

## RURAL-URBAN DEMOGRAPHY IN WEST BENGAL: A CHANGING PATTERN

Debashis Mallick\*

### *Abstract*

*Demographic characteristics of a country provide an overview of its population size, composition, changes therein and the components of changes such as literacy, fertility, mortality etc. This paper on rural-urban demographic indicators in West Bengal includes population statistics and vital statistics. Population statistics include indicators that measure the population size, population density, sex ratio, and literacy rate while vital statistics include indicators such as birth rate, death rate, natural growth rate, total fertility rate and infant mortality rate. These indicators for the state will help in identifying areas that need policy and programmed interventions, setting near and far-term goals, and deciding priorities, besides understanding them in an integrated structure. Data in this paper has been taken mainly from the "Census of India".*

**Key words: Birth Rate, Death Rate, Infant Mortality Rate, Literacy, Population Density, Population Growth, Sex Ratio, Total Fertility Rate.**

**JEL Codes: I21, J11, J13.**

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\* Assistant Professor, Department of Economics, Krishnath College, Berhampore, West Bengal, India.

## Rural-Urban Demography in West Bengal: A Changing Pattern

Population census is the primary source of information about demographic, social, cultural and economic characteristics relating to all persons in the country. The census of India is the credible source of data for planners, administrators, researchers and other data users. The latest census data provide an intense scenario of the changing pattern of rural-urban demography in the state of West Bengal.

The 2011 Census recorded a total population of 91,276,115 persons in West Bengal of which 46,809,027 are males and 44,467,088 are females. The total population of the state accounted for 7.5 percent of country's population and ranked fourth from top. West Bengal remains overwhelmingly rural with a little over 68 percent of West Bengal's population still residing in rural areas. Presently, West Bengal's share of total rural population in the country is 7.5 percent [third after U.P. (18.6) and Bihar (11.1)] while its urban share is 7.7 percent.

### Rural-Urban Composition of Population

So far as rural population in West Bengal is concerned the number of persons living in rural areas of the state rose from nearly 15 million in 1901 to over 62 million in 2011 i.e., increased by more than four times. On the other hand, during the same period, urban population of the state went up from 2.1 million to 29.1 million – by almost fourteen times. However, in terms of proportions, rural population which was over 76 percent of total population in 1951 fell to 68 percent in 2011. This trend has been evident since the beginning of the last century. Eventually, the opposite trend, in terms of proportions, has been discerned for the urban population in West Bengal. Since independence, the overall pattern of urbanisation in the state was highly concentrated in and around Kolkata and the Durgapur-Asansol urban-industrial agglomerations.

This pattern has started altering with new urban growth coming up in areas away from metropolitan dominance, which can be defined as 'subaltern urbanisation' (Denis, Mukhopadhyay and Zerah, 2012). Since 1901, the declining trend in the proportion of rural population to total population has been present in both West Bengal and India (Table 1). However, according to the Census data, proportion of rural population to total population has been lower for West Bengal than for India in all the decades from 1901 to 2011, although since

2001 the proportions have almost been the same. A similar trend has been depicted for rural-urban population ratio. This ratio was 7.2 for West Bengal and 8.2 for India in 1901 which gradually came down to 2.1 for West Bengal and 2.2 for India in 2011.

Population growth in the state has followed a varied pattern since 1871. During the first period, 1871-1921, there was no remarkable change in the long term population growth of India; because at that time the country witnessed severe famines as did West Bengal. This resulted in death rates being high enough to almost negate high birth rates. During the latter part of this period, there was the influenza epidemic that reduced the population of India in absolute terms. Population of West Bengal also decreased in absolute terms to 17.5 million in 1921 from 18 million in 1911. After 1921, there was continuous growth trend in the population of the state.

**Table 1**  
**Distribution of Population in West Bengal, 1901-2011**

Census Year	Residence-wise Population (in millions)			Percentage in Total Population				Rural-Urban Ratio	
				West Bengal		India		West Bengal	India
	Rural	Urban	Total	Rural	Urban	Rural	Urban		
1901	14.87	2.07	16.94	87.8	12.2	89.2	10.8	7.2	8.2
1911	15.65	2.35	18.00	87.0	13.0	89.7	10.3	6.7	8.7
1921	14.96	2.52	17.47	85.6	14.4	88.8	11.2	5.9	7.9
1931	16.00	2.90	18.90	84.7	15.3	88.0	12.0	5.5	7.3
1941	18.49	4.74	23.23	79.6	20.4	86.1	13.9	3.9	6.2
1951	20.02	6.28	26.30	76.1	23.9	82.7	17.3	3.2	4.8
1961	26.38	8.54	34.93	75.6	24.4	82.0	18.0	3.1	4.6
1971	33.34	10.97	44.31	75.2	24.8	80.1	19.9	3.0	4.0
1981	40.13	14.45	54.58	73.5	26.5	76.7	23.3	2.8	3.3
1991	49.37	18.71	68.08	72.6	27.4	74.3	25.7	2.6	2.9
2001	55.75	22.43	80.18	72.0	28.0	72.2	27.8	2.5	2.6
2011	62.18	29.09	91.28	68.1	31.9	68.8	31.2	2.1	2.2

Source: Registrar General, India, (Various Years).

West Bengal's population increased to 26.3 million in 1951. During the period of 1921-1951 the growth rates were low (annual average exponential growth was 1.3 percent), hence resulting in quite low (only 9 million) natural increase in population in these thirty years.

During 1951-2011 the share of West Bengal in the total population of India increased from 7.3 to 7.5 percent, although the growth rate of population in the state had shown an extremely irregular pattern (Table 2) over the period. The decade 1951-1961 witnessed a very sharp rise of the decadal growth rate when it peaked at about 33 percent (for rural area the rate was about 32 percent while for urban areas it was 36 percent), mainly due to the large influx of refugees from the erstwhile East Pakistan. The other component of population growth, namely, the rate of natural increase, defined as excess of births over deaths, continued to be high up to 1971 and then started declining gradually (Government of West Bengal, 1994).

**Table 2**  
**Rural-Urban Growth Rate of Population in West Bengal, 1951-2011**

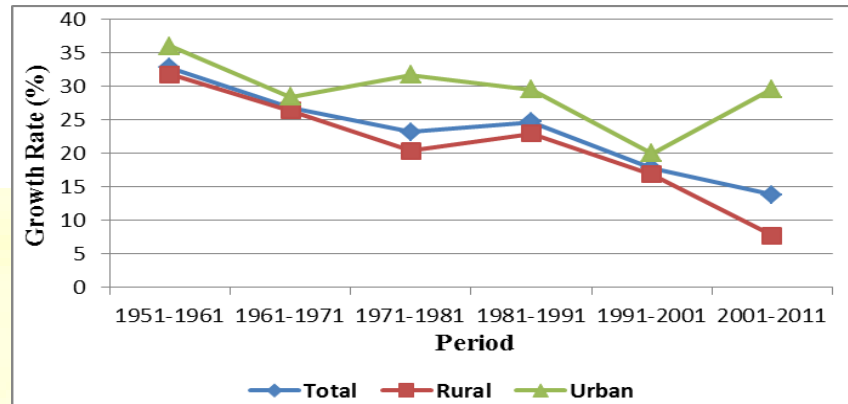
Period	Decadal Growth rate (%)		
	Rural	Urban	Total
1951-1961	31.8	36.0	32.8
1961-1971	26.4	28.4	26.9
1971-1981	20.4	31.7	23.2
1981-1991	23.0	29.5	24.7
1991-2001	16.9	20.0	17.8
2001-2011	7.7	29.6	13.8

Source: Registrar General, India, (Various Years).

The volume of rural to urban migration is small in West Bengal due mainly to the unfavourable conditions of employment in the major urban centres of the state. A large number of industrial units were closed down following massive lock-outs in and around Kolkata due to the industrial recession in the country which deepened after 1965 (Government of West Bengal, 1994). Recently, in a different context, the development activities, particularly agricultural development through Green Revolution in rural West Bengal creating employment opportunities and conditions of relative prosperity, may also have been acting as a factor responsible for slow migration from rural to urban areas.

Chart 1

## Decadal Growth Rate of Population in West Bengal, 1951-2011



These two factors, a low though positive net rural-urban migration and a declining rate of natural increase, contributed towards a rural population that has been growing since 1951 at a rate lower than that of urban population (Table 2). Chart 1 shows the decadal growth rate of population by residence in West Bengal during 1951-2011.

### Rural-Urban Population Density

The area of West Bengal stands at 88752 sq. km. of which rural area is 84466.7 sq. km. and urban area is 4285.3 sq. km. in 2011. With 2.7 percent of area West Bengal is the second most densely populated (1028 persons per sq. km.) after Bihar (1106 per sq. km.) among the major states in the Indian Union. The state also has the highest urban population density of 6789 persons per sq. km. in 2011 (Samanta, 2013). Along with the urban areas the rural parts of West Bengal also are densely populated. Rural population density has increased gradually from 236 persons per sq. km. in 1951 to 736 persons per sq. km. in 2011 (Table 3). Urban population density also increased substantially during 1951-2011, although it had shown an irregular pattern. Moreover, the rural-urban gap in population density in West Bengal has been always very high.

**Table 3**  
**Density of Population in West Bengal (person per sq. km.), 1951-2011**

Year	Rural	Urban	Total
1951	236	5263	308
1961	304	5011	349
1971	388	5628	504
1981	466	5462	615
1991	576	6079	767
2001	676	6746	903
2011	736	6789	1028

Source: Registrar General, India, (Various Years).

### Rural-Urban Sex Ratio

The population sex ratio for the state, defined as the number of females per one thousand males, has been examined for each of the census years, 1901-2011. It has been found to be adverse to females all through. However, the declining trend of this ratio was arrested after 1941 and there had been slight improvement in favour of females (Table 4). Rural sex ratio was 994 in 1901. It declined to the lowest level of 939 in 1951, but it improved during the subsequent period and reached at 953 in 2011. The declining trend may be attributed to higher mortality among females and the upward trend may be due to improvement in mortality of females. On the other hand, sex ratio in urban areas always stood less than 900 prior to the year 1981 and then dropped again to below 900 in the next two decades. In 2011, urban sex ratio improved considerably to the level of 944. It is clear from the data that sex ratio in rural areas always stood higher than that in urban areas. One of the reasons may be that urban masses could have easy excess to modern and advanced technology which influenced them to terminate female foetus. On the other hand, the lack of sex determining facilities might be the reason in maintaining comparatively higher level

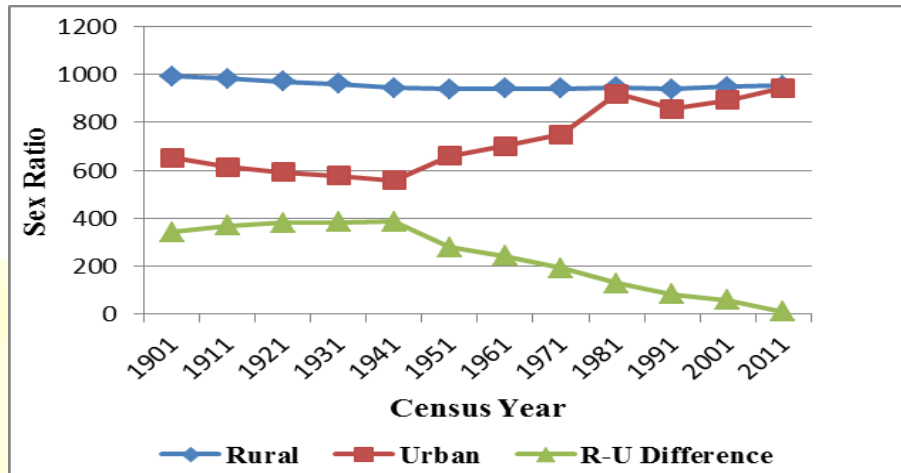
**Table 4**  
**Rural-Urban Sex Ratio in West Bengal, 1901-2011**

Year	Rural	Urban	Total	Rural-Urban Difference
1901	994	652	945	342
1911	982	614	925	368
1921	971	591	905	380
1931	961	578	890	383
1941	945	559	852	386
1951	939	660	865	279
1961	943	701	878	242
1971	942	751	891	191
1981	947	919	911	128
1991	940	858	917	82
2001	950	893	934	57
2011	953	944	950	9

Source: Registrar General, India, (Various Years).

of sex ratio in rural areas of West Bengal. The rural-urban gap in sex ratio was considerably high (342 points in 1901 to the highest level of 386 in 1941) during the pre-independence period. Interestingly, since 1951 it started to narrow down sharply and was only 9 points in 2011 (Chart 2). So far as child sex ratio is concerned, the sex ratio for the age group 0-4 in West Bengal, during 2009-2011, is 971 and it varies from 971 in rural areas to 970 in urban areas. These rates are much higher for West Bengal than the all India average (Table 5). Also, in urban areas, the maximum sex ratio for the age group 0-4 is observed in West Bengal (970) among the major states in India.

**Chart 2**  
**Rural-Urban Sex Ratio in West Bengal, 1901-2011**



**Table 5**  
**Sex Ratio of Child (age group 0-4), 2009-2011**

State / Country	Rural	Urban	Total
West Bengal	971	970	971
India	916	908	914

Source: Registrar General, India, 2013.

### Rural-Urban Literacy Rate

Literacy level and educational attainment are vital developmental indicators as they play important role in the overall socio-economic development of a country. They indicate quality of life, awareness level and also level of skill of the people in the society. Education is an effective tool for the empowerment of a community. The progress of literacy in West Bengal has not been discernible till 1931 (Govt. of West Bengal, 1994). Between 1931 and 1941, however, the literacy rate increased by more than 7 percent. The overall literacy rate in the state improved to 24.6 percent in 1951 and finally to 76.3 in 2011 (Table 6).

As per 2011 census, among the rural population, female literacy rate is 65.5 percent and male literacy rate is 78.4 percent, while in the urban areas the rates are almost 81 and 88.4, respectively. The overall rural literacy rate which was about 19 percent in 1951, improved to over 72 percent in 2011 reflecting an average growth rate of 0.89 percent per annum during the



last 60 years. On the other hand, urban literacy rate also went up from nearly 46 percent to about 85 percent – an average annual growth rate of 0.65 percent during 1951-2011. A positive development since independence has been that the literacy rate in West Bengal improved at a

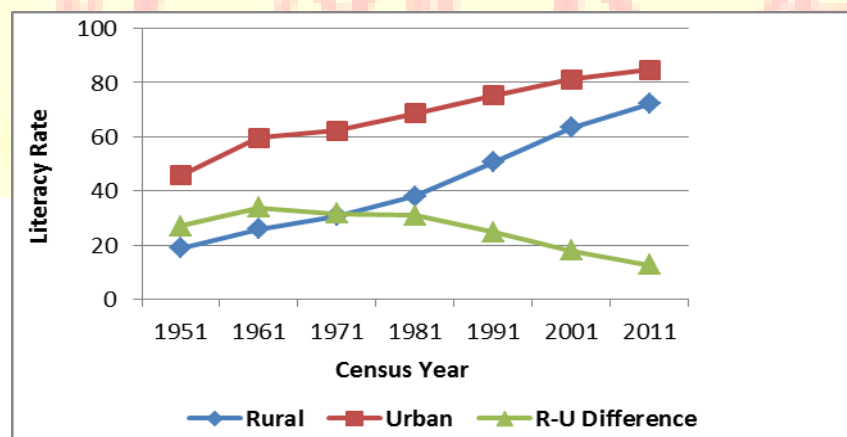
**Table 6**  
**Literacy Rate in West Bengal, 1951-2011\***

Year	Rural			Urban			Total			Rural-Urban Difference		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1951	28.91	7.55	18.77	50.96	37.10	45.74	34.65	13.18	24.61	22.05	29.55	26.97
1961	38.91	11.73	25.84	65.95	50.02	59.55	46.57	20.27	34.46	27.04	38.29	33.71
1971	42.27	18.05	30.63	68.19	54.11	62.25	49.57	26.56	38.86	25.95	36.06	31.62
1981	49.71	25.34	37.90	75.20	60.72	68.74	57.04	34.43	46.32	25.49	35.38	30.84
1991	62.05	38.12	50.50	81.19	68.25	75.27	67.81	46.56	57.70	19.14	30.13	24.77
2001	73.13	53.16	63.42	86.13	75.74	81.25	77.02	59.61	68.64	13.00	22.58	17.83
2011	78.44	65.51	72.13	88.37	80.98	84.78	81.69	70.54	76.26	9.93	15.47	12.65

Source: Registrar General, India, (Various Years).

Note: \*Up to 1971 Literacy rate is calculated excluding the 0-4 age population. From 1981 it is calculated excluding the 0-6 age population.

**Chart 3**  
**Rural- Urban Literacy Rate in West Bengal (%), 1951-2011**



faster rate in rural areas as compared to urban areas. As a result, the gap between rural-urban literacy rates narrowed down from 26.97 percentage points in 1951 to 12.65 percentage points in 2011 (Chart 3). The rural-urban differentials in literacy in the state are very much pronounced, with urban rates being substantially higher than the rural literacy rates.

### Rural-Urban Trends in Vital Statistics

The size of population, both proportionately and in absolute terms is also dependent on the rate of natural increase. This rate for both rural and urban West Bengal had been declining through the period from 1981 to 2011. According to available data the rural rate declined from 24.8 in 1981 to 12.0 in 2011. This was primarily due to a declining birth rate (from 37.0 in 1981 to 18.1 in 2011). The death rate was also declining, but at a slower rate (Table 7). The magnitude of decline in birth rate and natural growth rate however varied significantly during the period. Viewed over decades, the decline in birth rate in rural areas was 6.5 points during 1981-1991, followed by 7.6 points during 1991-2001, finally dropping to 4.8 points in the next decade, 2001-2011 (Table 8).

**Table 7**  
**Birth Rate, Death Rate, Natural Growth Rate,**  
**Total Fertility Rate and Infant Mortality Rate of West Bengal, 1981-2011**

Year	Birth Rate			Death Rate			Natural Growth Rate			Total Fertility Rate			Infant Mortality Rate		
	Rural	Urban	Rural-Urban Difference	Rural	Urban	Rural-Urban Difference	Rural	Urban	Rural-Urban Difference	Rural	Urban	Rural-Urban Difference	Rural	Urban	Rural-Urban Difference
1981	37.0	20.0	17.0	12.2	6.9	5.3	24.8	13.1	11.7	4.8	2.4	2.4	98	44	54
1991	30.5	18.5	12.0	8.9	6.7	2.2	21.4	11.8	9.6	3.6	2.1	1.5	76	47	29
2001	22.9	13.8	9.1	7.2	6.4	0.8	15.7	7.4	8.3	2.7	1.7	1.0	54	37	17
2011	18.1	11.5	6.6	6.1	6.5	-0.4	12.0	5.0	7.0	1.9	1.3	0.6	33	26	7

Source: Registrar General, India (1988, 1999, 2001, 2006, 2013).

**Table 8**  
**Change in Birth Rate, Death Rate, Natural Growth Rate,**  
**Total Fertility Rate and Infant Mortality Rate of West Bengal, 1981-2011**

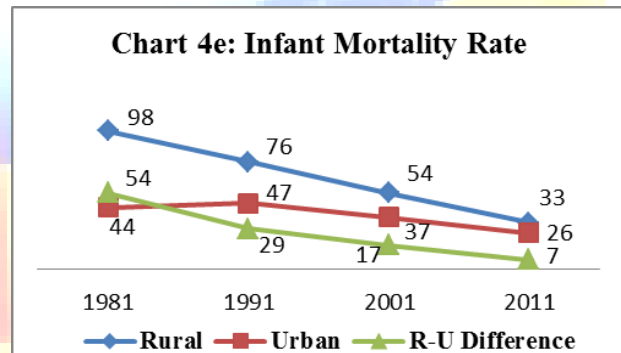
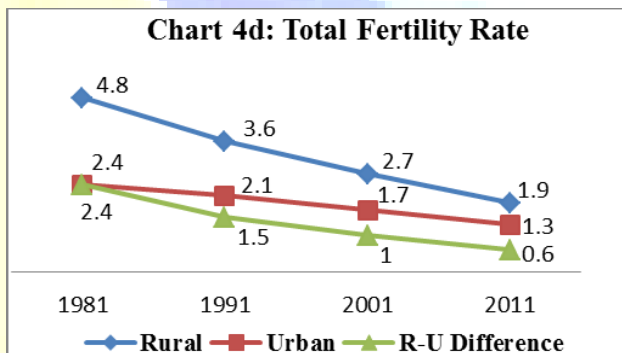
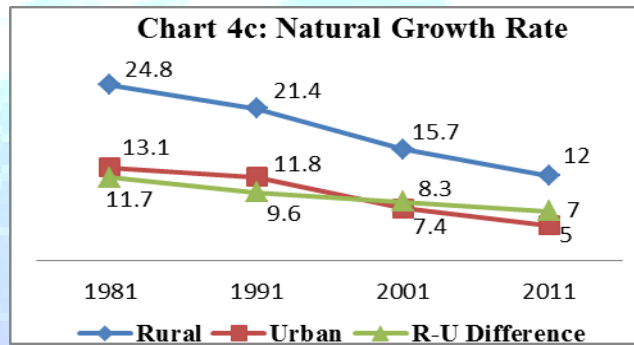
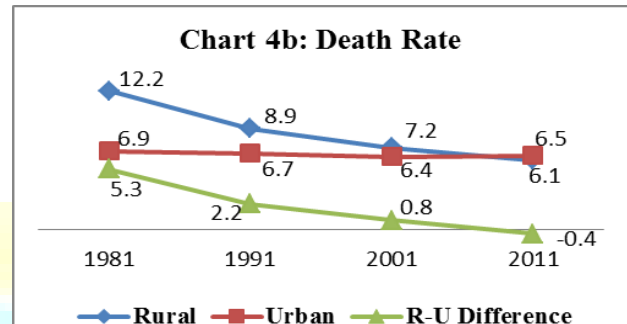
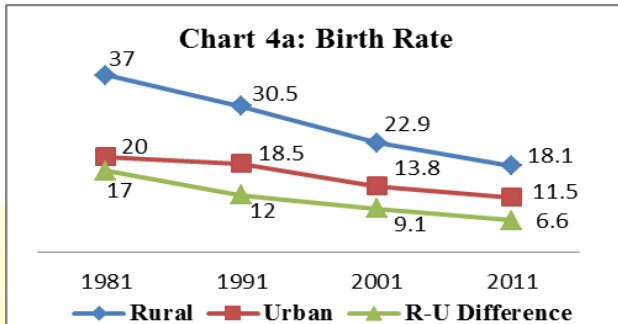
Period	Change in									
	Birth Rate		Death Rate		Natural Growth Rate		Total Fertility Rate		Infant Mortality Rate	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
1981-1991	6.5	1.5	3.3	0.2	3.4	1.3	1.2	0.3	22	-3
1991-2001	7.6	4.7	1.7	0.3	5.7	4.4	1.1	0.4	22	7
2001-2011	4.8	2.3	1.1	-0.1	3.7	2.4	0.6	0.4	21	11

Source: Registrar General, India, (Various Years).

It is evident that birth rate in rural areas came down at a faster rate compared to urban areas. A similar trend has been found for other vital rates too. As a result, the rural-urban gap in birth rate, death rate and natural growth rate also came down during the period 1981-2011. However, there is still the need to provide family planning programmes in a more effective manner, particularly in rural areas of West Bengal. Chart 4 (a, b & c) shows birth rate, death rate and natural growth rate during 1981-2011 for West Bengal.

The decline in number of births is also reflected in a falling total fertility rate (TFR). The rural TFR fell from 4.8 in 1981 to 1.9 in 2011, as compared to the urban rates of 2.4 in 1981 and 1.3 in 2011 (Table 7). The rural-urban gap in TFR also declined from 2.4 in 1981 to 0.6 in 2011 (Chart 4d). It is noteworthy that throughout the period, 1981-2011, the rate of decline in rural TFR was greater than that in urban rates. The decline in rural TFR was 1.2 points during 1981-1991, followed by 1.1 points during 1991-2001 and further dropping to 0.6 point during 2001-2011. On the other hand, the decline in urban TFR varies from 0.3 point to 0.4 point during the entire period, 1981-2011.

**Chart 4**  
**Birth Rate, Death Rate, Natural Growth Rate,**  
**Total Fertility Rate and Infant Mortality Rate of West Bengal, 1981-2011**



Infant mortality rate is one of the important indicators of the level of economic development of a country. There has been a steady decline in infant mortality in rural areas of West Bengal from 98 per thousand in 1981 to 33 per thousand in 2011. Urban areas also witnessed a decline in infant mortality though not as rapid as in rural areas - from 44 to 26 during the same period. As a result, rural-urban differentials in infant mortality narrowed down from 54 points in 1981 to 9 points in 2011 (Chart 4e).

Changes in socio-economic and related factors often account for changes in fertility. But such factors can only affect fertility through intermediate variables, the most important of which relate to marriage and contraception (Bongaarts, 1978). Various policy interventions have attempted to influence factors such as the age at marriage, availability of family planning methods and access to legal abortion. Virtually all child-bearing in India occurs within marriage and West Bengal is no exception. An increase in the age of marriage of women, all other things being equal, will tend to reduce fertility. Although the age at marriage has been rising over the recent decades, marriage is still almost universal.

**Table 9**  
**Mean Age at effective marriage of Female: West Bengal and India, 2011**

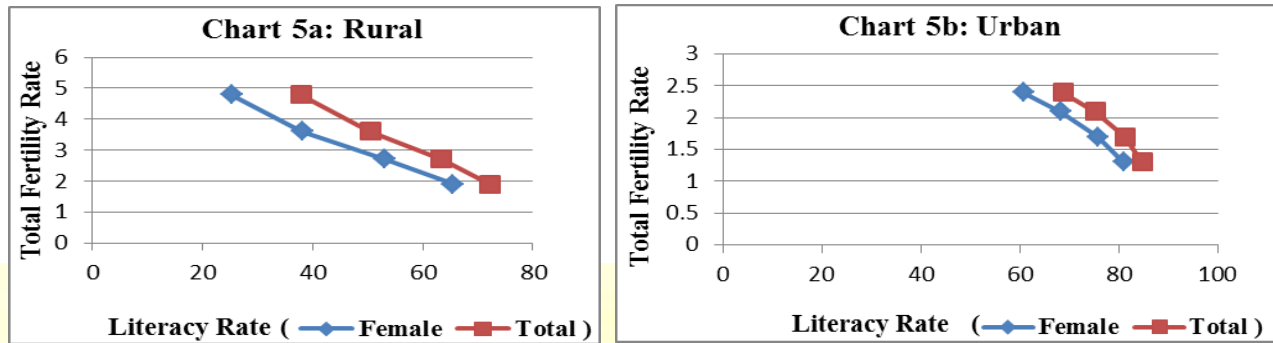
State / Country	Age (years) at Effective Marriage											
	< 18			18-20			21+			All Ages		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
West Bengal	16.5	16.5	16.3	18.9	18.9	19.2	23.7	23.2	24.5	20.3	19.7	22.3
India	16.5	16.5	16.4	19.1	19.1	19.3	23.6	23.3	24.2	21.2	20.7	22.7

Source: Registrar General, India, 2013.

Considering all ages, mean age at effective marriage of women in the year 2011 has been lower (20.3 years) for West Bengal than the national level (21.2 years). The same patterns are found for both rural and urban areas (Table 9).

The declining rate of population growth may perhaps be explained in terms of rising literacy of population, especially female population. It has often been argued that it is the level of female literacy in particular and not the overall level of education weighted heavily by male literacy, which is perhaps a more appropriate policy variable in the context of fertility control (Ghosh, 1990). Female education also acts through a rise in the age at marriage thereby narrowing down the reproductive period. It may also change women's perception about cost and

**Chart 5**  
**Total Fertility Rate and Female Literacy Rate in West Bengal, 1981-2011**



benefits of an additional birth. It has been found in various studies that relationship between fertility and female literacy is often negative (UN, 1965; Ghosh, 1990). According to available data, this has been found to be true for rural and urban areas of West Bengal also (Chart 5a & 5b).

### Summary and conclusions

The demographic scenario in West Bengal has been undergoing a change since the very beginning. However, the profile and the rate of change is not uniform. The rural population has shot up by more than four times since 1901 whereas urban population has risen over fourteen times. Despite the increase in urban population, West Bengal remains rural with more than 68 percent of the state's population still residing in rural areas. Majority of the population of the state still depend on agriculture and related activities despite the shift from rural to urban areas. Rural population in the state has been growing since 1951 at a rate lower than that of urban population. During 1951-2011, population density has increased substantially for both rural and urban areas of West Bengal; and the state recorded the highest urban population density in the country in 2011. The rural-urban gap in sex ratio was very high since 1901 (342 points) which continued to increase up to 1941 and then the gap started to decline and finally reached at only 9 points. The rural-urban difference in literacy rate in West Bengal is very much pronounced, and has always been substantially higher for the urban population. Though several measures have been taken by central and state governments, literacy rate continues to remain low in rural areas of the country as well as in the state. The crude birth rate in West Bengal has come down from 33.9 per one thousand populations in 1981 to 16.3 in 2011; whereas the crude death rate has

declined from 11 to a low of 6.2 in the same period. The vital rates like birth rate, death rate, natural growth rate, total fertility rate and infant mortality rate in rural areas came down at a faster rate as compared to urban areas. As a result, the rural-urban gap also narrowed down during 1981-2011. Education, more precisely female education, has a direct impact on fertility. Female education acts negatively on the prospective child-bearing span of female life and positively on awareness, aspirations and modern outlook. All these would influence inversely the desired number of children. The relationship between fertility and female literacy has been found negative for both rural and urban areas of West Bengal.

The above picture of the changing pattern of rural-urban demography in West Bengal poses a constant reminds to take more measures to increase literacy rate in West Bengal, particularly in rural areas and more specifically for rural females. Finally, there is need to provide family planning programmes in a more effective manner particularly in rural areas of West Bengal.

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