A case study of urban growth trends of Nadia district in West Bengal

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Abstract: Urban growth means an increased rate of an urban population in towns or cities and they moved from a rural to an urban area. At present, more than 40% of the world's population are urban dwellers because of the rapid growth of urbanization which is the traditional and oldest processes of change. Due to urban growth and some others causes, West Bengal is the 4th most populous state and has 2nd position for a high density of population in India. In the present work, an attempt has been made to find out the urban growth trends from 1901 to 2011 of Nadia district in West Bengal and the study also examines sub-divisional towns and others town's urban growth of the district, and the distribution of urban centers of the district. As per 2011 census report, the total population is 5167600 and having a density of 1316 per square kilometer which is much higher density than the state of West Bengal (1102 sq/km) and India (940 sq/km).

Keywords: 1. Urban Growth, 2.Urbanization, 3.Density, 4.Urban Growth Trends.

I. Introduction:

From the earlier period, we see it that people like to move to urban area from the rural area, for their better lifestyle, working facilities, good communication etc. Urbanization is a continuous process to change our social structure, culture and many more and it's nearly associated with modernization and industrialization. Actually, the urbanization process not only depends upon the population growth but also needs concern spatial economic and behavioral changes. It is predicted that 64 percent of the developing countries and 86% of the developed countries will be urbanized within 2050. India had witnessed an enormous transformation of urban scenario in the last few decades, according to census report in 1901, was 11.4% but in 2011, it's standing at 31.16%.

West Bengal is one of the most urbanized states of India and the state may be regarded as one of the most industrialized and well-communicated states in India and that's why urbanization spread here widely. But all the districts of the state are not urbanized as same way or level. From the British colonial period and after independence, migration of people increases the population growth and the urban growth of the state.
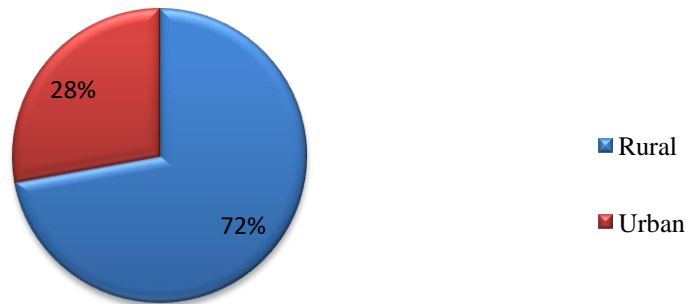
According to the census report, Nadia with 3, 15,338 urban population in 1961 but in 2011 the no. of urban population is 1438873 and the district standing 7th most urban populous district out of 23 districts in the state of West Bengal. As per census 2011, 27.84% people lived in the urban area of Nadia district and it's continuously increasing.

Table-1: Rural Urban population percentage of Nadia district in 2011(as per census report)

Year	Rural	Urban	Total
2011	3728727	1438873	5167600

Source: Census report of India, 2011

Fig-1. **Rural-Urban population percentage of Nadia district, 2011**

II. Objectives:

The main objectives of the present study are as follows-

1. To find out the urban growth trends or urbanization processes.
2. To know the urban centres or sub-divisional town's population in the district.
3. To highlight urban centers distribution of the district.

III. Study Area:

Geographically the district located in the eastern part of the state of West Bengal and its surrounded by the country Bangladesh in the east, Hoogly and Bardhaman district in the west, Murshidabad district in the north and north-west, North 24 Pargana in the south and south-east. The district with an area of 3927/km2 extends latitudinally from 22º53′N to 24º11′N and longitudinally from 88º09′E to 88º48′E. Headquarters of the district is Krishnagar. The district is having 4 sub-divisions, 17 blocks, 8 municipalities, and 187 gram panchayats.

IV. Data base and methodology:

The present study is based on mainly secondary data sources which have been collected from Census of India, District statistical handbook, Bureau of applied statistics and economics, Govt. Of West Bengal, and different books and journals. Besides using the data sets for various statistical analysis and diagrams have been prepared using Microsoft Excel programme.
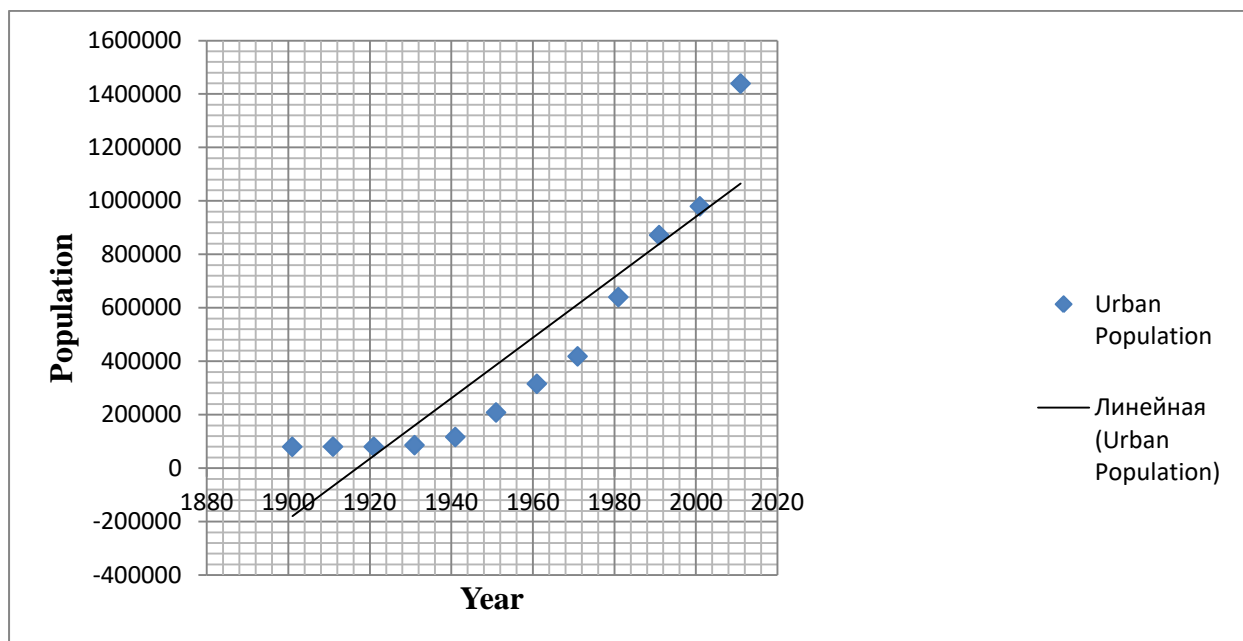
V. Analysis and Interpretation:

Nabadwip is a very oldest town and famous for Chaitanya Mahaprabhu's (1486 –1534) birthplace and also it's called "Oxford of Bengal" and Krishnagar (Headquarters town) is known as Raja Krishna Chandra's (1728 – 1782) area. Historically, Nadia district is a very much oldest urban population-based district in the state of West Bengal. Actually, the trend of urban growth in the district is interesting in the pre-independence and post-independence period. Urban population in the district of Nadia has increased from 79675 in 1901 to 1438873 in 2011, during period 89.51% urban population are increased.

Table-2. Urban Population of Nadia district from 1901 to 2011.

Year	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001	2011
Population	79675	80093	79858	85859	116286	208101	315338	418059	639869	871818	979519	1438873

Source: Census report of India, from 1901 to 2011

Fig-2. **Urban population growth trend in Nadia district from 1901 to 2011**

It is clear that urban population has been increased in 1359198 from 1901 to 2011 in the Nadia district and the percentage of urban population growth rate During 1901-1941, before independence the growth of urban population is not much higher, in 1901 the urban population is 79675 and in 1941 it was 116286. So the first 5 decades the urban population of the district has been increased in 36611 only. In 1901, the district processed only six urban centers (Nabadwip, Krishnaga, Santipur, Ranaghat, Chakdha, Birnagar) but as per 2011 census, the total no. of urban centers are 70.

After independence in India, suddenly urban population became so high as per in 1951 census report and at that time the urban population was 208101 of the Nadia district. But the just previous decade the urban population was 116286. So in the meantime, the urban population has been increased 91815. It is clear from the table-2 that after independence in 1951,1961,1971,1981,2001 and 2011 the urban population are continuously increasing of the Nadia district. In the year of 2011 census report shows that maximum urban population which is 1438873 and during the period the total no. of urban population increased by 459354, but the urban population increased 46.89% in compared to 12.35% in 2001 census. During the span of more than 100 years, the urban population increased by 1359198 of the Nadia district. This urban growth rate was mainly attributed to the migration from rural areas of the district.
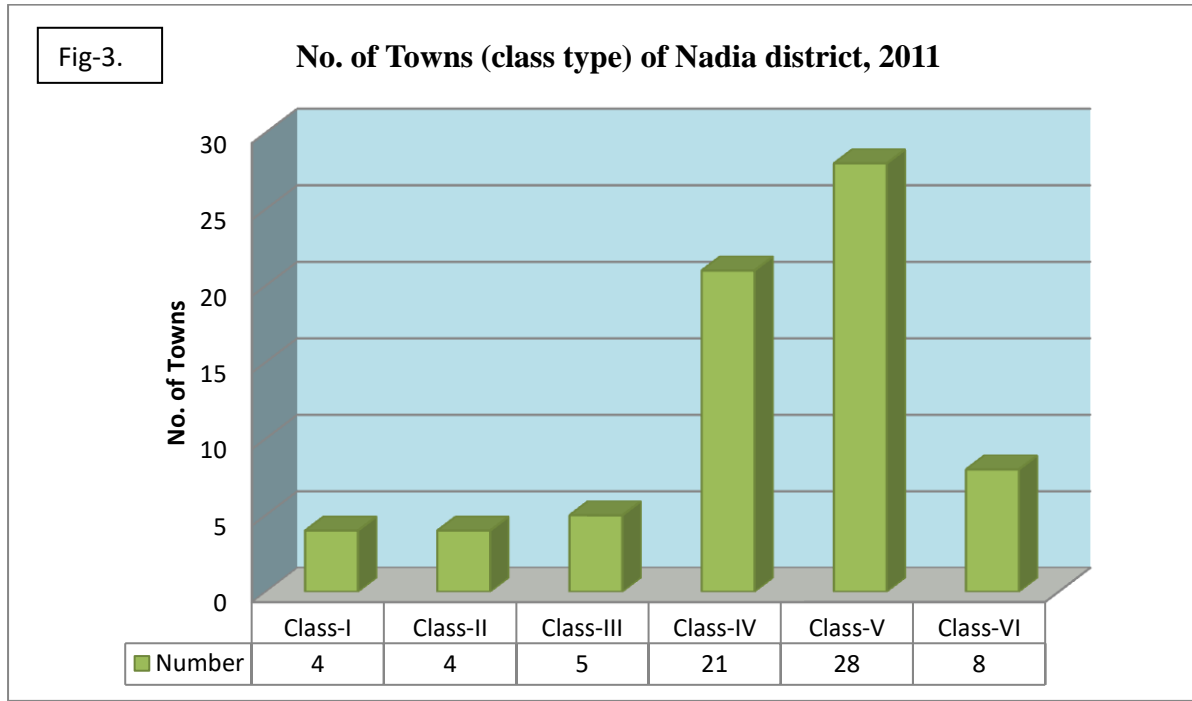
Urban centres:

The district has 4 sub-division and with 67 towns as per 2011 census. Mainly urban concentration was found in the south-eastern part which is located on the east bank of the Hooghly river, of the district than other parts. In accordance with their population size, the townships of the district may be classified as follows- Class-I, Class-II, Class-III, Class-IV, Class-V and Class-VI towns.

Table-3: No. of class types of Nadia district, 20011

Town type	Population	Number
Class-I	100000- >100000	4
Class-II	50000-99999	4
Class-III	49999-20000	5

Class-IV	19999- 10000	21
Class-V	9999- 5000	28
Class-VI	5000- < 5000	8

Source: Computed by the Researcher from district statistical handbook, 2011

Fig-3.
No. of Towns (class type) of Nadia district, 2011

	Class-I	Class-II	Class-III	Class-IV	Class-V	Class-VI
Number	4	4	5	21	28	8

The figure (Fig-3) shown that there is 4 Class-I town, where the urban population is 100000- >100000 in the district. Class-IV(21) and Class-V(28) types towns have taken place maximum in 2011 of Nadia district and 5 Class-III, 8 Class-VI towns are there. The district has always, a tendency for the townships to expand laterally in the process of urban growth. In 1901, there is no Class-I town, but in 2011, the total scenario has been changed and the no of the urban center has been increased in every decade in the district.

Table-4: Some Urban centres and their Population and Density of Nadia district in 2011

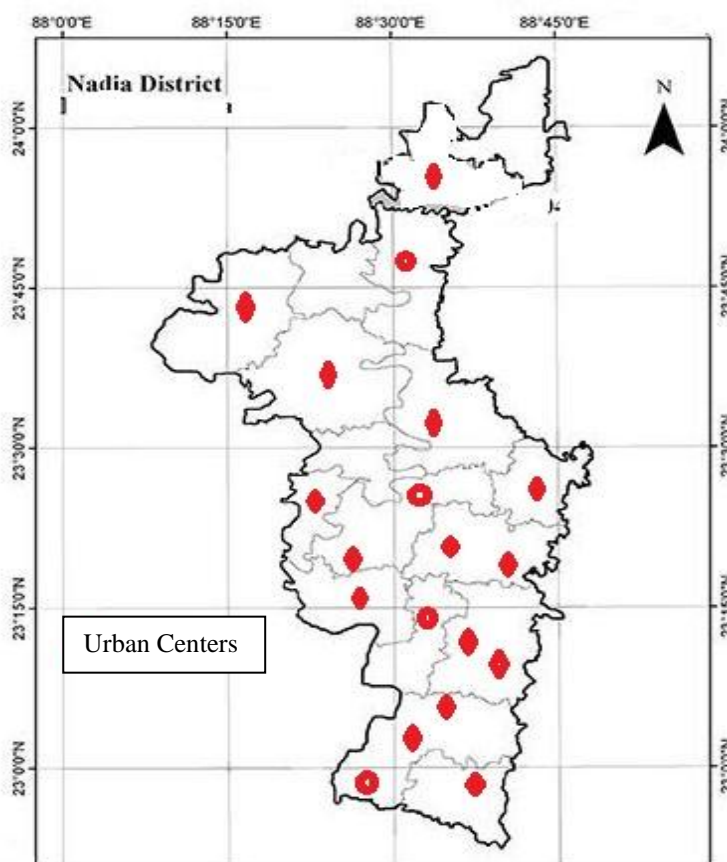| Cities	Population	Area (sq.km)	density
Krishnagar	153062	16	9566
Santipur	151777	25.9	5860
Nabadwip	125543	11.7	10550
Kalyani	100575	29.2	3444
Chakdha	95203	15.6	6103
Ranaghat	75365	7.7	9788
Gayespur	58998	30.0	1967
Birnagar	30799	5.5	5600
Karimpur	9661	1.62	5964
Chapra	14123	4.42	3195

Source: Computed by the Researcher from district statistical handbook, 2011

It is clear that urban population density is too much high than the district average population density which is 1316 sq.km. The density of urban population (10550) is maximum in the oldest town of Nabadwip where is the small area just 11.7 sq.km. In 2011, average urban population density was 5336 sq.km. From the table, we see it that each city or town has exceeded urban population than average density except Kalyani, Gayespur, and Chapra in the Nadia district. Some towns which are Non-municipality or Notified area i.e. Char Brahmanagar, Maheshganj, Jaganandapur, Bagula, Madanpur, Gadigachha, Phulia, Aistala, Haringhata, Majdia, Tehatta and others towns has a similar density as average density or below density from the district average urban population.

Distribution of urban centers & population:

Most of the urban centers located in the southern, eastern and western part of the the district but in nortern part of the district has some few urban centers. 4 urban centers where population more than 100000, 4 Class-II, and 5 Class-III types urban centers are located in south, west and eastern part of the district.

Fig-4.   **Urban centers of Nadia district , 2011**

Data sources: Census report of India, 2011

Table-5: Distribution of urban population according to natural division of the district

Source: Calculated by the author from Districts Statistical Handbook 2012.

The Northern plain part having least urbanization which is 4.54% only and the total area under the Tehatta sub- division of the district. But the western part(Krishnagar, Nabadwip, Santipur, Ranaghat and Nakashipara) of the district is the most urbanized belt, 21.57% population leaves at that part. Similarly, 18.05% urbanized in the Southern part of the district and 9.97% urbanized in the eastern part of the Nadia district.

Discussion:

It was seen that the urban growth of Nadia had been enormous after independence especially in 1951. But naturally, not all the towns or cities were equally affected from their nearby rural area. Most of the urbanization or urban growth has been found south, south-eastern part of the district and less has been found north, north-western part. Some causes are there for the more increased urban population of Nadia district, causes are below-

> ➢ Movement of people from rural area to urban area for their better lifestyle and education, for that Kalyani, Krishnagar, Ranaghat etc. town got more urban population.
> ➢ Good location the Ganga deltaic plain of Nadia district with the rivers Bhagirathi (Ganga), Jalangi and Churni from there urban population get their daily life sufficient water.
> ➢ People want to live in the southern, western and south-eastern part of the district rather than others part, because of penetration of Kolkata metropolitan area from that side of the district, that helps the urbanization of the region at an accelerating rate.
> ➢ Transport and communication (Railway, Highway) facilities are more available south or south-eastern part than other parts of the district.
> ➢ A huge number of refugees come here in the district after Partition of Bengal and the effects of Partition plays a major role in increasing the urban population of the Nadia district. As per 2001 census report, total no. of 503186 people migrated from Bangladesh to Nadia district, among them 360596 people lived in rural area and 143258 people who lived in urban area.
> ➢ Nabadwip is the oldest town and birthplace of Mahaprabhu Chaitanya, that the reason the most people select the place to live according to their spiritual belief.

From the analysis of the data, it has been shown that urban population of Nadia district, are increasing rapidly from 1901 to 2011 and urban population size, density, and urban centers have been changed of the

Natural Division	Northern Plain part	Western plain part	Eastern plain Part	Southern plain part
% of urban population to the total population of the district	4.54	21.57	9.97	18.05

district along with its expanding physical growth. Nadia district has changed by itself from agricultural based settlement to urban-based settlement.

Conclusion:

This paper has discussed the urban growth trend of Nadia district from 1901 to 2011 and during that period urban centers increased 6 to 70, really that is interesting. The urban population of the district

mainly concentrated in Krishnagar (153062), Santipur (151777), Nabadwip (125543), and Kayani (100575) and rest of the urban population mainly scatterd in the southern and eastern part of the district, due to more sutiable urban facilities than other parts of the district. From 1901 to 2011, the total demographic picture has been changed of the district.

The rapidly growth of urban population and agglomeration needs some policies for the future urban planning of the Nadia district, otherwise the district, faced different types of urban environmental problems.

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