49
Manteswar	53,336.48	9,035	2,800	13,313.92	—	658.50	4,220.00	78,485.40
Mongalkote	51,470.83	7,785	—	39,681.28	930	—	774.00	1,04,745.61
Ketugram I	74,550.82	7,795	7,210	3,632.49	—	—	241.04	93,962.31
Ketugram II	36,646.25	7,785	2,965	7,602.08	—	—	1,896.00	55,239.37
Katoya I	44,063.68	7,785	21,580	2,214.28	—	—	12,836.52	77,538.96
Katoya II	1,08,902.96	8,015	—	3,214.28	—	—	—	1,32,969.36
Kanksa	29,717.43	9,035	—	3,665.28	—	—	—	42,417.71

LOCAL SELF-GOVERNMENT

APPENDIX

Table—11
EXPENDITURE COMPOSITION OF THE ANCHALIK PARISHADS OF BARDDHAMĀN DISTRICT FOR 1968-69

Name of the Anchalik Parishad	Establishment charges	Allotment to Gram & Anchal Panchayats	For Development works	Other expenditure	Total expenditure	Closing balance
Ausgram I	7,503.58	13.75	708.43	4,558.28	12,784.04	25,327.27
Ausgram II	5,938.65	1,441.55	6,409.63	1,426.40	15,186.23	35,949.99
Bhatar	5,465.47	1,900.00	17,518.40	5,339.04	30,222.91	49,078.34
Barddhamān	7,852.77	9,748.64	30,497.31	7,170.11	55,271.83	1,46,647.29
Memari I	5,215.47	7,739.51	6,863.83	—	19,818.81	28,317.69
Memari II	5,369.69	3,816.00	13,216.98	—	22,402.67	41,695.11
Jamalpur	5,493.12	17,951.68	28,123.09	3,608.35	55,176.24	18,118.94
Raina I	5,974.53	40.00	39,273.73	—	45,287.26	53,980.99
Raina II	6,567.61	—	28,800.13	—	35,367.74	68,914.87
Khandaghosh	10,932.72	—	14,033.80	—	24,966.52	63,999.44
Galsi I	5,360.95	—	2,520.00	—	7,880.95	59,293.22
Galsi II	5,429.62	—	23,737.42	—	29,167.04	54,547.29
Purbasthali I	5,897.42	—	19,120.27	534.22	25,551.91	34,324.62
Purbasthali II	4,905.17	—	27,670.26	600.00	33,175.43	18,032.13
Kalna I	4,945.14	5,900.00	—	24,027.59	34,872.73	13,789.94
Kalna II	5,321.37	—	16,235.97	—	21,557.34	18,946.15
Manteswar	4,945.01	—	4,581.14	—	9,526.15	68,959.25
Mongalkote	5,948.05	—	18,326.39	840.00	25,114.44	79,631.17
Ketugram I	6,678.20	50.00	17,752.93	1,068.25	25,549.38	68,412.93
Ketugram II	5,533.71	—	16,022.99	1,527.48	23,084.18	32,155.19
Katoya I	6,150.24	—	14,480.74	9,276.75	29,907.73	47,631.23
Katoya II	5,708.12	—	517.80	—	32,660.92	1,00,308.44
Kanksa	5,010.90	—	946.42	26,435.00	5,957.32	36,460.39

APPENDIX

Table—12
ANCHALIK PARISHADWISE STATEMENT OF HOUSEHOLDERS, TAX RATE-PAYERS, MEMBERS, NO. OF MEETINGS & AVERAGE ATTENDANCE OF BARDDHAMĀN DISTRICT DURING : 1968-69

Anchalik Parishad	Anchal Panchayat	House holders	Tax rates fees payers	Members*	No. of meetings	Average attendance
Ausgram I	6	19,552	31,959	142	50	11
Ausgram II	7	14,387	18,085	155	75	10
Bhatar	11	30,208	20,588	205	79	12
Barddhamān	10	20,532	18,160	212	70	10
Memari I	8	13,218	18,226	156	51	11
Memari II	6	12,768	12,968	164	47	12
Jamalpur	10	20,104	23,526	216	57	8
Raina I	8	14,156	16,970	175	58	12
Raina II	7	13,568	16,800	191	12	12
Khandaghosh	9	18,640	31,749	216	7	10
Galsi I	9	13,881	19,512	192	83	10
Galsi II	9	14,500	16,999	179	69	10
Purbasthali I	7	13,111	16,668	185	72	10
Purbasthali II	9	17,358	19,546	143	97	10
Kalna I	9	15,782	16,529	148	72	12
Kalna II	8	14,339	15,198	205	99	11
Manteswar	12	20,342	21,579	315	126	13
Mongalkote	12	24,088	22,901	218	73	7
Ketugram I	8	14,248	18,038	195	74	12
Ketugram II	5	6,434	7,817	95	35	5
Katoya I	9	12,254	16,894	151	60	10
Katoya II	7	11,865	11,387	178	69	9
Kanksa	7	5,863	3,561	43	21	18

*There was only 1 woman member in an Anchal Panchayat within Katoya I Anchalik Parishad.

APPENDIX

Table—13

THE STAFF OF THE ANCHAL PANCHAYATS OF BARDDHAMAN
DISTRICT VALID FOR 1968-69

Anchalik Parishad	Secretaries	Dafadars	Chowkidars	Others	Total
Ausgram I	6	7	70	1	84
Ausgram II	8	8	74	1	91
Bhatar	11	11	90	—	112
Barddhaman	10	10	102	—	122
Memari I	8	8	66	18	100
Memari II	6	6	60	1	73
Jamalpur	10	11	91	—	112
Raina I	8	8	85	2	103
Raina II	7	7	69	—	83
Khandaghosh	9	9	105	—	123
Galsi I	9	9	73	—	91
Galsi II	9	9	63	1	82
Purbasthali I	7	7	43	—	57
Purbasthali II	9	11	69	—	89
Kalna I	9	9	60	11	89
Kalna II	8	10	69	3	90
Manteswar	12	14	94	—	120
Mongalkote	12	16	129	—	157
Ketugram I	8	14	79	—	101
Ketugram II	4	6	41	5	56
Katoya I	9	10	79	—	98
Katoya II	7	7	62	1	77
Kanksa	5	5	44	—	54

Table—14
INCOME COMPOSITION OF THE ANCHAL PANCHAYATS OF BARDDHAMAN DISTRICT FOR 1968-69

APPENDIX

Anchalik Parishad	Opening balance Rs.	Taxes, rates, etc. Rs.	Grants & contributions by Panchayat Department Rs.	Receipts from Anchalik Parishad Rs.	Receipts from other sources Rs.	Total Income Rs.
Ausgram I	38,309.35	44,923.88	37,876.46	13.75	12,422.05	1,33,545.49
Ausgram II	43,940.96	30,934.18	44,217.13	1,411.55	22,429.32	1,42,933.14
Bhatar	59,429.54	41,573.47	57,536.03	1,900.00	30,898.17	1,91,337.21
Barddhaman	38,345.24	36,058.40	66,366.41	9,748.64	23,497.24	1,74,015.93
Memari I	33,944.40	47,679.98	55,783.69	3,979.39	5,930.26	1,47,317.72
Memari II	38,489.67	30,217.32	35,026.54	1,976.00	15,169.88	1,20,879.41
Jamalpur	43,162.84	42,925.03	46,743.70	14,234.68	24,682.72	1,71,748.97
Raina I	38,080.98	42,638.51	44,487.75	—	12,137.51	1,37,344.75
Raina II	18,626.03	36,677.07	40,430.00	—	—	95,733.10
Khandaghosh	21,493.84	36,145.39	53,880.00	—	9,234.85	1,20,754.08
Galsi I	30,127.12	22,816.47	46,606.52	—	8,070.23	1,07,620.34
Galsi II	32,920.71	28,184.89	43,907.45	—	6,737.05	1,11,750.10
Purbasthali I	15,075.95	22,102.46	31,441.24	—	12,988.71	81,608.36
Purbasthali II	19,346.51	31,052.63	45,283.84	—	12,675.24	1,08,358.22
Kalna I	27,939.05	43,661.67	41,492.10	5,900.00	14,531.47	1,33,524.29
Kalna II	20,623.56	39,113.01	42,623.40	—	15,324.80	1,17,684.77
Manteswar	36,867.43	34,407.04	63,968.74	—	15,495.86	1,50,739.07
Mongalkote	26,123.57	40,104.49	70,096.45	—	14,413.70	1,50,738.21
Ketugram I	19,280.59	30,248.32	46,904.97	—	9,880.44	1,06,314.32
Ketugram II	5,140.56	8,870.38	22,288.56	—	3,925.17	40,224.67
Katoya I	27,715.46	23,122.30	47,893.77	—	6,750.98	1,05,482.51
Katoya II	11,811.96	20,500.29	35,229.15	—	5,300.53	72,841.93
Kanksa	9,239.87	7,247.46	16,964.70	—	4,861.89	38,313.92

APPENDIX

Table—15

THE HEADS OF EXPENDITURE OF THE ANCHAL PANCHAYATS
ALONG WITH THE CLOSING BALANCE FOR 1968-69

Anchalik Parishad	Expenditure ¹ Rs.	Expenditure ² Rs.	Other expenditure Rs.	Total expenditure Rs.	Closing balance Rs.
Ausgram I	37,876.46	6,189.75	59,003.22	1,03,069.43	30,476.06
Ausgram II	44,217.17	13,978.69	38,699.23	96,895.09	46,038.05
Bhatar	57,536.03	1,900.00	85,929.08	1,45,365.11	45,972.10
Barādhāmān	65,066.41	9,668.64	54,893.16	1,29,628.21	44,387.72
Memari I	42,498.34	3,979.39	66,062.52	1,12,540.25	34,777.47
Memari II	34,114.12	1,476.00	40,737.15	76,327.27	44,552.14
Jamalpur	46,743.70	4,327.00	86,050.78	1,37,121.48	34,627.49
Raina I	41,092.75	—	60,704.41	1,01,797.16	35,547.59
Raina II	38,798.97	—	39,236.27	78,035.24	17,697.86
Khandaghosh	49,791.37	—	43,094.08	92,885.45	27,868.63
Galsi I	41,297.80	—	36,804.00	78,101.80	29,518.54
Galsi II	41,292.24	—	40,709.22	82,001.46	29,748.64
Purbasthali I	31,170.24	—	35,114.96	67,285.20	16,823.16
Purbasthali II	45,283.84	—	41,783.05	87,066.89	21,291.33
Kalna I	41,422.00	4,825.35	68,714.44	1,14,961.79	18,562.50
Kalna II	42,623.40	—	56,402.44	99,025.84	18,658.93
Manteswar	63,968.74	—	51,698.66	1,15,667.40	35,071.67
Mongalkote	70,096.45	—	53,108.63	1,23,205.08	27,533.13
Ketugram I	46,904.97	—	38,332.91	85,237.88	21,076.44
Ketugram II	21,921.56	—	14,093.48	36,015.04	4,209.63
Katoya I	47,893.77	—	29,364.12	77,257.89	28,224.62
Katoya II	33,270.97	—	30,882.69	64,153.66	8,688.27
Kanksa	12,334.70	—	13,680.29	26,014.99	12,298.93

¹ In respect of grants received from the Panchayat department for pay and allowances of Secretaries, Chowkidars and Dafadars, sub-allotment to Gram Panchayats for development works and for other purposes.

² In respect of grants received from the Anchalik Parishad.

Table—16
DURGAPUR DEVELOPMENT AUTHORITY : REVENUE ACCOUNT FOR 1965-66

Receipts	Rs.	Expenditure	Rs.
Opening Balance	79,428.00	Pay of Officers	34,840.00
Share of Revenue from water-supply in the Industrial Area by Durgapur Project Ltd.	1,00,926.00	Establishment Allowances : dearness travelling medical	58,616.00
Rental for buildings in the township	9,926.00	Contingencies : demolition of unauthorised construction	9,641.00
Rental for the I.C.I. godown	880.00	Expenses for court cases	5,051.00
Application fees for township plots	7,920.00	Maintenance of vehicles	1,527.00
Sale of Township Booklets	1,062.00	House rent paid to Durgapur Steel Plant	6,820.00
Licence Fees for Cultivation of Lands	1,892.00	Stationery	1,963.00
Recovery of demolition costs	1,301.00	Furniture	529.00
Sale of forest products	542.00	Drawing materials	4,113.00
Sale of building Rules	15.00	Postal expenses	5,650.00
Miscellaneous	26.00	Telephone expenses	4,731.00
		Outfits to employees	908.00
		Paid to I.I.T. Kharagpur for preparation of Master Plan	128.00
		Miscellaneous Surplus of Receipts over Expenditure (Closing Balance)	7,000.00
Total	2,03,918.00	Total	1,661.00
			1,47,399.00
			56,519.00
			2,03,918.00

CHAPTER XIV EDUCATION AND CULTURE

INDIGENOUS
SCHOOLS OF
LEARNING

William Adam, who in 1835 was appointed by Lord William Bentinck as a Commissioner to Survey the State of education in Bengal, stated in his first report submitted in 1835 that about the year 1830 there were in Bengal 10,800 students devoted to Sanskrit studies and 1,800 teachers. The institutions for Sanskrit learning (known as *Chatushpāthi*s and *ṭols* in Bengal) were maintained at different places. In Bengal, although Nadia was the pre-eminent centre of higher education in Sanskrit in pre-British days, Barddhamān was not wanting in its institutions or teachers for Sanskrit studies. In fact according to recent researches Rāḍha, especially southern Rāḍha where Barddhamān was situated, was Bengal's seat of learning before the Navadwip school of learning came into being.¹ The principality of Barddhamān set up during the Moghul period. At the time when Kirtichandra, its ruler, annexed Bhoorsut, Chitua Barada and other small chiefdoms of Southern Rāḍha, each of these units had its own school of learning which vied with one another and kept the standard of the scholarly attainments of the land high.² In those times study of the Vedas, especially the Sama Veda was prevalent in Southern Rāḍha and the Varendra country.³ It has been acknowledged by historians that during the rule of Parmar Dynasty many Bengalis versed in Vedic learning resided at Malwa.

Kramadisvara, a noted grammarian of the medieval period and the author of *Samkshiptasūtra Vyākaraṇa*, was a native of Bengal according to some scholars. His autobiographical note at the end of the eighth *pāda* (chapter) of his book indicates that he was a resident of Purvagrama. Some think that by Purvagrama he meant a village in East Bengal. But epigraphical evidence regarding the location of the village Purvagrama in Southern Rāḍha,⁴ as well as the fact that his work circulated

widely in the Rāḍha division of Gauḍa, suggest that he was a resident of this part of West Bengal.

Even in the seventeenth century, when with the waning of the influence of local landlords in the face of strong Moghul rulers Sanskrit studies were declining from their former glory and was kept within the narrow shorelands of the Ganga with Nadia as the starting point, there are references to a few other places in Bengal where Sanskrit learning was cultivated by eminent scholars. In his autobiography the celebrated poet Ruparam Chakravarti, who lived in the seventeenth century, related how his *guru* directed him to proceed to Jangram, as an alternative to Santipur, to complete his studies. He mentions one Kalanidhi, a learned professor, who is stated to have no equal even in Santipur.¹ It is on record that one *Chatushpāthi* in Barddhamān had students hailing from regions as distant as Dravida, Utkal, Kashi and Mithila.²

Recent researches have brought to light the names of some seats of learning and those of some distinguished scholars and teachers who taught in the district in the 17th and early 18th century A.D. Mention may be made of Patali (Patuli) where Devidas Vidyabhusan, the ancestor of a line of noted scholars and himself a reputed teacher, came and settled after his education and a period of teaching at Varanasi.³ Though the exact date of Devidas is not known, it is surmised that he was studying at Varanasi between A.D. 1575 and 1600. Another renowned teacher who ran a *ṭol* at Satgachhia in the district was Dulal Tarkavagis (A.D. 1731-1815) whose fame spread beyond the borders of Bengal through his disciples hailing from distant places of India. This eminent teacher is reputed to have sent out a number of brilliant pupils, who in their days came to be venerated for the profundity of their scholarship. These included Durgadas Tarkapanchanan, a native of Ambika Kalna who became the Judge-Pandit of Barddhamān. Among his other students who became famous were : Jagamohan Siddhanta, Jaynarayan Tarkapanchanan and Kanti Chandra Siddhantasekhar, the last named being Sabha Pandit at the court of Raja Radhakanta Deb.

Of Dulal's direct descendants two were scholars of repute.

¹ Prabasi, Jyaishta 1356 BS. p. 113-17. Referred to in Dines Chandra Bhattacharya, D. C., *op. cit.*
² Bandyopadhyay, Suresh Chandra — *Sanskrita Sahitye Bangalir Dān*, Calcutta, 1969 B.S.
³ Article on Kramadisvara by Dasgupta, N. N. in *Indian Culture*, Vol. V. p. 358.

¹ Sen, Sukumar, *Madhyayuger Bangla O Bangali*, Visva Bharati, Calcutta, 1962, p. 31.
² Ramprasad's works, referred to in *Bangla Deser Itihas*, Ed. Mazumdar, R. C. p. 313.
³ Bhattacharya, Dines Chandra, *ibid.* p. 141.

Remnants of his famous library still exist in his home at Satgachhia.

Ambika Kalna, an old seat of learning, came to occupy the foremost place among the centres of classical studies thriving under the patronage of the Maharajas of Barddhamān. At one time its fame drew to this town celebrated professors from various places. Logicians like Sri Rama Nyāyabāgiś have added to the town's academic prestige. Another noted logician was Durgadas Nyayaratna, who was a disciple of Pandit Gangadhar of Guptipara. Ayodhyaram Vidyavagis of Ambika was honoured by Raja Rajballabh with an invitation to his court.¹

The patronage of Barddhamān Rajas was instrumental towards the establishment of a large number of *śols* and *chatushpālis* in Barddhamān town and other places in their fief.

Adam in his third report submitted in 1838 stated that there were 190 Sanskrit Schools in Barddhamān of which two villages contained six each, one village contained five, three villages contained four each, seven villages contained three each, 27 villages contained two each and eighty six villages contained one each.²

In these 190 Sanskrit Schools, there were 1,358 Scholars. As average number of 590 were natives of the villages in which the schools were situated and 786 natives of other villages.

The studies pursued and the number of students engaged in them were as follows :

Grammar	644	Vedānta	3
Lexicography	31	Medicine	15
Rhetoric	8	Mythology	43
Law	235	Astrology	7
Logic	277	Tantras	2

The distribution of the 190 Sanskrit schools in the different parts of the district in early nineteenth century is interesting and may also help to locate the ancient seats of learning in the region. Kalna thana, which has already been mentioned, had the largest number of Sanskrit Schools, having 37 institutions located in the area. Ausgram thana came next with 32 followed by Balkrishna (Bhatar) with 25.18 schools were located in

Purbasthali. 14 in Raina, 13 in Katoya, 12 in Potna (Galsi) and 10 in Mongalkote. Barddhamān thana had, at the time of Adam's Survey only 2 'Schools of Hindu learning'.

Adam gives details of some of the learned teachers of the time and their works. His account also gives an idea of some of the seats of Sanskrit learning existing in the early part of the nineteenth century. He mentions Kalidas Sarvabhauma dwelling in 'Ambika in the Kalna Thana', who had "made a translation into easy Sanskrit and also into Bengali of those portions of Manu and Mitaksara which relate to criminal law, and also a translation into Bengali of that portion of the Mitaksara which treats of the law of usury".

Gurucharan Panchanan dwelling at Begunia in Gangutia (now P.S. Kulti) was the author of a Sanskrit drama entitled '*Srikrishna Lilambhudhi*' containing 100 pages in mixed prose and verse on Sri Krishna. Iswarchandra Nyayaratna residing at Barabelun in the Balkrishna Thana (now P.S. Bhatar) had written three works in Sanskrit, namely *Gaurachandramrita* on the incarnation of Sri Chaitanya; *Manoduta*, legendary; and *Mukti Dipika*, a comparative view of the means of obtaining, salvation according to the six schools of philosophy.

Krishna Chandra Vidyabhushan, dwelling at Mahatub in the Balakrishna Thana claims to have written a commentary on *Alamkara Kaustubha*, a work on rhetoric, containing 300 leaves or 600 pages, and *Vayaduta*, a work of general literature in verse.

Raghubandan Goswami a resident of Maro in Potna (Galsi) thana was described by Adam as 'the most voluminous native author' he had met with. Adam credited him with 38 works, including three on medical science, several books relating to the life and doings of Sri Krishna (including one book which was translated into Sanskrit from Marwari), books on grammar, metrics, philosophy, etc.

Ramkamala Kavibhushana dwelling at Barddhamān had written *Navananda Nataka*, a drama of about 300 *ślokas* illustrative of the life and actions of the Raja of Barddhamān and *Vadardha-darsa*, a treatise on Grammar.

Radhakrishna Vachaspati, who lived at Chanok in Mongalkote thana, had written a drama *Nikunja Vilasa* illustrative of the love of Rādhā and Krishna and written in Sanskrit, Prakrit Paisachi, Apabhramsa, Maharastri, Magadhi and Sauraseni. His works include poems *Surya Panchasata* and *Durgasataka*.

From the town of Barddhamān five Pandits received invitation

¹ Bhattacharya, D. C. — *ibid.* p. 246.

² *Adam's Report*, p. 261.

to attend Raja Rajaballabha's assembly of Pandits. — They were Jagannatha Panchanan, Sambhuram Vidyalkar, Madhusudan Vachaspati, Rudranarayan Vidyabagis and Radhakanta Nyayalamkar. The most famous Pandit of Barddhamān in the latter half of the eighteenth century was Lakshmana, a logician of the first rank who lived and taught at village Karkala in the district. At Debipur, Harachandra Nyayabagis taught in the early years of the nineteenth century. Among his students was Kailas Siromani, a noted scholar. His great grandson Baneswar Tarkalamkar was one of the leading Pandits of Debipur. Harachandra's grandson and disciple Baradakanta Nyayaratna was a famous logician.

In about A.D. 1815, during the time of Maharaja Tej Chandra, the famous *Chatushpathi* of Barddhamān was established. It passed through hard days for sometime after the death of Tej Chandra. However, it was resuscitated during the time of Mahatab Chandra and it conducted study and examination in the Vedas, Vedānta, Smṛiti, Nyaya, Grammar, as well as in the Bengali and the Persian languages. Among the professors who adorned this college was Umakanta Tarkalamkar, to whose versatile scholarship and noble character tribute was paid by the educationist Bhudev Mukhopadhyay in his obituary of the Pandit in the *Siksha Darpan*. Other famous teachers of this institution include Braja Kumar Vidyaratna and his pupil Rasmohan Sarbabhauma.

Among the eminent Sanskritists of more recent times mention may be made of Mahamahopadhyay Bireswar Tarkatirtha of Barddhamān Town, who was a reputed scholar and a famous teacher. Purbasthali, Siarsol, Gangatikuri and Ikra are other noteworthy ancient seats of learning in the district. Nalinaksha Tarkatirtha of Ikra was well-known for his contributions on Sanskrit Grammar. Dwarakanath Tarkabhushan of Mangaldihi and Kalikinkar Saptatirtha were two reputed scholars and eminent teachers of the district. Mahamahopadhyay Krishnanath Nyayapanchanan of Purbasthali wrote a commentary on *Mala-masatattva* of Raghunandana, the work on Smṛiti entitled '*Smṛiti Siddhānta*' (in 3 volumes), the poem *Vataduta*, a commentary on the *Saṅkhyātattva Kaumudī*, *Vedānta Paribhāṣā*, *Mīmāṃsā Nyāyaprakāśa* and the grammar entitled *Bṛihatmugdhobodh*.¹

It is worthwhile mentioning in this connection some poets

and writers of this district who lived in olden times. Many of them, though steeped in classical tradition, composed their works in Bengali. Maladhar Basu, who won the title of Gunaraj Khan from the Sultan of Gaur, was the author of the famous work *Sri Krishna Vijaya*. He lived in the 15th century and was a resident of Kulingram. Kavi Kankan Mukundaram Chakravarti, the poet, who wrote *Chandimangala Kavya*, was born in the village of Daminya (P.S. Raina). Ghanaram Chakravarti, the author of *Dharmamangala Kavya*, was born at Krishapur in Khadagshosh P.S. Another name which is a household word for every Bengali today, Kashiram Das, the poet of the Bengali *Mahabharata*, was born at Singee, a village in the Katoya Subdivision. Dasarathi Roy, who is known by his famous *Panchali* was born in A.D. 1804 at Bandhmuri in Katoya P.S. The Barddhamān Maharaja, Tej Chandra, had as his preceptor the famous composer of spiritual songs Sadhak Kamalakanta, who was originally an inhabitant of Ambika Kalna. A number of Vaisnava poets are known to have been residents of this district. Notable among them were Krishnadas Kaviraj, the biographer of Sri Chaitanya, who was born in A.D. 1498 at Jamalpur in Ketugram P.S., and Lochandas the author of *Chaitanya-mangal*, *Chaitanya Premavilas* and *Durlava Sar*, who was born in A.D. 1523 at Kogram in Mongalkote P.S. The Vaisnava poet Govindadas, who was a renowned composer of Vaisnava *Padavalis*, was a native of Srikhanda in Katoya P.S. He was born in A.D. 1527. Another composer of *Padāvali*, Jnanadas was born in A.D. 1539 at Kondra in Ketugram P.S. Another Vaisnava poet born in Sri Khanda (Katoya) was Narahari Thakur. Born in A.D. 1478, he was the author of *Sri Bhakti Chandika*, *Sri Krishna Bhajanamrita*, *Srikrishna Sahasranamia*, etc. Other Vaisnava writers and preceptors who were residents of this district include Uddharan Dutta Thakur (born in A.D. 1481 at Nabahatta in Ketugram P.S.), Raghunandan Thakur (born in A.D. 1509 at Sri Khanda), Rajballabh Goswami and Brindaban Das, the author of *Chaitanya Bhagavata*. Raghunath Goswami the famous Logician was born at Mankar in Galsi P.S. in this district.

'Buno Ramnath', the Pandit of legendary simplicity which earned him the title of 'Buno' (uncivilized) was a resident of Samudragarh.

With the establishment of the Muslim rule in Bengal Madrasas were established at the head-quarters of the local governors. To these institutions the well-to-do Mussalmans sent promising

Madrasas

¹ Source : Secretary, Bangiya Sanskrita Siksha Parishad, Calcutta.

boys. These schools were attached to some mosques and were often liberally endowed. The students had board and lodging free, though contributions were frequently made by those whose parents were well off. The pupils were taught *Kôṛān* and Persian classics by Maulavis, while special instructions were given on the *Hadis* and Muslim law and Arabic literature. In old correspondence reference is made to several such institutions. In 1819, there is a reference to a Madrasa attached to a mosque possibly that at Bohar.¹

Adam in his Survey stated that there were, in 1836, 93 Persian Schools in the 13 thanas of the district, 3 formal Arabic and 8 learned Arabic Schools. Of the 93 Persian Schools 19 were located in the Ausgram thana, 12 in Balakrishna (Bhatar), 10 each in Raina and Barddhamān thanas. The other thanas where such schools were situated were: Manteswar and Potna (Galsi) 9 each, Kalna 6, Mongalkote 4, Purbasthali 3, Selimabad (Jamalpur) 2 and Ganguriya (Kulti) 1. Of the three formal Arabic Schools 2 were in Raina and one in Barddhamān. Three learned Arabic Schools had their location in Barddhamān thana, Kalna and Ganguriya having one each.

In the three formal Arabic Schools (nothing more than the formal) reading of the *Kôṛān* was taught. There were three teachers in these three schools. The eight schools of Arabic learning had twelve teachers, two of these schools having each three teachers, of whom one taught Arabic, the second Persian, and the third watched over the manners and general conduct of the pupils.

The 93 Persian Schools had one teacher each of whom 86 were Mussalmans and 7 Hindus.

Out-houses, *baiḥakkhānās*, *Chandimandapas* and Kachharis were used as school houses, the place occupied generally belonging to the principal supporter of the school, and sometimes to the teacher himself. An instance has been cited by Adam where one of the scholars, as payment for the instruction he received, supplied the teacher with a school house rent free.² 'Of the Persian schools about a dozen have school houses built for that purpose', writes Adam, 'and varying in the estimated cost of erection from six rupees to two hundred.' Some schools were supported by endowments, which were applied to support a hospital, a mosque and a sacred relic.

¹ Peterson — *ibid.* p. 173.

² Adam — *ibid.* p. 283.

In the 104 Arabic and Persian Schools, there were 971 scholars of whom 17 were engaged in the formal study of the *Kôṛān*, 899 in the perusal of Persian works and 55 in the study of Arabic learning. Except in the schools for formal *Kôṛān* reading, students included both Muslims and Hindus.

The third variety of educational institutions which prevailed in the State was the indigenous elementary schools. In their first Education Despatch in 1813 the Court of Directors of the East India Company referred to the vernacular instruction imparted in the indigenous rural schools. The despatch stated: "We refer with particular satisfaction to that distinguished feature of internal polity, which prevails in some parts of India, and by which the instruction of the people is provided for by a certain charge upon the produce of the soil, and other endowments in favour of the village teachers, who are thereby rendered public servants of the community. ... This venerable and benevolent institution of the Hindoos is represented to have withstood the shock of revolutions, and to its operation is ascribed the general intelligence of the natives as scribes and accountants. We are strongly persuaded of its great utility, that we are desirous you should take early measures to inform yourselves of its present state and that you will report to us the result of your enquiries, affording in the meantime the protection of Government to the village teachers in all their just rights and immunities, and marking, by some favourable distinction, any individual amongst them who may be recommended by superior merit or acquirements; for humble as their station may appear, if judged by a comparison with any corresponding character in the country, we understand those village teachers are held in high veneration throughout India."¹

Adam's report on the state of education in Bengal gives a fairly accurate and exhaustive picture of the State of elementary education in Bengal at the beginning of the 19th century. In his third report he stated that of the 931 schools of every class in the 13 thanas of the Barddhamān district 629 were Bengali schools. "There is no thana without both Vernacular schools or schools of Hindu learning," writes Adam, "and the number of each is greater than any of the other districts I visited."²

Of the 629 Bengali schools, seven were found in one village,

¹ Stark, Herbert Alick — *Vernacular education in Bengal, from 1813 to 1912*, Calcutta 1916, pp. 5-6.

² Adam — *ibid.* p. 225.

Elementary
Schools

Elementary
Education

six in another, and five in a third. Nine villages contained three each; fifty-nine two each; and four hundred and sixty-six one each.¹ The 629 Bengali schools included 13 missionary schools.

The number of teachers was 639, being ten in excess of the number of schools. Nine missionary schools and one supported by the Raja of Barddhamān were conducted by two teachers. 616 common village schools were taught by the same number of teachers.

Ausgram thana with 91 Bengali schools topped the list of police station areas where such institutions were located. Kalna came second with 73 schools and Raina third having one less. 66 schools were located in Selimabad, 53 in Potna, 45 in Nongalkote, 43 each in Manteswar and Indas (now in Bankura). In Barddhamān thana 37 schools were located and 31 were in Katoya. Purbasthali had 33 and Balkrishna 26. Ganguriya, which had 16 schools, was at the bottom of the list.²

Of the teachers, 627 were Hindus, nine Muslims and three Christians. Although Kayasthas (369), Brahmanas (107), Sadgops (50) and Aguris (30) formed the largest number of the Hindu teachers, the list included the Sunri, Kalu, Dhoba, Bagdi and Chandal castes which according to Adam, "the long established usages of the country would have either discouraged or altogether excluded from the knowledge of letters."³

Leaving aside four honorary teachers 635 teachers received on an average Rs. 3. 4a. 3p. monthly (Rs. 3.30 in terms of present day currency). Many of them did not get enough for their livelihood and eked out their existence by engaging in farming, money-lending, retail trade, weaving, worldly services, temple service, etc., and all of them received occasional presents from the scholars during the course of the education and even after they had left school.

The number of scholars in these 629 schools was 13,190, giving to each school an average of 20.9 scholars. The average period passed by a pupil at school was 11 years.

Of the total number of scholars, 12,408 were Hindus, predominantly Brahman, Kayastha, Sadgop, Aguri and Gandhabanik, but a large number of other castes, including the so called backward castes, were also represented.

¹ Adam — *ibid.* pp. 38-42.

² Adam — *ibid.* p. 225.

³ Adam — *ibid.* p. 239.

Compared with some other districts surveyed by Adam, there were a much larger number of scholars, and all the castes, both high and low, partook of the increase. There were some low castes also which here appeared for the first time as the Tior, Garar and Mal castes.¹ "The number of scholars of low castes was so considerable," says Adam, "that, without explanation, it might be supposed that they were chiefly found in the missionary schools, which are more numerous in this district than any other which I have visited, and which of course, do not recognize distinction of caste. The fact, however, is otherwise, for the number of scholars belonging to sixteen of the lowest castes amounts to 760 of whom only 86 are found in Missionary schools, and the remaining number in native schools."²

There were four different stages in a course of Bengali instruction. The first period seldom exceeded 10 days, which were employed in teaching the young scholars to form the letters of the alphabet on the ground with a small stick or slip of bamboo. The second period, extending from two and a half to four years according to the capacity of the scholar, was distinguished by the use of the palm leaf as a material to write upon. The master now wrote with an iron stylus on the palm leaf letters, which the scholar was required to trace on the same leaf with a red pen and with charcoal ink which easily runs out. The process was repeated over and over again on the same leaf until the scholar no longer required the copy to guide him in the formation of the letters of a fit size and proportion, and he was consequently next made to write them on another leaf which has no copy to direct him. He afterwards exercised in writing and pronouncing the compound consonants, and the common names of persons, castes, rivers, mountains, etc. were written as well as of persons. The scholar was also made to write and read and by repetition commit to memory mathematical tables. The third stage of instruction extended from two to three years which were employed in writing on plantain leaf. The students were taught to write letters in the simplest form, rules of arithmetic and agricultural and commercial accounts.

The fourth and last stage of instruction generally lasted a period of two years, often less and seldom more. The accounts briefly and superficially taught in the preceding state were now taught more thoroughly and at greater length. The students

¹ Adam — *ibid.* p. 241.

² Adam — *ibid.* *loc. cit.*

wrote on paper and were taught the composition of business letters, notes of hand, etc. together with the forms of addresses belonging to the different grades of rank and station. When the scholars had written on paper about a year, they were considered qualified to engage in the unaided reading of Bengali works. They often read at home works like the *Ramayana*, *Manasa-mangal*, etc., etc.

Adam in his report distributes the scholars into four grades as follows :

Scholars who write on ground	72
" " " " palm leaf	7,113
" " " " plantain leaf	2,765
" " " " paper	2,610

Among other works the following books were used in the schools: *Gaṅgā Bandanā*, *Dātā Karṇa*, *Hatim Tai* and the *Ādi Parva* of Kāśīrām Dās's *Mahābhārata*. School houses were built in a number of cases by the parents of the scholars by general subscription among themselves. *Baithakkhanas*, *Kachharis*, Store-houses, Verandas, shops and temples were used in this district as elsewhere.

Vernacular schools
started by
missionaries

A new departure in primary education was made when British planters and missionaries started Vernacular schools at their own initiative. In 1803, Ellerton, an indigo planter at Malda, had established several Vernacular schools on his 'concern' and had written certain text books in Bengali for use in them. In 1814, Robert May, a Christian Missionary, set up 16 schools in and around Chinsurah. The British Commissioner of Chinsurah brought them to the favourable notice of the Government which granted a monthly allowance for them. The Serampore missionaries Carey, Marshman and Ward set up 20 schools in the vicinity of Calcutta and their printing presses issued a series of Vernacular school books. In 1816, the Church Missionary Society, through the agency of Captain Stewart, began to open Vernacular schools in and around Bardhaman. In 1818, they were ten in number, cost about Rs. 16 a month, and afforded instruction to 1,000 children.

In the schools instruction was given from dictation. The monitor with the text book in his hand, had to pronounce a portion of each sentence audibly and deliberately, while each boy in the class wrote it down in his copy-book. When the lesson

for the day was completed the necessary corrections in each pupil's book were also made by the monitor. Every boy in his turn had then to read aloud what he had written — sentence by sentence. The advantages claimed for this scheme of instruction were that one printed book served for a dozen children; that the pupils made concurrent progress in penmanship and spelling; and that they acquired a faculty in reading and writing their own language. It was further postulated that a spirit of animation and emulation was engendered; that instruction was combined with pleasure; and that important facts and truths written from dictation and read over three or four times, could not fail to remain deeply impressed on the memory.

Deer, another Englishman, commenced Bengali schools with great energy and success in Bardhaman.¹ In 1823, he had 14 schools of 1,254 boys besides 10 girls' schools of 243 pupils.

The missionaries and the Raja of Bardhaman were pioneers in the promotion of Western education in Bardhaman. In the thirties of the last century, there were three English schools in the district as reported by Adam in his Survey.² Of the three, one at Japat in Kalna P.S. and another in the town of Bardhaman were under missionary control. The third which was also in the town of Bardhaman was established by the Raja of Bardhaman and supported by him. The missionaries of the Church Missionary Society, Alexander and Weitbrecht respectively, established the first two schools mentioned above and superintended them.

Each of the missionary schools had one teacher, the school of the Raja of Bardhaman had two teachers.

The three schools had a total of 120 scholars on their rolls. While all the scholars in the Raja's school at Bardhaman were Hindus, the missionary schools had Christian and Muslim students as well. The average age of entering school or beginning to learn English was 12.5 years.

The scholars in all the three schools were taught gratuitously. All the scholars at the Raja's school were furnished with paper, pen and ink, free of charge and eleven of them received food for four years. They supplied themselves with books.

The instruction given in the two missionary schools may be seen from the following details : The lowest class of the Bardha-

Beginnings of
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¹ *Calcutta Review*, 1854. Vol. 22, p. 322.

² Adam — *op. cit.* p. 302.

mān school read the English spelling book; the scholars of the next learnt the meaning of both the spelling book and the reader; the fourth grade read the New Testament, learnt Murray's abridged grammar, knew something of the maps of Asia, Europe and Africa and the use of the terrestrial globe, worked sums in simple multiplication and translated easy sentences from Bengali into English; the fifth grade added to the preceding some acquaintance with syntax and with the outlines of ancient history; and the highest class further read the history of England, studied the definitions, axioms, and a few of the propositions of the first book of Euclid, and translated difficult sentences from Bengali into English.

In the thirty years following Adam's survey great advance was made in the educational field. By 1868, ten aided and two unaided High Schools and twenty two Middle English schools had been established. The Church Missionary Society, besides its High school and hostel at Barddhamān, which was in a flourishing condition, had opened a High school at Memari and another had been established by the Free Church of Scotland Mission at Kalna. In these three schools alone the number of boys taught was 518. In addition, the High school maintained by the Maharaja of Barddhamān, which had been established as an Anglo Vernacular School in 1817, had enlarged and at that time was attended by 500 scholars. Another High school known as the Burdwan Preparatory School had been started in the town and was doing well. A free High School was established at Chakdighi by the trustees of the will of Sarada Prasad Singh Rai, and aided High Schools under Indian management had been started at Katoya, Kulingram, Okarsha, Balgana, Bagnapara and Badla. Two schools for European and Eurasian children, for the first time in the district, had also been opened in 1866-67.¹

At the time of Adam's survey of the districts of Bengal and Bihar to ascertain the state of education, the aggregate average of literacy in all these districts was 7.25 per cent (the highest 16 per cent being in the Barddhamān district).²

A little over half a century later, in 1891, the Census Report showed that 19 per cent of males over 15 years of age in the

district and 5 women in a thousand were literate. In 1901, the corresponding figures were 20 per cent of males and 1 per cent of females.¹

Giving an overall picture of the state of literacy in the district Peterson says: "If Burdwan is no longer the best educated district in Bengal it compares very favourably in this respect with the rest of the province. Out of a total population of a little over one-and-a half million 1,30,000 persons or one in every 12, were returned at the last Census (1901) as literate that is, they could read or write some language, while 16,658 or a little more than one in every 100 persons could read English. This proportion is considerably larger than that returned for the province as a whole. Of the persons who were returned as literate, males as a whole might be expected to predominate enormously, the percentage of literates among them being 16.2 compared with the provincial average of 10.4; while, among females 8 out of every thousand were literate—a proportion average for the division and is considerably higher than that returned for most districts. In respect of English education also, the district stands high. Approximately, one man in every fifty and 1 woman in every thousand were able to read and write English, a figure which is exceeded only by the Metropolitan districts, that is Hooghly, Howrah and 24 Parganas."²

The figures slightly advanced in the next ten years. Out of a total population of 15,38,371 persons in the district, 1,53,552 were returned in the 1911 Census as literates, constituting 9.98 per cent of the population. The test of literacy adopted at the Census was the ability to both read and write a letter.

There was progress in literacy both among males and females. While the percentage of literate males to the total male population was 18.639, that of females to the total female population was 1.298, or roughly every 13 woman out of a thousand could read and write. 15.54 males out of a hundred literate males and about 1 per cent of the literate females knew English.

The number of literates crept up to 10.26 per cent of the total population in the next ten years and to 10.70 per cent in 1931. In 1921, the proportion of literate males stood at 18.45 per cent of the total male population. That of females showed a slight rise to 1.78 per cent. In the next ten years while there was further decline in the percentages of literate males to total male

LITERACY AND
EDUCATIONAL
STANDARDS

Growth of
Literacy

¹ Peterson — *op. cit.* pp. 175-6.

² Dutt, Kalikinkar — *Survey of India's Social and Economic condition in the eighteenth century*, 1961, Calcutta, p. 22.

¹ Peterson — *Bengal District Gazetteers, Burdwan 1910*, Calcutta, p. 177.
² *ibid. op. cit.*

population, that of females showed a significant rise. The 1931 Census returned 1,49,329 out of the total of 8,14,891 male persons or about 18.32 per cent as literates. Of the 7,60,808 female population in the district 25.36 per cent were returned as literate.

Among the literate persons, those knowing English increased during these two decades. In 1921 Census, 21.497 per cent of literate males were returned as knowing English, the corresponding figures for 1931 being 26.820. Of literate females, knowledge of English registered 12.359 per cent and 12.826 per cent in 1921 and 1931 respectively. The above figures of literates are of those who passed by the test of being able to read and write a simple letter. In 1931, literates of the age of 7 years or above who had at least received a primary education or its equivalent totalled 64,789 persons, 60,267 males and 4,522 females or 40.35 per cent of the total male literate persons and 23.31 female literates. Of these, 40,036 or 66.43 per cent males and 2,472 females were returned as knowing English. Taking the literate population of the district almost every person both male and female above the age of 7 who knew English had received at least a primary education.

In 1951, there were in the district 4,52,536 persons who were literate, formed 20.64 per cent of the entire population of the district. The above total consisted of 3,45,937 males and 1,06,599 females or 76.44 per cent respectively of the total literate population.

About 58.98 per cent of the persons who comprised the literate and educated population of the district or 2,68,697 persons were returned at the 1951 Census as just literate—that is those who could barely read and write a simple letter. 1,36,395 persons had passed a Middle School standard; 30,663 had passed the matriculation or equivalent examination; 7,521 persons had passed the Intermediate examination in Arts or Science; 3,609 were graduates of Indian Universities; 739 had post-graduate degrees in Arts or Science; 318 had a degree in law, 1,673 degree or diploma in teaching, 486 in Engineering, 98 in Agriculture, 67 in Veterinary, 243 in Commerce, 1,508 in Medicine. Besides, 444 persons had attained academic standards in disciplines other than those mentioned above.

The 1951 Census returns show 73 persons, all male, as having had their education in foreign countries, 59 of them in the United Kingdom, 5 in America, 6 in continental Europe and 3 in other countries. Most of these persons studied Engineering,

28 in Britain, 3 in America, 5 in the Continent of Europe and 3 elsewhere. Besides, there were 14 graduates in Arts and Science from the British Universities and 2 having post-graduate degrees in Arts and Science from Britain.

The proportion of the males to literate and educated persons from Middle standard upwards appear to be predominant. The following is the proportion of males to total literate persons of any educational standard. Middle 77.01 per cent; Matriculation and its equivalent 85.87 per cent; Intermediate in Arts and Science 90.05 per cent; graduates 93.34 per cent; and post-graduates 96.90 per cent.

The proportion of literate and educated persons in rural areas decline as educational standards go up. Of the barely literate persons, 1,97,174 were in rural areas and 71,523 in the urban; of the matriculates 14,116 were urban while 16,547 rural, but there were 1,894 graduates in Arts and Science in urban areas to 1,715 in rural and 500 post-graduates in urban to 239 in rural areas.

The Census of 1961 returned 6,53,474 males and 2,58,361 females as literate and educated. The table on the next page shows the number of literates without educational standard and that of persons who had passed the Junior School examination or its equivalent.

The persons returned as literate and educated formed 29.58 per cent of the total population of the district. Literate and educated males form 39.39 per cent of the male population, 18.15 per cent being the proportion for female literates to the entire female population of the district. Barddhamān thus ranked the 5th district in the State in 1961 so far as literacy and education was concerned, coming after Calcutta (59.28 per cent), Haora (36.91 per cent), Hugli (34.65 per cent) and 24-Parganas (32.48 per cent).

In the urban areas of the district out of the 4,93,370 persons above the age of 4, consisting of 2,96,312 males and 1,97,058 females, 1,05,235 males and 59,037 females were returned literate without educational level, 49,270 males and 22,687 females had passed the primary or junior basic standard, 22,498 males and 2,468 females were matriculates, 782 males and 77 females had technical diploma not equal to a degree, 6,509 males and 930 females had non-technical diploma not equivalent to a degree; 6,290 males and 758 females were University graduates or had post-graduate degree other than technical degree; 1,030 males

Age-Group	Total population						Illiterate		Literate without educational level		Primary or Junior Basic		Educational level above	
	Persons	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
All ages	3,082,846	1,658,976	1,432,870	1,005,502	1,165,509	3,91,448	1,85,013	1,88,978	66,610	73,048	6,738			
0-4	4,62,778	2,26,710	2,36,068	2,26,710	3,26,068	...	...	...	...	...	...			
5-9	5,61,722	2,32,795	2,28,927	1,68,994	1,88,449	55,320	34,445	8,481	6,033	...	...			
10-14	3,03,182	1,67,683	1,35,499	76,642	81,694	55,295	35,609	35,242	18,164	504	32			
15-19	2,50,071	1,28,072	1,21,999	52,334	82,939	37,822	25,670	31,637	11,974	6,279	1,406			
20-24	2,87,452	1,52,033	1,35,420	67,991	1,00,547	41,907	23,248	25,895	91,559	16,240	2,066			
25-29	2,87,837	1,64,633	1,23,204	76,316	96,194	42,555	17,987	21,578	7,513	14,184	1,510			
30-34	2,41,419	1,42,690	98,459	78,543	79,204	36,989	13,841	16,986	4,634	10,261	780			
35-44	3,44,074	2,04,440	1,39,634	1,14,874	1,17,792	54,644	16,532	22,429	4,632	12,493	678			
45-59	3,00,366	1,70,827	1,29,539	95,348	1,14,641	46,961	11,789	18,970	2,899	91,458	210			
60 +	1,43,901	68,958	74,943	37,746	67,813	19,936	5,884	7,746	1,190	3,500	56			
Age not stated	313	135	178	94	168	19	8	14	2	8	...			

BARDDHAMAN

and 5 females were engineering graduates; 290 males and 8 females had degree in Medicine; 127 males and 64 females had degree in teaching. There were 18 male degree holders in Agriculture, and in Veterinary and Dairy 3 males and 2 females had degree.

In rural areas, out of 21,26,698 persons above 4 composed of 11,35,954 males and 9,90,744 females, 2,86,213 males and 1,25,976 females are recorded as literate without any educational level; 1,39,708 males and 43,923 females had passed the junior basic or primary standard and 35,471 males and 2,426 females had passed the Matriculation examination and above.

The number of literate and educated persons, irrespective of educational level in the rural areas of the district, 6,33,717, formed 25.13 per cent of the entire rural population. Taking the sexes separately into account 34.73 per cent of rural male and 14.44 per cent of rural female population formed the literate and educated sections. In urban area the percentage of literate and educated persons to the total population of the district formed 49.57, males being 58.15 per cent and females 37.28.

Of the towns having a total population of 50,000 or over the percentage of literate and educated persons was higher in Asansol than in Barddhaman. In the former, the percentage of literate and educated persons to total population was 53.25 (males 62.70, females 44.04) in the latter 51.84 (males 60.12, females 41.36).¹

The progress of literacy and education in the district in the next ten years is shown in the Census abstracts of 1971. Out of a total population of 39,16,174 consisting of 20,76,210 males and 18,39,964 females, 13,45,473 persons or 34.30 per cent of the total population are returned as literate and educated. 8,90,114 literate males form 42.87 per cent of the total male population and 4,55,359 females form 24.74 per cent of the females in the district.

In the rural areas the literate and educated persons total 8,79,064 forming 29.06 per cent of the total rural population. The sex-wise break-up shows 5,91,455 males and 2,87,609 females in the rural areas are returned as literate and educated, the percentage to the total rural male and female population being 37.52 and 19.86 respectively.

¹ Census of India, Vol. XVI, Part IIA, p. 255.

In the urban areas the proportion of literate persons is higher. It forms 52.28 per cent of the total urban population of 8,83,576 persons whom 4,99,785 are males and 3,92,205 females. Considering literacy and education in each sex separately 2,98,659 males or 59.75 per cent of the urban male population and 1,67,750 urban females or 42.77 per cent.

Spread of
education
among women

The growth of literacy and education among women in the district has been generally indicated in the paragraphs above. Women's education in the district had a slow growth till the advent of Independence, which brought about a social change in the country.

The first school for girls was started by the European ladies at Barddhamān in collaboration with the Ladies' Society at Calcutta sometimes before 1834, and by 1837 there were altogether 4 girls' school in the district.¹ All these schools were under the management of the Missionaries. The Ladies' Society of Calcutta supported those at Japat near Kalna and in Barddhamān town. Another school in the premises of the Church Missionary Society, Barddhamān, was supported and managed by the Rev. J. J. Weiffbrecht, while the School at Katoya was managed by Rev. W. Carey and supported by the Calcutta Baptist Society for promoting female education. Adam writing about these schools stated that the progress of the children was slow and attendance irregular. The number of girls taught in these schools was 175. Of this number 36 were Christians, and only one a Muhammedan and the rest Hindu. The instruction was largely religious. Adam reports that out of the total number of scholars, 112 could read, but not write.

Adam reported that a sum of Rs. 1-8as per month was allowed by the Ladies' Society for refreshments to the children. Three female messengers were employed to bring the children to school and to conduct them home. If one messenger brought ten scholars every day for a month she got two rupees.

The progress of girls' education in the province was slow. The Education Commission reports in 1884 that the Despatch of 1854 found 288 girls' schools in Bengal with 6,809 pupils. Grants totalling Rs. 5,000 were assigned for girls' schools. About 40 schools were started by the Inspector in Barddhamān, Hugli and 24-Parganas. But the Mutiny intervened, the education of girls

in public schools was strongly criticised, and the grant was withdrawn.¹

In 1868, reports Peterson, there were altogether 9 girls' schools in Barddhamān and the Deputy Inspector reported that a desire for the education of girls was steadily progressing.²

In 1908-09, there were 76 girls' schools in the district,³ says Peterson, of which 7 received grants-in-aid from Government, 59 were aided by the District Board and 3 by the municipalities, and 7 were unaided. Two Model Girls' Schools were opened by Government at Paraj and Amadpur, and were under the control of the Education Department. Excluding boys the total number of pupils under instruction in the Girls' Schools in 1908-09 was 1,998 of whom 71 belonged to Middle Vernacular Schools, 175 to upper and 1,754 to Lower Primary Schools. The only Secondary Girls' School in the district was the Asansol Mission Girls' Middle Vernacular School, which was formerly a Middle English School. The expenditure on Secondary and Primary Schools for girls, amounted in the same year to Rs. 13,000 as compared with 11,500 in the preceding year. Of this sum Rs. 1,800 was contributed from Provincial revenues and Rs. 1,900 and Rs. 330 by the District Board and the Municipalities respectively. Fees were charged in very few of the schools and receipts from this head only amounted to Rs. 142. Female teachers were employed in schools under Missionary management and in that maintained by the Barddhamān Raj at Barddhamān. But generally speaking, almost all the girls' schools were taught by male teachers who were drawn from some boys' school in the locality. Most of the schools sent their pupils for examinations conducted by the Uttarpura Hitakari Sabha.

The progress in the next forty years is evident from the fact that in 1949-50, there were in the district 40 Primary Schools, 9 Middle Schools and 7 High Schools for girls with an enrolment figure of 25,579, 5,447 and 2,971 pupils respectively.

Along with quantitative expansion there has been qualitative improvement also. Girls have been occupying more and more top places in list of successful candidates in different examinations and winning distinction in the academic world. Changed social conditions, economic necessity, the realisation of the value and

¹ Education Commission Report, 1884. p. 525.

² Peterson — *op. cit.* p. 176.

³ Peterson — *op. cit.* p. 180.

¹ Peterson — *op. cit.*

Spread of education among backward classes and tribes

necessity of education as good in itself has brought about this progress in girls' education.¹

Elsewhere in this chapter it has been stated that in the early years of the 19th century indigenous elementary vernacular schools had as teachers as well as students persons who included members of the Sunri, Kalu, Dhoba, Bagdi and Chandal castes. These people who generally came from the backward strata of society gradually drew the attention of the Government and measures were taken for helping them to bring themselves to a level equal with the more privileged members of the society. Scheduled Tribes, Scheduled Castes enjoy special educational facilities, namely stipends, book grants, examination fees, hostel grants, etc. at all stages.

According to the Census of 1961, there were in the urban areas of the district 37,039 males and 30,337 females belonging to the Scheduled Castes. Of these, 9,829 males or 26.53 per cent of the male Scheduled Castes population and 3,980 or 12.78 per cent females were returned as literate and educated. Considering the level of education attained 6,814 males and 3,106 females were returned as literate without any educational level; 2,687 males and 831 females as having passed the primary or junior basic examinations; 306 males and 36 females as matriculates; 1 male and 3 females as having technical diploma not equal to degree; 15 males and 1 female as having non-technical diploma not equal to degree, 6 males and 2 females had university degree or post-graduate degree other than technical degree. The Census of 1961 returned no person belonging to the Scheduled Castes in the urban areas of the district as having a technical degree or diploma.

In the rural areas of the district where 3,54,319 males and 3,32,188 females were returned as persons belonging to the Scheduled Castes, 50,327 males (14.20%) and 9,551 females (2.87%) were returned as literate and educated. Of these, 38,163 males and 7,195 females were returned as literate without educational level; 10,992 males and 2,187 females as having passed the primary or junior basic examinations, 1,172 males and 169 females as matriculates; and above.

The Census of 1961 registered 3,690 males and 3,686 females as members of one or other Scheduled Tribes in the urban areas of the district. Of these, 692 males and 209 females were returned

Scheduled Tribes

¹ Education Directorate — *Septennial Review on the progress of Education in West Bengal 1957-58 to 1963-64*, p. 52.

as literate and educated. Of the males 486 persons and 164 among the females were returned as literate without any educational level; 155 males and 43 females had passed the primary or junior basic examination; 47 males and 3 females had passed the Matriculation or the Higher Secondary examination and there were 4 holders of non-technical diploma not equivalent to degree. In the rural areas, of the 91,004 male and 81,763 female members of the Scheduled Tribes, only 4,853 males or 5.37 per cent and 390 females or 0.47 per cent of the respective sexes were returned as literate and educated; 3,978 males and 319 females were returned as literate without any educational level; 843 males and 66 females as having passed the primary or junior basic examination and 32 males and 5 females as being matriculates or above. Of the Scheduled Tribes, the Santals who formed the largest bulk (85.85 per cent) of the tribal population (76,395 males and 73,394 females in the rural areas and 2,481 males and 2,387 females in urban areas), had 4,104 or 5.15% of their rural male population and 400 or 16.12% of their urban male population returned as literate and educated. Among the females in the rural areas 34 or 0.46% were recorded as literate and educated. Of the rural males 3,333 and of the females 278 were literate without any educational level; 744 rural males and 59 females among the Santals had passed the primary or junior basic examination, 27 males and 3 females had passed the matriculation or a higher examination. In the urban areas only 58 females belonging to the Santal Tribe were recorded as literate and educated, 54 among them just able to read and write a simple letter; and 3 had passed the primary or junior basic examination.

Of the 400 literate and educated male members of the Santal Tribe in the urban areas, 273 were returned as literate without any educational level, 112 as having passed the primary or junior basic examination and 14 as having passed the matriculation or a higher examination.

The following extract from the Report of the Commissioner for Scheduled Castes and Scheduled Tribes for 1969-70 throws light on the spread of education among the Scheduled Tribes and Scheduled Castes in the district.¹

From data collected during 1965 from Secondary Schools of the State, the report says, among Scheduled Tribes 21,495

¹ *Report of the Commissioner for Scheduled Castes and Scheduled Tribes, 1969-70*, pp. 154-57.

students attended Secondary Stage of education during 1965, nine districts (Nadia, Murshidabad, Calcutta, Malda, Koch Bihar, Birbhum, Hugli, Howrah and Bardhaman) sharing 26.6 per cent of the total Scheduled Tribe population of the State, had contributed only 11.58 per cent of the total Scheduled Tribe students. As regards variation of Scheduled Tribe students in West Bengal during 1962-65, there were 15,858 Scheduled Tribe students in the Secondary Stage of education during 1962. There was an increase of 35.55 per cent in 1965 over 1962. Increase per year of the Scheduled Tribe students was less than the State average in Bardhaman, where it was 10.36 per cent.

Scheduled
Castes

1,21,823 Scheduled Caste students attended Secondary Stage of education in 1965. 26.71 per cent of the Scheduled Caste students were shared by the Murshidabad, West Dinajpur, Bankura, Birbhum, Hugli, Howrah and Bardhaman districts.

Of the total Scheduled Caste population of the State 1.77 per cent were students of Secondary stage. Eleven districts were below the measuring line. Among these was Bardhaman with 0.80 per cent.

Between 1962 and 1965, the number of Scheduled Caste students in the Secondary stage in the State increased by 34.44 per cent from 90,616 in the former year to 1,21,823 in the latter. Bardhaman's increase was below the State average.

In a survey of the nature and extent of the progress of Secondary education among the Scheduled Castes and Scheduled Tribes in the State undertaken by the Cultural Research Institute of the Directorate of Scheduled Castes and Tribal Welfare of the State Government, conducted from the middle of 1967 to the first quarter of 1969, it was found that in Bardhaman, while the percentage of persons of other communities to the total population was 69.71, the percentage of students from these to total enrolment was 94.62. Scheduled Castes/Tribes who formed 30.29 per cent of the total population had only 5.38 per cent of enrolment.

The Survey made special study of some villages. The data in the case of these villages of the Bardhaman district as in the cases of 24 Parganas, Puruliya and Jalpaiguri were analysed under two sub-groups taking into account difference in the physical and social environment of the area concerned and also some other factors.

The two sub-groups so far as Bardhaman was concerned were—

(a) Ajhapur under Jamalpur. P.S.

(b) Barabhuin, Paharpur, Ghiadoba, Keshardi and Rupnarayanpur under Salanpur P.S.

The table on the next page gives an analysis of the literacy and education levels among different communities in the two groups of villages mentioned above.

Primary education in the district was formerly under the control, and management of the District Boards and Municipalities for rural and urban areas respectively. In 1945, on the eve of the establishment of the District School Board, Bardhaman, the total number of Primary schools¹ in the district was 1,066.

GENERAL
EDUCATION

Primary and
Junior Basic

The District School Board, Bardhaman, was established in 1946, and placed in sole charge of the development and administration of primary education in the rural areas of the district replacing the District Boards in this respect. Primary schools in municipal areas, however, remained under the management of the municipal boards.

The District Inspector of Schools is the Secretary of the District School Board. The same officer acts as Adviser to the local bodies in respect of primary schools in municipal areas. The State Government exercises administrative control by determining the syllabus and the course of studies, publishing nationalized text books on Languages, Mathematics, Geography, Nature study and English (since 1963-64) for classes III to V, approving text books for other classes and conducting the Primary Final Examination at the end of class IV. The Education Directorate sanctions recognition and grant-in-aid to primary schools in municipal areas.

The scheme for conversion of the primary schools into five-class junior basic schools was pursued according to a phased programme and steps were taken for orientation of primary education into the basic pattern. The curriculum was considerably changed by inclusion of English as subject of study in class III to V, decimilization in the Arithmetic portion of the syllabus and large-scale introduction of simple crafts like leaf-weaving, vegetable gardening, paper-work, etc. as well as inexpensive basic school activities like *sāfāī* (cleaning), prayer, environment studies, etc. in ordinary primary schools.²

¹ Source : District Inspector of Schools, Bardhaman.

² Government of West Bengal, Education Directorate, *Septennial Review on the Progress of Education in West Bengal for the period 1957-58 to 1963-64*, Calcutta, 1970. p. 14-15

LITERACY AND EDUCATIONAL LEVEL AMONG DIFFERENT COMMUNITIES

District Group	Community	Sex	Total population age 6 & above	Illiterate (Per cent)	Literate (Per cent)	Primary upto Class IV (Per cent)	Class V to VIII (Per cent)	Class IX-XI (Per cent)	Matric H.S. P.U. (Per cent)	Graduate P.G. holders (Profes-sional)	Professional Degree holders (Per cent)	Total of Col. 7 to 12
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
484												
BARDDHAMĀN												
IIA Bardhamān	S.T.	M	195	78.98	7.69	7.18	...	5.64	...	0.51	...	13.33
		F	182	99.45	...	...	...	0.55	...	...	...	0.55
	S.C.	M	357	73.39	15.79	7.28	...	3.36	...	...	...	10.64
		F	314	95.54	2.23	1.91	...	0.32	...	...	...	2.23
IIB Bardhamān	O.C.	M	611	10.80	16.86	14.73	...	30.11	...	27.50	...	72.34
		F	517	37.14	25.92	7.93	...	23.79	...	5.22	...	36.94
	Total	M	1,163	41.44	15.05	11.18	...	17.80	...	14.53	...	53.51
		F	1,013	66.44	13.92	4.64	...	12.34	...	2.66	...	19.64
IIIB Bardhamān	S.T.	M	481	78.17	4.99	11.02	...	5.82	...	...	...	16.84
		F	530	98.68	0.19	1.13	...	...	...	...	...	1.13
	S.C.	M	116	80.17	2.59	12.93	...	4.31	...	...	...	17.24
		F	126	98.41	...	1.59	...	...	...	...	...	1.59
IIIC Bardhamān	O.C.	M	258	43.80	6.20	25.19	...	21.71	...	3.10	...	50.00
		F	225	87.11	0.94	10.67	...	1.78	...	...	...	12.45
	Total	M	855	68.07	5.03	15.55	...	10.41	...	0.94	...	26.90
		F	881	95.69	0.23	3.63	...	0.45	...	...	...	26.08

Notes S.T.=Scheduled Tribes, S.C.=Scheduled Castes, O.C.=Other Communities.

The Government policy of providing for elementary education is being implemented by (i) the conversion of existing primary schools and junior high/middle schools into junior basic schools and senior basic schools respectively, (ii) setting up of new basic schools, (iii) orientation of existing primary schools into the basic pattern and (iv) upgrading junior basic schools into senior basic ones.

Basic schools in the State are of the following types :

- (a) Pre-basic (nursery) schools for children of the age-group 3 to 5 years.
- (b) Junior basic schools with classes I to V for children of the age-group 6 to 11 years.
- (c) Senior basic schools with classes VI to VIII for children of the age-group 12 to 14 years, and
- (d) Complete basic schools with classes I to VIII.

A junior basic school in the rural areas of West Bengal ordinarily possesses six bighas of land which is fenced in due course by growing natural hedges as an agricultural practice pursued by the school itself. 12½ per cent of the cost of a school building of the approved type plan is contributed by local efforts. If ordinarily has a roll strength of about 150 to 180. The same integrated syllabus is followed in both primary and junior basic schools. In 1949, junior basic schools were established at Sadhanpur, Kishorkana, Mantaswar, Guapur, Barwa-Mahesh, Deyasha-Aligram and Searsol in the Bardhamān district.¹

During the year 1949-50, there were in the district 1,172 primary schools, 1,132 for boys, 40 for girls. Enrolment in these institutions numbered 90,498 of whom 64,919 were boys and 25,579 were girls. There were in the same year 7 junior basic schools in the district having 426 boys and 198 girls, i.e. a total of 624 scholars on their rolls.

In 1963-64, there were in all 2,443 primary, including junior basic schools in the district with 2,70,970 scholars on their rolls — 1,64,185 of them being boys and 1,06,785 girls.²

In 1967-68, there were 2,248 primary schools and 176 junior basic schools in the district. Of the former, 2,013 were in the rural area and 235 in the urban. The junior basic schools were located 150 in the rural and 26 in the urban area.³

The enrolment figures in the primary and junior basic schools

¹ Source : District Inspector of Schools, Bardhamān.

² *Septennial Review*.

³ Director of Public Instruction, West Bengal.

in 1967-68 are also significant. In Primary schools the figures stood at 1,74,294 for boys and 1,10,620 for girls and in junior basic schools at 21,720 for boys and 17,902 for girls, that is, a total of 2,84,914 and 39,622 for primary and junior basic schools respectively. We can see the spread of education in rural areas from the fact that of the total number of scholars in the primary schools in the year mentioned last, 2,35,972 were in rural areas of the district. Corresponding figures for the junior basic schools in the same areas stood at 26,613.¹

In 1957-58, 3,23,600 children attended 2,999 schools in 5,743 villages in rural areas of the State under free and compulsory primary education scheme.² A three-year phased programme was undertaken in 1961-62 for the introduction of free and compulsory primary education throughout the rural areas of the State (except Puruliya district) by 1963-64. Educational facilities have been provided in unschooled areas by the establishment of new primary schools before the three-year phased programme was undertaken. The growth of such new schools in the Barddhamān district has been indicated in an earlier paragraph. Having regard to the limitation of funds the Planning Commission decided that for the time being at least 80 per cent of the children of age-group 6-11 years should be brought to school by 1965-66. The enrolment figures for primary schools in the district for 1967-68 given earlier shows the increase in the number of scholars.

The enactment of the West Bengal Urban Primary Education Act 1963, further opened the way for the spread of free education in the urban areas of the State. In the Barddhamān district, the scheme of primary education under this Act in Asansol Municipality was sanctioned by Government in 1963-64, the actual operation being started the next year.³

Reorganization of Secondary Education in the State in the post-Independence period provided five types of schools for Secondary Education :

- (i) Middle schools with class V-VI known as two-class Junior high schools,
- (ii) Middle Schools with Classes V to VIII known as four-class Junior high schools,
- (iii) Senior basic schools with classes VI-VIII,

¹ Source : Director of Public Instruction, West Bengal.
^{2,3} *Septennial Review*, p. 12.

- (iv) High schools with classes V-X or classes I-X, and
- (v) Higher Secondary (including multipurpose) schools with classes I-XI or V-XI or VI-XI or IX-XI.

With the gradual conversion of existing 4-class primary schools into 5-class junior schools, the class V of Secondary schools was being integrated with the primary stage.¹

In 1957-58, there were 157 junior high/middle schools in Barddhamān district with an enrolment of 12,812 of whom 10,932 were boys and 1,880 were girls. The number of schools rose to 180 in 1963-64 with the enrolment figure standing at 20,841 consisting of 14,095 boys and 6,746 girls.²

42 Senior basic and complete basic schools (with classes I-VIII) were sanctioned for the district in the first two Plan periods and the first two years of the Third Five year plan, the total number of such schools sanctioned in the State being 328 during the same period.³ In 1963-64, 24,437 students were receiving their education in the 303 Senior basic schools in the State.⁴

During the latter half of the 19th Century, the first High schools in the district of Barddhamān came into being. The oldest institutions were : The Burdwan Raj Collegiate School, the Burdwan Municipal High School and the Burdwan Albert Victor School, the last one being the largest in the district having 394 boys on its rolls.⁵

In 1909-10, there were in the district 16 Government aided and 12 unaided high schools.⁶ Three of these high schools were located in Barddhamān town itself. The only high school in Asansol was managed by the Railway. There was one school each in Memari, Bhaita, Bagnapara, Patuli, Purbasthali, Katoya, Dainhat, Okarsha, Raniganj, Sanktorya (Dishergarh), Gopalpur, Sankari, Torkona, Chakdighi, Kalna, Putusri, Matbrum, Ethora, Ukhra and Siarsol.

Besides these High schools, there were in 1909-10 altogether 85 Middle English Schools and 22 Middle Vernacular Schools in the district. The number of pupils in the Secondary Schools was in that year 11,700 and showed an increase of about 500 over that of the previous year. The total expenditure on the

¹ *Septennial Review*, p. 17.

² *ibid.* p. 100.

³ *ibid.* p. 91.

⁴ *ibid.* p. 90.

⁵ Peterson — *ibid.* p. 178.

⁶ *ibid.* p. 179.

Compulsory
Primary
Education

Secondary
Education

Senior Basic
Middle and
Junior High
Schools

schools amounted to Rs. 1,79,000 of which Rs. 22,000 were derived from public funds.¹

On April 30, 1951, immediately before the transfer of High Schools under the Calcutta University to the West Bengal Board of Secondary Education, there were in the district of Bardhaman 118 High schools 38 of them permanently recognised and 80 given provisional recognition.

The Census District Handbook, 1951 for Bardhaman gives the following figures for 114 High Schools in the district.²

	No. of High Schools	Average no. of pupils 1946-50	No. of teachers	Total Govt. Grant 1946-47 to 1950-51 (in Rs.)
District	114	30,241	1,411	4,30,470
Subdivisions				
Sadar	43	11,636	520	5,85,224
Asansol	35	9,881	491	4,44,373
Kalna	19	4,587	209	1,99,395
Katoya	17	4,137	191	2,01,478

The number of High Schools in the district rose to 125 in 1957-58 with a total enrolment of 35,280. Of them 31,630 were boys and 3,650 were girls.³

In 1963-64, however, the number of High schools (i.e. schools up to class X) in the district stood at 107 and that of students to 32,974,⁴ the reason for the lower figure being the upgrading of some High schools to Higher Secondary schools (class XI) with unilateral or multilateral streams.

The recognised Higher Secondary schools with one or more of the seven streams such as Humanities, Science, Technical Education, Commerce, Agriculture, Home Science and Fine Arts and teaching up to class XI standard began to function from the school session of 1957. Thus while the upgrading of the High schools to Higher Secondary in the district accounted for 32 institutions in 1957-58 with a total enrolment of 14,220 (12,794 boys and 1,426 girls) the number of Higher Secondary schools rose to 104 in 1963-64 with a total enrolment of 53,592.⁵

¹ *ibid.* loc. cit.

² Census 1951: District Handbook, Bardhaman.

³ *Septennial Review*, p. 101, table 5.05.

⁴ *ibid.*, op. cit.

⁵ *Septennial Review*.

On 1 January 1971, the number of Higher Secondary schools in the district recognised by the West Bengal Higher Secondary Board stood at 171, i.e. 150 boys' schools and 21 girls' schools. There were, in addition, 198 High schools or class X schools as they are called to distinguish them from the Higher Secondary variety.¹ With the introduction of the three-year degree course in the universities of the State the student who completes his education at the High school with the School Final examination conducted by the Board of Secondary Education has to study for a year for passing the Pre-university examination which makes him eligible for admission to the degree course. By March 1964, eighteen Higher Secondary schools were permitted to teach the University Entrance course in Arts/Science on certain conditions.²

Of the Higher Secondary schools for boys in the district 40 have provision for teaching only the Humanities stream. These are located mostly in the rural areas. Bardhaman and Asansol towns have each of them one such school. There are 5 Higher Secondary schools teaching Humanities only in the Bardhaman P.S., 4 in Ausgram P.S., 3 in Memari P.S. of the Sadar Subdivision. Manteswar P.S. in the Kalna Subdivision has four such schools and Mongalkote of Katoya has two.

Nine of the 21 Higher Secondary schools for girls follow the Humanities stream only. There are 6 such in Asansol Subdivision, three of them in Chittaranjan, one at Dishergarh, one at Kulti and one at Asansol. One school is located at Katoya, one at Bardhaman and one at Rasulpur in the Memari P.S. in the Bardhaman Sadar Subdivision. 106 boys' schools and 10 girls' schools have provision for teaching both Humanities and Science. Some of these schools have commerce, technical and agricultural sections also.

The Sadar, the Durgapur and the Asansol Subdivisions have the largest number of schools teaching both Humanities and Science. These have between them 73 institutions. The other two subdivisions, Kalna and Katoya, have 18 and 15 such schools respectively. The schools are distributed among the urban and rural areas roughly in the ratio of about 1: 2.5, i.e. for one school in the urban area there are 2.5 schools in the rural.

For one single police station, Kalna has the largest number of class XI Schools, teaching both Humanities and Science —

¹ Source: Board of Secondary Education, West Bengal.

² *Septennial Review*, p. 61.

it has 10. Raina in the Sadar Subdivision has 8, Jamalpur and Memari in the same subdivision have 7 each.

In the Asansol and Durgapur Subdivisions schools teaching Science are concentrated in the towns and townships in the industrial belt. 7 schools in Durgapur, 5 in Asansol and 2 in Chittaranjan, all urban areas in the industrial region have provision for the study of the two above mentioned streams. There are schools in the urban areas of Raniganj, Kulti and Hirapur P.S. also. In the Sadar Subdivision they are predominantly in the rural areas.

In the Kalna Subdivision, apart from the 10 Science teaching Higher Secondary schools in the Kalna P.S., there are 3 schools in P.S. Manteswar and 5 in Purbasthali, predominantly rural areas. All the 10 schools in the Kalna P.S. except two are located in rural areas like Dhatrigram, Bagnapara, Satgachhia, Simlon and Badla.

In the Katoya Subdivision 3 schools are in Ketugram and 4 in Mongalkote police stations which consist of no urban areas. In the Katoya police station, out of 8 such schools, only 3 are in urban areas.

The girls' schools in the district offer courses in both Humanities and Science streams. In addition, Home Science is taught in 4 schools. One school in Barddhamān town has provision for four streams — Humanities, Science, Home Science and Fine Arts. Schools for girls teaching Science and Humanities, are distributed among the Asansol, the Durgapur and the Sadar Subdivisions, the first having 4, the Second 2 and the last named 4. Of the four in the Sadar Subdivision two are in Barddhamān town, one at Memari and one at Borehat. In the Durgapur Subdivision both the schools are at Durgapur, and in the Asansol Subdivision two are at Asansol town, one at Ushagram and one at Burnpur. The predilection of the residents of urban areas for teaching Science to girls is very much in evidence from the above analysis.

According to figures supplied by the District Inspector of Schools, on March 31, 1971, the 313 schools for boys and 62 girls' schools of the Secondary type (having classes IX-XI) had on the rolls 1,03,043 boys and 41,400 girls. This may very well compare with the corresponding figures for 1962-63 when in 177 boys' schools and 24 girls' schools of a similar nature the enrolment figures stood at 62,463 and 15,286 respectively.

Of the multipurpose Higher Secondary schools in the district 31 have provision for teaching the Commerce stream. 30 are boys' schools and these are distributed almost evenly among the urban and the rural areas. Kalna Subdivision has the largest number of such schools. As many as 6 of its 10 schools are located in Kalna P.S. 2 in the town itself and the others at Sultanpur, Simlon, Singarkon ((Badla) and Baidyapur; one school is at Samudragarh and one at Purbasthali in the Purbasthali P.S. and the other two such schools of the Subdivision is in Manteswar, one at Manteswar proper and the other at Maldanga. Katoya town has two schools offering the Commerce streams, the Subdivision has three. The third school is located at Dainhat, a municipal town in the Subdivision.

In the Asansol and Durgapur Subdivisions which is the biggest industrial complex of the district, schools such as these are situated almost invariably in the urban areas. Of the five schools in the Asansol Subdivision, three are at Asansol, one is at Raniganj and the fifth at Kulti. Two of the three schools in the Durgapur Subdivision are at Durgapur town itself. The third is at Gopalpur in the Kanksa police station.

In the Sadar Subdivision, Barddhamān town has two boys' schools teaching the Commerce stream. The only school having provision for teaching girls in this stream is also in Barddhamān town. The other schools in the subdivision are located at Gushkara (P.S. Ausgram), Mankar (P.S. Galsi), Memari and Rasulpur (P.S. Memari), Raina (P.S. Raina) and Parbatpur (P.S. Jamalpur).

There are four H. S. schools teaching the Agriculture stream — two of these are in Raina P.S. and one in Jamalpur P.S. of the Sadar Subdivision. The fourth school is at Samudragarh in the Purbasthali P.S. of Kalna Subdivision.

The six schools with Technical streams are in urban areas, 5 of them in the industrial complex of Asansol, Burnpur, Raniganj and Durgapur. The last named town has two schools for students studying the Technical stream for their Higher Secondary Examination. In Barddhamān town one school has provision for the above mentioned course of studies. There is only one school in Barddhamān town where Fine Arts stream is taught.

Before the University of Barddhamān was established in 1960, the district had 9 colleges for general education, all of them affiliated to the Calcutta University.

The only college in the district in 1942 was the Barddhamān Raj College maintained by the Barddhamān Raj. This institution has its origin in an Anglo-Vernacular School founded in 1817. In 1868, by which year it had become a high school, there were 500 boys on its rolls. In 1881, it was recognised as a second grade college teaching up to the Intermediate standard of the Calcutta University. The number of scholars on the rolls steadily declined and in 1909 it was 53 as against 204 in 1904. The principal reason behind the decline is said to be establishment of the Bankura Wesleyan Mission College and the imposition of tuition fees.

On 15 August 1947, there were only three colleges in the district, namely Barddhamān Raj College (established A.D. 1881), Kalna College (established A.D. 1943) and Asansol College (established 1944). By 1950-51, the number of colleges in the district rose to 6 of which 5 were for boys and 1 for girls. The three new colleges were Syamsundar College (P.S. Raina), Katoya College and Manimala Girls' College, Asansol (now known as Asansol Girls' College). The first two were established in 1948 and the last named in 1950. Asansol College has since been named Asansol Banwarilal Bhalotia College. One Bidhan Chandra College is also located in Asansol. On April 1971, there were 12 colleges in the Barddhamān district teaching Science, Arts and Commerce courses leading up to a degree of the Barddhamān University. Of the 12 colleges, three (two boys' and one girls') are situated in Barddhamān town. Asansol has three colleges one of them for girls. There is one college each at Kalna, Katoya, Raniganj, Syamsundar, Gushkara, and Durgapur. The last named college is a Government college, the only Government Degree college in the district so far, while the three colleges at Barddhamān, the three at Asansol, and the Syamsundar College are Government Sponsored Institutions. The Tribeni Devi Bhalotia college is located in Raniganj.

The Barddhamān Raj College, the oldest college in the district and one of the oldest affiliated colleges of the Calcutta University, was founded and maintained by the Barddhamān Raj till 1956, when it came under the sponsoring scheme of the Government of West Bengal. With the creation of the University of Burdwan in 1960 it automatically became affiliated to it.

The college is situated on the north-west corner of the magnificent tank of Barddhamān known as Shyām Sāyar at a distance

of about 1.6 kms. from the railway station and the Grand Trunk Road. The campus of the college comprising an area of 13 acres is almost contiguous to the newly acquired campus of the University of Burdwan.

The college has provision for University Entrance (Arts and Science) and B.A., B.Sc. and Commerce courses.

In July 1972, the total enrolment in B.A. classes was 1,017, B.Sc. 1,029 and B.Com. 1,214. Besides these, there were in the University Entrance classes 90 Arts and 71 Science students. The college has provision for Honours course in Arts, Science and Commerce subjects.

The teaching staff consists of 29 teachers for the Arts subjects, 34 for Science subjects and 2 for Commerce.

The college library and its laboratories are well-equipped.

It is a co-educational college; there are three hostels for boys having accommodation for 144. There is no hostel accommodation for girls. There is no separate arrangement for the Scheduled Caste and tribal students, who live in the same hostel as the other boys. The institution is managed by the college governing body.

The Banwarilal Bhalotia College, Asansol was established in 1944-45 as a private college through the efforts of some persons of the town headed by J. N. Roy, the then Chairman of the Municipality, and with financial help from generous persons, notable among them being Anil Kumar Raha. In 1956-57, it was taken over by the West Bengal Govt. under the sponsored colleges scheme and was renamed Banwarilal Bhalotia College after the name of Banwarilal Bhalotia of Raniganj who made a large donation of money to Dr. B. C. Roy, on condition that the college should be named after him. The college, which was started in a rented house, shifted in 1960 to its own buildings. The college was affiliated to the University of Burdwan in 1960-61 in which year it was permitted to start B.Sc. classes. An evening Commerce Department (non-sponsored) for B.Com. (pass) classes was added to it.

The college is now affiliated to teach the Honours course in Humanities and Science and also the B.Com. course in the evening Department. To meet the growing demand for admission to B.A. and B.Sc. courses a Morning Section was also opened.

In July 1972, the total enrolment in the college was 1,997, of these 123 in U.E. Arts, 101 in U.E. Science, 607 in B.A., 727 in B.Sc. and 439 in B.Com.

There are 52 teachers for the Day section, 13 for the Evening and 41 for the Morning section. There is one hostel for boys with 60 seats. Scheduled Caste and Tribal boys reside in the same hostel as others. They get hostel stipends whenever eligible.

The college has a well-equipped laboratory and library.

A college situated in rural surroundings is the Syamsundar College. Founded in 1948 by the late Bisalaksha Bose of Bardhaman, the college came under the Sponsored college scheme of the Government in 1956. Till 1960, when it became affiliated to the Burdwan University, it had been an affiliated college of the University of Calcutta.

The college teaches students for the Bachelor's degree in Arts and Science. While there is no provision for teaching honours courses in Science subjects, the college runs Honours classes in Bengali, History, Sanskrit and Mathematics for B.A. It is a co-educational college. In July 1972, there were 830 students on the rolls of the college of whom 55 were women. The college has 38 teachers. The college hostel accommodates 200 boys. There is hostel for girl students. The library and the laboratories are well-equipped.

The degree college at Durgapur is the only Government degree college in the district. At present it provides students in Humanities group.

Kalna College was started in 1943 through private efforts. In the same year it was affiliated to the Calcutta University as a Second grade college teaching Arts subjects for the I.A. examination. Affiliation in I.Sc. was secured in 1948. Extension of affiliation to B.A. standard was obtained in 1955 and to B.Sc. in 1957. In 1960, it was affiliated to the Burdwan University.

The intake capacity of the college is about 900 in all the classes starting with the university Entrance classes. It is co-educational.

The college is housed in its own buildings. There is provision for hostel accommodation for students.

Katoya College was started in 1948 and later the Director of Public Instruction, West Bengal, included it in the dispersal scheme. It has since been affiliated to the Burdwan University.

The colleges at Gushkara and Raniganj as well as the Bidhan Chandra College, Asansol and the Vivekananda Vidyamandir, Bardhaman were set up in the sixties.

Of the two girls' colleges in the district, Asansol Girls' College was established in 1950 largely through the efforts of Mrs. and

Dr. L. Sen, the then Chief Sanitary Officer, Asansol Mines Board of Health. It was at that time housed in the first floor of the local Manimala Girls' College. The college was under the Government's dispersal scheme from the start. In 1956, it became a Sponsored college.

In June 1962, the college shifted to its present site, its building being constructed by the Government.

The college, at its inception, was affiliated to the University of Calcutta to teach the Intermediate Arts and Science Course. Degree course in Arts was introduced from 1956-57. On affiliation to the Burdwan University in 1960, it started teaching the B.Sc. course also. At present it has provision for teaching the Honours course in Philosophy, History, Sanskrit and Bengali besides other subjects for the pass course in Arts. In Science, besides pass course subjects, the college has provision for teaching Honours in Chemistry. In 1972, the college had on its rolls 1,132 students reading for the degree courses besides 782 students studying for the University Entrance examination. The college has a hostel accommodating 48 residents. Teachers may also reside in hostels. The college has a library and laboratories for Science subjects.

The only other college for girls in the district, the Udaychand College, is situated in Bardhaman town itself.

The Bardhaman University was established in 1960 as a teaching and affiliating university with jurisdiction over the districts of Bardhaman, Bankura, Hugli, Puruliva and Birbhum (without affecting the jurisdiction of Visva Bharati over Santiniketan and Sriniketan).

The University had initially 32 colleges affiliated to it. By March 1964, the number of affiliated colleges, including three professional colleges, namely, the Regional Engineering College, Durgapur, College of Textile Technology, Serampore and the Government Training College, Hugli was 35.

By an amendment to the Burdwan University Act 1959, passed by the West Bengal Legislature in 1966 it was laid down that "the university shall not exercise any power conferred by or under this Act in respect of any college within the limits of the Serampore Subdivision of the district of Hooghly" ... and that "all such colleges which are, or are deemed to have been affiliated to the University shall cease to be so affiliated." All such colleges "shall be deemed to be affiliated to the University

of Calcutta and shall continue to be so affiliated until the University of Calcutta otherwise directs."

On April 1, 1971, there were 39 colleges for general education (Arts & Science) affiliated to the Burdwan University and 6 colleges for B.T. Of these, as already mentioned, 12 colleges for general education and one B.T. college are located in the district. The Kalna college and the Katoya college are the two colleges affiliated to the university, which have received permission for teaching B.Ed. course. Besides engineering, Burdwan University has started a Law College and a Medical College.

Post-graduate
and Research

By 1963-64, the university had ten post-graduate departments. Considerable progress was made in the implementation of scheme for the development of higher education in Humanities and Scientific Research adopted by the University. In 1960-61, the enrolment in the post-graduate classes of the University was 193 (all in Arts), in 1961-62 the total figure stood at 414 including 376 in Arts and 39 in Science, in 1963-64 the enrolment was 674 — 445 in Arts, 160 in Science and 69 in Commerce. In 1964, out of 256 students who appeared at the M.A. examination of the university 166, or 64.84 per cent, passed; of the 97 students who appeared at the M.Sc. examination 53 or 54.63 per cent passed.

Professional and
technical
Education

Bardhaman district has one engineering college, the Durgapur Regional Engineering College, situated in the Durgapur town. It is meant for both boys and girls but up to 1970-71 no girl student had been admitted. The Institution is jointly sponsored by the State and the Central Government. The institution has courses for Engineering and Technology. The five-year course for the degree of Bachelor of Engineering is open to students who have passed the Higher Secondary Examination or its equivalent. In 1971, the total enrolment in the B.E. Classes was 1,129 boys. The college has also provision for teaching 2-year courses for the degrees of Master of Engineering (M.E.) and Master of Technology (M.Tech.) to which Bachelors of Engineering are eligible for admission. There are five hostels for boys. In 1971, as many as 1,120 out of the total roll strength of 1,129 resided in the hostels. These included the 14 Scheduled Caste students of the college. There are 94 teachers, one of them a woman.

Besides the Engineering College, there are in the district three

Polytechnics teaching the Licentiate Course in Engineering of 3 years' duration and the Diploma course for Training of Technicians of 2 years' duration. Two of these Polytechnics are in Asansol and the third is in the town of Bardhaman.

The Maharajadhiraj Bijay Chand Institute of Engineering and Technology at Bardhaman was started in 1949.

The Institute admits students to the Licentiate courses in Civil, Mechanical and Electrical Engineering as well as the certificate course in Draughtsmanship of two years' duration. The annual intake capacity is : L.C.E. 90, L.M.E. 120, L.E.E. 30 and Draughtsmanship 20.

Of the two Polytechnics in Asansol, the Asansol Polytechnic started in 1956 offers part time courses in Mechanical and Electrical Engineering and has an annual intake capacity of 60 pupils to each of the courses. The Polytechnic at Kanyapur which was started in 1965 has provision for admission of 120 students to its Mechanical Engineering classes and 60 to its Electrical Engineering course.

There are in the district four Junior Technical Schools for junior diploma courses in engineering. Two of these, Kanyapur Junior Technical School and the St. Vincent Junior Technical School are in Asansol while a third, the Rupnarayanpur Junior Technical School, is also in the Asansol Subdivision. These are situated in the midst of an extensive industrial complex of the district.

The fourth Junior Technical School, the Satis Chandra Silpa Vidyalaya is at Yalanabagram near Bardhaman town.

The annual intake capacity of each of these schools is 60.

Besides these schools and Institutes of Engineering under the Education Directorate of the State Government, the Directorate of Industries administer training schemes in their vocational training programmes, including training of apprentices in accordance with the Apprentices Act 1961.

Under this scheme Industrial Training Schools have been set up with staff for instruction and workshop facilities for training of boys into craftsmen.

Facilities are also given, in accordance with the Apprentices Act 1961, to the boys posted in various industrial establishments for their basic training at the institutes. This is the main object of the Apprentices Training Scheme.

In addition to this, part-time classes are held where industrial

workers may receive their basic training and obtain the National Certificate.

One such Industrial Training Institute, run by the Directorate of Industries, is located at Durgapur. The I.T.I. at Durgapur provides all the facilities for training as mentioned above. The total annual intake capacity of the Institute is 1,040. Trade-wise distribution of seats is given below :

Blacksmithy	32	Carpenter	32
Draughtsman (civil)	32	Draughtsman (Mech.)	32
Diesel Mechanic	32	Electrician	64
Fitter	224	Mech. Grinder	48
Mech. Composit	96	Mech. S.S.P.	24
Mech. Miller	24	Motor Mechanic	32
Moulder	48	Pattern maker	32
Radio Mechanic	32	Turner	120
Welder	72	Sheet metal worker	32
Plumber	32		

Besides the Principal, the instructional staff includes 4 Foremen/Assistant Apprenticeship Advisers (Jr.), 5 Supervisors and 58 Craft Instructors.

Durgapur is the seat of the Central Mechanical Engineering Research Institute, which is one in the chain of National Laboratories and Institutes established by the Council of Scientific and Industrial Research throughout the country. The purpose of the institute is to extend and apply the advanced scientific and technological knowledge to long and short-term problems of industry, to assist in the designing of equipments, the construction and testing of pilot plants and prototypes, the testing of new materials, and development of standards.

The history of the Institute goes back to 14 March 1951 when the Governing Body of the C.S.I.R. approved in principle the establishment of a Central Mechanical Research Institute. A Planning Committee was constituted with Dr. B. C. Roy as the Chairman to advise the Council with regard to the objectives of the Council. The Committee broadly formulated the objectives of the Institute as "Research in Mechanical Engineering, Design of Prototypes and Pilot Plant" and suggested the appointment of a Director/Planning officer and the constitution of a Technical Sub-Committee to assist the Director in his Planning work.

The Governing Body of the C.S.I.R. at its meeting held on 24 September 1957 approved the recommendations of the

planning Committee and decided that the Institute be located at Durgapur in West Bengal.

The demand on the Institute from the industry has grown considerably. In the past few years the Institute had made a number of collaboration agreements with the industries for the exploitation of designs and products. Some new assignments have been made through the National Research and Development Corporation of India during 1968-70. The 20 HP tractors designed and developed jointly by the Institute and the Mining and Allied Machinery Corporation has been licensed to the Punjab State Industrial Development Corporation. Five of the Institute's Engineers and Scientists had been sent on deputation to the PSIDC for a year to help them in manufacturing the tractor.

The Institute on the advice of its Executive Council conducted for the first time in 1970, short-term training courses for practising engineers and scientists working in industrial organisations, teaching institutions and research laboratories. The Institute proposes to organise such courses from time to time.

The Institute is under a Director who has under him a large number of scientists doing research work. The Institute is controlled by an Executive Committee and several sub-committees.

A sister organisation, Mechanical Engineering Research and Development Organisation, concentrating on problems related to the development needs of small and medium scale industries was established in 1965. Its head-quarters are at CMERI Durgapur and it has at present three regional centres at Poona, Ludhiana and Madras. The organisation has already rendered services to a number of industrial concerns working in the above mentioned places.

The Bardhaman University has recently started a Law College where classes have been started for teaching students for the degree courses in law. The university has opened a training centre to train Scheduled Castes and Adivasi law graduates for the West Bengal Civil Service (Judicial) examination on March 1, 1977. The training will continue for ten months ; and initially 25 students will be trained.

The Bardhaman University Medical College was started in 1969. The courses taught here are : pre-medical (one year) and M.B.B.S. (5 years). Fifty students are admitted every year. The total number of students in May 1972 was 150, including 8 female students. The Institution is under the administrative control of the University of Bardhaman.

Law

Medical

500

BARDHAMAN

Teaching : B.T.
and Junior
Basic Training
Institutes

Of the 6 B.T. Colleges affiliated to the Bardhaman University only one is in the district of Bardhaman. This is the Government College of Education situated in Bardhaman town itself. The college which has classes for Post-Graduate teachers' training degree for secondary teachers has an annual intake capacity of 200. In 1972, there were 175 students on its rolls.

In addition to the College of Education there are Junior Basic Training Institutes at Kalanabagram, Saktigarh, Bidyanagar, Katoya and Laudoha. The institutes at Kalanabagram, Bidyanagar, Katoya and Laudoha are Government institutions; the Saktigarh Institute is Government sponsored.

There are two units of the Institute at Saktigarh, one for males with an intake capacity of 150 and the other for women with 75 seats. The annual intake capacity of other institutes are Bidyanagar 120, Katoya 100 and Laudoha 150. These are exclusively for males. The Institute at Kalanabagram which is co-educational has an annual intake capacity of 150.

Siksha Niketan:
Experiment in
Education-cum-
Social up-lift
work

A unique education-cum-social uplift work is carried on by Siksha Niketan at Kalanabagram. The institution has its inception in 1935 when an organization was formed under the name of 'Vidyalaya' with the object of carrying on rural uplift work of Gandhian lines. In 1953, it was reshaped and renamed Siksha Niketan.

Siksha Niketan runs two nursery schools one of which is at Kalanabagram. In this school 40 children between the age of three and six are admitted. They are taught to integrate themselves into community life through games and joy of common living. The children have their food in school. The needy are provided with clothes.

A Junior Basic and a Senior Basic school are run by the Niketan. In the Junior school tuition is free. The school provides many of its students, who come mostly from the poor strata of society with food and clothes. The students work in the school garden and spin yarn. The sales proceeds of the produce go to meet the boarding charges of poor students.

In the Senior Basic school the students are generally between 13 and 15 years of age and are taught up to class VIII. There are three hostels, one of these is for girls and one for boys of the Scheduled Tribes.

There is an industrial school run by the Niketan where the students may be admitted on passing out of the senior basic school. Here they may learn various crafts and sit for the Junior

diploma examination conducted by the State Council for Engineering and Technical Education. Fifty per cent of students receive stipends. Siksha Niketan runs in addition an education extension centre, a girls' school, a training centre for school-mothers form adult education centres, and a Social Service Centre. It runs a regional library with branches in several villages.

The state of Oriental learning in Bardhaman in the early years of the British rule has been dealt with earlier. The Sanskrit *Chatuspāthīs* and *Tols* which flourished at one time dwindled with the change in educational outlook. A few held out in ancient seats of learning like Purbasthali, Siarsol, Gangatikuri, Ikra and Bardhaman town. There has, however, been an improvement in the position. In 1950-51, there were 20 recognised *chatuspāthīs* and *pāthśālās* in the district, 15 of these aided by Government. The number rose to 30 in 1955-56 and to 50 in another five years. In 1970-71, the total number of such institutions in the district were 66, of which, one was a Govt. managed institution, 36 aided by Government and the rest private institutions but unaided by Government. The number of scholars have increased in the last 20 years from 200 (180 boys and 20 girls) in 1950-51 to 700 (500 boys and 200 girls) in 1970-71. There has been a corresponding rise in the number of teachers from 25 in 1950-51 to 80 in 1970-71.

Oriental Schools
& Colleges

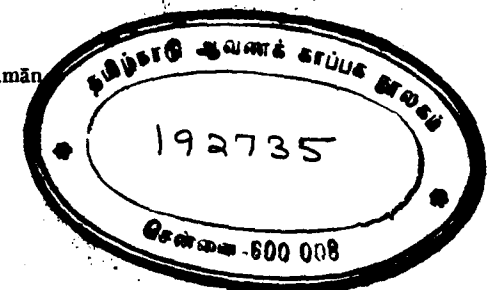
In consonance with the programme for the promotion of literacy and social education taken up in the districts of the State, 42 adult education centres have been set up till the end of 1972 in the district of Bardhaman where approximately 1,275 persons are being educated.¹ At these centres the adult literacy programme is generally supported by instruction in the fundamentals of health, hygiene, citizenship, culture and recreation. About the same time there are 34 literacy centres with an approximate enrolment of 660 persons. There are, besides, 90 one-teacher *pāthśālās* and 60 night schools with enrolment of about 1,980 and 1,200 persons respectively.

ADULT LITERACY

Of the persons enrolled at these centres and schools 50% on an average are being made literate every six months. Post literacy work is carried out at 4 School-cum-Community Centres where about 120 persons are enrolled.

¹ Source : District Social Education Officer, Bardhaman

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LIBRARIES

Adult education centres are provided with literature for the literates who get suitable books also from library centres to which Government sanctions grants for the purchase of books and equipment. All libraries set up and aided under the scheme of social (adult) education are required to provide reading material for the neo-literates.

There are 46 Government sponsored libraries in the district¹ which are financed and managed by the Government.

These are located in the rural areas of the district, their distribution development block-wise being : Kulti-1, Kalna I-2, Ketugram I-1, Ausgram I-2, Andal-2, Katoya I-1, Katoya II-1, Kanksa-2, Memari I-3, Ketugram II-1, Kalna II-4, Purbasthali II-2, Raina I-1, Galsi II-2, Mongalkote-2, Manteswar-2, Jamalpur-4, Bhatar-3, Galsi I-1, Faridpur-1, Raina II-1, Khandaghosh-2, Barddhamān-1, Memari II-1, Jamuria II-2, Jamuria I-1.

Most of these 46 rural libraries were established after independence. The rural library scheme of the Government provides for the improvement and proper management of some existing village libraries with Government grants. A rural library may also be started *de novo*, Government making a non-recurring grant towards building, books and equipment, the local people bearing a suitable matching share to supplement the government grant.²

Of the libraries existing before Independence which have been taken over by Government, Ajhapur Sadharan Pathagar in Jamalpur development block was established in 1922. It has over 2,200 books and about 200 persons are benefitted by it. Srikhanda Chittaranjan Pathamandir in Katoya which was established in 1927 and benefits 250 persons has 3,500 books in its collection. At Singhee the birthplace of Kashiramdas, the poet who composed the Bengali Mahabharata, a library erected in the memory of the poet in 1920, has a collection of over 2,500 books and benefits 152 persons. Another library established in the twenties, the Kumirtola Peari Mohan Library (P. O. Rupsa), in Khandaghosh, has over 2,300 books and benefits 153 persons. Among the government managed rural libraries, the largest collection is with the Area library at Kalanabagram. It has nearly 7,000 books giving

benefits to 400 persons. Galsi Udayan Sangha Satinandi Jadavendra Pathagar and Mankar Pallinagar Library benefitting on an average about 400 persons have collections over 5,000 each.

Besides the Government managed libraries, there are in the district 411 libraries mostly in the rural areas and almost all of them are managed and financed by local bodies. Block-wise, these are distributed as follows, the number of persons benefitted by these are given in brackets against the number of libraries in the blocks. Kulti — 9(3,600), Kalna I — 8(1,272), Ketugram II — 16(889), Ausgram I — 14(781), Andal (including 8 libraries in Asansol) — 25(11,650), Ausgram II — 18(7,425), Barddhamān — 41(17,520), Katoya I — 14(1,421), Katoya II — 27(1,824), Manteswar — 18(1,161), Salanpur — 10(8,002), (including two libraries in the Railway township of Chittaranjan containing 27,292 books and benefitting 4,158 persons and one in Hindusthan cables township containing 2400 books with 1480 persons deriving benefit out of it), Memari I — 16(1,490), Ketugram II — 17(1,319), Bhatar — 15(2,011), Baratari — 10(1,240), Kalna II — 30(3,489), Purbasthali II — 8(730), Raina II — 26(2,474), Raina I — 18(1,699), Galsi II — 30(5,220), Mongalkote — 9(629), Kanksa — 6(525) and Khandaghosh — 26(2,974).

Libraries having the largest collection of books are besides the two at Chittaranjan mentioned above, Ethora Village Library in Salanpur block established in 1936 which has more than 7,000 books and the Kaiyar Sākhā Samiti Library which has a collection of about 3,500. Of the others, the collections generally range between 500 and 1,000 although a few has collections above a thousand.

All the libraries enumerated above organise cultural activities. The Satinandi Jadavendra Smriti Pathagar has a museum attached to it.

There are other libraries in the district head-quarters — the district library, the library opened and maintained by Government, and libraries attached to the University and colleges as also the recreation clubs sponsored by the welfare departments of the various industrial units. Special mention may be made of the library of the Central Mechanical Engineering Research Institute, Durgapur which in 1968-70 alone added nearly 9,000 publications to its collection and received more than 500 current periodicals. Documentation services were organised to cater for the information needs of the researches of the institute.

¹ Figures as in December 1972.

Source : District Social Education Officer, Barddhamān.

² Septennial Review on Progress of Education 1957-58 to 1962-63.

Cultural functions are held in Rabindra Bhavan, Barddhamān. There are Barddhamān Sahitya Sabha, Ramakrishna Mission Institute of Culture and Bangiya Sahitya Parishad doing cultural activities in Barddhamān.

MUSEUM

The only museum in Barddhamān is the University of Barddhamān Museum and Art Gallery, which was opened for the public and the students of the University on 18 August 1965 with barely four dozen terracottas and fifty paintings and litho-prints which were formerly in the collection of the Maharajadhiraj of Barddhamān.

Located at Dilaram, Rajbati, University of Barddhamān, the museum is controlled and managed by a Museum Committee of the University with the Vice-Chancellor as its Chairman and the Curator as its member-secretary.

The aims of the Museum and Art Gallery are to collect and acquire antiquities, objects of art, coins, manuscripts, paintings specimens of folk art, etc. from different regions of West Bengal and adjoining States; to explore and excavate important archaeological sites and relics in West Bengal and to preserve the cultural heritage of ancient Rādhadeśa. It has also initiated research as well as a study programme on the history of Bengal.

From the meagre stock of the private collections with which it began, the Museum has grown into a sizeable collection of antiquities belonging to the pre-historic and proto-historic period, sculptures, bronzes, paintings, manuscripts, terracotta figures and figurines and other objects of art of the historic period from the different parts of West Bengal. Of the stone sculptures mention may be made of a two-armed Vaisravana, a standing four-armed Tribhanga Viṣṇu, Navagrahas, Manasā, Durgā, Lakshmī, Mahāsena, Sadyojāta, Aṣṭamukhalinga, Brahmā, torso of Viṣṇu, Buddha, Tārā Devī, Śiva, Varāha Avatāra and other icons of the Hindu-Buddhist-Jaina pantheon. The standing stone image of Vaisravana is a pot-bellied two-armed one in *Samapadasthana* posture holding a full blown lotus with a long stalk (which is rested on a small *Kalas*) in his left hand, and in the right one holds a citron or a precious jewel. From iconographic standpoint the deity belongs to the group of Dhyani Buddha Amitava. It has a beautiful *Siraścakra* (halo) with floral decoration. The ornaments, the jewelled *Kirīṭa* (in the shape of a turreted crown), *hāra*, *yajno-*

pabita, *Vanamata* are tastefully displayed. The corners of the lower relief are carved with composition of two standing miniature pot-bellied figures displaying the same attributes as the principal one. Each extreme corner of the halo is portrayed with a sword and a scabbard, a knife and two standing pot-bellied divinities holding *āyudhas* like the main image. Eight *kalas* or *aṣṭa-nidhis* are clearly depicted on the lotus pedestal. The image has grace and poise, warm sensuousness and human charm. The expression of the face, delicacy of the body and plasticity of volume suggest the fine taste and perfection of the Pala School of Art of the 8th and the 9th centuries.

Other collections of the Museum are wood carvings of Venu-gopāla, painted Rādhā, Gopinis, Nandī (Bull), decorative wooden panels of elephant and lion motifs, terracotta temple plaques, terracotta figures and figurines.

Of the rare coins in the collection of the Museum, silver and copper punch-marked coins of the Maurya period, silver coin of Alexander the Great, archer-type gold coins of Chandra Gupta II from Adrahati and of Skanda Gupta from Mulgram (in Barddhamān) and Indo-Muslim coins are interesting. Two rare bronzes of Rishvanatha and Chandradevi are also in the collection. The Museum has undertaken, jointly with the Archaeological Survey of India, excavation at Bharatpur, a village near Panagarh. The excavation has brought to light a brick-built *stūpa* of the 9th-10th century A.D. Some relics of antiquity were unearthed including images of Buddha. Archaeological Survey and exploration was also carried out by the Museum in the village Erur in Bhatar police station. This led to the discovery of artifacts indicating the existence of a chalcolithic culture sequence in the dried up rivulet Brahmani.

CHAPTER XV

MEDICAL AND PUBLIC HEALTH SERVICES

SURVEY OF PUBLIC
HEALTH AND MEDI-
CAL FACILITIES IN
EARLY TIMES

Mukunda Ram Chakraborty, the 15th century Bengali poet, born in Damunya in the district, made references to diseases and their treatment as seen by him. He refers to the use of tablets and some applications by the *vaidyas* who also had mastery over many medical treatises. He refers to the unsuccessful physicians who used to go in search of camphor to enliven a dying patient by administering a concoction of it.¹ Surgeons performing surgical operations of the spleen or removing cataract of the eyes by a thorn has also been referred to by Mukunda Ram. Barddhamān was quite a healthy place in the 18th and 19th centuries A.D. In A.D. 1760 the then Barddhamān district covering an area of 5,174 sq. miles and including the present Hugli and Haora districts was considered to be the most productive district in Bengal by the officers of the East India Company.² Hamilton also considered Barddhamān to be a healthy place in A.D. 1815. At that time no less than seven-eighths³ of the land in Barddhamān was under cultivation. In fact, people suffering from chronic malarial fever used to come to Barddhamān for cure prior to A.D. 1862. The condition, however, deteriorated since then. Prior to 1862 Indian doctors were appointed and medicine supplied free to the patients. Towards the end of 1862 Dr. J. Elliot, the Civil Surgeon of Hugli was deputed to visit the affected districts, inquire into the causes and the extent of ravages of the epidemic and suggest measures for control of the disease which had been creating havoc then. This terrible epidemic called 'Burdwan Fever'⁴ visited the eastern sub-

divisions of the district bordering on Nadia district with the Bhāgirathī running in between, where the diseases had already caused havoc as in some other districts.¹ It was, however, more fatal and virulent in Nadia and Barddhamān than in Rungpore, Jessore, Purnea and the Eastern districts of Bengal. Estimates reveal that the total mortality was about one-third of the population in the tracts scourged by the epidemic. Between A.D. 1869 and 1872 the population of the town of Barddhamān had gone down from 46,000 to 32,687, thus recording a decrease of more than 30 per cent.² Seventeen villages of the Katoya subdivision having approximately a population of 14,982 lost about 6,243 lives, or 41.7 per cent of the population during the ravages of fever. Fifty other villages of the same subdivision also recorded the same mortality figures during those years.³ It was estimated that during the 12 years between A.D. 1862 and 1874 the epidemic had carried off not less than three-quarters of a million of persons.⁴ The main causes for the outbreak of the disease, whose virulence subsided by A.D. 1875, are said to be the interference with the natural drainage of the country by raising river and railway embankments, changes in the course of rivers and the silting and drying up of the channels of streams.⁵ Bentley says that embanking of the delta tracts of Bengal either for roads or railways or for flood prevention has been followed by the 'Burdwan Fever' epidemic.⁶ The 'Burdwan Fever' report of 1873 *inter alia* stated that the greater part of the district had been seriously affected by the bunding of the Kānā Nadi and by raising embankments on the eastern bank of the Damodar, with the result that the silt of the Damodar could no longer enrich

¹ Peterson, J. C. K. — *op. cit.*, p. 78.

² *ibid.*, p. 79.

³ *loc. cit.*

⁴ *loc. cit.*

⁵ *loc. cit.*

⁶ Bentley, C. A. *op. cit.*, pp. 20-38. To eradicate the disease Dr. J. Elliot had suggested removal of superabundant and useless trees, shrubs, bamboo clumps and plantain groves from the immediate vicinity of houses; the pruning and thinning of trees; the removal of trees and bamboos from the sides of tanks; the uprooting and burning of low bushy jungles, vegetation, and rank grass; the deepening and clearing of the larger tanks; the filling in of all useless tanks, water-courses and other excavations in the neighbourhood of houses; the appropriation of particular tanks exclusively for the supply of drinking water; the construction of a few drains and paths in each village; and the proper ordering of burial grounds and burning ghats.

A subsequent commission headed by Dr. J. Anderson, having Dr. Palmer, Dr. Elliot, Mr. MacNeile and Baboo Degumber Mitter as members, opined that miasma, which was the immediate cause of the disease, was the result of great dampness of the earth's surface. Such

¹ Chakraborty, Mukunda Ram — *Kabikanan Chāṇḍī* (in Bengali), Basumati Edition, Calcutta, 1870 B.S., p. 570.

² Bentley, C. A. — *Malaria and Agriculture in Bengal: How to Reduce Malaria in Bengal by Irrigation*, Calcutta 1923, p. 40.

³ *Ibid.*, p. 41.

⁴ The disease differed only in its intensity from the ordinary form of malarious fever. It was of a more congestive character than the ordinary intermittent fever and presented all the grades of severity between the remittent and intermittent types. Its virulence in the district was attributed solely to villages being indrained, houses unventilated, tanks uncleared and over-grown with noxious weeds and tangled growth of jungle and rank vegetation with which the Bengalee loved to surround and obscure his dwellings (*vide Annual Report on the Administration of Bengal: Medical: 1862-63*).

The fever ran its course to a fatal termination with great rapidity and where not at once fatal, it left the patient so shattered as to be generally unable to resist another attack (*vide Annual Report on the Administration of Bengal: Medical: 1863-64*).

the soil in those parts.¹ Though the people of the district enjoyed safety from inundations of the river, their lands lost in fertility owing to the loss of alluvial deposits, and their health also deteriorated for want of flushing of the stagnant pools of water. With the raising of embankments there were no more chances for the submerging of marshes by floods or river and thus the marshes became the breeding grounds for anopheles mosquitoes.² Relief was given by Government on a large scale to check the ravages of the disease which continued its march from the east to the west of the district until it reached the laterite soil of Asansol subdivision where it was finally checked and eventually died out.³ Government operations for the relief of the fever were, however, stopped since 31st March 1876 when improved health conditions were said to have been apparent. Between August 1871 and March 1876 nearly four million persons were given treatment in the local dispensaries; quinine weighing about 3,212 lbs. and valued at Rs. 16,245 was also used during the same period. Other medicines costing about Rs. 2,45,071 were also distributed during the same period. The cost of the extra establishment of medical officers during that period was to the extent of Rs. 2,82,559. Thus, fever relief during those years cost the Government nearly 5½ lacs of rupees.⁴

Even after A.D. 1875 the scourge continued, in a sporadic and milder form, for decades. It has been said that over half the

dampness was caused by the gradual filling up of *beels* by deposits brought in from rivers, supplemented by a continuous rise in the level of the river bed, thereby affecting the natural drainage of the country. Mr. Mitter of the Commission said that the natural surface drainage is from the high banks of the river inwards into paddy fields, thence into *beels*, and thence into khals which empty themselves only when the river has fallen. Thus, it was argued that the construction of Railways and roads running parallel to the river and consequently across the natural surface drainage of the country, notwithstanding the supply of bridges and culverts, greatly interfered with the drainage of surface water. Combined with this was the gradual rise in the river bed and the consequent silting up of the mouths of khals and *nullahs* resulting in the excessive dampness of the earth's surface.

The Committee thus proposed improved system of drainage, deepening of the old *nullahs* and khals, burning of weeds, dried grass, etc., filling up of the small and filthy holes, reserving of certain tanks for the supply of drinking water, taking of proper measures for disposal of dead bodies. The Committee also suggested that all qualified practitioners in medicine should be registered as uneducated medicine vendors were going about the village selling drugs of doubtful nature and thus doing incalculable mischief.

¹ *ibid.*, p. 40.

² *loc. cit.*, p. 48.

³ Peterson, J. C. K. — *op. cit.*, 79-80.

⁴ *loc. cit.*

people were attacked every year, and in A.D. 1929 almost every-one in the district, even in the driest parts were attacked.¹ The disease was an annual feature in many villages of the eastern subdivisions of the district where cent. per cent. persons were attacked. Purbasthali thana had high incidence of malarial fever in the thirties of this century, causing a large emigration of the middle and upper class people to Calcutta. Traces of one-time prosperity of the thana, however, could only be seen in extensive village sites and in the high proportion of land covered by village paths.²

There were 56 special itinerant fever dispensaries and 5 permanent hospitals and charitable dispensaries, run partly by Government and partly by private agencies at the end of 1872.³ The latter were Barddhamān Town Dispensaries (established in 1837), Katoya Dispensary (1860), Chakdighi Dispensary (1859), Bud-Bud Branch Dispensary (1864) and Raniganj Dispensary (1867).³

During the first decade of this century there were four municipal charitable dispensaries having 32 beds for females and 77 beds for males in all in Barddhamān, Katoya, Raniganj and Dainhat towns. Besides, the District Board maintained ten dispensaries. All these dispensaries were supervised by Government. In the thirties there were 19 charitable dispensaries run by the District Board and 21 run by the Union Boards. There were also three private dispensaries, the Dinanath Das Charitable Dispensary at Kanchannagar, the Brahmomoyee Debi Charitable Dispensary at Bokra in Raina police station area, and also another at Chakdighi.

There were also private hospitals namely the Barddhamān Raj Hospital at Barddhamān and the Kalna Raj Hospital at Kalna, the latter maintained by the United Free Church of Scotland Mission.

The Fraser hospital, Barddhamān was named after Sir Andrew Fraser, the then Lieutenant-Governor of Bengal, who laid its foundation stone in July 1908. The scheme was estimated to cost 2 lakhs, the Maharajadhiraj of Barddhamān contributing

¹ Hill, K. A. I. and Banerjee, P. K. — *Final Report on the Survey and Settlement Operations in the district of Burdwan : 1927-34*, Vols. I-II (combined), Calcutta, 1940, p. 7.

² *loc. cit.*

³ Hunter, W. W. — *Statistical Account of Bengal, Vol. 4, Burdwan*, 1876, pp. 192-201.

Rs. 80,000 besides offering a site for the building and Government contributing Rs. 80,000.

The East Indian Railway Company also started their own dispensaries at Bardhaman, Asansol, Ondal and Sitarampur in the early years of this century.

To tackle the fever epidemic the District Board used to open temporary fever dispensaries for a few months in the most fever-stricken areas of the district, and between A.D. 1908 and A.D. 1910 five such dispensaries were opened at Boro Baloon, Bongopalpur, Nadanghat, Okarsha and Satgachi. A temporary floating dispensary worked between the 13th September and the 10th December 1909 for serving the inhabitants of the eastern border of the district. The boat carrying the dispensary touched at 13 sites, 11 on the Bhagirathi and 2 on the Khari. It traversed 78 miles on the Bhagirathi and 18 miles on the Khari at that time.¹

Leprosy being a scourge of the north-western part of the district, two Leper Asylums were started at Raniganj and Asansol in the beginning of this century. One Mr. Smith founded the Leper Asylum at Raniganj in 1893 which had 206 lepers in the Asylum and 19 untainted children of leper parents in the orphanage in 1910. The expenses of the Asylum were borne by the Mission to Lepers in India and the East, while the Wesleyan Mission managed it and did pastoral services. It was treated as the Government Asylum for Bardhaman and Government granted annual subsidy to it.² Another small Leper Asylum was located at Asansol supported by the Mission to Lepers and managed by the Methodist Episcopal Mission of Asansol. Later, the Asansol Mines Board of Health had its clinics in many places of the Mining Settlement which worked in close collaboration with the local Leprosy Relief Association.³

VITAL STATISTICS

'Burdwan Fever' took a heavy toll of lives between 1861 and 1872. Without taking into account the number of probable desertions from the district it has been calculated that about 3,72,100 people were lost between these years. Mortality thus stood at 154 per thousand, i.e. a seventh of the total population which was calculated to have been 24,06,845 in 1860.⁴ Although

¹ Hill, K. A. L. and Banerjee, P. K. — *op. cit.*, p. 123.

² Mitra, A. — *Census 1951 : West Bengal : District Handbook : Burdwan*, Calcutta, 1953, pp. lxx-lxvi.

³ Peterson, J. C. K. — *op. cit.*, pp. 85-6.

⁴ *loc. cit.*

the figures then included some of those belonging to the police stations now in Hugli district, there were considerable losses in Kalna, Katoya, Bardhaman, Mongolkot and Ketugram police stations at that time. The situation has of course improved later when 'Burdwan Fever' subsided.

The birth and death rates shown below may give an idea of the health of the district. The following table gives figures of births and deaths and their rates per thousand based on a 20-year period from 1941-1960.

	1941-1950				1951-1960			
	Birth rate per thousand		Death rate per thousand		Birth rate per thousand		Death rate per thousand	
	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths
Male	2,18,338	11.5	1,92,412	19.3	2,76,762	12.63	1,06,905	9.21
Female	2,03,411	7.8	1,79,802	20.2	2,57,779	11.76	93,289	9.05

It will appear that the birth rates were higher in the later decade than the former and death rates declined in the later decade in comparison to the former. This shows improvement in health during the last 20 years under consideration.

The table below would further show the birth and death rates obtaining in the urban and rural areas of the district in recent years.

BIRTH AND DEATH FIGURES FOR BARDHAMAN DISTRICT : 1961-66

	Birth Rate per thousand (on total)			Death Rate per thousand (on total)		
	Urban	Rural	(on total)	Urban	Rural	(on total)
1961	5,468	52,977	18.8	1,287	16,479	9.0
1962	5,073	53,282	18.2	1,131	15,922	8.6
1963	4,567	48,350	16.1	1,212	16,890	5.5
1964	6,390	44,842	15.2	1,703	16,352	5.3
1965	4,977	40,416	13.2	1,034	14,125	4.7
1966	4,748	45,747	14.3	1,143	16,714	5.0

It appears from the above table that both the birth and death rates have declined over the years. The declining rates of birth

may be due to the adoption of family planning on a large scale, while the declining rates of death may be accounted for by the improvement in medical facilities and the availability of life-saving drugs in recent years.

Age of mother

The following table gives an idea of the percentage of birth registered by maternal ages in Barddhamān and Asansol municipalities.

PERCENTAGE OF BIRTHS RELATED TO MOTHERS' AGE IN BARDDHAMĀN AND ASANSOL : 1963-66

Age of mother	Barddhamān Municipality			Asansol Municipality		
	1963	1964	1965 & 66 (Average)	1963	1964	1965 & 66 (Average)
15-19	9.2	19.5	23.8	9.7	15.7	14.5
20-24	33.0	34.5	36.6	34.2	33.3	32.0
25-29	31.9	27.8	24.9	30.4	24.6	28.0
30-34	11.1	11.7	10.3	12.9	18.0	17.4
35-39	10.1	4.5	3.3	9.2	5.9	6.7
40-44	2.9	1.7	0.9	2.0	2.1	1.1
45+	1.8	0.3	0.2	1.6	0.1	0.3

The table shows that the percentage of births is the highest in the 20-24 age-group followed by the 25-29 age-group.

Infant mortality

Children form the largest component of the total population of the district. Because of their physical immaturity and large number the mortality hazards of children are greater than that of the people of higher age-groups. The following table presents the number of infant deaths in the district in relation to the State figures of recent years.

INFANT MORTALITY IN BARDDHAMĀN DISTRICT : 1961-66

	Urban				Rural			
	No. of infant deaths		Annual rate per thousand live births		No. of infant deaths		Annual rate per thousand live births	
	State	District	State	District	State	District	State	District
1961	12,745	102	96.1	18.7	29,439	3,566	56.3	67.3
1962	12,310	56	88.0	11.0	29,265	3,255	55.8	61.1
1963	12,95	64	93.5	14.0	28,445	3,058	55.5	63.2
1964	11,214	80	77.8	12.5	24,399	2,984	56.0	66.5
1965	10,723	60	79.5	12.1	21,452	2,258	48.4	55.9
1966	11,217	73	81.2	15.4	21,963	2,723	49.2	59.5

Registration of vital statistics in this State is governed by the Bengal Births and Deaths Registration Act, 1873. The provisions of the Act are, however, not carefully followed and as a result under-registration of vital events has been the normal feature. Registration is deficient in coverage and quality. The chowkidar is the lowest unit collecting reports on vital events. He brings his notes on the parade day to the police station from where they are collected by the Sanitary Inspector or the Officer-in-Charge of police station as the case may be.

The following table¹ shows the percentage of chowkidary attendance and receipt of reports as well as the average delay in receipt of reports in months in the district during 1965 and, 1966.

PERCENTAGE OF CHOWKIDARI ATTENDANCE IN BARDDHAMĀN DISTRICT : 1965-66

Percentage of chowkidary attendance		Percentage of receipt of reports		Average lag-period in months	
1965	1966	1965	1966	1965	1966
48.2	48.2	82.22	77.1	0.7	0.9

At present, there are seven types of registration units, namely, (1) Registration of Births and Deaths in Municipal Areas, (2) Sanitary Inspectors, (3) Medical Officers of Rural Health Centres, (4) Officers-in-Charge of Police Stations, (5) Railway Station Masters, (6) Staff of the Basic Public Health Units and (7) Others.

But even then reports from all agencies were not received probably because some of them had no experience in the matter.

In order to improve the system of registration several schemes have been taken up in the State, namely, (1) Model Health and Ideal Registration Unit, (2) Half-yearly Census of Births and Deaths, (3) Sample Registration Scheme (Pilot) and (4) Model Registration in Primary Health Centre Areas.

The Model Health and Ideal Registration Unit Scheme is in operation in the State for about two decades. The objectives of the scheme are to obtain correct vital statistics, to plan and provide adequate health services to the community according to the changing population from time to time and to evaluate its findings in the light of some data obtained from other sources.

¹ Source : State Bureau of Health Intelligence, Government of West Bengal.

namely, statutory registration, sample registration and model registration in health centre areas. A unit of this type is functioning in Barsul Anchal in Memari police station. There are three Basic Public Health Units comprising about 5,000 population each there. The working procedure of these units comprises normal registration, survey and assessment of health-care activities *vis-à-vis* need. Each Basic Public Health Unit maintains birth and death registers collecting information from village health reporters. The information so collected is verified by visiting the houses concerned during the first three days of the week. "The survey-schedule falls on the last three days of the week, when each staff undertakes survey of the households under Basic Public Health Unit for concurrent evaluation and maintaining an up-to-date population Register. Extension of health-care includes collection of information during house-to-house survey regarding unprotected children, incidence of Diphtheria, Tetanus, Whooping Cough; expected mothers requiring antenatal care, bed-ridden cases in need of domiciliary treatment, etc.; and reporting to the medical officer of the health centre concerned in requisition forms for taking prompt action."

DISEASES COMMON TO THE DISTRICT

The historic 'Burdwan Fever', which has no vestige in the district now, derives its name from the district and it appeared as a virulent and fatal type in 1862. There were also other diseases during the last century which took quite a heavy toll of lives. There were varieties of fever¹ like intermittent fever of quotidian, tertian, quartan and double quotidian types; remittent fever of bilious remittent and typhoid malarial types; pernicious malaria; unclassified fever; pernicious cachectic fever; typhoid and *kala-azar*. There were as many as 32,072 deaths from fever (23.04 per thousand of total population) in A.D. 1900. Cholera visited in epidemic form from time to time. The disease took a toll of 2,560 lives in 1904 and 14,268 lives in 1908. The police station areas suffering most from the disease were Monteswar, Raniganj, Purbasthali, Katoya, Asansol, Mongalkot, Ketugram and Sahibganj. In Monteswar alone the death-rate in 1908 was as high as 20 per thousand. The infection was caused by the

¹ Government of West Bengal, State Bureau of Health Intelligence, Report for 1968-69 of Ideal Registration and Model Health Units, West Bengal, Calcutta, p. 2.

² Peterson, J. C. K. — Bengal District Gazetteers: Burdwan, Calcutta, 1910, p. 80.

contamination of river water by the cholera corpses which were thrown in to it. Small-pox also took a heavy toll of lives and the average annual mortality from this disease for five years (1905-1910) was 982 or 0.64 per thousand of the population. Imported from Calcutta, plague took one or two lives in the district near about 1910. Plague, however, broke out in an epidemic form in Katoya in 1906 when some 90 deaths occurred there.

Cholera, small-pox, malaria, enteric fever, epidemic dropsy, influenza and tuberculosis of all kinds were the common and principal diseases of the district even in 1961. That year deaths from cholera were 18, from small-pox 396, from malarial fever 149, from enteric fever 367, from epidemic dropsy 3, from influenza 15 and from tuberculosis 389.

With the betterment of health conditions and the establishment of several rural health centres the picture of health has shown signs of improvement in recent years. The list contained in appendix A regarding deaths from several diseases would show the improvement.

Leprosy is an old disease which was a curse to many tropical countries. In India there are legends that leprosy was cured by worshipping 'Surya'. To check the spread of the disease provisions were made in several laws of this country, namely, Leprosy Act of 1898; Railway Act of 1890 and the Local-Self Government Acts of the Provinces.

Apart from Government agencies, prior to independence, leprosy relief work was also done by missionaries and non-official agencies. After independence and during the Five Year Plan periods, Government began to pay due attention to control and eradicate the disease. The special programme relates to the control of the infections cases in the early stages lest they remain undetected by laymen, facilitating transmission to other healthy persons. Fortunately for us, 75 per cent of the cases are non-infectious.

In West Bengal the areas of high prevalence of the disease are mainly on the dry laterite soil to the western side of the river Bhāgirathī. In Barddhamān district the prevalence rate of the disease is above 1 per cent but below 2 per cent. The disease is mainly restricted to the north-western part of the district which is covered by several industries.

The mining settlement of Asansol had patients suffering from Asansol Mines leprosy for a long time. The Asansol Mines Board of Health Board of Health

made a survey in 1932 to investigate into the severity and extent of leprosy. On the basis of the findings the Board launched an anti-leprosy campaign. In 1933 the Leprosy Relief Association was formed to take care of leprosy patients. The area was divided into 15 divisions. The Leprosy Board functioned as the co-ordinating body with 33 members representing 15 divisions. The Asansol Mines Board of Health runs Leprosy Homes at Asansol and Raniganj. The Asansol Relief Association similarly ran several clinics in 1964, 1965 and 1966 respectively. The Asansol Mines Board of Health treated 5,550, 5,665 and 5,783 leprosy cases out of a total population in the area of 5,94,588, 7,38,873 and 7,38,873 respectively in the aforesaid years. The mining area is now served by seven segregation camps including some Homes and Hospitals with 242 beds. The following is a list of in-patient leprosy institutions run by the Asansol Mines Board of Health and the Asansol Relief Association.

LEPROSY INSTITUTIONS IN ASANSOL MINING AREA : 1972

Name	Date of establishment	P.O.	No. of beds
Asansol Leprosy Hospital and Settlement	n.a.	Asansol	60
Raniganj Leprosy Home and Hospital	n.a.	Ballarpur	100
Barakar Leprosy Segregation Camp	1934	Barakar	n.a.
Chaindra Leprosy Segregation Camp	1936	Chaindra	n.a.
Domohini Leprosy Segregation Camp	1936	Domohini	n.a.
Situgpur Leprosy Segregation Camp	1948	Dishergarh	n.a.
Jamuria Leprosy Segregation Camp	1950	Jamuria	n.a.
Sitarampur Leprosy Segregation Camp	1955	Sitarampur	n.a.
n.a.—not available			

Leprosy Control Unit, Asansol

During the Third Five Year Plan, the State Government in collaboration with the Government of India sanctioned a compre-

hensive scheme for control of the disease by establishment of several Leprosy Control Units. The scheme envisaged (1) health education to remove stigma attached to the disease and develop a rational attitude towards the disease and the patients, (2) survey to detect cases by house to house visits, (3) treatment of all registered cases and (d) follow up of the contacts and defaulting patients, and for this purpose a Primary Leprosy Control Unit was established at Asansol in 1963. It treated 1,605 patients in 1968 from the project area and 132 cases from outside the project area.

During the Second Plan period (in 1959) the State Government opened a Leprosy Treatment Centre at Ghuskara under the National Leprosy Control Programme. It was found that there were 894 leprosy cases in the Project area, of whom 638 patients* from within and 55 cases from without were treated in 1968.

There is also a State-managed Leprosy Clinic in the district town named Barddhaman Municipal Leprosy Clinic which had 2,995 cases registered for treatment up to 1968. It treated 1,128 cases in 1968.

Malaria, which had made history in Bengal under the name of 'Burdwan Fever' for its virulence and fatality has been death with in the beginning of this Chapter. The scourge continued for decades later under its own name 'Malaria' till in 1953-54 the State Government adopted the National Malaria Control Programme in collaboration with the Government of India and the United States Technical Co-operation Mission.

To combat malaria two Malaria Eradication Units were established, one each at Barddhaman and Kalna, during 1953-54 and 1956-57. The units were to control the disease in all the highly malarious areas of the district, specially in Kalna, Katoya and Sadar subdivisions and in Faridpur and Kanksa police stations of Asansol subdivision. In the latter subdivision other agencies were also at work. They were the Coal-Field Anti-Malaria Organisation, Railways, Asansol Mines Board of Health, etc.

Each of the units had a Medical Officer-in-Charge assisted by Supervisors, Inspectors and Labour gangs and had several motor vehicles.

The high incidence of malaria in the district can be understood by a study of the spleen rate, that is, a study of the percentage of children between the ages of two and ten showing enlarged spleen. The spleen census undertaken in the villages before the control measures were instituted in 1953-54 indicated endemic condition prevailing in Kalna, Katoya and Sadar subdivisions.

Leprosy Treatment Centre, Ghuskara

State Leprosy Clinic, Barddhaman

Malaria

Spleen rate

SPLEEN RATE IN BARDDHAMĀN DISTRICT BEFORE AND AFTER
(1953-54)

Police Station	Spleen rate per cent			
	Before institution of control measures in 1953-54		After institution of control measures and in 1959-60	
	Highest	Lowest	Highest	Lowest
Asansol	3.7	0.0	2.0	0.0
Ausgram	47.3	1.4	1.5	0.0
Barabani	5.9	0.0	1.4	0.0
Bhatar	80.0	7.7	1.7	0.0
Barddhamān	78.6	9.4	3.0	0.0
Faridpur	44.4	5.9	1.7	0.0
Galsi	100.0	3.2	6.6	0.0
Hirapur	1.8	0.0	0.0	0.0
Jamalpur	37.5	2.3	3.5	0.0
Jamuria	2.2	0.0	1.8	0.0
Kalna	91.7	7.1	0.0	0.0
Kanksa	100.0	2.0	1.7	0.0
Katowa	21.3	2.1	0.9	0.0
Ketugram	19.0	2.9	0.5	0.0
Khandaghosh	77.8	6.7	2.2	0.0
Kulti	18.6	3.3	2.5	0.0
Memari	83.3	6.5	3.0	0.0
Mongalkot	28.3	3.4	1.2	0.0
Monteswar	13.6	1.4	0.0	0.0
Ondal	7.3	2.2	1.1	0.0
Purbasthali	28.6	0.0	1.4	0.0
Raina	52.0	0.0	1.8	0.0
Raniganj	5.6	1.0	0.0	0.0
Salanpur	6.0	2.6	3.1	0.0

Prior to introduction of anti-malaria measures malaria used to cover more than 40 per cent of all cases treated in hospitals and dispensaries in a year. The following table shows the total number of malaria cases treated in the hospitals and dispensaries preceding and following the introduction of anti-malaria measures.

NO. OF MALARIA CASES TREATED AND DEATHS IN THE HOSPITALS
AND DISPENSARIES OF BARDDHAMĀN DISTRICT : 1948-59

Year	Total No. of malaria cases	Percentage of malaria cases to total cases	Deaths from Malaria	Death rate (per 1,000)
1948	2,64,574	69.9	7,912	4.1
1949	1,80,360	63.9	7,699	4.0
1950	1,52,670	57.7	5,157	2.7
1951	1,27,863	44.3	3,278	1.7
1952	1,98,530	46.3	3,392	1.5
1953	2,03,075	46.5	2,503	1.1
1954	1,20,496	31.9	1,175	0.5
1955	80,905	15.7	709	0.3
1956	47,358	8.5	455	0.2
1957	29,799	4.0	316	0.1
1958	23,381	3.4	260	0.1
1959	17,354	2.5	194	0.07

The above table thus shows progressive decline in figures of malaria cases treated and deaths from malaria after the introduction of anti-malaria measures. Malaria is no more a scourge to the district and this can well be visualised from the list of diseases appearing in the Appendix.

Formerly, the disease was combated by a sort of indigenous method, specially in the Mining Settlement of Asansol subdivision. That method consisted of (1) examination and treatment of breeding places of anopheles, (2) spraying 'Paris Green' and Malaria on the breeding places (3) introducing *Dankona* fish in domestic and public wells, (4) draining out marshy lands by a network of Kutcha drains, (5) flushing out rivers by sluice gates, (6) cleaning out tanks and *dobās* of weeds and vegetation just before the malarial season, and (7) free distribution of quinine from different treatment centres.

The new method initiated in 1953-54 stipulated the spraying in dosage of 100 mgm. of DDT equivalent per sq. foot for the first round and 50 mgm. DDT equivalent per sq. foot during the second round. The spraying season was of six months' duration starting from mid-May when the first round was applied, and again from mid-August when the second round was applied, the entire operation finishing by mid-November.

1 Hill, K. A. L. and Banerjee, P. K. — *op. cit.*, p. 123.

The Malaria eradication programme which was strengthened during 1958-59 envisaged (1) intensification of indoor residual spraying in malarious areas as also in areas of low malaria incidence for the next three years to interrupt transmission of the disease by anopheles mosquitoes, (2) elimination of the residual malaria infection in man by radical treatment of parasite positive cases detected in hospitals, dispensaries and residential houses, (3) withdrawal of spraying operation when the reduction of residual infection detected by surveillance operation reaches so low (zero or 0.5 cases per thousand population per year) that endemicity can not be re-established.¹

At present out of the three main phases of Malaria eradication programme, namely, attack phase (characterised by spraying and surveillance), consolidation phase (withdrawal of spraying but continuance of surveillance every fortnight) and maintenance phase (monthly surveillance or vigilance), the entire district has been placed under the maintenance phase excepting Durgapur where the attack phase has been allowed to continue because outsiders frequent that area, and Faridpur P.S. where the consolidation phase continues because of a sudden spurt of the disease a few years back. The following table shows the distribution of positive cases in the district in recent years.

DISTRIBUTION OF MALARIA POSITIVE CASES IN BARDDHAMĀN DISTRICT: 1969-70

	Attack phase		Consolidation phase		Maintenance phase	
	1969	1970	1969	1970	1969	1970
Bardhamān West	2	0	0	0	143	11
Kalna subdivision	0	0	0	0	0	0
Katoya subdivision	0	0	0	0	0	0

There were quite a number of charitable dispensaries in the district during the latter half of the last century. A report¹ says that in 1861, 2,796 patients were treated in such dispensaries and the cost of establishment thereof was Rs. 391-15 annas-3 pies. The total expenditure incurred for running the dispensaries was about Rs. 810-1 anna -3 pies and the average expenditure per patient

¹ Annual Report on the Administration of Bengal, Medical, Burdwan: 1860-61.

MEDICAL INSTITUTIONS WITH BEDS IN BARDDHAMĀN DISTRICT: 1963-66

Year	No. of institutions	Beds				Beds per 10,000 population				No. of dispensaries	No. of clinics
		Total	Maternity	T.B.	Infectious	Total	Maternity	T.B.	Infectious		
1963	199	1,673	360	42	74	5.1	1.1	0.1	0.2	56	73
1966	236	2,211	427	42	79	6.2	1.2	0.1	0.2	55	95

was 4 annas $7\frac{1}{2}$ pies. Several temporary dispensaries were opened every year since 1862 when the 'Burdwan Fever' epidemic held sway over the district. Apart from several temporary dispensaries, an itinerant dispensary was opened in the district in 1868 to fight sudden epidemic. In 1870 the expenditure on account of the medical relief was Rs. 7,153 for the entire district and Rs. 2,832 for Bardhaman town. Thus it seems that a number of medical institutions grew in the district in the wake of the 'Burdwan Fever' epidemic of the last century. In the pre-independence days there were 71 medical institutions in the district including 5 hospitals and several charitable dispensaries and leper homes. During the first 5-year plan period 30 Primary and Subsidiary Health Centres were opened to which 11 more were added in the second and 13 in the third 5-year plan periods respectively. The following table gives the number of medical institutions with beds in the district during 1963-66.

The following table reveals the number of births and deaths occurring in the hospitals during 1963.

Births			Deaths		
Registered	Hospitals	Percentage of registered	Registered	Hospitals	Percentage of registered
52,917	15,841	89.9	18,102	1,694	9.4

The following table shows the number of patients treated in both the outdoor and indoor departments of different hospitals, health centre and dispensaries during 1964, 1965 and 1966 apart from what has been set forth in Appendix B.

The tables thus show how the number of patients getting treatment in hospitals has been increasing over the years. In this connexion, a list of public hospitals has been given in Appendix C.

As to the rural health centres, the Bhore Committee had recommended the setting up of primary health centres with 75 beds each for every 20,000 people. But for unavoidable reasons it later suggested the establishment of primary health centres with only two beds for maternity and 2 for emergency cases of every 40,000 people. The Government of West Bengal, however, set up Rural Health Centres since 1948 each of which was to have 4 to 10 indoor beds. Such health centres were supposed to cover the population of an Anchal Panchayat. Over the Union Health Centres there were primary health centres in each police station having a minimum of 20 and a maximum of 50 beds.

NUMBER OF PATIENTS TREATED IN THE HEALTH CENTRES OF BARDHAMAN DISTRICT: 1963-66

Year	Health Centres from which returns were due		Health Centres submitting returns in percentage to total		Outdoor patients		Percentage of new cases to total cases	Total new cases	Turn over per bed	Indoor patients		Case fatality ratio in percentage
	No.	Bed	No.	Bed	Total old and new	Total new cases				Deaths	per bed	
1963	40	302	N.A.	N.A.	11,34,981	4,25,709	46.2	12,999	43.0	442		3.4
1964	54	360	41	324	13,91,746	4,76,793	34.3	14,800	45.7	269		1.8
1965	59	386	38	324	8,31,666	2,11,578	25.4	2,474	36.0	140		1.2
1966	67	426	37	340	10,91,411	5,54,465	50.8	2,909	41.3	122		0.9

They were in their turn affiliated to the subdivisional hospital having 68 indoor beds. The scheme continued till 1955 when at the instance of the Government of India it was decided to establish primary health centres with 10 beds at the headquarters of every Community Development Block along with 2 or 3 subsidiary health centres at suitable places within each block. The subsidiary health centres were to have only two non-dieted emergency beds. A list of rural health centres of the district has been given in the Appendix D.

Medical administration

The following table shows the number of patients treated in the health centres of the district during 1963, 1964, 1965 and 1966.

Before provincialisation, the hospitals in the district and subdivisional towns were looked after by the District Boards, Municipalities and other agencies. A Medical Officer-in-Charge used to be deputed by Government to each of these hospitals, while the establishment of other staff was borne by the local bodies. At that time there was only one mid-wife and one or two compounders in each hospital for the indoor and outdoor patients. There were also a number of District Board or Union Board dispensaries in the early years of this century in the interior villages. During the World War II a few A.R.P. hospitals were opened necessitating the training up of the nursing personnel of both sexes. A number of Famine Relief Emergency hospitals were also opened during the Bengal Famine of 1943, specially in the rural areas, to treat patients suffering from malnutrition and other diseases. These hospitals were later renamed as Auxiliary Government Hospitals and continued to function as auxiliary to the existing hospitals both in the urban and rural areas.

In order to give practical shape to some of the recommendations of the Bhow Committee the State Government reorganized the separate medical and public health services in 1947 and integrated them into a unified health service. The process of unification was also pursued at the rural sector by the establishment of thana and Union Health Centres from where integrated preventive therapeutic and positive health services were rendered to the rural people.

On the medical side the administration was till 1959 in the charge of the Civil Surgeon, Assistant Surgeon, Sub-Assistant Surgeon, Medical Officers of Health Services, Superintendents and Medical Officers of Auxiliary Government Hospitals. On the Public health side the Regional Assistant Director of Health Services was mainly responsible for the public health adminis-

tration in the district. Government also posted Sub-divisional Health Officers in the Sub-division who used to control and supervise the work of mobile medical units. The District Board had its District Health Officer since 1915 who looked after the rural public health. By 1929 sixteen public health circles were opened, each under a sanitary inspector who was responsible to the District Health Officer. In Asansol Subdivision, however, the public health activities were controlled by the Asansol Mines Board of Health. In 1959 the whole of the public health staff of the District Board merged with the State Government and now the Chief Medical Officer of Health (the new name of the Civil Surgeon) is in overall charge of medical and public health administration in the district. On the curative side he is helped by the District Medical Officer who is also the Superintendent of the Sadar Hospital, Subdivisional Medical Officers attached to the Subdivisional hospitals and the Medical Officers of the Rural Health Centres. On the preventive side he is assisted by the District Health Officer, the Subdivisional Health Officers, the School Health Medical Officer, etc. He is also assisted by the Assistant C.M.O.H. in matters of administration, by the District Family Planning Officer in matters relating to family planning.

The following table shows the distribution of staff in the hospitals and dispensaries of the district during 1966.

DISTRIBUTION OF STAFF IN THE HOSPITAL AND DISPENSARIES IN BARDHAMAN DISTRICT : 1966

	Male	Female	No. of beds per	
Medical Graduates	112	7	Doctor	10.3
Medical Officer	93	3	Nurse	9.4
			Pharmacist	19.6
	Trained	Untrained	Midwife	
Nurses	182	53	18	
Lady Health Visitor		Inferior staff	944	
and P. H. Nurse	11	Other technical staff	41	
Compounder	113	Dai	42	

THE ASANSOL
MINES BOARD
OF HEALTH

The Asansol Mines Board of Health constituted under the Bengal Mining Settlements Act, 1912 (Bengal Act II of 1912) and re-constituted under Government Notification No. P.H.1011/3M-7/49 dated 2.6.1950 looks after the health of the Asansol Mining Settlement spread over parts of Barddhamān, Bankura and Birbhum districts. The following areas of Barddhamān district come under the purview of this settlement, namely, Asansol, Barabani, Chittaranjan, Jamuria, Kulti, Ondal, Raniganj and Salanpur police stations and Hirapur, Gogla and Ichhapur unions of Faridpur police stations.

The area of the settlement falling within this district covers 423.94 square miles. The settlement is divided into six sanitary circles, namely, Asansol, Barakar, Domohani, Raniganj, Sitarampur and Ukhra, which are in turn sub-divided into several sub-circles. The settlement thus covers about 229 collieries including some non-working ones and about 500 villages, besides industrial settlements of Burnpur and Kulti and market areas like Niamatpur, Domohani, Jamuria, Ballavpur, Ondal and Barakar. The municipal towns of Asansol and Raniganj are outside the settlement.

Financed by the levy of a tonnage cess and a cess on the royalties from mines, the Board has its own public health staff, hospitals giving indoor and outdoor treatment and child welfare centres. It also runs a leprosy settlement providing for six segregation centres, a leprosy hospital and 14 leprosy clinics for outdoor treatment.

Durgapur

In the Durgapur industrial complex, the different constituents like Durgapur Steel Plant, Mining and Allied Machinery Corporation, Fertiliser Corporation of India, Durgapur Projects Limited, Durgapur Chemicals Limited, Durgapur Thermal Power Station, Durgapur Head Works Division, have sanitary and public health arrangements of their own. In Bidhannagar township there, the Durgapur Development Authority looks after the health and sanitation. The places not covered by the industrial complexes which comprise nearly 40 villages are looked after by the Durgapur Notified Area Authority.

Regarding family planning a clinical approach to the problem was undertaken during the first two Five Year Plans. A number of health institutions were utilized as service centres for this purpose. During the Third Plan a comprehensive scheme was undertaken in the State for family planning with a hundred per cent central subsidy on non-recurring and 75 per cent on

PUBLIC HEALTH
WELFARE
ORGANISATIONS

recurring outlays. Both maternity and child health programmes were integrated at that time with a view to having a social planning. During the final year of the Third Five-Year Plan the campaign was stepped up. Later, since 1965-66, family planning services began to be rendered both through clinics and domiciliary units. Sterilization (vasectomy and tubectomy) programme became popular between the years 1967-68 and 1968-69. Conventional contraceptives used since 1965-66, became popular only in 1968-69, specially in the rural sector. The use of conventional contraceptives still continues to be the most popular form of family planning device. IUCD (Intra Uterine Cervical Device) which was popular in 1965-66 and 1966-67 and declined thereafter, has been showing signs of a come-back since 1970-71. This has also been popular because of its integration with maternity and child welfare schemes. The following table gives a picture regarding the use of family planning devices in past years.

FAMILY PLANNING SERVICES IN BARDDHAMĀN DISTRICT : 1965-71

STERILIZATION (Vasectomy and Tubectomy)

Year	No. of sterilizations	Target	% of target achieved
1966-67	3,690	3,500	105.4
1967-68	13,571	11,100	122.3
1968-69	9,443	22,700	41.6
1969-70	7,005	20,600	34.0
1970-71	7,811	24,000	32.6

IUCD (Intra-Uterine Cervical Device)

Year	No. of sterilizations	Target	% of target achieved
1965-66	11,448	10,421	109.9
1966-67	6,457	20,842	31.0
1967-68	1,488	12,162	12.0
1968-69	817	15,120	5.4
1969-70	782	3,900	20.1
1970-71	1,353	5,300	25.5

Conventional Contraceptives distributed

Year	Condom	Dia	Jelly	Foam Tablet	Target	Per-centage
1968-69	1,08,630	40	4,057	6,948	No target	—
1969-70	1,47,581	—	2,437	2,347	11,700	20.8
1970-71	2,21,026	4	3,005	6,137	20,800	17.2

The table shows that the maximum cases of sterilization were performed in 1967-68 and that the maximum cases of IUCD were done in 1965-66. It appears that conventional contraceptives are also being used largely in later years. In the district there is a Mobile Surgical Unit under the District Family Planning Officer for doing family planning work there. Besides, there are a number of Family Planning Centres in both the rural and urban sectors managed by public and private agencies shown in Appendices C and D.

Milk feeding programme

Milk feeding programme is conducted under the supervision of the Chief Medical Officer of Health through the Primary Health Centres and the Sadar and Subdivisional hospitals. There is no feeding through any Voluntary Agency in the district.

UNICEF, the main sponsoring Agency of the programme, withdrew from the field from 1970-71. Another scheme, assisted by CARE, is, however, under consideration of the State Government. CARE supplied some quantities of Corn-Soya-Milk and Salad Oil on an experimental basis during 1971-72 for distribution among undernourished children and expectant and nursing mothers.

The following table gives an idea of the functioning of the programme through several feeding centres in the district.

MILK FEEDING PROGRAMME IN BARDDHAMĀN DISTRICT :
1965-71

Year	No. of feeding centres	Total No. of beneficiaries	Quantities of Consumption (in lbs.)		
			Milk Powder	Corn-Soya-Milk	Salad Oil
1965-66	16	1,069	29,009	—	—
1966-67	13	990	21,361	—	—
1967-68	14	841	—	15,000	—
1968-69	18	1,264	23,456	—	—
1969-70	18	1,200	22,465	—	—
1970-71	18	2,750	—	15,300	1,617

School Health Services

The Bengal Municipal Act 1932 made provisions for School Health Services and sanitation of the school premises within the municipal jurisdiction. Thereafter the municipalities and the District Boards took various steps in respect of school health activities. The School Hygiene Division at State level, functioning from before, was abolished in 1934 and the services of the staff transferred to the Education Department. In 1940 the Division

sion was revived under an Assistant Director of Public Health and the department re-transferred to the Health Department from the Education Department. In 1958 this branch was re-organised to make policies and programmes regarding school health services and to administer the programmes through the Chief Medical Officer of Health and the District School Medical Officer. The Medical Officers of the rural health centres visit schools within their jurisdictions and undertake health examination of students at least once a year. The District School Medical Officer co-ordinates the activities of the different Medical Officers looking after school health and keeps the Chief Medical Officer of Health informed of his activities. The following table gives an idea of the school health activities undertaken in the district in 1969 and 1970.

SCHOOL HEALTH ACTIVITIES IN BARDDHAMĀN DISTRICT :
1969-70

Year	No. of Health Centres from whom reports received	Total No. of schools in the area	Total No. of students in the area	No. of Schools visited	No. of students examined	No. of afflicted students detected
1969	25	305	51,218	194	20,216	3,901
1970	25	422	48,490	217	11,372	2,429

The above table shows that about 50 per cent and 25 per cent students were examined respectively in 1969 and 1970. Of the students examined, 20 per cent were found afflicted during each of the said years.

The following table shows a number of selected diseases from which the students suffered in the district during 1969-70.

SELECTED DISEASES OF STUDENTS IN BARDDHAMĀN DISTRICT :
1969-70

Year	Mental diseases	Skin diseases	Leprosy	Respiratory diseases	Chronic digestive disorders	Enlarged tonsils & Gum	Defective nutrition
1969	253	1,110	—	2,904	566	796	492
1970	—	274	14	12	166	771	418

The table shows that the students of the district suffered mostly from skin diseases, respiratory diseases, digestive disorders, diseases of teeth and gum, enlarged tonsils and defective nutrition.

The following table shows the number of afflicted students treated in the health centres of the district and immunisations done to them during the year.

MEDICAL TREATMENT OF STUDENTS OF BARDDHAMĀN DISTRICT : 1969-70

Year	No. of afflicted students treated at health centres		Immunisations done				
	New	Old	T.A.B.C.	Cholera	T.A.B.	B.C.G.	D.P.T.
1969	5,410	2,039	10,850	3,576	1,029	—	28
1970	1,256	1,099	4,619	6,627	2,594	—	60

There are a number of chest clinics attached to different hospitals for rendering treatment to T. B. Patients. They are located in Bejoy Chand Hospital at Barddhamān Sadar (which incidentally has a T. B. annexe with 24 beds), and at the Sub-divisional Hospitals at Kalna and Katoya. Recently, two chest clinics have been opened there at the Primary Health Centres at Memari and Ghuskara. In Departmental hospitals like the Police Hospital, Barddhamān and the Jail Hospital, Barddhamān, there are respectively four and two beds meant for T. B. patients.

The chest clinic attached to Bejoy Chand Hospital at Barddhamān Sadar has also been functioning as the District Tuberculosis Centre. It has a Medical Officer and staff duly trained in anti-tubercular measures. There is also a Mobile Medical Tuberculosis Unit for treatment of displaced persons. It is attached to the Bejoy Chand Hospital.

In Asansol Subdivision, the Central Hospital at Kalla, Asansol P.S., run by the Coal Mines Labour Welfare Fund, has 12 beds for T. B. patients.

The Barddhamān T. B. Association, Barddhamān — now defunct performed some anti-tubercular activities in the past. It still possesses a building, X-ray and other plants and a defunct clinic.

The Asansol T. B. Association runs a private non-government clinic named Harendra Coomar Mookerjee T. B. Clinic at

ANTI-TUBERCULAR ACTIVITIES IN T.B. CLINICS OF BARDDHAMĀN DISTRICT : 1970

Name	No. of daily average attendance (new & old)	No. of X-ray examination (yearly)	No. of pathological examination (yearly)		No. of new cases detected		Patients under treatment at the end of the year (new & old)	No. of home visits done
			Sputum	Others (blood, urine, etc.)	Pulmonary	Non-pulmonary		
Bejoy Chand Hospital, Barddhamān	65	3,160	1,976	1,647	835	47	2,806	501
Subdivisional Hospital, Katoya	25	2,046	590	700	840	44	1,201	291
Subdivisional Hospital, Kalna	85	1,605	1,122	122	340	12	1,772	550
Asansol T.B. Clinic (Private)	58	536	389	661	248	5	191	404

Anti-tuberculosis activities

T.B. Associations

Asansol. Government have recently attached a domiciliary Unit to it.

The following table gives the number of B. C. G. vaccinations performed by Government agencies in recent years.

NO. OF B.C.G. VACCINATIONS DONE IN BARDDHAMĀN DISTRICT : 1966-70

Year	Vaccination after tuberculin test	Direct vaccination
1966	29,333	—
1967	17,872	—
1968	13,397	6,812
1969	674	99,935
1970	89	1,44,785

The table on page 531 gives an idea of the activities in different hospitals of the district for T. B. patients in a year, i.e. 1970.

The Rural Training Centre, Barddhamān has been established in 1959 to impart Pre-service and In-service training to different categories of Health personnel who are employed in the Health Centres and other Institutions under the State Government. The Training Centre has been accommodated in the defunct Ronaldshay Medical School and the attached School Hostel.

The buildings of Ronaldshay Medical School and the attached school hostel were constructed in 1922. A plot of land measuring about 30 bighas was donated by the Maharaja of Barddhamān for establishing a medical school for the Western Circle of undivided Bengal. The Medical School was dedicated in the name of the then Governor of Bengal, and it imparted training in the Licentiate Course.

As per Bhoré Committee's report Licentiate Course of Medical education was abolished in India in 1947. The last batch of L.M.F. Doctors passed out from the Ronaldshay Medical school in 1954 which was then converted into a Pharmacy Training Centre and continued to be so up to 1957 when it was finally closed down and the other Pharmacy Training Centre at Jalpai-guri augmented. The school building and the attached hostel were then utilised as the Nurses' Training Centre until it shifted to its own building in 1958.

The Training Centre has an Officer-in-Charge, a Medical Officer, a Public Health Overseer, a Sanitary Inspector, a Public Health Nurse and a number of other staff.

The following table shows the number of persons who have taken training in this Centre since its inception till 1971.

NO. OF PERSONS TRAINED IN THE RURAL TRAINING CENTRE : BARDDHAMĀN : 1969-71.

A. Sanitary Inspectorship Training	1132
B. Job-Orientation Training	
(i) Medical Officer	86
(ii) Health Assistant	795
(iii) Assistant Nurse-cum-Midwife	405

In-service Health Assistants who are deputed for training in Sanitary Inspectorship Course get Rs. 84/- p.m. as Training allowance over and above their pay. In order to get admission into the course, a Health Assistant must pass School Final, Higher Secondary or equivalent examination and must have at least five years' experience in the field of Public Health. The Calcutta Corporation, different Municipalities and the Railway authorities depute their candidates for Sanitary Inspectorship Training.

Health personnel who are deputed for 4 weeks' Job-orientation Training also receive stipends in addition to their pay.

In January 1959 the public health staff of the District Board merged with the State Government and now the Chief Medical Officer of Health is in charge of both medical and public health administration of the district. He is assisted by the District Health Officer and the Subdivisional Health Officers posted at Kalna, Katoya and Asansol Subdivisions. Apart from the public health work done in 22 primary health centres (Kalna subdivision 5, Katoya 4, Asansol 3, Sadar 10) and 52 subsidiary health centres (Kalna Subdivision 11, Katoya 10, Asansol 1, Sadar 30), the District Health Officer looks after the public health work of 8 rural public health circles in the Sadar Subdivision. These officers look after environmental sanitation, health education, epidemic control, prevention of food adulteration and initiation of preventive measures like vaccination and inoculation. In the municipal towns municipalities generally have a Health Officer who is aided by sanitary inspectors, conservancy inspectors and other staff who

SANITATION

look after conservancy, water-supply, drainage, epidemic control, prevention of food adulteration, compilation of vital statistics, slum clearance, maintenance of burning ghats and burial ghats, administration of slaughter houses, markets, etc.

The following table gives the number of vaccinations and inoculations done between 1965 and 1970 by the public health staff of the State Government in the district.

VACCINATION AND INOCULATION ADMINISTERED
IN BARDDHAMAN DISTRICT : 1965-70

Year	Total vaccination		
	Against small-pox	Inoculation with A.C.V.	Inoculation with T.A.B.C.
1965	3,19,256	2,18,599	61,717
1966	2,43,962	1,52,102	57,759
1967	3,31,167	1,76,399	83,399
1968	3,92,595	1,98,737	81,691
1969	3,13,986	1,04,832	62,897
1970	3,70,938	3,32,085	1,25,115

APPENDIX A

DEATHS FROM SELECTED CAUSES IN BARDDHAMAN DISTRICT :
1962-66

Causes	1962		1964		1966	
	Deaths (per 1000)	Rate	Deaths (per 1000)	Rate	Deaths (per 1000)	Rate
All causes : West Bengal*	2,06,349	6.2	1,97,144	5.8	1,88,019	5.6
All causes : Bardhaman district	17,053	5.3	18,055	5.3	17,857	5.0
Accidents	388	.1	343	1.0	301	0.9
Anaemias	85	0.3	117	0.3	139	.4
Bronchitis	149	0.5	123	0.4	116	0.4
Cholera	75	0.2	24	—	22	.01
Diabetes	12	—	68	.02	1	—
Diphtheria	23	.01	32	.09	23	.01
Dysentery, all forms	351	.1	371	.1	448	.1
Food poisoning	4	—	—	—	2	—
Gastritis etc.	176	.05	240	.7	243	.07
Gonococcal infection etc.	1	—	1	—	1	—
Heart diseases	60	.02	79	.2	107	.03
Leprosy	68	.02	77	.02	64	.02
Malaria	33	.01	17	.05	7	—
Malignant neoplasm	141	.04	224	.7	188	.1
Measles	106	.03	137	.4	81	.02
Pneumonia	483	.1	474	.1	427	.1
Pregnancy diseases	112	1.9	133	2.6	111	2.2
Senility etc.	9,727	2.9	9,869	2.9	10,863	3.1
Small-pox	54	.02	496	.1	11	—
Snake-bite	106	.03	107	.3	89	.03
Suicide	91	.03	43	.1	73	.02
Tetanus	408	.1	381	.1	282	.08
T.B.	—	—	—	—	1	—
—Bones	2	—	30	—	3	—
—Meninges	3	.01	5	—	1	—
—Other forms	173	.05	167	.05	123	.03
—Pulmonary	—	—	—	—	—	—
—Respiratory system	353	.1	287	.08	317	.09
Typhoid	360	.1	434	.1	363	.1

*Excluding Calcutta.

Source : Directorate of Health Services. West Bengal—Annual Report on the State of Health of West Bengal, Vital & Health Statistics for the years 1962, 1964 and 1966.

APPENDIX B

PATIENTS TREATED IN RECOGNISED HOSPITALS IN
BARDDHAMAN DISTRICT AND OTHERS FROM SPECIFIC CAUSES :
1962-66

Name of diseases		1962	1964	1966
Total patients treated in West Bengal	Outdoor	1,04,93,309	1,19,41,456	1,27,53,391
	Indoor	5,01,920	5,11,310	1,18,414
	Deaths	22,066	23,826	22,127
Total patients treated in Barddhaman district	Outdoor	8,44,235	12,05,059	9,30,622
	Indoor	35,162	45,234	6,955
	Deaths	1,230	1,742	987
Allergic diseases	Outdoor	4,846	4,028	5,983
	Indoor	28	44	4
	Deaths	—	2	—
Anaemias	Outdoor	16,228	17,956	14,882
	Indoor	259	491	92
	Deaths	25	38	40
Cholera	Outdoor	34	187	14
	Indoor	7	20	52
	Deaths	2	2	11
Diabetes	Outdoor	76	66	12
	Indoor	23	40	1
	Deaths	1	4	1
Diphtheria	Outdoor	187	618	2
	Indoor	93	211	7
	Deaths	14	22	2
Dysentery	Outdoor	21,162	35,967	31,945
	Indoor	579	500	97
	Deaths	5	19	97
Early infancy diseases	Outdoor	145	772	411
	Indoor	116	8	3
	Deaths	34	4	2
Effects of poisons	Outdoor	765	284	539
	Indoor	803	993	184
	Deaths	44	49	36
Eye diseases (other)	Outdoor	15,229	30,261	6,387
	Indoor	192	172	27
	Deaths	—	—	—
Filariasis	Outdoor	909	1,283	2,132
	Indoor	48	56	8
	Deaths	1	1	—

APPENDIX B (Contd.)

Name of diseases		1962	1964	1966
Gastric diseases	Outdoor	14,526	18,841	14,559
	Indoor	167	278	51
	Deaths	1	2	3
Gonococcal infection	Outdoor	401	953	67
	Indoor	4	4	—
	Deaths	—	—	—
Heart diseases (other)	Outdoor	582	586	201
	Indoor	175	248	44
	Deaths	43	54	24
Infectious hepatitis	Outdoor	313	820	748
	Indoor	31	67	7
	Deaths	3	1	3
Influenza	Outdoor	80,065	88,220	57,390
	Indoor	150	437	20
	Deaths	—	—	—
Kala-azar	Outdoor	86	83	7
	Indoor	2	1	—
	Deaths	1	—	—
Leprosy	Outdoor	1,565	3,058	1,772
	Indoor	24	14	6
	Deaths	—	1	2
Measles	Outdoor	1,975	2,321	824
	Indoor	16	157	4
	Deaths	—	—	1
Paratyphoid fever	Outdoor	4,877	4,659	3,548
	Indoor	54	22	4
	Deaths	—	1	—
Pneumonia (Broncho-)	Outdoor	2,411	3,058	2,382
	Indoor	142	236	37
	Deaths	14	46	17
Small-pox	Outdoor	54	153	120
	Indoor	9	79	4
	Deaths	6	21	2
Tetanus	Outdoor	343	748	69
	Indoor	329	636	152
	Deaths	106	280	108
T.B.—Bones	Outdoor	137	127	115
	Indoor	35	32	2
	Deaths	1	2	1

APPENDIX B (Contd.)

Name of diseases		1962	1964	1966
T.B.—Intestines	Outdoor	109	26	12
	Indoor	29	54	8
	Deaths	8	12	5
T.B.—Meninges	Outdoor	7	32	168
	Indoor	41	37	7
	Deaths	20	16	4
T.B.—Other forms	Outdoor	213	633	731
	Indoor	11	12	—
	Deaths	1	—	—
T.B.—Pulmonary	Outdoor	2,877	3,662	2,260
	Indoor	320	443	61
	Deaths	58	63	29
T.B.—Respiratory system	Outdoor	117	359	286
	Indoor	29	46	5
	Deaths	3	3	5
Typhoid fever	Outdoor	3,097	844	3,548
	Indoor	346	669	4
	Deaths	12	6	—
Whooping cough	Outdoor	1,333	3,233	2,473
	Indoor	—	25	—
	Deaths	—	2	—

Source : Directorate of Health Services, Government of West Bengal—Annual Report on the State of Health of West Bengal, Part II, 1962, 1964, 1966.

APPENDIX C

LIST OF HOSPITALS AND DISPENSARIES IN BARDDHAMÂN : 1971

Name	P.O.	Controlled by	No. of beds
1. Bejoy Chand Hospital* (formerly Fraser Hospital)	Barddhamân	State Government	550
2. Kalna Subdivisional Hospital*	Kalna	"	30
3. Katoya Subdivisional Hospital	Katoya	"	68
4. Asansol L.M. Hospital*	Asansol	"	74
5. Subdivisional Hospital, (Formerly Durgapur Medical Unit)	Durgapur	"	—
6. Barddhamân Police Hospital	Barddhamân	State Government —(Departmental)	44
7. Barddhamân Jail Hospital	Barddhamân	State Government —(Departmental)	36
8. Asansol Special Jail Hospital	Asansol	State Government —(Departmental)	30
9. Central Hospital*, Kalla Dhadka Union	Asansol	Coal Mines, Welfare Board, Govt. of India	62
10. Regional Hospital, Chora (Ukhra Union)	Ondal	"	30
11. Regional Hospital, Seorsol	Raniganj	"	50
12. Asansol Loco Hospital	Asansol	Eastern Railway	109
13. Ondal Railway Health Unit	Ondal	"	17
14. Barddhamân Railway Health Unit	Barddhamân	"	—
15. Panagarh Railway Health Unit	Panagarh	"	—
16. Domohani Railway Health Unit	Domohani	"	—
17. Sitarampur Railway Health Unit	Sitarampur	"	—

*Has a Family Planning Centre attached.

APPENDIX C (Contd.)

Name	P.O.	Controlled by	No. of bed
18. Barakar Railway Health Unit	Barakar	Eastern Railways	—
19. 12 & 13 (Colonies) Railway Health Unit	Asansol	"	—
20. Traffic Dispensary	Asansol	"	—
21. Durgapur Steel Plant Hospital	Durgapur	Respective organisations	—
22. Durgapur Project Ltd. Hospital	Durgapur	"	—
23. Mining and Allied Machinery Corporation Hospital	Durgapur	"	—
24. Fertiliser Corporation* of India Hospital	Durgapur	Respective organisations	—
25. Durgapur Thermal Power* Station Hospital	Durgapur	"	—
26. ACC-Vickers-Babcock Hospital	Durgapur	"	—
27. Durgapur Notified Area Authority Hospital	Durgapur	"	—
28. State Transport Service Hospital	Durgapur	"	—
29. Sankey Wheels Ltd. Hospital	Durgapur	"	—
30. Graphite India Ltd. Hospital	Durgapur	"	—
31. Philips Carbon Black Ltd. Hospital	Durgapur	"	—
32. Jessop & Co. Ltd. Hospital	Durgapur	"	—
33. Ophthalmic Glass Project Hospital	Durgapur	"	—
34. Burn & Co. Hospital*	Durgapur	"	—

*Has a Family Planning Centre attached.

APPENDIX C (Contd.)

Name	P.O.	Controlled by	No. of bed
35. Hind Refractories Hospital	Durgapur	Respective organisations	—
36. Hidustan Refractories Hospital	Durgapur	"	—
37. Heileman Ltd. Hospital	Durgapur	"	—
38. Marwari Relief Society* Hospital	Raniganj	Private (aided)	79
39. Dainhat Trandda Sundari Matri Sadan	Dainhat	Private	8
40. Aldih Maternity Home	—	Asansol Mines Board of Health	2
41. Banksimulia Maternity Home	—	"	2
42. Charanpur Maternity Home	—	"	2
43. Jamuria Maternity Home	—	"	4
44. Moira Maternity Home	—	Asansol Mines Board of Health	2
45. Samla Maternity Home	—	"	2
46. Sitalpur Maternity Home	—	"	2
47. Selected Jambad Maternity Home	—	"	2
48. West Victoria Maternity Home	—	"	2
Adra Charitable Dispensary	Galsi	Zilla Parishad	
Meral Charitable Dispensary	Rainā	"	
Panchra Charitable Dispensary	Jamalpur	"	
Amarpur Charitable Dispensary	Memari	"	
Kaleswar Charitable Dispensary	Memari	"	
Ghosh Charitable Dispensary (Fever)	Memari	"	
Palla Charitable Dispensary	Memari	"	
Satgachhia Charitable Dispensary			

*Has a Family Planning Centre attached.

PATIENTS TREATED IN THE HOSPITALS, HEALTH CENTRES AND DISPENSARIES OF BARDDHAMAN DISTRICT : 1964-66

Year	Outdoor patients treated			Indoor patients treated (20 — sample)			Total treated Fatality ratio in percentage
	Total new and old	Percentage of new cases to total (old and new)	Total bed for which returns received	No.	Total treated Patients treated per bed	No.	
1964	30,03,067	40.1	1,389	45,234	32.6	1,742	3.9
1965	23,28,545	30.4	1,358	6,634	21.2	874	3.0
1966	20,97,327	44.4	1,056	6,955	—	987	3.3

APPENDIX D

RURAL HEALTH CENTRES IN BARDDHAMAN DISTRICT : 1971

Name of Development Blocks	Subdivision	Primary Health Centres at	Subsidiary Health Centres at
Ausgram I	Sadar	—	1) Goswamikhanda 2) Amarpur* 3) Bhatkundi 4) Bahadurpur
Bhatar	"	Bhatar (10)*	1) Sahebganj 2) Bonpas 3) Erruar (10)
Mongolkot	Katoya	Mongolkot (10)*	1) Chanak Kasem 2) Singat
Memari-I	Sadar	Memari (50)*	1) Debipur (10) 2) Durgapur (10)
Memari-II	"	Bohar (10)	1) Kuchut (4) 2) Barap Lasan
Purbasthali-I	Kalna	Chandpur	1) Dogachia (4) 2) Noapara
Purbasthali-II	"	Purbasthali (10)*	1) Patuli 2) Kubajpur
Ketugram-I	Katoya	Kandra (10)*	1) Ankhona (10) 2) Pandugram
Ketugram-II	Katoya	Ketugram (10)*	1) Sitahati 2) Nabagram (10)
Kalna-I	Kalna	Atgharia (10)* (Athoria)	1) Bagnapara (10) 2) Sultanpur (10)
Kalna-II	"	Badla (10)*	1) Baidyapur (10) 2) Haziosmen Gani Ch. Dispy. at Angerson 3) Akalpous
Faridpur-Durgapur	Asansol	Laudoha (10)*	
Katoya-I	Katoya	Katoya S.D. Hos- pital (Tentative)	1) Srikhanda (10)* 2) Chanderpara 3) Sudpur
Katoya-II	"	Noapara (10)*	Agradwip (4)
Jamalpur	Sadar	Jamalpur (10)*	1) Chaksanjadi (10) (Berugram) 2) Nabagram (4) 3) Chakdighi (10) 4) Illsarah

*Has a Family Planning Centre attached.

APPENDIX D (Contd.)

Name of Development Blocks	Subdivision	Primary Health Centres at	Subsidiary Health Centres at
Manteswar	Kalna	Manteswar (10)*	1) Putsuri 2) Majhergram (10)
Rāinā-I	Sadar	Mahisabati (10)*	1) Narugram 2) Meral
Ruinā-II	"	Madhabdiji (10)*	1) Painta 2) Gotan 3) Kaity (10)
Hirapur	Asansol	—	—
Khandaghosh	"	Khandaghosh (10)*	1) Pitambarpur 2) Khudkuri
Galshi-I	Sadar	Mankar (10)* (Tentative)	—
Galshi II	Sadar	Satinandi (10)* (Tentative)	—
Kanksa	Asansol	—	Matandighi
Ondal	"	—	—
Salanpur	"	—	—
Barbani	"	—	—
Raniganj	"	Raniganj (20)*	—
Kulti	"	Barakar (10)* (Tentative)	—
Asansol	"	—	—
Jamuria-I	"	—	—
Jamuria-II	"	—	—
Ausgram-I	Sadar	Bana-Nabagram (10)	1) Goskara (10) 2) Ukta 3) Dignagar
Barddhamān	"	Barddhamān B.C. Hospital (Tentative)	1) Baghar (4) 2) Gobindapur (4) 3) Rayan (4) (Jadur) 4) Barsul (10)* (Saktigarh)

Figures in brackets indicate the number of beds. Subsidiary Health Centres having no figures will mean that they have two beds each.
*Has a Family Planning Centre attached.

OTHER SOCIAL SERVICES

Various social services are being undertaken in recent years. These services find effective expression through Labour Welfare, Prohibition or Temperance measures, Advancement of Backward Classes and Tribes as well as charity.

LABOUR WELFARE

Labour welfare centres have been started in areas having a predominantly labour population. These centres remain open from 1 p.m. to 9 p.m. and have opportunities of education in primary classes for workers' children, library for workers, craft and physical training and other recreational facilities. At present there are three Model Labour Welfare Centres in the district, two in Durgapur (near Sagarbhangra and the Coke-Oven Colony) and one at Kanyapur (near Asansol).

Land was acquired for the construction of a 200-bed T. B. hospital at Asansol which was opened in August 1977 and a 100-bed hospital at Durgapur under the E.S.I.C. (Employees' State Insurance Corporation).*

There is also a Subsidised Industrial Housing Scheme in the Public Sector for the industrial workers. Several tenements have been completed and are ready for occupation. They are located in Asansol Phase I (400 tenements), Asansol Phase II (300), Bhagia Kanali, Asansol (208), Durgapur, Phase I (200), Durgapur, Phase II (480), Durgapur, Phase III (366), Durgapur, Phase IV (336), Durgapur, Phase V (240), Durgapur, Phase VI (300), Durgapur, along north of G. T. Road, Phase I (354). 300 tenements are also under construction in Durgapur along north of G. T. Road, Phase II.

There is no prohibition, as such, in the State but temperance measures have been adopted with regard to the use of opium. Ration cards are issued to opium eaters under medical certificates only. There were 63 opium eaters in Asansol, 9 in Kulti, 4 in Raniganj, 17 in Budbud, 140 in Sadar, 67 in Memari, 65 in Ausgram, 30 in Kalna, 100 in Kātoyā, 21 in Purbasthali, 6 in Manteswar, 17 in Raina thana areas towards the end of 1971.

PROHIBITION

* The E.S.I. Scheme was introduced in West Bengal on 15 August 1955.

The number of opium eaters in the district was 680, 668 and 539 respectively in 1969, 1970 and 1971. The figures declined owing to the death of old addicts.

The district has a number of people belonging to the Scheduled Castes and Scheduled Tribes. As to the nomenclature "Other Backward Classes" the State Government included some educationally backward people within it. The Santals constituting the biggest group of the Scheduled Tribes people inhabit the land between the rivers Barakar and the Ajoy. The traditional lore used to restrict their movement beyond the Ajoy.¹ Economic pressure has, however, forced them to disobey the traditional restriction and to migrate to other regions of the district not to speak of other areas of the State. In the Sadar and Kalna Sub-divisions, the Santals are mostly immigrants. In their long standing habitat between the Barakar and the Ajoy, specially in the industrial belt covered by the projects like the D.V.C., the Chittaranjan Locomotives, the Hindusthan Cables, etc. they had had to yield place to the new developmental projects. In the Asansol belt of collieries the Santal labourers began facing competition from labourers brought from Gorakhpur, Bilaspur, etc. All these disturbed the economic balance of the tribal people.

Though attention was paid to these people before Independence by extending the provisions of Chapter VIIA of the Bengal Tenancy Act, 1885 in places other than this district, close attention began to be given to this district since the beginning of the First Five-Year Plan which synchronised with the establishment of a separate ministry for tribal welfare in the State in 1952.²

Soon afterwards, some Special Officers of Tribal Welfare were posted in a few districts. The Special Officer of the neighbouring Birbhum district began to look after the welfare activities of this district till a Tribal Welfare Officer was posted in the district in 1954. Apart from protecting the land rights of these people, the said officers looked after the educational and economic interests of these people and tried to protect them from social injustice and all forms of exploitation. Starting with the

schemes like sinking a few wells here or building a few schools there, and giving rewards to tribal headmen, the schemes began to proliferate with a view to uplifting the economy and education of these people. For instance, there were some modest schemes like giving rewards to headmen for good work on account of which payments were made to the tune of Rs. 2,000 in 1952-53; Rs. 1,000 in 1953-54; Rs. 2,500 in 1954-55; Rs. 2,500 in 1955-56 followed by water-supply schemes to the tune of Rs. 27,000 and the opening of cooperative grain gola at Domohani at a cost of Rs. 10,000 in 1953-54. It appears that in the early years, that is, during 1953-54 Rs. 74,989 was spent on Tribal Welfare in the district. The sum was spent as follows: Water-supply, Rs. 32,000; Grants to Dispensaries, Rs. 1,000; M. E. School at Alipur, Rs. 15,000; Stipends, book grants, etc., Rs. 6,289; Agricultural Demonstration Centres, Rs. 5,000; Improvement of poultry birds, Rs. 1,260; Improvement of live-stock, Rs. 7,800; Free Pumping Plants, Rs. 4,500; Free Legal Advice, Rs. 40; Special discretionary grant, Rs. 1,100; Rewards to Tribal Headmen, Rs. 1,000. The following year (1954-55) a total sum of Rs. 58,315 was spent for the same purposes. The sum was spent as follows: Grants to Dispensaries, Rs. 1,250; Leprosy clinic, Rs. 3,100; Anti-epidemic activities, Rs. 600; Provision of free tuition, Rs. 3,315; Grant to stipends, etc., Rs. 4,968; Agricultural Demonstration Centre, Rs. 5,500; Live-stock, Rs. 3,600; Pumping plant, Rs. 2,250; Poultry keeping, Rs. 2,050; Distribution of Seeds, Rs. 725; Rural water-supply, Rs. 13,500; Free Legal Advice, Rs. 82; Grant to Akipur aboriginal School for furniture, Rs. 1,000; Grant to 10 night schools, 2,000; Rewards to Tribal Headmen, Rs. 2,500; Grant for organising sports, Rs. 1,300; for Grain gola, Rs. 10,575.

Various schemes for welfare of the Scheduled Castes were financed both by the Union and the State Governments for the overall development of these people concerning their education, economic uplift, health, housing, etc. Some non-official agencies like the Rasulpur Anath Samity, Bardhaman, were given grants for imparting training to these people in tailoring and leather work. A Training-cum-Production Centre for jute spinning and weaving was opened at Srikhandia in the Katoya Sub-division during the Third Five-Year Plan to impart training to 20 trainees. A similar centre was opened at Kanchantola during the Third Five-Year Plan for imparting training to Scheduled Castes trainees.

¹ P. O. Bodding — *Traditions and Institutions of the Santals*, Oslo, 1942, p. 14.

² A separate Ministry for Aboriginal and Backward Classes was, however set up in June 1949 to co-ordinate the activities of the different departments in relation to the backward classes. It looked after the administration of the Chapter VIIA of the B. T. Act and looked after the few welfare schemes implemented by the various departments out of the normal budget of their own.

The Special Officer, Tribal Welfare, vested with the powers of a Collector under the Chapter VIIA of the B. T. Act (till it was repealed) and the West Bengal Land Reforms Act (Chapter IIA inserted through amendment in 1965) took steps to restore lands to Scheduled Tribes people which were disposed of to other parties unlawfully without the permission of the Collector. It appears that during 1963-64, 105 cases were pending from previous years to which 304 new cases were added and at the end of the year only 62 cases remained pending. During 1964-65, 265 new cases were added to the pending cases of the previous year and 214 cases were disposed of. During 1965-66, 248 new cases were filed and 213 cases were disposed of from among the new and old cases and 35 cases remained pending at the end of the year.

The following table gives a statement of transfer from and restoration to tribals of lands in the district made during 1966-67.

LAND TRANSFER/RESTORATION TO SCHEDULED TRIBES IN
BARDDHAMĀN DISTRICT : 1966-67

No. of land transfer cases pending from previous year	No. of cases filed during the year	No. of cases disposed of during the year	Area of land alienated during the year (Acreage)		No. of tribal families affected by alienation to non-tribals	Area of land restored to tribals (Acreage)	No. of Tribal families benefited through restoration	No. of cases pending at the end of the year
			From tribals to non-tribals	From tribals to tribals				
119	87	175	13.52	1.92	27	.61	2	31

The table shows that the quantum of alienation far exceeds the quantum of restoration. Such a sorry state of affairs might have taken place owing to the economic backwardness of these peoples. However, Government adopted the policy of distributing vested lands among these people who possessed less than two acres of land or none at all. The following table describes the acreage of vested lands distributed among these people during 1965-67.

VESTED LANDS DISTRIBUTED AMONG THE SCHEDULED CASTES
AND SCHEDULED TRIBES PEOPLE IN BARDDHAMĀN DISTRICT
1965-67

Year	Scheduled Castes		Scheduled Tribes	
	Acreage of land	Families benefitted	Acreage of land	Families benefitted
1965-66	858.29	713	395.95	449
1966-67	2116.79	2694	1047.58	1703

A survey undertaken¹ in 1961 in the Asansol-Chittaranjan industrial belt regarding the impact of industrialisation on the life of the tribals there, reveals some interesting details worth noting. It appears that a number of villages populated by the Scheduled Castes and Scheduled Tribes people were acquired for establishing the Chittaranjan Locomotive Workshop, Hindusthan Cables Factory and the different projects under the Damodar Valley Corporation. The report of the survey says that in 1961, there were 0.5 per cent tribal workers in Class III and 4.4 per cent² in Class IV in the Chittaranjan Locomotive workshop. In the Hindusthan Cables Factory there were 5 per cent tribal workers. These peoples were mostly unskilled labourers. The following table reveals the average expenditure per family of industrial and non-industrial workers belonging to the tribal community in that region and it is clear that the expenditure of the industrial worker far exceeds the expenditure of the non-industrial worker.

ASANSOL-CHITTARANJAN INDUSTRIAL BELT

AVERAGE EXPENDITURE PER FAMILY OF TRIBALS IN ASANSOL
AND CHITTARANJAN INDUSTRIAL BELT : 1961

Class	Average annual expenditure per family (in Rs.)	Food-stuff % to total expenditure	Expenditure on							
			Clothing	Educational	Medical	Cere-monial	Drink	Misc.		
			Rs. %	Rs. %	Rs. %	Rs. %	Rs. %	Rs. %		
Industrial worker	1135	960	84.58	605.28	100.90	201.76	201.76	453.96	201.8	
Non-Industrial worker	513	436	94.99	203.89	81.55	40.81	50.97	254.87	152.9	

Thus it appears that the backward classes of the industrial belt are moving away from their traditional status.

The district has a limit of 1,000 indigent persons, aged 65 years and above, to whom pensions can be granted at the rate of Rs. 25 a month. The percentage so helped in the district comes to about 9.66 against the limit fixed for the State (10,350 persons).

OLD AGE PENSIONS

¹ A. K. Das and S. K. Banerjee-*Impact of Industrialisation on the Life of the Tribals of West Bengal*, Government of West Bengal, Tribal Welfare Department, Calcutta, 1962.

² *ibid.*, p. 15.

CHARITABLE
ENDOWMENTS

Provisions for looking after Charitable Endowments have been made under the Official Trustees Act, 1913, the Charitable Endowments Act, 1890 and the Bengal Wakf Act, 1934, the last one looking after Muslim trusts.

These trusts consist mainly of donations made for charitable purposes like relief to the poor, education, medical relief etc.

The following list gives the names of several trusts in the district as are available from official records, and there may be other private trusts administered by private agencies.

CHARITABLE TRUSTS IN BARDDHAMĀN DISTRICT : 1971

Trusts executed by	Amounts (Approx.) Rs.	Purpose
Sir Rashbehari Ghosh	2,00,000	Torkona Jagabandhu High School, Khandaghosh P.S.
Sir Akshay Kumar Chatterji	18,000	Tranada Sundari Matri Sadan, Dainhat, Katoya P.S.
Sri Rajgopal Roy	34,000	Dirghapara Rajgopal Charitable dispensary, Vill. & P.O. Dirghapara. Work in Nandai union.
Khpa Manu Babu Trust Fund and Math	N.A.	
Kalna Rabindra Centenary Endowment	10,000	For awarding prizes and medals to the best students in school-leaving examinations within the subdivision. Donated towards the Asansol Girls' College (former R. D. Karnani Women's College, Asansol).
Karnani Memorial Trust Fund	N.A.	For welfare of the villagers of Khajurdihi, Katoya P.S., in education and health.
Khajurdihi Rakhal Sampad Trust	N.A.	In Memari P.S.
Gandhi Smarak Nidhi Trust	N.A.	-do-
Sikshaniketan Trust	N.A.	
Arratoon Gregory Apcar	N.A.	Rs. 2 per month as a gift to the anglican church, Asansol.
Nitaimoni Gosthabehari Joydurgapur Memorial	200	Durga Puja and cash grants to distressed persons.
Syamsundar Trust	1,62,000	Improvement of Syamsundar College, Raina; Syamsundar Chatuspathi and Ramlal Adarsha Vidyalaya.
Ganganarayan Mitra Trust Fund	1,000	N.A.
Burdwan Vidyasagar Databya Samiti	41,800	N.A.

N.A. — Not available.

CHAPTER XVII

PUBLIC LIFE AND VOLUNTARY SOCIAL SERVICE
ORGANIZATIONS

In the First General Elections held in 1952 this district was represented in the State Assembly by 20 members elected from 14 constituencies, namely, Barddhamān, Khandaghosh, Rāinā (double-membered), Ausgram (double-membered), Galsi (double-membered), Kulti (double-membered), Raniganj (double-membered), Purbasthali, Manteswar, Katoya, Mongalkote and Ketugram. While in each of the double-membered constituencies of Rāinā, Galsi, Ausgram, Raniganj and Kulti one seat was reserved for Scheduled Caste candidate, one was reserved for a Scheduled Tribe candidate in the double-membered constituency of Kalna. The jurisdiction of the Barddhamān constituency extended to the Barddhamān P.S. excluding the unions of Balkas, Saraitikur, Baghar and Kshetia. The Khandaghosh constituency comprised the police station of the same name and the above-mentioned unions excluded from the Barddhamān constituency. The Rāinā constituency was co-terminous with the police stations of Rāinā and Jamalpur and the Ketugram constituency with the Ketugram P.S. The Galsi constituency included Galsi P.S. (excluding Panagarh Reserve Base) and Bhatar P.S. The Ausgram constituency was formed of the Ausgram P.S., Panagarh Reserve Base (excluding Andal Vehicles Depot) and the police stations of Faridpur and Kanksa. The Raniganj constituency embraced the police stations of Andal (including Andal Vehicles Depot), Raniganj and Jamuria (excluding the union of Jamuria) as also the union of Kalipahari of Asansol P.S. The Kulti constituency was composed of the union of Jamuria under Jamuria P.S. and the police stations of Barabani, Salanpur and Kulti. The Asansol constituency consisted of Asansol P.S. (excluding the union of Kalipahari) and Hirapur P.S. The Kalna constituency was carved out of the police stations of Kalna (excluding the unions of Kakuria, Nandai and Atgharia) and Memari. Under the Purbasthali constituency came the police station of the same name and the union of Nandai of Kalna P.S. To the Manteswar constituency was allotted the Manteswar P.S. and unions of Kakuria and Atgharia of Kalna P.S. The Katoya constituency was restricted to the Katoya P.S. (excluding the union of Gidhgram) and the

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Mongalkote constituency to the police station bearing the same name together with Gidhgram union of Katoya P.S.

In the Second General Elections held in 1957 the district was represented by 21 members elected from 15 constituencies, namely, Ketugram (double-membered), Katoya, Purbasthali, Manteswar, Kalna (double-membered), Rāinā (double-membered), Barddhamān, Galsi (double-membered), Ausgram, Bhatar, Andal (double-membered), Jamuria (double-membered), Kulti, Hirapur and Asansol. The Ketugram constituency comprised the police stations of Ketugram and Mongalkote and union nos. 1 and 4 in Katoya P.S.; the Katoya constituency the Katoya P.S. (excluding union nos. 1 and 4); the Purbasthali constituency the police station of same name; the Manteswar constituency the police station of Manteswar and union nos. 1, 3 and 5 in Memari P.S.; the Kalna constituency the Kalna P.S. and Memari P.S. (excluding union nos. 1, 3 and 5); the Rāinā constituency the police stations of Rāinā and Jamalpur; Barddhamān constituency the Barddhamān P.S. (excluding union nos. 1 to 3, 5 and 8); the Galsi constituency the police stations of Galsi and Khandaghosh and union nos. 1 to 3, 5 and 8 in Barddhamān P.S.); the Ausgram constituency the Ausgram P.S. (excluding union nos. 6, 7, 11 and 12) and Kanksa P.S.; the Bhatar constituency the Bhatar P.S. together with union nos. 6, 7, 11 and 12 in Ausgram P.S.; the Andal constituency the police stations of Andal, Faridpur and Raniganj; the Jamuria constituency the police stations of Jamuria, Barabani and Chittaranjan together with Salanpur P.S. (excluding union no. 2); the Kulti constituency the Kulti P.S. (excluding union no. 2) together with union no. 2 in Salanpur P.S.; the Hirapur constituency the Hirapur P.S. together with union no. 2 in Kulti P.S. and such area of the former union no. 2 of Asansol P.S. and the Asansol constituency the Asansol P.S. (excluding the area of former union no. 2 in Asansol P.S.). One seat was reserved for the scheduled caste candidate in each of the double-membered constituencies of Ketugram, Rāinā, Galsi, Andal and Jamuria. The double-membered constituency of Kalna had one seat reserved for a scheduled tribe candidate.

In pursuance of clause (a) of Section 4 of the two-member Constituencies (Abolition) Act, 1961, the existing double-membered constituencies were bifurcated, resulting in the formation of the constituencies of Ketugram and Mongalkote (S.C.) out of Ketugram, those of Kalna and Memari (S.T.) out of Kalna,

those of Rāinā and Jamalpur (S.C.) out of Rāinā, those of Khandaghosh and Galsi (S.C.) out of Galsi, those of Raniganj and Durgapur (S.C.) out of Andal and those of Barabani and Jamuria (S.C.) out of Jamuria, while all the existing single-membered constituencies remained intact. The respective jurisdictions of these newly created constituencies, as mentioned above, were as follows: the Ketugram constituency Ketugram P.S.; the Mongalkote constituency the Mongalkote P.S. and union nos. 1 and 4 in Katoya P.S.; the Kalna constituency the Kalna P.S. (excluding union nos. 6 and 7); the Memari constituency the Memari P.S. (excluding union nos. 1, 3 and 5) and union nos. 6 and 7 in Kalna P.S.; the Rāinā constituency the Rāinā P.S. (excluding union no. 4); the Jamalpur constituency the Jamalpur P.S. and union no. 4 in Rāinā P.S.; the Khandaghosh constituency the Khandaghosh P.S. and union nos. 1 to 3, 5 and 8 in Barddhamān P.S.; the Galsi constituency the Galsi P.S.; the Raniganj constituency the Raniganj P.S. and unions nos. 4 and 5 in Andal P.S.; the Durgapur constituency the Faridpur and Andal P.S. (excluding unions nos. 4 and 5); the Barabani and Chittaranjan police stations, Salanpur P.S. (excluding union no. 2) and union no. 3 in Jamuria P.S.; and the Jamuria constituency the Jamuria P.S. (excluding union no. 3). The total number of constituencies was thus raised to 21, one candidate being elected from each constituency in the Third General Elections held in 1962.

In the Fourth General Elections held in 1967 the number of constituencies was further raised to 25, namely, Hirapur, Kulti, Barabani, Asansol, Raniganj, Jamuria (S.C.), Ukhra (S.C.), Durgapur, Faridpur, Ausgram (S.C.), Bhatar, Galsi, Barddhamān North, Barddhamān South, Khandaghosh (S.C.), Rāinā, Jamalpur (S.C.), Memari, Kalna, Nadanghat, Manteswar, Purbasthali, Katoya, Mongalkote and Ketugram (S.C.), one candidate being elected from each constituency. The jurisdictions of these constituencies were as follows: the Hirapur constituency comprised the Hirapur P.S. (excluding the area included in Asansol municipality) and Neamatpur union in Kulti P.S.; the Kulti constituency the Kulti P.S. (excluding Neamatpur union) and Salanpur P.S. (excluding Kalya union); the Barabani constituency the Barabani and Chittaranjan P.S., Kalya union P.S. and Dhadka union (excluding J.L. no. 5 — Narasamuda and the area included in Asansol

'S.C.' means reserved for Scheduled Caste candidate.
'S.T.' means reserved for Scheduled Tribe candidate.

municipality) in Asansol P.S.; the Asansol constituency the Asansol municipality, Bidyanandapur union and J.L. no. 5—Narasamuda in Dhadka union in Asansol P.S.; the Raniganj constituency the Raniganj P.S. and Kalipahari union (excluding the area included in Asansol municipality) in Asansol P.S.; the Jamuria constituency the Jamuria P. S. (excluding Chinchuria and Jote Janaki unions); the Ukhra constituency the Andal P.S. (excluding Andal and Amrai unions) and Baidyanathpur and Bonbohal unions in Faridpur P.S., and Chinchuria and Jote Janaki unions in Jamuria P.S.; the Durgapur constituency the Durgapur P.S. and Amlajora anchal and J.L. no. 59 in Kanksa P.S.; the Faridpur constituency the Faridpur P.S. (excluding Baidyanathpur and Bonbohal unions), Andal and Amrai unions in Andal P.S. and Kanksa P.S. (excluding Amlajora anchal and J.L. No. 59); the Ausgram constituency the Ausgram P.S.; the Bhatar constituency the Bhatar P.S.; the Galsi constituency the Galsi P.S. (excluding Satinandi, Sanko, Khano and Bhuri anchals); the Barddhamān North constituency the Barddhamān P.S. (excluding Barddhamān municipality and Baikunthapur and Barsul anchals and J.L. no. 162) and Satinandi, Sanko, Khano and Bhuri anchals in Galsi P.S.; the Barddhamān South constituency the Barddhamān municipality and Baikunthapur and Barsul anchals and J.L. no. 162 in Barddhamān P.S.; the Khandaghosh constituency the Khandaghosh P.S. and Uchalan, Kulti and Painta anchals in Rāinā P.S.; the Rāinā constituency the Raina P.S. (excluding Uchalan, Kulti and Painta anchals); the Jamalpur constituency the Jamalpur P.S. and Durgapur anchal in Memari P.S.; the Memari constituency the Memari P.S. (excluding Bharapalasan, Debipur and Durgapur anchals); the Kalna constituency the Debipur anchal in Memari P.S. and Kalna P.S. (excluding Begpur, Kankuria, Nandai, Atgharia-Simlon, Dhatrigram, Krishnadebpur and Sultanpur anchals); the Nadanghat constituency the Jahannagar, Srirampur, Samudragarh, Nasaratpur, Nandanghat, Begpur and Dogachia anchals in Purbasthali P.S. and Begpur, Kankuria, Nandai, Atgharia-Simlon, Dhatrigram, Krishnadebpur and Sultanpur anchals in Kalna P.S.; the Manteswar constituency the Manteswar P.S. and Barapalasan anchal in Memari P.S.; the Purbasthali constituency the Purbasthali P.S. (excluding Jahannagar, Srirampur, Samudragarh, Nasaratpur, Nandanghat, Begpur and Dogachia anchals) and Agradwip, Sribati, Gazipur Jagadanandapur and Singi anchals in Katoya P.S.; the Katoya consti-

tuency the Katoya P.S. (excluding Agradwip, Gazipur Jagadanandapur, Sribati and Singi anchals) and the Mongalkote and Ketugram constituencies their respective police stations.

The mid-term Elections held in 1969 and 1971 and the fifth General Elections in 1972 were conducted on the basis of the delimitation done before the Fourth General Elections.

In 1951-52 the district did not have exclusive representation in the State Legislative Council from the constituencies earmarked for Graduates and Teachers as also for local Authorities. It formed part of the West Bengal West (Graduates), Barddhamān Division (Teachers) and Birbhum-Barddhamān (Local Authorities) constituencies. The former two returned one member each while the latter one two members to the Council. Under the Delimitation of the Council Constituencies Order of 1956, the West Bengal (Graduates) and West Bengal (Teachers) Constituencies comprised the Presidency and Barddhamān Divisions (excluding Calcutta whose extent was specifically defined) which incorporated the district within their respective jurisdictions and each returned 3 members to the Council. Under Amendment of 1961, the district formed part of the West Bengal South-West (Graduates) Constituencies which further included the districts of Birbhum, Bankura, Puruliya, Medinipur and Hugli returning one candidate to the Council. The district was also incorporated within the West Bengal South-West (Teachers) constituency along with Birbhum, Bankura, Puruliya and Medinipur, which also returned one candidate to the Council. Under the Delimitation Order of 1965, the district had exclusive representation in the Legislative Council by two members from the Barddhamān Local Authorities constituency. The Legislative Council was abolished in 1969.

The Delimitation Order of 1951 conferred on the district 3 seats for its representation in the Lok Sabha in the First General Elections held in 1952 from two constituencies, namely, Barddhamān and Kalna-Katoya. The former comprised Sadar Subdivision (excluding Memari P.S.) and Asansol subdivision of this district together with Goghat P.S. of Arambagh Subdivision of Hugli district and returned two candidates including one reserved for scheduled castes, while the latter comprised the Kalna and Katoya Subdivisions and Memari P.S. of Sadar Subdivision of this district and returned one candidate.

In the Second General Elections held in 1957, the district was represented in the Lok Sabha by five seats from the

Vidhan
Parishad
(Legislative
Council)

Lok Sabha
(House of the
People)

constituencies of Bardhaman Asansol and Birbhum, one seat being reserved for scheduled caste candidate from each of the latter two double-membered constituencies.

The Bardhaman constituency incorporated the Bardhaman P.S. (excluding union nos. 1 to 3, 5 and 8), Rāinā, Jamalpur and Memari police stations in Sadar Subdivision, Kalna and Manteswar police stations in Kalna Subdivision together with Goghat P.S. and Arambagh municipality in Arambagh P.S. in Hugli district. The Asansol Lok Sabha constituency included Asansol Subdivision together with Ausgram, Bhatar, Galsi, Khandaghosh police stations and union nos. 1, to 3, 5 and 8 in the Bardhaman P.S. of the Sadar Subdivision as also the whole of Vishnupur subdivision (excluding Vishnupur and Joypur police stations) of Bankura district. The Birbhum Lok Sabha constituency comprised the whole of Birbhum district and Katoya subdivision and Purbasthali P.S. in Kalna subdivision of this district.

In the Lok Sabha election of 1962 the district was divided into four constituencies, namely, Asansol, Ausgram (S.C.) Bardhaman and Katoya, of which the first one was confined exclusively to this district and comprised the assembly constituencies of Hirapur, Asansol, Kulti, Barabani, Jamuria, Raniganj and Durgapur; the second one to those of Kotulpur, Patrasayar and Barjora of the Bankura district and Ausgram, Bhatar, Galsi and Khandaghosh of this district; the third one to those of Arambagh West of the Hugli district and Bardhaman, Rāinā, Jamalpur, Memari, Kalna and Manteswar of this district; while the last one to those of Purbasthali, Katoya, Mongalkote and Ketugram of this district and Labhpur, Bolpur and Dubrajpur of the Birbhum district. One candidate was to be returned from each constituency.

In the fourth General Elections held in 1967 as also in the mid-term Elections held in 1971 the district was parcelled out into five constituencies, namely, Ausgram (S.C.), Asansol, Bardhaman, Katoya and Bolpur. The Ausgram constituency comprised the assembly constituencies of Durgapur, Faridpur, Ausgram and Galsi of this district and of the Gangajalghati, Barjora and Sonamukhi of the Bankura district. The Asansol constituency was composed of the assembly constituencies of Hirapur, Kulti, Barabani, Asansol, Raniganj, Jamuria and Ukhra, all of this district. The Bardhaman constituency covered the assembly constituencies of Bhatar, Bardhaman

North, Bardhaman South, Khandaghosh, Rāinā, Jamalpur and Memari. The Katoya constituency contained the assembly constituencies of Kalna, Nadanghat, Manteswar, Purbasthali and Katoya of this district, besides those of Balagarh and Pandua of Hugli district. The Bolpur constituency included the assembly constituencies of Mongalkote and Ketugram of this district and Nanur, Bolpur, Labhpur, Dubrajpur and Mayureswar of Birbhum district.

Besides a host of regional parties like the Samyukta Biplabi Parishad (S.B.P.), Workers' Party of India (W.P.I.), Bangla Congress (B.C.), Forward Bloc (Marxist), Revolutionary Communist Party of India-Tagore (R.C.P.I.-Tagore), Jatiya Dal (J.D.), Lok Dal (L.D.), Indian National Democratic Front (I.N.D.F.), Proutist, Progressive Muslim League (P.M.L.) and Jharkhand Party etc. which, excepting the B.C. and F.B. (M), exerted hardly any influence over the electorate in any of the elections contested by each of them, most of the all-India parties, whether recognised or not by the Election Commission as such, were on the political arena of the district at different times. Mention may be made of Parties like the Krishak Mazdoor Praja Party (K.M.P.P.), Forward Bloc-Ruikar (F.B.-R), Hindu Mahasabha (H.M.), Praja Socialist Party (P.S.P.), Samyukta Socialist Party (S.S.P.), Socialist Party (S.P.), Congress (R), Congress (O), Communist Party of India (C.P.I.), Communist Party of India (Marxist) (C.P.M.), Revolutionary Socialist Party (R.S.P.) and Bharatia Jana Sangh (B.J.S.) which, excepting the Congress(O), S.P. and B.J.S., had, if the results of the successive elections are treated as index of popularity, no doubt, commanded the confidence of the electorate, on a greater or less scale, at different times in the district.

In the first General Elections the double-membered Bardhaman constituency had a total of 14,44,868 voters against which only 5,12,219 votes (34.45%) were validly polled; while the Kalna-Katoya constituency had 3,77,219 electors of whom 1,85,672 or 48.22% validly participated in the election. There were a total of 12 candidates for the 3 seats of whom 3 each belonged to the Congress and the F.B. (M), 1 each to the H.M. and K.M.P.P. The rest contested independently. The Congress captured all the 3 seats by polling 23.42% and 20.02% of the valid votes in the Bardhaman constituency and 39.14% in the Kalna-Katoya constituency. As against this, the F.B. (M) candidates polled 17.62% and 13.39% and K.M.P.P. 11.67% in

POLITICAL
PARTIES AND
ORGANISATIONS

Lok Sabha

Bardhaman constituency while the H.M. came out as the second best in Kalna-Katoya constituency polling 27.36% of the valid votes. In the second General Elections, the Congress contested all the 5 seats, the H.M. 2, F.B. (M) 1 and 3 candidates independently 1 seat. In Bardhaman constituency valid votes numbering 2,13,390 or 50.15% of the total votes of 4,25,282 were polled as against 6,29,589 or 39.80% of the total votes of 15,80,644 in Asansol constituency and 7,37,913 or 43% of the total votes of 17,22,210 in Birbhum constituency. The single-membered Bardhaman constituency this time opted for the F.B. (M) candidate who polled 50.49% against his Congress rival's 49.51% of the valid votes. The Congress, however, captured all the 4 seats from the constituencies of Asansol and Birbhum where its candidates polled 29.60% and 26% in the former and 32.6% and 26.7% of the valid votes in the latter, while 2 independent candidates followed the victorious Congress candidates in the former constituency with 20% and 17.40% and 2 H.M. candidates in the latter polling 22.9% and 17.8% of the valid votes. In the third General Elections, the number of electors and that of valid votes polled together with the percentage of the latter to the former (shown in brackets) were 4,54,700 and 1,82,389 (38.07%) in Asansol, 4,98,990 and 2,24,404 (42.99% in Ausgram), 5,34,273 and 2,78,500 (50.66%) in Bardhaman and 5,19,362 and 2,68,322 (50.16%) in Katoya. The Congress won the Bardhaman seat from the F.B. in a straight contest by scoring 55.82% of the valid votes, while further winning the Asansol and Ausgram seats by polling 38.83% and 51.16% respectively in a triangular contest by defeating the C.P.I. and the P.S.P., the C.P.I. trailing behind with 33.98% in Asansol and 40.61% in Ausgram. The C.P.I. defeated the Congress in a straight fight in Katoya where its candidate polled 56.56% of the valid votes. In the fourth General Elections the Ausgram constituency had 5,25,272 electors against which 2,96,950 votes (54.94%) were validly polled, the respective figures for Asansol, Bardhaman, Katoya and Bolpur being 4,43,945 and 2,44,739 (53.33%), 4,94,561 and 2,78,894 (54.40%), 4,85,894 and 3,23,692 (65.57%) and 4,83,643 and 2,49,890 (49.87%). The Congress set up candidates for all the 5 seats, C.P.M. for 3, F.B., C.P.I. and S.S.P., for 1 each. Besides there were 3 candidates who contested independently. In Ausgram constituency C.P.M. defeated the Congress in a straight contest by polling 51.49% of the valid votes; in Asansol S.S.P. came out victorious in a four-cornered

contest by securing 40.56% of valid votes as against Congress' 37.71% and C.P.I.'s 20.08%. In Bardhaman an independent candidate won by polling 51.28% while his nearest rival (Congress) got 38.34% of the valid votes. Bolpur and Katoya with Congress which defeated the C.P.M. in a straight contest in the former constituency by polling 52.73% and in a three-cornered contest in the latter constituency by polling 49.82% as against 46.44% of the valid votes polled by the latter. In the mid-term poll of 1971 the respective figures of electors, valid votes polled and the percentage of latter to the former (shown in brackets) were 6,29,094 and 3,45,030 (54.84%) for Ausgram, 4,62,439 and 2,67,820 (57.92%) for Asansol, 5,77,512 and 3,59,065 (62.17%) for Bardhaman, 5,30,377 and 3,69,737 (69.71%) for Katoya and, 5,13,097 and 2,54,684, (49.63%) for Bolpur. The Congress (O) and C.P.M. contested all the 5 seats, while Congress (R) 4, Bangla Congress 3, C.P.I., S.S.P. and F.B. 1 each and three others independently. The C.P.M. which had Ausgram constituency already within its fold further increased its hold upon the district by capturing the remaining 4 seats where its nominees polled 49.39%, 56.72%, 56.91% and 45.39% against the nearest Congress (R) candidates' 36.82%, 38.87%, 38.39% and 31% respectively of the valid votes in the constituencies of Asansol, Bardhaman, Katoya and Bolpur. In Ausgram constituency the C.P.M. this time polled a lesser proportion of valid votes, being 46.40%, while its nearest Bangla Congress rival stayed behind with 20.05% of the valid votes.

The electorates comprising each of the 14 constituencies in the first General Elections and the respective number valid votes polled together with the percentages of the latter to the former (shown in brackets) in each of them were 53,192 and 22,462 (42.23%) in Bardhaman, 50,490 and 17,611 (34.93%) in Khandaghosh, 2,05,322 and 73,966 (36.02%) in Rāinā, 2,05,234 and 73,959 (30.64%) in Galsi, 2,14,962 and 68,055 (31.66%) in Ausgram, 1,99,256 and 72,581 (36.43%) in Raniganj, 2,04,404 and 62,203 (30.43%) in Kulti, 53,896 and 19,764 (36.67%) in Asansol, 2,13,008 and 93,913 (44.09%) in Kalna, 50,659 and 24,607 (48.59%) in Purbasthali, 52,897 and 29,576 (55.91%) in Manteswar, 57,449 and 28,588 (49.74%) in Katoya, 54,999 and 22,338 (40.62%) in Mongalkote and 54,711 and 31,023 (56.70%) in Ketugram.

For the 20 seats there were 110 contestants of whom 20 belonged to the Congress, 9 to the K.M.P.P., 8 to the Jana Sangh,

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4 to the F.B. (M), 5 to the C.P.I., 3 each to the F.B. (Ruikar) and H.M., 1 each to the Bolshevik and Socialist and the rest were classed as independents. The Congress captured 13 seats, one each from the constituencies of Khandagosh, Raniganj, Purbasthali, Manteswar and Mongalkote, securing respectively 37%, 16.32%, 56.93%, 52.50% and 39.87% of the valid votes and both the seats from each of the double-membered constituencies of Galsi, Ausgram, Kulti and Kalna where it polled 24.07% and 22.87%, 26% and 24%, 22.08% and 17.73%, 22.49% and 19.58% respectively. The C.P.I. emerged victorious in Barddhaman and Katoya with 50.93% and 35.10% of the valid votes to its credit. The K.M.P.P. annexed both the seats of the Rāinā constituency by polling 21.17% and 20.39% respectively of the valid votes. The F.B. (Ruikar) won Asansol seat by securing 40.09% and the H.M.S. the Ketugram seat by polling 37.41% of the valid votes. The remaining Raniganj seat went to an independent candidate who got 37.39% of the valid votes. The Congress occupied the second position in Barddhaman (42.19%), Rāinā (20.37% and 20.08%), Raniganj (15.74%), Asansol (25.50%), Katoya (27.86%) and Ketugram (37.19%). The parties closely following the Congress in the constituencies where the latter was victorious were C.P.I. in Galsi (19.08%) and Kalna (19.24%), K.M.P.P. in Kalna (18.58%) and Manteswar (47.50%) and B.J.S. in Purbasthali (27.01%) while no other contesting parties could muster more than 1% of the valid votes each in the remaining constituencies.

The number of electors and that of valid votes polled together with percentages of the latter to the former, as shown in brackets, in each of the 15 constituencies in the Second General Elections were 2,47,940 and 1,16,672 (47.06%) in Ketugram, 65,214 and 37,022 (56.77%) in Katoya, 58,942 and 33,194 (56.30%) in Purbasthali, 60,708 and 28,628 (47.15%) in Manteswar, 2,55,432 and 1,27,145 (49.77%) in Kalna, 2,17,834 and 1,12,416 (51.61%) in Rāinā, 67,612 and 31,925 (47.22%) in Barddhaman, 2,47,454 and 99,826 (40.34%) in Galsi, 60,206 and 23,035 (38.26%) in Ausgram, 68,983 and 30,180 (43.75%) in Bhatar, 2,08,700 and 77,222 (37%) in Andal, 1,97,470 and 59,100 (29.90%) in Jamuria, 40,127 and 17,886 (44.50%) in Kulti, 49,846 and 23,942 (48.03%) in Hirapur and 59,969 and 23,302 (38.80%) in Asansol.

The Congress contested all the 21 seats, the C.P.I. 9, P.S.P. 6, B.J.S. 4, F.B. (M) and H.M. 3 each and 31 persons as independents. The Congress this time got 10 seats, one each from the

constituencies of Katoya, Purbasthali, Ausgram, Bhatar, Jamuria and Asansol having polled respectively 54.50%, 56.35%, 45.17%, 43.75%, 21.40% and 45.40% of the valid votes and both the seats from the double-membered constituencies of Ketugram and Andal by polling 30.50% and 27.50% of the valid votes in the former and 28.60% and 27.70% in the latter. It came out as the second best in the constituencies of Manteswar, Kalna, Raina, Barddhaman, Galsi, Jamuria, Kulti and Hirapur where its share was 43.88%, 21.16% and 17.37%, 23.17% and 22.58%, 20.48% and 19.80%, 17.10%, 28.60% and 35.50% respectively of the valid votes polled. The P.S.P. which originated out of the merger of K.M.P.P., F.B. (R) and S.P. retained its hold on Rāinā, while further annexing 2 seats, one each from Jamuria and Kulti. Its share of the valid votes in the aforementioned constituencies were 27.79% and 26.46% in Rāinā, 21.40% in Jamuria and 48.90% in Kulti. It closely followed Congress in Bhatar and Jamuria (where the other seat went to the Congress) by polling 34.04% and 16.60% respectively of the valid votes. The C.P.I. which had 2 seats formerly increased its strength by one more. While it retained its hold on Barddhaman, though with a lesser proportion of votes (48.64%), it lost Katoya to the Congress where it polled 42.50% of the valid votes, but won both the Kalna seats from the latter by polling 25.95% and 25.20% of the valid votes. It closely followed Congress in Purbasthali and Asansol with 43.65% and 39.50% of the valid votes. The F.B. (M) candidate won in the Galsi constituency where it got one of the seats of the double-membered constituency while an independent candidate got the other, 20.48% of the valid votes being polled by the former and 28.42% by the latter. Manteswar and Hirapur went to independent candidates who polled 45.06% of the valid votes in the former and 55.60% in the latter.

In the third General Elections the number of voters and that of the valid votes cast together with the proportion of the latter to the former (given in brackets) in each of the 21 constituencies were as follows: 61,196 and 28,692 (46.89%) in Hirapur, 70,775 and 31,106 (43.95%) in Asansol, 41,506 and 21,454 (51.69%) in Kulti, 65,634 and 23,618 (35.98%) in Barabani, 62,600 and 21,153 (33.79%) in Jamuria (SC), 71,336 and 25,869 (36.26%) in Raniganj (SC), 81,653 and 37,222 (45.59%) in Durgapur, 71,746 and 30,818 (42.95%) in Ausgram, 82,545 and 40,150 (48.64%) in Bhatar, 70,204 and 29,917 (42.61%) in Galsi (SC), 68,212

and 30,425 (44.60%) in Khandaghosh, 1,02,480 and 52,719 (51.44%) in Barddhamān, 72,548 and 43,031 (59.31%) in Rāinā, 60,739 and 30,412 (30.07%) in Jamalpur (SC), 74,503 and 35,990 (48.30%) in Memari (ST), 77,918 and 47,188 (60.56%) in Kalna, 73,526 and 41,750 (56.78%) in Manteswar, 74,951 and 44,353 (59.18%) in Purbasthali, 76,627 and 44,735 (58.38%) in Katoya, 73,599 and 35,016 (47.58%) in Mongalkote and 67,796 and 38,318 (56.52%) in Ketugram.

The Congress which fielded candidates for all the 21 seats captured this time also 10 seats, one each from the constituencies of Hirapur, Kulti, Jamuria, Durgapur, Galsi, Khandaghosh, Barddhamān, Raina, Jamalpur and Purbasthali polling respectively 49.80%, 39.33%, 57.63%, 56.92%, 54.94%, 53.04%, 67.42%, 65.99%, 77.12% and 51.42% of the valid votes: while C.P.I. immediately lagged behind it in Hirapur, Kulti, Barddhamān and Purbasthali securing 35.63%, 29.41%, 31.07% and 45.26% respectively so too P.S.P. in Jamuria, Raina and Jamalpur scoring respectively 33.39%, 30.54% and 22.87%, F.B. in Durgapur and Galsi with 21.01% and 45.05% respectively and an independent candidate polling a bare 18.99% in Khandaghosh. The C.P.I. which contested 14 seats this time annexed 10 seats, one each from the constituencies of Asansol, Barabani, Raniganj, Bhatar, Memari, Kalna, Manteswar, Katoya, Mongalkote and Ketugram with 43.69%, 42.47%, 52.61%, 55.1%, 50.19%, 53.35%, 50.59%, 56.81%, 54.01 and 38.02%, being followed immediately by Congress in the first 9 constituencies polling 27.68%, 42.47%, 39.75%, 40.31%, 49.81%, 45.10%, 49.41%, 43.19% and 45.99% and by an independent candidate who got 25.11% of the valid votes in the last named constituency. Other parties, namely, P.S.P., F.B., W.P.I. and S.B.P. which contested 10, 4, 3 and 4 seats respectively could not claim any seat this time. A total of 16 independent candidates contested 9 seats, of whom only one came out successful in Ausgram polling 30.94% of the valid votes.

In the fourth General Elections, the number of votes and that of the valid votes polled together with the percentage of the latter to the former in each of the 25 constituencies were as follows: 67,471 and 44,625 (66.14%) in Hirapur, 67,209 and 37,252 (55.43%) in Kulti, 64,348 and 36,640 (56.94%) in Barabani, 69,320 and 39,413 (56.86%) in Asansol, 64,149 and 37,694 (58.76%) in Raniganj, 48,657 and 25,422 (52.25%) in Jamuria, 66,126 and 37,259 (56.35%) in Ukhra, 89,989 and 59,478 (66.09%)

in Durgapur, 64,391 and 34,246 (53.18%) in Faridpur, 74,768 and 37,103 (49.62%) in Ausgram, 65,385 and 35,575 (54.41%) in Bhatar, 68,059 and 41,951 (61.64%) in Galsi, 71,268 and 45,418 (63.73%) in Barddhamān North, 82,274 and 46,557 (56.59%) in Barddhamān South, 65,338 and 33,396 (51.11%) in Khandaghosh, 70,891 and 44,774 (63.16%) in Raina, 66,092 and 37,442 (56.65%) in Jamalpur, 73,313 and 50,126 (68.37%) in Memari, 69,471 and 48,754 (70.18%) in Kalna, 70,223 and 52,770 (75.15%) in Nadanghat, 70,952 and 47,581 (67.06%) in Manteswar, 70,597 and 47,711 (67.58%) in Purbasthali, 74,445 and 44,901 (60.31%) in Katoya, 70,059 and 37,935 (54.15%) in Mongalkote and 76,324 and 41,239 (54.03%) in Ketugram. Out of a total of 83 candidates 25 belonged to the Congress, 19 to the C.P.M., 6 each to the C.P.I. and P.S.P., 5 to the Bangla Congress, 4 to the F.B., 3 each to the S.S.P. and B.J.S. and 12 candidates contested independently. Before this election several non-Congress political parties, (which included the C.P.M.) subscribing to the Marxist ideology, forged an electoral alliance among themselves under a common front styled as United Left Front, while certain others including the C.P.I., Bangla Congress and Forward Bloc formed another one known as People's United Left Front. These two fronts, while opposing each other, had the ultimate objective of providing an alternative to the Congress at the State level. Even then this election witnessed further extension of the Political influence of Congress in this district. It took 14 seats from the constituencies of Hirapur, Kulti, Barabani, Asansol, Ukhra, Bhatar, Barddhamān South, Khandaghosh, Jamalpur, Memari, Nandanghat, Manteswar, Mongalkote and Ketugram where its nominees polled respectively 38.33%, 35.12%, 49.12%, 44.97%, 46.92%, 38.16%, 45.71%, 45.03%, 64.54%, 49.53%, 51.33%, 56.79%, 52.42% and 52.55% of the valid votes, while closely following the victorious nominees of the C.P.M. in 7 other constituencies, namely, Raniganj, Durgapur, Ausgram, Barddhamān North, Kalna, Purbasthali, and Katoya polling respectively 45.36%, 46.61%, 38.77%, 41.90%, 44.89%, 43.09% and 47.39% where the latter party obtained 48.15%, 49.56%, 51.89%, 48.52%, 47.58%, 46.84% and 48.81% respectively. The S.S.P. annexed the Jamuria seat with 53.85%, the Bangla Congress the Faridpur seat with 49.47%, the P.S.P. the Raina seat with 37.89% as against Congress' 43.16%, 46.88% and 35.99% of the valid votes respectively. An independent candidate won the Galsi seat polling 57.56% where his Congress rival got 34.80% of the valid votes.

The C.P.M. came out as the second best in the constituencies of Hirapur, Barabani, Asansol, Ukhra, Barddhamān South, Jamalpur, Memari, Nadanghat, Manteswar, Mongalkote and Ketugram where it polled respectively 36.53%, 39.64%, 33.92%, 40.30%, 41.79%, 24.86%, 47.63%, 41.56%, 37.37%, 47.58% and 47.45% of the valid votes. The S.S.P. was behind Congress in Kulti with 32.71% and in Khandaghosh with 40.38% and C.P.I. in Bhatar with 36.13% of the valid votes.

The respective figures of electors and valid votes polled together with the percentages of the latter to the former in each of the 25 constituencies in the first and second mid-term polls as also in the fifth General Elections were as follows : 74,368 and 43,872 (58.99%), 79,235 and 41,192 (51.98%) and 79,179 and 39,217 (49.52%) in Hirapur ; 69,448 and 34,203 (49.24%), 72,138 and 33,013 (45.76%) and 73,039 and 28,060 (38.41%) in Kulti ; 71,438 and 36,824 (51.54%), 78,254 and 41,545 (53.08%) and 81,703 and 41,231 (50.46%) in Barabani ; 81,296 and 44,116 (54.26%), 92,684 and 42,631 (45.99%) and 92,522 and 40,891 (44.22%) in Asansol ; 74,506 and 43,354 (58.18%), 83,088 and 46,687 (56.18%) and 84,870 and 35,936 (42.34%) in Raniganj ; 55,508 and 27,152 (48.86%), 57,040 and 27,598 (48.38%) and 58,268 and 24,899 (42.73%) in Jamuria ; 71,832 and 34,093 (47.47%), 80,475 and 34,970 (43.45%) and 81,093 and 34,819 (42.93%) in Ukhra ; 1,28,731 and 78,071 (60.63%), 1,56,741 and 83,432 (53.22%) and 1,56,785 in Durgapur*, 69,384 and 38,250 (55.12%), 76,094 and 42,114 (55.34%), and 76,962 in Faridpur*, 75,998 and 41,145 (54.13%), 82,935 and 50,678 (61.10%) and 84,250 and 47,713 (56.63%) in Ausgram ; 66,614 and 38,343 (57.55%), 73,944 and 39,534 (53.46%) and 74,014 and 43,796 (59.17%) in Bhatar ; 69,186 and 42,056 (60.78%), 76,244 and 37,654 (49.38%) and 75,627 and 42,020 (55.56%) in Galsi ; 73,598 and 46,458 (63.12%), 82,507 and 54,171 (65.65%) and 83,180 and 54,403 (65.40%) in Barddhamān North ; 90,665 and 52,147 (57.51%) and 1,07,976 and 56,409 (52.24%) in Barddhamān South ; 66,043 and 36,087 (54.64%), 72,061 and 44,622 (61.92%) and 73,841 and 46,914 (63.53%) in Khandaghosh ; 72,322 and 47,520 (65.70%), 81,419 and 52,347 (62.92%) and 81,701 and 51,968 (63.60%) in Raina ; 66,657 and 41,306 (62.11%), 71,607 and 44,436 (62.05%) and 73,032 and 46,762 (64.02%) in Jamalpur ; 75,792 and 53,381 (70.42%), 71,607 and 44,436 (62.05%) and 93,919 and 66,234

* Figures of valid votes polled in the constituencies of Durgapur and Faridpur during the fifth General Elections are not available.

(70.52%) in Memari ; 72,095 and 51,572 (71.25%), 80,354 and 58,580 (72.90%) and 82,011 and 63,872 (77.88%) in Kalna ; 71,525 and 52,959 (74.04%), 77,460 and 57,547 (74.29%) and 79,808 and 64,996 (81.31%) in Nadanghat ; 72,066 and 47,497 (65.90%), 77,109 and 52,085 (67.54%) and 78,624 and 59,052 (75.10%) in Manteswar ; 69,450 and 48,622 (70.01%), 73,136 and 48,002 (67%) and 74,471 and 47,232 (63.42%) in Purbasthali ; 76,258 and 50,964 (66.83%), 82,585 and 50,562 (61.22%) and 87,021 and 54,764 (62.93%) in Katoya, 70,962 and 41,036 (57.82%), 75,668 and 46,443 (61.37%) and 77,801 and 44,459 (57.14%) in Mongalkote and 77,029 and 41,985 (54.50%), 79,419 and 42,392 (53.37%) and 81,881 and 47,527 (58.04%) in Ketugram.

In the first mid-term poll the number of contestants came down to 69 but went up to 102 in the second mid-term poll only to fall down to 64 in the fifth General Elections. The Congress set up candidates for all the 25 seats in the first mid-term poll, Congress (R) 18 and Congress (O) 20 in second mid-term poll and Congress (R) 23 and Congress (O) 5 in the fifth General Elections — the respective figures for the C.P.M. and C.P.I. in the three elections being 18, 29 and 24 and 1, 7 and 2 respectively ; for the S.S.P. 3 each time in the two mid-term polls and for the S.P. 4 in the fifth General Elections ; P.S.P. 2 and 1, B.C. 1 and 9 in the first and second mid-term polls respectively. Besides, a host of other parties contested the first mid-term poll — the respective number of candidates put up by them being R.C. P.I. (Tagore), P.M.L. and Proutist 1 each, B.J.S., J.D., and L.D. 2 each and I.N.N.D.F. 4 ; while of the 2 persons contesting independently one was supported by the U.F. in the second mid-term poll the F.B. set up 3 candidates, R.S.P. 2 and F.B. (M) 1 and 9 persons contested independently. In the fifth General Elections only Jharkand party set up 2 candidates and an identical numbers contested independently. In the first mid-term poll the rising popularity of the C.P.M. is conspicuously marked by its capture of 17 seats from the constituencies of Hirapur, Barabani, Asansol, Raniganj, Ukhra, Durgapur, Ausgram, Barddhamān North, Barddhamān South, Raina, Memari, Kalna, Nadanghat, Manteswar, Purbasthali, Mongalkote and Ketugram securing 57.80%, 61.25%, 55.85%, 54.31%, 53.38%, 51.58%, 60.12%, 60.90%, 55.46%, 51.2%, 58.70%, 56.98%, 53.45%, 60.13%, 52.84%, 63.11% and 56.74% respectively where the Congress immediately trailed behind with 42.20%, 38.75%,

41.03%, 41.71%, 46.62%, 48.42%, 35.62%, 33.68%, 44.54%, 37.39%, 40.81%, 43.02%, 45.94%, 37.15%, 45.70%, 36.89%, and 43.26% of the valid votes respectively. The Bangla Congress and S.S.P. bagged 2 seats each, the candidates set up by the former party coming out successful in the constituencies of Faridpur and Jamalpur by polling 51.68% and 60.41% and scoring 60.77% and 66.94% respectively, while their nearest rivals also belonging to the Congress got 46.83%, 39.59%, 36.41% and 30.78% respectively in the said constituencies. An Independent candidate captured the Galsi seat and C.P.I. the Bhatar seat by defeating the Congress — the former securing 66.10% and the latter 68.74% of the valid votes — the Congress' share being 33.90% in the former constituency and 28.19% in the latter constituency. The Congress while losing all the 14 seats it won in the fourth General Elections, however, wrested Katoya seat from the C.P.M. by polling 51.38% and Jamuria seat from the S.S.P. by obtaining 50.73% of the valid votes, the respective share of C.P.M. in Katoya being 47.25% and of S.S.P. in Jamuria 47.44%. The C.P.M.'s share of votes and that of its nearest rivals in the aforementioned 23 constituencies (shown in brackets) were as follows : 45.16% (C.P.I. 27.05%) in Hirapur, 48.65% (Cong.-R 33.40%) in Barabani, 44.72% (C.P.I. 42.94%) in Asansol, 68.89% (Cong.-R 16.61%) in Raniganj, 55.79% (Cong.-R 37.89%) in Jamuria, 54.19% (Cong.-R 45.81%) in Ukhra, 49.14% (Cong.-O 43.42%) in Durgapur, 42.49% (Cong.-R 22.42%) in Faridpur, 56.13% (B.C. 35.22%) in Ausgram, 46.84% (B.C. 31.56%) in Bhatar, 56.57% (B.C. 32.70%) in Galsi, 62.68% (Cong.-R 39.02%) in Barddhamān North, 50.09% (Cong.-R 47.84%) in Barddhamān South, 51.6% (Cong.-R 39.68%) in Khandaghosh, 60.27% (Cong.-R 36.57%) in Raina, 62.41% (Cong.-R 33.56%) in Memari, 54.45% (Cong.-R 42.55%) in Kalna, 59.58% (Cong.-O 38.78%) in Nadanghat, 57.12% (Cong.-R 33.93%) in Manteswar, 63.78% (Cong.-R 32.38%) in Purbasthali, 54.70% (Cong.-R 41.51%) in Katoya, 62.04% (B.C. 36.20%) in Mongalkote and 42.42% (Cong.-R 41.24%) in Ketugram. The Congress this time got only one seat from Kulti held previously by S.S.P. where it polled 38.86% as against C.P.M.'s 31.84%. The F.B. (M) became successful in Jamalpur polling 50.40% as against Congress' 42.11%.

In the fifth General Election, the C.P.M. lost all but 2 seats, namely, Raniganj and Ausgram, to the Congress and C.P.I. (with whom the Congress formed an electoral alliance). The Con-

gress bagged 21 seats and the C.P.I. 2 seats. The proportion of Congress' share of the valid votes polled together with that of its nearest rival, the C.P.M. (shown in brackets) in the aforementioned 21 constituencies was as follows : 48.62% (46.07%) in Hirapur, 59.47% (30.44%) in Kulti, 70.85% (27.04%) in Barabani, 58.27% (41.73%) in Jamuria, 61% (39%) in Ukhra, 55.93% (44.07%) in Durgapur, 51.22% (45.36%) in Faridpur, 72.66% (27.34%) in Bhatar, 67.66% (32.34%) in Barddhamān North, 71.75% (28.25%) in Barddhamān South, 62.80% (37.20%) in Khandaghosh, 56.38% (43.62%) in Raina, 65.92% (34.08%) in Jamalpur, 80.20% (16.97%) in Memari, 97.81% (1.49%) in Kalna, 94.80% (4.63%) in Nadanghat, 91.05% (8.7%) in Manteswar, 68.78% (31.22%) in Purbasthali, 60.37% (39.63%) in Katoya, 57.08% (40.75%) in Mongalkote 63.21% (36.79%) in Ketugram. The C.P.I.'s share in Asansol was 58.70% and 53.51% in Galsi against which C.P.M. polled 38.95% and 43.18% respectively. The C.P.M. which could retain its hold only in the constituencies of Raniganj and Ausgram polled this time a lesser proportion of valid votes, being 60.77% in the former and 50.34% in the latter, the share of the Congress in the said constituencies being 37.84% and 49.66% respectively.

No daily newspaper is published from Barddhamān district. The popular Calcutta dailies, English, Bengali and Hindi, like The Statesman, Amrita Bazar Patrika, The Telegraph (all English) and the Ananda Bazar Patrika, Jugantar, Dainik Basumatī, Satyajug, Ganashakti, Kalantar (all Bengali), and Sanmarg and Viswamitra (both Hindi), are in circulation in the district.

History of press, printing and publication of periodicals in Barddhamān goes back to over a century and a quarter. In a letter to the editor of Samachar Chandrika, dated the 1 February 1844, one Benimadav Ray of Barddhamān speaks of a press which the Maharajkumar of Barddhamān purchased from Calcutta and set up at Barddhamān. He appointed one Ainuddin Mohammad to run the press.¹

In December, 1849 came out the first periodical in the district. It was a weekly named Barddhamān Jnānpradāyini, edited by one Bisweswar Bandyopadhyaya, printed in and published from Barddhamān town. It closed down after printing some numbers. In the same month, another news weekly was started in

NEWSPAPERS

¹ vide Brajendranath Bandyopadhyaya, *Bāṅglā Sāmayik Patra*, Vol. I.

Bardhaman named Bardhaman Chandrodaya. It stopped publication temporarily in 1851; but started again from the 4 September 1852.¹ A list of periodicals now published from Bardhaman district, with relevant details, is given below.

JOURNALS & PERIODICALS PUBLISHED FROM BARDHAMAN DISTRICT IN 1971*

[Arrangement : (Language); Name; Year of inception; Address; Circulation; Subject.

Abbreviations used :

B = Bengali; E = English; H = Hindi; U = Urdu; S = Sanskrit; A = Arabic; Hy = Half Yearly; Q = Quarterly; An = Annual; Fr = Fortnightly; N & CA or NCA = News & Current Affairs; CA = Current Affairs; S = Sold; F = Free; Eng. & Tech. = Engineering & Technology; Lit. & Cult. = Literary & Cultural; HO = House Organ]

WEEKLIES

- (E) Coal Field Tribune (1962) : Kedar Mukherjee Lane, Asansol; 1500 (S. 1300+F. 200). Commerce & Industry.
- (B) Ārya Patrikā (1946) : B. P. Ghosh Road, Bardhaman; 2000 (S. 1850+F. 150). News & Current Affairs.
- (B) Bardhamaner Kathā (1968) : Bardhaman Zonal Cooperative Multipurpose & Marketing Society Ltd., G. T. Road, Bardhaman; N. S. Current Affairs.
- (B) Bardhaman Shramik (1968) : Bohilpara, Bardhaman; 1900 (S. 1500+F. 400). News & Current Affairs.
- (B) Bhediā Bārtā (1966) : Vill. & P.O. Bhedia; N & CA
- (B) Āsansol Bāni (1962) : Hospital Road, Asansol; 750 (S. 400+F. 350). NCA.

¹ *ibid.*, pp. 108-09.

* Source : *Press In India 1971*. 15th Annual Report of the Registrar of Newspapers for India. Part-III, Delhi, 1972, pp. 1114-1285.

- (B) Dāmodar (1936) : C. G.T. Road; Birhata, Bardhaman; 1972 (S. 1462+F. 510). N&CA.
- (B) Dharitree (1962) : B. L. Choudhury Road, Bardhaman; 2000 (S. 1500+F. 500). N & CA.
- (B) Durgāpur Bāni (1964) : Benachity, Durgapur-4; 1987 (S. 1568+F. 419). N & CA.
- (B) Janahita (1970) : Sripalli, Asansol; Social Welfare.
- (B) Pallibāsi (1896) : Bhaduripara, Kalna; 1400 (S. 1050+F. 350). N & CA.
- (B) Paryabekshak (1964) : S. B. Garai Road, Asansol; 1500 (S. 1300+F. 200). N & CA.
- (B) Sāptāhik Kāṭoya (1965) : Atuhatpara, Katoya; 1000 (S. 950+F. 50). N & CA.
- (B) Sarbodaya (1933) : Katoya; 800 (S. 550+F. 250). N & CA.
- (B) Spasta Kathā (1965) : 19 B.L. Hati Road, Bardhaman; 251 (S. 226+F. 25). N & CA.
- (E, H, B) Artha-O-Samāj (1968) : Asansol Hotel, Baker Ali Lane, Asansol. Social Welfare.
- (E, H, B) Bardhamaner Bārtā (1965) : 49 B. C. Road, Bardhaman; 1516 (S. 1275+F. 241). N & CA.

FORTNIGHTLY

- (E) Coal Field News of India (1970) : Raha Lane, Asansol; Labour & Industry.
- (E) Industrial Tribune (1967) : Gopalnagar, P.O. Kalla, Asansol. 350 (S. 300+F. 50). N & CA.

- (E) Andher Nagari (1970): 30 Hospital Road, Asansol. CA.
- (H) Āsānsol Samāchār (1964): Pucca Bazar, Asansol. 1291 (S. 966 + F. 325). N & CA.
- (H) Sachi Khuj (1968): M/s. Coal Field Publication, 2, Pt. Sheo Dutta Lane, Asansol. CA.
- (B) Āsānsol Samāchār (1965): Asansol. 1200 (S. 1000 + F. 200). CA.
- (B) Barddhamāner Dāk (1949): B. C. Road, Barddhamān. 600 (S. 400 + F. 200). N & CA.
- (B) Bhagirathi (1954): Chowk Bazar, Kalna. 1170 (S. 913 + F. 257). N & CA.
- (B) Barddhamān Jyoti (1970): 1 Paikpara Lane, Barddhamān. 1600 (S. 1200 + F. 400). CA.
- (B) Dristi (1940): Barabazar, Barddhamān. 1738 (S. 1388 + F. 350). N & CA.
- (B) Kholākathā (1963): Thankurpalli, Sarishadanga Road, Barddhamān. N & CA.
- (B) Silpa Bani (1967): Mridu & Villa, Hirapur, Burnpur. 500 (S. 300 + F. 200). CA.
- (B) Socialist Karmi (1965): Socialist Karyalaya, Kansaripara, Kalna. N & CA.
- (U) Wāstā (1969): Masjid Gali, Hutton Road, Asansol. NS. N & CA.
- (B) Ganadut, Kulti.
- (B) Vaijayanti : Kulti.

MONTHLIES

- (E) Durgapur Steel Riding (1962): Durgapur Steel Plant, Durgapur. 400 (F.). Eng. & Tech.
- (E) Indian Journal of Mining, Geology, Metallurgy and Fuel (1964): Raniganj. Eng. & Tech.
- (H) Kavita Shree (1965): P.O. Andal. 1045 (S. 745 + F. 300). Lit. & Cult.
- (B) Sāmānya Patra (1962): Ambika Byayam Samity, Kansaripara, Kalna. 250 (S. 200 + F. 50). N & CA.
- (B) Srilekhā (1967): Vill. Syayamband, Burnpur. Lit. & Cult.
- (H) Diwār (1970): Moosa Plot, Bari Bazar, Asansol. Lit.
- (E, B) Dakshasakti (1965): C/o. A.I.P.E.U. Class III, Barddhamān Div. Branch Union Office, Barddhamān. F. 1000. Lit. & Cult.
- (B) Chittaranjan (1952): C.L.W. Administration, Chittaranjan. N. & Lit. & Cult.

QUARTERLIES

- (E) Mechanical Engineering Bulletin (1970): Central Mechanical Engineering Research Institute, Mahatma Gandhi Avenue, Durgapur-9. 575 (S. 230 + F. 345). Eng. & Tech.
- (E) Notes & Reviews (1970): UBA, Flat No. 6, Tarabag, Lit.
- (B) Bikās (1968): Kalla, Majiara, Asansol. 375 (S. 213 + F. 162). Lit. & Cult.

- (B) Chakradhvani (1965) : Mahamaya Ashram, Gopalpur, G. T. Road, Asansol. Religious & Theological.
- (B) Kabikantha (1964) : Netaji Subhas Road, Asansol. 500 (S. 350 + F. 150). Lit. & Cult.
- (B) Swāgatā (1961/1966) : 6/1, New Town Avenue, Durgapur-4. 1166 (S. 800 + F. 366). Lit. & Cult.
- (B, E) Homeokana (1970) : 131 B. B. Ghosh Road, Barddhamān. Medical & Health.
- (E, B, H) Kalyani (1959) : D. S. Office, E. Rly., Asansol. Transport & Communication.

MISCELLANEOUS

- (B) Bonosabha (1966) : Half Yearly. Rāinā. 61 (S. 36 + F. 25). Lit. & Cult.
- (B) Kisalaya (1965) : Annual. Jadabendra Smriti Pathagar, Vill. & P. O. Santinandi, Barddhamān. Lit. & Cult.
- (E) Burnpur Kulti News (1952). Fortnightly. I. I. & S. Co. Pvt. Ltd., Burnpur. Publicity Journal.
- (E/MN) Alloy Steels (1968) : Alloy Steel Plant, Durgapur-8. 1000 (F.). HO.
- (B/MN) Durgāpur Ispat Darpan (1964) : Durgapur Steel Plant, Durgapur, 3000 (F.). HO.
- (Bi/MN) Burnpur Kulti News Supplement (1962) : I. I. & S. Co. Ltd., Burnpur. Publicity Journal.
- (E, H, B/MN) MAMC Newsletter (1967) : M.A.M.C. Ltd., Durgapur-10. HO.

- (E) A.V.B. News (1962). Quarterly. A.V.B. Ltd., Durgapur-1. HO.
- (E, B, H) Bengal Coal Co. Newsletter (The), (1967) : Quarterly. B. B. Co. Ltd., Sanctoria, Disergarh. F. 1000. HO.

Chronologically the European Christian Missionaries were the earliest to establish voluntary social service organizations in Barddhamān district; some of those are in existence even to-day. The Ramakrishna Math and Mission started functioning in Asansol town from 1918. The Mission now runs Ramakrishna Mission Asrama Home at Asansol and the Ramakrishna Asrama Charitable Dispensary at Bamchandipur, G.T. Road, Barddhamān. The Bharat Sevasram Sangha started functioning in the district from the days of famine of 1943. Hindu Mission Welfare Home at the village Purba Satgachhia was established in 1952. The Santi Kanan Welfare Home at the village Jabui was established in 1954 for the promotion of welfare of male orphans. It provides shelter and arranges for useful training to 130 orphans at a time. The Home receives some grant-in-aid from the Government, which amounted to Rs. 37 per orphan per-year in 1972. The Subdivisional Officer of Barddhamān Sadar is the *ex-officio* Chairman of the Home.

Among other orphans' and welfare homes mention should be made of Save the Children Committee in India Home at the village Rajbandh. The most important social welfare Home is the Cheshire Home at Burnpur. The Burnpur Cheshire Home was founded by Group Captain L. Cheshire and declared open in February 1967. The Home is situated near Burnpur Hospital, just outside the industrial township. Like all other Cheshire Homes, it provides residential accommodation, arranges for treatment and nursing and offers training facilities in useful crafts and arts to disabled persons and people suffering from incurable diseases, irrespective of age, sex, religion, caste and creed. The management of the Home, rests with a managing committee chosen from among the local people. The Home depends mostly upon public donation.

Among other organizations engaged in the work of promotion of welfare of orphans, destitutes, the handicapped and crippled irrespective of sex, mention should be made of the Sivalaya Social Welfare Centre at the village Arrara within Durgapur

police station area. Bharat Scouts and Guides, Jatiya Krira O Sakti and Manimela have branches and affiliates in the district. The scout movement started in the district in 1928. Bharat Scouts and Guides organizations divides the district into two divisions, namely, Barddhamān and Asansol for its organizational convenience. It has several affiliated youth clubs in the district. Asansol Mahakuma Manimela Seva Office at Asansol co-ordinates the activities of all the affiliated youth clubs and Manimelas of the district and serves as the platform for all the individual *mani-bhais* and *mani-bons* in the district. Jatiya Krira O Sakti Sangha has its district office at Sripally in Barddhamān town. It organizes annual physical culture camps and sends trainers in physical culture to schools and youth clubs all over the district. Nuni Sabuj Sangha, in the village Nuni in Barabani police station, established in 1965, runs a gymnasium, a library, a night school for literacy work among adult illiterates and a Krishi Charcha Mandal to impart training in advanced agricultural practices to cultivators. Amnala Palli Mangal Yubak Samiti, in village Amnala in Barabani police station, established in 1967, runs a night school for spread of literacy among adult illiterates. Besides that, it is engaged in various types of social welfare and physical culture activities. Itapara Pragati Sangha of Itapara village in Barabani police station, established in 1967, runs an adult education centre for adult neo-literates and a Krishi Charcha Mandal for imparting training in advanced agricultural techniques. Kultora Palli Mangal Samity of Kultora village, in Kulti police station area, is engaged in various kinds of rural development activities since 1962. It also runs a library and a night school. Sodepur Youth Organization of Kulti is engaged in relief and rehabilitation activities since 1966. Among other youth organizations engaged in social welfare and physical culture activities mention may be made of Udayan Sangha of Galsi.

In the year 1970-71, nine and eight voluntary social service organizations in the district received grant-in-aid from the Scheduled Castes & Tribes Welfare Directorate to promote welfare among the Scheduled Castes and the Scheduled Tribes respectively. Of these organizations, Adibasi Mahakalyan Samity of 'C' Zone Colony at Durgapur is the most important. The Organization was registered in 1969.

There are several women's organizations both in urban and rural areas. Chittaranjan Locomotive Works Women's Organi-

zation was established in Chittaranjan Railway township in 1952-53. It has been instrumental in the establishment of a primary school for girls and a higher secondary school, also for girls, in Chittaranjan township. It manages a handicraft training-cum-production centre for women. The organization also gives occasional financial assistance to needy girl students. Mahila Mangal Sabha of Burnpur was established in 1960 under the sponsorship of Indian Iron and Steel Company Ltd. The Sabha conducts classes for drawing and painting, sewing and embroidery, music, Hindi and English languages, house-keeping and nursing, hygiene, first-aid and cooking for women. It holds exhibitions, demonstrations and lectures. It has a branch at Chhotodighari, where also similar activities are carried on.

Women's Voluntary Service was established in Burnpur in 1963. The organization has been running a free milk distribution centre, with milk-powder provided by CARE and UNICEF, at Hirapur village, since 1968. The organization also runs a medi-care and a family planning advisory centre at that village. It has under its management a free milk distribution centre also at Asansol town. In Burnpur itself, it conducts a primary school and a handicraft training-cum-production centre for women. Tailored and embroidered garments from this centre are sent for sale to Calcutta, Delhi, Dehradun and Madras. The organization has a small fund to assist needy women for medical care. It awards several scholarships to meritorious, needy girl students for continuing higher education.

Katoya Mahila Samiti of Katoya town is another important women's organization located in urban area. Hindusthan Cables Mahila Samiti in the township of that name is another organization for urban women. Bhaskajuri Bhaonara Mahila Samiti of the Village Bhaskajuri in Barabani P.S., is conducting a craft training centre for women since 1967. Achara Mahila Samiti in the village of Achara and Ethora Mahila Samiti in Ethora village in Salanpur P.S., were established under the Community Development Project. In the village of Dendua, within the area of the last named police station, there is a women's organization. Patseorah Mahila Samiti, in the village of Patseorah, in Faridpur police station area, established in 1970, has done commendable work among the working women of the villages. Among other women's organizations of rural areas, mention should be made of Vidyanagar Mahila Samiti of Samudragarh and Nawpara Mahila Samiti of Nadanghat.

There are some other organizations engaged in welfare activities among the women. Most of these organizations are engaged in activities connected with pre-natal and post-natal care of women and newly born babies. Mention should also be made of Bankimchandra Maternity & Child Welfare Centre of Asansol town and Matrimangal Samiti of village Satgachhia.

Apart from the orphanage and women's homes maintained by the voluntary social service organizations, the Relief and Social Welfare Department of the Government of West Bengal directly manages a rescue home for girls and women rescued under the Suppression of Immoral Traffic in Girls & Women Act, 1956. The District Shelter for Girls and Women at Frasergunj Avenue in Bardhaman Town was established in 1963. It can provide shelter and training in useful crafts and nursing to twenty-five internees at a time.

There are Rotary Clubs at Asansol, Bardhaman, Chittaranjan and Durgapur.

CHAPTER XVIII

PLACES OF INTEREST

AGRADWIP (88°16'E 23°35'N) — A village (J. L. No. 112) in Kātoyā police station, is situated about 3 kms. from the railway station of the same name on the B.A.K. loop of the Eastern Railway, it comprises an area of 1340.56 hectares and a population of 5,130 according to the 1971 Census. Srī Govinda, Srī Mādhava and Srī Bāsudeva Ghosh, all Vaishṇava doyens of the time of Srīchaitanya lived here. There is the tomb of Srī Govinda Ghosh at this place. He established the deity of Srī Gopīnāth in this village. He was a companion of Srī Chaitanya. It is said that one day when after his meals Srī Chaitanya asked for *haritakī*, Govinda Ghosh at once handed it over to him showing the habit of saving which was against the code of conduct of a Vaishṇava. Seeing this Srīchaitanya asked him to marry and lead a domestic life and to establish the icon of Srī Gopīnāth there.

AMRĀRGAR (87°35'E 23°26'N) — A village (J. L. No. 88) in Ausgram police station, it had a population of 3,189 in 1971. It is near the Mankar railway station on the main line of the Eastern Railway. The name is derived from Amragarh, the capital of the old *Gopabhūmi*, land of the Sadgops. It is said that the Sadgop king Mahendranath (Mahindi rājā) built a fort (*garh*) here after the name of his queen Amarāvati, but there is no trace of the fort at the present. It is said that Gandharvapal who founded the old Narayangarh Raj of the Medinipur district, was born at Dignagar (J. L. No. 169) in Ausgram police station which is situated close to Amrārgar. There are numerous mounds of earth and bricks strewn over the areas named Hātisālā, Bhālluksālā, Maraitālā, etc. perhaps signifying the kings' possessions of the older days.

There are a number of old temples and deities here. There are the *Sivākhyā devī* and *Dugdheśvar Śiva* at this place. A well-decorated *pañcha-ratna* temple of Nārāyaṇa is also there. An architecturally novel temple of Durgā is worth seeing.

ANDĀL (87°12'E 23°35'N) — A non municipal town (J. L. No. 52), in the police station of the same name, with a population of

21,810 in 1971, in the Asansol Subdivision, it is also an important junction station on the Eastern Railway. It has a big railway colony. The air-strip built by the side of the Grand Trunk Road is still in order. It is gaining in importance owing to its proximity to Durgāpur city with its industrial complex. It sprawls over an area of 2.77 sq. kms.

ĀRRĀ — A village (J. L. No. 91/54) in Kānksā police station, it is situated on the road, leading to the Ajay *via* Malandighi, from the Grand Trunk Road. It had a population of 1,417 in 1971 and an area of 377.09 hectares. An old temple of Siva named Radhesvar or Kalesvar is situated at this place, and it is believed that it was established by a Sena king. Some think that it was built by the Sadgop kings of Gopabhūm.

ĀSĀNSOL (87°58'E 23°40'N) — A municipal town with an area of 10.44 sq. kms. is headquarters of the subdivision of the same name. It had a population of 2,41,972 in 1971. The municipality here was created in 1896, and the Subdivisional office, previously located in Rāniganj, was shifted to this place in 1906. It became an important town because of its location in the heart of the coal-mining belt and its position as the junction of the Eastern and the South-Eastern Railways along with their numerous offices, colonies, etc. The Grand Trunk Road runs through the town which is spread over both sides of the road. The town was an important centre for missionary activities in the past and still has some Christian missionary institutions.

BĀGNĀPĀRĀ (88°20'E 23°14'N) — A railway station on the Barharwa-Katoya loop line of the Eastern Railway, the place is sacred to the Gaudiya Vaishnavas, being the native place of Bāṁsivadan and Rāmāi Thākur, the two Vaishṇava doyens of the days of Srīchaitanya.

Legends say that the village derives its name from the cursed Vyāghrapāda *muni* who used to meditate at this place. The curse on the *muni*, who resembled the tiger because of the curse, was dispelled after prolonged meditation. Another legend derived from the book named *Baṁśisikshā* says that earlier the place was covered with woods infested by tigers.

Rāmachandra Gosvāmī, the ancestor of the Gosvāmīs of the place, is said to have tamed the tigers by uttering the name of Hari, and hence the name of the village Bāgnāpārā, a village without tigers.

It is said that one Rāmachandra brought the deity of Baladeva from Vṛindāvana and established it in this village forty-seven years after the demise of Srīchaitanya, that is, towards the end of the 16th century. In the Bengali month of *Māgh*, worship of the deity is held with great pomp. Gopeśvar Śiva, another deity, is also there in the village whose worship with great ceremony takes place in the Bengali month of *Chaitra*.

BAIDYAPUR (88°15'E 22°08'N) — A village (J. L. No. 128) in Kālnā police station, it had a population of 3,002 in 1971. It has an old *rekha* temple (circa A.D. 1598) with profuse terracotta plaques on it.

BARĀKAR (86°20'E 23°45'N) — An important industrial and business centre (J. L. No. 30), it is situated on the river Barākar, in the Kulti police station in Asansol Subdivision. It has an area of 3.24 sq. kms. and had a population of 14,624 in 1971. There are a number of old temples here which are famous for structural and sculptural beauty and historical associations. One of the temples is found to be in ruins, while four temples still stand. J. D. Beglar opined that the ruined one belonged to the 6th-7th centuries A.D., and that two of the remaining temples can be compared favourably with the Telkupi temples on the river Dāmodar in the Puruliyā district. As Telkupi is said to have had Jain influence, these two temples here may have had similar influences too. An inscription engraved on one of the temples says that it was erected by one Hariśchandra. Of the remaining two temples, one houses a fish-icon in a reclining position along with five Śiva *liṅgams*. The other one houses a Śiva *liṅgam* along with the icons of Gaṇeśa and other gods and goddesses. This latter temple is famous for its architectural and sculptural beauty. It has the shape of a brinjal (*Begun*) and hence it is locally called Beguniā temple. The top of the temple tapers upwards and hence its name after brinjal. The *āmalaka* is concave shaped, and does not take after the Orissan convex type; and the temples typically represent the *rekha deul* pattern.

The temples were perhaps erected by Hariśchandra, the king of Gopabhūm, who as one epigraph says, dedicated a temple to Siva in the name of his beloved queen Haripriyā in 1382 *saka era*. The other epigraph says a Brūhmin, Nanda by name, and his wife repaired the temple. The first inscription has similarities in palaeography with the *Srīkrishnakīrtana* of Baḍu Chandīdās, and the latter with *Dharmapujāvidhi* of Raghunandan.

BARDDHAMĀN (87°51'E 23°14'N)—The district headquarters, it is situated on both banks of the Bānkā river, and the Dāmodar river flows nearby. It is on the main line of the Eastern Railway. It had a population of 1,43,318 according to the Census of 1971. The name of the town first occurs in a chronicle of 1576, in which year it was occupied by Akbar's troops after the defeat and death of Daud Khan at Rājmaḥal. The memorial of Pir Bahram in the town is worth visiting. Pir Bahram, then named Shah Wardi Bayat, was born in the town of Tabriz in Persia towards the end of the fifteenth century. In his early years, he was the governor of three provinces of Persia and gave shelter to king Humayun when he was ousted by Sher Shah from India, but later he became interested in religion. He used to supply water to pilgrims, and took the name of Pir Bahram Sakka. Later, he came over to India and halted at Agra and emperor Akbar took fancy upon him, but as the king's courtiers became jealous, he left for Barddhamān and took his residence at the site where his burial stands now. A Hindu *yogi* named Jaypāl became his friend and follower. The Pir died in A.D. 1562-63 and it is said that Akbar granted a *jāgir* of an annual income of Rs. 14,000 for the maintenance of the tomb. This town was also the country residence of Sher Afghān, the first husband of Mehr-un-nissa, later Nur Jahan, the queen of the emperor Jahangir. He was a Turk Jāgirdār of Barddhamān. Sher Afghān was treacherously done to death in the suburbs of the town by Outbuddin, the Subāhdār of Bengal, who was the foster brother of Jahangir. Outbuddin also lost his life in the encounter (A.D. 1607) somewhere near the Barddhamān Railway Station, and the graves of both of them are located in the town. In 1624, while rebelling against his father Jahangir, the town was again besieged and conquered by prince Khurram, who became the emperor Shah Jahan. The Barddhamān Rāj was established towards the end of the seventeenth century. In 1689, by a *firman*

of emperor Aurangzeb, Krishnaram Rāi became the zamindār of Barddhamān. He dug a big tank here which is still called Krishna Sāgar. In 1696, Sobhā Singh, the zamindār of Chetuā and Baradā (of Chandrakonā division of Ghātāl in the Medinīpur district), killed Kṛishnarām in course of his encounter with the latter. The latter had gone to check the rapacities of Sobhā Singh on the borders of Barddhamān. Sobhā Singh captured Barddhamān and allying with Rahim Khān, the Pāthān Sardār of Orissā, captured large tracts of land on the western bank of the Gaṅgā. Sobhā Singh had also captured the members of the household of Kṛishnarām and his ignominious approaches towards Satyavatī, the princess, resulted in his death at her hands and her suicide thereafter. Rahim Khān assumed the title of Rahim Shāh and continued his ravages in the area and was later killed in the suburbs of Barddhamān in an encounter with Azim-us-Shan, the new Subāhdār of Bengal. Azim-us-Shan lived in the town of Barddhamān for three years and the famous *Jumma* mosque in the *purānā chawk mahallā* of the town was built during his time. Some old buildings appertaining to the palace like Golāpbāg, Dilkhusā (a zoological garden during the Mahārāja's time) now house the Barddhamān University. A big gate named Vijay Toran by the side of the Grand Trunk Road was built by Raja Vijay Chand when Lord Curzon, the Viceroy, visited the town. At Nawābhāt on Barddhamān-Talit Road there are 108 concentric *āt-chālā* type of Siva temples. These were built by Mahārānī Vishṇukumārī in A.D. 1788. There are some other places worth visiting in the town, namely, Rāṇīsāgar, a big tank dug about A.D. 1709 by Rani Brajakīśorī. A two-mile circular mound called Tālitgarh on the Barddhamān-Talit Road, which is now an inhabited area, once had mud-walls and a surrounding moat. It is said that during the ravages of the Maratha raiders in the middle of the eighteenth century the household of the Barddhamān Rāj took shelter within this fort.

KĀNCHANNAGAR—It is a small village situated close to Barddhamān. There is a *jor-bānglā* type of temple with slight terracotta ornamentation at present housing the icon of Kaṅkāli. It is famous for the traditional craft of cutlery. It is said that a kind of silk cloth named *Agniphulī* used to be woven here in the past. Govinda Das, the author of the Vaishṇavite *Kaḍchā*, is said to have been a resident of this place.

BHALKI (87°38'E 23°28'N) — A village (J.L. No. 101) situated in Ausgram police station, is said to have been the seat of a *rishi* named Bhallupāda. There are the ruins of an ancient tomb here with two rounded stone pillars which are about 4 ft. in height. It had a population of 1,669 in 1971.

BILLEŚWAR RASUI (88°02'E 23°39'N) — A village (J.L. No. 75) in Ketugram police station with a population of 2,323 in 1971, it is the seat of Bilveśvara Śiva, the consort (Bhairava) of the goddess Phullarā Attahāsa of Maliha (J.L. No. 75), a Śākta Pīṭha, where a part of the lips of Sati fell.

BOHĀR (88°12'E 23°16'N) — A village (J.L. No. 93) with a population of 4,734 in 1971 in Memārī police station, it became famous for Islamic culture after the Muslim conquest of Bengal. It has an old mosque. There was a residential institution here to impart Islamic teaching in Arabic and Persian. Muslim students used to flock to institution in those days. There was also a famous library in the university which has now been shifted to the National Library, Calcutta where it is called the Bohār Collection.

BORA (87°49'E 23°04'N) — A village (J.L. No. 57) with a population of 663 in 1971 in Rāinā police station, it is famous for the worship of Balarāma, the village deity. The icon is made of wood and is about 12 feet high. It is in a standing posture with fourteen hands and a canopy of snakes on its head. It is renovated at intervals. It seems that the icon dates from the 16th-17th century A.D. A hand of the deity holds a plough. Some say that the deity is another form of Viṣṇu and has combined Hindu and Buddhist iconographic concepts, and it has also been called Lokeśvar Viṣṇu. The *gājan* festival of the deity takes place in the Bengali month of *Vaiśākha*.

BURNPUR (86°57'E 23°40'N) — An industrial town, about 3 kms. south-west of Asansol. It has the works of the nationalized Indian Iron and Steel Co. and the Indian Standard Wagons Co. It has

a decent residential area with modern amenities. It had a population of 28,924 according to the Census of 1971.

CHITTARANJAN (87°55'E 23°53'N) — Situated 225 kms. by rail and 256 kms. by road from Calcutta, it has grown around the former villages of Mihijam, Sundarpahari, etc. Named after Deshbandhu Chittaranjan Das, it is famous for the Chittaranjan Locomotive Works. At present, it produces about 200 locomotives a year. It also produces electric locomotives. It had a population of 40,736 according to the Census of 1971.

The present site was selected for development in 1947, the town covering an area over 11 sq. kms. The covered area of the works is 8,80,000 sq. ft., and with the shops and offices over a million sq. ft. The works area is protected and an entry permit is required to visit it.

The town, built at a cost of about Rs. 14 crores, has picturesque undulations where houses can be seen to be set up tier upon tier. The bracing climate of the place makes it a health resort. Prasanta Pavilion, named after the first General Manager of the works, is located atop the Mihijam Hill providing a panoramic view of the works and the town. Facilities for swimming, tennis and golf are also provided for visitors. Chittaranjan House provides board and lodging to visitors. Lodging is also available at Mihijam House.

CHURULĪĀ (87°04'E 23°46'N) — A place (J.L. No. 6) in Jamuria police station with a population of 4,810 in 1971 and served by a railway station on the Andal-Sainthia section of the Eastern Railway, it has the ruins of an old stone fort called *Rājā Narot-tamer garh*. Nothing is known about the said Rājā. According to Oldham the fort was first built by the kings of Pañchakoṭ. This is also the birth place of Kazi Nazrul Islam, the Bengali poet.

DĀINHĀT (88°11'E 23°36'N) — A municipal town (J.L. No. 90), it has a railway station on the Barharwa-Katoya loop line of the Eastern Railway, the village (J.L. No. 90) of the same name is about 4 kms. away. It is within Kāṭoyā police station. It is a sacred place for the Gauḍiya Vaiṣṇavas, being the seat of the Vaiṣṇava sage Mukunda Ghosh, the son of Basudeva Ghosh. There are also the seats of Gadādhara Bhāskar, Nayan Bhāskar and Gayan Mukunda Dutta at this place. It is said that

Barṁśivadanānanda Ṭhākura had also a seat here. One may come across godlings Ghoserśvar in Ghoshhāt, Pātaichandī in Pātāihāt and Ekāichandī in Ākaihāt on way to Dāinhāt from Kātoyā, a distance of about 7 kms. Perhaps, these deities recall the days contemporaneous with Śrīchaitanya when worship of folk-deities was prevalent in the region and Śrīchaitanya had to take great pains to spread Vaishṇavism among the people there. There is an abandoned Śiva temple here with its archway and side panels having some terracotta decorations. There is also the tomb of Badar Shāh here, the entrance to which is marked by carvings supposed to have been taken from the remains of a Hindu temple.

It is also famous for its sculptors who used to carve stone icons of gods and goddesses. The stone carving still provides a vocation for a number of families here.

DĀMINYĀ (87°54'E 22°01'N) — A village (J.L. No. 200) in Rāinā police station, it had a population of 2,017 in 1971. It was the birthplace of Mukundarām Chakravartī, the Bengali poet of the sixteenth century who wrote the *Chandīmaṅgal*. Many of the descendants of the poet now live at Chhoṭa Bainān (J.L. No. 167), a neighbouring village. Chandī, the deity, said to have been worshipped by the poet, is housed by turn by the descendants of the poet spread over different villages. Mukundarām had to leave his home under political pressure, the details of which have been given in his book.

DENUR (88°09'E 23°26'N) — A village (J.L. No. 66) in Manteśwar police station, it had a population of 2,085 in 1971. It was the seat of Keśava Bhāratī, the preceptor of Śrīchaitanya. Vrindāban Dās, the author of *Chaitanya Bhāgavata*, Śrīchaitanya's biography, is said to have composed his work at this place. The village has some beautiful huts with well-proportioned thatches. The old village deity was perhaps Dendureśvar or Dineśvar Śiva; and inside the Śiva temple there is still an old icon of Chandī called Vikrama Chandī. In the temple of Vrindāban Dās there is an icon of Mahishamardīnī along with the images of Gaur-Nitāi. The place was possibly a seat of Śākta culture prior to its Vaishṇavite phase.

DEULE OR SAT-DEULIA (88°03'E 23°09'N) — A village (J.L. No. 137) in Memāri police station, it had a population of 2,024 in

1971. The place is 3 kms. to the east of the Dāmodar river. The Eden Canal which is said to have once been a bed of the Dāmodar, flows by the south of the *sikhara* temple here, is considered similar to the Bahulārā (Bānkurā) and Jatar Deul (Sundarbans) temples and seems to be much older than the Bahulārā temple. This brick temple is said to be existing from the eleventh century and has profuse and beautiful stucco work on its carved bricks. The temple is in ruins.

DHĀTRĪGRĀM (88°19'E 23°16'N) — A village (J.L. No. 87) with a railway station of the same name in the Eastern Railway, it is within Kalna police station and had a population of 3,049 in 1971. At one time, many Brāhmin pundits used to live here, of whom Krishnakānta Bhattāchārya wrote *Satyanarain Panchali*. Satyabrata Sāmāśramī, a researcher on the *Vedas*, was also born here.

DISHERGARH (86°50'E 23°41'N) — Situated at the confluence of the Dāmodar and the Barākar rivers and sprawling over an area of 481 sq. kms. with a population of 10,084 according to the 1971 Census, in Kulti police station, its (J.L. No. 39) former name was Dihi Shergarh. It is the headquarters of the Indian Mining Association and itself is a mining village.

DURGĀPUR (87°20'E 23°30'N) — A Subdivisional headquarters, it is an industrial settlement with a population of 2,06,638 in its urban area of 1,542 sq. kms. according to the Census of 1971. It has a station of the same name on the Eastern Railway. A few decades ago it was covered with *śāl* forest. The rural face of the area changed into the present industrial complex of several public and private enterprises owing to its proximity to the coal-fields, mineral belts, Grand Trunk Road, the Eastern Railway and Calcutta, availability of power from the Damodar Valley Corporation and water from the Durgapur Barrage. The 2,271 ft. Durgapur Barrage on the Damodar river here is a tourist attraction. The Durgapur Notified Area Authority renders municipal services to the area and the housing estates of the industrial units located here. Some of the industrial units here are the Durgapur Coke Oven Project

Ltd., Coal Mining Machinery Plant, Durgapur Chemicals Ltd., etc. in the State Government sector; the Durgapur Steel Plant, Alloy Steel Project, Mining and Allied Machinery Corporation, etc. in the Central Government sector; Durgapur Thermal Power Station, Durgapur Barrage, etc. in the DVC sector and ACC-Vickers-Babcock Ltd., etc. in the private sector. There is a Tourist Lodge located here.

EKCHĀKĀ (88°21'E 23°11'N) — A village (J.L. No. 192) in Kalna police station with a population of 1,069 in 1971, it is situated about 3 kms. from Kālnā, on the road leading to Pandua. Like another village of the same name in Birbhum district, it claims to be the birthplace of Nityananda, a close associate of Śrī Chaitanya. The *khol*s (musical drum) of the Vaishṇavite *kīrtana-singers* are said to be made here with the mixture of earth of different varieties. It was once famous for copper crafts.

GANRUI (86°57'E 23°43'N) — A village (old J.L. No. 3) in Asansol police station, it had a population of 747 in 1961. It has a stone temple of the Bengal hut type. It is a part of the Sen-Raleigh township.

GAURĀNGDI (86°57'E 23°48'N) — A place on the Ajay, it is situated in the Barabani police station and is famed for its coal industry. It has a railway station of the same name on the Andal-Gaurangdi branch of the Eastern Railway.

GODA (87°50'E 23°16'N) — A village (J.L. No. 41) in Barddhamān thana, it is said to have been the capital of a legendary king Gadādhara's kingdom and a few mounds spread over here are considered to be the relics of the palace of the said king. It had a population of 1,024 in 1971.

GOURĀNGAPUR (87°27'E 23°36'N) — An old village (J.L. No. 28) belonging to Vishnupur *mauza* along with two others, Dāmodarpur and Kherwāri, in Kānksā police station, it is situated by the Ajay river, 5 kms. to the west from Satkāhaniā on the Pānāgarh-Illāmbāzār road. It has the temple of Ichhāi Ghosh, a scion of the Sadgop kings of Uttar Rādhā in Gopabhum who is said to have been killed in battle by a Rājā called Lāusen. This brick-built temple is of the ancient *rekha* type of a period when

that type was being replaced by other types of temple architecture. Some consider Lāusen to be Rājā Chitrāsen Rāi of Barddhamān who conquered Gopabhum — the area in which the present place is located — in the middle of the 18th century. Ichhāi Ghosh is sometimes identified with Īśvar Ghosh of Dhekkari or Dhekur which was the capital of the local kings of Gopabhūm; and Pratāp, a king of this family, had helped king Rāmapāla in the rescue of his kingdom in Varendrabhūmi (North Bengal) according to the *Rāmācharitam* of Sandhyākar Nandī. It is said that the king, a devotee of goddess Bhabānī, constructed the temple of Bhabānī at Trishashthī Garh or Dhekur near a place called Syāmārupār *Garh* between Vishnupur and Kherwāri villages, but no relics of the temple can now be found there except a few brick mounds covered with jungle and the fort at Kherwāri (J.L. No. 27) called Garh Killā Kherwāri, situated close to and west of Gourangapur on a small table land facing the Ajay. It was constructed by Rājā Chitrāsen Rāi to overawe the people of the area. It had a cannon with his name in Persian characters deeply engraved on it. This is known as Bistupur Syāmārupār *Garh* and is approachable from Malandighi which is about 10 kms. north-east off Grand Trunk Road. There is a superb metal *ratha* at Bankāti (J.L. No. 33), about 2 kms. east of Gourāngapur.

GUSKARA (87°45'E 23°28'N) — A Block headquarters, it has a station of the same name on the Sahibganj loop line of the Eastern Railway. This non-municipal town with an area of 4.87 sq. kms. had a population of 10,046 in 1971. It is an important rice mart with several rice mills located here. During the days of the East India Company, there was an indigo factory near here on the bank of the Kunur river.

JAMURIA (87°05'E 23°43'N) — Thana headquarters (J. L. No. 21) of the same name in the Asansol Subdivision, it is a centre of coal industry and is a noted trading centre. This non-municipal town with an area of 6.22 sq. kms. had a population of 9,632 in 1971.

JHĀMATPUR (88°08'E 23°44'N) — A village (J.L. No. 99) in Ketugram police station near Jhamatpur-Baharanpur station, 157 kms from Haora, on the B.A.K. loop of the Eastern Railway, it has

the seats of the Vaishnava personages like Krishṇadās Kavirāj Gosvāmī and Minketan Rāmdās. It is 3 kms. from Salar railway station, and 5 kms. from Gaṅgāṭikuri, another railway station. It is the native place of Krishṇadās Kavirāj Gosvāmī, the author of *Chaitanyacharitāmṛita* who was born in a family of *Vaidyas*. His father was a physician who died when Krishṇadās was only six years old. It is said that at the call of Śrī Nityānanda in a dream, he left for Vrindāvan where he spent his life till death. The places of interest in the village are: the temple housing the icon of Gour-Nitāi; the wooden slippers of Krishṇadās Kavirāj; an old and tattered manuscript; the footprints of Nityānanda in a small temple where, it is said, Nityānanda appeared in a dream to Krishṇadās Kavirāj, etc. The village had an area of 138.39 hectares and a population of 1,062 in 1971.

KĀLNĀ (88°21'E 23°13'N) — A Subdivisional headquarters town, it had a population of 28,594 in its municipal area according to the Census of 1971. The presiding deity of the town is the goddess Ambikā who is said to be a Jain deity of the past merging into the concept of Śakti of the Hindus. The position of the presiding deity is now assumed by Siddheśvarī, represented by an icon of Kālī with four hands. The Vaishnava poets called this place Ambuā and the name has been so mentioned in the *Chaitanyabhagavata* of Vrindāban Dās. Nityānanda, the associate of Śrī Chaitanya, travelled through this area. It is said that Śrī Chaitanya took rest for some time at Tentultala here. There are three ruined mosques of Turko-Afghān period, situated at Saspur, 2 kms. from the main town. Many of these structures were made of materials gathered from older Hindu temples. A tank nearby named Majlis Saheb Ki Dighi was dug by an Afghān chief. He dug another tank near Kālnā Mission House. Incidentally, Majlis Saheb and Badar Saheb were two brothers who came to spread the creed of Islam. They have become *pīrs* and their tombs or *dargās* are considered sacred. Of the three mosques at Kālnā, one is said to have been built during the reign (A.D. 1490-91) of Nasiruddin Mahmud Shah II, one during the reign of Alauddin Abul Muzaffar Firoz Shah II, the son of Nasrat Shah and grandson of Hussain Shah in 1533 and another in 1560 during the reign of Abul Muzaffar Bahadur Shah. The big-size mosque of 1533 is called Masjid-i-Jamia and was actually built Ulug Masjad Khan Malik, the minister and commander-in-chief of Muzaffar Firoz Shah. The

Bardhaman Mahārājās are said to have built the road from Bardhaman to Kālnā to be able to bathe in the Gaṅgā. They also constructed several temples. Mahārājā Chitrasen constructed the Siddheśvarī temple in 1740. The temple is of *jor-bāngla* type. A Śiva temple situated within the precincts of the Siddheśvarī temple, was erected by the mother of Mahārājā Tilakchand in 1764 and another by Rāmdeb Nāg, the famous minister of the kings in 1747. The group of 108 Śiva temples were also built by Maharaja Tejchand in 1809. These Śiva temples are arranged in concentric circles, the outer circle having 66 temples with alternate black and white *lingams*, and the inner circle having 42 temples containing only white *lingams*. There is also the 109th temple standing outside the temple grounds. The Palace of the Bardhaman Rāj has a Śiva temple with carved brickwork, two temples dedicated to Krishna and some smaller temples. The Samāj Bādī contains the tombs of the Mahārājās and Mahārājis of Bardhaman and is attached to the palace. The present residence of the Subdivisional Officer on the Bank of the Gaṅgā was a former indigo factory. The town was an early seat of Sanskrit learning and some of the renowned Sanskritists of the 19th century like Taranath Tarkavachaspati, Śrī Rām Nyāyabāgīś, Durgadas Nyayaratna, Ayodhyaram Vidyabāgīś and others, flourished here.

KALYĀṆEŚVARĪ (or Devīsthān) — A place (same as Debipur, J. L. No. 1 in 86°50'E 23°47'N) in Kulti P.S., it is situated about 6 kms. from Barākar on the left bank of the river of the same name and at the entrance of the Māithon Dam. The place is named after the deity of the same name, who is said to have been the focal point of *tantra* form of worship in the past. There are three east-facing temples at this place. The main temple houses Kalyāṇeśvarī. The legend goes that the deity once by mistake ate up the priest's daughter who went to her in the evening to light a lamp. Realizing her mistake, the deity turned her face backwards as it is to be seen now. There are some inscriptions in old Bengali script in two of the temples. The temples appear to be built of old materials and show that even at a very late period the horizontal arch as in the entrance archway of the enclosure was used.

KĀNKĀ (87°27'E 23°27'N) — A police station (J. L. No. 86) in the Durgāpur Subdivision comprising an area of 866.41 hectares

and a population of 6,592 in 1971, it is said to have been the capital of the kingdom of a scion of the Sadgop kings of Amrāgarh. There are many relics of the past, namely, Kāṅkeśvar Garh, Śiva temple and king's mosque at this place. Figures of Hindu deities made of black basalt are occasionally found in the tank below the Garh. Hindu architecture may also be traced in the ruins of the king's mosque near the Garh. The Muslim rulers conquered the place in the 14th century A.D. and thereafter it became a centre of Muslim culture. Being situated at the meeting point of the Grand Trunk Road and Bolpur Road, the place has attained considerable importance. An air-strip was constructed near this place during the Second World War.

KANYĀPUR (86°57'E 23°44'N)—A small village (J. L. No. 32) in Barabāni police station a few decades back, it is now an industrial centre, having the factory of Sen-Raleigh Cycle Co. It has an area of 198.51 hectares and a population of 839 according to the Census of 1971.

KASBĀ (87°32'E 23°22'N)—A village in Galsi police station, it also goes by the name of Kasbā-Champāi. Tradition says that Champāi, the capital of the kingdom of Chānd Sadāgar of the *Manasāmaṅgal* was located here. Two mounds (about 120 ft. × 30 ft. each) are shown as the ruins of the palace of Chānd Sadāgar and the Sāntāli hill associated with the name of Lakshīndar, his son. Atop the mounds there are broken pieces of stones and bricks. There is also a Śiva temple here and the *liṅgam* is traditionally believed to have been established by Chānd Sadāgar.

KĀTOYĀ (23°39'E 88°08'N)—A Subdivisional town, it had a population of 28,822 in 1971. It is situated at the confluence of the Bhāgirathī and Ajay rivers. It is a pilgrim centre for Vaishṇavites. Śrī Chaitanya embraced the life of a *Sannyāsin* here on being ordained by Keśava Bhāratī. The temple of Mahāprabhu Śrī Chaitanya (Gourāṅgabāḍī) includes spots hallowed by the memory of Śrī Chaitanya and his well-wishers. Its strategic position on the river routes drew the attention of the early Muslim rulers of Bengal and it was one of their earliest seats. During the raid of the Mārāṭhā invaders in the eighteenth century, it was considered to be the gateway of Murshidābād and Ālivardī Khān, the Nawāb of Bengal, made the fort his centre for launching counter attack on the Mārāṭhās.

In A.D. 1742, the Nawāb defeated the Mārāṭhā raiders in a fierce battle outside the fort. There is not much of the remnants of the fort now, but a mosque built by Jāfar Ālī Khān, better known as Murshid Kuli Khān, the Subāhdār of Bengal (1702-25), still exists. In 1757, Clive reached this place along the west bank of the Bhāgirathi from Calcutta and under his orders Major Coote took over the fort which became the chief centre of his activities. Clive crossed the river from here to fight the Battle of Palāshī.

KETUGRĀM (88°04'E 23°42'N)—The headquarters of the police station of the same name (J. L. No. 85) having an area of 849.52 hectares and a population of 4,945 according to Census of 1971, it is a Śākta Pīṭha where the Sati's left arm is said to have fallen and was a seat of *tāntric* worship in medieval times as evidenced by the temple of Behulā located here. The icon is made of black basalt with the icons of Kārtick and Gaṇeś on the left and right respectively. It is said that king named Chandraketu first established the icon of Behulā.

KOGRĀM (87°54'E 23°32'N)—Also called Ujānī, this village (J.L. No. 58) with a population of 168 in 1971 is situated at the confluence of the Kunur and the Ajay in Moṅgalkote police station and can be reached by a motorable road between Barddhamān and Nutanhāt, and by crossing the latter in a river-ferry. It can also be approached by road from Guskarā, 16 kms. away. It is the native place and has a tomb of Lochandās Thākur who wrote *Chaitanyamaṅgal*, depicting the life of Śrī Chaitanya. It is a Śākta Pīṭha where the Sati's right elbow is said to have fallen. The deity, cast in brass, is called Sarva-mangala and her Bhairava is Kapilambar, made of black basalt. Kumudranjan Mallick, the Bengali poet, belonged to this village.

KOṬSIMUL (87°56'E 22°02'N)—A village (J.L. No. 208) in Rāinī police station, it had a population of 943 in 1971. It is situated on an old tributary of the Dāmodar named Kaki or Kāṇā Dvārakeśvar. The ruins strewn over the place suggest that there was a *kot* or fort here in the past.

KSHIRGRĀM (88°02'E 23°30'N)—A big village (J.L. No. 128) with a population of 2,734 in 1971 in Mongalkote police station, it is situated a little distance away from Kaichar railway station on the Barddhamān-Katoya branch of the Eastern railway. The village

is named after Kshir Bhabani, the deity which has another name, Jogadyā. The icon is kept immersed in the pool nearby throughout the year, and is worshipped once after raising her from the waters. A fair is held in the village on the occasion of such worship of the deity. The typical folktale narrating how Jogadyā appeared before a maker of conch-shell bangles on the bank of the big tank here is also current in the village. It is a Śākta Piṭha and the Sati's left breast is said to have fallen here. The Bhairava of Jogadyā is called Kshīrkhandak.

KUCHUT (88°03'E 23°14'N) — A village (J.L. No. 33) in Memari police station, it had a population of 2,541 in 1971. There is a big *pañcharatna* temple of Lakshmīnārāyaṇa here, called Kuchut Kaleśvar (J.L. No. 20).

KULINGRĀM (88°06'E 23°06'N) — A village (J.L. No. 118) in Abujhātī Anchāl of Jāmalpur police station with an area of 802.94 hectares and a population of 4,398 according to the Census of 1971, it is located at a distance of about 5 kms. from Jaugram station on the Eastern Railway (Haora-Bardhamān Chord line). It is the native place of Mālādhār Basu, the writer of *Śrīkrishṇavijay*, who was given the title of Guṇarāj Khān by Barbaq Shāh (A.D. 1459-74) of Gaud long before the advent of Śrī Chaitanya. *Śrīkrishṇavijay* helped in the growth of the Bhakti workshop before Śrī Chaitanya in Bengal. The most renowned temple of the village is the temple of Sri Madan Gopāl. It has the usual deities within, namely, Madan Gopāl, Radha and Lalitā. It has some other stone icons said to be worshipped from the days of Śrī Chaitanya. The tank named Gopāl Dīghi is situated by the temple. There is also a temple of Gopeśvar Śiva near by. According to a tablet on its wall, the temple was repaired in A.D. 1744. There is also the image of a bull in black basalt — 1½ cubits long and 1 cubit high — in front of the temple. An inscription on its neck says that it was consecrated by Satyarāj Khān (15th century). The place of worship (*bhajanasthān*) of Śrī Haridās Ṭhākur, the famous contemporary of Śrī Chaitanya, is situated about a quarter of a mile from the aforesaid temple. The locality is called Gaṅgārambati and is shaded by many big Bakul trees. There is also a big banyan tree here, seated under which, it is said, Haridas Thakur used to chant his *mantras*. A small temple was constructed here in A.D. 1811. There are also the temples of Śivānimātā (dating

from *circa* A.D. 1041), Jagannāth, Raghunāth, etc. at this place. Though hallowed by Vaishnavite culture, it has several Sivaite spots, showing the simultaneous and peaceful existence of the two streams of worship. That this place rose to high eminence as a seat of Vaishnava culture is attested by the utterances of Śrī Chaitanya as noted in the *Chaitanyacharitāmrita* of Śrī Krishṇa Dās Kavirāj: "The Lord says that even a dog of Kulingram is more endearing to me than others." (Ibid., 10.82). The sayings of Śrī Krishnadās Kavirāj, the poet is also illuminating in this regard: "Kulingram is lucky; even the Dom rearing pigs sings about Krishna." (Ibid., 10.83).

KULTI (86°51'E 23°44'N) — Is an industrial non-municipal township with an area of 7.90 sq. kms., it has grown centring upon the Indian Iron and Steel Company which has been taken over by the Government of India. It had population of 29,665 according to the Census of 1971.

KURMUN (87°48'E 23°17'N) — An old village (J.L. No. 150) in Galsi police station. There is a temple here of Isāneśvar Śiva with a beautiful icon of Indrānī. It is said that the Emperor Shah Jahan built a mosque at Fakirdāngā, close by, which is now in ruins. It had a population of 1,437 in 1971 in an area of 198.66 hectares.

MĀNKAR (87°34'E 23°26'N) — A village (J.L. No. 37) in Bud Bud police station and having a railway station of the same name on the main line of the Eastern Railway, it had a population of 4,505 in 1971 in an area of 747.67 hectares. The great logician (*naiyāyik*) Raghunāth Śiromani who was a contemporary of Śrī Chaitanya, was born here. It was famous for its textiles in the middle ages and its silk (*cheli* and *tasar*) had a great renown. A number of weavers and goldsmiths lived here in those days. The weavers then used to produce a kind of cloth called *Kutuni* which had silk designs on one side and cotton designs on the other. They also produced *mugā* thread used as fishing line. The blacksmiths of this place prepared moulds for ornaments in those days. The *tāmbulis* of this place once made fortune through rice trading and built several big houses, most of which are now in ruins. This place was also known for its special brand of tobacco. The village deity Manakeśvar Śiva reminds one of Śaiva influence. There is also the temple of Anandamayi,

symbolizing Sakti, which was the family goddess of the Baidya Kavirājas of this place. One Rāmānanda Gosvāmī founded the Bara Kālī deity worshipped in *tāntric* mode. The other similar goddess is called Pañchakālī here. Bhaktalāl Gosvāmī, the *guru* of Kīrtichandra and Chitrasena, the Mahārājas of Bardhamān, founded the temple of Rādhāballabh at this place. The *pandits* of Sanskrit studies of this place included Madanmohan Siddhānta, Gadādhara Śiromaṇi, Nārāyaṇ Chuḍamani, Yādavendra Śārvabhauma, Kailāsnāth Bhattacharya, Ayodhyānath Bhattacharya, *et. al.* Uttam Bhattacharya, the *guru* of Dewān Gangāgovinda Sinha also lived here, and there are two tanks here named after him and his wife — Uttam *sāyar* and Thākrun *sāyar*. The place is also renowned for its big-size *kadmās* (a kind of hard condiment made of congealed sugar).

Raghunāth Śiromaṇi, the great *Nyāya* scholar, is said to have been born at Kota, a neighbouring village. Rūpamanjarī, a woman scholar of the eighteenth century, was also born here and her *chatuṣpāthī* here was famous for its noble work at that time. A neighbouring village Maro (J. L. No. 9) with a population of 1,431 in 1961, is the birthplace of Raghunandan Gosvāmī who lived in the early nineteenth century. He wrote at least 35 Sanskrit and Bengali texts on subjects like good conduct, cure of diseases, rhetoric, etc.

MANTEŚVAR (88°06'E 23°25'N) — A thana headquarters (J. L. No. 41) of the same name and a big village, is situated in the Kālānā Subdivision. It had a population of 4,980 in 1971 and an area 791.48 hectares. The river Khari flows close by the village. A number of deities are there, namely, Mukteśvar Śiva, Chāmuṇḍā, Siddheśvarī, Dharmarāj, etc. The festival in connection with the worship of Chāmuṇḍā is most colourful. Some say that the deity traces its origin from Buddhism. The festival, however, is of the folk type and is held during the brighter half of the Bengali month of *Baiśākh*. Animal sacrifices form a part of the festival.

MEMĀRĪ (88°07'E 23°10'N) — A thana headquarters (J. L. No. 152) of the same name, it is an important trading centre and a non-municipal town with an area of 6.06 sq. kms. and a population of 11,046 in 1971. Formerly, it was famous for

cotton and silk weaving. It is a station on the Eastern Railway and is also connected by Grand Trunk Road.

MOṄGALKOṬE (87°54'E 23°32'N) — A thana headquarters (J. L. No. 64), in Kālānā Subdivision, it had a population of 6,099 in 1971 over an area of 1,875.51 hectares. The name of one Chandrasen was found in an inscription set in the mosque of the days of Hussain Shāh (A.D. 1439-1519) at Nutanhāt, the neighbouring village. Moṅgalkoṭe has also been referred to in the writings of Mukundarām Chakravartī, the Bengali poet of the medieval times.

It was a great Muslim settlement and there are several ruined mosques in the village and its environs. There are many tombs of *fakirs*, the chief one being that of Danesmand who lived in Aurangzeb's time. The principal ruins are — the tomb of five *gāzīs* called Golam Panjatan, the mosque of Koar Sāheb, the mosque and the tomb of Maulānā Hāmid Danesmand Bangali, and the mosque of Hussain Shāh. The place was a seat of learning for the Muslims and a centre of Muslim culture in the past.

NADANGHĀṬ (88°15'E 23°22'N) — A place (J. L. No. 166) in Kālānā Subdivision and within Purbasthālī police station, it is situated on the Khari, 16 kms. away from the confluence of the Khari and the Bhāgirathī. It is an important trade centre dealing in rice, jute, molasses, etc.

PĀṆḌAVEŚVAR (87°16'E 23°43'N) — Situated on the bank of the Ajay, it is 19 kms. from Rāṇiganj, along Rāṇiganj-Suri Road. There are a number of small Śiva temples here, and the legend goes that the Paṇḍavas of the *Mahābhārata* lived here while staying incognito, and that they build the five Śiva temples which, however, do not appear to be very old. The place can also be reached from Andal. It has a station of the same name on the Andal-Sāinthiā branch of the Eastern railway, though the village is called Baidyanāthpur (J. L. No. 5), in Faridpur police station, and had a population of 4,972 in 1971 in an area of 242.00 hec.

PATUN (88°07'E 23°27'N) — A village (J. L. No. 46) with a population of 1,089 in 1971, in Manteśwar police station, in an area of 268.64 hectares; it has a Śiva temple, the deity being

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named Patanjaliśvar or Patuneśvar. It is said to have been an atelier of sculptors as evidenced from a large number of icons of Jain Tirthaṅkar, Avalokiteśvar, Dharma Thākur, Gaṇeś, Śiva, etc. strewn all over the area.

PĀTULĪ (88°17'E 23°34'N)—A big and ancient village (J. L. No. 17) on the bank of the Bhāgirathī, it is located in Pūrbas-thalī police station. The village is connected with the station of the same name on the Eastern Railway situated about 3 kms. away. It was the ancestral seat of Rāmchandra Gosvāmi, the Vaishṇava savant of Bāgnāpārā. It had a population of 4,404 in 1971 and an area of 348.09 hectares.

RĀIGRĀM (88°11'E 23°22'N)—A village (J. L. No. 93) in Manteśwar police station. A big Vishṇu temple was built here by Chudāmaṇi Baṭuk, a minister and friend of Mahārājā Lakshmaṇa Sena. The temple had the icon of Vishnu in the shape of Ādi-Varāha. This temple was, however, demolished during the early years of Muslim rule in Bengal and the ruins are heaped near about. The sacred site of Pir Gorach and stands at this place. It had a population of 3,105 in an area of 508.78 hectares in 1971.

RAṆDIHĀ (87°30'E 23°24'N)—A small village (J. L. No. 4) with a population of 1,043 in 1971 in Bud-Bud police station, on the bank of the Dāmodar, it was the point at which the older Dāmodar Canal branched off. It has a picturesque Inspection Bungalow facing the river. The village had an area of 322.08 hectares in 1971.

RĀNĪGANJ (87°08'E 23°38'N)—An important industrial and trade centre (J. L. No. 24), it has a police station of the same name. This municipal town had an area of 4.79 sq. kms. and a population of 40,104 in 1971. There are pottery and paper mills located at this place. The area was covered with forest before the Mutiny and the areas named Khatsuli and Kumār-bāzār were the only populated areas then. On its second phase of extension, this was the last station on the Eastern Railway during the fifties of the last century. At that time, the army marching towards North India had to alight here and barracks were made to house them. The place took the name of Gorābāzār after the soldiers (*Gorā*). The area began to prosper with the opening

of the railways. At that time, the criminal courts, police station and post office were located at Maṅgalpur, while the civil court was at Ukhra. Till 1906, it was a Subdivisional headquarters, the position, however, was then taken over by Āsānsol.

RUPNĀRĀYANPUR (87°54'E 23°48'N)—A station on the main line of the Eastern Railway and in Sālānpur police station, it (old J. L. No. 41) was considered to be a health resort for its bracing climate. Later on, the establishment of some pottery factories gave the place an industrial look till it became an industrial centre with the establishment of a cable factory. The Hindusthan Cables is located here. It had a population of 374 in an area of 76.84 hectares in 1971.

SĀNKTORIĀ (86°49'E 23°41'N)—A place (J. L. No. 38) in Kulṭi police station, it is the headquarters of the Bengal Coal Company and the Coal Board is running a first grade hospital at this place for the benefit of the miners. It is within Kulṭi police station.

SINGĪ (88°11'E 23°33'N)—A village (J. L. No. 121) in Kāṭoyā police station, it is said to be the birthplace of Kāshīrām Dās, the famous writer of the Bengali *Mahābhārata*. His brother Gadā-dhar Dās, who was also born here, wrote *Jagatmaṅgal*. It had a population of 2,958 in 1971 in an area of 537.16 hectares.

ŚĪTALGRĀM (87°45'E 23°33'N)—Also called Śidhalgrām, this village (J. L. No. 115) with an area of 416.05 hectares is situated one mile to the north-east of the Kaichar railway station on the Barddhamān-Katoya branch of the Eastern Railway, and is 11 kms. from Kāṭoyā, in Moṅgalkote police station. It had a population of 1,541 in 1971. It was the holy seat of Dhananjay Pandit who was born in Chittagong in 1484 A.D. He made a gift of all his belongings to Śrī Chaitanya. In course of his preachings of the Vaishṇava religion he came to this village and established the icons of Gopinath and Śrī Nityānanda and Chaitanyadeva. The icon of Siddesvari is also located here. He also established temples in village Sanchrapara near Memari which is also considered to be his holy seat.

SRIKHANDA (88°05'E 23°36'N)—A village (J.L. No. 7) in Kāṭoyā police station, it is situated next to Kāṭoyā on the narrow-gauge

Kātoyā-Barddhamān line of the Eastern Railway, and is served by two stations, namely, Shripat Srikhanda and Srikhandā the former being nearer to the Vaisnavite sites of the village. It can also be reached by the motorable Barddhamān-Kātoyā Road. It is famous for being the native place of Narahari Sarkar, a senior contemporary of Sri Chaitanyadeva. It had a population of 8,452 in 1971 in an area of 1,943.37 hectares.

TILAKCHANDRAPUR (87°26'E 23°32'N) — A village (J.L. No. 69) in Kanksa police station, it had a population of 721 in 1971 in an area of 578.17 hectares. There is a fort here called Rajgarh, situated on the Panagarh-Illambazar Road. It was built by Raja Chitrasen Rai of Barddhamān at a strategic point on Suri-Illambazar-Vishnupur Road. There are some broken pieces of rare sculpture within and outside the fort.

USHAGRAM — A suburb of Asansol, it is a growing industrial centre of the area and has the glass factory of the Hindusthan Pilkington Co.

UDDHĀRAPUR (88°07'E 23°41'N) — About 2 miles from Kātoyā and situated on the confluence of the Ajay and the Ganga, the place (J.L. No. 118) in Ketugram police station is hallowed by the memory of Uddharan Dutta Thakur who in his early life was a famous tradesman of the Saptagram region of the Hugli district. It is said that Uddharan Dutta had a place of worship and a temple here which are in ruins now. There are some Vaishnavite centres of worship in the neighbouring Beniapara, where, it is said, the kinsmen of Uddharan Dutta used to live. There is famous cremation ground of Hindus here on the Ganga. It is within Ketugram police station; its population was 1,414 in 1971 in an area of 274.97 hectares.

APPENDIX

A Note on the Buddhist Stupa at Bharatpur in Barddhaman District

Recent excavation conducted by the Barddhamān University in collaboration with the Archaeological Survey of India (Eastern Circle, Calcutta) in and around the mounds of Bharatpur village situated on the left bank of the Damodar River has revealed the existence of an archaeological site covering an area of more than 3 hectares (30,000 sq. metre).

Bharatpur (23°24', 87°27') is a small village on the left bank of the Damodar River, 7 kilometres south-west of Panagarh Railway Station (on the Eastern Rly.) under Bud-Bud Police Station of Durgapur Sub-division in Barddhamān District. The Bharatpur area is surrounded by undulating plains and elevated mounds. The present village complex of Bharatpur-Manorampur has been developed on these elevated the undulating mounds, except those, which once flourished with settlements of different culture sequence from the black and red ware culture of chalcolithic period to the historic phase of the ninth-tenth century A.D.

Historically, Bharatpur is a part of the south-western and eastern extremity of Gopabhum pargana — the seat of a Sadgop dynasty' — with its capital at Amrar-garh, close to present Mankar village of Barddhamān District.

Digging at the mound has revealed the ruined edifices of a brick *stūpa*, now reduced to its platform, situated on top of the main mound, completely exposed, which constituted the focus of excavated remains. Its base has an elaborate and symmetrical square ground plan. It is a 41'6" × 41'6" square, each side facing a direction and consisting of projections and recesses. It has five projections; and each projection, in turn, is composed of small but prominent facets forming angles. Thus the *stūpa* is *Pañcharatha* in plan. The foundation of the *stūpa* is not spread over a fixed area. The area required for constructing the *stūpa* is fully dug out. The entire structure which is erected right from the foundation level, is also square in plan. It then rests on a compact yellow slayish earth about one metre above the natural soil.

As is the prevailing practice in the locality, the foundation is of sand bed instead of soled with brick-bats due to nature

¹ Peterson, J. C. K., *Bengal District Gazetteers : Burdwan (1910)*, p. 3.

of cracky alluvial soil—mixed with laterite clay and yellowish silted deposit of the Damodar River. A thin deposit of coarse sand had been spread out on the bottom of the foundation pit before first course of brick was laid. The height of the *stūpa* from the foundation pit to ground level is about 7 feet (215 cms.) consisting of 33 layers of burnt bricks. The general sizes of bricks used in the construction are $33 \times 28 \times 7$ cms. and $48 \times 21 \times 6$ cms. In plan the *stūpa* resembles typical Orissan style of medieval temple architecture, particularly the Buddhist *stūpa* structure in Ratnagiri.¹

The facade of the *stūpa*, having very fine joints, is executed with chiselled and rubbed bricks cemented by *lime-surki mortar*. The facades were luxuriantly treated with corbelled courses and mouldings carved in the best traditions of ornamental brick-work. It also bears traces of lime-plaster. With its star-shaped recesses and projections, it must have originally produced a delightful effect of light and shade. Above the corbelled courses, the platform was provided with niches, one on each projection to accommodate an image of Lord Buddha.

But what is most important about this structure is that the masonry technique is carried out up to the ground-level. General use has been made of bonds between bricks right from the ground level to the plinth surface. The joints are given fine gaps with sharp, polished facades. To this day the lower-most five courses of bricks of plinth are left exposed as unplastered. On the top of these courses of brick, we notice the moulding and string layers of lime. The masonry works below of the main *Stūpa* was carried out at a later period. Even terracotta carvings (mainly floral motifs) also bear out that, originally the outer surface of the *Stūpa* was not plastered with lime-mortar. As a result, there were no bonds with the interior of the masonry and with the outer facade.

At what height the square of the dilapidated *stūpa* base was converted to the circle of the drum is difficult to determine in the total absence of any brick work in the super-structure. Though there are many niches all around the main *Stūpa*, each niche is adorned with a seated Buddha image in *bhumisparśa-mudrā* (sizes: $30 \times 21 \times 7$ cms., $28 \times 19\frac{1}{2} \times 5$ cms., $27 \times 15 \times 5$ cms., $20 \times 18 \times 5\frac{1}{2}$ cms., $23 \times 14 \times 5$ cms.). A few such Buddha images have been found from the debris of the *Stūpa* just below the niches. All the images are carved in bold relief in soft sand stone. The material

used for carving of sculptures is soft and porous sand stone. The execution of the Buddha figure on such material has rendered a remarkably delicate, soft and fleshy figure. Each image is seated in front of the Bodhi (*Aśvattha*) tree on a full blossomed lotus (which is again depicted on the *di-ratha* and *tri-ratha* throne) in the *Vajrāsana* pose and *bhumisparśa-mudrā* (earth-touching) gesture of the Enlightenment scene) with the soles of feet visible. "The eyes are half closed, the cheeks are round and full." Here the artist has been able to depict a smiling face of Lord Buddha. The... "the mild calmness on every face..." remarks Dr. N. R. Ray, "is accentuated by half-closed eyes invariably looking inwards."² The head has a conical *Uṣṇisa* and curly hairs in the *dakṣiṇāvartta* forms. A *prabhāvalī* (halo) always provides the background for the head. The neck has the *trivālī* marks. The lobes of the ears touch the shoulders.³ The entire body is covered by an elaborate garment with folds leaving the right hand and the right half of the breast bare. And a second piece of cloth is placed on the left shoulder. The folds of drapery cling to the body like a wet-sheet, and are depicted schematically. The left hand of the figure rests on the lap with upturned open palm, while the right hands downwards, the middle finger gently touching the earth in the *bhu-sparśa-mudrā*.⁴ The position of hands, legs and fingers are dictated by iconographic traditions. The circles denoting *chakras* are shown on the soles and on the palm of the left hand. The knees are carefully modelled and give an impression of elasticity. Miniature votive *Stūpas* are also executed on both sides of the stele. The workmanship displays medieval trends showing stiffness of the body, particularly in the modelling of hands and feet. Besides, the *ratha* type of pedestal of the throne on which the Buddha is seated, the conical 'halo' with flaming border, the votive *Stūpas* flanking the image on both the sides and the *Aśvattha* tree under which Buddha is seated, are diagnostic motifs of early medieval period. The formal appearance of figures is one of graceful and 'soft fleshliness within definite'.⁵ The rounded modelling imparts to the sculptures on overall impression of plasticity. An expert

¹ Rowland, Benjamin, *The Art and Architecture of India* (1956), p. 80.

² Mazumdar, R. C., *History of Bengal*, Vol. I, (1943), p. 541.

³ Bhattasali, N. K., *Catalogue of Buddhist and Brahmanical Sculptures in India*.

⁴ Zimmer, Heinrich, *The Art of India Asia*, Vol. I, p. 175.

⁵ Mazumdar, R. C., *loc. cit.*

¹ Ghosh, A., *Indian Archaeology — A Review* (1957-58), pp. 39-40.

study of 'the style' of the modelling will place these in the 8th-9th century A.D.

The brick structure of the *Stūpa* has been badly destroyed by treasure-hunters. Yet the remains of its lime-plaster works speak highly of its architectonic beauty and merit.

On the western and northern sides of the *Stūpa* there exist the ruins of an early medieval Buddhist monastery. The stratigraphic evidence also reveals the existence of an occupational phase earlier than the period represented by the brick *Stūpa*. This is attested by four brick courses of foundation of a structure which was raised sometime after the desertation of the site due to flood of the Damodar River. The foundation courses of the structure are also traced on the western side of the *Stūpa* where the structure is found to have been badly disturbed by quarrying of bricks by the brick-hunters.

The size of bricks of the foundation as well as a solitary example of inscribed pottery with Late Gupta character could indicate the existence of occupational phase in the Late Gupta Period, i.e. c. 6-7th century A.D.

Moreover the occurrence of two post-holes with remnants of decadent wooden posts inside the early structure towards north-western corner of the *Stūpa* suggests that the roof must have been supported by thick wooden poles.

The style of construction, as well as the antiquities, indicates that the *Stūpa* complex of the Bharatpur was built in the 7-9th century A.D. by the Buddhist community. And this type of *Stūpa* is so far the first of its kind in West Bengal.

Neolithic-chalcolithic phase of Bharatpur

The other materials found at Bharatpur indicate the presence of a neolithic-chalcolithic habitation at the bottom, succeeded by an early iron age culture, after which, it seems, the site remained deserted till the time of the construction of the *Stūpa*. The shape of the different painted and unpainted black-and-red wares, black on red and buff on red wares, found here look similar to those found from the earliest deposits of Mahishadal and Pāndu Rājār

Dhibi. The excavation also yielded objects of bone and antlers, neolithic celts, microliths and beads of semi-precious stones. The use of copper, it seems, was scarce. As the excavation was done on a limited scale, no house-plans of this culture were encountered. The succeeding phase was marked by the introduction of early medieval pottery, iron and other associated materials. The coarse and gritty black-and-red ware of the historical period was also noticed. Other finds include a few terracotta objects and beads.

Note : The author is indebted to the staff of the Archaeological Survey of India, Eastern Circle, Calcutta and Sailendra Nath Samanta, Curator, of the Museum and Art Gallery, University of Bardhaman, Bardhaman.

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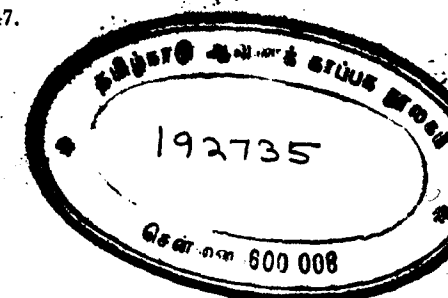
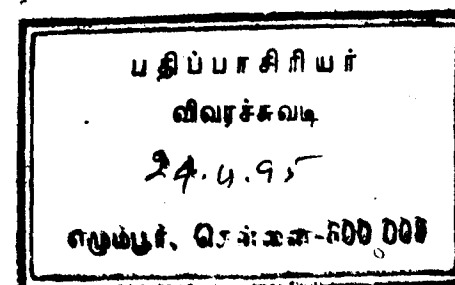
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