Investigating the Pattern and Living Conditions of Urban Centers: Case Study of West Bengal

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Abstract: *The paper investigates the spatial and temporal growth pattern of the census towns. This is a rural area and not recognized as town by the state. Secondly to find out that census towns are product of agglomeration economies across all districts of west Bengal. Thirdly to investigate the spatial inequality of access to the basic services of this spatially transformed area and make a comparison with statutory urban area of the state. West Bengal is one of the most urbanized states of India. According to the 2011 census West Bengal has 31.87 percent of urban population and it was 27.48 percent in 1991. Therefore more than 4 percent increase of urban population within two decades. Growth of census town from 1981 to 2011 is 16.43 percent. It is apparent from the study that census town close the KMA (Kolkata Metropolitan Area) have greater accessibility of service. While in case of backward districts urban services are poor in both census and statutory town.*

Key word: *Census Towns, Kolkata Metropolitan Area, Agglomeration, spatial inequality.*

I. Introduction

Historical and Current global data suggest that spatial transformations indicate countries' structural transformations. Spatial transformation includes the people's decisions on where to live, firms' decisions on where to locate production, and the economic composition of locations along with their spatial expansions. The 2011 census confirmed that 90 million people were added to India's urban areas since the previous census in 2001. It is found that Industrial jobs are no more concentrating in the core area of a city, with high-technology and export-oriented manufacturing jobs growing fastest in the periphery of the largest metropolises. These new areas are delivering economies of agglomeration and specialization, which leads to the production of goods and services.[1] Now the important question is that how these spatial transformations are controlled in these areas. Because it has both dimension of economic efficiency and spatial equity. The important aspect of the spatial transformation is that where these transformation are taking place? Are the benefits of these transformations spreading geographically? In other words

Are the accessibility of basic services have improved in this spatially transformed area. Census towns are vital area for investigating the spatial transformation in India. Census Towns are identified by the directorate of census using certain predetermined criteria which include population size, population density and male work participation. It is to be noted that spatial transformation of the rural areas is being investigated by the various scholars with different aspects. Kundu offers a comprehensive delineation on exclusionary urbanization where the poor are downgrade to the degenerated peripheries.[2] Murgai and Lanjouw (2010) highlighted the spatial dimension of poverty and they show increase in poverty, with increasing distance from the town.[3] Revi et al. (2006) highlighted the possible interconnectedness of urban and rural in subaltern urbanization with their proposed concept of Rurbanism.[4] Denis et.al (2012) identified this spatial transformation of rural or peri urban area as subaltern urbanization. This paper also takes subaltern urbanization as a form spatial transformation of rural area and it is a product of agglomerations economies. The emergence of large number of census towns in West Bengal is remarkable. According to 2011 census West Bengal tops the list with total 782 census towns against the figure of 252 in the previous census. West Bengal urban population traditionally concentrated in Kolkata and Burdwan district. Rest of the state is backward and neglected due to its agricultural base.

[1]The World Bank (2013) Urbanization beyond municipal boundaries : nurturing metropolitan economies and connecting peri-urban areas in India., Washington DC

[2]Kundu, A. (2011) Trends and processes of urbanisation in India. Human Settlements Group International Institute for Environment and Development (IIED) and United Nations Population Fund (UNFPA)

[3]Lanjouw. P, and R. Murgai. (2010) .Size Matters: Urban Growth and Poverty in India 1983-2005. Mimeo, Development Economics Research Group, the World Bank.

[4]Revi, Aromar, Sanjay Prakash, Rahul Mehrotra, G K Bhat, Kapil Gupta and Rahul Gore (2006): .Goa 2100: The Transition to a Sustainable Urban Design Environment and Urbanization., *Environment and Urbanization*, Vol 18, Issue 1, pp 51-65 (London: Sage).

Objectives:

The paper specifically investigates the spatial and temporal growth pattern of the census towns. Secondly to find out that census towns are product of agglomeration economies across all districts of west Bengal. Thirdly to investigate the spatial inequality of access to the basic services of this spatially transformed area.

Methodology

Census data of 2011 and 2001 is used for the study. Different articles, Books are also used for this paper. Data is simply represented as percentage, ratio and other statistical form. Townsend Material Deprivation index was constructed following methodology adopted by P. Townsend published in the article health and deprivation: Inequality and North. In this paper three basic amenities electricity, Latrine and drinking water are considered. The study includes 18 districts of West Bengal census data of each district are normalized using simple formula.

$$Z= x \, \overline{x} \, /s……………\text{(i)}$$

The average three sets of values for three separate facilities are calculated to show the extent of deprivation across the 18 different district of West Bengal. Intra district basic service gap has been calculated by difference between statutory town and census town regarding basic facilities has been calculated from the difference of the absolute or modulus values of Townsend Material Deprivation Index of each of the 18 districts. Again inter district comparison of basic service facilities have been calculated on the assumption that North 24 Pgs having the best accessibility of the various amenities. The difference between the N 24 Pgs and remaining 17 districts will show the inter district variation. This is calculated by simply subtracting Townsend material deprivation value of the 17 district from North 24 Pgs.

Main Findings

1.1 Spatio-temporal Growth of Census Towns

Emergence of large number of census towns in 2011 in West Bengal is significant because the growth of census towns was not as higher ever before. From 1971 to 2001 growth of census

Towns are stable but after 2001 there is a huge growth of number of census towns. On the other hand statutory towns' growth from 1991 to 2011 is very slow. Massive growth of census towns itself indicates the spatial transformation not only in population size and density but change in the economy. It should be worthwhile to mention that though such spatial transformation registers the male population's nature of work participation and ignoring the women's role in the transformation of the space. It is to be noted that in 1961 census there was no such gender bias definition for the transformation of the space but in 1981 the term male work participation was introduced.[5]

Table1.1 Growth of census towns and statutory towns of West Bengal

Year	1971	1981	1991	2001	2011
Number of census town	48	89	148	252	780
Growth rate of census town	-----	8.5	6.62	7.02	21.03
Growth rate of statutory town				0.60	0.49

Source: Census of India,1971,1981,1991,2001,2011

It is undoubted that women's nature work participation have important role in the spatial transformation. It has observed that the development of new census towns in West Bengal is found in areas which are already relatively highly urbanized.[6] For long time spatial transformation (transformation of rural area into Urban) in West Bengal is concentrated in the Kolkata Metropolitan area and Burdwan Urban complex (Asansole and Durgapur area). However recent study on spatial pattern of census town shows that maximum number of towns in the agriculturally prosperous districts located in the central part of the state. The main reason behind such growth is agricultural prosperity and presence of agro-based industries in the state.[7]

To understand the spatial distribution of census town Dasgupta et.al (1988) has classified the West Bengal into four regions followed by Chatterjee (2013) also classified the state into five regions on the basis of

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[5]The World Bank (2013) Urbanization Beyond Municipal Boundaries: nurturing metropolitan emerged economies and connecting peri-urban areas in India, Washington D.C

[6]Dasgupta, B et al (eds) (1988) *Urbanization Migration and Rural Change- A study of West Bengal*, New Delhi, A Mukherjee & Co Pvt Ltd

[7]Chatterjee, M (2013) A preliminary Discussion on the census 2011 Results, *Urban India*, Vol-33, Issue- I, Jan-June,

geographical contiguity. According to 2011 census it is found that emergence of census towns is no more confined to the Kolkata Metropolitan Area rather it spreads along the Gangetic plains of West Bengal.

Maximum number of census town emerged in the Haora, South 24 pgs, North 24 pgs, Murshidabad, Burdwan and Nadia district. Apart from Murshidabad the other five districts are close to Kolkata metropolis although parts of these districts are under metropolitan area. Uttar and Daksin Dinajpur, Birbhum, Kochbihar and Bankura have minimum number of census towns compare to the other districts of West Bengal. All these five districts are peripheral districts of the state.
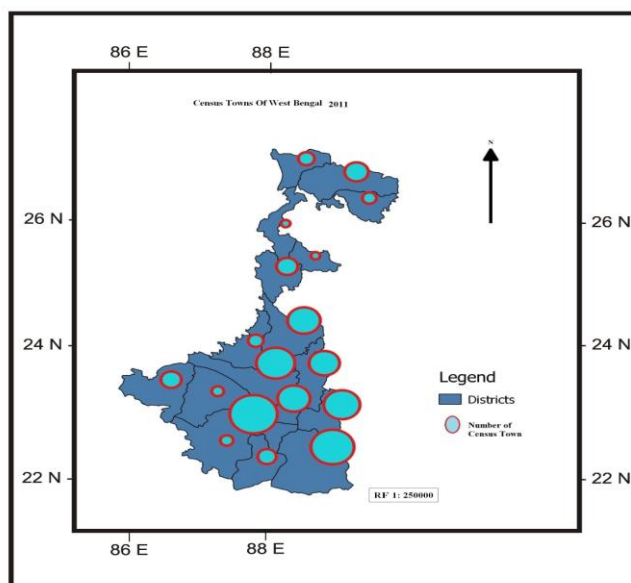
Fig-1

To examine the concentration of urban population size classification of town is necessary. It helps to understand whether maximum proportion of urban population living in large towns or small towns. According to 2011 census maximum number of urban population living in the class V towns followed by class IV and class III towns.

Table: 1.2 Class wise and district wise distribution of Census towns in West Bengal 2011

Districts	Size class						Total number	Percentage of total
	Class I	Class II	Class III	Class IV	Class V	Class VI		
Darjeeling	---	---	1	7	12	4	24	3.06
Jalpaiguri	1	2	2	5	4	4	18	2.3
Kochbihar	---	---	2	1	5	4	12	1.5
Uttar Dinajpur	---	---	---	1	4	---	5	0.63
Daksin Dinajpur	---	---	---	---	4	1	5	0.63
Maldah	---	---	---	11	15	1	27	3. 45
Murshidabad	---	---	13	18	32	2	65	8. 31
Birbhum	---	---		5	8	1	14	1.79
Burdwan	---	---	5	20	44	19	88	11. 25
Nadia	---	1	3	20	27	4	55	7.03
North 24 pgs	---	---	3	21	50	4	78	9.97
Hooghly	---	---	3	16	40	5	64	8. 18
Bankura	---	---	---	1	8	---	9	1.15
Purulia	---	---	2	3	19	1	25	3. 19
Haora	1	1	10	31	80	12	135	17. 26
South 24pgs	---	---	7	24	60	20	111	14.19
West Medinipur	---	1	---	1	8		10	1. 27
East Medinipur	---	---	1	1	17	2	21	2.68
Alipureduar	---	---	---	6	9	1	16	2.04
West Bengal	2	5	52	192	446	85	782	100
percentage	0. 26	0.65	6.64	24.57	57.0	10.88	100	
Population %	2.9	4.06	17.05	32.71	38.53	4.69	100	

Source: Census of India 2011, data compiled by author

Bally Jagacha census town of Haora and Debgram of Jalpiguri are only two class I town where there is more than one lakh population. Both Bally Jagacha and Debgram towns are located close to Haora and Siliguri Municipal Corporation respectively. They can be called an extension of both these Municipal Corporation.
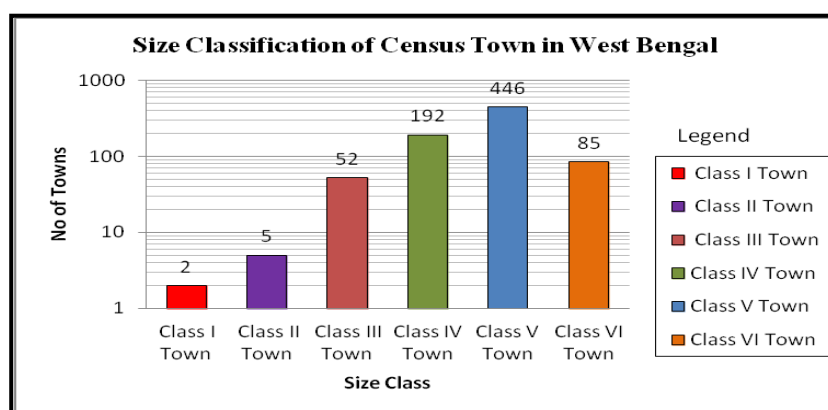
Fig-2

Five class II towns are Binnaguri, Daksin Khagrabari, Bankra, Phuliya and Khargapur railway station. Both Binnaguri, Daksin Khagrabari is located in Jalpiguri and close to Siliguri Municipal Corporation. Therefore Debogram, Binnaguri and Daksin Khagrabari can form a large metropolitan area around the Siliguri in near future. Phuliya is traditionally a hub of small weavers so agriculture activity is in less priority compare to household industry. Kharagpur is a railway town so growth of this town is expected. It is apparent from the District wise distribution of size classification of town is that class IV and Class V towns are high in south twenty four pgs, Haora, North twenty four pgs and Hooghly. It is because of the spillover from Kolkata metropolis and led to the transformation of adjoining rural areas into census towns.[8] It may be pointed out here that the population growth (0.19%) of Kolkata Municipal Corporation from 2001-2011 is negative. Class VI census towns are high in South twenty four pgs, Haora and Burdwan and compeletly absent in Bankura and Uttar Dinajpur District. Census towns are the product of economies of urbanization. In other words it is city specific economies of agglomeration. Out of 25 agglomerations 48 percent are concentrated in the zone III. Hill and *Terai* zone as well as the Kolkata metropolitan are also have more than 20 percent urban agglomeration. On the other hand coastal zone of West Bengal has complete absence of urban agglomeration.

Table: 1.3 Urban Agglomerations corresponds to different zone

Name of the Zone	Urban agglomeration	percentage
Hill and *Terai*	Jalpiguri, Siliguri, Alipurduar, Darjeeling and Kochbihar	20
Gangetic Alluvial Plain	Burdwan, Englishbazar, Berhampore, Raiganj, Krishnanagar, Balurghat, Santipur, Nabadwip, Dhuliyan, Jangipur, Basirhat, Durgapore and Asansol	48
KMA	Kolkata, Habra, Dankuni, Ranaghat, Chakdah	24
Red Lateritic/ Rur Area	Khargapore, Puruliya	8

Source: Census of India 2011

In terms of population size largest urban agglomeration is the Kolkata and followed by Asansol, Siliguri and Durgapur and Burdwan. On the other hand smallest urban agglomeration is Kochbihar and Jangipur. There are four municipalities which are not under urban agglomeration. Haldia, Medinipur, Bankura and Bongaon municipalities have not fall geographically under urban continuum. It should be mentioned that Murshidabad and Nadia district both have develop five and three sizeable urban agglomerations respectively.

1.2 Spatial Inequalities of Household Access to Basic Service
Access to quality of basic services is one of the important factors for households' for maintaining good living standards but in India still has a wide gap in providing universal access to such basic services. The access to basic amenities like electricity, drinking water, toilet facility, is critical determinants of urban quality of life.[9] It is to be noted that as amenities are location specific and its demand and supply depend on various factors. Therefore Choice of residence often depends on availability factors.[10] Inequalities in access to social infrastructures may be as a result of inefficiency in the distribution and allocation of facilities between areas or as a result of social barriers like ethnicity, religion or status which may directly limit certain groups from having

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[8] Ibid
[9] Bhagat R. B (2010), "Access to Basic Amenities in Urban Areas by Size class of Cities and Towns in India". International Institute for Population Sciences, Mumbai-400088.
[10] Diamond, B, D and Tolly, S, G (Ed) (1982) *The Economics of Urban Amenities*, Academic Press Inc, London

access to public facilities. This is a prominent characteristic of a capitalist economy.[11] In the early 1990 basic access to urban amenities in West Bengal was improved. For example safe drinking water availability increases nearly 7 percent from the 1981 level. Electricity access was also increased but access to household latrine decreased[12]. However in 1990s West Bengal's public expenditure ratio and amenities ratio have fallen. On the other hand the revenue of its urban local bodies from own sources has increased significantly in the late nineties, this has not translated into very high expenditure on core urban services.[13]

The Paper made an attempt to find out the spatial inequality of the access to the basic services of the spatially transformed area and the amenities included access to the water, Latrine and electricity and this are some basic amenities that needs for development of any area. Various empirical studies have shown that urban basic services are gradually decreased from the CBD to the rural area. Therefore to find out the household accessibility of the basic services to these spatially transformed areas would be a significant work. Because income of this spatially transformed area have increased but the accessibility to the services is still remain a wide gap. A comparison is being drawn between census towns' service and statutory towns' service across all the districts of the state. It is found that districts with lowest accessibility of basic services in the census towns are Malda, Murshidabad, Birbhum and Puruliya. On the hand districts with better accessibility of the basic services are North 24 Pgs and Hooghly. Household Water accessibility is very poor in Maldah, Murshidabad, Nadia, South Dinajpur, Darjeeling, Kochbihar and East Medinipur. While household water accessibility is relatively better in North 24 Pgs. Accessibility of electricity is better in North 24 pgs, Hooghly and Darjeeling and it is worst in Paschim Medinipur and Murshidabad. Latrine accessibility to the household is very poor in Murshidabad, Malda, Paschim Medinipur, Birbhum, Bankura and Puruliya district. It is good only in North 24 Pgs, Howrah, and Hooghly districts. On the other hand districts with lowest accessibility of basic services in the statutory town are Purba Medinipur, Puruliya, Bankura, Birbhum, Murshidabad and North Dinajpur. Districts with comparatively better services are available in North 24 Pgs, Hogghly, Howrah and Darjeeling. First three districts surround the Kolkata metropolis Aggregate deprivation score is projected on the map to highlight the underserved districts and this districts needs special attention for ensuring the basic facilities.
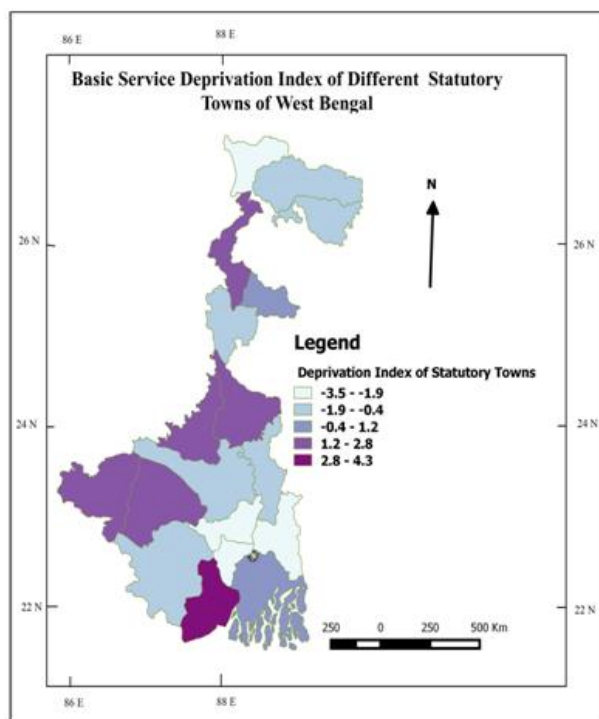
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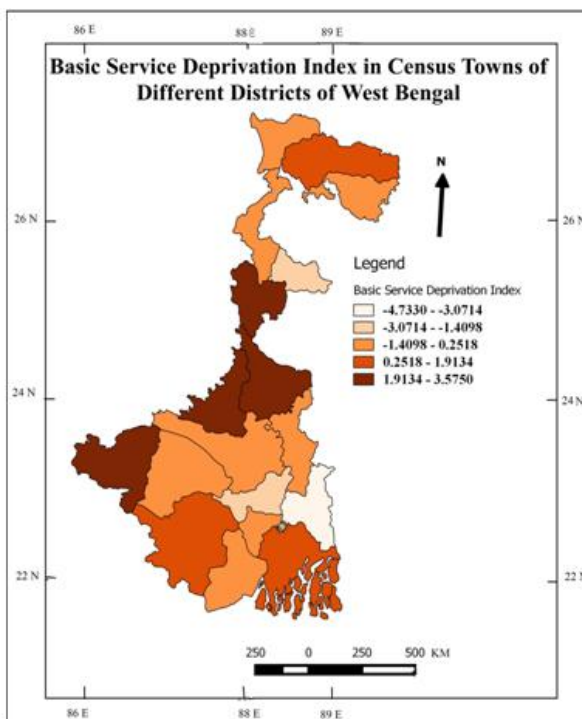
Fig-1.4

[11]Stevenson, D. (2004), "Civic Gold' Rush: Cultural Planning of the Politics of the Third Way". *International Journal of Cultural Policy*, 10(1): 119-131. 322
[12]Kundu, A, Bagchi, S and Kundu, D (1999) Regional Distribution of Infrastructure and Basic Amenities in Urban India: Issues concerning Empowerment of Local Bodies, *Economic and Political Weekly*, Vol. 34, No. 28 pp. 1893-1906
[13] Shaw, A (2007) Basic Amenities in Urban India: Analysis at State and Town Level, Working Paper Series 616, Indian Institute of Management Kolkata

Table 1.4 Comparing Urban amenities deprivation between CT and ST of different Districts of West Bengal

District	Deprivation Value		District	Deprivation Value	
	C T	ST		CT	ST
Darjeeling	-1.150	-1.986	North 24 Pgs	-4.733	-2.847
Kochbihar	-0.705	-0.672	South 24 Pgs	0.436	0.537
Jalpiguri	0.7191	-1.570	Howrah	-0.753	-2.482
Uttar dinajpur	-0.122	2.642	Hooghly	-2.768	-3.488
Dakshin Dinajpur	-1.419	0.525	Bankura	-0.863	2.199
Malda	2.453	-0.919	Birbhum	2.53	1.498
Murshidabad	3.575	2.495	Puruliya	2.030	1.781
Nadia	-0.647	-0.843	Purba Medinipur	0.213	4.324
Burdwan	-0.462	-0.656	Paschim Medinipur	1.661	-0.539

Source: based on census data 2011 compiled by the author
Note: CT- Census Town, ST- Statutory Town

It is very clear from the above that overall household accessibility of the Census town is relatively better in only three districts i.e. North 24 Pgs, Hooghly and South Dinajpur. On the other hand overall household accessibility of the statutory town is relatively better in only three districts i.e. North 24 Pgs, Hooghly and Howrah. It indicates that districts close to the metropolis have better accessibility in both the census towns as well as statutory towns. While districts with low human development have very poor accessibility of basic services in both the census towns as well as statutory towns.

1.2.1 Intra and Inter District Comparisons of the Urban Service:

Intra and inter districts service gap between the census town and statutory is significant. Intra districts service gap is acute in the Purba Medinipur districts followed by Howrah, North Dinajpur, Bankura, Hooghly and Jalpiguri.

Table 1.5 Inter and Intra district Comparisons of Basic Service

District	Service Gap		District	Service Gap	
	Intra district ST and CT	Inter district CT		Intra district ST and CT	Inter district CT
Darjeeling	0.83	-3.58	North 24 Pgs	-1.886251057	0
Kochbihar	-0.03	-4.02	South 24 Pgs	0.101313629	-5.17
Jalpiguri	0.85	-5.45	Howrah	1.729191835	-3.98
Uttar dinajpur	2.52	-4.61	Hooghly	0.71	-1.96
Dakshin Dinajpur	-0.89	-3.31	Bankura	1.33	-3.86
Malda	-1.53	-7.18	Birbhum	-1.04	-7.27
Murshidabad	-1.08	-8.30	Puruliya	-0.24	-6.76
Nadia	0.19	-4.08	Purba Medinipur	4.11	-4.94
Burdwan	0.19	-4.27	Paschim Medinipur	-1.12	-6.39

Source: Census of India 2011, Data Calculated by authors
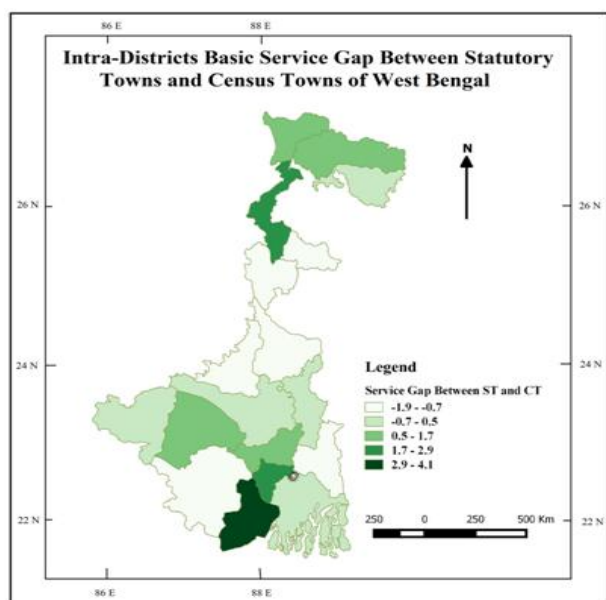
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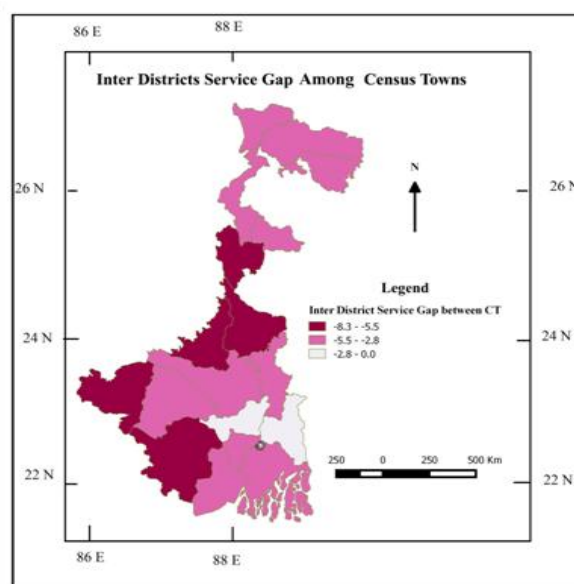
Fig-1.6

However this intra districts service gap have two dimensions firstly, districts where basic services are very poor in both census town and statutory towns. This indicates statutory towns are not functioning well as far as the basic service concerned. So the gap is very small between census towns and statutory towns and the districts which fall in this category are Murshidabad, Malda, Birbhum, Pruliya and Paschim Medinipur. Secondly the district where basic services are better in statutory towns compare to census towns are North 24 Pgs, Howrah and Hooghly where the gap is not much unlike the districts with low development.

Inter districts service gap among the different census towns shows that the districts which are close to the Kolkata metropolis have better access to the basic services. It indicates the positive externalities of the metropolitan area while the remote districts have very poor access to the basic services. Murshidabad followed by the Birbhum and Malda are the leading three districts where people have minimum access to the basic services. The other two important districts are Puruliya and Paschim Medinipur where people's access to the basic services is also very poor.

1.2.2 Public Expenditure on Basic Services

Government policy and expenditure has a major role regarding universal access to the basic services both in rural and urban areas. Both supply of water and electricity state government have a major role. To understand the reason behind the inadequacy of services both in census towns and statutory towns it is necessary to look into public expenditure of the state over some time span.

Table 1.6 Public Expenditure on Development Projects and Social Services

Year	Percentage of Development Expenditure to Total Expenditure	Percentage of social service Expenditure to Total Expenditure	Percentage of Expenditure on Water and Sanitation to Total Expenditure
1985-86	68.80	43.22	4.02
1990-91	67.40	44.76	3.55
1995-96	60.23	39.09	3.43
2000-01	55.05	38.07	3.30
2001-02	50.82	35.49	3.04
2002-03	44.64	32.80	2.33
2003-04	43.01	31.19	2.20
2004-05	43.28	30.65	2.01

Source: Statistical Abstract West Bengal 2005 Data compiled by author

It is evident from the above table that public expenditure on development projects over the year is decreasing. It is also same for the social service expenditure. Public expenditures reduce heavily after the 1990s. As the expenditure is decreasing so it would be said that role of government is also reduced. Rapid population growth and low investment in urban and rural development have created a serious deficiency in the availability of infrastructure and basic amenities in the country. The rate of capital formation for this reason has been extremely low during eighties. The same is true for investment in basic services.[14] Most of the development projects are to be undertaken through institutional finance rather than budgetary support.[4] The allocations for government departments and parastatal agencies like housing boards, water supply and sewerage boards, development authorities, etc. allowing them to undertake capital projects, have been cut down drastically. Basically it helps to open up the market for the private players. However there are centrally sponsored programmes to meet the growing demand of the basic services of the urban areas like JNNRUM, but these programmes are city specific and confined mainly in large metropolises. Therefore there is a possibility of greater privatization of the basic services in urban areas in near futures. This could lead to wide deprivation especially in the spatially transformed area.

II. Conclusion

The major thrust of the paper is to investigate the new trend of urbanization and inequalities in household access to basic services. The analysis of the pattern and trend of urbanization indicates that it is no more concentrated around Kolkata metropolitan Area. Urban population spreads across the Gangetic West Bengal. While household accessibility of basic amenities indicates that there is a lead-lag relationship among different districts in terms of the facilities. Some districts have more access in terms of a particular facility while others lag far behind. The varying degrees of deprivation of different types of household amenities indicate that the existing planning efforts could not produce satisfactory results in terms of balanced development of different districts of the state. Existing plans basically is pushing the wide privatization of the urban services. So lack of access to the basic amenities is the results of fragmented responsibility of both state and the central government.

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[14] Kundu, A, Bagchi, S and Kundu, D (1999) Regional Distribution of Infrastructure and Basic Amenities in Urban India: Issues concerning Empowerment of Local Bodies, *Economic and Political Weekly*, Vol. 34, No. 28 pp. 1893-1906

Since most of these facilities provided by the government, so their availability and distribution must be planned carefully to eradicate the spatial inequality.

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