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A Comparative Study of the Demographic Attributes of Tal and Diara Regions of Malda, West Bengal

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Abstract

Malda district of West Bengal is divided into three physiographic units viz. Tal, Diara and Barind. Of these, Tal is the marshy tract, mostly composed of bog lands formed in many pockets around shrinking inland drainage lines. The Diara region, on the other hand, is a well-drained flatland formed by fluvial deposition of new and fertile alluvium that provides ideal sites for livelihood practices giving rise to very high population density. Floods and riverbank erosion are common in these regions that certainly influence the demographic attributes of the area. Location wise, some part of Diara is adjacent to Indo-Bangladesh border and Jharkhand and Tal region borders Bihar. As a result, movement of the population both at national and international level is common, which also results in the demographic changes. The present article highlights on the changing demographic attributes viz. the size, growth, density, and distribution of the population in these two regions from 1971-2011 census, based on the secondary data where decadal growth rates (geometric and exponential) and population concentration index of Tal and Diara have been computed.

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Introduction

Malda district of West Bengal occupies a strategic location being bounded by Bangladesh towards the eastern and south-eastern part, the states of Bihar and Jharkhand towards the western and south-western part respectively. Malda is basically a floodplain drained by several rivers like Ganga, Mahananda, Fulhar, Kalindri and other small streams which have deposited rich alluvium making it extremely fertile. Physiographically Malda is divided into three broad regions (Fig 1):

- 1) Tal, which is more of a marshy tract, mostly composed of bog lands forming many marshy pockets around shrinking inland drainages. The Tal gradually slopes towards the south-west and merges with the Diara region. The streams here have developed new courses, leaving behind many dead channels that retain water and flows during the monsoon season. Consequently, the Tal is strewn with innumerable marshes, *bils* and oxbow lakes.
- 2) Diara region is a well-drained flat land formed by fluvial deposition of new alluvium, extremely fertile and thereby densely populated but liable to flood annually (Bose, 1986).

- 3) Barind or the ancient alluvium deposits which are remnants of an earlier floodplain, at present, it occupies the higher ground and has limited access to water resources (Human Development Report, 2007).

Both Tal and Diara regions have a high propensity to floods, yet they report high density of population as they offer ideal sites for livelihood practices dependent on agriculture and fishing. Malda is basically a flood plain which is a contiguous zone extending to neighbouring Bangladesh, hence the international border of Bangladesh, as well as inter-state borders of Bihar and Jharkhand, lies here which makes the movement of the population both at national and international levels easy, this results to demographic changes in these two broad physiographic regions. Malda district has been a principal recipient of the human migration waves of the 20th century, firstly when the new *Chars* along the Diara were opened up for revenue settlement during colonial times, the second wave of large-scale migration here was felt during and the aftermath of Partition when the displaced population of the then East Pakistan migrated here. The third phase was felt during Bangladesh liberation and this migration continues leading to demographic changes of considerable complexity that affect the human development scenario of the district



(Human Development Report, 2007). Both Tal and Diara has distinct and dynamic demographic characteristics. In this paper population size, growth and density of the respective C.D.Blocks of Tal and Diara regions and the spatial distribution of population have been measured and discussed.

Objective

The basic objectives of this paper are to assess and compare the demographic attributes i.e. population size, growth, density and distribution in Tal and Diara regions of Malda district as well as map the spatial distribution and concentration of population in Tal and Diara regions of Malda district.

Materials and Methods

The present paper is based on secondary data which is basically derived from District Census Handbook (from 1971-2011 census year) and District Statistical Handbook (from 1971-2011 census year) of Malda district. In the present paper, C.D. Blocks have been considered as a basic unit of investigation. Tal region consists of six C.D. Blocks i.e. Harischandrapur-I & II, Chanchal-I & II, Ratua-I & II, whereas, Diara consists of five C.D. Blocks viz. English Bazar, Manikchak, Kaliachak-I, II & III respectively. In order to show the spatio-temporal changes in demographic attributes, viz. population size, decadal growth rate, and density and distribution have been computed. To calculate the decadal growth rate of the population of the different C.D. Blocks of Tal and Diara region, arithmetic growth rate and the exponential growth rate has been computed as:

$$\text{Arithmetic Growth Rate, } r = (P_n - P_0) / P_0 * 100$$

where, r = Growth rate, P_n = Population at the end of the period, P_0 = Population at the beginning of the period.

$$\text{Exponential Growth Rate, } r = \ln(P/P_0) / t * 100$$

Where, r = Growth rate, P_t = Population at the end of the period, P_0 = Population at the beginning of the period

The geographical density of population of the different C.D. Blocks of Tal and Diara regions have been computed and compared by taking the ratio between population and area of each C.D. Block.

Population distribution has been computed by the help of population concentration Index (PCI) value. This index is actually the ratio between two ratios - the ratio between the actual population and the average population, on the one hand, and the ratio between the actual area and the average area of the respective units, on the other (Hasan, 2008). Thus, the index can be mathematically expressed as:

$$CI = (P/\Delta P) / (A/\Delta A)$$

where, CI = Concentration Index, P = Actual population of the C.D. Block, ΔP = Average population of the region, A = Actual area of the C.D. Block, ΔA = Average area of the region.

Discussion

a. Size and Share of the Population

At present (2011), the Tal region supports 33.55% of the total population of Malda (Table 1). It is interesting to note that the share of the population of Tal area to the total population of Malda has remained almost same from 1971 to 2011 with marginal fall in 1991 and 2001 though the size of the population has increased by 787980 persons (33.16%) between 1971 and 2011.

The Tal region now comprises of six C.D.Blocks and it is interesting to note that Harischandrapur-I block which supported 32.22% share of the total population of Tal (1971) at present supports only 14.91% of the total population of the Tal (2011). This may be attributed to the fact that Harischandrapur block has been divided into two blocks Harishchandrapur I & II from 1991 onwards. At present (2011) Ratua-I emerges as the most populous block having a share of about 20.58% of the total population of Tal (Table 1).

Diara is more populous than Tal and supports 42.91% of the total population of Malda district (2011) in spite of the fact that it faces the ravages of flood almost annually (Table 2). Like Tal, it is observed that in Diara there is a marginal change in the share of the population to total population of the district from 1971-2011 though the size of the population has increased by 1043842 persons (43.93%). At present Diara is having five C.D.Blocks, as per the 1971-81 census report, Kaliachak block reported the maximum share of the population accounting for more than 50% of the total population of Diara. Kaliachak block, however, got divided into three blocks(Kaliachak-I, II & III) from the 1991 census onwards for better administration. At present (2011) English Bazar emerges as the most populous block of Diara (Table 2). This may be attributed to the fact that it is the only urban center of Diara and is the headquarter of Malda District.

b. Decadal Growth Rate of Population

The average decadal growth rate of population in Tal in the initial two decades (1971-81 and 1981-91) was slightly lower than the average decadal growth rate of the district for the same period (Table 3). The next decade (1991-2001) Tal saw an almost equal population growth with that of the district while the next decade i.e. 2001-11 data suggests that Tal is experiencing a higher growth rate of population (13.15%) in comparison to the district (11.57%). It is interesting to note that the population of Tal as well as the district is growing but at a slower pace in the last two decades (1991-2001 and 2001-11). This also gets reflected in some of the blocks of Tal (Table 3).

Within Tal, it is observed that during the period of 1971-81 highest decadal growth rate (both arithmetic and exponential growth rates) has been observed in Harischandrapur-I block (25.13% and 2.24%) and lowest in Chanchal-I (22.39% and 2.02%). It is interesting to note that during 1981-91 decade when Tal was divided into three new administrative blocks, all the three blocks reported negative population growth rate (Table 3). During 1991-2001 highest growth rate has been found in Ratua-II (27.94% and 2.46%) and lowest decadal growth rate is observed in Chanchal-I (21.58% and 1.95%). At



present (2001-11) highest growth rate is observed in Harischandrapur-II (26.92% and 2.38%) whereas the lowest growth rate has been found in Chanchal-I (17.53% and 1.61%).

In Diara all the four decades reports marginally higher decadal population growth rate in comparison to the district (Table 4). The 1971-81 decade reports the highest decadal growth rate in Diara, which stabilizes like Tal in the later decades reports a slower pace in population growth (14.05% in 1991-2001 to 11.74% in 2001-11).

During 1971-81 in Diara English Bazar block reports the highest decadal growth rate (30.85% and 2.7%) and Manikchak block reports the lowest growth rate (18.36% and 1.69%). This can be attributed to the fact that English Bazar is the only urban center of Diara. During 1981-91 period negative growth rate has been observed in Kaliachak-I block (-46.55% and -6.26%) as erstwhile Kaliachak block has been divided into three blocks in 1991 census viz. Kaliachak-I, II and III respectively (Table 4). During 1991-2001 Kaliachak-III (32.44% and 2.81%) reports the highest growth rate whereas Manikchak (20.59% and 1.87%) reports the lowest growth rate among the six C.D. Blocks of Diara. In the next decade, 2001-11 Kaliachak-III (26.27% and 2.33%) reports the highest growth rate, though this block marks a significant decrease in decadal population growth rate of population in comparison to the previous decade (Change of growth is -6.17% and -0.48%). Interestingly in this period, the negative growth rate of population is also observed in Kaliachak-II block (-0.62% and -0.06%). It must be mentioned here that Manikchak, Kaliachak-II and III blocks are located close to river Ganga where floods are more frequent and river bank erosion is a regular feature here, census data suggests that decadal growth rate of these C.D. Blocks have been gradually declining here in comparison to other C.D. Blocks of Diara.

C. Density of Population

Tal reports an increase in population density in all the four decades which is similar to the increase in the density of population of Malda district. However, the increase in density of population differs within the blocks in Tal (Fig 2). Chanchal-I block reports the maximum increase in the density of population, a gain of about 61.75% in population from 1971-2011. This is followed by Harischandrapur-I block (60.74% increase in density over four decades). It is interesting to note that Tal experienced a 6.33% increase in density of population in the last decade (2001-11) when compared to the increase in density of population of Malda district for the same decade (2001-11) i.e. 13.65% increase. In this decade (2001-11) it is Ratua-I block which experienced the highest increase in the density of population (21.08%). Tal in spite of being a marshy tract attracts population as density keeps increasing (Table 5) indicating high population pressure here.

Diara is more populous than Tal and reports higher density of population in comparison to the District of Malda in all the four decades (Table 6). Kaliachak-I block reports the maximum increase in density of population to the tune of 82.06% increase within the four decades under study,

followed by English Bazar block reporting an increase of about 62.38% from 1971-2011. Manikchak records the lowest increase in density of population from 1971-2011 (52.20%) this may be attributed to the fact that Manikchak, Kaliachak II and III are extremely prone to flood hazard and is affected by bank erosion by river Ganga. It is interesting to note that Diara as its name suggest lying by the side of rivers is extremely prone to floods which often lead to disastrous, yet this region is having a higher density of population in each decade when compared to the density of population at the district level. This may be attributed to the fact that the marginalized section of the society often gets concentrated in the levees and adjoining areas of the Diara as it provides easy agriculture and water-based livelihoods to the poor, hence they tend to concentrate here.

d. Distribution of Population

Table 7 & 8 suggest the population distribution of Tal and Diara which has been computed by the help of population Concentration Index values, (Hasan, 2008) this has been further mapped (Fig 3 & 4). It is observed that within Tal Ratua-I reports the highest concentration of population from 1971-91 decade. In the next decade, Chanchal-I reports the highest concentration of population in the last two decades (1991-2011).

However in the initial decades the population was more evenly distributed in comparison to the later decades as suggested by the range of CI (Concentration Index) values of the blocks viz. range of CI value in 1971 is 0.96 - 1.03 (0.07), 1981 census range of CI value 0.97 - 1.03 (0.06), while 1991 census reports range of CI value 0.87 - 1.19 (0.32), in 2001 census the CI value ranges from 0.75-1.00 (0.25). In 2011 census the distribution of the population is more equal in comparison to the previous two decades as the range of CI value varies from 0.87 - 1.09 suggesting a difference of 0.22 (Table 7).

Diara reports the higher concentration of population in all the four decades in comparison to Tal as suggested by the CI values of the four decades under investigation (Table 8). Like Tal, the population distribution in the initial decade is more evenly distributed among the blocks in Diara as suggested by the CI range. It is in the later decades that the population here is becoming unevenly distributed as suggested by the CI value of the blocks (2011 census CI value range is 0.57-2.53 suggesting a difference of 1.96 in comparison to 1971 census where the difference in CI value is only 0.53).

It is observed that Manikchak reports the minimum concentration of population in Diara followed by Kaliachak-II and Kaliachak-III C.D. Blocks (Table 8). This can be attributed to the fact that these blocks are most affected by river bank erosion and the ravages of annual floods. On the other hand, English Bazar and Kaliachak-I blocks report the highest concentration of population in Diara throughout the four decades as these C.D. Blocks are comparatively stable than other blocks of Diara.

Conclusion

It is observed that in spite of the fact that Malda district especially the Diara region is battered by the runoff flow of the



network of rivers flowing from adjacent area viz. Mahananda, Fulhar, Ganga, Kalindri etc. causing severe floods and bank erosion. Further heavy rainfall here and in neighboring areas increases the discharge from the upper basins of the rivers here, coupled with this is the location of Farakka barrage downstream which restricts discharge of the flood waters and also reports sedimentation (Annual Flood Report, 2015) that accelerates the ravages associated with floods leading to life and property loss, yet Malda in general and Diara in particular reports high density of population in comparison to the Tal physiographic unit which is more of a marshy tract. Diara not only reports a higher share of population to the total population of Malda in all the four decades considered in this paper but also reports a higher decadal growth rate of population, higher density and higher concentration of population in comparison to Tal suggesting that in spite of the ravages of floods and bank erosion, Diara is preferred by people as it offers better livelihood opportunities based on land and water resources in comparison to Tal.

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Table - 1: Population Size of different C.D. Blocks of Tal region (1971-2011)

Name of C.D. Blocks	Total Population									
	1971	Rank (As/ share of Pop.)	1981	Rank (As/ share of Pop.)	1991	Rank (As/ share of Pop.)	2001	Rank (As/ share of Pop.)	2011	Rank (As/ share of Pop.)
Harischandrapur - I	177333 (32.22)	3	221890 (32.59)	2	129829 (15.06)	5	162406 (15.06)	5	199493 (14.91)	6
Harischandrapur - II	NA	NA	NA	NA	157077 (18.22)	2	198039 (18.37)	2	251345 (18.78)	2
Chanchal - I	177905 (32.32)	2	217746 (31.98)	3	143288 (16.62)	3	174204 (16.16)	3	204740 (15.30)	4
Chanchal - II	NA	NA	NA	NA	132697 (15.39)	4	165192 (15.32)	4	205333 (15.34)	3
Ratua - I	195161 (35.46)	1	241198 (35.43)	1	173655 (20.14)	1	217356 (20.16)	1	275388 (20.58)	1
Ratua - II	NA	NA	NA	NA	125762 (14.58)	6	160904 (14.92)	6	202080 (15.10)	5
Tal Region	550399 (34.13)		680834 (33.51)		862308 (32.70)		107810 1 (32.76)		133837 9(33.55)	
Malda District	161265 7		203187 1		263703 2		329046 8		398884 5	

Source: Census of India, figure in parenthesis indicates share in percentage to total population of Tal region



Table - 2: Population Size of different C.D. Blocks of Diara region (1971-2011)

Name of C.D. Blocks	Total Population									
	1971	Rank (As/ share)	1981	Rank (As/ share)	1991	Rank (As/ share)	2001	Rank (As/ share)	2011	Rank (As/ share)
English Bazar	182996 (27.40)	2	23945 (28.32)	2	319638 (28.55)	1	387692 (27.52)	1	480148 (28.05)	1
Manikchak	126715 (18.97)	3	149981 (17.74)	3	177572 (15.86)	4	214127 (15.20)	4	269813 (15.76)	4
Kaliachak - I	358101 (53.62)	1	456085 (53.94)	1	243787 (21.77)	2	310935 (22.08)	2	392517 (22.93)	2
Kaliachak - II	NA	NA	NA	NA	163871 (14.64)	5	211406 (15.01)	5	210105 (12.27)	5
Kaliachak - III	NA	NA	NA	NA	214721 (19.18)	3	284376 (20.19)	3	359071 (20.98)	3
Diara Region	667812 (41.41)		845523 (41.61)		1119589 (42.46)		1408536 (42.81)		1711654 (42.91)	
Malda District	1612657		2031871		2637032		3290468		3988845	

Source: Census of India, figure in parenthesis indicates share in percentage to the total population of Diara region

Table -3a: Average Decadal Growth rate of different C.D. Blocks of Tal region (1971-2011)

Name of C.D. Blocks	Arithmetic Growth Rate(1971-81)	Exponential Growth Rate(1971-81)	Average Decadal Growth Rate(1971-81)	Arithmetic Growth Rate(1981-91)	Exponential Growth Rate(1981-91)	Average Decadal Growth Rate(1981-91)
Harischandrapur - I	25.13	2.24	13.68	-41.49(-66.62)	-5.36(-7.60)	-23.42
Harischandrapur - II	NA	NA	NA	NA	NA	NA
Chanchal - I	22.39	2.02	12.21	-34.19(-56.59)	-4.18(-6.20)	-19.19
Chanchal - II	NA	NA	NA	NA	NA	NA
Ratua - I	23.59	2.12	12.85	-28.00(-51.59)	-3.29(-5.41)	-15.65
Ratua - II	NA	NA	NA	NA	NA	NA
Tal Region	23.70	2.13	12.91	26.65(2.95)	2.36(0.23)	14.51
Malda District	26.00	2.31	14.15	29.78(3.78)	2.61(0.30)	16.20

Source: Computed by the author, figure in parenthesis indicates a change of growth in percentage

Table -3b: Average Decadal Growth rate of different C.D. Blocks of Tal region (1971-2011)

Name of C.D. Blocks	Arithmetic Growth Rate(1991-01)	Exponential Growth Rate (1991-01)	Average Decadal Growth Rate(1991-01)	Arithmetic Growth Rate(2001-11)	Exponential Growth Rate(2001-11)	Average Decadal Growth Rate(2001-11)
Harischandrapur - I	25.09(66.58)	2.24(7.60)	13.67	22.84(-2.26)	2.06(-0.18)	12.45
Harischandrapur - II	26.08	2.32	14.20	26.92(0.84)	2.38(0.06)	14.65
Chanchal - I	21.58(55.77)	1.95(6.13)	11.76	17.53(-4.05)	1.61(-0.34)	9.57
Chanchal - II	24.49	2.19	13.34	24.30(-0.19)	2.18(-0.01)	13.24
Ratua - I	25.17(53.17)	2.24(5.53)	13.70	26.70(1.53)	2.37(0.13)	14.53
Ratua - II	27.94	2.46	15.20	25.59(-2.35)	2.28(-0.18)	13.94
Tal Region	25.03(-1.62)	2.23(-0.13)	13.63	24.14(-0.89)	2.16(-0.07)	13.15
Malda District	24.78(-5.00)	2.21(-0.40)	13.49	21.22(-3.56)	1.92(-0.29)	11.57

Source: Computed by the author, figure in parenthesis indicates a change of growth in percentage



Table - 4a: Average Decadal Growth Rates of different C.D. Blocks of Diara region (1971-2011)

Name of C.D. Blocks	Arithmetic Growth Rate (1971-81)	Exponential Growth Rate (1971-81)	Average Decadal Growth Rate (1971-81)	Arithmetic Growth Rate (1981-91)	Exponential Growth Rate in (1981-91)	Average Decadal Growth Rate (1981-91)
English Bazar	30.85	2.7	16.78	33.48 (2.63)	2.9 (0.20)	18.19
Manikchak	18.36	1.69	10.03	18.40 (0.04)	1.69 (0.00)	10.04
Kaliachak - I	27.36	2.42	14.89	-46.55 (-73.91)	-6.26 (-8.68)	-26.40
Kaliachak - II	NA	NA	NA	NA	NA	NA
Kaliachak - III	NA	NA	NA	NA	NA	NA
Diara Region	26.61	2.36	14.49	32.41 (5.80)	2.81 (0.45)	17.61
Malda District	26.00	2.31	14.15	29.78 (3.78)	2.61 (0.30)	16.20

Source: Computed by the author, figure in parenthesis indicates change of growth in percentage

Table - 4b: Average Decadal Growth Rates of different C.D. Blocks of Diara region (1971-2011)

Name of C.D. Blocks	Decadal Growth Rate (1991-01)	Exponential Growth Rate (1991-01)	Average Decadal Growth Rate (1991-01)	Decadal Growth Rate (2001-11)	Exponential Growth Rate in (2001-11)	Average Decadal Growth Rate (2001-11)
English Bazar	21.29(-12.19)	1.93(-0.97)	11.61	23.85(2.56)	2.14(0.21)	12.99
Manikchak	20.59(2.19)	1.87(0.18)	11.23	26.01(5.42)	2.31(0.44)	14.16
Kaliachak - I	27.54(74.09)	2.43(8.69)	14.99	26.24(-1.31)	2.33(-0.10)	14.28
Kaliachak - II	29.01	2.55	15.78	-0.62(-29.62)	-0.06(-2.61)	-0.34
Kaliachak - III	32.44	2.81	17.62	26.27(-6.17)	2.33(-0.48)	14.30
Diara Region	25.81(-6.60)	2.29(-0.52)	14.05	21.52(-4.29)	1.95(-0.34)	11.74
Malda District	24.78(-5.00)	2.21(-0.40)	13.49	21.22(-3.56)	1.92(-0.29)	11.57

Source: Computed by the author, figure in parenthesis indicates change of growth in percentage

Table - 5: Population Density of different C.D. Blocks of Tal region (1971-2011)

Name of C.D. Blocks	Population Density					Changes in Population Density (1971-2011)
	1971	1981	1991	2001	2011	
Harischandrapur - I	457	572(20.10)	757(24.44)	948(20.15)	1164(18.56)	707(60.74)
Harischandrapur - II	NA	NA	723	912(20.72)	1157(21.18)	NA
Chanchal - I	483	591(18.27)	884(33.14)	1074(17.70)	1263(14.96)	780(61.75)
Chanchal - II	NA	NA	647	805(19.63)	1001(19.58)	NA
Ratua - I	490	606(19.14)	753(19.52)	943(20.15)	1195(21.08)	705(59.00)
Ratua - II	NA	NA	721	925(22.05)	1162(20.39)	NA
Tal Region	477	590(19.15)	743(20.59)	1080(31.20)	1153(6.33)	676(58.63)
Malda District	447	564(20.75)	720(21.66)	943(23.65)	1092(13.65)	645(59.06)

Source: Computed by the author, figure in parenthesis indicates decadal change in density of population in percentage

Table - 6: Population Density of different C.D. Blocks of Diara region (1971-2011)

Name of C.D. Blocks	Population Density					Change in Population Density (1971-2011)
	1971	1981	1991	2001	2011	
English Bazar	718	940(23.62)	1269(25.92)	1542(17.70)	1909(19.22)	1191(62.38)
Manikchak	401	474(15.40)	547(13.34)	665(17.74)	839(20.74)	438(52.20)
Kaliachak - I	668	850(21.41)	2178(60.97)	2950(26.17)	3725(20.81)	3057(82.06)
Kaliachak - II	NA	NA	736	949(22.44)	943(-0.63)	NA
Kaliachak - III	NA	NA	827	1093(24.34)	1381(20.85)	NA
Diara Region	603	764(21.07)	956(20.08)	1213(21.19)	1474(17.71)	871(59.09)
Malda District	447	564(20.75)	720(21.66)	943(23.65)	1092(13.65)	647(59.06)

Source: Computed by the author, figure in parenthesis indicates a decadal change in the density of population in percentage



Table - 6: Population Density of different C.D. Blocks of Diara region (1971-2011)

Name of C.D. Blocks	Population Density					Change in Population Density (1971-2011)
	1971	1981	1991	2001	2011	
English Bazar	718	940(23.62)	1269(25.92)	1542(17.70)	1909(19.22)	1191(62.38)
Manikchak	401	474(15.40)	547(13.34)	665(17.74)	839(20.74)	438(52.20)
Kaliachak - I	668	850(21.41)	2178(60.97)	2950(26.17)	3725(20.81)	3057(82.06)
Kaliachak - II	NA	NA	736	949(22.44)	943(-0.63)	NA
Kaliachak - III	NA	NA	827	1093(24.34)	1381(20.85)	NA
Diara Region	603	764(21.07)	956(20.08)	1213(21.19)	1474(17.71)	871(59.09)
Malda District	447	564(20.75)	720(21.66)	943(23.65)	1092(13.65)	647(59.06)

Source: Computed by the author, figure in parenthesis indicates decadal change in density of population in percentage

Table - 7: Population Concentration Index of the C.D.Blocks in Tal Region (1971-2011)

Name of C.D. Blocks	Population Concentration Index				
	1971	1981	1991	2001	2011
Harischandrapur - I	0.96	0.97	1.02	0.88	1.01
Harischandrapur - II	NA	NA	0.97	0.84	1.00
Chanchal - I	1.01	1.00	1.19	1.00	1.09
Chanchal - II	NA	NA	0.87	0.75	0.87
Ratua - I	1.03	1.03	1.01	0.87	1.04
Ratua - II	NA	NA	0.97	0.86	1.01
Tal Region	3.00	3.00	6.04	5.19	6.02

Source: Computed by the author

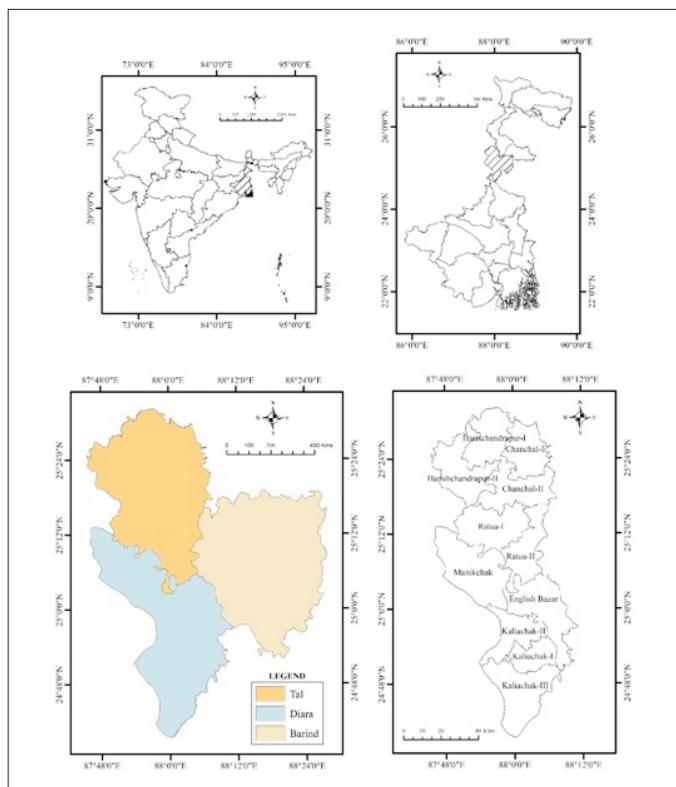


Fig. 1: Location Map of the Study Area

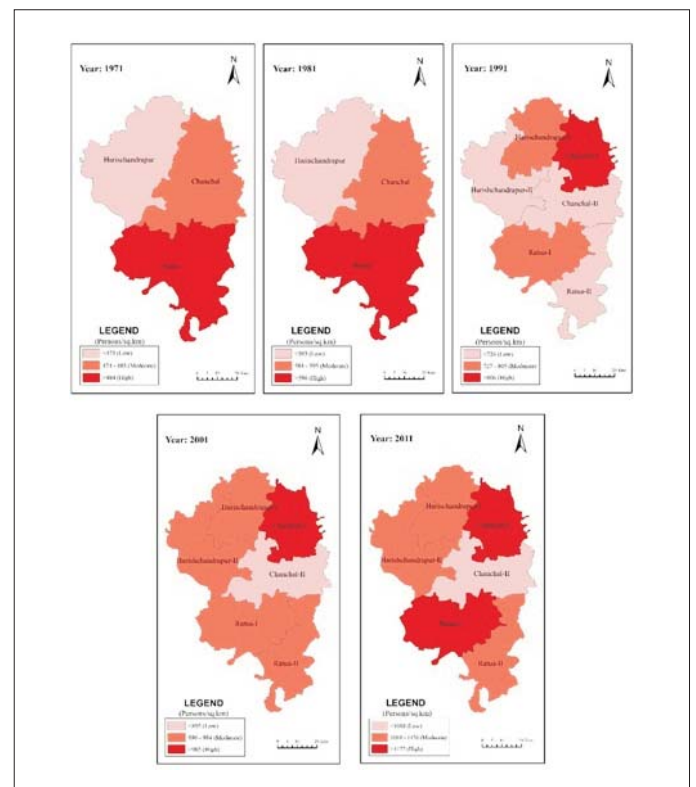


Fig. 2: Population Density Map of Tal Region (1971-2011)

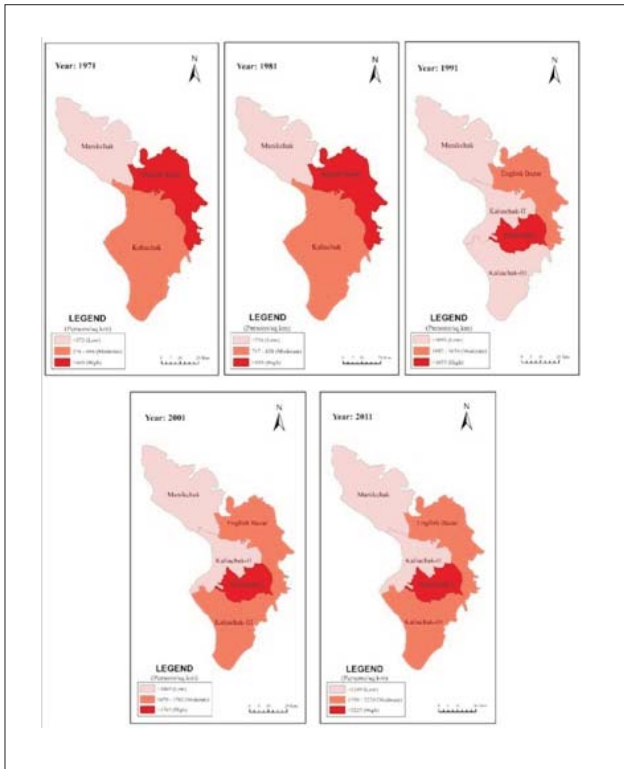


Fig. 3: Population Density Map of Diara Region (1971-2011)



Fig. 4: Population Concentration Map of Tal Region (1971-2011)

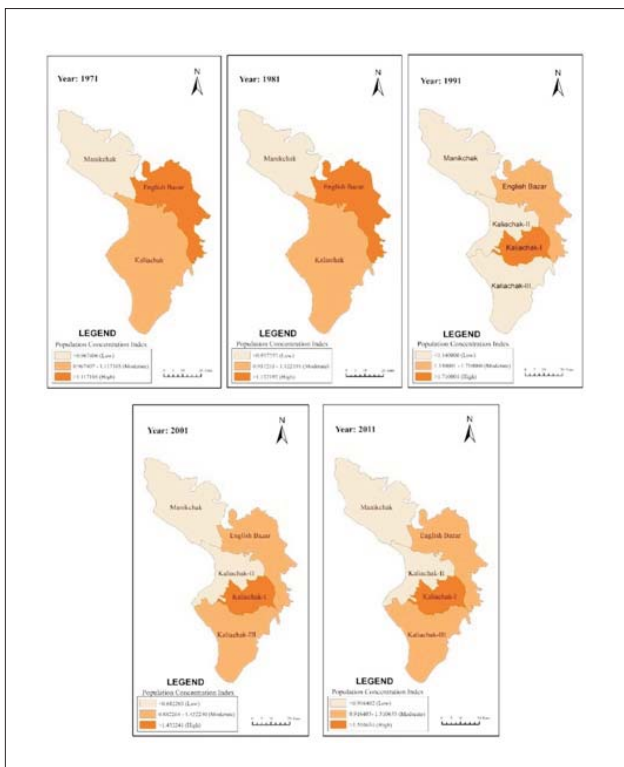


Fig. 5: Population Concentration Map of Diara Region (1971-2011)



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