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Some Aspects of Urbanisation in Eastern India

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Preface

Urbanisation and urban growth are the most common indicators used to understand the transformation and modernisation of an economy. The production system dependant on agriculture and other primary level activities changes over to a production system comprising of secondary and tertiary level activities. A demographic transition takes place simultaneously. It is reflected in the change in the gender ratio and literacy rates in the settlements. The work participation rate increases in most of the cases because of the entry of more and more educated women in the workforce. It is not necessary that they happen simultaneously or there is a fixed time period for such changes to occur. On the other hand, urbanisation also changes the physical landscape –dense settlement with more built up area. It requires investment in essential urban services like water supply, sewerage and drainage facilities. So it calls for municipalisation. Municipal status of an urban area calls for revenue-raising from different sources, the most important being the properties within its boundary. All these imply that the urbanisation and urban development is a complex on-going process and it differs from region to region and over time.

The eastern part of India is lagging behind in urbanisation level compared to south and west. West Bengal, for historical reasons, is the most urbanised of all the eastern states, but there is considerable variation in levels of urbanisation and urban development. Somali Chakravorty's paper tries to explain the variation through agro-climatic variations in the state. It is an abridged version of her doctoral dissertation.

Malabika Dasgupta, concentrates on Tripura, a small state in north-eastern part, bounded by Bangladesh on three sides. It was a Princely state before 1947, with the majority of tribal population with very low level of urbanisation. The only town was Agartala, the capital of the state. The urbanisation in the post-independence period is an offshoot of the Partition of the country and its strategic position. This a apart of a larger project on urbanisation in north-east India.

Mahalaya Chatterjee
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URBANISATION AND URBAN DEVELOPMENT IN WEST BENGAL : A STUDY OF REGIONAL VARIATION
(1981-2001)

1. Introduction

Urbanisation is a process that refers to the rising share of urban in the economy. For studying the process, the most commonly used indicator is the percentage share of urban population in the total population, and it is implicitly assumed that the urban share of various other variables, like employment and income, would be closely related to the urban share of population. The change in urban population has three components: (a) change due to the natural growth of population and (b) change due to net in-migration, both in the existing cities and towns; and (c) change due to reclassification of rural area into urban area.

The process of urbanisation in a country is influenced by several factors including the endowment of natural resource (or ecology), the industrial development and the political history of the country. The variation in the urbanisation process across the regions within a country or a state within a country may be explained in terms of those factors.

Some of these factors that cause variations in the urbanisation and urban development pattern are discussed in detail below.

Differences in natural resource endowment occur with respect to fertility of the soil, irrigation facilities and mineral resources under the soil. Regions having land suitable for plantation or commercial agriculture are also differently endowed and this leads to difference in urbanisation patterns. In the case of land resources when there are differences in the productive capacity of the soil, the inequalities in the productive capacity of the soil tend to promote greater inequalities in the population density across regions. The more fertile the soil, the more is the surplus generated from the soil and hence greater is the economic activities associated with this surplus. Wherever there is greater productivity per worker of an agricultural system, greater is the possibility of it's supporting a large non-agricultural population. The surplus production generated by agricultural development supports the growth of urban areas in two ways. First, it meets the increased demand for food of the growing urban population and secondly it supplies the raw materials of the urban industries. It is the processing and trading activities associated with this surplus that give rise to small market towns which develop into full grown urban centres as the region develops.

The nature of land ownership patterns in agriculture also affects the urbanization pattern of a region. It is argued that larger the size of the farm, it is more likely that the proportion of the value-added in the farm sector invested locally would be less (HABITAT, 1996). In case of plantation activities, usually a small proportion of the value-added is invested locally. In plantation dominated or large farm dominated regions, urbanisation process would have characteristics different from industry dominated regions.

Presence of minerals below the surface of the land leads to the occurrence of mining activities. The urbanisation in the mining regions would depend on how the availability of the minerals influence the location decision of industries; and also on how the surplus generated from the mining activities is used. Outflow of profit of the mining sector from the region, thanks to the national level control over it, dampens the urbanisation potential of the region (HABITAT, 1996). Also, the exhaustion of such natural resources leads to the decline of the main and allied activities leading to a fall in the level of urbanization.

Urbanization, generally speaking, is accompanied by a steady shift of factors of production from the primary to the secondary activities and then to the tertiary sector (Mills and Becker, 1988). Investment in industry and tertiary activities give a boost to the urbanization process. Usually, manufacturing activities has more linkages with the rest of the economy and hence has a more growth inducing impact. The larger the scale of activities the more will be its impact on the urbanization process and the urban economy. The influence of tertiary sector activities on the process of urbanization in an economy likewise can also differ substantially depending on whether they are of low income or high-income type. For instance, the tertiary sector of a less developed urban economy is characterized by low-income activities, leading to a high incidence of marginalisation among the workforce.

As urbanization process is cumulative in nature, due to various agglomeration economies, historical factors often play a significant role in determining the pattern of urbanisation in a region, in particular the spatial distribution of urbanisation. The pattern of urbanization set in history continues to exert influence on the current process. For instance, in many developing countries, the colonial history had bequeathed a highly concentrated, primate-city dominated urbanisation pattern, which persisted for decades even after colonial regime had been over. In eastern India, during the colonial rule, emerged a mono-centric pattern of urbanisation with the city of Kolkata as the primate city. The pattern is still persistent even after six decades of the end of colonial rule and exerts its influence on the urbanisation process in West Bengal. On the other hand Punjab which did not face any colonial meddling in its affairs could grow endogenously and have an evenly spaced out urbanisation pattern.

The above discussion leads us to the following propositions about urbanisation

(a) Regions rich in natural resource endowment have greater chance of being more urbanised. The possible sub-cases are:

   (i) A region with fertile soil and irrigation facilities is likely to have higher level of urbanisation compared to the arid or semi-arid regions with less fertile soil and relatively poor irrigation facilities.

(ii) A region ecologically endowed for plantation would have a better potential for urbanisation compared to regions that are not so favourably placed, provided surplus generated is reinvested within the region.

(iii) A region having rich endowments in terms of stock of underground minerals would have a relatively higher level of urbanisation compared to a region not having such resources.

(b) A region having comparative advantage in industry, which either may be due to mineral resources or developed infrastructure or both would have higher level of urbanisation. Such comparative advantage may be created by large-scale public investments and would be historically determined.

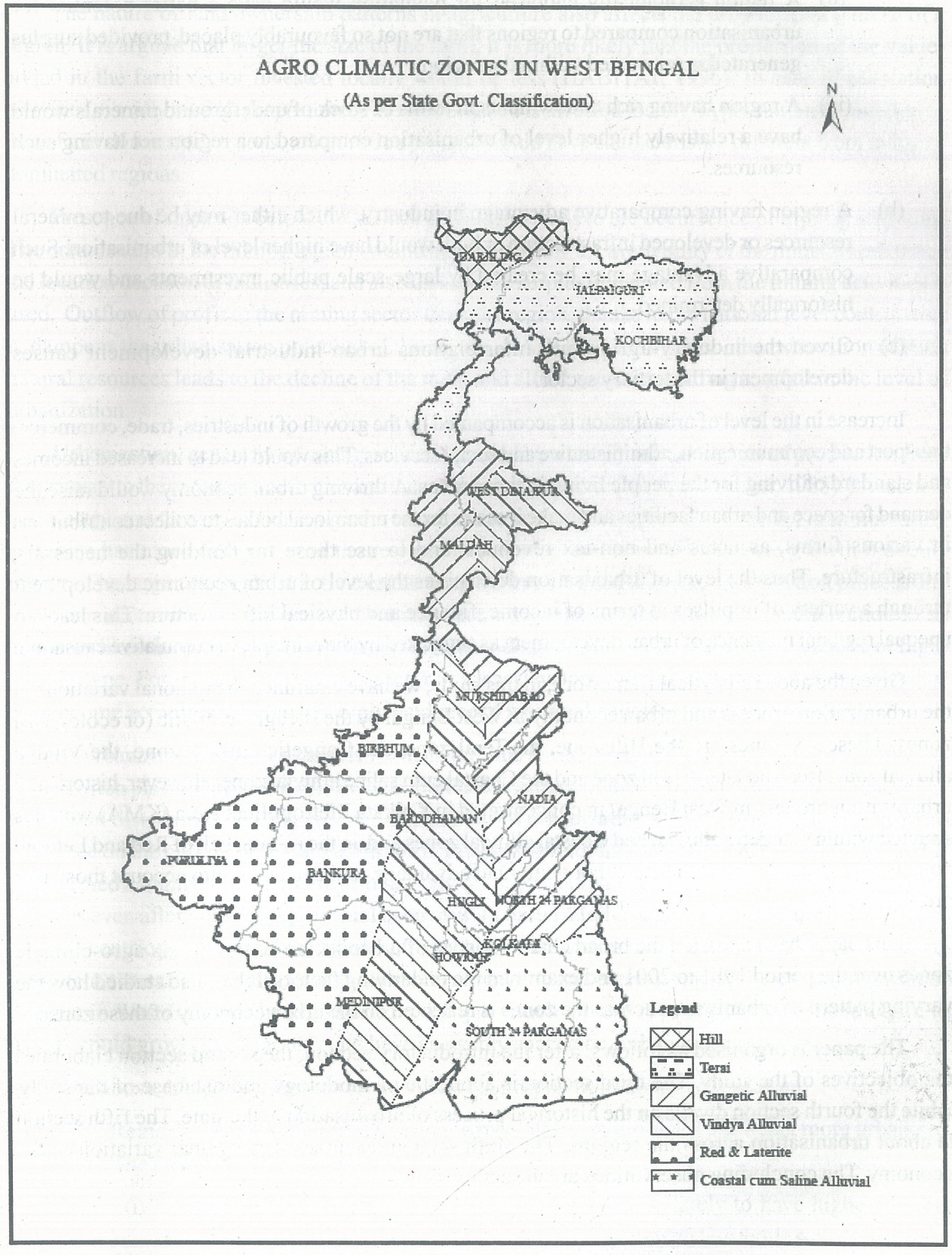
(c) Given the industry-agriculture interrelations urban-industrial development causes development in the tertiary sector.

Increase in the level of urbanisation is accompanied by the growth of industries, trade, commerce, transport and communication, administrative and social services. This would lead to increased incomes and standard of living for the people living in those areas. A thriving urban economy would raise the demand for space and urban facilities and make it easier for the urban local bodies to collect contributions in various forms, as taxes and non-tax revenues, and to use those for building the necessary infrastructure. Thus the level of urbanisation determines the level of urban economic development through a variety of impulses in terms of income, finance and physical infrastructure. This leads to unequal regional incidence of urban development as suggested by the principle of cumulative causation.

Given the above analytical framework, in this study, we have examined the regional variations in the urbanization process and urban economy in West Bengal by the six agro-climatic (or ecological) zones. These six zones are the Hill zone, the Terai zone, the Gangetic alluvial zone, the Vindya alluvial zone, Red and laterite soil zone and the Coastal cum saline alluvial zone. However, historically urbanisation process in West Bengal in concentrated in Kolkata Metropolitan Area (KMA) which is situated within Gangetic alluvial and Coastal alluvial zones and, in the mining belt of Red and Laterite zone in the western part of the state. For analytical advantage we have taken into account those two areas explicitly.

This paper has identified the broad characteristics of urbanisation across the six agro-climatic zones over the period 1981 to 2001 and examined the underlying factors. It has also studied how the varying pattern of urbanisation across the zones is reflected on the urban economy of these zones.

The paper is organised as follows: after the introductory section, the second section elaborates the objectives of the study. The third section is about the methodology and database of the study, while the fourth section dwells on the historical process of urbanisation in the state. The fifth section is about urbanisation across the regions. The sixth section discusses the regional variation in the economy. The concluding observations are in section 7.



Map 1.1 Agroclimatic Zones of West Bengal

2. Objective of the Study

There are studies at aggregate level that examine the urbanisation process in West Bengal in relation to the agricultural and industrial development in the state. This paper attempts to examine and compare the regional variation in the urbanization pattern, urban economy and urban finance and infrastructure. Accordingly, the state has been divided into six regions based on agro-climatic conditions, the details of which will be revealed in the Table 2.1 below. One dimension of natural resource endowments is reflected in the agro-climatic conditions and this study examines the variation in urbanisation process across the six agro-climatic zones of West Bengal. However, the industrially developed and mining-based areas overlap with the agro-climatic zones, which have to be taken into account in the analysis. It should also be noted that the regions are not of the same size, with some like the Gangetic zone having 40 % of the total urban population in the state while the Hill zone has barely one per cent of the state population (Table 2.2).

Table 2.1

Correspondence of the six agro-climatic regions with districts and other urban industrial zones.

Zones	Correspondence With the Districts Urban Industrial Zones	Correspondence With Other
1. Hill	Upper part of the district of Darjeeling	Tea plantations
2. Terai	Part of the districts of Darjeeling and West Dinajpur, entire Jalpaiguri and Koch Behar.	Tea plantations
3. Gangetic alluvial	Entire Nadia and parts of West Dinajpur, Burdwan, Malda, Murshidabad, North 24 Parganas, Hooghly and Howrah.	Part falls in the Kolkata Metropolitan Area (KMA)
4. Vindya alluvial	Parts of the districts of West Dinajpur, Malda, Birbhum, Burdwan, Midnapore, Hooghly and Howrah.	
5. Red and laterite	Purulia entire, parts of Birbhum, Bankura, Burdwan and Midnapore	Includes the mining belt of Asansol, Durgapur and Raniganj
6. Coastal cum saline alluvial	Entire South 24-Parganas and parts of North 24-Parganas, Midnapur and Howrah	Part falls in the Kolkata Metropolitan Area (KMA)

Source : Table based on information available in Reserve Bank of India,1984, Agricultural Productivity in Eastern India, Volume II, Committee on Agricultural Productivity in Eastern India, Bombay.

Note : Kolkata is not a part of the agro climatic zones.

Table 2.2

Zone area and population (urban) as a percentage of urban area and population in the state in 1981.

Zones	% Area	% Population
1. Hill	1.6	0.8
2. Terai	7.9	4.4
3. Gangetic alluvial	34.2	40.0
4. Vindya alluvial	7.7	5.6
5. Red and laterite	30.5	14.0
6. Coastal saline	11.6	6.6

Source: Table compiled by author

This paper has studied the underlying urbanization pattern in these zones with special emphasis on the impact of agriculture on urbanization. With respect to the zones during the period 1981 to 2001, this paper has examined the variation in the process and pattern of urbanization in the study period in and tried to link it with agricultural and non agricultural activities across the regions. It was expected that the agriculturally prosperous regions will be more urbanized than the less prosperous ones and this hypothesis was tested through a comparative analysis. The variation in the income, employment and work participation rates across the six zones has also been analysed. Here the hypothesis was that the more prosperous zones will have stronger urban economies in terms of a greater share of income and workers in the secondary and tertiary sectors.

3. Methodology and Database

The analysis of this paper was mainly based on secondary data and information. The secondary data consists of urban and rural area and population, length of roads and drains, workers, urban income etc. This was collected from government /official reports and documents like the *Census of India* reports, *District Census Handbooks*, *Statistical Abstracts*, *National Sample Survey* reports, *Urban West Bengal* and other databases. Simple mathematical and statistical tools and packages have been used for analyzing the collected data. Since often there is more than one agro climatic zone falling within the same district the data has been collected at the block level wherever available. However for certain data like income we had to rely on district level data while that of finance has been analysed using town level data. The following table will further elucidate the matter.

Table 3.1

Section wise compilation of data

Section	Database	Source	Level
5	Area, population	Census of India (West Bengal series)	Block
	Agriculture related data	Statistical Abstract of West Bengal	District
6	Workers	Census of India (West Bengal series)	Block
	Income / District Domestic Product	Statistical Abstract of West Bengal	District

Source: Table compiled by author

4. Historical Perspective

This section describes the historical and other factors behind the urbanisation process and the resulting urbanisation pattern in the state across three periods. The three periods were the pre-colonial period (till the battle of Palashi in 1757), the colonial period (till independence in 1947) and the post independence period till 1981. We get a very sketchy picture of West Bengal in the pre-colonial period with only a few towns of importance like Murshidabad, Hooghly, Kolkata and Malda in the Gangetic belt and Tamluk in the southern part. The urbanization pattern that developed during the colonial period is similar to the pattern that prevails in present day West Bengal. Information about this period was got from the first census records of 1872 and afterwards. We find that Kolkata was the most urbanized city while the Gangetic zone was the most urbanized among all the zones since the colonial period. The main reason behind its growth was the abundance of industries along the river bank and other factors like its nearness to Kolkata. A part of this zone along with the coastal zone forms the Kolkata metropolitan area. The hill zone also developed during the colonial period with the growth of tea plantations and tourism. Another zone that grew into prominence during this period was the Red and laterite zone the reason being mining activities and growth of the railway network in the Asansol and Durgapur-Raniganj belt. After independence till the 1980's no major change in the urbanisation pattern took place though the level of urbanization went down in West Bengal due to industrial stagnation in this part of the country.

5. Urbanisation across the regions

This section deals with the regional variation in the process of urbanisation in West Bengal from 1981 to 2001. It analysed the variation in the level and structure of urbanisation in the state during the years 1981 to 2001 and hence tried to examine the underlying factors (both agricultural and non agricultural) behind the variation in the urbanisation process during this period across the six zones.

As stated above, it was expected that the agriculturally prosperous regions will be more urbanized than the less prosperous ones.

Processing of agricultural data like value added per net cropped area, value added per agricultural worker, per capita surplus rice production and the like revealed that the Gangetic alluvial and the Vindya alluvial zones are the agriculturally more prosperous regions while the Red and laterite and the Coastal saline zone are the less prosperous ones. The Hill and the Terai zone are tea plantation zones and were considered separately.

We will study and compare the urbanization process and pattern in the six zones and try to understand the impact of agricultural change and other factors on urbanisation. Urbanisation is studied with reference to, among other things zone-wise change in number of towns and urban population growth.[1]

Agricultural prosperity and commercialization gives an impetus to the urbanization process. It was the spread of processing and marketing activities related to agricultural surplus and urban inputs used in agriculture that acts as a force behind urbanization. This occurs through a rise in the population of the existing towns and/or growth of new towns. The first is known as intensive urbanization and the latter as extensive urbanization (Rukmani, 1994).

From the above reasoning it follows that the high agriculturally productive zones should exhibit all or some of the following:

(a) relatively high rate of urbanization;

(b) more number of new towns per square km of area;

(c) more high growth towns per square km of area;

(d) more in-migrating towns per square km of area.

In the zones with less agriculturally prosperous regions we would expect the opposite, provided there are no other independent processes favouring urbanisation such as industrial or tertiary sector growth. As in some of the regions, forces other than agricultural prosperity are active; we take care of separating the impact of such forces, as far as possible, before reaching a meaningful conclusion.

Zones like the Gangetic and the Coastal has a substantial part lying in the KMA area which due to its virtue of nearness to Kolkata has several other factors affecting its urbanisation pattern. So we have separated the analysis of these two zones into a KMA and non KMA part so as to get a clear understanding of the impact of improved agricultural production on urbanisation. Similarly to isolate the impact of agriculture on urbanization in the Red and laterite zone we have separated the mining belt from the entire zone. The two plantation zones also needed to be treated separately as the implication and effects of plantation agriculture on the process of urbanisation is different.

Thus to study the impact of agriculture on urbanisation we will compare the urbanisation patterns of the Vindhya zone, the KMA excluded Gangetic and Coastal zone and the part of the Red and

[1] Zone-wise urban population data have been compiled from the block level data obtained from the Census (Table 3.10).

laterite zone which does not include mining. Among these four regions the Gangetic alluvial zone has the highest and continuously rising level of urbanization (Table 5.1), a high and rising population density, an accelerated rise in the number of new towns (Table 5.3) and also a high percentage of towns (75 per cent) with an in-migrating character. The level of urbanization is higher than most agricultural zones and rising in 1991. The urban population density in this zone is also the highest among all the zones. The number of new towns which has arisen in 1991 in the non KMA part is 75 per cent of the total number of new towns in the entire zone. This gives an indication of the spatial expansion of urbanization in this part of the zone especially during the 80s. Also a total 15 number of existing towns have increased in class size in 1991. Most of the towns in this zone are of the small and medium variety. This implies that the agricultural prosperity of the 1990s have greatly influenced the urbanization pattern of this part of the zone. Though the average size of the towns in the whole zone is 57,788 in 2001, the town size in the KMA excluded part is 26,811. The important towns in this zone are Ashoknagar Kalyangarh, Bongaon and Habra in North 24 parganas, Krishnanagar, Santipur and Nabadwip in Nadia, Baharampur in Murshidabad and Raiganj in Uttar Dinajpur all with a population of over one lakh. Inter district migration data show that most of the districts in this zone attract migrants from the other less developed districts in the northern, western and southern part of Bengal. However given the stagnant industrial scenario in the state since the seventies the KMA part of the zone has not made much progress in urbanization compared to the earlier decades. This is maybe the reason for the zone to display a low and falling rate of urbanization and urban population growth rate in the second decade.

The Vindya zone also shows an increasing level of urbanization (Table 5.1). The important towns in this zone are Arambag and Tarakeswar in Hugli, Balurghat in West Dinajpur, Katwa and Bardhaman in Bardhaman, English Bazar in Malda, Ghatal, Kharar and Kolaghat in Medinipur, Panchla, Podara, Sankrail, Sahapur, Sarenga in Howrah. The average size of the towns in this zone is around 28,000 with the largest town being that of Bardhaman with a population of 2,86,000 while most of the other towns are in the medium size category. The zone shows a high town density (Table 5.2) and the number of new towns is steadily rising (Table 5.3). Not only is the number of new towns rising, as many as thirteen towns have been promoted from lower to higher size class during 1981 to 1991, the decade of agricultural growth in West Bengal. In view of the fact that agricultural prosperity leads to the growth of new towns and the consolidation of existing ones, the above findings are highly significant. There also exist a high (72.7) percentage of towns which have an in-migrating population which implies that people are being drawn to this zone.

The Coastal zone, which is agriculturally not so prosperous, and when its KMA part is excluded, which have developed tertiary and secondary economy, it displays negative rate of urbanisation which is reflected in the low and falling levels of urbanization during the period. It may be observed that in all the zones the rate of urbanization and the urban population growth rates declined during 1990s compared to those during 1980s but this zone shows the highest fall in the rates. This maybe interpreted as the low level of agricultural prosperity leading to low urban population growth.

In 2001 a large number of towns have been declassified in the Coastal zone and South 24 Parganas in the Coastal zone alone accounted for nine declassified towns. These declassified towns

had a total population of 87,515 in 1991. Had these not been declassified, the urban growth rate for the entire Coastal zone would have been 16.6 which is similar to the earlier decade. These declassifications took place mainly in the non KMA zone (12 out of the 13 towns are declassified in this part of the zone). When we adjust for the declassifications in the non KMA part, we observe that the urban population growth rate in fact rise from 1 per cent to 16 per cent. However, this is very close to the natural growth rate of 15 in the state. Thus, we find that urbanisation in the non KMA has decelerated mainly because of the declassifications. This can be because the economy in this region is mainly dependent on primary activities like agriculture which is not very productive as discussed earlier.

It is interesting to note that while during the 1980s the level of urbanization has increased in all the zones, in the 1990s the rate of urbanization has decreased in all the regions except for the Hill zone and the KMA. The urban population growth rate is also seen to fall in the second decade except for the entire KMA area. The urbanization pattern in West Bengal has been characterized by the growth of small and medium towns during the decade of 80's. It has also been noted that these small and medium urban centers on an average have recorded a faster rate of population growth than the larger cities (Giri, 1998). This is sometimes attributed to the growth of agriculture during this period. However during the 1990s the situation reversed with the cities and towns growing at a faster rate compared to the small and medium towns. Thus the KMA region has a rising rate of urbanization since most of the cities and large towns in the state are in the KMA area. The non KMA region however show drastic fall in the growth rates in the 1991-2001 decade even when adjusted by the natural growth rate.

The average size of towns in the Hill zone is around 36,000 in 2001 with the main town of Darjling having a population of over one lakh, along with Kurseong and Kalimpong which have a long history as described in Chapter two. There are also new towns like Mirik, Cart Road and Pattabong tea garden which have a population of less than five thousand. Though the urban population growth rate falls, the rate of urbanization is found to rise in the Hill zone. The urban population growth rate is found to increase when we adjust by the natural growth rate as mentioned above. The rural population growth rate (see appendix) however, has almost become half (from 20.8 per cent in 1981-91 to 10.4 per cent in 1991-2001). This 10 per cent fall in the rural growth rate thus might be an important factor for the growth in the urban population of the hills. The possible explanation for this pattern of population growth is that there have been out migration from the rural areas and in migration into urban areas. Also we find that the rural population growth rate in the 90s of the Darjeeling district as a whole is 20 per cent (from 21 per cent in the 80s) while that for the Terai zone is 34 per cent which in fact has increased from 23 per cent in the first decade. This implies that there must have been large scale migration from especially the rural areas in the hills. The situation of unrest which has prevailed during the last few years due to insurgency may have also contributed to the out migration from the isolated rural areas. There can be several possible explanations for this state of affairs.

During the nineties, closure of tea gardens, which are mainly located in the rural area may also be a significant reason for the fall in the rural population growth rate. It is found that the growth in the number of tea estates fell from 13.8 per cent in 1980-90 to -11.2 per cent in 1990-2001 (Government of West Bengal, Economic Review, various years). In West Bengal the ethnic composition of workers

in tea gardens reveals that nearly 80 per cent of them are from the Chotanagpur area and belong to SC and ST while the majority of the other workmen are of Nepalese origin. The closing down of these tea gardens implies that these migrant workers will look for job openings elsewhere.

The three dimensional character of the hills causes a lot of physical and environmental constraints on the resident population especially in the rural areas. The urban areas in the hills are the major centers of production and consumption and thus attract a lot of migrants from the rural areas. A lot of informal/ tertiary sector employment is also available in the urban areas because of the prevalence of tourism. To give shape to the concept of regional autonomy, the Darjling Gorkha Hill council (DGHC), a politico- administrative artifice was set up during 1987-88 to organise government activities at the sub state level (Subba, 1992). The Gorkha league in place of Hillmen's Association began to articulate the cause of Gorkha minorities in the state (Sarkar and Bhaumik, 2000). With the attainment of more powers by the Act of 1994 the DGHC focused on local area development and more job opportunities for Gorkhas causing them to migrate to the urban areas.

The Terai zone has two large cities namely Siliguri (with population 2, 84,616 in 2001) and Jalpaiguri (with 98335 population) while the average town size is around 33,000 in 2001. The towns at the lower end include Bhangri Pratham Khanda and the new town of Shobhaganj having population less than 5000. The urbanization patterns and economy of these two zones is largely dependent on tea plantation and tourism activities. If we remove the Darjiling town from the Hill zone and the town of Siliguri from the Terai zone, both of which flourished in recent decades due to tourism then the urbanization levels in both falls by 8 and 3 points respectively in all the three years.

The Red & Laterite zone has a level of urbanization (around 23) which is below the state average for the whole study period. The entire Red & Laterite zone show low and declining values of town density (Table 5.2) and a high percentage of towns (45%) with an out-migrating character. The rate of urbanization of this zone is below the very low state average. It also has a large number of low growth towns. When we exclude the coal mining belt from this zone we will see that the rest of the zone displays half the levels of urbanization (12.26 in 1991) of the entire zone. The level of urbanization in the mining excluded part in fact is found to decline over 1991 and 2001. The average size of the 16 towns in non mining segment of the zone is only 7,742, which is a very low figure compared to the other zones. The largest town in this part is that of Guskara in Bardhaman with a population of around 32000 only. The number of new towns in the Red and laterite zone excluding the mining belt is only eight (32 per cent of the total) and only a few of the existing towns have increased in size. This is because in addition to an absence of mining options the agricultural condition is poor in these parts because of the adverse climatic conditions. This implies that the lack of economic opportunities in this part have constrained the growth of urban population and as a result urban centers. The area of this excluded region which is agriculturally backward has fallen by almost 60 square kilometers in 2001 which explains the unnatural rise in population density.

Thus the growth in urbanisation we see during 1981-91 can be mostly attributed to industrial development in the mining belt. However, the pace of industrial growth could not be sustained and due to the lack of agricultural prosperity in this region, it is one of the least urbanised zone in our study.

Table 5.1

Level of urbanization, rate of urbanization and urban population growth rate across the climatic zones and across KMA and Non KMA in West Bengal, 1981-2001.

Zones	Level of Urbanisation			Rate of Urbanisation		Urban Population Growth Rate	
	1981	1991	2001	1981-91	1991-2001	1981-91	1991-2001
1. Hill	21.59	23.71	27.15	9.78	14.53	36.35	32.22
2. Terai	12.09	13.95	15.01	15.41	7.56	45.54	31.01
3. Gangetic	37.16	38.37	39.18	3.26	2.09	32.80	23.53
3. 1 KMA	73.89	73.92	80.59	0.05	9.03	27.28	35.32
3. 2 Non KMA	16.50	18.03	15.52	9.24	–13.89	40.16	3.77
4. Vindya	7.20	8.30	8.63	15.32	3.89	43.24	21.19
5. Red and Laterite	20.73	23.98	24.26	15.68	1.16	40.80	15.63
5. 1 Mining belt	54.60	64.70	67.99	18.50	5.08	51.55	11.13
5. 2 Red - mining	11.58	12.26	12.12	5.88	–1.15	27.10	15.23
6 Coastal	11.80	14.65	17.76	24.08	21.26	61.37	46.10
6. 1 KMA	36.56	40.19	49.54	9.94	23.26	35.25	71.89
6. 2 Non KMA	7.59	7.04	5.96	–7.35	–15.30	15.56	–3.10
West Bengal	26.47	27.48	27.97	3.82	1.79	29.49	19.88

Source: Census of India, General Population Tables, Series 26, West Bengal, 1981, 1991 and 2001.

Note: The area and population of Kolkata in 1981 was calculated including the added areas of Jadavpur, Garden Reach and South Suburban so as to make it comparable with 1991 and 2001. The jurisdiction of the Kolkata Metropolitan Area (KMA) has been taken from a report published by Kolkata Metropolitan Development Authority (KMDA).

Table 5.1a

Population density across the climatic zones and across KMA and Non KMA (1981-2001)

Zones	1981			1991			2001		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1. Hill	228	182	2763	283	221	3273	321	238	4210
2. Terai	427	382	3010	539	472	4117	657	568	5768
3. Gangetic	1018	680	6392	1321	872	7823	1654	1084	8994
3.1 KMA	2902	1063	7403	3701	1383	9052	5216	1856	11496
3.2 Non KMA	746	639	4755	966	819	5763	1190	1019	5498
4. Vindya	604	567	4003	745	691	5092	869	807	4718
5. Red & Laterite	395	323	2503	476	377	2799	557	441	3127
5.1 Mining belt	849	466	2695	1078	504	2849	1250	569	2871
5.2 Red - mining	345	310	2295	410	367	2727	482	431	3631
6. Coastal	612	503	3104	738	647	3918	890	758	4986
6.1 KMA	1173	827	4242	1200	861	3236	1757	1033	6134
6.2 Non KMA	503	472	2726	659	615	6107	755	721	3077
West Bengal	620	470	5458	773	581	6079	923	691	6787

Source: Same as in Table 5.1

Note: Mining belt' implies the mining area in the Red and laterite zone. 'Red – mining' implies the mining belt excluded part of the Red & laterite zone.

Table 5.2

Number of towns and town density across the climatic zones in West Bengal (1981-2001)

Zones	No. of Towns			Town Density		
	1981	1991	2001	1981	1991	2001
1. Hill	5	6	6	1.16	1.21	1.18
2. Terai	26	30	31	1.24	1.35	1.49
3. Gangetic	138	171	180	1.53	1.74	1.71
4. Vindya	42	50	57	2.06	2.18	1.90
5. Red and Laterite	89	98	88	1.10	0.96	0.84
6. Coastal	65	74	41	2.12	1.89	0.91
West Bengal	369	429	404	1.39	1.39	1.22

Source: Same as in Table 5.1

Note: Town density was calculated as the number of towns per 10 square kilometres.

Table 5.3

Number of new and declassified towns across the climatic zones in West Bengal (1981-2001)

Zones	No. of New Towns			No. of Declassified Towns		
	1981	1991	2001	1981	1991	2001
Hill	2	1	1			1
Terai	5	6	5			2
Gangetic	23	43	66		2	14
Vindya	5	12	16	1		11
Red & Laterite	28	25	25		1	13
Coastal	15	24	15			12
West Bengal	78	111	128	1	3	53

Source: Same as in Table 1

Note: Mergers and acquisitions of towns into other urban areas have not been taken into account.

Table 5.3a

Percentage of out-migrating and in-migrating towns across the zones in West Bengal in 2001.

Zones	% In-migrating	% Out-migrating
Hill	50	50
Terai	71	29
Gangetic	75.6	23.1
Vindya	72.7	25.5
Red & laterite	55.4	44.6
Coastal	82.5	17.5
West Bengal	70.7	28.5

Source: Same as in Table 5. 1

To sum up, it was observed that the agriculturally prosperous Gangetic zone is more urbanized with a high level of urbanization and higher proportion of in-migrating towns compared to the other zones. It has also more number of new towns and this pattern holds true even when we exclude the KMA part of the zone in which the urbanization process is influenced by various other factors. The agriculturally prosperous Vindya alluvial zone too, has relatively high level of urbanization. Further the impact of prosperous agriculture is reflected in higher town density (Table 5.2) and a large number of new towns in recent decades. On the other hand, when we exclude the mining and industrial belt from the Red and laterite zone and consider its semi-arid, agricultural area with very low land productivity, where we find a very weak process of urbanisation characterised by a relatively stagnant level of urbanization, and a high proportion of out-migrating towns. The Coastal zone also shows falling town density and declining rate of urbanisation. (Note that it is only the Hill zone which has a rising rate of urbanisation probably due to drying up of job opportunities in the rural areas due to the closure of the tea gardens during the last decade and more job openings in the urban areas.) The above findings confirm our hypotheses that regions experiencing high levels of agricultural prosperity are also highly urbanized and the reverse is also true. Trading and processing of agricultural output lead not only to the emergence of small, market towns but also to increased population of the existing ones and thus agricultural development makes positive contribution to the urbanization process.

6. Regional variation in urban economy

In this study we examine the impact of agricultural growth during 1981-91 on the urban economy of West Bengal by comparing the urban nature of economy in areas having high agricultural growth with that in areas of relatively low agricultural growth. In the agriculturally prosperous zones as discussed elsewhere small urban centers or towns based on the marketing of agricultural surplus and agro based industries would emerge. These urban areas would have higher share of secondary and tertiary sector activities than those areas which are not agriculturally prosperous, when we consider only predominantly agricultural areas. Within the secondary sector there should be more emphasis on small scale manufacturing as a developed agricultural economy will generate and promote various types of processing and manufacturing activities. The tertiary sector should also experience an increase in its share with a rise in marketing and trading activities related with agriculture.

This section examines whether the more urbanized zones had stronger urban economies and vice versa. For studying the variation in urban economy we analyzed the changes in the income (domestic product), work participation rates and the sectoral distribution of income and employment across the zones.

In West Bengal, we see an increasing move towards tertiarisation of income over 1991 and especially during 2001 (Table 6.1). The income share of the secondary sector, consisting mostly of manufacturing and construction, had declined during 1991 to 2001. As manufacturing sector, because of their greater linkage effect, is considered to be the prime mover in the process of urbanisation, a fall in the secondary sector activities is accompanied by a fall in the rate of urbanization. The share of the primary sector is also found to decline over the two decades under study. This is also confirmed by the movement of workers (the data of the sectoral distribution was available only for 1991) from 1991 to 2001 for the state as a whole. The overall picture that arises from this analysis is that the state as a whole is experiencing a fall in primary and secondary sector activities and an increasing dependence on tertiary sector activities.

Since the sectoral division of workers is only available for 1991 we will not be able to link the direction and dimension of sectoral change of income and employment across the regions for 1981 and 2001. However for West Bengal as a whole NSS data is available for 2001 which also confirms that there has been a movement of the workforce towards tertiary activities accompanied by a fall in primary and secondary sector activities (Table 6.1). The fall in both primary and in the secondary sector and the rise in the tertiary sector is greater in case of workers indicating that the change in the workforce is taking place at a faster rate (Table 6). Now it should be noted that there can be two types of tertiarisation, low income tertiarisation which is basically informal sector labour intensive activities and high income tertiarisation which are high end, capital intensive jobs like in the IT and corporate sector. If workers have increased at a faster rate than income then it can be a type of low income tertiarisation implying a less prosperous economy than one in which income is increasing at a faster rate than workers. (Due to data limitations an overtime comparison cannot be done. Nonetheless, a cross section analysis across the zones is done for the year 1991 only.)

Let us now examine the regional variation in this sectoral shift. The shift towards tertiarisation of income is quite prominent in both the Hill and Terai zones (Table 6.1). The reason behind this is probably the closure of tea gardens which have adversely affected both the agriculture component in the primary sector and also the related industrial activities. This has caused workers engaged in these sectors to move to the tertiary activities prevalent in these zones like tourism related activities in the hills and trade and transport in the Terai region. The Hill and Terai zone thus exhibit falling shares of income in primary and secondary sector while their percentage share in the tertiary sector increases overtime. The Hill zone however has the highest number of workers per thousand populations in other services (also highest among all the zones) while the Terai zone has the maximum number of workers in trade and commerce (Table 6.4). Majority of the towns (5 out of 6) in the Hill zone are also service towns while those in the Terai are trading towns (76 per cent as opposed to 21 per cent service towns) (Table 7). The shares of tertiary sector income are above the state average in the Terai zone (Table 6.1).

Table 6.1

Sectoral distribution (in percentage) of urban income across the agro-climatic zones of West Bengal, 1981-2001

Zones	1981			1991			2001		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
1. Hill	1.8	30.9	67.4	1.3	26.4	72.3	2.0	26.3	71.7
2. Terai	12.4	35.6	52.1	13.6	29.8	56.6	10.5	23.2	66.2
3. Gangetic	17.8	41.7	40.6	19.5	40.2	40.3	17.0	38.7	44.4
4. Vindya	31.5	36.0	32.5	29.0	30.2	40.7	14.3	38.2	47.5
5. Red & Laterite	31.6	35.8	32.7	30.5	29.7	39.8	20.0	33.7	46.4
6. Coastal	18.4	30.0	51.6	19.2	31.8	49.0	19.9	24.0	56.1
West Bengal	16.3	33.9	49.8	17.1	31.3	51.7	13.6	29.4	57.0

Source: Bureau of Applied Economics and Statistics, Government of West Bengal, Statistical Abstract of West Bengal (various years)

Table 6.2

Percentage share of primary, secondary and tertiary urban workers out of total main workers for all the zones in 1991 and for West Bengal in 2001

Zones (1991)	Primary	Secondary	Tertiary
1. Hill	11.2	14.7	74.2
2. Terai	10.0	19.1	70.9
3. Gangetic	5.4	42.7	51.9
Gangetic -KMA	*12.9*	34.8	52.3
4. Vindya	17.9	33.9	48.3
5. Red and Laterite	22.4	26.8	50.8
Red - mining	*14.2*	20.8	64.9
6. Coastal	12.7	37.2	50.2
Coastal -KMA	*17.9*	46.5	35.6
West Bengal (1991)	8.2	34.7	57.1
West Bengal (2000)	3.8	31.9	64.3

Sources: Same as in Table 6.1; for data of 2001, NSS 1999-2000 (55th Round)

However zones having a history of industrial development like the Gangetic and the Coastal have more developed secondary sectors. Table 6.1 shows that the more agriculturally prosperous and urbanized zones like the Gangetic has almost same percentage share of income in the secondary and tertiary sectors. The shares in the secondary sector are far above the state average. A rise in percentage share of income in the tertiary sector for Gangetic in 2001 is also observed and we find that the most important sub sector in the tertiary sector is trade and commerce. The Gangetic zone enjoys a high percentage share of income in total manufacturing (38 per cent share in 1991) which is seen to increase from the 1981 share and cannot be observed for the other zones. Among all the zones the Gangetic zone has the highest percentage (35) and number of workers per thousand populations in other than household industry (Table 6.4). The highest percentage change of income though is seen mainly in unregistered manufacturing. Thus we find that the most significant sector in this zone is the manufacturing sector. This is also reflected in the high number of manufacturing towns in this zone, i.e. 65% (Table 6.3). This zone has almost 50 per cent of the total manufacturing towns in the state. Next in importance comes trading towns (31%). This shows that industrially developed and urbanised zones are engaged in secondary and tertiary sector activities. The proportion of urban workers engaged in household manufacturing out of main workers is above the state average and has risen by one point only in this zone during the decade (1981- 1991) of agricultural prosperity in Bengal.

Table 6.3

Functional classification of towns across the agro climatic zones 1991

Zones	Manufacturing	Trading	Service
1. Hill	1		5
2. Terai	1	22	6
3. Gangetic	94	47	7
Gangetic – KMA	40	26	5
4. Vindya	27	17	1
5. Red and Laterite	52	26	10
Red - mining	10	19	7
6. Coastal	34	25	6
Coastal – KMA	9	14	2
West Bengal	209	137	35

Source: Giri & Chatterjee, Urban Database Series, *Functional classification of Urban Areas in India, 1961, 1971 and 1991,* CUES, Department of Economics, University of Calcutta

Table 6.4

Number of workers per 1000 population in the primary, secondary and tertiary sectors for all the zones 1991

Zones	Cultivators		Agricultural Labourers		Allied Acts		Mining & Quarrying	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Hill	139	7	31	8	119	13	0	0
Terai	131	11	83	12	41	6	0	0
Gangetic	101	4	102	7	5	4	0	0
Vindya	122	18	104	27	4	5	0	0
Red & Laterite	148	9	117	15	3	4	7	31
Coastal	87	9	81	23	7	3	0	0
West Bengal	116	6	99	10	10	3	1	5
Hill—Darjiling	116	12	27	15	106	23	0	0
Terai—Siliguri	129	15	81	16	39	8	0	0
Gangetic—KMA	108	9	106	15	6	5	0	0
Red-mining	156	12	122	20	3	6	2	2
Coastal—KMA	91	21	79	44	8	6	0	1

Contd./

Zones	Household Industry		Other than Hhld. Industry		Construction	
	Rural	Urban	Rural	Urban	Rural	Urban
Hill	1	4	8	20	4	12
Terai	5	5	14	38	3	14
Gangetic	19	13	24	99	4	10
Vindya	14	16	19	70	4	10
Red & Laterite	10	5	13	59	3	8
Coastal	11	14	23	80	5	11
West Bengal	13	9	19	82	4	10
Hill—Darjilng	1	8	8	37	4	22
Terai—Siliguri	5	6	13	49	2	18
Gangetic—KMA	21	32	18	40	4	8
Red-mining	11	8	12	42	2	9
Coastal—KMA	11	32	15	44	3	1

Zones	Trade & Commerce		Transport & Communication		Other Services	
	Rural	Urban	Rural	Urban	Rural	Urban
Hill	10	52	4	18	40	114
Terai	16	88	7	39	17	84
Gangetic	21	64	7	25	17	58
Vindya	17	58	5	23	20	55
Red & Laterite	14	50	5	28	19	57
Coastal	22	53	9	25	20	63
West Bengal	18	70	7	29	19	68
Hill-Darjiling	9	95	4	33	33	207
Terai-Siliguri	15	114	7	51	16	107
Gangetic-KMA	20	54	6	18	16	48
Red-mining	14	65	5	41	19	78
Coastal-KMA	17	55	8	23	16	65

Source: Same as in Table 6.1

If we exclude the KMA region the rest of the Gangetic zone which is agriculturally (but not industrially) prosperous has 35 percentage of workers in the secondary sector (higher than the state average) (Table 6.5). We also observe a (8 percent) rise in household industry workers from 1981 to 1991 in the KMA excluded Gangetic region indicating a dominance of non farm activities. The number of household industry workers per 1000 population is also the highest in this zone. However the percentage share in other than household industry falls to half the original share because the

KMA excluded region is not as industrially developed though manufacturing towns are also a majority (57%) in this part of the zone. It should be also noted that 45 per cent of both manufacturing and trading towns (of the total towns) are in this part of the Gangetic zone. Regarding the primary sector activities in this zone (over the 1981-91 decade) a high percentage change as expected is observed especially in agriculture. The percentage of cultivators and agricultural labourers are higher in the KMA excluded Gangetic region than in the entire Gangetic region. The manufacturing sector is connected to trade and commerce which is reflected in the high number of workers in this tertiary sub sector. From this we can surmise that this part of the zone which is basically agricultural also has predominant secondary and tertiary sectors.

Table 6.5

Percentage share of primary, secondary and tertiary urban workers out of total main workers for all the zones 1991 and for West Bengal 2001

Zones (1991)	Primary	Secondary	Tertiary
Hill	11.2	14.7	74.2
Hill—Darjiling	11.2	14.7	74.2
Terai	10.0	19.1	70.9
Terai—Siliguri	10.1	19.2	70.7
Gangetic	5.4	42.7	51.9
Gangetic—KMA	*12.9*	34.8	52.3
Vindya	17.9	33.9	48.3
Red & Laterite	22.4	26.8	50.8
Red & laterite-mining	14.2	20.8	64.9
Coastal	12.7	37.2	50.2
Coastal—KMA	*17.9*	46.5	35.6
West Bengal (1991)	8.2	34.7	57.1
West Bengal (2000)	3.8	31.9	64.3

Sources: Same as in Table 6.1; for data of 2000, NSS 1999-2000 (55th Round)

The Vindya zone which was the most agriculturally prosperous zone in our study also shows steadily increasing shares of income in the tertiary sector. It is observed that 40 percent of workers are involved in trade & commerce and other services in this zone. This zone has the highest proportion of workers engaged in household manufacturing and the absolute number of workers engaged in trading also rises during the 1981-91 decade. There is however declining shares of income in the primary sector though they are above the state average. It should be noted that this zone also is predominantly dependent on agriculture. This is seen from high percentage shares of income in agriculture in 1991 which is a large increase from their 1981 shares. This zone also shows above average shares of income in the secondary sector though a fall is observed in 1991. Moreover this zone is made up of 60 per cent manufacturing towns and 38 per cent trading towns which again points to the predominance of secondary and tertiary activities.

Thus in the regions with high productivity in agriculture, namely the Gangetic and the Vindya zones the secondary and tertiary sectors have relatively high shares of income and employment. This is consistent with the hypothesis that the agricultural prosperity is associated with a diversified urban economy where the shares of the secondary and tertiary sectors would be high. We also hypothesize that there will be a larger number of trade workers in a developed agricultural economy compared to a less developed one. This primarily explains why there are more trade workers in the more prosperous Gangetic zones than in the less developed Red and laterite zone (Table 6.6).

Table 6.6

Sectoral distribution (in percentage) of urban income across the agro-climatic zones of West Bengal, 1981-2001

Zones	1981			1991			2001		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
Hill	1.8	30.9	67.4	1.3	26.4	72.3	2.0	26.3	71.7
Terai	12.4	35.6	52.1	13.6	29.8	56.6	10.5	23.2	66.2
Gangetic	17.8	41.7	40.6	19.5	40.2	40.3	17.0	38.7	44.4
Vindya	31.5	36.0	32.5	29.0	30.2	40.7	14.3	38.2	47.5
Red & Laterite	31.6	35.8	32.7	30.5	29.7	39.8	20.0	33.7	46.4
Coastal	18.4	30.0	51.6	19.2	31.8	49.0	19.9	24.0	56.1
West Bengal	16.3	33.9	49.8	17.1	31.3	51.7	13.6	29.4	57.0

Source:Bureau of Applied Economics and Statistics, Government of West Bengal, Statistical Abstract of West Bengal (various years)

In the Red and laterite zone, at all the time points considered, the share of primary sector in urban income varies from 32 percent in 1981 to 20 percent in 2001, which is much above the state average that varies from 16 to 14 percent. The higher share of the primary sector is a result of inclusion of the mining activity in the primary sector and the zone having a major mining belt. However, the share of primary sector has declined in the urban economy over the decades. There is less than one percent of workers in mining when we exclude the mining belt from the Red & laterite zone, whereas the whole zone had 12 percentage of workers in mining in 1991. If we exclude the mining belt from the Red & laterite zone we find that in the rest of the zone the urban economy is mostly dependent on various tertiary sector activities. As the mining excluded zone is agriculturally very weak because of adverse soil and climatic conditions and the secondary sector also has lesser share of workers and income. We also find that a very small number of persons are engaged in agricultural trading in this zone and the proportion of household manufacturing workers is also very low. Also, when we consider the entire zone the majority (59%) of towns is manufacturing but if we leave out the mining belt the rest of the zone has a major percentage (73%) of towns are trading towns.

The Coastal zone also includes some of the urban areas of the KMA. As mentioned earlier the KMA component influences the characteristics of the urban economy. It would be interesting to study the characteristics of the urban economy in the non KMA part of the zone. The non KMA Coastal

zone has less productive agriculture because of soil and poor climatic condition. Majority of the towns (56%) of this area are trading towns.

Thus the agriculturally less prosperous zones have urban economy based largely on trading towns. On the other hand the agriculturally prosperous zones, the Gangetic and the Vindya zones have more diversified urban economy and majority of the towns are manufacturing towns.

At the cross sectional level we observe that it is only the Gangetic zone which has maintained a steady share of income in the secondary sector. Thus we can say that the prosperous agricultural zones like the Gangetic have developed secondary sectors with a large number of main workers engaged in manufacturing and a high share of manufacturing towns. The fall during 1991-2001 in the secondary sector is greater in the case of the Terai, Red and laterite and Coastal zones – all are zones with lower agricultural productivity. In these zones, the growth of the tertiary sector is mostly in the low productivity tertiary activities.

Table 6.7

Main Work Participation Rates across the climatic zones in West Bengal, 1981-2001.

Zones	1981		1991		2001	
	Rural	Urban	Rural	Urban	Rural	Urban
1. Hill	38.4	27.3	35.7	24.8	28.4	27.4
2. Terai	31.1	28.3	31.7	29.8	29.9	30.3
3. Gangetic	27.3	27.7	30.1	28.7	29.2	31.3
4. Vindya	27.9	23.4	30.8	28.8	28.8	29.9
5. Red and Laterite	30.0	26.8	34.1	26.3	27.3	25.6
6. Coastal	24.5	26.7	26.5	27.5	19.9	28.3
West Bengal	28.0	28.9	30.6	29.2	27.9	30.8

Sources: (i) Census of India 1981, Series 23, West Bengal, Part XIII-B, District Census Handbook (for various districts); (ii) Census of India 1991, Series 26, West Bengal, Part XII-B, District Census Handbook (for various districts); (iii) Census of India 2001, Series 26, West Bengal, Primary Census Abstract (data available in Census CD).

Table 6.8

Marginal Work Participation rate across the climatic zones in West Bengal, 1981-2001.

Zones	*1981*		*1991*		*2001*	
	Rural	Urban	Rural	Urban	Rural	Urban
1. Hill	3.9	1.6	2.2	1.2	23.7	8.0
2. Terai	4.5	1.2	5.8	1.0	22.9	6.9
3. Gangetic	5.3	1.3	4.2	1.0	19.3	8.2
4. Vindya	6.4	3.5	6.9	2.2	25.9	11.9
5. Red and Laterite	12.8	13.1	12.2	1.9	36.5	13.7
6. Coastal	7.5	1.8	10.2	2.5	28.3	12.6
West Bengal	7.5	3.1	7.7	1.2	26.4	8.9

Source: Same as in table 3.

An increase in the urban main Work Participation Rate (WPR) has been observed in the Terai, Gangetic, Vindya and Coastal areas (Table 6.7), while the rural main WPR has dropped. This indicates that agriculture has a reduced capacity to absorb the growing rural labour force, and many of them find place in the low-income urban activities. This is also confirmed by the marginalisation of the workforce in 2001, which is more prominent in the less urbanized, backward agriculture dominated part of the Red and laterite zone (Table 6.8).

7. Conclusion

From this paper we have been able to study the underlying factors of urbanization in West Bengal and distinguish the regional variations in the pattern. We can also conclude that the hypothesis that more agriculturally prosperous regions will be more urbanized than the less prosperous ones has been tested and found to be true.

A major policy implication of the study is that there cannot be a single urbanisation policy for the whole state. It should vary across the regions with varying agro-climatic conditions. Each region has its specific characteristics and constraints, which must be overcome through specific policies directed at them. Special attention should be directed on improving agricultural development especially in the fertile areas with a view to strengthening its input-output linkages and market networks. Agricultural development induces a decentralised/dispersed urbanisation through the growth of small and medium sized towns; such a trend emerged in West Bengal in the decade of 1980's.

In the regions that do not have favourable agro-climatic conditions, urbanisation may be induced by creating comparative advantage for the location of secondary and tertiary activities through suitable pubic investments.

There is also the implication that industrial development should be directed towards the agriculturally less prosperous regions instead of the agriculturally fertile regions. However suitable long term investments in infrastructure are required in these backward regions to attract private investment and make industrial development viable.

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Appendix I

Database and methodology

The estimates of the net district domestic product are reported in the Statistical Abstracts of West Bengal published by the Bureau of Applied Economics and Statistics. The estimates were available separately for urban and rural areas for the years 1981 to 1989 only. The 1991 estimates are obtained by extrapolation method. These estimates are in 1980-81 constant prices. The data for total estimates of 2001 was first deflated to 1980-81 prices. Then the urban estimates were calculated by adding the difference between the urban sectoral shares of 1981 and 1991 to the urban sectoral shares of 1991. This has been done to capture the change in the composition of the sectoral shares in 2001 assuming the same change that occurred between 1981 and 1991.

Also since the DDP figures were available at the district level only, the DDP of the zones had to be adjusted to the block level. This was done by multiplying each district in each zone by the proportion of workers engaged in that district for each zone. Then the zonal totals were calculated. This is how the percentage shares in value added across the six zones for the three years 1981, 1991 and 2001 were calculated.

Appendix II

Table A.1 : Rural Population Growth Rate across the zones

Zones	Rural Population 1981-91	Growth Rate 1991-2001
Hill	20.86	10.23
Terai	23.43	20.30
Gangetic	26.19	19.42
Vindya	22.74	16.24
Red & Laterite	16.72	13.89
Coastal	25.77	16.09
West Bengal	23.01	16.97

Source: Same as Table 1

Urban Growth in Tripura from 1901 to 2001

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Abstract

The objective of the paper is to enquire into the factors that have given rise to urban growth in Tripura, one of the eight states comprising northeast India between 1901 and 2001.

1. Introduction

That part of the population of a state that lives in its towns and cities constitutes its urban population. Since growth means an increase in size or number, urban growth is supposed to occur in a state when its urban population increases over time. Urban growth occurs in a state between any two points of time as a result of:

i. natural growth in the urban population of the state,

ii. net migration of people into the urban areas of the state from other parts of the country, from other countries, or from the rural areas of the concerned state,

iii. a net addition in the number of towns in the state,

iv. enlargement in the geographical area of the existing cities and towns in the state.[1]

The objective of the paper is to enquire into the factors that have given rise to urban growth in Tripura, one of the eight states comprising northeast India between 1901 and 2001.

The rest of the paper is divided into three sections. Section 2 deals with urban growth in Tripura till 1951 and the determinants of urban growth in the state during this period. 1951 is chosen as the break off point because Agartala was the only town in the state till 1951. Section 3 deals with urban growth in the state from 1961 to 2001 and its determinants and Section 4 is the concluding section of the paper.

2. Urban growth in Tripura till 1951

Tripura has a comparatively recent urban history. In 1876, Hunter remarked, 'there are no towns properly so called in Hill Tipperah' (Hunter 1973: 495) though Agartala, the capital town of the state was founded 'about the year 1844[2] when the capital of Tripura was removed to the new town' (Hunter 1973 497) from old Agartala, which was situated in the plains further upstream from Agartala on the bank of the Howrah river.[3] Hunter made his remark because Agartala, the capital of the state and the residence of the Raja of Tripura was no more than a village of moderate size, the area of the town of Agartala being about 3 square miles (Hunter 1973: 496) in 1876. The town was also characterized by the primitive condition of its built environment, a lack of roads and sanitation facilities and an extremely poor connectivity with the rest of the state and the contiguous areas of British India.[4] The population of Agartala was reported in 1864 to number about 875 persons (Hunter 1973: 495) though this figure must have been a guesstimate that was not arrived at on the basis of a census of the town population. The population of the town consisted almost entirely of the Raja's relatives and retainers, people connected with the local courts and officers and a few shopkeepers in 1876 (Hunter 1973: 496). Though Agartala remained the only town of the state from its inception and right up to 1951,[5] the population of the town was known to have increased considerably since 1876. Urban growth took place in Tripura during this period probably because of the natural growth of the urban population and migration of Bengali professional people to the state capital from the neighbouring districts of British India as neither the number of towns nor the geographical area of Agartala increased during

this period. Hard data on urban Tripura are found only from 1901 when the first reliable census of the state took place[6]. Figures for the population of the town are not available between 1864 and 1901 as the Census data for 1872, 1881 and 1891 did not record any figures for the urban population of the state.

Table 1 gives the figures for the urban population of Tripura from 1901 to 1951, urban growth in the state in absolute numbers and the rate of urban growth in the state during the period. Since Agartala was the only town of the state during the period from 1901 to 1951, the figures in the table are also true for the population of Agartala from 1901 to 1951, the decadal growth of the population of the town in absolute terms and the rate of growth of the population of the town between 1901 and 1951. Table 1 shows that urban growth took place in Tripura throughout the period and the urban population of the state increased continuously over time during this period. The rate of urban growth was also increasing over time in the state between 1901 and 1951. The table shows that the decadal growth of urban population in absolute terms and the rate of growth of the urban population of Tripura were modest till 1931. The main engines of urban growth from 1901 to 1931 seem to have been the natural growth of the population of Agartala and the addition to the urban population of the town due to the migration of professional people from the neighbouring districts of British India to take up jobs in the capital of the state due to the growth in its administrative functions (Bhattacharjee 1995: 287). No new towns were established in Tripura during this period and the geographical area of Agartala also remained constant between 1901 and 1931. So, the growth of new towns and an increase in the geographical area of the existing town did not have a part to play in the urban growth of the state between 1901 and 1931. Urban growth and the rate of urban growth were modest in Tripura during these three decades. As shown in Table 1, there was a dramatic change in the situation in 1941 and 1951. In 1941, the decadal growth of urban population in absolute terms was 8113 as compared to a mere 1837 in 1931 and in 1951 this figure rose to 24902 so that there was a three fold increase in the decadal growth of urban population over 1941. The rate of growth of urban population in Tripura was 84.69 in 1941 and 140.74 in 1951 and it far exceeded the modest rate of growth of the urban population of the state in the earlier part of the twentieth century.

The natural growth of the population of Agartala could obviously not have accounted for the dramatic increase in the urban population of Tripura observed in 1941 and 1951. The sudden spurt in urban growth in Tripura in 1941 and 1951 could also not be attributed to the growth of new towns in the state as Agartala continued to remain the only town in the state till 1951. The growth in the size of Agartala could also not be held responsible for the sudden urban growth experienced by the state during this time period because the size of Agartala went up marginally from 3 square miles in 1876 to 4 square miles in 1951 (Census of Assam, Manipur and Tripura, 1951, Part II-A: 65). Developments taking place in British India and in East Pakistan leading to a massive net immigration into Tripura were responsible for the sudden surge in urban growth seen in the state in 1941 and 1951. Bengali refugees from the contiguous districts of British India, especially from Chakla Roshnabad, migrated to Tripura in general and to Agartala, the capital of the state, in particular for their safety and security as a result of communal disturbances that occurred even before the partition of the subcontinent. In 1939, refugees from Raipura (Dhaka) found shelter in Tripura (Bhattacharyya 1988: 121).

Table1

Trend in Urban Growth in Tripura Since 1901

Year	Urban population	Decadal increase in urban population in absolute terms	Rate of growth of urban population
1901	6415		
1911	6831	416	6.48
1921	7743	912	13.35
1931	9580	1837	23.72
1941	17693	8113	84.69
1951	42595	24902	140.74

Source: Table A-IV, Census of India 1951, Vol. XII. Assam Manipur and Tripura, Part II-A

to Agartala, the capital of the state, in particular for their safety and security as a result of communal disturbances that occurred even before the partition of the subcontinent. In 1939, refugees from Raipura (Dhaka) found shelter in Tripura (Bhattacharyya 1988: 121). In 1941, during the latter part of the rule of the Maharajas in Tripura, there was an influx of refugees into the state (Bhattacharyya, 1974). In the absence of any data on the places where they settled once they arrived in Tripura as refugees, the figures on the urban population of Tripura, which jumped from 9580 in 1931 to 17693 in 1941, increasing by 84.69 percent within the span of a decade when the growth of the urban population of Tripura between 1921 and 1931 had been a modest 23.72 percent indicates that many of the refugees must have settled down in Agartala. Refugees from across the border streamed into Tripura after the Noakhali riots in 1946 and the inflow of displaced people continued after 1947. The maximum number of displaced persons came to Tripura after the great riot in East Pakistan in 1950 before the passport system was introduced in 1950-51. The influx of displaced persons from the erstwhile East Pakistan into Agartala caused the urban population to register a massive growth in 1951. Out of the 101200 displaced persons recorded in Tripura in the 1951 Census, Agartala alone harboured 19286 in 1951 so that nearly 20 percent of the displaced persons living in Tripura in 1951 were located in the capital town of Agartala. Table 1 shows that the total population of the town was 42595 in 1951 and so it can be concluded that nearly half the population of the town consisted of displaced persons in that year. Of the displaced persons living in the urban areas of Tripura in 1951, 10570 were males and 8716 were females. As there was not much of disparity in the figures of population of males and females among the displaced persons in Agartala, it could be conjectured that the migration of displaced persons was more or less of a permanent nature (Census of Assam, Manipur and Tripura 1951, Part I-A: 153).

The migration of displaced people from erstwhile East Pakistan led to urban growth in Tripura or its only town Agartala in 1951 because a large number of displaced persons belonged to non-agricultural classes and preferred to settle in the town. Many of them bought land in Agartala with the cash they could bring with them and they added to the urban population of the state. Agartala was a preferred

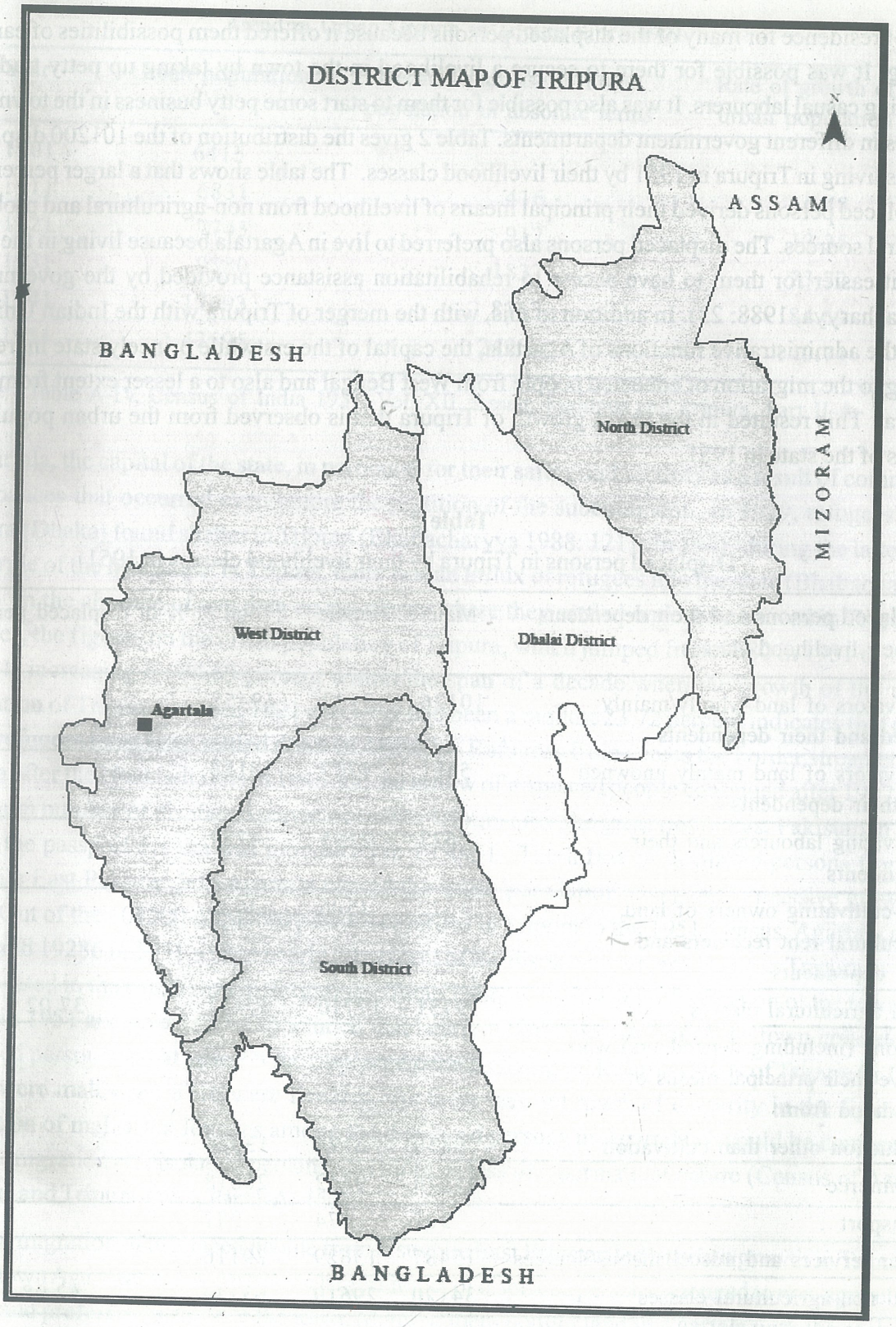
place of residence for many of the displaced persons because it offered them possibilities of earning a living. It was possible for them to secure a livelihood in the town by taking up petty trades or becoming casual labourers. It was also possible for them to start some petty business in the town or to get jobs in different government departments. Table 2 gives the distribution of the 101200 displaced persons living in Tripura in 1951 by their livelihood classes. The table shows that a larger percentage of displaced persons derived their principal means of livelihood from non-agricultural and probably non-rural sources. The displaced persons also preferred to live in Agartala because living in the town made it easier for them to have access to rehabilitation assistance provided by the government. (Bhattacharyya, 1988: 23). In addition to this, with the merger of Tripura with the Indian Union in 1949, the administrative functions of Agartala, the capital of the erstwhile princely state increased, leading to the migration of educated people from West Bengal and also to a lesser extent from rural Tripura. This resulted in the urban growth of Tripura that is observed from the urban population figures of the state in 1951.

Table 2

Displaced persons in Tripura by their livelihood classes in 1951

Displaced persons and their dependents by their livelihood classes	Male	Female	Total	% of displaced persons
Cultivators of land wholly/mainly owned and their dependents	10126	9332	19458	
Cultivators of land mainly unowned and their dependents	5481	4707	10188	
Cultivating labourers and their dependents	2622	2165	4787	
Non-cultivating owners of land, agricultural rent receivers and their dependents	1522	1506	3028	
Total agricultural classes	19751	17710	37461	37.02
Persons (including dependents) who derive their principal means of livelihood from:				
Production other than cultivation	6850	6174	13024	
Commerce	11276	9342	20618	
Transport	507	474	981	
Other services and miscellaneous sources	15487	13629	29116	
Total non-agricultural classes	34120	29619	63739	62.98
Total displaced persons	53871	47329	101200	100.00

Source : Table D-V(II) Census of India 1951. Vol. XII, Assam, Manipur and Tripura, Part II-A


DISTRICT MAP OF TRIPURA
ASSAM
BANGLADESH
North District
MIZORAM
West District
Dhalai District
Agartala
South District
BANGLADESH

3. Urban growth in Tripura from 1961 to 2001

Table 3 shows that urban growth has occurred in Tripura during this period with the urban population growing from 102997 in 1961 to 545750 in 2001. The table shows that unlike in the period from 1901 to 1951, the increase in the urban population from one decade to the next has not shown a uniformly rising trend in the period from 1961 to 2001. The same has been the case with the decadal rate of growth of urban population during the period. It reached an all-time high of 141.81 percent in 1961, fluctuated from one decade to the next and was 29.41 percent in 2001. Table 4, which shows the population of the different urban centres of Tripura from 1961 to 2001 shows that there was urban growth in all the towns throughout the period during which they had been in existence except in Kumarghat and Teliamura. Naturally, this statement is true only for the towns that have been in existence for two or more decades.

Table 3

Urban Growth in Tripura from 1951 to 2001

Year	Urban population	Decadal increase in urban population	Decadal rate of growth of urban population
1951	42595		
1961	102997	60402	141.81
1971	162360	59363	57.64
1981	225568	63208	38.93
1991	421721	196153	86.96
2001	545750	124029	29.41

Source: Census of Tripura, various years

There has been urban growth in Tripura from 1961 to 2001 because of the operation of various factors, the natural growth rate of the urban population of the state or the difference between the estimated birth rate and the estimated death rate of the urban population of the state being one of them. Table 5 shows that between 1971 and 2001. the estimated natural growth rate of the urban population has remained positive but it has shown a downward trend. So, it can be hypothesized that though the positive natural growth rate of the urban population of Tripura contributed to the observed urban growth Tripura, its contribution to urban growth was never large and it has gone down over the years.

Table 4

Population in Different Towns of Tripura

Towns/ years	Population of towns				
	1961	1971	1981	1991	2001
Agartala	54878	100264	132186	157358	189998
Khowai	8782	9338	10722	12552	17689
Dharmanagar	13240	16858	20806	25897	30790
Kailashahar	8575	10602	12938	16166	20286
Udaipur	8778	13924	16304	18223	21758
Belonia	8744	11374	12054	13274	15760
Sonamura			6380	8136	10074
Kamalpur			3688	4300	5143
Sabroom			3340	4766	5768
Amarpur			7150	8550	10861
Kumarghat				14641	11593
Teliamura				27668	19605
Jogendranagar				26990	34850
Gandhigram				7538	10669
Singarbil				9160	
Barjala				16954	
Pratapgarh				13972	26837
Badharghat				35576	47713
Ranirbazar					11003
Narsingarh					6820
Kujaban(part)					7343
Indranagar (part)				17807	
Gokulnagar					9659
Kanchanpur					7679
Ambassa					6045
Total for the state	102997	162360	225568	421721	545750

Source: Census of Tripura, different years

Table 5

Birth and Death Rates in Tripura

Year	Birth Rate	Death Rate	Natural Growth Rate
1971	23.1	7.6	15.5
1981	14.8	6.4	9.4
1991	15.5	6.4	9.1
2001	13.5	5.2	8.3

Source: SRS Bulletin, different years

Table 6

Urban Migration Data, Tripura 1961-2001

Year	Percentage of migrants by place of birth in		Percentage distribution of birth place urban migrants by type of movement				
	Total population	Urban population	Within district	Inter-district	Inter-state	From outside India	Total
1961	51.5	59.7	8.6	—	5.9	85.5	100
1971	47.2	52.8	7.7	4.2	7.2	80.9	100
1981	36.6	41.8	11.6	8.5	9.6	70.3	100
1991	29.3	37.2	26.90	10.60	8.90	53.60	100
2001	29.4	41.1	46.54	14.72	6.40	32.34	100

Source: Census of Tripura, different years

Migration was another factor in the urban growth of Tripura. As Table 6 shows, migrants formed a significant percentage of the urban population of Tripura and till 1991 migrants from outside India, most of them from East Pakistan and Bangladesh constituted the majority of the urban migrants. So, urban growth in Tripura has owed a great deal to migrants from outside India. In 1961, the urban migration from outside India was a result of the aftermath of the partition and the attacks on the Hindu population residing in East Pakistan. In 1971, the turmoil caused by the Bangladesh war led to migration into the urban centres of Tripura from East Pakistan and the newly formed Bangladesh. The stream of migrants from Bangladesh continued to arrive in urban Tripura after 1971 also. It is only in 2001 that the role of urban migrants from outside India has been overshadowed by migration from within the district, inter-district and inter-state migration. Migration into the urban areas of Tripura from within the district and from other districts in 1981, 1991 and 2001 was partly a result of the net migration of people in search of safety and security in the wake of the ethnic riots of 1980 and the growth of extremism in the state.[7] Migration to towns from within the district and from other districts of the state also took place for availing of the better educational facilities and greater job opportunities in the towns of the state. Inter-state migration to towns was mainly in response to job opportunities in the administration of the towns. Of these three types of migrants to urban areas from within India, within district migrants have formed the majority throughout the period in question.

The growth of new towns is a factor in urban growth because the conversion of hitherto rural areas into urban ones adds to the urban population of a state. In 1961 there was massive urban growth of over 141 percent in Tripura not only because of the large number of immigrants from East Pakistan who constituted 85.5 percent of the percentage of migrants classified by their place of origin as shown in Table 6 but also because in place of a single town, namely Agartala, as shown in Table 7, five new towns- Khowai, Dharmanagar, Kailashahar, Udaipur and Belonia came into being in the state. The population of Agartala increased from 42596 in 1951 to 54878 in 1961 (Table 4) or the population of the town went up by 12282 but as shown in Table 4, the combined population of the new towns in 1961 was 48119 so that there was urban growth in Tripura and the urban population of the state shot up from 42596 in 1951 to 102997 in 1961. In 1971, the number of towns in the state remained fixed at 6 so the increase in the number of towns in the state did not contribute to the urban growth of Tripura. In 1981, there were 4 new towns in Tripura, which contributed to the urban growth experienced by the state. In 1991, the number of new towns went up to 8 whereas in 2001, their

number rose to 7. Singarbil and Barjala, two new towns that had come up in 1991 were denotified in 2001. The addition of new towns in each census year in Tripura contributed to the urban growth observed in the state during the period from 1961 to 2001. This is at variance with the situation during the period from 1901 to 1951, when Agartala was the one and only town in the state.

The growth in the geographical area of the only town of Tripura by 1 sq mile was seen in Tripura in 1951. So the physical growth of the town could not have led to a significant urban growth in Tripura during the period from 1901 to 1951. As shown in Table 8, the additional geographical area brought under the ambit of towns converted more people living in the newly added areas into town dwellers, thus leading to the growth of the town population or urban growth in the state from 1961 to 1991 as shown in Table 8. Throughout the period, the establishment of new towns added to the area coming within the urban fold leading to urban growth in the state. In Teliamura and Kumarghat, the area included in the towns went down sharply in 2001. This led to the decline in their population in the year 2001 as compared to 1991 as has been noted in Table 4 and commented on earlier. In 2001, with the denotification of Barjala and Shingarbil, the urban area of Tripura went down slightly so that the growth in the urban area of the state did not contribute to its urban growth in the state as a whole though individual towns like Agartala increased in size and experienced urban growth on account of that.

Table 7

Towns of Tripura in different census years

1961	1971	1981	1991	2001
Agartala	Agartala	Agartala	Agartala	Agartala
Khowai	Khowai	Khowai	Khowai	Khowai
Dharmanagar	Dharmanagar	Dharmanagar	Dharmanagar	Dharmanagar
Kailashahar	Kailashahar	Kailashahar	Kailashahar	Kailashahar
Udaipur	Udaipur	Udaipur	Udaipur	Udaipur
Belonia	Belonia	Belonia	Belonia	Belonia
		Sonamura	Sonamura	Sonamura
		Kamalpur	Kamalpur	Kamalpur
		Sabroom	Sabroom	Sabroom
		Amarpur	Amarpur	Amarpur
			Kumarghat	Kumarghat
			Teliamura	Teliamura
			Jogendranagar	Jogendranagar
			Gandhigram	Gandhigram
			Pratapgarh	Pratapgarh
			Badharghat	Badharghat
			Shingarbil	**Ranirbazar**
			Barjala	**Narsingarh**
				Kujaban (part)
				Indranagar (part)
				Gokulnagar
				Kanchanpur
				Ambassa
Old town 1, New towns 5, Total towns 6	Old towns 6, Total towns 6	Old towns 6 New towns 4, Total towns 10	Old towns 10 New towns 8, Total towns 18	Old towns 16 Denotified towns 2, News towns 7, Total towns 23

Note: the names of new towns are given in bold letters.

Source: Table 4

2. Conclusion

The paper shows that urban growth has occurred in Tripura through the natural growth of the urban population of the state, migration, growth of new towns and an increase in the geographical area coming within the purview of its urban areas. To the extent that some or all of these causal factors for urban growth come into play in Tripura in the coming years, the state will experience urban growth in future also.[8]

Table 8

Area of Urban Centres of Tripura, 1961 to 2001 (in sq km)

City/town	2001	1991	1981	1971	1961
AGARTALA CITY	16.01	15.8	10.94	7.2	7.2
BADHARGHAT	12.51	12.51			
GAKULNAGAR	10.55				
GANDIGRAM	8.76	8.76			
INDRANAGAR (PART)	7.36				
JOGENDRANAGAR	7.72	7.72			
KHOWAI	4.4	4.4	4.4	3.6	3.63
KUNJABAN (PART)	4.97				
NARSINGARH	6.16				
PRATAPGARH	3.29	3.29			
RANIRBZAR	1.7				
SONAMURA	3.42	3.42	3.42		
TELIAMURA	3.75	27.12			
SHINGARBIL		8.16			
BARJALA		7.6			
AMARPUR	3.57	3.57	3.57		
BELONIA	4.13	4.13	4.14	3.6	3.63
SABROOM	2.53	2.53	2.53		
UDAIPUR	4.14	4.14	4.14	6.5	5.05
AMBASSA	10.78				
KAMALPUR	2.41	2.41	2.41		
KANCHANPUR	4.78				
DHARMANAGAR	7.77	7.77	7.77	11	11.03
KAILASHAHAR	6.19	6.19	6.19	10.2	9.97
KUMARGHAT	3.5	17.29			
TOTAL	140.4	146.81	54.37	42.16	40.51

Source: Census of India, various years.

Endnotes

1 See Sivaramakrishnan, K.C., Kundu, A and B.N. Singh, 2005: 33.

2 However, according to Cumming, 'New Agartala or Natun Habeli was founded in 1818, in the time of Raja Krishna Manikya' [quoted by J. Gan Choudhuri (1998:20) from Cumming, *Survey and Settlement of the Chakla Roshnabad Estate in the District of Tipperah and Noakhali*: 65].

3 The capital of Tripura had to be shifted from old Agartala as it came under repeated attacks from the Lushais or Kukis, who were a marauding tribe living in the Lushai Hills and raided Tripura, Manipur and the adjoining areas of British India till 1870 (Gan Chaudhuri 1998: 19). Agartala, the new capital town of Tripura, situated about 3 km downstream from old Agartala on the opposite bank of the Howrah river was considered to be a safe location, free from the danger of Lushai raids.

4 The quality of urban life improved somewhat in Agartala during the last few years of the nineteenth century. This was probably due in some measure to the widening of the revenue base of the Agartala municipality.

5 The reasons for the absence of growth in the number of towns in Tripura till 1951 are discussed in M. Das Gupta, 'Urban Growth and Urbanisation in Tripura since Their Inception to 1951' (forthcoming).

6 In the First Imperial Census of 1872, data on Tripura were collected along with data for Bengal. The first Census of Tripura took place in February 1881 along with the Imperial Census of British India and since then it was conducted regularly at ten-year intervals. O'Mally had refused to acknowledge the authenticity of the Census figures of 1881 and 1891. According to him, 'the first reliable Census was that of 1901' [Quoted by S.C. Debbarman, 1933: 2]. Census data for Tripura were unreliable because of the difficulty of collecting data from hilly, inaccessible areas and the lack of educated enumerators.

7 The people who migrated to towns as a result of the ethnic riot in 1980 and the heyday of extremism in the state in 1991 and 2001 were non-tribals. There was an opposite movement of tribals who were in a miniscule minority in the towns of Tripura. Tribals left towns like Udaipur in 1980 and Kamalpur in 1991 but as they formed an extremely low percentage of the urban population of Tripura, the net migration to towns went up due to these two events. (For details, see 'Urban Growth and the Percentage of Scheduled Tribes in the Urban Population of Tripura from 1961 to 2001', an unpublished paper presented at the UGC-sponsored national seminar-cum-workshop on Urbanisation and its Challenges and Environmental Degradation' held at Bongaingaon College in May 2011).

8 The provisional population totals for Tripura in 2011show that the urban population of the state has increased to 960981, an increase of 76.08 percent over the corresponding figure in 2001 (Census of India 2011. Provisional Population Totals, Paper 2, Vol. 1 of 2011, Rural-Urban Distribution, India, Series 1). Though 2011 data are not available on all the determinants of urban growth in the state, according to the same data source, urban growth has resulted in the state from 23 in 2001 to 42 in 2011.

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