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EVOLUTION AND GROWTH OF MUNICIPAL TOWNS IN CALCUTTA METROPOLITAN AREA

Mahalaya Chatterjee

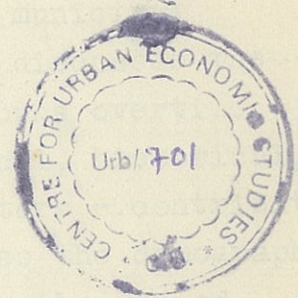
CENTRE FOR URBAN ECONOMIC STUDIES
DEPARTMENT OF ECONOMIC , UNIVERSITY OF CALCUTTA .

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Centre for Urban Economic Studies
Department of Economics
University of Calcutta
56A, Barrackpore Trunk Road
Calcutta - 700 050

A B S T R A C T

Calcutta metropolis emerged through the growth of the core city - the twin city of Calcutta and Howrah - and its integration with a good number of municipal towns along the river Hooghly. This paper discusses the evolution and growth of these municipal towns overtime and indicates various factors - geographical, historical, economic as well as transport related factors - contributing to the process. Besides, the paper analyses the demographic and economic changes in these towns during the period 1961-1981.



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The paper is organised as follows. Section II gives a physical/geographical description of the area whereas Section III gives an account of the consolidation of the area into a single entity. In Section IV, the growth and development of the towns in the region is described, and in Section V, some demographic variables are analysed for the post-Independence period.

EVOLUTION AND GROWTH OF MUNICIPAL TOWNS IN CALCUTTA METROPOLITAN AREA

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I. INTRODUCTION

This paper deals with the evolution and growth of municipal towns along the river Hooghly in a linear stretch; from Uluberia to Bansberia on the west bank and from Budge Budge to Kalyani on the east bank and the immediately surrounding area. Around the metro-core of the twin city of Calcutta and Howrah there are 34 other municipal towns. The metropolis also includes some non-municipal urban areas and gram panchayats.

The idea of greater Calcutta was conceived during the Second World War for the purpose of rationing in this region. The Census authorities recognised it as the Calcutta Industrial Region in 1951. The metropolis in the form of Calcutta Metropolitan District (CMD) was delineated in BDP¹, which became a legal entity called the Calcutta Metropolitan Area (CMA) by the West Bengal Town and Country Planning Act of 1979². Meanwhile, in 1971 Census, the Calcutta Urban Agglomeration (CUA) included almost the same area (excepting the southern boundary and the rural part). The terms CMD, and Calcutta Metropolis are used in this study interchangeably, while CUA roughly corresponds to its purely urban part³.

The paper is organised as follows. Section II gives a physical/geographical description of the area whereas Section III gives an account of the consolidation of the area into a single entity. In Section IV, the growth and development of the towns in the region is described, and in Section V, some demographic variables are analysed for the post-Independence period.

II. PHYSICAL/GEOGRAPHICAL ASPECT OF CMA

The entire region lying in the Lower Ganga Plain, was formed by the delta of River Hooghly⁴. The height of this flat alluvial plain ranges from 5 to 11 metres above the sea-level, the average being about 8 metres. The low-lying plain just beside the higher river-bank on both sides, is segmented by marshes, swamps and courses of dead rivers. These rivers were active in the past when the Bhagirathi-Hooghly was the main channel of the Ganga. The Hooghly itself has changed its course a number of times. The older dried-up courses of Hooghly and other rivers have formed frequent pockets of waterlogging rendering the area unsuitable for industrialisation and urbanisation. The slope from north to south is much less steep than the slope from the river towards the east and the west.

Geologically, the entire area is formed by the alluvial deposition of the river Hooghly, though the western side of the plain receives considerable silt from the Damodar and the western tributaries of the Hooghly. The alluvium is of considerable thickness, of more than 400 m as borings did not reveal any rock or marine bottom on both the sides of the river. The alluvium consists of alternate layers of clay, sand, silt and a few layers of gravel. Peats and decayed wood are also found in some places. In general, the entire area originated under fresh water conditions, due to progressive but slow subsidence of the delta. Recent borings show that the process of subsidence and depression is still going on⁵.

Morphologically, the region can be divided into three zones : (i) the Hooghly levees, (ii) the marshy lands and (iii) the plains.

The 1.5 - 2.5 kilometres wide highland on both the banks of the river is called the Hooghly levee. It is parallel to the meandering river stretching from Tribeni to Uluberia on the west bank and from Kalyani to Birlapore near Budge Budge on the eastern bank. On both the banks, the boundary of the levee is identical with the railway line. Only in places like Serampore-Baidyabati, where the levee is quite narrow, urban settlements have spread across the railway to the other side. It is widest near Calcutta and Howrah. The general elevation is about 10 metres in the north and 3.5 metres in the south. Drainage facilities were adequate in the past, which probably explains the emergence of the age-old settlements in this region. But there are some low-lying pockets here and there and the water drains into the marshes rather than the river. These pockets have rendered urbanisation and construction of roads and settlements difficult in those places. Nowadays, due to numerous encroachments on the Hooghly, like jetties and bridges, and inadequate flow of water from the mother stream, the levee formation has actually stopped⁶.

The plains lie just to the east and west of the levee on both the banks. On the south and south-east the plain is parallel to the levee. The higher areas like the levee of the now-extinct Adi Ganga⁷ are inhabited extensively; towns like Rajpur and Baruipur have grown up, while the remaining part of this Sonarpur-Baruipur plain are extensively used for agriculture. On the other hand, the Dum Dum-Barasat plain or the plain in the north-east was actually formed by the rivers Nawi, Sunti and Bidyadhari. This area is slightly higher than the south-eastern plain⁸.

On the west bank, the plain is actually the eastern most extension of the Damodar-Banka plain. In general, it is higher than the plain on the east bank. This plain constitutes almost half of the metropolitan district. Excepting a few urban settlements, this plain is actually the supplier of fruit and vegetable to the markets of Calcutta and other towns. But now it is gradually encroached upon by haphazard urban growth.

The boundaries on both the sides are formed by a number of low-lying marshes, e.g. Dankuni-Bargachia marsh on the west and the now filled-up Salt Water Lakes on the east. Some of the marshy lands are filled up by alluvium from the river and then used for agricultural purposes. Marshes are also separated by man-made embankments for the construction of roads and railways. In the past, these marshes were used for irrigation and pisciculture, but, later on, lack of proper maintenance discontinued these essential services and these have now become health hazards as breeding grounds of mosquitoes and other insects.

The river Hooghly is the real life-line of the metropolis. With its old and new tributaries and distributaries it forms the water-system of the area. Rivers like the Nawi, Sunti and Adi Ganga (Tolly's Nullah) on the east and Saraswati, Behula and Kunti on the west, also played a major role in the development of the Metropolis. They supplied water for domestic and industrial purposes, acted as drainage channels and also supplied fish, which was at one time the cheapest source of protein in common peoples' diet in the city. The natural water courses along with man-made canals were also the main arteries of the transportation network in the early days.

III. DEVELOPMENT OF TRANSPORTATION NETWORK

It took a long time even after the Battle of Plassey, before the British rulers paid any attention to the infrastructural development in the areas beyond the narrow limits of the Calcutta city, where they lived.

For transportation, old Nawabi roads and kutchra village roads continued to form the main network¹⁰. The trading network of the East India Company depended mostly on the indigenous suppliers, and, for bulk carriage of goods, they extensively used waterways by means of country-boats and small ships. However, while small ships, barges and boats could move upstream upto Patna, Kanpur and even Benaras, big cargo ships and barges could only reach upto Tribeni on the right bank and Kanchrapara on the left bank from the sea. This was one of the major reasons why the Calcutta industrial region could not expand beyond these two towns in the north¹¹.

The actual spurt in trading activity came with the passing of the Charter Act in 1833, by which private trading was permitted with different countries such as China or Ceylon, the establishment of the Bengal Chamber of Commerce in 1834, and the abolition of Customs duty in 1837¹².

The growth of Calcutta port was both a cause and an effect of this increase in trading activities. The excellent navigability of the river Hooghly made Calcutta a first-class riverine port. Though the Bengal Pilot Service was introduced in the last part of the eighteenth century¹³, ships of considerable draught could reach the port of Calcutta without the help of dredgers. Consequently, the use of Diamond Harbour Anchorage as a place for loading

and discharge was abandoned in 1868¹⁴. As a prime centre of colonial trading the port imported machineries and chemicals necessary for the British owned industries, and exported agricultural products in bulk, e.g., jute and gunny, rice and paddy, wheat, cotton and even hides and skins. Jute was exported to countries like Great Britain, U.S.A., France, Holland, Australia, Cape countries, Ceylon, Italy, Burma and Strait Settlements, and its quantum increased from 67483 Cwts. in 1833-34 to 4858162 Cwts. in 1868-69; seven hundred-fold increase in quantity in about thirty years and a spectacular 1800 per cent increase in value¹⁵.

The port was also engaged in inland trading. Regular steamer services were extended to riverside marts (ganjas) of Eastern Bengal for movement of passengers and raw jute. The enormous increase in inland trade necessitated the construction of wharfs and godowns in the northern part of the city extending from Ahiritola Ghat to Jagannath Ghat; and, for that purpose, the residential population from river-bank areas like Kumartuli, Jorabagan and Burrabazar were displaced.¹⁵

In 1853, Lord Dalhousie, then Governor General of India, recommended a trunk system to connect remote areas of each presidency to its principal port, for ensuring easy transportation of goods from interior markets to the port and vice-versa¹⁶. This led to the construction of railways under the Old Guarantee System¹⁷, which made a big impact on the city and its economy. The East Indian Railways (EIR) was the first to start in 1854, when Howrah-Ranigaunge branch started functioning, Ranigaunge being the chief coal-mining town in the eastern region. The Indian Branch Railway, opened in 1863, was extended upto Moghalsarai, and, in the very next year, upto Delhi.

The South Eastern and Calcutta Railway from Calcutta to Champahati was opened in 1862 and extended upto Canning in 1864. The Eastern Bengal Railways (EBR) built its terminus in Sealdah, and the line upto Ranaghat was constructed in 1862. Within thirty years, it was doubled. With the construction of Jubilee Bridge, East Indian Railway constructed a branch-line from Naihati to Bandel across the river in 1887. The Eastern Bengal Railway built its Ballygunge-Budge Budge section in 1890-91, though a tramway from Calcutta (Tolly's Nullah) to Budge Budge via Santoshpur was already operating under the management of Calcutta Port Trust. The Sheoraphully-Tarakeswar branch of EIR started functioning in 1883. During this period, the the Assam-Bihar section of EBR also opened. The Bengal-Nagpur Railway (BNR) opened its first section from Chakradharpur to Sambalpur Road in 1890 and, within ten years, rail-link between Calcutta and Cuttack was established. So by 1900, Calcutta was connected with the tea districts of Assam, jute districts of Eastern Bengal and coal and mineral-rich districts of western Bengal, Bihar and Orissa¹⁸.

Programmes on road development were also undertaken during this period¹⁹. But, unlike railway, whose development depended entirely on private enterprise, the government only being the guarantor at the first stage, the responsibility of construction and maintenance of roads rested with the administration. The interprovincial trunk roads were constructed and maintained by the Construction and Works Department of the government itself, the district roads were managed by the District Board and so on upto the village level, with a clearly defined hierarchical command structure. In 1860-71, as much as ten long roads were built²⁰. Appendix I shows how these roads connected Calcutta to different parts of north, south and eastern Bengal, Madras and also some other important routes. New G.T. Road from Uttarpara

to Paltaghat, Old G.T. Road from Paltaghat to Burdwan via Hooghly and Pandua, and Orissa Trunk Road were also constructed in 1860s. All the main roads of 24-Parganas district like the trunk road upto Barrackpore, Jessore Road, Cossipore-Dumdum Road, built about a century ago are still retaining their importance.

With the introduction of steam navigation, daily steamer services to Rajganj, Uluberia, Ghatal (via Uluberia) and Kalna (via Bally) from different ghats of Calcutta were introduced in the 1870s. Canals were dug around Calcutta and to different parts of south and eastern Bengal for easy transportation of passengers and goods, specially in the rainy season when other forms of transport were difficult to use²¹. Ferry services over not only big rivers but also canals and creeks were also started. By 1912, there were numerous ferry services across the river Hooghly operated by the local zamindars or municipalities.

It is quite evident from the above discussion, that a transportation network combining the rivers, railway and roads grew up to connect Calcutta with its hinterland and other parts of India, in the later half of the nineteenth century. The initiative taken by the foreign rulers in this field was mainly due to the Indian Revolt of 1857, which necessitated the smooth and quick movement of troops. But, once coming into existence, these helped the processes of industrialisation and the development of conurbation in this region²².

IV. GROWTH AND DEVELOPMENT OF TOWNS

In this section, an attempt is made to describe the evolution of the town system in the Calcutta Metropolitan Area. For the convenience of analysis, the description is related to four historical periods, which are as follows :

- (i) pre-colonial period - before 1757;
- (ii) colonial period I - 1757-1857;
- (iii) colonial period II - 1857-1947;
- (iv) post-independence period - 1947 onwards.

Pre-colonial Period

At the advent of Muslim rule in this area, Tribeni near Bansberia, a place whose sanctity is derived from the branching out of three rivers, Ganga (Bhagirathi), Jamuna (present Kanchrapara Khal) and Saraswati, was named Firuzabad²³ and made the seat of local Governors (1298-1358). After that Satgaon or Saptagram town became the provincial head-quarter other than being the main port and mint. In 1631, the Mughal emperor Shahjahan shifted the royal port and head-quarter to Hooghly²⁴. On the other side of the river, Kumarhatta (present Halishar) was another administrative centre²⁵. It was the Haveli or home-town of Haveli Pargana under Sarkar Satgaon. In the later period, Hooghly developed further as an administrative centre; and Bandel was the port area of the town. Some of the old maps depict the whole town as Bandel. Shahganj, a part of the town named after Shahzada Azim-us-Shah, the grandson of Aurangzeb and Nawab of Bengal from 1697 to 1707, was the principal trading zone and contained large granaries. More southwards, in Chinsura, Malik Kasim's hat, established in last part of 15th century, is the largest market in the district still now²⁶.

Other areas under our present consideration did not contain any town of remarkable significance. But there were prosperous villages like Bansberia (Bansabati), Kanchrapara (Kanchanpalli) and Uttarpara²⁷.

Some places were centres of traditional Sanskrit learning like Bhatpara (Bhattapalli), Baidyabati, Bally and Bhadreswar²⁸. The last named place also contained a famous Shiva temple. There were some mart towns specializing in trading of a single product, e.g. Baruipur in betel leaves, Garifa (a place in the north of Naihati) in gur (jaggery), Uluberia in fish etc.²⁹ The Vaishnavite movement in the late 15th century developed some new religious centres in the regions like Khardah, Panihati and Baranagar³⁰.

Colonial adventurers from different parts of Europe, started coming to this region by the river Hooghly from the beginning of 16th century. Many of the present day towns grew from obscurity as Kuthis and settlements of foreign traders along the river. The Portuguese were the first to arrive in 1535 followed by the Dutch, the English, the Danish and the French, not to forget minor groups like the Purssians and the Flemish³¹. Thus the area not only became the scene of wars between different colonial powers but also became vulnerable to major events in international history like the American War of Independence, French Revolution, Napoleanic Wars and other wars between European countries. The trading pattern of the colonialists were affected by disturbances in the home-country, and sometimes settlements in this area changed hands because of agreements reached by the leaders of two European countries after the conclusion of any war in Europe³².

The Portuguese anchored their bigger ships at Bator in Howrah, and named their settlement at Satgaon a 'Porto Piqueno' or Little Heaven. After 1575, they settled in Hooghly and the famous Bandel Church was

erected in 1599. After a brief conflict with Emperor Shahjahan, who attacked and seized the settlement in 1631, the settlers were able to win back the emperor's pleasure in 1633 with a grant of 777 bighas of rent-free land on which the Church was re-erected in 1660. But the Portuguese could not revive their commercial monopoly as their trade passed to the hands of the British and the Dutch³³.

The Dutch also built their first factory in Hooghly in the first part of 17th century, on the strength of a pharman by Emperor Shahjahan³⁴. But this factory was swept away by floods and a new factory was constructed in Chinsura in 1755 named Fort Gustavas. They also built a large garden house just south of Chandernagore, a pork-salting factory in Baranagar and a ship-station at Falta for sea-going vessels. The Dutch trade prospered for about a century and the Dutch East India Company acquired a fresh Pharman in 1712 from Emperor Aurangzeb³⁵.

The Danish East India Company was formed in 1612 but the Danes could establish their first factory at Gondalpara³⁶, near Chandernagore only at the end of the century. Though they closed down all their activities around 1714, they soon re-established themselves in Serampore, a place further downstream. They named the place Frederikanagore whose administration was run by a 'village committee'³⁷.

The first settlement of the French was at Hooghly but later they shifted to Chandernagore; the Fort Orleans was constructed before 1701. In 1731, Dupleix was appointed Intendant and, within ten years

of his assuming office, not only the French trade prospered but Chandernagore's golden age began³⁸. In 1650, the English also made their first factory at Hooghly³⁹. Though it was made the head agency in Bengal in 1657, the local Mughal Governor had conflicts with them more than once. The English trade could not make headway due to internal power-politics and the displeasure of the local rulers. The English, led by Job Charnock, therefore, moved along the river further downstream in search of a suitable place. Uluberia in Howrah⁴⁰, an important fishing port and transport junction was initially selected and the area was handed over to the British by the Bengal Nawab. But, in 1688, Charnock rejected the place and settled in Sutanuti on the east bank in 1690 which eventually grew into the city of Calcutta⁴¹.

Colonial Period - I : 1757-1857

During the first century of their rule, the British, vis-a-vis their agent East India Company, were busy in consolidating their strength in the region. In this process, on one hand they had to subjugate the local people and on the other, they had to fight with other European powers. For military purposes, they established two cantonments in Barrackpore and Dum Dum, in 1772 and 1783, respectively⁴², around which towns grew. They also established a training school for military cadets coming from England, in Barasat. In early part of the 18th century, the last-named town was called 'The Sandhurst of Bengal'⁴³.

The Dutch in Chinsurah, lured by British prosperity in the region, supported Nawab Mir Zafar in 1759 and temporarily defeated the British; but when the

latter fought back the Dutch sued for peace. In 1781, as a consequence of a war between England and Holland in Europe, ~~Chinsurah~~ ^{Chinsurah} was taken over by the British⁴⁴.

The first conflict of the British with the Danes in Serampore arose when the latter supported Nawab Sirajadullah during his march to Calcutta⁴⁵. It was further accentuated when the French took shelter there at the time of British invasion of Chandernagore. But the Danes were doing well as far as overseas trade was concerned. This was also reflected in the prosperity of the town which became famous in the Christian world as the head-quarter of the Baptist missionaries. During the Napoleonic War in Europe, in 1801, Serampore was seized by the English; it was restored to the Danes in the next year by the Peace of Amiens, only to be taken away in 1808, and to be returned again in 1815 by the Peace of Kiels⁴⁶. However, Danish trade suffered as also the town, which now became an asylum of debtors from the British-ruled area. In 1830, this right to shelter was given up and, fourteen years later, the King Denmark transferred Serampore to the British.

Chandernagore remained as a French colony, surrounded by British India, until 1947. But before 1816, when peace was restored in Europe following the defeat of Napoleon, Chandernagore repeatedly changed hands between the French and the English⁴⁷.

At this period, the British also decided to initiate a centralised system of administration with districts as the basic unit. Most of the district and sub-divisional head-quarters were established in otherwise

prominent urban areas. Gradually the importance of these towns increased as administrative centres. The increase in the number of persons associated with legal profession following the increase in land disputes after the Permanent Settlement in 1793, further increased the importance of such towns⁴⁸.

Apart from their political domination, the Christian missionaries expanded their activities on a large scale. We have already noted the case of Serampore as the head-quarter of Baptist missionaries. Baruipore and Agarpara near Panihati were two other important centres of activity of Christian missionaries of different sects⁴⁹.

Colonial Period II : 1857-1947

The area around Calcutta (particularly Barrackpore) was closely involved in the First War of Independence in 1857 along with the rest of northern India. Though the Mutiny was suppressed, it led to some major administrative decisions like the transfer of power from the Company to the British. More or less at the same time a decision was taken to improve the transportation system of the country with the introduction of railways. Improved communication facilities along with the growth of Calcutta port initiated the process of industrialisation in this region⁵⁰.

The first jute mill in this region was established near Rishra in 1853⁵¹. Later other jute mills were established by different managing agents on both sides of the river Hooghly. Consequently, a number of towns grew around the jute mills. Apart from Rishra, Champdany, Bhadreswar, Baidyabati, Balli, Konnagar and Bansberia on the west bank and Naihati, Haliashahar, Bhatpara

(Kankinara, Jagaddal), Garulia, Titagarh, Panihati, Khardah, Kamarhati and Baranagar (Cossinore) on the east bank were the early jute towns. For setting up jute mills the managing agents either chose traditional jute marts like Bhadreswar, Baidyabati and Naihati or areas in close proximity⁵². After jute, other industries were also established in the region in quick succession, e.g., rubber, paper, chemicals, cotton-textile and engineering industries.

With the improvement of the railway system, some towns became associated with activities of railway. Railway workshops were established in Kanchrapara and Lilluah near Bally. With the opening of Jubiles Bridge across Hooghly in 1887, Naihati and Bandel, located on opposite sides of the river, became busy railway junctions for trans-river communication. All types of goods to be exported from Calcutta, from the west of the river, passed through Naihati to the Kidderpore Docks via Kankurgachi Chord. The town was also a halting place for the labourers to be recruited to the tea-gardens of Assam and North Bengal. There were as many as six emigration depots in the town⁵³.

Budge Budge, a riverside town (in south 24-Parganas) around a fort, was captured by Clive in 1756. Budge Budge Jute Mill was established in 1873 followed by other jute and cotton mills. The importance of the town increased after 1886, when it was selected to be a port and the wharfs for an oil-jetty were constructed, and all the important oil companies constructed their depots in this town. In the early fifties, a high-level government committee considered Budge Budge as a possible site for the location of an oil refinery. Budge Budge is still the

main oil-depot of Calcutta, and, in addition to petroleum products, imported edible oil is also stored here and then distributed to different parts of the country by road and railways⁵⁴.

The above description shows that the present CMA was extensively industrialized and consequently urbanised in the last half of nineteenth century. The linear continuum along both banks of the river Hooghly took shape in this period. These towns were accredited with civic status with the passing of District Municipal Improvement Act in 1864. Provisions of Bengal Local Self Government Act 1885 were extended upto them⁵⁵.

Post-independence Period

The independence of the country in 1947 was accompanied by the partition of the erstwhile Bengal province, leading to refugee influx from East Pakistan. The towns in the eastern periphery of CMA like Barasat, Rajpur, Baruipur, Dum Dum⁵⁶, and comparatively less congested towns in the industrial region like Panihati⁵⁷, North Barrackpore etc. had to accommodate these refugees. Consequently, some of the towns had their population size doubled within a decade.

Apart from the old towns, three new towns grew up in the region mainly to cope with the refugee problem, namely, Kalyani, Gayeshpur and New Barrackpore. Though all these three towns share a common cause of emergence and growth, the patterns of their growth and evolution are different.

New Barrackpore Co-operative Colony Society Limited was a non-official scheme for the settlement of displaced persons near Madhyamgram railway station on the

Dum Dum-Barasat railway line. It consisted of 2600 families, mostly of educated middle class origin. The presence of mainly white-collar commuting workers led to the rapid growth of educational facilities like high schools, colleges, etc. and attracted more people as a decent residential township developed. Within 1961, its population exceeded 20,000 and it was declared a municipality in 1965⁵⁸.

Both Kalyani and Gayeshpur owe their birth to a common origin. Before Second World War, this part of Nadia was sparsely populated. During the War, all the five villages in the area were acquired and handed over to the U.S. Army Authorities in India by the British Government. They built roads, an airstrip and established an army base at the site which was named Roosevelt Nagar⁵⁹. After the Partition, the refugees settled down along the railway line and in the abandoned army camp. In response, the State Government put the area under an Administrator for building roads and supplying potable water, called it 'The Kanchrapara Rural Area Development Colony' which was recognised as a town as early as in 1951 Census by virtue of high population density⁶⁰. Between 1950 and 1952, the government settled a large number of displaced persons in villages named Gopalpur, Gayeshpur, Jadavpur and Saguna on the eastern side of the Sealdah-Ranaghat railway line.

In 1951, a modern satellite township was planned on the abandoned army base. The main object behind Kalyani was to relieve population pressure from Calcutta and also to disperse industries. All the amenities of a modern urban area were also planned⁶¹. Various government departments and a University were set up in the township. Despite these efforts, Kalyani did not come upto expectation. It neither became a satellite of Calcutta nor did it stand

on its own⁶². But, on the other side of the railway line, the colonies of Gayeshpur, Kataganj and Gokulpur have grown enormously and surpassed Kalyani in both population size and density.

Some other trends were in evidence in the last four decades. Firstly, after a brief spurt of industrialisation during 1951-61, Calcutta industrial region had to face severe industrial recession along with political turbulence. The traditional industries of the region like jute and engineering suffered from a fall in market demand, while investment in new industries was negligible. But transportation facilities improved significantly with the electrification of suburban trains and introduction of long-distance buses. Secondly, parts of the agricultural hinterland behind the industrial areas experienced some of the benefits of 'green revolution'. Thirdly, activities in the tertiary sector increased due to several reasons, like agricultural prosperity, enormous increase of activities of both state and central government and spread of academic institutions like schools, colleges and even higher research institutions. All these, together, have changed the character of erstwhile industrial towns. In most of them the proportion of commuting population engaged in service sector activities has increased significantly.

V. DEMOGRAPHIC CHANGES IN THE MUNICIPALITIES

In this section, an attempt is made to estimate and analyse the changes that have taken place in the post-independence period, in terms of the following variables :

- (i) Size distribution,
- (ii) Population growth-rate,
- (iii) Density of population,

(iv) Gender ratio,

(v) Occupational structure.

The analysis should be qualified by the fact that over the years 1951-1981, the Census authorities have frequently changed definitions of different variables, making this type of analysis of census data over a longer time-period somewhat hazardous.

Size Distribution

The size distribution ⁶³ of the municipal towns in CMA has changed enormously during this period (see Appendix II). Out of 34 municipal towns of today, only three were recognised as towns in 1961. In 1951, there was only one Class I town in CMA outside the metro-core, namely, Bhatpara. Among the other 30 towns, as many as 13 belonged to Class III, followed by nine in Class II, and seven in Class IV, while Baruipur was the solitary member of the Class V group and there was no town in the Class VI category. Thus, it can be seen that the urban scene in CMD was dominated by medium sized towns. Four Class II towns were in the metropolitan shadow and were in effect extensions of core-cities of Calcutta and Howrah; Baranagar, Kamarhati, South Dum Dum and Bally. Other towns in this Class were jute towns like Titagarh and Naihati, railway township of Kanchrapara, Hooghly-Chinsurah, the district head-quarter of Hooghly, and Serampore, an administrative-cum-industrial town. On the other hand, seven towns in the Class IV category, were mainly residential towns. Except Barrackpore and Chandernagore, all other eleven towns in Class III group were jute towns.

In 1961, the number of towns in Class I category increased to five as the four Class II towns of 1951, which were identified as extension of the metro-core, were promoted to this category. But the number of towns in Class II group became ten. Sub-divisional towns like Barrackpore and Chandernagore and three other towns namely North Barrackpore, Panihati and Haliashahar entered this category. There were 15 Class III towns of which eight were jute towns. Six towns were promoted from the class just below and the refugee colony of New Barrackpore emerged as a new town in this class. Among the three Class IV towns, Uluberia maintained its position and Baruipur was promoted from Class V. In 1951, a huge refugee settlement in Nadia, referred to above, called the Kanchrapara Rural Area Development Colony, was treated as a town. Later it was divided into three parts - Gayeshpur thus became a Class IV town, Government colonies of Kataganj - Gokulpur became a Class V town and Kalyani, an area identified for a planned satellite township, emerged as a Class VI town.

In 1971, Hooghly-Chinsurah, Serampore and Panihati promoted to the status of a city (i.e., Class I town). Jute towns like Baidyabati, Bansberia, Champdany, Rishra, Budge Budge and Uttarpara-Kotrung were promoted to Class II group along with North Dum Dum. Uluberia and Baruipur made their entry into the Class III town group. Gayeshpur and Kataganj-Gokulpur Government Colony retained their respective positions in Class IV and Class V category, whereas Kalyani made a jump to Class IV category.

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According to 1981 Census, no municipal town in CMA belongs to the last three classes, i.e., IV, V and VI. There are 14 Class II towns followed by 12 in Class I and eight in Class III. Towns promoted to the 'city' category are Naihati, Barrackpore, Titagarh and Chandernagore. They were replaced in Class II category by Barasat, Garulia, Bhadreswar and Konnagar. Kalyani became a Class III town. Erstwhile government colonies of Gayeshpur, Kataganj and Gokulpur were merged into a single town of Gayeshpur in 1979, and placed in Class III group.

The preceding narration shows that the size distribution has undergone a big change in the period 1951-1981. All these towns have grown in size and none has a population of less than 20,000, while 12 of them are now recognised as cities with more than 1 lakh people. While some towns have not changed much in terms of population size, some small towns have become as big as a Class II town⁶⁴. This change in size-distribution of towns is actually a reflection of population growth that has occurred during the last four decades⁶⁵. In the next section, we will analyse the dynamics of this population growth.

Population Growth-rate

Population growth-rate can be sub-divided into two sub-parts : (i) natural growth-rate and (ii) growth due to migration. As migration data are not available at the town level, our discussion on decadal population growth can not take that division into account.

The municipal towns in CMD are quite dynamic in terms of population growth compared to the city of Calcutta⁶⁶. For the convenience of analysis, we have divided decadal growth-rate of population into the following

categories : (i) very high (above 75 per cent), (ii) high (51 per cent - 75 per cent), (iii) medium (31 per cent - 50 per cent), (iv) low (10 per cent - 30 per cent) and (v) very low (less than 10 per cent) (see Appendix III).

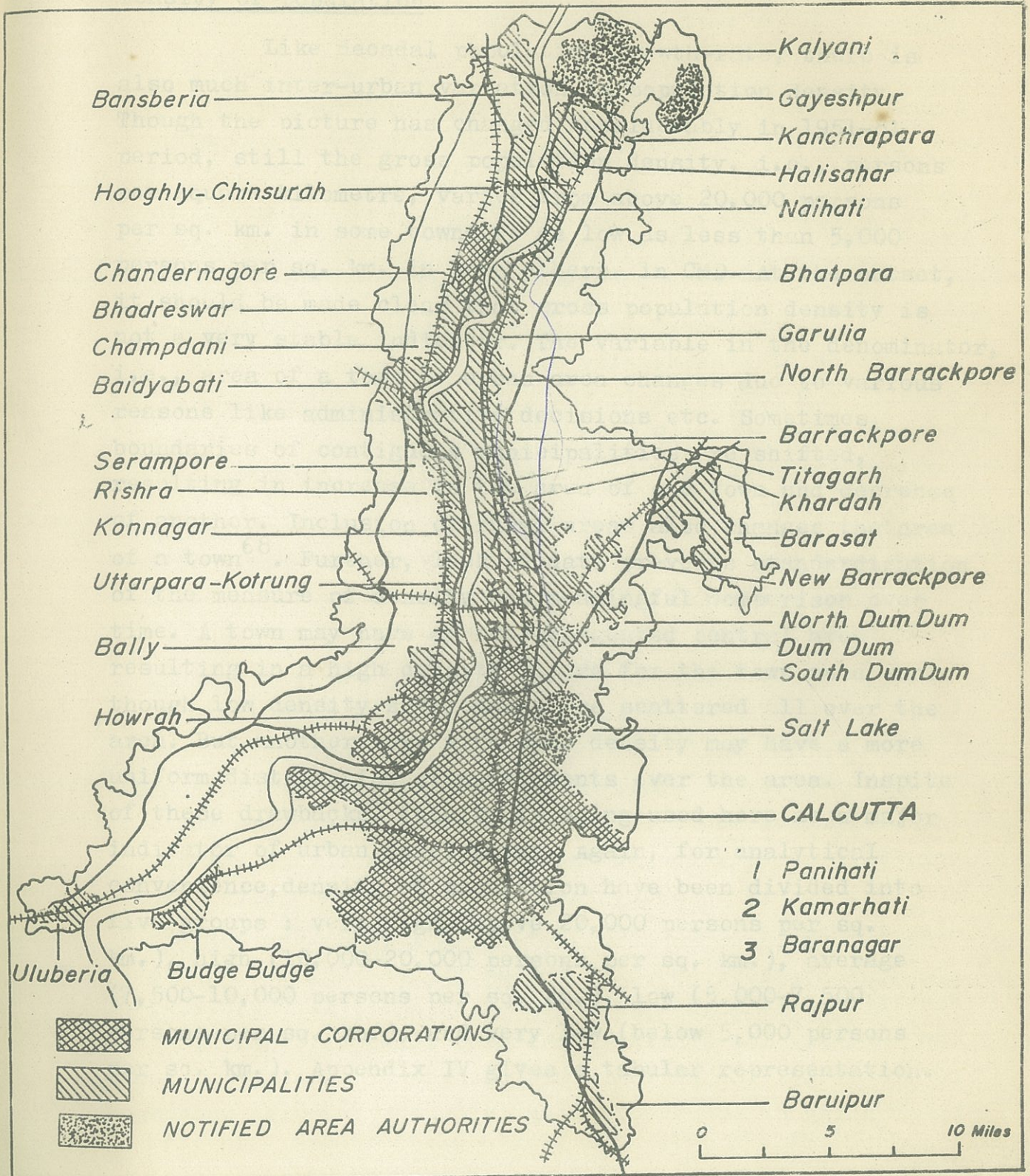
Population growth in 1951-61 carried the impact of the partition of the country in 1947 and the consequent in-migration of the refugee population. Towns in the eastern part of the CMD like Barasat, North Dum Dum and South Dum Dum showed very high growth-rates, while some other towns in the industrial belt with somewhat less concentration of industrial activities also attracted the displaced population. But most of the towns in the industrial belt proper showed medium growth-rate.

An interesting observation is that jute-towns like Bhatpara, Titagarh, Garulia, Naihati etc. belonged to low or very low growth-rate group. There may be more than one explanations for this phenomenon. The established jute-towns were already congested and, therefore, the refugee population did not find these suitable for settling down. Secondly, in this particular decade, the jute industry faced a severe shortage of raw material due to the loss of the jute-growing areas of Eastern Bengal to Pakistan. In fact, the depression in the jute industry actually repelled migrant labour from other parts of the country from these towns. During the next decade (1961-71), the mean growth-rate in the CMA actually came down. As many as 14 towns appeared in the low-growth category. However, Kalyani, the new planned township showed very high growth during the decade. Other high-growth and medium-growth towns were either bearing the legacy of the refugee influx in the preceding decade or showed

sudden increases in growth-rate due to some specialized local factors like the starting of a new industry in the town or the re-opening of closed mill. Some towns like Bally, Baranagar or South Dum Dum showed high-growth due to their close proximity to the city of Calcutta. But the overall slowing down of growth-rate could be explained by the prevailing economic depression and political turbulence in the region.

The picture somehow changed in the following decade, i.e., in 1971-81. The political turbulence somewhat eased after 1972, but political stability was really achieved in the post-1977 period. The industrial scenario also showed signs of change. Flight of capital from West Bengal, a characteristic of the sixties, stopped and eventually showed a change in direction. Suburban transportation improved with the completion of electrification of railways and introduction of long-distance bus routes. This actually brought the city of Calcutta closer to these towns. Again, the hinterland of CMA experienced some of the effects of 'green revolution' in cases of some crops and vegetables. All these encouraged a greater degree of tertiarization in the economic activities of the towns. Over-congestion in the core city leading to a breakdown of infra-structural facilities also made the suburban municipalities more attractive to common people. In this decade, towns with low growth, were usually the industrial towns, which failed to recover by 1981. On the other hand, towns with a low level of concentration of industries showed a high or medium level of growth due to this suburbanization process⁶⁷.

CALCUTTA METROPOLITAN AREA



Density of Population

Like decadal population growth-rate, there is also much inter-urban variation in population density. Though the picture has changed considerably in 1951-81 period, still the gross population density, i.e., persons per square kilometre, varies from above 20,000 persons per sq. km. in some towns to as low as less than 5,000 persons per sq. km. in some others. in CMD. At the outset, it should be made clear that gross population density is not a very stable indicator. The variable in the denominator, i.e., area of a town or urban area changes due to various reasons like administrative decisions etc. Sometimes, boundaries of contiguous municipalities are shifted, resulting in increase in the area of one town and decrease of another. Inclusion of rural areas also changes the area of a town⁶⁸. Further, lack of data prevents standardisation of the measure of density and meaningful comparison over time. A town may have an over-congested central area resulting in a high density figure for the town as a whole though low density settlements are scattered all over the area. But another town with same density may have a more uniform distribution of settlements over the area. In spite of these drawbacks, density is being used here as a major indicator of urban development. Again, for analytical convenience, density of population have been divided into five groups : very high (above 20,000 persons per sq. km.), high (10,000-20,000 persons per sq. km.), average (7,500-10,000 persons per sq. km.), low (5,000-7,500 persons per sq. km.), and very low (below 5,000 persons per sq. km.). Appendix IV gives a tabular representation.

1951 : There were as many as 19 towns with density below 5,000 persons per sq. km. This category included traditional jute towns like Champdany and Rishra, administrative centres like Barrackpore and Hooghly-Chinsurah and also residential towns like North Dum Dum, Rajpur and Baidyabati. On the other hand some jute-towns had higher density of more than 7,500. Titagarh and Serampore were even more densely crowded with more than 20,000 people per sq. km.

1961 : Though there was not much change in the number or ranking of high density towns, the overall rise in density was reflected in the fall in the number of very-low-density towns from 19 to 9 and rise in the number of low-density towns from 6 to 14, even with the inclusion of three new towns.

1971 : There was no change in the number of towns in the two extremities of the scale, i.e., in the categories of very-high and very-low density towns. But there was a rise in the number of towns in two upper groups of high and medium-density towns, and a consequent fall in the number of low-density towns.

1981 : The trend observed in the previous three Censuses is reinforced. There is a sudden rise in the number of very-high-density towns, from one in each of 1951, 1961 and 1971 to six in 1981. The number of high-density towns also increases from seven in 1971 to 12 in 1981. But the decrease is significant in the number of towns of moderate-density : six in 1981 compared to 12 in 1971. The number of low and very low density towns also falls to 2 and 8, respectively. Though there are changes of density of towns, the ranking of towns according to density remains unchanged.

Gender Ratio

Gender ratio or the number of females per thousand males is an important indicator of the settlement pattern of an area. For example, low gender ratio signifies an industrial area with abundance of male migrant labourers, whereas a high gender ratio indicates a higher degree of residential (family) settlements in the area. We have divided gender ratio into the following sub-groups : high (above 900), moderate (751-900), low (501-750), and very low (below 500) (see Appendix V).

1951 : Only four towns in the industrial region, namely, Haliashahar, Garulia, Bhadreswar and Budge Budge had very low gender ratios, i.e., less than 500. Eighteen towns, mostly on the banks of river Hooghly had a low gender ratio (between 501 and 750). Most of the traditional residential areas like Chandernagore, Rajpur, Barasat, Uttarpara-Kotrung had moderate gender ratio, more than 750.

1961 : Gender ratio on the whole increased in CMA. The number of towns with moderate gender ratio increased from 7 in 1951 to 16 in 1961. The number of low gender ratio towns decreased slightly (from 18 to 17). Surprisingly, the gender ratio of Titagarh came down below 500 and it was the only town belonging to that category.

1971 : There was no town with very low gender ratio. All the nine in low gender ratio group were industrial towns. All other towns in CMA, including three new towns of Kalyani, Gayeshpur and New Barrackpore had gender ratios exceeding 750.

1981 : In previous three Census, there was no town in CMA, with gender ratio higher than 900. But in 1981, there were as many as 11 towns in this category. On the

other hand, some traditional industrial towns like Titagarh, Budge Budge, Champdany etc. were still in the low gender ratio category, whereas gender ratio of all other 17 towns in the CMA lie between 750 and 900 that is in the 'moderate' category.

Two observed trends may explain this upward movement of gender ratio for the period of last forty years. One is the suburbanisation process; Bengal middle class moving out of the Calcutta city and settling in these municipal towns. Secondly, in all the traditional industrial towns, there is now an abundance of second generation migrants, who, unlike their predecessors, settle down in their places of work with family members⁶⁹.

Occupational Structure

Comparison of occupational structure over a long time period is quite hazardous due to incomparability of Census data. In 1951, Census reported livelihood classes, i.e., persons earning livelihood from certain activity and their dependants. But this classification was replaced by the reporting of occupation of workers in the population along with a separate classification of non-workers in 1961 and 1971. This too was discontinued in 1981 Census, where workers were not only divided in the categories of 'main' and 'marginal' workers but only three occupational classes out of nine were reported separately upto the town level. In our analysis, the working population is divided into the three main sectors for 1951, 1961 and 1971 and compared, with some references to 1981 Census subject to data availability.

Primary Sector

In all the towns presently under consideration, the percentage of workers in the primary sector is very small, almost never exceeding three per cent of total workers in 1951-71 period (Table 1). But in some towns, specially towns outside the river-side industrial belt, the percentage is quite high. Examples of towns with a high percentage of workers in the primary sector are Barasat, Uluberia, Rajpur, Baruipur and Baidyabati. During 1951-61 period the general trend in the CMD municipalities, was a decrease in the percentage of population engaged in primary sector except in a few towns like Champdani and Bhadreswar (Table 2). This trend was reversed in the next decade, when 25 towns showed an increase in the share of the primary sector population. One explanation for this could be in terms of disparity of Census definition, the effect of which can not be eliminated even after standardisation. Another explanation is, that it is a reflection of the dismal economic condition in the mid-sixties, when the country-side was suffering from frequent droughts, when the industrial sector, passing through a depression, was unable to absorb the stream of migrants. Analysis of data shows that there was an absolute increase in the numbers of both cultivators and agricultural labourers during this period, though the percentage increase was greater for the latter (Table 3). In cases of Kalyani and Gayeshpur (erstwhile Gayeshpur Government Colony and Kataganj and Gokulpur Government Colony) there were substantial increases of 36.20 per cent and 46.13 per cent, respectively, in primary sector workers, in 1961-71 period, though here the main reason was the

establishment of Kalyani University, specially its agriculture faculty and the State Livestock Farm, the workers of which were classified in the primary sector according to the National Classification of Occupations.

Secondary Sector

In all the municipalities, a high percentage of workers is engaged in secondary sector activities (Table 4). In towns like Titagarh, Champdany, Bhatpara and Bhadreswar, this percentage is as high as 80, and in no town it goes below 20 per cent.

As for the general trend, during 1951-61 all the towns had seen an increase in the percentage of secondary sector workers, except in three contiguous towns of Titagarh, Barrackpore and North Barrackpore (Table 5). But in 1961-71 period, the trend was reversed, i.e., except the three towns named above, all other towns saw a percentage decrease in the number of workers in the secondary sector. Gayeshpur, a new town, showed a 20 per cent increase in the percentage of population engaged in the secondary sector, probably due to the establishment of an industrial estate. This dismal performance of the secondary sector in terms of employment, was not unexpected considering the general depression and stagnation in the industrial sector all over the country and, specially in this region, the near stagnation in the jute industry during this period. Non-availability of comparable data for 1981 Census prevents us from seeing whether there was any change in this trend during 1971-81.

Tertiary Sector

In their work on functional classification of Indian cities, Mitra et al., have classified all but

seven of the towns of CMD as manufacturing towns⁷⁰. But tertiary and service sector activities are important in almost all the towns. Even in 1951, all the towns had a sizeable percentage of population engaged in tertiary activities, and nowhere less than 30 per cent (Table 6). During 1951-61, there was a decline in the tertiary sector population (Table 7); some towns even registered 40 per cent decrease in this period. There may be two reasons behind it. One was the discrepancy between livelihood classes reported in 1951 Census and the occupational classes reported in the 1961 Census. Secondly, there was no expansion in the tertiary sector that could be matched with the spurt in industrial activities in the immediate post-independence period, specially in the Second Five-year Plan period. We have already noted that there was an increase in the percentage of workers in the secondary sector in this decade. Interestingly, among those four towns which showed an increase in the percentage of tertiary sector workers two had a corresponding decrease in the percentage of secondary sector workers. This trend got reversed in the following decade when 21 towns showed an increase in the percentage. Among the 12 towns showing decrease, for six, it was a continuation of past trend, for three, it was a reversal of the trend while the other three were new towns. In Gayeshpur the establishment of an industrial estate changed its functional classification to manufacturing town from service town in 1971 according to the classification by Mitra et al.⁷¹. We can not proceed with our analysis for the next decade for the lack of comparable data.

Interaction Between Variables

To analyse the interaction between different variables, we have taken the help of a very simple statistical tool, i.e., Frequency Chi Square Test⁷².

Taking two variables at a time for a particular point of time (or period of time as the case is), our null hypothesis in all the cases is to test the independence of the variables. If the null hypothesis is accepted, the conclusion is that the movement of two variables is independent of each other, e.g., density of a town has no influence on its decadal population growth and so on.

City-size and Population Growth rate: Three tests are performed taking the city size distribution of a particular Census and growth rate for the decade immediately following it, e.g. city-size in 1951 and growth rate for 1951-61⁷³. In all the three tests, the null hypothesis is accepted. So the size of the town has no influence of its growth rate. In CMD, it is not the case of only big cities growing and small towns decaying or vice-versa. All the towns have grown considerably in the post-independence period.

City-size and Density of Population : For the four tests performed for these two variables, for 1951, 1961, 1971 and 1981, the null hypothesis is rejected⁷⁴. So we may say that there is positive relationship between city-size and density. Here big cities are more densely packed, while smaller towns are less congested.

City-size and Gender Ratio : Four tests for the four consecutive Census years, rule out any dependence between city-size and gender ratio⁷⁵. There is Bhatpara, a Class I town with a low gender ratio, while, on the other, a small town like Dum Dum also has a low gender ratio. In both cases the possible explanation being that both are industrial towns with a high percentage of migrants in population.

Density and Gender Ratio : According to the results of the tests done for these two variables for the four Census years, the null hypothesis is accepted⁷⁶. This is an expected result considering the typology of CMD towns. Titagarh and Serampore are both densely populated industrial towns, but the former has a quite low gender ratio compared to the other throughout the period of study.

Density and Decadal Population Growth Rate : For these two variables the results are somehow different. Among the three tests, for the first and the third case, i.e., density of 1951 and growth rate of 1951-61 and the former for 1971 and latter for 1971-81, the null hypothesis is accepted but for the second case, it is rejected⁷⁷. For the fifties and seventies, growth took place in the towns irrespective of existing density but in the sixties, some high density towns showed higher growth rates compared to the others. Six towns, namely Bally, Bhatpara, Naihati, Rishra, Kamarhati and South Dum Dum showed this trend. Among them, Kamarhati, Bally and South Dum Dum can be identified as cases of growth due to metropolitan influence given their proximity to the metro-core. The towns like Bhatpara - Naihati may have grown due to the spurt of investment in Kalyani area at that period. For Rishra, the enormous growth (64.75 per cent) may have been due to some purely localised reasons like the expansion of an existing industry.

NOTES

1. Calcutta Metropolitan Planning Organisation, Basic Development Plan 1966-86, pp. 4-5.
2. CMDA, Towards A Perspective Plan, The Physical Plan, 1986.
3. Census of India 1971, Series 22, Part-2A (Supplement).

4. Banerjee and Roy (1967), pp. 28-41.
5. Ibid.
6. Ibid.
7. Adi Ganga is the older flow of the river Ganga which connected the mainstream with the Sunderban area. Due to subsequent changes in the course of the river, this stream dried up. Major Tolly excavated this channel in late 18th century. Since then, it is also called Tolly's Nullah.
8. Banerjee and Roy (1967).
9. Ibid.
10. Banerjee (1975).
11. Chaudhuri (1971), p. 159.
12. Ibid.
13. District Census Handbook, 24 Parganas, 1951.
14. Banerjee (1975), pp. 24-69.
15. Ibid.
16. Munsri (1980), p. 85.
17. Old Guarantee System (1853-69) is a system followed by the East India Company for the construction of railways, sanctioned by the Court of Directors as per recommendations of Lord Dalhousie. Land was provided to private companies free of cost by the State; the Indian Government guaranteed interest at $4\frac{1}{2}$ - 5 per cent at a fixed rate of exchange of 22d. to the rupee on the money raised by the companies; the companies could surrender the rail-roads at six months notice at get back the actual capital spent; the Government could purchase the railroads at the interval of 25 years at the mean market value in London; certain powers of construction and supervision of working given to the Government.

18. Munsii (1980).
19. Ibid.
20. Ibid.
21. Ibid.
22. Ibid.
23. District Census Handbook, Hooghly, 1951, pp. 6-11, 31.
24. Ibid., p. 6.
25. District Census Handbook, 24 Parganas, 1951, p. ciii.
26. District Census Handbook, Hooghly, 1951, p. 32.
27. Ibid., pp. 31-35.
28. Ibid., pp. 8-11.
29. Ibid.
30. Ibid.
31. Ibid.
32. See later for cases of Chinsurah and Serampore.
33. District Census Handbook, Hooghly, 1951.
34. Ibid.
35. Ibid.
36. The place is still called Dinemardanga (Place of Dinemars or Danes). See District Census Handbook, Hooghly, 1951, p. 10.
37. District Census Handbook, Hooghly 1951.
38. Ibid., pp. 8-11.
39. Ibid.
40. District Census Handbook, Howrah, 1951, pp. liii-liv.
41. District Census Handbook, 24 Parganas, 1951.
42. Department of Local Government and Urban Development, Government of West Bengal (1981), pp. 71-84. Another point to be noted here is that the British also built up some Arms factories in places like Ichapore, Cossipore and Dum Dum. As they are protected Defence areas, and not in the municipal areas under our present consideration, we are not taking them into account.

43. District Census Handbook, 24 Parganas, 1951, pp. xcvi-xcvii.
44. District Census Handbook, Hooghly, 1951, p. 9.
45. Ibid., p. 10.
46. Ibid., p. 10.
47. Ibid.
48. Biplab Dasgupta, 'The Evolution of Settlements and of the Urban Classes'; paper presented at 'Conference on Urban Planning and Development', Centre for Urban Economic Studies, Calcutta University, 1986; see also Biplab Dasgupta (1988).
49. District Census Handbook, 24 Parganas, 1951.
50. See section II of this paper.
51. District Census Handbook, Hooghly, 1951, pp. 24-26.
52. Banerjee (1975), pp. 70-82.
53. District Census Handbook, 24 Parganas, 1951, pp. cv-cvi.
54. Ibid.
55. A Handbook of Municipal Administration in West Bengal, (Department of Local Govt. and Urban Development, Govt. of West Bengal.), 1981, p. 22.
56. North Dum Dum experienced population growth rate of 216 per cent during 1951-61.
57. There are as many as 69 refugee colonies in Panihati; probably the highest in any town of West Bengal.
58. District Census Handbook, 24 Parganas, 1961.
59. District Census Handbook, Nadia, 1951 and also 1961.
60. District Census Handbook, Nadia, 1951.
61. Ibid.
62. Dasgupta, Mandita, (1985).
63. According to the Census of India, towns are divided into size categories according to their population. The standard classification is as follows :
Class I : Population 100,000 and above.
Class II : Population between 50,000 and 99,999.
Class III : Population between 20,000 and 49,999.

- vii.
- Class IV. Population between 10,000 and 19,999.
Class V: Population between 5,000 and 9,999.
Class VI: Population less than 5,000.
64. North Dum Dum is an example. In 1951, it was a Class IV town and now it is a Class II town on the verge of being a city in the next Census.
65. See Appendix II.
66. Mukherjee (1985).
67. See Appendix III.
68. In 1981, the areas of 17 towns are changed. In most of the cases, the Census authority has stated the reason for change as computational error. There is no way to know whether this error was for the last Census (1971) only or for previous Censuses also.
69. See Appendix V.
70. Mitra et. al. (1981).
71. Ibid.
72. Goon et. al. (1971) for statistical tests.
73. We have followed the following classification: big town : towns of Classes I, II, III and the rest of the classes are small towns. For population growth rate, high growth rate denotes above 30 per cent and low growth below it.
74. For density of population, we have taken 5,000 p.p. sq. km. as the cut-off point for high and low density.
75. For gender ratio, the cut-off point between high and low gender ratio is 500 for 1951 and 1961 and 750 for 1971 and 1981, for reasons to be explained later.
76. From 1971, there was no town in CMD with gender ratio below 500 and hence the cut-off point is changed.
77. If we change the cut-off point for density to 7,500 persons per sq. km., then the results are slightly modified but conclusions remain unchanged.

REFERENCES

1. Banerjee, B. and D. Roy, Industrial Profile of the Calcutta Metropolitan District, Calcutta, 1967.
2. Banerjee, P., Calcutta and Its Hinterland - A Study in Economic History of India 1833-1900, Progressive Publishers, Calcutta, 1975.
3. Bhatpara Municipality, Bhatpara Poursabha : Agragatir Pathe, (Bengali), Kankinara, 24 Parganas (N), (n.d.).
4. Calcutta Metropolitan Development Authority (CMDA), Towards A Perspective Plan for the Calcutta Metropolis - An Approach Paper, (Task Force on Perspective Plan, CMDA), 1986.
5. Calcutta Metropolitan Development Authority (CMDA), Towards A Perspective Plan for Calcutta Metropolis - An Approach Paper, The Physical Plan (Task Force on Perspective Plan, CMDA), 1986.
6. CMDA, Seminar on Economy and Employment in CMD for 2001 (Collected Papers), Calcutta, 1984.
7. Calcutta Metropolitan Planning Organisation (CMPO), Basic Development Plan 1966-86 (BDP), Calcutta, 1966.
8. Census of India, District Census Handbooks of Howrah, Hooghly, 24-Parganas and Nadia for 1951, 1961 and 1971.
9. Census of India 1981, Series 23, West Bengal : District Census Handbook, Calcutta, Part XIII A and B (Town Directory and Primary Census Abstract), 1986.
10. Chaudhuri, M.R., The Industrial Landscape of West Bengal : An Economic-Geographic Appraisal, Calcutta: Oxford IB Publishing Co., 1971.
11. Dasgupta, Biplab (ed), Urbanisation Migration and Rural Change : A Study of West Bengal, Calcutta : A. Mukherjee and Co., 1988.

12. Dasgupta, Mandita, 'A Critique of Perspective Planning of Kalyani Township', paper presented at 'Conference on Urban Planning and Development', Centre for Urban Economic Studies, Calcutta University, 1986.
13. Department of Local Government and Urban Development, Government of West Bengal, A Handbook of Municipal Administration in West Bengal, Calcutta, 1981.
14. Goon, A.M., M.N. Gupta, & B. Dasgupta, Fundamentals of Statistics, Vol. I, Calcutta, 1971.
15. Mitra, A., S.B.L. Sherry, & B. Dutt, Shifts in the Functions of Cities and Towns in India 1961-71 (An ICSSR - JNU Study), New Delhi, 1981.
16. Mukherjee, S.B., 'Calcutta 2001 : Some Demographic Consideration', paper presented at 'Conference on Calcutta - Yesterday, Today and Tomorrow', Centre for Urban Economic Studies, Calcutta University, 1985.
17. Munsii, Sunil Kumar, Geography of Transportation in Eastern India under the British Raj (Centre for Studies in Social Sciences Monograph No. 1), Calcutta, 1980.
18. Samiksha Parishad, Baranagar Itihas O' Samiksha, (Bengali), Calcutta, (n.d.).

TABLE - 1

PERCENTAGE OF POPULATION ENGAGED IN PRIMARY SECTOR
 IN MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA
 (1951 - 71)

<u>Municipality</u>	<u>1951</u>	<u>1961</u>	<u>1971</u>
Bansberia	1.68	2.41	5.99
Hooghly - Chinsurah	3.78	2.58	3.52
Chandernagore (MC)	0.72	1.82	2.52
Bhadreswar	1.99	5.18	1.40
Chamdani	0.83	4.96	1.91
Baidyabati	6.62	6.92	6.71
Serampore	1.39	1.03	1.35
Rishra	3.27	0.30	1.52
Konnagar	1.30	0.87	2.92
Uttarpara-Kotrung	2.52	0.58	1.68
Bally	4.15	5.41	-
Uluberia	14.52	8.82	16.50
Kalyani (NAA)	-	0.43	36.63
Gayeshpur (NAA)	-	3.08	49.21
Kanchrapara	0.18	0.57	2.44
Halishahar	1.34	2.07	0.46
Naihati	0.45	0.73	0.45
Bhatpara	1.55	0.24	0.95
Garulia	0.85	0.34	1.64

TABLE - 1 (Contd.)

<u>Municipality</u>	<u>1951</u>	<u>1961</u>	<u>1971</u>
North Barrackpore	2.79	0.71	3.53
Barrackpore	1.66	1.21	2.13
Titagarh	0.15	0.18	0.37
Khardah	2.95	0.21	1.91
Panihati	1.73	1.31	2.58
Kamarhati	2.44	0.34	0.86
Baranagar	1.42	0.62	0.86
Barasat	19.19	11.01	15.58
New Barrackpore	-	2.23	5.93
North Dum Dum	14.59	4.58	4.63
Dum Dum	0.95	2.01	0.11
South Dum Dum	1.87	2.26	1.63
Rajpur	21.04	14.48	13.69
Baruipur	17.84	6.77	12.04
Budge Budge	3.06	0.86	0.79

Source: Census of India (for various years).

TABLE - 2

CHANGE IN THE PERCENTAGE OF POPULATION ENGAGED
IN PRIMARY SECTOR IN MUNICIPAL TOWNS OF CALCUTTA
METROPOLITAN AREA, 1951 - 71

<u>Municipality</u>	<u>1951-61</u>	<u>1961-71</u>
Bansberia	+ 0.73	+ 4.31
Hooghly - Chinsurah	- 1.20	+ 0.24
Chandernagore (MC)	+ 1.10	+ 0.94
Bhadreswar	+ 3.19	- 3.78
Champdani	+ 4.13	+ 0.32
Baidyabati	+ 0.30	- 0.21
Serampore	- 0.36	+ 0.70
Rishra	- 2.97	- 3.05
Konnagar	- 0.43	+ 1.22
Uttarpara-Kotrung	- 1.94	+ 1.10
Bally	+ 1.26	-
Uluberia	- 5.70	+ 7.68
Kalyani (NAA)	-	+36.20
Gayeshpur (NAA)	-	+46.13
Kanchrapara	+ 0.39	+ 1.87
Halishahar	+ 0.73	- 1.61
Naihati	- 0.28	+ 2.05
Bhatpara	- 2.08	+ 0.71
Garulia	- 0.51	+ 0.30

TABLE - 2 (Contd.)

<u>Municipality</u>	<u>1951-61</u>	<u>1961-71</u>
North Barrackpore	- 2.74	+ 2.82
Barrackpore	+ 0.45	+ 0.92
Titagarh	+ 0.03	+ 0.15
Khardah	- 0.42	+ 1.70
Panihati	- 0.80	+ 1.27
Kamarhati	- 2.10	+ 0.52
Baranagar	- 0.80	+ 0.24
Barasat	- 7.18	+ 4.57
New Barrackpore	-	+ 3.70
North Dum Dum	-10.01	+ 0.05
Dum Dum	+ 1.06	- 1.90
South Dum Dum	+ 0.39	- 0.63
Rajpur	- 6.56	- 0.79
Baruipur	-11.07	+ 5.27
Budge Budge	- 2.20	- 0.07

Source: Calculated from Census of India (for various years).

TABLE - 3

CULTIVATORS AND AGRICULTURAL LABOURERS IN MUNICIPAL TOWNS OF CALCUTTA
METROPOLITAN AREA, 1951-81

Municipality	Number of cultivators					Number of agricultural/labourers				
	1951a	1961	1971	1981	1981	1951a	1961	1971	1981	1981
Bansberia	231	13	133	239	283	25	689	352		
Hooghly-Chinsurah	1261	39	29	35	683	138	112	87		
Chandernagore (MC)	313	14	48	42	47	14	56	70		
Bhadreswar	453	27	31	30	269	112	161	109		
Champdani	201	0	31	26	62	28	162	99		
Baidyabati	1156	319	246	254	492	331	546	644		
Serampore	955	32	21	42	76	17	162	70		
Rishra	255	12	5	21	642	5	43	162		
Konnagar	4210	0	2	1	53	0	185	10		
Uttarpara-Kotrung	660	7	9	29	128	0	188	61		
Bally	841	2	-	64	1142	43	-	78		
Uluberia	389	36	63	166	570	54	408	244		
Kalyani (NAA)	-	0	104	147	-	0	879	851		
Gayeshpur (NAA)	-	16	68	338	-	10	391	912		
Kanchrapara	102	5	28	98	1	-	49	144		
Halishahar	282	103	103	99	183	67	319	867		
Naihati	-	10	5	51	106	41	43	74		
Bhatpara	1373	18	99	122	717	17	360	246		
Garulia	185	6	11	25	83	0	32	12		

TABLE - 3 (Contd.)

Municipality	Number of cultivators					Number of agricultural labourers				
	1951a	1961	1971	1981	1951a	1961	1971	1981		
North Barrackpore	805	18	38	47	93	46	328	47		
Barrackpore	366	14	101	17	341	22	204	60		
Titagarh	53	2	5	29	58	1	63	294		
Khardah	432	76	34	19	114	26	25	77		
Panihati	749	42	141	155	110	67	616	177		
Kamarnhati	1626	13	8	45	857	58	75	95		
Baranagar	904	520	150	26	192	19	67	49		
Barasat	1830	443	389	281	1091	411	1129	1260		
New Barrackpore	-	65	65	82	-	16	334	68		
North Dum Dum	526	70	106	67	1247	286	442	250		
Dum Dum	129	16	0	1	4	96	0	0		
South Dum Dum	492	29	119	26	658	71	204	177		
Rajpur	1396	344	520	387	2035	368	532	590		
Baruipur	935	114	118	75	713	63	424	279		
Budge Budge	831	0	12	28	154	90	74	174		

a - Figures include dependents.

Source: Census of India (for various years).

TABLE - 4

PERCENTAGE OF POPULATION ENGAGED IN SECONDARY SECTOR
IN MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA, 1951-71

Municipality	1951	1961	1971
Bansberia	66.56	71.11	66.19
Hooghly-Chinsurah	18.75	31.20	28.79
Chandernagore	31.82	41.40	46.66
Bhadreswar	72.73	75.18	78.36
Champhani	68.16	75.54	80.26
Baidyabati	23.38	38.91	29.57
Serampore	44.43	58.96	56.73
Rishra	62.39	76.11	76.32
Konnagar	40.61	66.21	50.00
Uttarpara-Kotrung	28.89	47.15	40.87
Bally	46.64	62.83	-
Uluberia	36.63	49.94	40.03
Kalyani (NAA)	-	36.23	21.82
Gayeshpur (NAA)	-	0.34	21.07
Kanchrapara	49.68	53.59	39.60
Halishahar	49.12	71.04	62.89
Naihati	49.21	72.01	62.90
Bhatpara	61.61	80.27	79.09
Garulia	61.86	52.66	78.97
North Barrackpore	46.94	43.40	56.61
Barrackpore	39.32	81.51	51.74
Titagarh	74.82	53.76	82.77
Khardah	45.26	52.71	50.52
Panihati	47.90	56.47	39.22
Kamarhati	52.92	65.98	60.71
Baranagar	43.79	51.59	46.54
Barasat	13.42	27.19	26.32
New Barrackpore	-	26.32	22.10
North Dum Dum	14.08	37.89	35.07
Dum Dum	33.01	60.11	50.29
South Dum Dum	29.91	42.89	37.09
Rajpur	5.64	39.49	21.29
Baruipur	7.53	20.47	20.44
Budge Budge	51.69	59.42	50.96

Source : Census of India (for various years).

TABLE - 5

CHANGE IN THE PERCENTAGE OF POPULATION ENGAGED IN SECONDARY
SECTOR IN MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA,
1951-71

Municipality	1951-61	1961-71
Bansberia	+ 4.56	- 4.92
Hooghly-Chinsurah	+ 12.45	- 2.41
Chandernagore (MC)	+ 9.58	+ 5.26
Bhadreswar	+ 2.45	+ 3.18
Champdani	+ 7.38	+ 4.72
Baidyabati	+ 15.53	- 9.34
Serampore	+ 14.53	- 2.23
Rishra	+ 13.72	+ 0.21
Konnagar	+ 25.60	- 16.21
Uttarpara-Kotrung	+ 18.26	- 6.28
Bally	+ 16.19	-
Uluberia	+ 13.31	- 9.91
Kalyani (NAA)	-	- 14.41
Gayeshpur (NAA)	-	+ 20.73
Kanchrapara	+ 3.91	- 13.99
Halishahar	+ 21.92	- 8.51
Naihati	+ 22.80	- 9.11
Bhatpara	+ 18.66	- 1.18
Garulia	- 9.20	+ 26.31
North Barrackpore	- 3.56	+ 13.21
Barrackpore	+ 42.19	- 29.77
Titagarh	- 21.06	+ 29.01
Khardah	+ 7.45	- 2.91
Panihati	+ 8.57	- 17.25
Kamarhati	+ 13.06	- 5.27
Baranagar	+ 7.80	- 5.05
Barasat	+ 13.77	- 0.82
New Barrackpore	-	- 4.22
North Dum Dum	+ 23.81	- 2.82
Dum Dum	+ 27.10	- 9.82
South Dum Dum	+ 12.98	- 5.80
Rajpur	+ 33.85	- 18.20
Baruipur	+ 12.94	- 0.03
Budge Budge	+ 7.73	- 8.46

Source : Census of India (for various years).

TABLE - 6

PERCENTAGE OF POPULATION ENGAGED IN TERTIARY SECTOR IN
MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA, 1951-71

Municipality	1951	1961	1971
Bansberia	30.58	26.46	27.82
Hooghly-Chinsurah	77.47	66.22	67.69
Chandernagore (MC)	67.46	56.75	50.82
Bhadreswar	25.28	23.23	20.24
Champdani	31.01	19.50	17.83
Baidyabati	69.99	54.17	63.73
Serampore	54.18	40.01	41.92
Rishra	34.34	23.59	22.16
Konnagar	58.09	32.91	47.08
Uttarpara-Kotrung	68.61	52.27	57.51
Bally	49.21	31.76	-
Uluberia	48.85	41.24	43.47
Kalyani (NAA)	-	63.34	41.35
Gayeshpur (NAA)	-	96.58	29.72
Kanchrapara	50.64	45.84	57.96
Halishahar	49.28	26.89	36.65
Naihati	49.28	27.26	36.65
Bhatpara	36.84	19.84	19.96
Garulia	37.37	47.00	19.39
North Barrackpore	50.27	55.89	39.76
Barrackpore	59.02	17.28	46.13
Titagarh	25.02	46.06	16.86
Khardah	51.78	27.66	47.57
Panihati	50.36	42.22	58.20
Kamarhati	44.64	33.68	38.43
Baranagar	54.79	47.79	52.40
Barasat	68.39	61.80	58.50
New Barrackpore	-	71.44	71.97
North Dum Dum	71.33	57.53	60.30
Dum Dum	66.04	37.88	49.60
South Dum Dum	68.21	54.85	61.28
Rajpur	74.62	46.03	65.62
Baruipur	74.63	72.76	67.52
Budge Budge	45.25	39.72	48.25

Source : Census of India (for various years).

TABLE - 7

CHANGE IN THE PERCENTAGE OF POPULATION ENGAGED IN TERTIARY
SECTOR IN MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA,
1951 - 71

Municipality	1951-61	1961-71
Bansberia	- 4.12	+ 1.36
Hooghly-Chinsurah	- 11.25	+ 1.47
Chandernagore (MC)	- 10.71	- 5.93
Bhadreswar	- 2.05	- 2.99
Champdani	- 11.51	+ 1.67
Baidyabati	- 15.12	+ 9.56
Serampore	- 14.17	+ 1.91
Rishra	- 10.75	- 1.43
Konnagar	- 25.18	+ 14.17
Uttarpara-Kotrung	- 16.34	+ 5.24
Bally	- 17.45	-
Uluberia	- 7.61	+ 2.23
Kalyani (NAA)	-	- 21.79
Gayeshpur (NAA)	-	- 66.86
Kanchrapara	- 4.80	+ 12.12
Halishahar	- 22.39	+ 9.96
Naihati	- 22.02	+ 9.39
Bhatpara	- 17.36	+ 0.48
Garulia	+ 9.63	- 27.61
North Barrackpore	+ 5.62	- 16.13
Barrackpore	- 41.74	+ 28.85
Titagarh	+ 21.04	- 29.20
Khardah	- 24.12	+ 19.91
Panihati	- 8.14	+ 15.98
Kamarhati	- 10.96	+ 4.75
Baranagar	- 7.00	+ 4.61
Barasat	- 6.59	- 3.75
New Barrackpore	-	- 0.53
North Dum Dum	- 13.80	+ 2.77
Dum Dum	- 28.16	- 11.72
South Dum Dum	+ 13.36	+ 6.43
Rajpur	- 28.59	+ 18.99
Baruipur	- 18.70	- 5.24
Budge Budge	- 5.53	+ 8.53

Source : Census of India (for various years).

APPENDIX - I

LIST OF ROADS CONSTRUCTED DURING 1860-61

- (i) Calcutta to Karmanasa river
- (ii) Calcutta to Chutterpore (Madras Frontier)
- (iii) Calcutta to Berhampore and Murshidabad
- (iv) Calcutta to Mutlah (Port Canning)
- (v) Calcutta to Diamond Harbour
- (vi) Howrah Branch road
- (vii) Midnapore Branch road via Bankura and Ranigaunge
- (viii) Tamruk Branch road
- (ix) Barasat - Barrackpore road
- (x) Jessore Branch road

Source : Banerjee (1975), Chapter 1.

APPENDIX - II

SIZE DISTRIBUTION FOR MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA (1951-1981)

City-size/Year	1951	1961	1971
I	Bhatpara	Bhatpara, Baranagar, Kamarhati, South Dum Dum, Bally	Hooghly-Chinsurah, Serampore, Bhatpara, Baranagar, Kamarhati, Panihati, South Dum Dum
II	Bally, South Dum Dum, Titagarh, Naihati, Kancharapara, Baranagar, Kamarhati, Serampore, Hooghly-Chinsurah	Chandernagore, Hooghly-Chinsurah, Serampore, Barrackpore, Kancharapara, Naihati, North Barrackpore, Panihati, Titagarh, Halishahar	Baidyabati, Bansberia, Champdani, Chandernagore, Rishra, Uttarpara-Kotrung, Barrackpore, Budge Budge, Kancharapara, Naihati, North Barrackpore, Titagarh, North Dum Dum, Halishahar
III	Budge Budge, Barrackpore Halishahar, Panihati, Garulia, North Barrackpore, Bhadreswar, Bansberia, Baidyabati, Konnagar, Rishra, Champdani, Chandernagore	Baidyabati, Bansberia, Bhadreswar, Champdani, Konnagar, Rishra, Uttarpara-Kotrung, Barasat, Budge Budge, Dum Dum, Garulia, Khardah, New Barrackpore, North Dum Dum, Rajpur	Bhadreswar, Konnagar, Uluberia, Barasat, Barui pur, Dum Dum, Garulia, Khardah, New Barrackpore, Rajpur
IV	Uluberia, Rajpur, Barasat, Dum Dum, Khardah, North Dum Dum, Uttarpara-Kotrung	Gayeshpur, Uluberia, Barui pur	Kalyani, Gayeshpur
V	Barui pur	Kataganj-Gokul pur	Kataganj-Gokul pur
VI	-	Kalyani	

APPENDIX - III

MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA CLASSIFIED ACCORDING TO DECADEAL POPULATION GROWTH RATE (1951-1981)

Population growth rate	1951-61	1961-71	1971-81
Very High (More than 75 per cent per decade)	North Dum Dum, Panihati, South Dum Dum, Barasat, North Barrackpore, Baidyabati	Kalyani	Kalyani, Gayeshpur
High (51-75 per cent per decade)	Uttarpara-Kotrung, Kamarhati, Bally, Rajpur, Baruipur, Khardah	North Dum Dum, Rishra, Panihati, South Dum Dum, New Barrackpore, Garulia, Baruipur	Barasat, North Dum Dum
Medium (31-50 per cent per decade)	Barrackpore, Uluberia, Hali-shahar, Hooghly-Chinsurah, Bansberia, Konnagar, Dum Dum, Rishra, Baranagar, Champdani, Chandernagore	Barasat, Naihati, Champdani, Bhatpara, Rajpur, Bansberia, Kamarhati, North Barrackpore, Halishahar, Bally	Konnagar, New Barrackpore, Khardah, Halishahar, Naihati, Kamarhati, Panihati, Uluberia, Chandernagore, South Dum Dum, Baruipur, Budge Budge, Baidyabati
Low (10-30 per cent per decade)	Budge-Budge, Serampore, Kanchrappara	Uttarpara-Kotrung, Bhadrāswar, Budge-Budge, Gayeshpur, Baranagar, Hooghly-Chinsurah, Baidyabati, Konnagar, Titagarh, Kanchrappara, Khardah, Uluberia, Chandernagore, Serampore	Champdani, Garulia, Bhadrāswar, Rajpur, Bhatpara, Serampore, Baranagar, Bansberia, Hooghly-Chinsurah, Barrackpore, Titagarh, Uttarpara-Kotrung, Kanchrappara
Very Low (below 10 per cent)	Bhatpara, Titagarh, Naihati, Garulia, Bhadrāswar	-	Dum Dum, Bally, North Barrackpore

Source : Census of India (various years)

APPENDIX - IV

MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA CLASSIFIED ACCORDING TO DENSITY

Density (Persons / sq. km.)

1951

1961

Very High
(above 20000)

Titagarh, Serampore

Titagarh

High (10000-20000)

Naihati

Serampore, Baranagar, Naihati, Bhatpara, Rishra, Kamarhati

Average
(7500-10000)

Bhatpara, Bally, Baranagar

Gayeshpur, Bally, South Dum Dum, Kanchrappara

Low
(5000-7500)

Kamarhati, Garulia, Kanchrappara, Dum Dum, Bhadreswar, Chandernagore

Garulia, Khardah, Uttarpara-Kotrung, New Barrackpore, Dum Dum, Chandernagore, North Barrackpore, Champdani, Bhadreswar, Barrackpore, Hooghly-Chinsurah, Budge Budge, Bansberia

Very Low
(below 5000)

Champdani, Rishra, Uttarpara-Kotrung, Budge Budge, South Dum Dum, North Barrackpore, Hooghly-Chinsurah, Konnagar, Barrackpore, Bansberia, Baldyabati, Panihati, Uluberia, Halishahar, Khardah, Barasat, Baruiipur, Rajipur, North Dum Dum

Baldyabati, Panihati, Uluberia, Halishahar, Barasat, North Dum Dum, Baruiipur, Rajipur, Kalyani

APPENDIX - IV (Contd.)

Density (Persons/ sq. km.)	1971	1981
Very High (above 20000)	Titagarh	Titagarh, Naihathi, Baranagar, Serampore, Kamarhati, Bhatpara
High (10000-20000)	Baranagar, Naihathi, Serampore, Bhatpara, Kamarhati, Bally, South Dum Dum	South Dum Dum, Bally, Rishra, Champdani, Konnagar, Halishahar, Uttarpara-Kotrung, Dum Dum, Hooghly-Chinsurah, Panihathi, Chandernagore
Average (7500-10000)	Dum Dum, Rishra, Uttarpara- Kotrung, North Barrackpore, Champdani, Kanchrapara, Halishahar, Barrackpore, Konnagar, Chandernagore, Khardah, Panihathi	Kanchrapara, Barrackpore, North Barrackpore, Bhadreswar, Bansberia, Garulia
Low (5000-7500)	Bhadreswar, Bansberia, Garulia, Budge Budge, Hooghly- Chinsurah	Budge Budge, Beidyabati
Very Low (below 5000)	Baidyabati, North Dum Dum, Uluberia, Baruijur, Barasat, New Barrackpore, Rajpur, Gayeshpur, Kalyani	North Dum Dum, Uluberia, Barasat, Baruijur, New Barrackpore, Rajpur, Gayeshpur, Kalyani

Source : Census of India (various years).

APPENDIX - V

GENDER RATIO, FOR MUNICIPAL TOWNS OF CALCUTTA METROPOLITAN AREA (1951-1981)

Gender Ratio (females/1000 males)	1951		1961	
	1951	1961	1951	1961
High (above 900)	-	-	-	-
Moderate (751-900)	Uttarpara-Kotrung, Hooghly- Chinsurah, Uluberia, Barasat, North Dum Dum, Rajpur, Barui pur, Kanchrapara, Chandernagore	Baidyabati, Panihati, Barasat, North Dum Dum, Rajpur, Barui pur, Uttarpara-Kotrung, Kanchrapara, North Barrackpore, Hooghly- Chinsurah, Chandernagore, Barrackpore, South Dum Dum, Gayeshpur, New Barrackpore, Baranagar		
Low (501-750)	Bansberia, Baidyabati, North Barrackpore, Khardah, Panihati, Champani, Rishra, Barrackpore, South Dum Dum, Konnagar, Bally, Bhatpara, Baranagar, Kamarhati, Dum Dum, Naihati, Serampore, Titagarh	Halishahar, Uluberia, Kalyani, Bansberia, Bhadreswar, Khardah, Konnagar, Bally, Champani, Budge Budge, Garulia, Dum Dum, Bhatpara, Serampore, Rishra, Naihati, Kamarhati		
Very Low (below 500)	Halishahar, Budge Budge, Garulia, Bhadreswar	Titagarh		

APPENDIX - V (Contd.)

1971

1981



Gender Ratio (females/ 1000 males)	1971	1981
High (above 900)		Barasat, Gayeshpur, Uluberia, Rajpur, North Dum Dum, New Barrackpore, Baidyabati, Uttarpara- Kotrung, Hooghly-Chinsurah, South Dum Dum, Chandernagore
Moderate (751-900)	Baidyabati, Uluberia, Rajpur, Barui pur, Barasat, North Dum Dum, Kalyani, Gayeshpur, New Barrackpore, Bansberia, Hooghly-Chinsurah, Uttarpara- Kotrung, North Barrackpore, Kanchrapara, Khardah, Panihati, Chandernagore, Konnagar, Barrack- pore, Baranagar, Serampore, Naihati, Kamarhati, South Dum Dum	Kalyani, Barui pur, Bansberia, Bhadreswar, Kanchrapara, North Barrackpore, Garulia, Barrackpore, Bally, Halishahar, Khardah, Panihati, Konnagar, Bhatpara, Baranagar, Serampore, Naihati
Low (501-750)	Bhadreswar, Halishahar, Chandernagore, Rishra, Budge Budge, Garulia, Dum Dum, Bhatpara, Titagarh	Budge Budge, Chandernagore, Rishra, Dum Dum, Titagarh, Kamarhati
Very Low (below 500)		

Source : Census of India (various years).