Research Paper Economics

# Spatial pattern of urban sex ratio : A case study of Koch Bihar district, West Bengal (India).

*Dr. Bikramjit Saha

* Asstt. Headmaster, Tufanganj Vivekananda Vidyalaya, Dist. Koch Bihar,West Bengal

**ABSTRACT**

*Sex is an easily identifiable characteristic of an individual. Sex composition of a population refers to the balance between male and female in any population. It can be expressed either in the form of proportion of a particular sex in the population or as a ratio between the population of two sexes. As is obvious, the first one gives the number of males per hundred females or number of males per thousand females in the population and is the most widely used measure of sex ratio the world over. On the country the second provides the number of females per hundred males or number of females per thousand males in the population. Sex ratio as used in this study is expressed as the number of females per 1000 males. Sex ratio is an important determinant for assessing composition of population, quality of life, levels of development and level of human resources, level of participation in different economic activities of males or females of a particular region. The preview of the present study is to assess the spatial pattern of urban sex ratio: A case study of Koch Bihar district, West Bengal (India).*

Keywords : Sex composition, sex ratio, human resource, migrants, migration, participation

**1. Introduction :**
Sex ratio is one of the most important attribute in studying the population structure of a region. In any population, distribution by sex-ratio is generally unequal. The balance between males and females in any population at a given point of time, in fact, depends on three factors viz. i) Sex ratio at birth, ii) Sex differentials at death and iii) Sex ratio among migrants. The Census statistics show that there is an overall deficiency of females in the district. The district as a whole shows sex ratio of 965 females per 1000 males (2001) which is slightly higher to the state average. The causes of low sex ratio of urban population in the state as well as in the district are to be found due to various factors. The female mortality is higher resulting in a unbalanced sex ratio with an excess of males. Another important factor of low sex ratio is male selective rural urban migration. Pressure of population on the land, lack of alternative employment, attraction of city life, better employment opportunities etc lead to movement of male population to towns or urban areas.Notonly that most of the males generally have their females behind because of problem of high cost of living, shortage of housing,

**2. The study area:**
The state of Koch Bihar, which once formed a part of ancient kingdom of Kamrupa, Khens, Koch has a great historical tradition. Even after the independence of India, Koch Bihar still remained a feudatory native state in political relation with the Govt. of India under Hindu King – the Maharaja of Koch Bihar. In January, 1950, Koch Bihar merged with the state of West Bengal is presently the farthest north-eastern border district of West Bengal adjacent to Assam and Bangladesh. In Koch Bihar district, now there are five sub divisions viz. Cooch Behar Sadar, Dinhata, Mathabhanga, Tufanganj and Mekhliganj covering eight police stations viz. Cooch Behar Kotowali (Sadar), Dinhata and Sitai in Dinhata Subdivision, Mathabhanga and Sitalkuchi in Mathabhanga Subdivision, Tufanganj in Tufanganj subdivision and Mekhliganj and Haldibari in Mekhliganj Subdivision. In this district there are six municipal towns viz. Cooch Behar (District Headquarter), Dinhata, Mathabhanga, Tufanganj, Mekhliganj and Haldibari and four census towns viz, Guriahati,Khagrabari,Kharimala Khagrabari,Bhangri pratham khanda.All these ten towns are purposively selected for the study.

**3. Objectives : The objectives of the present study are :**
i) To analyze the exhisting general sex ratio,
ii) To analyze the Proportion of child sex ratio,
iii) To analyse ward wise sex ratio of different towns ,
iii) To conclude regarding urban sex ratio,

**4. Methodology :**
In order to carry out the study, all six municipal and four census towns of Koch Bihar are selected purposively. The present work is based on secondary data. All data are collected from books, journals, the census reports, district census hand books and key of statistics of Koch Bihar district, In order to analyse and interpret the data obtained from the census of this district statistical tools and techniques are used in this study. The spaial distribution of sex ratio is classified into very high, high, moderate, low and very low category.

**5.General sex ratio :**
In the Indian sub-continent male out number female. The same is true with the state of West Bengal also. In West Bengal males have always out numbered females. Since 1951 when the sex ratio was 660 and up to 2001 we can find a picture of gradual improvement of 701 (1961), 751 (1971), 819 (1981), 858 (1991), 893 (2001) females/000 males in the urban areas of the state. But in the district of Koch Bihar the proportion of females / 000 males is slightly higher to the state average. In the district the sex ratio in 1951 was 713 which improve positively to 774 in 1961, 837 in 1971, 927 in 1981, 951 in 1991 and 965 in 2001.So it is very clear that in the urban sector, the general sex ratio of the district is higher than that of the state. The rural urban difference in sex ratio in this district is quite marked, which indicates generally the selective migration of the male population from the rural areas to the urban areas in search of education and employment. All the urban areas or towns have generally recorded in improvement or increase in the sex ratio from the level of 1951 to 2001. But only two exceptions are Mekhliganj town where it has declined from 949 in 1991 to 937 in 2001 and Kharimala Khagrabari census town where the general sex ratio also declined from 999 in 1991 to 981 in the year 2001.

**6. Child sex ratio :**
In case of sex ratio among 0–6 age group population Koch Bihar also is one of the few districts in West Bengal where it has actually increased. In the urban areas of this district, the child sex ratio has increased from 957 females / 000 males from

1991 to 968 females / 000 males in 2001. However, in some urban areas, there is decline in child sex ratio from 1991 to 2001. Among different towns of this district Mekhliganj (1,037 to 947), Kharimala Khagrabari (942 to 900) and Dinhata (1,029 to 1,004) have recorded decline in child sex ratio between 1991 to 2001 due to i) gender preference at birth, ii) preponderance of male babies at birth, iii) unequal treatment of male and female children in society characterized by male dominated social ethos inevitably results in higher death rates wherever it has remained the same between 1991 and 2001 in case of Cooch Behar. In case of other towns in this district it has improved during the decade under review. The child sex ratio is highest in Mathabhanga town having 1021 females / 000 males and lowest is recorded in Haldibari municipal town having 854 females per thousand males. All other towns have child sex ratio of above 900 females per thousand males.

**7. Ward wise sex ratio of different towns :**

The ward wise study of sex ratio (Table-3) of different municipal towns of Koch Bihar district shows that in most of the wards of six municipal towns, the total male population is higher than the females. But the exception is noticed in some of the wards of six municipal towns where female population dominates (higher) male population. In Haldibari (M.T.) out of 11 wards, 2 wards no. 3 and 10 have recorded 1,113 and 1,000 females per thousand males respectively. In Mekhliganj (M.T.) out of 9 wards ward no. 2 shows 1,024 females / 000 males. In Mathabhanga (M.T.) out of 12 wards 3 wards no. 1, 6 and 9 recorded 1000, 1009 and 1019 females per thousand males respectively. In Tufanganj (M.T.) out of 12 wards 2 wards no. 1 and 8 recorded 1,023 and 1,010 females / 000 males respectively. In Cooch Behar (M.T.) out of 20 wards 6 wards no. 6, 7, 11, 12, 13 and 14 have recorded 1080, 1030, 1052, 1047, 1058 and 1056 respectively. In Dinhata (M.T.) out of 16 wards 5 wards no. 1, 2, 4, 6 and 7 shows 1027, 1006, 1012, 1004, and 1166 females per thousand males respectively. It is also noted that besides the above exceptions, the ward to ward characteristics of sex ratio of different municipal towns of Koch Bihar district is more or less the same. The ward wise sex ratio is highest in Dinhata municipal town ward no. 7 having 1,166 females / 000 males followed by Haldibari municipal town, ward no. 3 having 1,113 females per thousand males. The ward wise sex ratio is to be found lowest in Mathabhanga municipal town in ward no. 4 having 798 females / 000 males. All other wards of different towns have sex ratio of above 800 / 000 males.

It is to be noted that the ward wise sex ratio of different towns of this district is categorized into:

7.1 Very High Sex Ratio — This type of sex ratio of above 1000 females per thousand males have been recorded in six municipal towns including 19 wards viz. class II Cooch Behar (seven wards), class III town Dinhata (five wards) and Mathabhanga (three wards) and class IV town Haldibari (one ward), Mekhliganj (one ward), Tufanganj (two wards) respectively.

7.2 High Sex Ratio —High sex ratio of 900 – 1000 per thousand males are recorded in six towns including 54 wards viz. class II town Cooch Behar comprising 11 wards, class III town Dinhata 5 wards, Mathabhanga 8 wards, class IV town Haldibari 10 wards, Mekhliganj 7 wards and Tufanganj 10 wards. This is the common feature of ward wise sex ratio in different towns of Koch Bihar district.

7.3 Moderate Sex Ratio — These areas of 800 – 900 females per thousand males have recorded in four towns including 7 wards viz. in class II town Cooch Behar 2 wards, in class III town Dinhata 3 wards and in class IV town Mekhliganj 1 ward are included in this category.

7.4 Low Sex Ratio — This type of sex ratio of below 800 females per thousand males is recorded in only one town including 1 ward viz. Mathabhanga where the sex ratio is recorded as 798 females per thousand males in ward no. 4.

**8.Findings :**

From the above discussions it is to be noted that the general sex ratio in all towns of Koch Bihar district is high of above 900 persons per thousand males. The general sex-ratio is readily increase in all size class towns of this district from 1951 to 2001 due to the migration of females from rural to urban for marriage, education and job. The sex ratio is the highest in class V town Kharimala Khagrabari comprising 981 females per thousand males. The lowest sex ratio is to be found in class VI town. Bhangri Pratham Khanda and class IV town Khagrabari recorded 949 females per thousand males. All other class towns viz. Cooch Behar (class II), Dinhata, (class III), Mathabhanga (class III), Haldibari (class IV), Mekhliganj (class IV), Tufanganj (class IV), Guriahati (class IV), comprising 972, 966, 962, 959, 937, 969, 949 females per thousand males respectively.It is generally observed that the towns or urban centres having larger size population and are growing rapidly are characterised by a predominance of males over females.

**Table – 1** Sex Ratio in Different Towns of Koch Bihar District

| Category | Number of Females / 000 males | Number of Towns | Name of the Municipal Towns | Name of the Census Towns |
|---|---|---|---|---|
| High | Above 970 | 2 | CoochBehar | Kharimala Khagrabari |
| Moderate | 950 – 970 | 5 | Dinhata, Mathabhanga, Tufanganj, Haldibari | Guriahati |
| Low | 930– 950 | 3 | Mekhliganj | Khagrabari, Bhangri Pratham Khanda |

*Calculated by the Author*

**Table – 2** Sex Ratio of Urban Population among Six Urban Classes of Koch Bihar District

| Year | Size Class of the Towns | | | | | |
|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI |
| 1951 | – | – | 719 | – | 648 | 733 |
| 1961 | – | – | 789 | 733 | 816 | 735 |
| 1971 | – | 834 | – | 821 | 854 | 835 |
| 1981 | – | 938 | – | 922 | 920 | 882 |
| 1991 | – | 962 | 952 | 938 | 971 | – |
| 2001 | – | 972 | 964 | 958 | 981 | 949 |

*Source :Census of India,1961,1971,1981,1991,2001 *Computed by the Author,*

Table – 3 Urban Sex Ratio in Different Towns of Koch Bihar District by Category

| Number of Sex Ratio | Size Class | Name of the Municipal Towns | Name of the Census Towns |
|---|---|---|---|
| High | V | | Kharimala Khagrabari |
| Medium | II, III, VI | Cooch Behar , Mekhliganj, Haldibari, Mathabhanga, Dinhata, Tufanganj | Guriahati, |
| Low | IV, VI | | Bhangri Pratham Khanda, Khagrabari |

Calculated by the Author.

**Table – 4** Distribution of Sex Ratio in Different Wards of Different Towns by Category (2001)

| Category | Sex Ratio | Number of Towns | Name of the Towns |
|---|---|---|---|
| Very high | Above 1000 | 6 | Haldibari (1), Mekhliganj (1) Cooch Behar (7) ,Tufanganj (2) Mathabhanga (3), Dinhata (5). |
| high | 900 – 1000 | 6 | Haldibari (10), Mekhliganj (1) Cooch Behar (11) ,Tufanganj (10) Mekhliganj (8) ,Dinhata (8). |

| | | | |
|---|---|---|---|
| Moder-ate | 800 – 900 | 4 | Mekhliganj (1) ,Cooch Behar (2) Mathabhanga (1), Dinhata (3). |
| low | Below 800 | 1 | Mathabhanga (1). |

*Calculated by the Author.*

***Fig- 1***

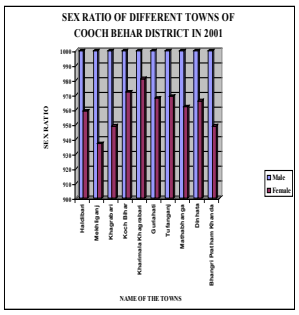



***Fig-2***

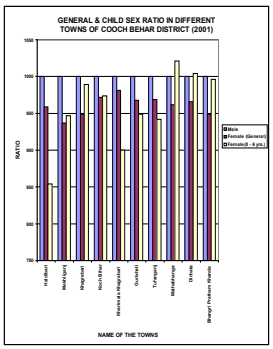
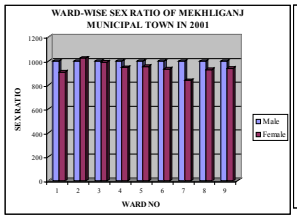



**Fig-3**

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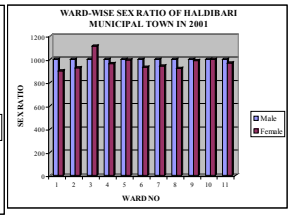


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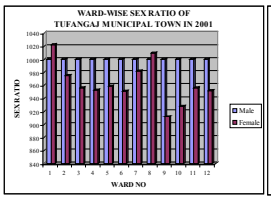


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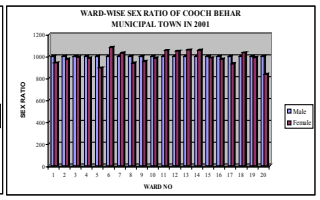


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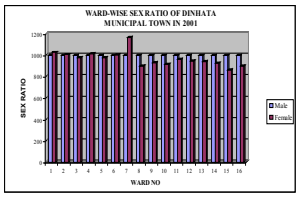
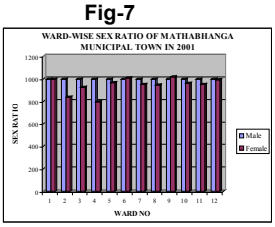



**Fig-7**

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