



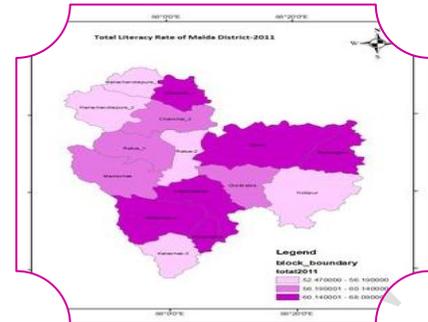
## TRENDS AND SPATIAL PATTERNS IN POPULATION GROWTH OF MALDA DISTRICT: AN OVERVIEW

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### ABSTRACT

Trends and patterns of population growth is a significant demographic study as it form essential part of socio-economic development planning. This paper is aimed to analyse the trends and spatial patterns of population growth of Malda District of West Bengal. This work is based on the various sources of secondary data such as Census of India, District Census Handbook, District Statistical Handbook etc. The growth rate of population is measured in terms of arithmetic rate of increase. It is observed from the study that the population of Malda District is increasing at an alarming rate and tends towards population explosion. The decadal growth rate of 1991-2001 and 2001-2011 of this district was higher than the state and national averages. As per 2011 Census, this district recorded second highest decadal growth rate in population in the state, however, the population growth rate is not uniform throughout the district. The block level analysis of population growth shows that the growth rate is highly uneven and also varies significantly between rural and urban areas. Moreover, differential in population growth is observed by religion in the district.

**KEYWORDS:** Secondary data, Population growth, Population explosion, Arithmetic rate, Census, Decadal Growth Rate.

### INTRODUCTION

Traditionally Population Geographers in general and Demographers in particular are predominantly concerned with analysing trends and patterns of population growth. While doing so they are confronted with difficulties related to lack reliable of data on growth of population in consistent way over long period of time. The growth, pattern and the density of population during the pre-historic period is full of obscurities due to dearth of documentary evidences. The scholars, under duress, have dependency on the much unreliable circumstantial evidences to estimate the population and related information relevant for the period (Hassan, 2005). But after conducting the census at regular interval in different countries of the world, population geographers get the population related data very easily and made their contribution in social sciences effectively. We may easily analyze the spatio-temporal trends and pattern of population growth of Malda district of West Bengal very effectively.

## RESEARCH PROBLEMS

Rapid population growth and resultant impacts on the public infrastructure is one of the basic problems observed in Malda district as the same can be found in the state as well as in the country as well. Population pressure can be very well witnessed in the form of illiteracy, unemployment and deficient amenities and services. The district occupies second rank in terms of population growth in the state with 21.24 per cent growth rate which is much higher than the state average of 13.84 per cent is a pertinent problem that attracts the attention of the researchers. That is why the research problem has been entitled as **“TRENDS AND SPATIAL PATTERNS IN POPULATION GROWTH OF MALDA DISTRICT: AN OVERVIEW”**.

## SIGNIFICANCE OF THE STUDY

There have been several rounds of misuse and misinterpretation of demographic data. The problem is such that demographic data is often used by politicians to meet a non-demographic end. Population growth has been a contentious issue for many years in India. It's so serious that 830 million populations are effectively convinced that they will soon be outnumbered by 130 million. Malda being a bordering district attract more attention of the demographer to study the phenomenon of population growth. Thus the present study would certainly help to clear some obscurity and to make better comprehension of population growth. Thus in this context the present study carries great significance.

## SCOPE AND LIMITATIONS OF THE STUDY

It would be presumptuous to claim that all the explanations of population growth are flawless. The discussion and explanation is purely based on the secondary sources of the data. Therefore, any inaccuracy in the data leads may lead to incorrect explanation. This article makes an effort to discuss only the trends and spatial pattern of population growth and recommended the suggestions to arrest the rapid population growth in the district. Therefore, there is a further scope to identify the specific cause of population growth and measure the impacts of the determinants of the population growth such as fertility rate, age at marriage, education attainment, work participation rate especially female work participation rate, type of economy, and health facilities available etc to develop better comprehension of the phenomenon of rapid growth of population in the district. There may be further scope to assess not only scope for further study but also the implications of population pressure on the public infrastructure, amenities and services of the district due to rapid population growth.

## BRIEF INTRODUCTION TO MALDA DISTRICT

Malda district is located between the North and South Bengal in the state of West Bengal. Before the creation of Jalpaiguri Division i.e. 4<sup>th</sup> March in 1963, the district was under Presidency Division (Census, 1961). The North-South extension of the district is between 24° 40' 20" N to 25° 32' 08"N and the longitudinal extension between 87° 45' 50"E to 88°28'10" E. The southern part of the district is surrounded by Murshidabad district across Ganga River, the east and the north-eastern part by Bangladesh and South Dinajpur, northern part by North Dinajpur District and the western part by the state of Bihar and Jharkhand (GoWB, 2007).

According to 2011 Census, Malda district covers an area of 3733 sq. km which shares 4.2 per cent of the total area of the state of West Bengal. The district consists of two sub-divisions and fifteen C.D. blocks. Under the Malda Sadar sub-division there are nine C.D. blocks viz. English Bazar, Manikchak, Kaliachak-I, Kaliachak-II, Kaliachak-III, Gazole, Old Malda, Habibpur, Bamongolawhereas Chanchal sub-division composed of six C.D. blocks viz. Ratua-I, and Ratua-II, Chanchal-I, Chanchal-II, Harishchandrapur-I, Harishchandrapur-II, and It is the home and permanently resting ground of 3988845 persons which shares 4.37 per cent of the total population in the state in which only 13.58 per cent urban population while 86.42 per cent reside in countryside. The sex ratio is 944 and the literacy rate is 61.73 per cent wherein male and female literacy is 66.24 and 56.96 per cent respectively (COI, 2011).

## OBJECTIVES OF THE STUDY

The study is designed to achieve the following objectives-

- To examine the trends, since 1901 onward, and spatial pattern of population growth since 1991 of Malda District.
- To measure the differential population growth by residence (Rural-Urban) in the district.
- To find out some measures to arrest the rapid rate of population growth.

## MATERIALS AND METHODS

The present paper is intended to analyse the trends and patterns of population growth as well as the differential population growth by religion of Malda District of West Bengal. The study is entirely based on secondary sources of data which has been collected and computed from Census of India, District Census Hand Book, District Statistical Handbook and District Human Development Report of Malda District. The population growth rate is measured in terms of **arithmetic rate of increase**. To complete this research paper, various books on demography and population studies, various unpublished research works has been studied. The collected data tabulated systematically and represented them by various maps and diagrams to draw the proper inference.

The arithmetic rate of growth in population between any two-time points would be:

$$R = (P_t - P_0)/P_0$$

Where,  $P_0$  is the population at the base year,  $P_t$  is the population of the terminal year and  $R$  is the rate of population growth.

To examine the trends of population growth, the population growth of the district have been considered since 1901 where as for the block level analysis; the total population from 1991 census to 2011 census have been taken into consideration.

For the analysis of differential growth rate of rural- urban population, only the growth rate of rural and urban population of the district since 1901 have been taken into consideration as all the blocks have not urban population and finally suggested some measures to arrest the rapid rate of population growth of the district.

### Trends in Population Growth of Malda District (1901-2011)

Over the time and space the population of the district is changed. Malda district recorded highly fluctuate population over the periods of 110 years. According to 2011 census, the total population of Malda district is 3988845 which are more than six times than the population over 6 lakh in 1901. The decadal growth rate of population is highly fluctuated in these 110 years. So the demographic history of Malda in these 110 years can be categorized into following four distinct phases.

- I. Period of stagnant population growth (1901-1921)
- II. Period of slow and steady growth (1921-1951)
- III. Period of rapid growth (1951-1991)
- IV. Period of high but declining growth (1991-2011)

#### I. Period of Stagnant Population (1901-1921):

Table 1 provides the vivid picture of the trends in population growth of Malda during the last hundred and ten years. The decadal growth rate population remained very low till 1921, and in fact, the 1921 census recorded the negative growth rate of -1.77 per cent during 1911-21 which was known as the decade of epidemic. Malaria and influenza epidemic caused the depletion of population in the district (Census, 1961). Thus, the first twenty years of the twentieth century, Malda witnessed only 13.95 percent growth rate in population.

## II. Period of Slow and Steady Growth (1921-1951):

After 1921 census, the improved medical facilities control the epidemic of Malaria and influenza which accelerate the population growth of the district. The decadal growth rate of population increased from 4.99 per cent during 1921-1931 to over 17.19 per cent during 1931-1941 while during 1941-1951, the growth rate declined to 11.05 per cent which is due to the Great Famine of 1943 followed by the serious epidemic of 1944 resulted in decrease in the growth rate of population of the district Census, 1961).

## III. Period of Rapid Growth (1951-1991):

The year 1951 indicates the beginning of rapid population growth in the district. Over a period of forty years i.e. 1951-1991, more than 17 lakh population added to the total population of district. After 1951, the population growth rate suddenly increased. It shot up abruptly to the high level of 30.33 Per cent in 1951-1961 and 31.98 Per cent in 1961-1971 decade. It was mainly because of steep fall in death rate and high fertility rate. Besides this, Malda district included the population of five *Tolas* (neighbourhood) of Govindpur mouza which was on the West Bengal-Bihar border (1961, Census). During 1961-1971, the highest growth rate was observed in the demographic history of the district.

**Table 1**  
**Malda District: Trend of Population Growth (1901-2011)**

Census Year	Total Population	Growth Rate (Per cent)	Decade	Pace of Growth	Remarks
1901	603649	--	--	Stagnant Population	-
1911	698547	15.72	1901-1911		
1921	686174	-1.77	1911-1921		Negative
1931	720440	4.99	1921-1931	Slow but steady growth	
1941	844315	17.19	1931-1941		
1951	937580	11.05	1941-1951		
1961	1221923	30.33	1951-1961	Rapid Growth	
1971	1612657	31.98	1961-1971		Highest
1981	2031871	26.00	1971-1981		
1991	2637032	29.78	1981-1991		
2001	3290468	24.78	1991-2001	Slow Down	
2011	3988845	21.22	2001-2011		

Source: Authors' own calculation based on i) Census of India, 2011, West Bengal, Series-20, Part-XII-A, District Census Hand Book, Malda: Village and Town Directory p.43. and District Statistical Hand Book, Malda, 2004, Government of West Bengal, (2007). Table, 2.3, p.12

The high population growth rate observed throughout the state as a whole and in many of its districts during this period. In these periods, the international borders played an important part for the first time to change the population composition of the district. Influx of refugee from the neighbouring Bangladesh (erstwhile East Pakistan) actually set the tune of high population growth in the district. The 1961 census alone recorded as high as 65000 immigrants in the study area and the wave of migration continues through sixties giving an extra impetus due to the liberation war of Bangladesh in 1971. The return migration of 1950s is also an important phenomenon in which the people who migrated to East Pakistan from Malda district returned causing growth of population in the district (Census, 1971).

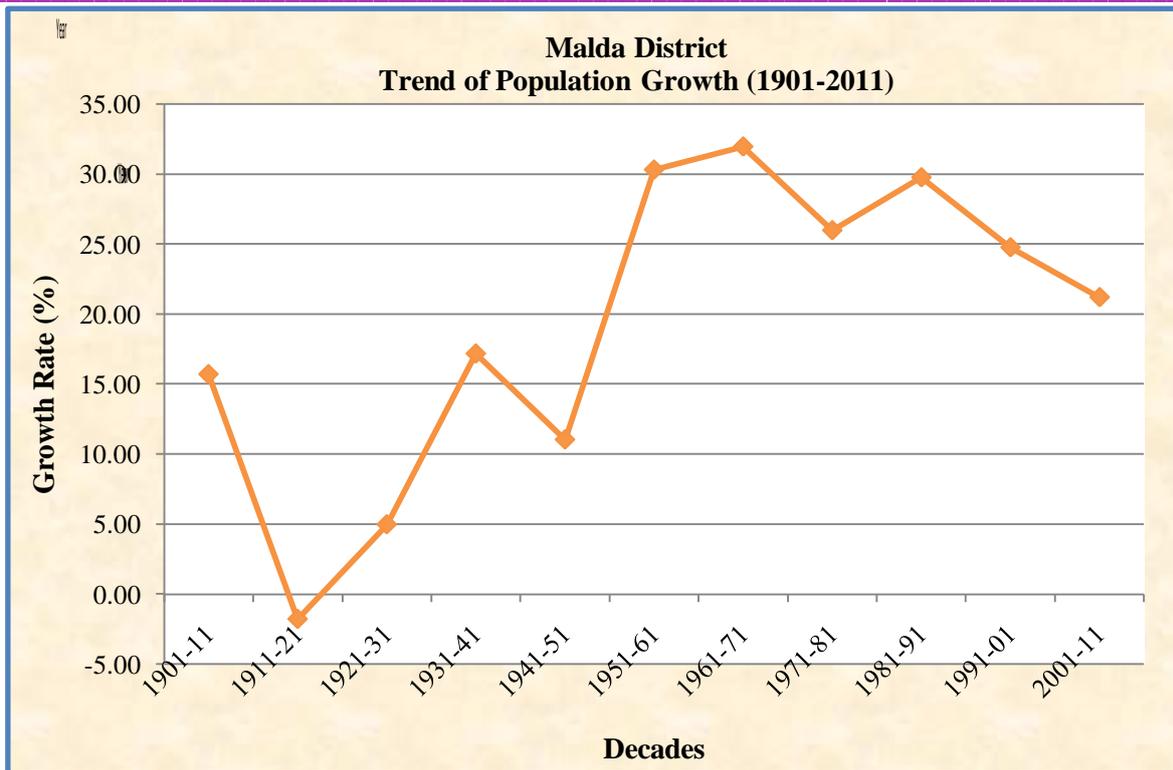


Figure 1: Trend of Population growth (1991-2011)

**IV. Period of High but Declining Growth Rate (1991-2011):**

After 1991 Census, Malda experienced high but declining decadal growth rate of population. The decadal growth rate of 1991-2001 and 2001-2011 were 24.78 per cent and 21.22 per cent respectively. During 1991-2001, the growth rate was down by 5 per cent where as during 2001-2011 this growth rate was down by 3.56 per cent in comparison to preceding decade. It is mainly because of the fact that the district’s fertility and mortality rate has been declined.

**Trend in Population Growth by Residence**

It will be effective to examine the trend of population growth by residence. The table-2 represents rural-urban population in Malda district during 1901-2011. The district is mainly agrarian in nature. Most of the people reside in rural area. If we consider the 1901 year, 586239 (97.12 per cent) population out of 603649 were residing in the rural area whereas only 17410 (2.88 per cent) population were residing in urban area. The proportion of urban population decreased from 2.88 per cent in 1901 to 2.59 per cent in 1911. During this period i.e.1901-1911 the rural growth in population was 16.07 per cent whereas the urban growth was 3.80 per cent. But in the next decade i.e.1911-1921 the negative growth rate of -1.69 per cent and -4.81 per cent was observed in both rural and urban areas respectively. In the subsequent decades, high and fluctuating growth rate in population were recorded in both rural and urban areas of the district and the proportion of rural population were decreased while the proportion of urban population increased due to urbanisation. But the urbanisation rate is very slow as a result of which 86.42 per cent population are living in the countryside while that of urban area the corresponding figure is only 13.58 per cent. The highest rural growth rate of 31.89 per cent was recorded in the decade of 1961-1971 and in the subsequent decades the rural growth rate in population gradually declined except the decade of 1981-1991. The rural growth rate in population gradually declined because of the spread of education, consciousness of the masses, improved medical facilities and mainly for rural-urban migration.

Out of two municipalities in the district namely English Bazar and Old Malda, English Bazar Municipality has a great pulling effect over the rural population of the district and the population of neighbouring district. The basic amenities for the people is mainly concentrated in this municipality and that is why people are bound to migrate from rural to urban area to get the basic facilities. The last decade (2001-2011) has recorded an exorbitant urban population growth of 124.81 per cent in the district. It is mainly because of the problems of defining the urban area which is prescribed by the Indian Census 2011).

**Table 2**  
**Malda District: Decadal Growth Rate of Rural and Urban Population (1901-2011)**

Census Year	Total Population	Rural Population	Urban Population	% of Rural Population	% of Urban Population	Decadal Growth Rate (%)	
						Rural	Urban
1901	603649	586239	17410	97.12	2.88	-	-
1911	698547	680475	18072	97.41	2.59	16.07	3.80
1921	686174	668972	17202	97.49	2.51	-1.69	-4.81
1931	720440	700754	19686	97.27	2.73	4.75	14.44
1941	844315	817136	27179	96.78	3.22	16.61	38.06
1951	937580	902419	35161	96.25	3.75	10.43	29.37
1961	1221923	1171138	50785	95.84	4.16	29.98	44.44
1971	1612657	1544631	68026	95.78	4.22	<b>31.89</b>	33.95
1981	2031871	1934675	97196	95.22	4.78	25.25	42.88
1991	2637032	2450495	186537	92.93	7.07	26.66	91.92
2001	3290468	3049528	240940	92.68	7.32	24.45	29.16
2011	3988845	3447185	541660	86.42	13.58	13.04	124.81

Source: Author's own calculation based on i) Census of India, 2011, West Bengal, Series-20, Part-XII-A, District Census Hand Book, Malda: Village and Town Directory p.43. and District Statistical Hand Book, Malda, 2004, Government of West Bengal, (2007). Table, 2.3, p.12.

According to the census definition, urban areas are comprised of two types of administrative units – Statutory Towns and Census Towns.

**a) Statutory Towns:** According to Indian Census, all the Municipal Corporation, Municipality, Cantonment Board, Notified Town Area Committee, Town Panchayat, Nagar Palika etc., are known as Statutory Towns.

**b) Census Towns:** Administrative units satisfying the following three criteria simultaneously are treated as Census Towns:

- i) A minimum population size of 5,000 persons;
- ii) 75 per cent and above of the male main working population should be engaged in non-agricultural activities; and
- iii) A minimum density of population of at least 400 persons per km<sup>2</sup>.

(COI, 2011, Meta data, p.2). According to the above criteria twenty seven (27) new census towns added to the district and huge number of population belong to the new census towns added to the total urban population of the district.

### Spatial Pattern of Population Growth

It will be more useful to examine the trend in population growth by blocks of Malda district separately for last two decades (1991-2001 and 2001-2011). The table 3 depicts the spatial pattern of population growth in Malda district for the last two decades. It is observed that the decadal growth rate in

population is not uniform throughout the district. For the easy understanding of spatial pattern of population growth, the district has been divided into three regions on the basis of population growth i.e. I. Areas of low growth rate, II. Areas of Moderate growth rate and III. Areas of High growth rate.

#### I. Areas of Low Growth Rate( $\leq 20.50$ per cent):

During 1991-2001 the district's average rate in population growth was 24.78 per cent but some C.D. blocks recorded lower rate in population growth. Only three blocks Old Malda (-1.31Per cent), Habibpur (11.53 Per cent) and Bamangola (18.29 Per cent) have recorded lower rate in population growth during this period. But during 2001-2011 there are six blocks which fall under this category. These blocks are Chanchal-I (17.53Per cent), Habibpur (12.28 Per cent), Bamangola, (13.09 Per cent), Old Malda (13.47 Per cent), Kaliachak-II (-.62Per cent), Gazole (16.67 Per cent). It is mentionable fact that Kaliachak-II recorded 29.01 per cent population growth during 1991-2001 while negative growth rate observed in this block during 2001-2011. Kaliachak-II block is devastated by recurring flood and shifting of river course as a perennial phenomenon and because of it many people from Kaliachak-II migrated to other parts of the district as well as to neighbouring districts. Moreover, in 2001, the population of 18 disputed villages (actually situated in Jharkhand) were enumerated as the population of Malda district (W.B.) in which 17 villages with more than 53999 populations were belong to Kaliachak-II(Census, 2001).

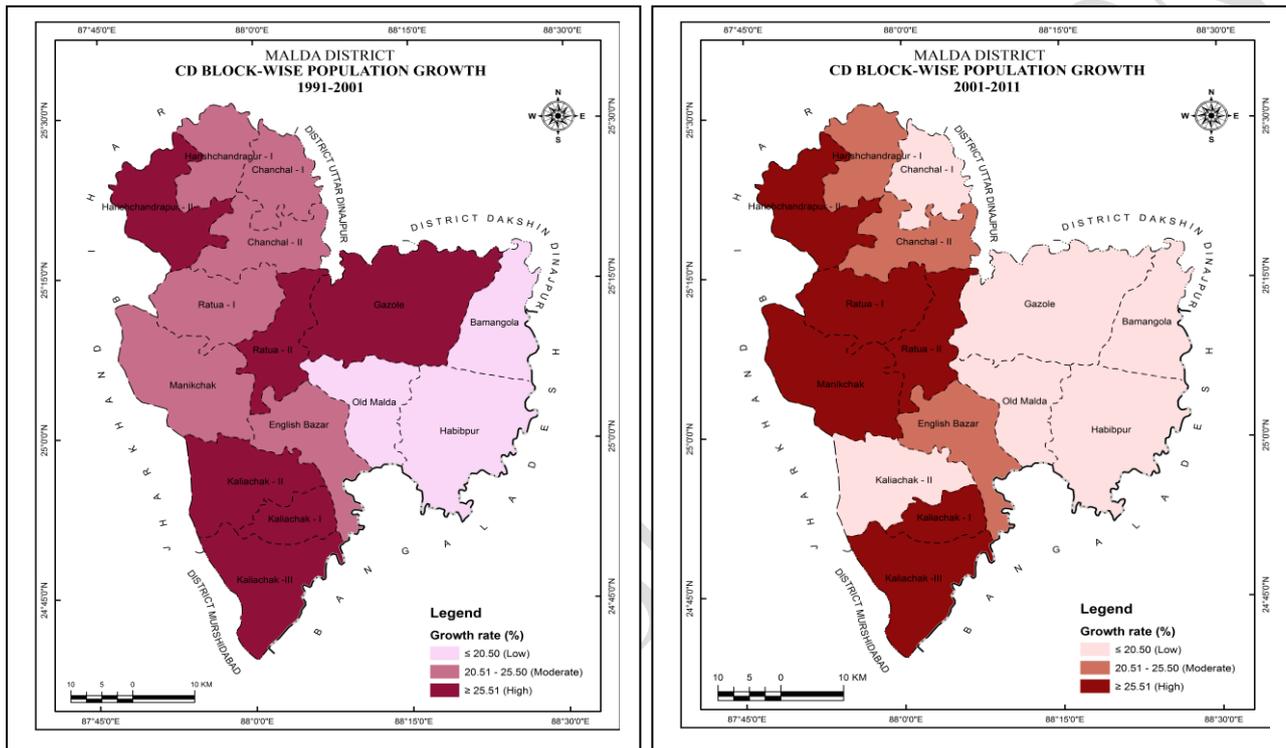
**Table 3**  
**Malda District: Regional Variations in Population Growth (1991-2011)**

Sl. No.	CD Blocks	Total Population			Decadal Growth Rate (Per cent)	
		1991	2001	2011	1991-2001	2001-2011
1	Harishchandrapur-I	129829	162406	199493	25.09	22.84
2	Harishchandrapur-II	157077	198039	251345	26.08	26.92
3	Chanchal-I	143288	174204	204740	21.58	17.53
4	Chanchal-II	132697	165192	205333	24.49	24.30
5	Ratua-I	173655	217356	275388	25.17	26.70
6	Ratua-II	125762	160904	202080	27.94	25.59
7	Manikchak	177572	214127	269813	20.59	26.01
8	English Bazar	180434	226236	274627	25.38	21.39
9	Old Malda	132999	131255	156365	-1.31	19.13
10	Habibpur	168397	187650	210699	11.43	12.28
11	Bamangola	107579	127252	143906	18.29	13.09
12	Gazole	233139	294715	343830	26.41	16.67
13	Kaliachak-I	243787	310935	392517	27.54	26.24
14	Kaliachak-II	163871	211406	210105	29.01	-0.62
15	Kaliachak-III	214721	284376	359071	32.44	26.27
	English Bazar ( M)	139204	161456	205521	15.99	27.29
	Old Malda (M)	13021	62959	84012	383.52	33.44
	<b>Malda District</b>	<b>2637032</b>	<b>3290468</b>	<b>3988845</b>	<b>24.78</b>	<b>21.22</b>

Source: Author's own calculation based on i) Census of India, 2011, West Bengal, Series-20, Part-XII-A, District Census Hand Book, Malda: Village and Town Directory p.43. and District Statistical Hand Book, Malda, 2004, Government of West Bengal, (2007). Table, 2.3, p.12.

**II. Areas of Moderate Growth Rate (20.51-25.50 Per cent):**

According to the decades of 1991-2001, six blocks like Harishchandrapur-I (25.09Per cent), Ratua-I (25.17Per cent), Chanchal-I (21.58Per cent), Chanchal-II(24.49Per cent), Manikchak (20.59Per cent), English Bazar (21.29Per cent) have recorded population growth between 20 per cent to 25 per cent while during 2001-2011 there are three blocks namely English Bazar (23.85Per cent), Chanchal-II (24.30Per cent), and Harishchandrapur-I (22.84Per cent). Being a Headquarter of the district English Bazar already saturated with its population which leads to moderate population growth. Similarly Chanchal-II and Harishchandrapur-I being home to purely agrarian society cannot afford to high growth rate.



**Figure 2: Regional Variation in Population Growth (1991-2011)**

**III. Areas of High Growth Rate (>=25.51 per cent):**

During 1991-2011 six blocks such as Harishchandrapur-II, Ratua-I, Ratua-II, Manikchak, Kaliachak-I and Kaliachak-III having the growth rate of 25.51 per cent or above fall under the areas of high growth rate. There are several reasons behind the higher growth rate of population in these blocks which have, extensive agricultural land, deep fertile alluvial soil, available source of irrigation facilities which increases the carrying capacity of the land hence support large number of population and agrarian families need large family so that they can do their agricultural activity by themselves. Besides these, mass ignorance, illiteracy especially female illiteracy and unawareness regarding negative impact of the population explosion are the reasons behind the higher growth of population. Kaliachak-I is the developed block in terms of economic development. According to 2011 census, the eleven large settlements has been treated as Census Towns which have a great pulling effect over the rural population of neighbouring blocks due to new employment opportunities.

## CONCLUSION AND SUGGESTIONS

From the preceding discussion on trends and spatial pattern of population growth in Malda district we may conclude that growth rate in population in Malda district is still quite high of 21.22 per cent as compare to state and National's average of 13.84 and 17.70 per cent respectively according to the last decade (2001-2011). Though, it is the matter of satisfaction that the growth rate of population in Malda district is declined by 3.56 per cent points during the last decade (2001-2011) than the preceding decade (1991-2001). It is positive sign for the demography of Malda that the population growth rate started to decline from 1981 census and the same is continued up to the last census i.e. 2011. In 10 out of 15 C.D. blocks a decline in growth rate of their population during 2001-2011 was recorded over the preceding decade. Though the overall growth rate in population in the district is continue to decline but in 6 out of 15 C.D. blocks was recorded more than 25 per cent decadal growth rate in the last decade and as a result of which about 6 lakh populations added to the total population of Malda district in the last census (COI, 2011). This rapid population growth and huge number of existing population exerts tremendous pressure on the public infrastructures and economy of the District that is why it is urgent need to arrest this rapid population growth for the present and the future benefit of the district.

The population of this district is rapidly increasing mainly due to high fertility and low mortality and to some extents due to immigration. If the wide gap between the fertility and mortality rate will bring down by the reduction of fertility rate, the rapid growth in population will be lowered and the number of population will be stabilized within a short period of time. The following measures will reduce the fertility rate hence the population growth of the district-

- 1) Illiteracy is the deep rooted problems in the district. Followed by the North Dinajpur (60.13 Per cent) Malda district occupied last position in terms of literacy rate. The district's literacy rate is only 61.73 per cent wherein the male literacy 66.24 per cent and the corresponding figure for the females is only 56.96 per cent only. From the various literatures and survey we come to know that there is a negative correlation between the level of literacy and the number of births. So, illiteracy must be reduced from the district and for the eradication of illiteracy the state government and the district administration must implement the scheme of 'Sarva Shiksha Abhiyan(SSA)', 'Universalization of Elementary Education(UEE)' etc. properly.
- 2) The government should given emphasize on education especially on women education and the women must be learned about scientific knowledge of family planning.
- 3) National Family Planning Programme which is adopted by the Ministry of Health and Family Planning, Government of India, must be followed properly by the district administration of the Malda District.
- 4) Delay marriage should be promoted and it must not be less than 18 years and preferably 21 years for girls and 25 years for boys.
- 5) The unemployment is the basic problems of the district. According to 2011 Census, the average work participation rate in the district is only 38.55 per cent in which 26.35 per cent belongs to main worker while 12.21 per cent belongs to marginal worker. The female work participation rate is very poor. The average female work participation rate is only 23.30 per cent in which only 10.28 per cent treated as main worker and 76.70 per cent females are completely unemployed. The women must be encouraged for the participation in gainful economic activities.
- 6) Information and education campaigns regarding birth control measures, and small family norms should be organized at the grass root levels.
- 7) Universalization of the fertility regulation and diversification of health care providers is very essential.
- 8) More than 40 per cent people in the district belong to BPL category. Poverty is cause of malnutrition, hunger, deprivation, illiteracy, poor quality of life and consequent low level of human development. There is an inverse correlation between the standard of living and the fertility rate (Chandna, 2009). Therefore, initiatives should be taken to create new employment opportunities for the eradication of poverty.

- 9) Birth control depends upon the people's knowledge about birth control and the availability of contraceptives (Cox, 1976.). So, birth control contraceptives along with the birth control knowledge should be provided at free of cost at the village levels through the Sub-Health Centre (SHC), Block Primary Health Centre (BPHC) and Rural Hospitals.
- 10) The Self-Government institutions like Panchayats, Municipalities can take some accountability to arrest the rapid population growth by adopting various awareness programmes.

The combined effect of the above suggestions may be able to reduce the rapid growth of population of the district. Moreover, the awareness among the common people about the negative impact of population explosion and the implementation of strong population policy of the government can check the rapid population growth and population explosion.

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