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Nature of the Process of Urbanisation in South 24 Parganas District of West Bengal, India: A Spatio-temporal Analysis

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ABSTRACT

It is well acknowledged that the Global South urbanised rapidly during last thirty to forty years, but with regional differences in levels of urbanisation. Urbanisation has taken a multi-faceted character in this segment, as the Third World is itself large and diverse. In countries like India urbanisation has been taking place against a background of a largely rural and agrarian socio-economy. It would be interesting enough in this connection to study the nature of urban development in South 24 Parganas district of West Bengal state in India. Trend in level and pattern of urbanisation here has been analysed since 1951. Distribution of urban centres and urban population at sub-district level has been also discussed chronologically. A comparison among Police Stations or C. D. Blocks has been done since 1951 to measure their degree of urbanisation more accurately taking into consideration four major parameters, like level of urbanisation, share of urban area in total, density of urban population and urban centres. Detailed analysis on trends of urban growth and their size-class classification also provides with another vital insight. In fact, the process of urbanisation in South 24 Parganas bears some uniqueness. In spite of being an adjoining district of the Kolkata metropolis, South 24 Parganas is one among the largely rural districts of West Bengal. Till recently the district had a very small proportion of urban population, but growing very fast since independence. However, urban development has been largely in-situ and Kolkata-centric in nature.

Key words: level of urbanisation, urban growth, urban expansion, in-situ urbanisation, primate city

INTRODUCTION

The last phase of global urban transition has been continuing in the developing countries of the 'Global South', including much of Asia, Africa and Latin America [1]. Asia, in particular, has been witnessing a rapid and concentrated urbanisation. However, urbanisation in India, one of the large economies of the world, has been relatively slow since second half of the past century as compared with many other developing countries. Aggregate urban population increased in India, but it constitutes only a small part of total population and there has been no decline in absolute volume of rural population. Among the states of India, West Bengal is characterised by a comparatively high level of urbanisation and with a low declining urban growth rate. Multi-dimensional analysis of the process of urbanisation in the largely rural district of South 24 Parganas in West Bengal has been done in this connection. It would be relevant at this point to recollect the concept of 'urban' in a nutshell. The 'urban' as an entity entails four basic parameters. According to the Census of India (2001) an urban place is defined as: i) all statutory towns, i.e. all places with a municipality, corporation, cantonment board, or notified town area committee etc., ii) all other places which satisfy the following criteria: a) a minimum population of 5000, b) at least 75 per cent

of the male working population is engaged in non-agricultural pursuits, c) a density of population of at least 400 per sq. km. [2]. The qualitative aspect of the concept relates to the meaning of an urban place and the effect of urban milieu on people’s lifestyle (and vice versa).

The Study Area- South 24 Parganas is the southernmost district of the state occupying southern part of the Bengal Delta (Map 1). The district lies between 21°29'0" north and 22°33'45" north latitudes and 88°3'45" east and 89°4'50" east longitudes. South 24 Parganas was part of the undivided 24 Parganas. On 1 March 1986, 24 Parganas was divided into two separate parts mainly for administrative convenience. The northern part became known as North 24 Parganas and the southern part as South 24 Parganas. The district presently has thirty two Police Stations and twenty nine Community Development Blocks (C. D. Block). Total area covered by the district is 9,960 sq. km..It was the second most populous district of West Bengal with a total population of 81,61,961 in 2011. Urban population jumped from 95,627 in 1951 to 20,87,773 in 2011, registering a staggering growth rate of 2083.25 per cent, which is ten times greater than rural growth rate. (Figure 1)

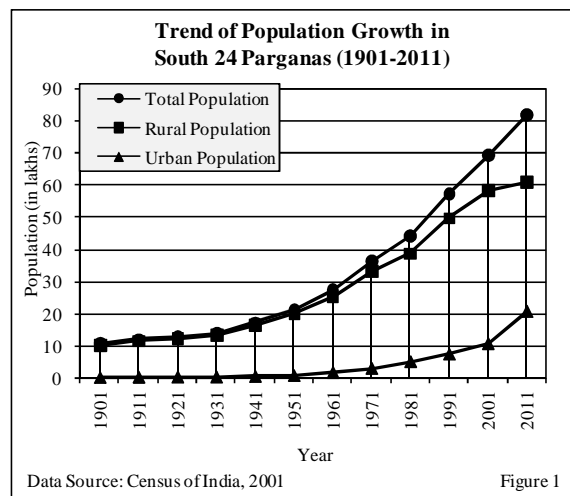
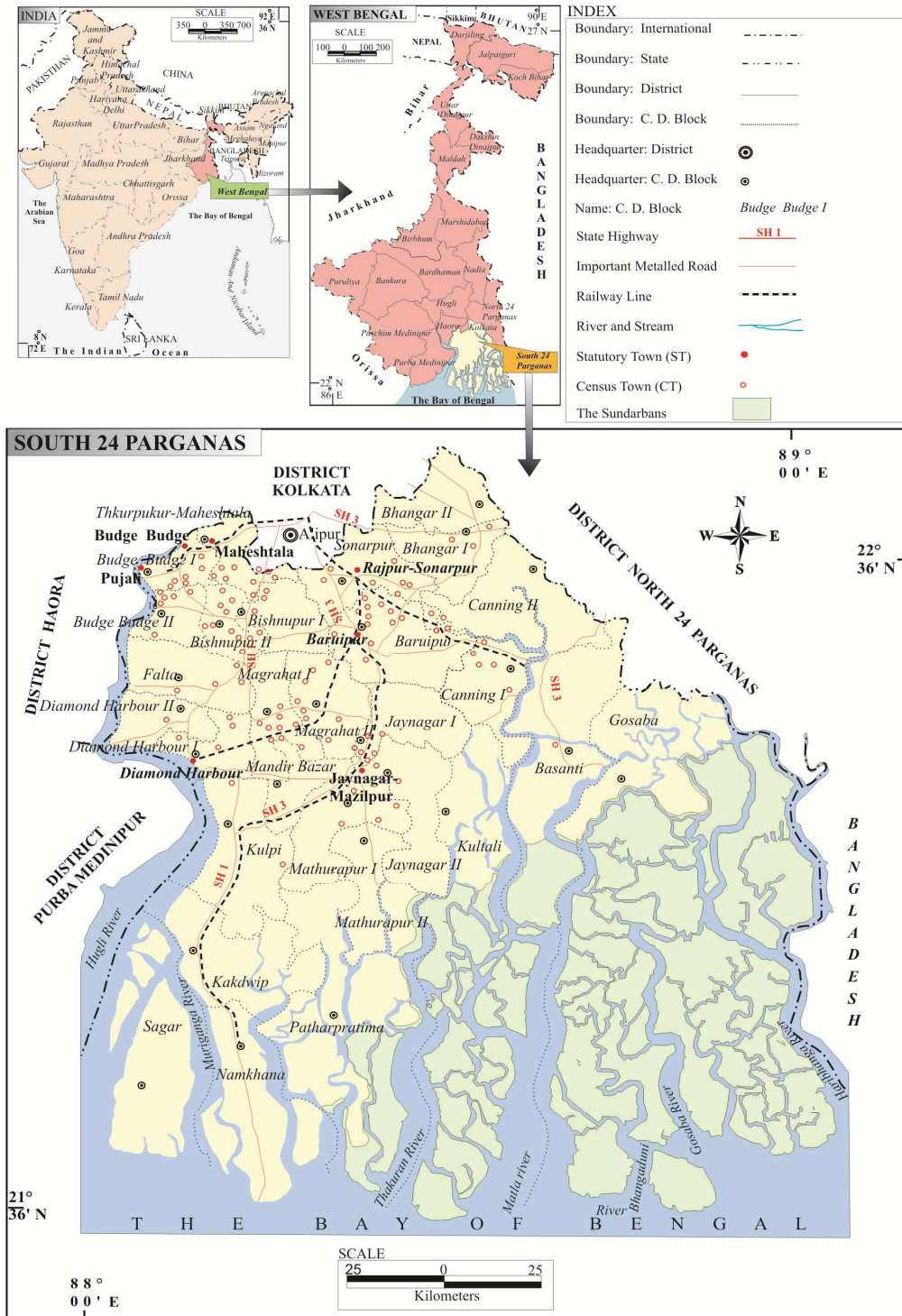


Figure 1

LOCATION OF SOUTH 24 PARGANAS DISTRICT IN WEST BENGAL, INDIA



Source : Administrative Atlas; West Bengal, Census of India 2011

Map 1

MATERIALS AND METHODS

The present analysis has been carried out in three parts. Firstly, extensive survey of literature on varied aspects of urbanisation and economic development was made. These include theoretical premises and case studies from West

Bengal, India and different countries of the world. Relevant reports, like the Report of the National Commission for Urbanisation (1988); District Human Development Report of South 24 Parganas (2009); Human Development Report of West Bengal (2004) etc. were collected from the concerned government authorities. Secondary data were collected from various sources, like the Census of India; the Bureau of Applied Economics and Statistics; the Kolkata Municipal Development Authority; the Calcutta Electricity Supply Corporation; the District Industrial Centre, South 24 Parganas; the Lead Bank Office, South 24 Parganas; the District Rural Development Cell, South 24 Parganas etc.. Administrative and thematic maps of various dimensions were gathered from different sources, like the Census of India and the National Atlas and Thematic Mapping Organisation etc.. Secondly, different municipalities and non-municipal towns, as well as the gradually transforming rural areas of the district were visited. Draft Development Plan by the municipalities made under five year economic plans, secondary data and maps were collected from municipalities and gram panchayats. Detailed discussions were made with various academic, non-academic and administrative persons, and more significantly with local residents on different urban-economic issues pertaining to the study area. Thirdly, compilation and computation of collected data were made. Relevant statistical techniques were applied. Relevant maps and diagrams were prepared with application of the Geographical Information System and other relevant software. Next multidimensional analyses of data, assessments from comparative studies, and verification of existing theories of urban-economic development in context of South 24 Parganas were made. Special emphasis has been given upon analysis at C. D. Block level. A socio-economic regional classification of the blocks of the district has been used in this study for convenience of discussion (Table 1).

Table 1: Socio-economic Regionalisation in South 24 Parganas

Region	Location	Character	Name of the C. D. Blocks
Region I	North-western Region	Semi-transformed/ Semi-urban Region	Thakurpukur-Maheshtala, Budge Budge I, Budge Budge II, Bishnupur I, Bishnupur II, Sonarpur
Region II	North-east and Mid-western Region	Transforming Region	Baruipur, Bhangar I, Bhangar II, Falta, Diamond Harbour I, Diamond Harbour II, Kulpi, Magrahat I, Magrahat II, Mandirbazar
Region III	The Sundarban Region	Predominantly Rural and Backward Region	Canning I, Canning II, Basanti, Gosaba, Jaynagar I, Jaynagar II, Mathurapur I, Mathurapur II, Kultali, Patharpratima, Kakkdwip, Namkhana, Sagar

Source: Human Development Report, 24 Parganas (South), 2009

RESULTS AND DISCUSSION

The basic objective of this paper is to identify the trend of urbanisation in South 24 Parganas with special focus on pattern of urban expansion, urban growth rate, components of urban growth, relative concentration of population in towns of different sizes and occurrence of primacy. These have been discussed elaborately in the following part.

Table 2: Growth in Number of Urban Centres in South 24 Parganas (1951-2011)

Categories of Urban Centres	1951	1961	1971	1981	1991	2001	2011
Statutory Towns	4	4	4	4	5	7	7
Census Towns	3	6	10	20	37	14	111
Outgrowths	0	0	0	1	0	1	0
Total Urban Centres	7	10	14	25	42	22	118

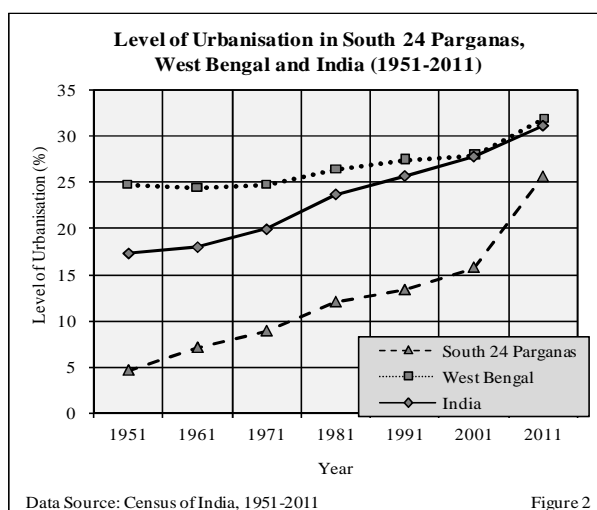
Source: District Census Handbook, 24 Parganas, 1951, 1961, 1971 and 1981; District Census Handbook, South 24 Parganas, 1991 and 2001; Primary Census Abstract, West Bengal, 2011

Urban Areas of Different Categories- There has been only one type of statutory town in South 24 Parganas, i.e. municipality. The oldest municipalities are Jaynagar-Mazilpur and Baruipur. Both of them were established in 1869. Rajpur (later expanded and renamed as Rajpur-Sonarpur Municipality) was formed in 1876. Budge Budge Municipality was created in 1900. Diamond Harbour Municipality was added to this list in 1982. Later two new municipalities, namely Maheshtala and Pujali, were created in 1993. No further addition was made in the following decade. Growth of census towns has been really spectacular in South 24 Parganas. Number of these settlements increased almost continuously, except during 1990s, i.e. from only 3 in 1951 to 111 in 2011 (Table 2). Outgrowths have remained less numerous here. South 24 Parganas contains southern part of the Kolkata Urban Agglomeration, which was truly an urban continuum of the Kolkata Mega City. It has seven urban units, like Maheshtala, Budge Budge, Pujali and Rajpur-Sonarpur municipalities, Joka outgrowth and Chata Kalikapur, Balarampur, Uttar Raypur census towns.

Table 3: Level of Urbanisation in South 24 Parganas (1951-2011)
(Figures in percentage)

Region	1951	1961	1971	1981	1991	2001	2011
Region I	11.57	21.51	27.52	39.22	43.81	53.13	63.74
Region II	2.47	2.42	2.68	3.14	3.91	4.31	17.67
Region III	2.53	2.46	2.34	2.32	2.30	1.01	7.54
District	4.58	7.05	8.84	11.99	13.30	15.73	25.58

Source: Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011



Level of Urbanisation- Level of urbanisation has been very low in South 24 Parganas. Upto 1971 less than 10 per cent of total population of this district was urban dwellers. The level increased during the following decades and in 2011 one-fourth of total population was contained in urban areas (Table 3). Proportion of urban population in this district always remained much below the state average, though the difference has been narrowing down gradually (Figure 2). As per the latest census of 2011, South 24 Parganas was the ninth ranking district of the state in terms of urban proportion of total population (Table 4). Moreover, among the districts surrounding the Kolkata Metropolis, the lowest level of urbanisation has always been observed here. Sub-district level analysis shows that Region I has become semi-urban and it has been followed by gradually urbanising Region II and largely rural Region III respectively. The analysis has been done by dividing the period since 1951 into two phases. The first phase ranges from 1951 to 1981 and the second phase covers from 1991 to 2011.

Table 4: Level of Urbanisation and Urban Growth Rate in Selected Districts of West Bengal, 2011

District	Level of Urbanisation			Urban Growth	
	Proportion of Urban Population in Total (in percentage)	Rank	Difference with South 24 Parganas (in per cent points)	Decadal Growth Rate of Urban Population (in percentage)	Rank
Darjiling	39.42	5	+13.84	39.88	9
Jalpaiguri	27.38	8	+1.80	74.72	4
Uttar Dinajpur	12.05	16	-13.53	23.02	13
Dakshin Dinajpur	14.10	11	-11.48	20.04	14
Bardhaman	39.89	4	+14.31	20.85	15
Maldah	13.58	12	-12.00	124.81	1
Murshidabad	19.72	10	-5.86	91.16	3
Nadia	27.84	7	+2.26	46.90	6
Haora	63.38	2	+37.80	42.85	8
Hugli	38.57	6	+12.99	26.11	12
Kolkata	100	1	+74.42	-1.67	17
North 24 Parganas	57.27	3	+31.69	18.17	16
South 24 Parganas	25.58	9	-	92.21	2

Source: Census of India, 2001 and 2011

During 1961, 1971, and 1981 Metiabruzhad the highest level of urbanisation (100 per cent) and it was followed by the Police Stations like Maheshtala, Budge Budge, Sonarpur and Baruipur. But proportion of urban population varied considerably between these Police Stations. In 1981, for instance, level of urbanisation was 71.82 per cent in

Mahestala, 46.78 per cent in Budge Budge and 34.79 per cent in Sonarpur (Figure 3). Bishnupur became urbanised only during 1960s. It had very low level of urbanisation of 4.25 per cent in 1981. The part of Behala Police Station got urbanised during 1970s. Only two Police Stations in Region II, like Baruipur and Diamond Harbour and another two Police Stations in Region III, like Canning and Jaynagar had some urban population between 1951 and 1981. Proportions of urban population of these Police Stations varied around 10 per cent during this period. In 1981, for instance, level of urbanisation was 11.39 per cent in Baruipur, 11.27 per cent in Canning, 8.86 per cent in Diamond Harbour and only 6.42 per cent in Jaynagar.

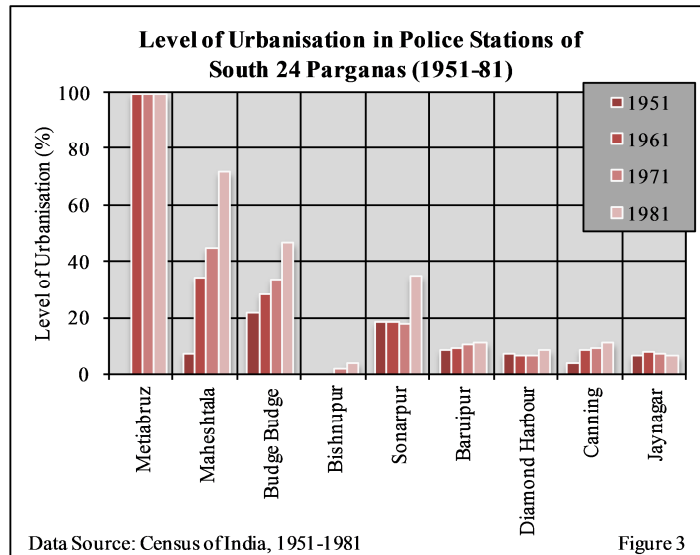


Figure 3

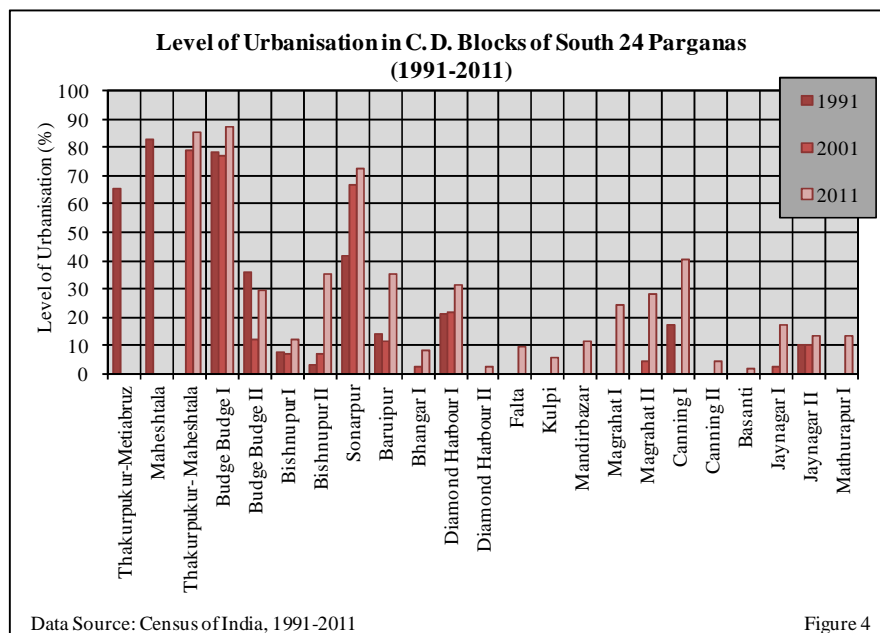
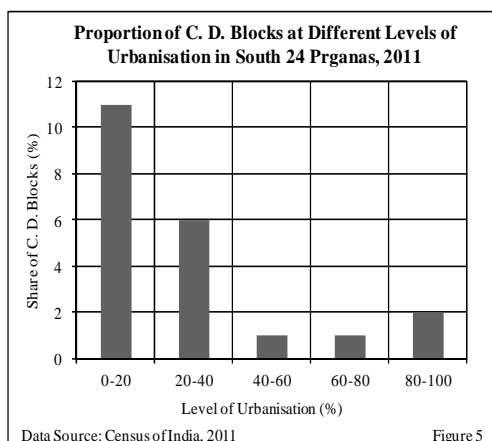


Figure 4



During the second phase level of urbanisation rose remarkably in Region I with more than three-fifth of total population living in urban areas in 2011. Appreciable increase in urban share of total population also took place in Region II with 17.67 per cent urban population in 2011. Urbanisation remained at a very low level in Region III having only 7.54 per cent of its population as urban dwellers (Table 3). However, the most important fact about this phase is the massive spread of urbanisation at block level. Urbanisation diffused over parts of Jaynagar I, Bhangar I and Magrahat II by 2001. The process gained huge momentum between 2001 and 2011. Most of the previously non-urban C. D. Blocks, like Diamond Harbour II, Falta, Kulpi, Mandirbazar and Magrahat I in Region II and Canning II, Basanti and Mathurapur I in Region III, got urbanised, though at varying levels. Thus in 2011, all C. D. Blocks in Region I, nine out of ten in Region II and six out of thirteen in Region III became shareholders of total urban population of the district. In 2011, Budge Budge I had the highest level of urbanisation (86.96 per cent), being closely followed by Thakurpukur-Maheshtala (85.56 per cent) and Sonarpur (72.73 per cent). The lowest level of urbanisation was found in Basanti (1.97 per cent), proceeded by Diamond Harbour II (2.62 per cent) and Canning II (4.43 per cent) successively (Figure 4).

Undoubtedly there has been a greater clustering of C. D. Blocks in the category of very low level of urbanisation followed by the blocks in the class of low level of urbanisation. Needless to say that the urbanising impact of the Kolkata Metropolis upon South 24 Parganas is very much evident from the fact that, the highly urbanised blocks are located in close proximity with Kolkata (Figure 5).

Pattern of Urbanisation- A close look over the locations of urban centres in South 24 Parganas shows that, for a long time, at least upto 1981, urban development in this district took place largely under the urban influence of Kolkata. Emergence of new census towns was not only confined within Region I, but also was concentrated around Kolkata. Diffusion started only during 1980s, when new census towns emerged in two other regions also. However, no new municipality was created in Region II and Region III after early-1980s. In South 24 Parganas five broad patterns in distribution of urban centres can be identified in 2011, as have been mentioned below.

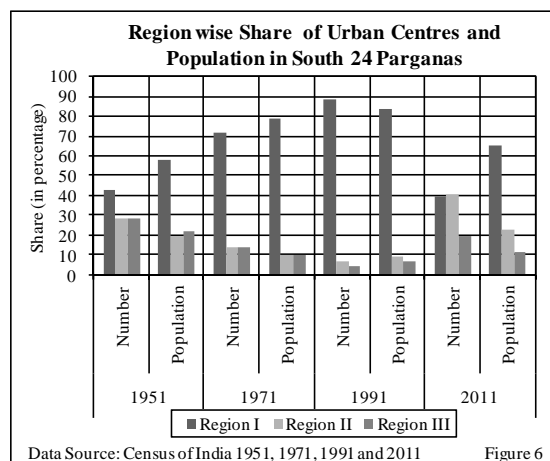
- i) Municipalities and adjoining census towns; as found around Budge Budge (M), Maheshtala (M), Rajpur-Sonarpur (M) and Baruipur (M).
- ii) Agglomeration of census towns near municipalities and larger census towns, as happened in case of the urban agglomeration in Budge Budge II.
- iii) Clustered census towns either surrounding rail-road junctions, as found in Sonarpur, Baruipur, Magrahat II, Jaynagar I and II or surrounding road crossings as observed in Falta, Magrahat I, Bishnupur I and II.
- iv) Group of census towns located in linear fashion along major transport routes, as noticed in Magrahat II, Mathurapur I, Mandirbazar and Canning I.
- v) Scattered urban settlements, as developed in Basanti and Kulpi.

Presently four major regions of urbanisation, found in this district, include:

- i) Budge Budge-Maheshtala-Bishnupur Region having three municipalities and thirty six census towns,
- ii) Sonarpur-Baruipur-Canning-Bhangar Region having two municipalities and thirty one census towns,
- iii) Mandibazar-Mathurapur- Jaynagar Region having one municipality and fifteen census towns,
- iv) Magrahat-Diamond Harbour-Falta Region having one municipality and twenty six census towns.

Distribution of Urban Centres and Population- In South 24 Parganas Region I traditionally contained the maximum share of urban centres and urban population. Region II and Region III came in second and third positions respectively (Figure 6). Level of urbanisation always remained positively correlated with number of urban centres in each region. Out of seven municipalities of the district, four (Maheshtala, Budge Budge, Pujali and Rajpur-Sonarpur) are in Region I, two (Baruipur and Diamond Harbour) in Region II with only one (Jaynagar-Mazilpur) in Region III. Census towns were also mostly concentrated in Region I and were much less in number in other regions upto 2001. For instance, in 1991 number of census towns in Region I, Region II and Region III was 35, 1 and 1 respectively (Appendix 1). Upto 1981, most of the non-municipal towns were located in Budge Budge and Maheshtala area in Region I. During 1970s share of Sonarpur in this region also increased. This trend continued even during 1980s and 1990s. The huge urban concentration in Region I may be due to the following factors. Firstly, areas surrounding three large municipalities, like Maheshtala, Budge Budge and Rajpur-Sonarpur, enjoyed better infrastructural facilities and thus got opportunity to develop socio-economically. As a result, many surrounding settlements acquired urban characteristics in course of time. Secondly, Region I being located in the urban shadow area of Kolkata naturally receives some developmental impulses. At the same time, this region and its municipalities in particular have been facing tremendous pressure on land due to continuously growing pressure of local population and also external pressure from Kolkata. An increasing demand of land for non-agricultural purposes has been generated here simultaneously. In the third place comes the impact of spread of manufacturing activities within this region. Sonarpur, Bishnupur, Budge Budge, Maheshtala witnessed the maximum sprouting of manufacturing enterprises during last two decades. Consequently this region observed greater economic transformation from agricultural to non-agricultural pursuits. Thus incidences of conversion of rural settlements into urban entities due to changes in their economic and demographic characters were very high here. As distance from the metropolis increases, number of municipalities decreases in Region II and in Region III. Thus under decreasing urban influence, rate of creation of non-municipal towns also remained smaller here. However, following changes occurred in regional distribution of non-municipal towns during the last decade with no change in the distribution of municipalities.

- i) Number of non-municipal towns increased in all urbanised C. D. Blocks of the district. The highest increase was observed in Baruipur of Region II. This was followed by Bishnupur I and Thakurpukur-Maheshtala in Region I.
- ii) Following the spread of urbanisation in previously non-urban blocks of Region II and Region III, within Region II Baruipur had the highest number (12) of census towns and Diamond Harbour II had the lowest number (1) in 2011. Within Region III Canning II and Basanti had one town each, while Canning I had the highest number (8) of towns.
- iii) In contrast to the previous trend, in 2011 number of non-municipal towns was the highest in Region II (46), being followed by Region I (43) and Region III (22) respectively. But this trend differs from pattern of regional distribution of urban population.



Relative concentration of urban population in South 24 Parganas has been measured for each census-year by Location Quotient (L.Q.) Method. L.Q. of each Police Station or C. D. Block can be expressed as:

Share of urban population in total population of that Police Station or C. D. Block/ Share of urban population in total population of the district.

In regional context, a higher or lower value of L.Q. indicates relative concentration (value of L.Q. being more than 1) or dispersion (value of L.Q. being less than 1) of the concerned attribute respectively [3]. In case of South 24 Parganas' urban population unequal concentration was the characteristic feature upto 1990s. In 1951 concentration was higher in Budge Budge and then in Sonarpur (values of L.Q. were between 4 and 5). Between 1961 and 1981 very high concentration was observed in Metiabruz (values of L.Q. were between 15 and 8). This was followed by Maheshtala (values of L.Q. were between 4 and 6), Budge Budge (values of L.Q. were around 4) and Sonarpur (values of L.Q. were between 2 and 3). L.Q. values of Police Stations in two other regions varied between 1 and 2 in 1951, and were all below 1 in 1981, as level of urbanisation increased in all previously less urbanised areas of these regions. However, inequality in distribution of urban population decreased subsequently (Table 5). In 2011 concentration was high in Thakurpukur-Maheshtala, Budge Budge I and Sonarpur, but at a lower degree (values of L.Q. being around 3). Concentration was moderate in Budge Budge II, Bishnupur II, Baruipur, Diamond Harbour I, Magrahat II and Canning I (values of L.Q. being between 1 and 1.6). In the remaining urbanised blocks L.Q. values of less than 1 suggest a tendency towards relative dispersion of urban population.

Table 5: Location Quotients of Urban Population at Sub-District Level in South 24 Parganas (1951-2011)

Police Stations	1951	1961	1971	1981	C.D. Blocks	1991	2001	2011
Metiabruz	-	14.18	11.31	8.34	Thakurpukur-Metiabruz	4.93	NA	NA
Maheshtala	1.61	4.89	5.11	5.99	Maheshtala	6.24	NA	NA
Budge.Budge	4.78	4.00	3.79	3.90	Thakurpukur- Maheshtala	NA	5.03	3.34
Behala	-	-	-	2.81	Budge Budge I	5.03	4.87	3.40
Bishnupur	-	-	0.26	0.35	Budge Budge II	2.70	0.78	1.16
Sonarpur	4.03	2.64	2.06	2.90	Bishnupur I	0.59	0.45	0.47
Baruipur	1.92	1.35	1.21	0.95	Bishnupur II	0.25	0.44	1.38
Diamond Harbour	1.67	0.91	0.75	0.74	Sonarpur	3.12	4.25	2.84
Canning	0.91	1.23	1.09	0.94	Baruipur	1.08	0.72	1.37
Jaynagar	1.49	1.15	0.79	0.54	Bhangar I	-	0.20	0.32
					Diamond Harbour I	1.57	1.39	1.24
					Diamond Harbour II	-	-	0.10
					Falta	-	-	0.37
					Kulpi	-	-	0.23
					Mandirbazar	-	-	0.46
					Magrahat I	-	-	0.95
					Magrahat II	-	0.27	1.11
					Canning I	1.30	-	1.58
					Canning II	-	-	0.17
					Jaynagar I	-	0.15	0.69
					Jaynagar II	0.77	0.64	0.54
					Basanti	-	-	0.08
					Mathurapur I	-	-	0.52

Source: Computed by the Author from the Reports of the Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011

In South 24 Parganas municipalities were the major shareholder of urban population in 1951 and 1961. But their share decreased from 84.63 per cent in 1951 to 29.79 per cent in 1991 (Table 6). In 2001 share of urban population residing in municipalities again became larger (86.81 per cent) and this was the largest figure attained over last six decades. It happened due to formation of Maheshtala and Pujali municipalities along with enlargement of Rajpur Municipality, which was later renamed as Rajpur-Sonarpur Municipality. However, in 2011 following the emergence of ninety six new census towns, share of municipalities declined by 33.78 per cent points and became only a little more than half of total urban population.

Table 6: Share of Urban Population in Urban Centres of Different Categories in South 24 Parganas (1951-2011)
(Figures in percentage)

Urban Centres	1951	1961	1971	1981	1991	2001	2011
Municipalities	84.63	54.16	43.33	33.68	29.71	86.81	53.03
Non-municipal Towns	15.37	45.84	56.67	66.32	70.29	13.19	46.97

Source: Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011

Degree of Urbanisation- Since level of urbanisation of any region gives an idea on proportional share of urban residents in total population only, more in depth analysis of the process of urbanisation needs to capture the exact magnitude of urbanisation. Thus an attempt has been made to measure the degree of urbanisation taking into consideration four major urban attributes. These have been mentioned below.

- i) Share of urban population to total population of Police Stations/ C. D. Blocks,
- ii) Density of urban population in Police Stations/ C. D. Blocks,
- iii) Share of urban area to total area of Police Stations/ C. D. Blocks and
- iv) Number of urban centres/ 100 square kilometer in Police Stations/ C. D. Blocks.

In the first place, mean and standard deviation values along with coefficient of variation of each attribute have been computed for last seven decades (Table 7). The analysis identifies the third and fourth attributes, namely share of urban area to total area of Police Stations/ C. D. Blocks and number of urban centres/ 100 square kilometer in Police Stations/ C. D. Blocks, as more variable in nature. In both cases variability was the maximum (more than 170 per cent) in 1961 and declined during the following decades. But coefficients of variation were as high as 111.32 per cent and 94.01 per cent respectively even in 2011. The component of proportion of urban area to total remained always very high in Metiabruz, Maheshtala, Budge Budge, high in Sonarpur and medium to low in other places. Similarly, number of urban centres/ 100 square kilometer was much higher in Metiabruz and Maheshtala, higher in Budge Budge and Sonarpur upto 1981. Later Budge Budge I C. D. Block occupied the top position in this respect. Such a ratio was low in urbanised areas of Region II and very low in urbanised areas of Region III. Analysis on variability in proportion of urban population in total population shows that the magnitude remained very high since 1961 (Table 7). The degree increased gradually and attained a value of 120.18 per cent in 1971. Variability declined during following two decades, but rose again in 2001 (120.25 per cent) with formation of Maheshtala, Pujali and Rajpur-Sonarpur municipalities containing giant share of urban population during 1990s. However, in 2011 it declined marginally due to overwhelming spread of urbanisation over a vast part of the district. On the whole, magnitude of variability was the minimum in case of urban density. It remained below 50 per cent for last four decades.

Table 7: Degree of Variability of Selected Urban Attributes at Sub-district Level in South 24 Parganas (1951-2011)

Year	Coefficient of Variation (in percentage)			
	Share of Urban Population in Total Population (in percent)	Urban Density (in persons/ sq. km.)	Share of Urban Area in Total Area (in percent)	Number of Urban Centres/ 100 sq. km.
1951	62.20	80.72	93.49	94.44
1961	117.21	58.66	180.08	172.34
1971	120.18	60.11	177.41	159.17
1981	97.32	38.61	143.59	142.06
1991	84.50	31.74	100.27	133.45
2001	120.25	30.54	147.42	135.48
2011	94.57	42.90	111.32	94.01

Source: Computed by the Author from the Reports of the Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011

In the second place, 'Z-score' values of each attribute have been derived for identifying the existing disparities among Police Stations or C. D. Blocks. This task has been performed for each census year since 1951. Next 'Z-score' values of four attributes of each Police Station or C. D. Block have been added up to find out the Composite Z-score Values expressing the degree of urbanisation (Appendices 2a and 2b).

Then Police Stations or C. D. Blocks have been classified according to their degree of urbanisation (Table 8). Discussion at Police Station level between 1951 and 1981 shows that, degree of urbanisation was high in Budge Budge in 1951 and became moderate during following three decades. From a moderate level in 1951 and 1961 Maheshtala attained high degree of urbanisation in 1971. Metiabruz had very high degree of urbanisation in 1961 and 1981, which became exceptionally high in 1971. Sonarpur and Behala entered the moderate level in 1951 and 1981 respectively. In Canning degree of urbanisation was very low since 1951, except in 1971. Rest of the Police Stations had low degree of urbanisation scoring negative composite Z-score values between 1951 and 1981 (Table 8). Discussion at C. D. Block level between 1991 and 2011 produces more interesting results. In 1991 degree of urbanisation was very high in Maheshtala, and high in Thakurpukur-Metiabruz and Budge Budge I. Canning I was at very low level. Rest of the urbanised blocks had low degree of urbanisation. Situation changed remarkably during the following period. Budge Budge I attained very high and exceptionally high degrees of urbanisation in 2001 and

2011 respectively (Table 8). In fact, both number of urban centres/ 100 sq. km. and share of urban area in total were the highest in Budge Budge I among all C. D. Blocks. Another major transition was observed in case of Sonarpur. It moved from low to moderate and then to high level between 1991 and 2011. Thakurpukur-Maheshtala also moved towards a very high degree of urbanisation in 2011. Another noticeable feature is gradual upward movement of some C. D. Blocks, namely Bishnupur II, Baruipur, Bhangar I, Diamond Harbour I, Magrahat II, Budge Budge II, from very low or low levels to moderate level during this phase. In 2011 C. D. Blocks having low degree of urbanisation were from Region II and Region III, except Bishnupur I. Kulpi and Basanti had very low degree of urbanisation in 2011 (Table 8).

Table 8: Degree of Urbanisation at Sub-district Level in South 24 Parganas (1951-2011)

Year	Degree of Urbanisation (based on Composite Z Scores Values of Four Selected Urban Attributes)					
	Exceptionally High (above 9)	Very High (6-9)	High (3-6)	Moderate (0-3)	Low (-3-0)	Very Low (below -3)
1951	-	-	Budge Budge	Maheshtala, Sonarpur	Baruipur, Diamond Harbour, Jaynagar	Canning
1961	-	Metiabruz	-	Maheshtala, Budge	Jaynagar, Sonarpur, Baruipur, Diamond Harbour	Canning
1971	Metiabruz	-	Maheshtala	Budge Budge	Sonarpur, Jaynagar, Bishnupur, Baruipur, Diamond Harbour, Canning	-
1981	-	Metiabruz	Maheshtala	Budge Budge, Behala	Sonarpur, Bishnupur, Baruipur, Jaynagar, Diamond Harbour	Canning
1991	-	Maheshtala	Thakurpukur-Metiabruz, Budge Budge I	-	Sonarpur, Budge Budge II, Baruipur, Diamond Harbour I, Bishnupur I, Jaynagar II, Bishnupur II	Canning I
2001	-	Budge Budge I	Thakurpukur-Maheshtala	Sonarpur, Magrahat II	Bishnupur II, Budge Budge II, Diamond Harbour I, Baruipur, Bishnupur I, Jaynagar II, Jaynagar I	Bhangar I
2011	Budge Budge I	Thakurpukur-Maheshtala	Sonarpur	Bishnupur II, Baruipur, Bhangar I, Diamond Harbour I, Magrahat II, Budge Budge II	Canning I, Magrahat I, Jaynagar I, Bishnupur I, Diamond Harbour II, Jaynagar II, Mandirbazar, Mathurapur I, Falta, Canning II	Kulpi, Basanti

Source: Prepared by the Author from Appendices 2a and 2b

Growth Rate of Urban Population- The speed at which urban share of total population of any region increases is of special significance in urban analysis, as often less urbanised areas urbanise at a much faster rate than that of the areas with higher level of urbanisation. As in India, until 1991, most of the less developed and less urbanised states, like Uttar Pradesh, Rajasthan, Madhya Pradesh and Orissa, urbanised at higher rates than most of the developed states, like Gujarat, Punjab, Tamil Nadu and West Bengal, standing at relatively higher levels of urbanisation. However, the situation changed during 1990s [4]. In South 24 Parganas, a less developed district of West Bengal, such trend can be observed till recently. Here urban growth rate remained traditionally higher than that of the state. It was the second ranking district (92.21 per cent) in 2011 and its urban population grew at a much higher rate than those of its neighbouring districts, like Kolkata, North 24 Parganas and Haora.

Table 9: Phases of Urban Growth in South 24 Parganas (1951-2011)

Phases	Phase of Medium Growth			Phase of Low Growth		Phase of High Growth
	1951-61	1961-71	1971-81	1981-91	1991-01	2001-11
Growth Rate (in percentage)	98.03	63.55	69.92	44.48	42.85	92.21

Source: Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011

Three distinct phases of urban growth can be identified in urban transition of South 24 Parganas since 1951 (Table 9). Between 1951 and 1981 growth rate of urban population declined largely. Very high growth rate in the initial decade of this phase may largely be attributed to the phenomena of partition of India following the country's independence and consequent migration and subsequent infiltration. Many of the migrants from Bangladesh (the erstwhile East Pakistan) settled in the urban areas in and around Kolkata. Occupational migration from other districts and states of India to the Budge Budge Industrial Belt also contributed to the urban growth during this period. Urban growth rate registered continuous decline during 1980s and 1990s. The second highest peak in urban

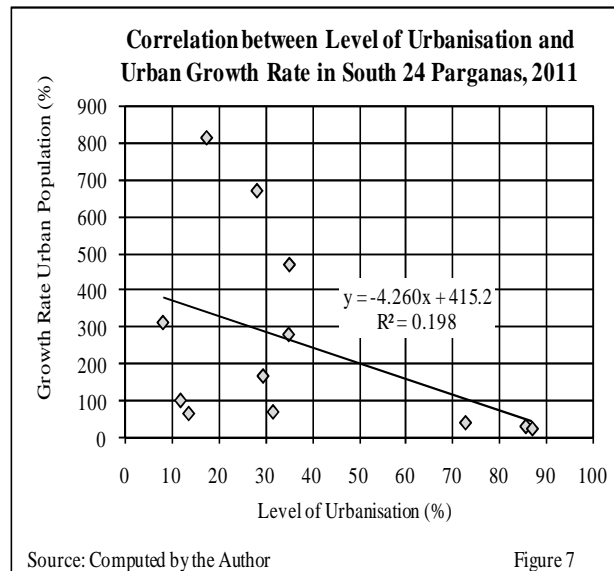
growth was observed during 2001-11. Emergence of ninety six new census towns played the most significant role in this context.

Table 10: Growth Rate of Urban Population at Sub-District Level in South 24 Parganas (1951-2011)
(Figures in percentage)

Police Station	1951-61	1961-71	1971-81	C.D. Blocks	1991-2001	2001-11
Metiabruz	-	134.85	-13.21	Thakurpukur-Maheshtala	41.91	29.37
Maheshtala	491.45	84.55	85.79	Bishnupur I	4.97	99.91
Budge Budge	59.73	53.23	71.60	Bishnupur II	120.79	469.47
Bishnupur	-	-	117.05	Budge Budge I	39.30	22.96
Sonarpur	52.13	38.61	144.22	Budge Budge II	-65.18	166.29
Baruipur	47.31	50.65	27.94	Sonarpur	134.51	39.15
Diamond Harbour	3.23	28.98	55.29	Baruipur	0.17	279.49
Canning	60.48	48.76	34.73	Bhangar I	-	311.93
Jaynagar	6.16	7.34	7.39	Magrahat II	-	670.62
				Diamond Harbour I	23.02	68.68
				Jaynagar I	-	814.73
				Jaynagar II	15.32	64.28
				Canning I	-100	-

Source: Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011

Upto 1981 Police Stations with higher levels of urbanisation experienced faster growth also. Urban growth rate slackened gradually in traditionally highly urbanised blocks (Table 10). During 2001-11 three highly urbanised C. D. Blocks, namely Thakurpukur-Maheshtala, Budge Budge I and Sonarpur, experienced large decline in their urban growth rates, growth rates becoming less than 40 per cent. In contrast, C. D. Blocks with medium and low levels of urbanisation witnessed much faster growth of their urban population. Very high urban growth rates (more than 100 per cent) were observed in Jaynagar I, Magrahat II, Bishnupur II, Bhangar I, Baruipur and Budge Budge II. High growth rates (more than 50 per cent) were found in Bishnupur I, Diamond Harbour I and JaynagarII. Bi-variate linear regression analysis shows that the relation between level of urbanisation and urban growth rate at block level (Figure 7) was negative (correlation coefficient or r is-0.445) in 2011 and the relation is significant at 50 per cent level [following Karl Pearson’s test of significance (t) of correlation coefficient (r), calculated value of t is 1.57 and it is greater than tabulated value of t, i.e. 0.700 at 10 (12-2) degrees of freedom for 50 per cent level of significance].Growth trend of urban centres shows that size of population has no strong influence upon its growth rate. Often census towns had higher growth rates than municipalities in South 24 Parganas (Appendix3).



Components of Urban Growth- Four major components of urban growth, as identified by many scholars, include i) natural increase of population, ii) new independent towns, iii) new towns merging with old towns or urban agglomerations and jurisdictional changes and iv) net rural-urban migration [4]. Analysis of components of urban growth in South 24 Parganas reveals some interesting facts. While natural increase of population is a common

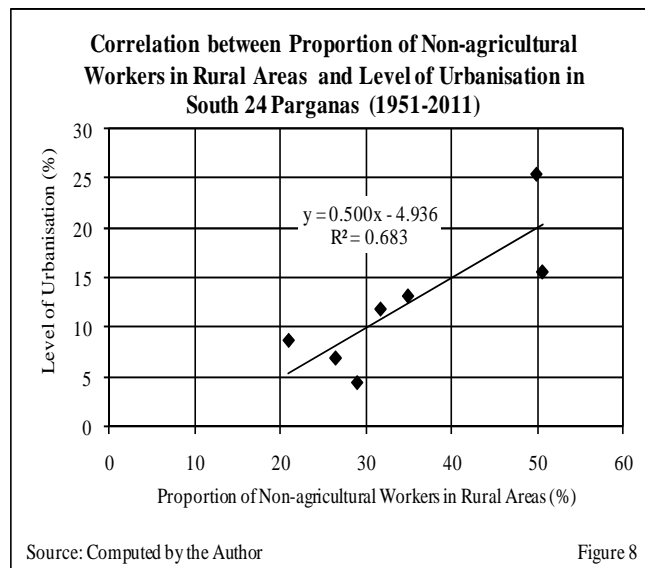
element of growth, administrative changes were important in South 24 Parganas only in 1981, 1991 and 2001. However, significance of jurisdictional changes was particularly remarkable during 1990s, because of formation of Maheshtala and Pujali municipalities and expansion of Rajpur Municipality. Overall rate of migration declined in India following the economic liberalisation. West Bengal experienced rapid decline in rate of net immigration both in rural and urban areas since 1970s [5]. In South 24 Parganas migration played a relatively minor role in urban growth.

Here addition of urban population by new census towns remained by far the largest component, except during 1960s and 1990s. Increase in number of census towns occurs mainly due to reclassification of villages and outgrowths. In 2001 some small census towns were declassified due to their unstable economic bases and failure to satisfy the urban criteria as specified by the Census of India. Some other towns became part of Maheshtala, Pujali and Rajpur-Sonarpur municipalities or got merged with the adjoining larger census towns. As a result, contribution by census towns in total urban growth declined largely. Contribution of this component rose again to 79.81 per cent of total urban growth in 2011. Emergence of three medium towns and ninety three small census towns added up 7,99,313 persons to the urban scene of the district (Table 11).

Table 11: Contribution by New Census Towns to Total Urban Growth of South 24 Parganas (1951-2011)

Year	Total Increase in Urban Population	Contribution of New Census Towns in Total Increase	
		Absolute Number of Persons	Percentage Share of Population
1961	96892	67724	69.90
1971	127849	35709	27.93
1981	205908	115627	56.15
1991	234101	127298	54.38
2001	325843	31640	9.71
2011	1001553	799313	79.81

Source: Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011



This can be identified as a form of in-situ urbanisation [6], where urban growth has been taking place without substantial migration between settlements. Such process has been continuing in some parts of China, Bangladesh and India[7]. In South 24 Parganas, with only seven statutory towns, spread of dominant or official urbanisation has been limited in comparison to its neighbouring district of North 24 Parganas having twenty nine statutory urban centres. Moreover, in 2011 statutory urban centres held 87.26 per cent urban population in North 24 Parganas, 71.33 per cent in Hugli, 75.32 per cent in PurbaMedinipur, while in South 24 Parganas this proportion was only 55.03 per cent. In many parts of the developing world urbanisation is initiated by rural communities as a result of bottom-up rural development, so that they get transformed into urban or quasi-urban places. But South 24 Parganas represents a contrasting experience. Here villages, often with large population base and high population density, experienced overwhelming growth and dominance of non-agricultural activities following a gradually stagnating agricultural

sector and became designated as urban places consequently. But this development does not include true rural-urban transformation covering all associated dimensions of economic and socio-cultural changes. As a result, South 24 Parganas level of urbanisation has been found to be in an almost perfectly positive relation with proportion of non-agricultural workers in rural areas ($r=0.826$). The relations are also statistically significant at 5 per cent level [as calculated value of t (3.28) is greater than the tabulated value of t (2.57) at 5 (7-2) degrees of freedom for 5 per cent level of significance] (Figure 8). Towns of this non-descriptive type have shocking state of infrastructure, which make them practically unable for attracting investment, entrepreneurs and efficient workforce [8]. Thus these towns very often fail to develop and sustain any major economic activity on a productive basis.

Size-class Distribution of Urban Centres and Population- Study on distribution of urban centres and urban population across various size-classes and changes therein provides effective insights into the development dynamics of any region. The Census of India arrived at a classification of urban centres; both cities, towns and urban agglomerations; based on the size of population [8]. Furthermore, towns in Class IV, Class V and Class VI have been clubbed into a group named as ‘Small Towns’, towns in Class II and Class III fall under the ‘Medium Town’ group and Class I urban centers are termed as ‘Cities’ (Table 12). With increasing size of population the Class I urban centres have been further classified into seven sub-groups, namely M7 (5,000,000 and above), M6 (2,000,000 to 4,999,999), M5 (1,000,000 to 1,999,999), M4 (500,000 to 999,999), M3 (300,000 to 499,999), M2 (200,000 to 299,999) and M1 (100,000-199,999).

Table 12: Size-class Classification of Urban Centres in India

Size-class	Category	Size of Population
Class I	City	1,00,000 and above
Class II	Medium Town	50,000 to 99,999
Class III		20,000 to 49,999
Class IV		10,000-19,999
Class V	Small Town	5000 and 9999
Class VI		less than 5000

Source: Census of India, 2001

Rondinelli (1986) showed that city-size distribution and urban hierarchy were extremely skewed in most of the Asian countries. While the ‘middle’ level in hierarchy of urban settlements was generally weak, secondary cities were few and also poorly dispersed [9]. The process of urbanisation in India has remained primarily large city-oriented. During 1990s share of cities increased in most of the states, including both developed and less developed ones. Smaller towns experienced fall in population share. During 2001-11 states, like West Bengal, Kerala, Tamil Nadu and Uttar Pradesh, having exceptionally high growth in number of census towns [10], experienced increases in share of population in small and medium towns.

Table 13: Size-class Distribution of Urban Centres and Urban Population in South 24 Parganas (1951-2011)
(Figures in percentage)

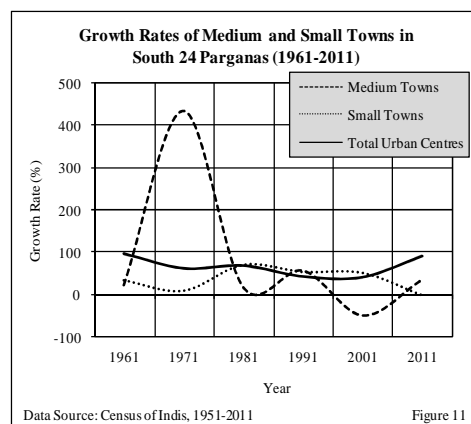
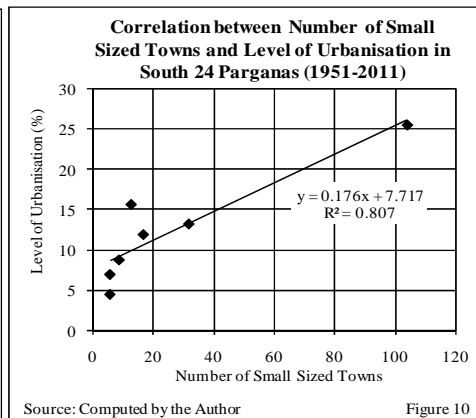
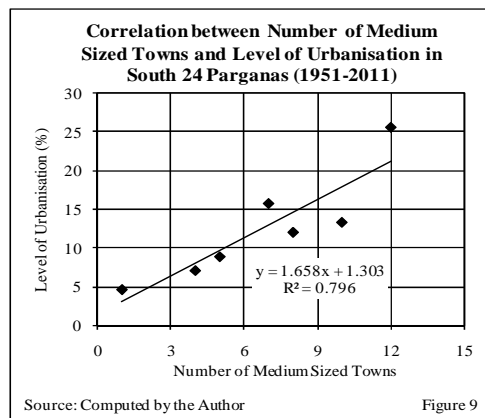
Year	Share in Total Number of Urban Centres			Share in Total Urban Population		
	Large	Medium	Small	Large	Medium	Small
1951	-	14.29	85.71	-	33.67	66.33
1961	-	40.00	60.00	-	62.73	37.27
1971	-	35.72	64.28	-	66.33	33.67
1981	-	32.00	68.00	-	61.13	38.87
1991	-	23.81	76.19	-	58.54	41.46
2001	9.09	31.82	59.09	66.47	24.06	9.47
2011	1.69	10.17	88.14	41.80	19.67	38.53

Source: Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011

The process of urbanisation encountered enormous changes in terms of size-class distribution of urban centres and urban population in South 24 Parganas. Firstly, In contrast to the ‘no Class I town’ stage continuing upto 1980s the district now possesses two Class I towns of M3 category, namely Maheshtala and Rajpur-Sonarpur municipalities. Secondly, the district got its first Class II towns, namely Panchur (NM) and Budge Budge (M), in 1971. Thirdly, there was no Class VI town upto 1981. In 1991 two Class VI towns, namely Bishnupur (NM) and Joka (NM) were identified by the Census of India and the latest census of 2011 recorded as many as 19 towns of this category. Fourthly, there occurred an overall decline in population share of small towns and simultaneous increase in share of medium towns upto 1991 with some decadal fluctuations. But with the formation of Class I towns in 2001 they

became the largest shareholders. Moreover, Maheshtala and Rajpur-Sonarpur were also the first primate cities of the district. Maheshtala and Rajpur-Sonarpur had primacy indices of 4.72 and 4.12 respectively in 2001 and 5.83 and 5.52 respectively in 2011 with respect to the third ranking town of Budge Budge. Fifthly, with emergence of ninety six new census towns, mostly of small size, in 2011 population share of large cities came very close to that of small towns, and medium towns became less important in terms of concentration of population (Table 13).

Sixthly, Class I towns of the district are located in Region I. Larger number of medium and small towns remained concentrated in Region I, which was followed by Region II and Region III. However, number of small towns increased remarkably in Region II and Region III during the last decade. In 2011 Region II contained 42 per cent of small towns, Region I had another 38 per cent with Region III holding the remaining 20 per cent. Thus a centrifugal tendency may be identified in distribution of these towns. Seventhly, though the urban structure of South 24 Parganas became top-heavy in nature since 2001 (Table 13), medium and small towns played remarkable roles in diffusing the urbanisation process. Both small and medium towns have strong positive relation with level of urbanisation. Bivariate linear regression analysis shows that between 1951 and 2011 influence of small towns upon level of urbanisation is slightly stronger ($r=0.898$) than that of the medium towns ($r=0.892$). Both the relations are significant at even 1 per cent level, [as calculated values of t are 4.571 and 4.416 for small and medium towns respectively. These values are greater than tabulated value of t (4.03) at 5 (7-2) degrees of freedom for 1 per cent level of significance] (Figures 9 and 10).



In developing countries relation between city size and growth rate remained predominantly negative [11]. In South 24 Parganas growth rates of medium and small towns fluctuated largely during last six decades. Growth rate of medium towns remained higher than that of the small urban centres in 1971, 1991 and in 2011. Medium towns recorded the maximum growth in 1971 due to enormous increase of population of towns in this class. During the last decade Class III towns exhibited growth rate over 60 per cent, while Class II towns grew negatively. Growth rates of small towns show more uniform nature than medium towns (Figure 11). Class V urban centres registered more than

100 per cent growth rate and Class I towns registered moderate growth rate during 2001-11. Declining growth rate of medium towns since 1991 requires special attention, as towns having more than 20,000 persons supposed to have distinct urban features and decline of population is more common in smaller urban centres which often do not possess any such characteristic [12]. So towns with more than 20,000 persons are often considered as cut off point in the study of urbanisation [13].

CONCLUSION

In South 24 Parganas the process of urbanisation definitely bears symptoms of immaturity. On one hand, urbanisation is still Kolkata-centric in nature. Over a vast part of the district urban expansion has been taking place only recently within a rural-agrarian setup on the other hand. It may be considered as a typical case of 'pseudo-urbanisation', which is primarily based on growth of tertiary sector rather than on a productive and diverse economic base. However, the recent sudden increase in number of census towns and urban population thereby in South 24 Parganas highlighted the need for paying more attention to this class of urban settlements.

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Appendices

Appendix 1: Number of Census Towns at Sub-district Level in South 24 Parganas (1951-2011)

Police Stations	1951	1961	1971	1981	C. D. Blocks	1991	2001	2011
Metiabruz	-	1	1	1	Thakurpukur-Metiabruz	5	--	--
Maheshtala	1	1	4	9	Maheshtala	12	--	--
Budge Budge	-	1	2	4	Thakurpukur- Maheshtala	--	1	9
Bishnupur	-	-	1	1	Budge Budge I	3	3	7
Behala	-	-	-	1	Budge Budge II	5	2	5
Sonarpur	-	-	-	3	Bishnupur I	2	2	4
Region I	1	3	8	19	Bishnupur II	1	2	11
Baruipur	-	-	-	-	Sonarpur	7	-	7
Diamond Harbour	1	1	1	1	Region I	35	10	43
Region II	1	1	1	1	Baruipur	1	-	12
Canning	1	1	1	1	Bhangar I	-	1	3
Jaynagar	-	-	-	-	Diamond Harbour I	-	-	4
Region III	1	1	1	1	Diamond Harbour II	-	-	1
					Falta	-	-	4
					Kulpi	-	-	2
					Mandirbazar	-	-	3
					Magrahat I	-	-	9
					Magrahat II	-	2	8
					Region II	1	3	46
					Canning I	1	-	8
					Canning II	-	-	1
					Basanti	-	-	1
					Jaynagar I	-	1	6
					Jaynagar II	-	-	2
					Mathurapur I	-	-	4
					Region III	1	1	22

Source: District Census Handbook, 24 Parganas, 1951, 1961, 1971 and 1981; District Census Handbook, South 24 Parganas, 1991 and 2001; Primary Census Abstract, West Bengal, 2011

Appendix 2a: Composite Z Scores of Selected Urban Attributes at Police Station Level in South 24 Parganas (1951-81)

1951		1961		1971		1981	
Police Station	Composite Z Score	Police Station	Composite Z Score	Police Station	Composite Z Score	Police Station	Composite Z Score
Budge Budge	3.05823	Metiabruz	7.60904	Metiabruz	9.13649	Metiabruz	7.94134
Maheshtala	2.85427	Maheshtala	2.14614	Maheshtala	3.10665	Maheshtala	5.40973
Sonarpur	2.31982	Budge Budge	0.52685	Budge Budge	0.36926	Budge Budge	0.67258
Baruipur	-1.2552	Jaynagar	-1.48779	Sonarpur	-1.7986	Behala	0.38668
Diamond Harbour	-1.33265	Sonarpur	-1.79713	Jaynagar	-1.95676	Sonarpur	-1.0447
Jaynagar	-2.17338	Baruipur	-2.1431	Bishnupur	-1.98456	Bishnupur	-2.20483
Canning	-3.4711	Diamond Harbour	-2.21847	Baruipur	-2.02178	Baruipur	-2.45356
		Canning	-2.63554	Diamond Harbour	-2.29176	Jaynagar	-2.5522
				Canning	-2.55893	Diamond Harbour	-2.94845
						Canning	-3.20659

Source: Computed by the Author from District Census Handbooks, 24 Parganas, 1951, 1961, 1971 and 1981

Appendix 2b: Composite Z Scores of Selected Urban Attributes at C. D. Block Level in South 24 Parganas (1991-2011)

1991		2001		2011	
C. D. Block	Composite Z Score	C. D. Block	Composite Z Score	C. D. Block	Composite Z Score
Maheshtala	7.93392	Budge Budge I	7.11973	Budge Budge I	9.35625
Thakurpukur-Metiabruz	4.45498	Thakurpukur-Maheshtala	5.17229	Thakurpukur-Maheshtala	7.47826
Budge Budge I	4.10163	Sonarpur	2.06204	Sonarpur	4.06132
Sonarpur	-0.02283	Magrahat II	0.13035	Bishnupur II	2.30222
Budge Budge II	-0.57635	Bishnupur II	-0.23307	Baruipur	0.508
Baruipur	-2.28479	Budge Budge II	-1.40517	Bhangar I	0.39995
Diamond Harbour I	-2.34896	Diamond Harbour I	-1.56181	Diamond Harbour I	0.32213
Bishnupur I	-2.57548	Baruipur	-1.76248	Magrahat II	0.2289
Jaynagar II	-2.64384	Bishnupur I	-2.03048	Budge Budge II	0.104
Bishnupur II	-2.86586	Jaynagar II	-2.10375	Canning I	-0.11847
Canning I	-3.17238	Jaynagar I	-2.28763	Magrahat I	-0.12901
		Bhangar I	-3.10007	Jaynagar I	-1.20135
				Bishnupur I	-1.8233
				Diamond Harbour II	-1.88971
				Jaynagar II	-2.08515
				Mandirbazar	-2.30619
				Mathurapur I	-2.55579
				Falta	-2.71433
				Canning II	-2.743
				Kulpi	-3.55835
				Basanti	-3.63637

Source: Computed by the Author from District Census Handbooks, South 24 Parganas, 1991 and 2001; Primary Census Abstract, West Bengal, 2011

Appendix 3: Decadal Growth of Population of Selected Urban Centres in South 24 Parganas (1901-2011)

(Growth rates in percentage)

Municipalities/ Census Towns	1951-61	1961-71	1971-81	1981-91	1991-2001	2001-11
Maheshtala (M)			-	+55.65	+4819.75	+16.37
Chata Kalikapur (CT)				+46.61	+23.71	+24.31
Balarampur (CT)						+11.49
Uttar Raypur (CT)			+19.35	+25.52	+16.18	+13.23
Budge Budge (M)	+23.69	+28.16	+37.94	+10.19	+5.13	-5.78
Pujali (M)					+234.83	+9.42
Birlapur (CT)		+38.32	+51.00	+0.97	-18.70	+11.00
Chak Kashipur (CT)				-40.62	+33.98	+7.86
Bowali (CT)				+3.31	-21.49	+7.51
Bhangar Raghunathpur (CT)					-	+20.47
Rajpur-Sonarpur (M)	+52.13	+38.61	+45.66	+26.17	+432.68	+26.03
Bishnupur (CT)				-	-4.95	+11.04
Kanyanagar (CT)			+35.32	+21.60	+10.07	+6.16
Amtala (CT)				-	+26.53	+15.28
Chak Enayetnagar (CT)						+19.24
Baruipur (M)	+47.30	+50.65	+27.94	+43.58	+19.26	+18.29
Uttar Kalas (CT)						+18.38
Diamond Harbour (M)	+3.23	+28.98	+54.98	+49.40	+23.02	+12.27
Bilandapur (CT)						+10.63
Uttar Durgapur (CT)						+13.01
Jaynagar-Mazilpur (M)	+6.15	+7.34	+7.39	+23.70	+15.32	+11.18
Joka (OG)	-	-	-	-	+72.83	+21.28

Source: Census of India, 1951, 1961, 1971, 1981, 1991, 2001 and 2011