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## Analysis of changing household and population pattern of Haldia urban centre of West Bengal

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### Abstract

In view of the contemporary importance, the geographical characteristics of urban places related to land use activities such as population, housing and industry are the important social and economic process which recognize the urban area as a focus of the study. The urban centre like Haldia of West Bengal is a port cum urban-industrial agglomeration where growth of industries and port activity have change the original settled area through internal shifting of population and households from 1981 to 2011. Local migration and internal shifting of settlements creates urban social problem and decline in the growth rate of population. Both the household and population change may influence the future pattern of urban development.

**Keywords:** *Urban-industrial agglomeration, shifting of population, Local migration, social problem*

### 1. Introduction

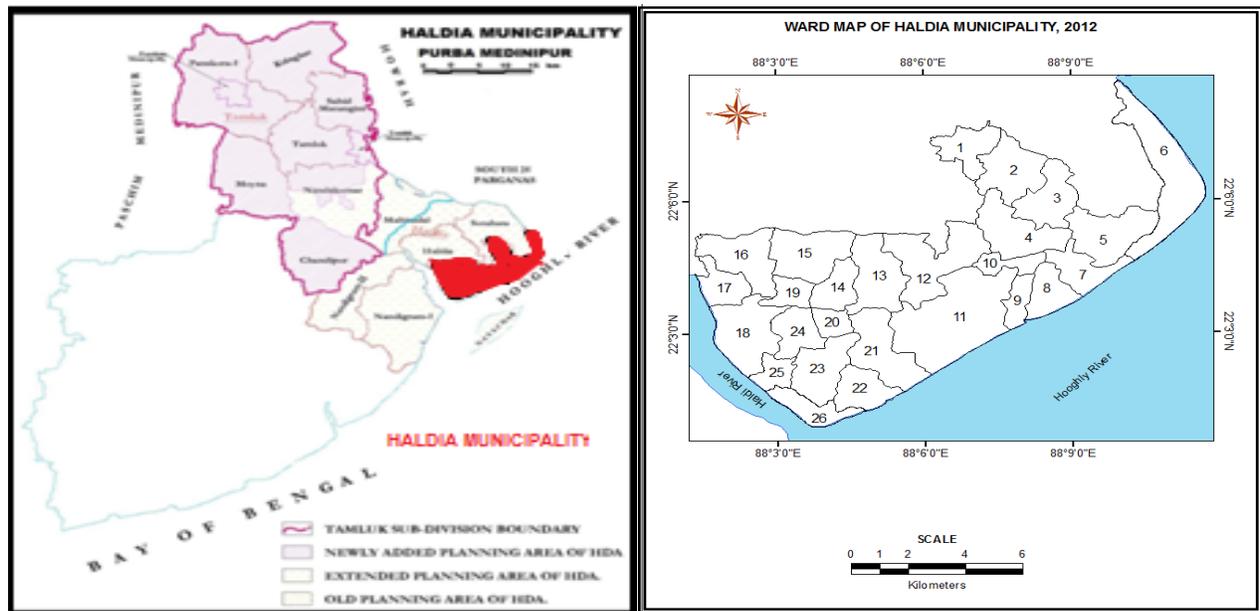
Urbanization is a process of becoming an urban in both social and economic viewpoint. Transformation of rural character to urban is influenced by various social and economic factors which differ from developed to underdeveloped countries in the world. The developing countries like India has particular process of urban development where increase of urban population does not mean the rural depopulation rather increase of rural population. In many states of India, the growth of urbanization means not increasing the members of urban centres but increase in the number of urban population. Urban growth is a spatial and demographic process and refers to the increase importance of towns and cities as concentration of population within a particular economy or society (Clark. D, 1985)<sup>[1]</sup>. The recent perceptions of the role of the city as an industrial centre providing employment to the unemployed, as a growth point stimulating development in its hinterland (Ramachandran. R, 2010)<sup>[2]</sup>. Increasing pressure on the existing urban centres causes the problem of housing, sanitation, transportation and congestion. In last three decades the growth of urban population is mainly based on the process of industrialization and in many places the urban industrial agglomeration had changed the landuse and socio-economic pattern of the area and its surroundings.

Haldia, the fastest growing industrial zone of West Bengal is also one of the important urban centres where transformation of rural to urban area causes rapid changes of urban-industrial agglomeration process. Previously the area was totally an agricultural area under Sutahata-I block of Purba Medinipur district. From early 1970's the initiation of industries at Haldia have influenced the changes of land use and socio economic pattern of the entire region the Haldia Dock complex (under Calcutta port trust) located at the confluence of river Hooghly and Haldi, South-eastern railway and National Highway-41 makes the region an ideal industrial centre. Subsequently the growth of industries has also changed the region into an urban-industrial zone which attracts the people from surrounding districts of West Bengal and states like Odisha, Bihar and U.P. Both inter-district and interstate migration and changes of local population makes the region into fast growing urban centres of West Bengal. From 1972 the area was under Haldia Development Authority (HDA) provides the basic infrastructure to the industries and people living in this area. After 1981 the high growth rate of industries and also the population needs more infrastructure and basic amenities for this

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region, Haldia municipality was setup on 09/09/1997 with 19 wards. Under the Municipal act of the government of West Bengal after 1997 both HDA and the municipality act separately i.e., HDA provides the basic needs of industries and municipality provides the needs of the people living in the municipality areas. As per census of India, Haldia was notified as urban area with population of 9968 as class V town in 1971 and now it has the population of 200827 as class I town in 2011. The growth of area from 21.6 sq.km to 109.89 sq.km and rapid changes of population from 1971 to 2011 also influences the changes of household characteristics of the municipality.

**2. Study area:** The most rapidly growing industrial town in West Bengal is Haldia which is located at a distance of 125 km south-west of Kolkata and 50 km upstream the Bay of Bengal. On the other hand it is located at the influence of two rivers, namely Hooghly and Haldi, of Purba Medinipur District. The town extends from 22°02' N to 22°03' N and 88°04' E to 88°06' E. The present study covered the Haldia Municipality area of 109.89 sq. km with the population of 200827 in 2011. The Haldia industrial area is well connected by all modes of surface transport like road, rail and waterways. The 4 lanes National Highway (NH-41) connect the industrial port town with National Highway (NH-6) near Kolaghat.



Source: Haldia Development Authority

Fig 1: Location of Haldia urban centre

**3. Objectives of the study:** The main objectives of the study are as below:-

- i) To analyze the growth of area and perspective changes of population of the study area.
- ii) To study the temporal growth of industries and its relation with urban changes.
- iii) To analyze the shifting of population of the municipality area.
- iv) To show the relation between population shifting and its influence on the changes of household pattern.
- v) To study the overall changes of housing and population in relation with the process of urbanization.

**4. Methods and materials:** The entire study is based on both qualitative and quantitative analysis. Some basic fundamental statistical methods have been used to analyze the whole thing, to achieve the objectives properly. Some geographical techniques are used for finding out changes, concentration and relational aspects of the study. The present analysis is based on the information collected from secondary sources like district statistical handbook, district census handbook and also from published journals, books from HDA and Haldia municipality. Data also primarily collected from prescheduled household survey in 2014. After collecting all the necessary information it has been tabulated and presented according to the objectives to show the

relation between urbanization and changing household pattern of Haldia-urban-industrial agglomeration of West Bengal.

**5. Change of population:** Changes of population are always temporal and related with economic processes of the region. The change of population characteristics of Haldia from 1971 to 2011 shows a very quick and inconsistent pattern. From 1981 to 1991 with a difference in growth rate was 26.32 percent (11.09% in 1981 and 37.71% in 1991). This period was the first phase of the construction of large scale industries in this area which attract large number of people mainly labour class for construction and shifting works. It was the period of high concentration of population when inter-district and local level migration of population was maximum. At the end of 1991 the major construction work was completed and most of the labour class people have returned to their original place which causes the decrease in growth rate of population. The decrease of population was about 30 per cent from 1991 to 2001 (Table-). From 2001 to 2011, the percentage of growth has decreased up to 1.70 but rate of growth has increased to some extent. The growth of area and population of the urban area is an indicator of urbanization, but another indicator is the degree of urbanization, i.e. percentage sharing of urban population to the total population of the region. Here, Haldia sub-division

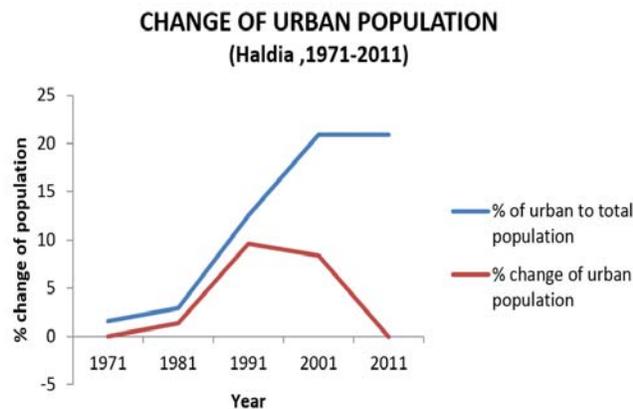
is considered as a region and the percentage increase of urban population of Haldia town is compared with the total population of Haldia sub-division. In comparison with the

total population of the region, the degrees of urbanization and percentage change of urban population have shown in the table 1 and figure 2.

**Table 1:** Change of population of Haldia Municipality, 1971-2011

Year	Population of Haldia municipality	Population of Haldia sub-division	% of urban to total population	% change of urban population	Degree of urbanization	Rate of change
1971	9968	639831	1.56	0.00	Low	--
1981	21122	719688	2.93	1.38	Low	Low Positive
1991	100347	799545	12.55	9.62	Moderate	Highly Positive
2001	171673	820149	20.93	8.38	High	Positive
2011	200827	959934	20.92	-0.01	High	Negative

Source: Primary Census Abstract of Purba Medinipur, 2001-2011



**Fig 2:** Change of urban population of Haldia, 1971-2011

The degree of urbanization was low as per census of India data from 1971 to 1981. The rate was very high from 1991 to 2001 but it was started decreasing or the change was negative from 2001 to 2011. The negative change does not

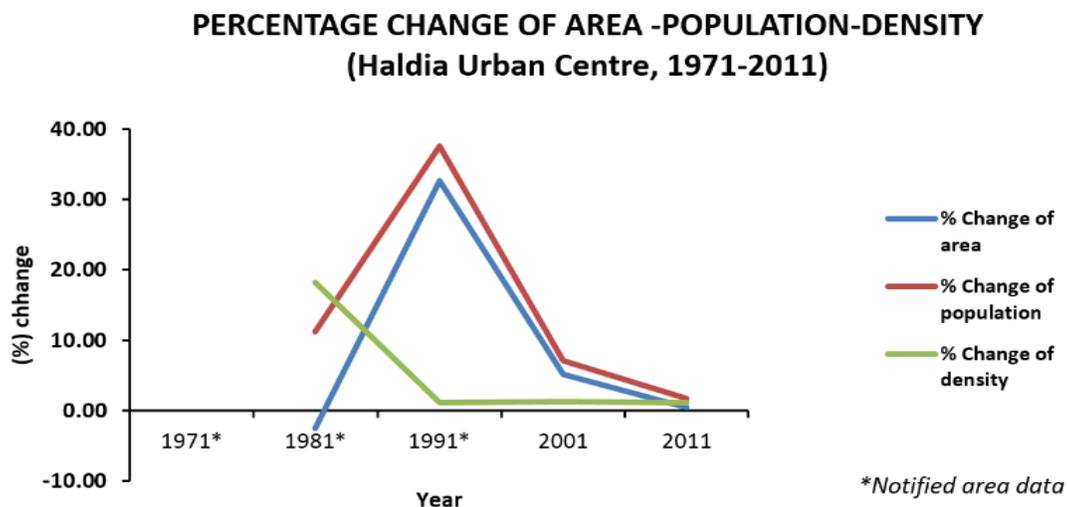
mean that the absolute number of urban population decreases but the rate of increase was lower than the previous decade. This is because of the slow growth rate of industries, the decrease of port activities due to heavy siltation at river Hooghly and political instability of the state.

**6. Change in density distribution of population:** The internal shifting of settlement is one of the important aspects of urban-industrial processes. The necessity of large area is required for the industrial and other infrastructural development within an urban area. So, internal shifting of population from one part to another part is an ultimate result. The Urban area like Haldia has no exception in this regard. The density of population from 1971 to 2011 shows an increasing trend, i.e. 461 people per square kilometer in 1971 and 1872 in 2011. The highest increase of density of population has been registered from 1971 to 1981 and was minimum from 2001 to 2011. The Wardwise level and pattern of change of density of population from 2001 to 2011 has been shown in the table 2 and figure no 3.

**Table 2:** Percentage changes of area, population and density of Haldia Municipality, 1971-2011

Year	Area(sq. Km)	Population	Density/sq.km	% Change of population	% Change of density
1971	21.6	9968	461.48		
1981	16.2	21122	1303.83	11.19	18.25
1991	69.1	100347	1452.2	37.51	1.14
2001	104.9	171673	1636.54	7.11	1.27
2011	109.89	200827	1827.53	1.70	1.17

Source: Primary Census Abstract of Purba Medinipur, 2001-2011

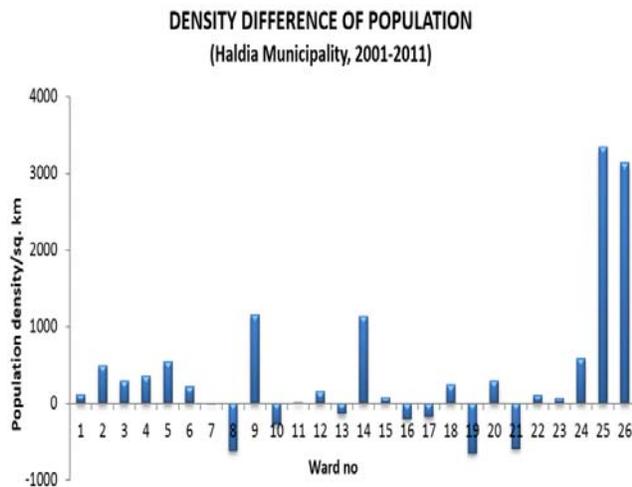


**Fig 3:** Percentage change of area- population – density of Haldia, 1971-2011

**Table 3:** Wardwise changes of population of Haldia Municipality, 2011 – 2001

Wardno	Populationdensity/sq.km(2001)	Populationdensity/sq.km(2011)	Densitydifference2011-2001
1	1415.30	1530.29	114.99
2	1669.98	2164.74	494.75
3	1296.72	1589.72	293.00
4	2062.35	2422.58	360.23
5	2232.54	2776.94	544.40
6	778.74	999.39	220.65
7	2652.31	2634.64	-17.67
8	2581.47	1963.51	-617.96
9	2427.39	3588.20	1160.81
10	3041.83	2769.20	-272.63
11	510.47	524.31	13.84
12	1218.56	1371.74	153.18
13	1447.12	1309.23	-137.89
14	2327.96	3465.57	1137.61
15	1765.34	1844.33	78.98
16	1732.96	1527.31	-205.65
17	1943.16	1766.03	-177.13
18	2352.37	2596.53	244.16
19	2503.65	1854.00	-649.64
20	2093.04	2389.94	296.90
21	2342.60	1755.20	-587.40
22	1624.54	1732.61	108.07
23	1325.69	1390.49	64.80
24	1411.27	1994.02	582.76
25		3343.95	3343.95
26		3131.87	3131.87

Source: Primary Census Abstract of Purba Medinipur, 2001-2011



**Fig 4:** Density difference of population of Haldia, 2001-2011

As per the census of India 2001 and 2011, the pattern of shifting of population may be divided into five categories and these are as below:

- i. High rate of decreasing population: From ward number 8, 9 and 21 the rate of decrease of population was very high because of the extension of Haldia Doc Complex and shifting of population from the surrounding areas of Haldia Petro-chemical industry.
- ii. Decreasing population: From ward number 7, 10, 13, 16 and 17 the rate of decrease was moderate because of the construction of medical college, Haldia municipality building and Haldia Development Authority at ward no 16, 17 and LPG tank terminal, steel industry at ward no 10 and 13.
- iii. Start increasing population: The people of the above mentioned wards are started shifting their houses to the

wards like 1 to 6, 11, 12, 15, 20, 22 and 23 because in these wards the density distribution was low with unused open spaces.

- iv. Increasing population: The ward no 5 and 24 are located in north-eastern and south-western part of the municipality, i.e. Basudevpur and Township area where both Haldia Municipality and Haldia Development Authority have established the housing complex to accommodate the shifted people from other part of the urban area.
- v. High increase of population: This has been found in ward number 14, 25, 26 and among these ward no 25 and 26 are newly added rural areas in 2011 near Mohona market and Haldia railway station for housing development purposes only. It is a planned and newly constructed low income group housing area of the municipality.

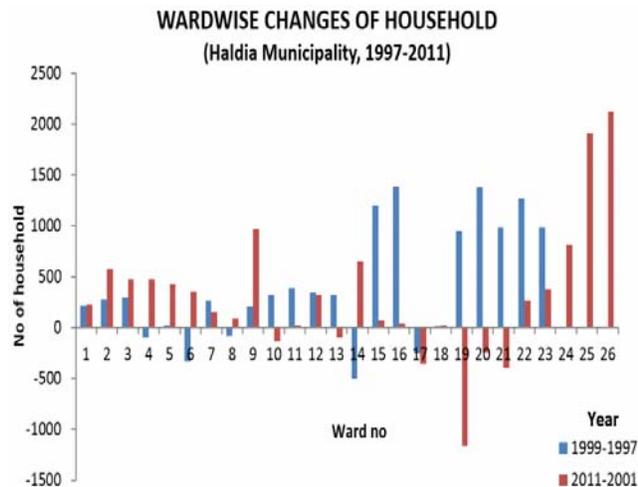
**7. Changing household distribution:** Household pattern and its distribution is a manifestations of urban landuse and economic status. In most of the urban areas in India the houses are constructed as per economic status of the people which creates an urban economic segregation. The housing of High Income Group (HIG), Middle Income Group (MIG) and Low Income Group (LIG) creates a class conflict within the urban society. As per India’s Ex. Prime Minister Mrs. Indira Gandhi “I don’t approve of separate housing colonies for people of separate social status. This is what is keeping us down because the weaker people, when they are separated from others, can ever raise their standard of living” (Modal, R.B, 2000)<sup>[3]</sup>. But in most of the urban areas the distribution of housing or the pattern of households are developed as per the economic status of the people. In Haldia urban area, due to the growth of industries, extension of port and development of service sectors like hospitals, academic

institutions, recreational centers, markets and transport development causes the shifting of original household to the unused fallow land or surrounding agricultural areas of low economic land demand. Most of the administration of industries have constructed their own housing complex as per the economic status of the employees and HAD have constructed the MIG and LIG for the shifted household population at Gandhi colony and Kshudiram colony at the north-western part of the municipality. Table 4 and figure 5 shows the detail distribution and shifting pattern of household within the municipality.

**Table 4:** Wardwise temporal changes of household of Haldia Municipality, 1997-2011

Ward no	Year				Household change	
	1997 *	1999 *	2001	2011	1999-1997	2011-2001
1	751	964	1190	1411	213	221
2	773	1047	1389	1965	274	576
3	883	1178	1173	1644	295	471
4	1635	1539	1999	2474	-96	475
5	649	674	1534	1955	25	421
6	935	603	918	1269	-332	351
7	744	1006	2034	2183	262	149
8	926	844	1300	1386	-82	86
9	803	1010	1802	2766	207	964
10	1025	1346	2117	1977	321	-140
11	614	995	1648	1672	381	24
12	668	1009	1246	1565	341	319
13	595	917	1392	1290	322	-102
14	1246	747	1083	1731	-499	648
15	381	1576	1469	1538	1195	69
16	263	1644	1393	1428	1381	35
17	682	433	1283	926	-249	-357
18	250	260	1750	1771	10	21
19		946	2653	1493	946	-1160
20		1374	1231	984	1374	-247
21		985	1634	1237	985	-397
22		1265	1534	1794	1265	260
23		979	1225	1605	979	380
24			1164	1974		810
25				1908		1908
26				2119		2119
Total	13823	23341	36161	44065		

Source: Primary Census Abstract of Purba Medinipur, 2001-2011 and computed by author



**Fig 5:** Wardwise changes of household, Haldia 1997-2011

**Table 5:** Changes of household at Haldia Municipality, 1999- 1991

No. of household changes (2011 -2001)	Ward no	No of ward	Level of change
Above -400	19	1	Extremely negative
-400 to -200	17,20,21	3	High negative
-200 to 0	10,13	2	Negative
0 to 200	7,8,11,15,16,18	6	Positive
200 to 400	1,6,12,22,23,	5	High positive
Above 400	2,3,4,5,9,14,24,25,26	9	Extremely positive

**Table 6:** Changes of household at Haldia Municipality, 2011 -2001

No. of household changes (1999 -97)	Ward no	No of ward	Level of change
Above -400	14	1	Extremely negative
-400 to -200	17,6	2	High negative
-200 to 0	4,8	2	Negative
0 to 200	5,18	2	Positive
200 to 400	1,2,3,7,9,10,11,12,13	9	Highly positive
Above 400	15,16,19,20,21,22,23	7	Extremely positive

**8. Major findings:** The major outcomes of the analysis are stated as:

- i. Rapid changes of population in the period of 1981 to 1991 and up to 1998 because of local inward migration of population for construction work at various industries.
- ii. The rate or degree of urbanization has been decreases from 2001 onwards because of the out migration of labour class people from Haldia.
- iii. Both population and household have been shifted from original settle areas to less important previously agricultural land for the growth of industries.
- iv. New housing colonies are developed by the Haldia municipality and HAD are based on economic status which creates a segregation within the urban society.
- v. Shifting of population also creates an unexpected congestion around the market areas like Durgachak and Mohona market.

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