CHAPTER- IX

SEX STRUCTURE REGION

9.1 INTRODUCTION

The regional concept, the process of rationalization and the techniques of regional analysis and interpretation constitute the very fundamental role in describing the socio-cultural-economic pattern of any country. Though it is very important to all social scientists, but the term 'region' has various connotations mainly due to the parametric differentials and the hierarchical orders with which it is attempted to relate in describing geographical facts. The concept of region and rationalization has great practical value as some idea can be expressed by this and it is a dynamic social organism possessing an intricate network of interconnection and interrelated via diverse flows to each of a hierarchical array of regional and sub- regional entities. As Geography basically, is a science of surface phenomena, is inseparably wedded to region and region analysis and as it signifies the fact that all the modern sophistications introduced in the concept of region, it is considered to enjoy a pivotal position in the subject. Therefore, as a tool of graphic analysis and explanation, a region is recognized and demarcated on taking into consideration the typicals of the parameters relevant to the problem of study and ignoring all irrelevant facts however real they may be.

The Geographical Glossary prepared by the Committee of the Royal Geographical Society defines a region as "an area of earth's surface differentiated (from adjoining areas) by one or more features or characteristics which give it a measure of unity. According to the criteria employed in differentiation, regions are termed physiographic, political, economic etc." The traditional general definition of a region, on the other hand, refers it to be an area so homogeneous in terms of certain specifically selected aspects that it stands distinct from other areas. There are criticisms regarding the validity of the entire regional concept among geographers and social scientists. However, there is a general agreement that, a region is basically a binominal entity with area and a chosen attribute or set of attributes forming the two components of the binominal. In fact, the differences that one finds in the concept of a region emanate from the number and nature of the attributes that are chosen and the method and techniques that are employed in defining and demarcating a region. Thus, axiomatically, a region is necessarily an area but every area is not necessarily a distinct and defined region.

The basic concept, for which the term region stands in Geography, is expressed by different terms in different disciplines. Historians call it the 'sectionalism', Anthropologists give it the name of 'cultural area', Biologists term it as 'biotic area' and for Economists, it is the 'economic domain' and so on. However, according to Hall, region is a convenient device to give a systematic organization and intelligible projection to the intricate spatial distribution of the complex of realities and for social scientists, whose great problem is to get something isolated, the region is a means by which some control may be exercised. Since the number of basic elements and realities with which geography is concerned is quite large, the geographers have attempted to formulate the meaning of region with reference to the element or elements of their special interest. In fact, an area in any portion of the earth's surface, which has some length and breadth and as such is simply a geometric surface regardless of its being homogeneous or coherent or otherwise. A region, on the other hand, is an area of specific entity and distinct personality, which is identified with reference to facts of either physical such as climate, topography, soil and vegetation etc. or socio-cultural, such as population, economic activities, language and the like. A region is not a mere homogeneous entity in respect of the selected facts or phenomena; it is something more. This is why, Whittlesey said, it is "an area throughout which accordant areal relationship between phenomena exist".

To identify region, various approaches have been adopted from time to time by the geographers and they have classified into two basic forms namely, formal and functional region. Formal regions are also termed as uniform regions. They are homogeneous in terms of features, by which they are defined. They may be either single feature or multiple feature regions and in the latter case, the combination may be obtained by a simple integration or by a complex and rigorous integration. Functional region, on the other hand, is known as nodal region. It refers to an area, in which one or more selected phenomena of movement connect the localities within it into a functionally organized whole. Functional region may be defined in terms of spatial interaction between places and it organizes the places of diverse character together. Functional regions may be identified on the basis of distinctly different character of spatial interaction or even on the different degrees of the same character of functional relationship.

In the analysis of population structure, regional analysis is relevant, as they provide a frame for the study of areal variations in item specified variables of population

structures. Fleure studied the item-specified regions in the world. He divided the whole world into seven regions namely, regions of hunger, regions of debilitation, regions of efforts, industrialized regions, regions of lasting difficulty and regions of wandering. The validity end utility of regions has been widely explored by geographers as the basis of research in the subject and the requirements, which a formally valid general system should satisfy, have been legitimately analyzed. However, a system of regions having any characteristic should fulfill three main conditions in order to satisfy the requirements of analytical manipulation and these three conditions are- firstly, the individual region should strictly comparable with one-another; secondly, each region should be so formulated as to provide a maximum of external variation and a minimum internal variation; and thirdly, the items on which the regions are delimited should be directly related to the distributional problem being studied.

However, sex structure regions give the generalization about the selected set of structural variables, which separately exhibit different frequencies of occurrence location and through time. Sex structure regionalization is the identification of locations that have similar associations of structures and the linkings of these relatively homogeneous locations into areas. There are some factors, which demarcate the sex structure regions. They may vary from region to region, so that in one area, one set of factors may be more important, while in another area, some other set of factors may be more dominant. Some basic factors, which influence the sex structure regionalization are physical, economic, socio-cultural, political and demographic. Among them, the nature of economy, society and the demographic determinants have a more significant effect on the development of regions as identified on the basis of sex structures. The economy effects sex structures of an area sometimes directly and sometimes indirectly, whereas the social and demographic determinants have direct effect. As there should be balance between two sexes in a society, hence, the sex structure regionalization is very important to analyze the socio-cultural condition of any country or any area.

In the light of above discussion of regional concept and sex structure regions, a methodology may be worked out for the study of regional analysis of sex structure and the concept of homogeneity of formal and functional regions may be utilized generally in those areas which have partial integration.

9.2 REGIONALISATIONS

The attempt to identify and describe the various traditional regions of the Indian sub-continent seems to be as old as the process of human occupance of this ancient land. Numerous scholars have attempted to give a scholarly portrayal of regions as they were recognized in ancient, medieval and modern times.

There is evidence to show that, during the stone age, the earliest human occupance of the land in different and isolated parts of the country was almost similar in its material culture. In the Neolithic period, primitive agriculturists with domesticated cattle and cultivated plants extended their occupance to reach the margins of tropical and semi-tropical forests. With every advance in culture and technology, there was an eastward shift in human occupance from the Indus Basin, Indo-Gangetic Divide, Ganga and with the advent of iron, further east into Magadha and later on towards the south. Thus, archaeological evidence suggests the pattern of progressive occupance of the land and the emergence of regional core areas.

Over the last twenty years or so, the concept of Region has been subjected to heavy criticism as being 'subjective', 'unreal', and 'more a mental construct than objective fact' and in any case 'incapable' of delineation of boundaries. In their search for theory and laws, many geographers argued in favor of the total rejection of the concept. It is interesting to note that, there have been during the recent decades two contradictory trends: many geographers either reject or bypass the regional concept and prefer to go into specialized sub-fields; others have shown an increasing acceptance of 'Regionalisation' as a tool for Regional Planning. It may be said that, however objective and statistically refined methods of regionalisation may be, they mainly serve to present a synthetic picture of socio-economic development of different areas but do not give us insight into the geographical reality that lies behind these 'levels'.

Our interpretation of regions and their complementarity within the national frame, needs a consideration of the national political form and its various components: the regions have been shown increasing awareness of their cultural identity and economic aspirations which have given rise to regional sentiment: the sentiment is often dubbed as 'regionalism' in a disparaging sense. 'Regionalism' in its correct meaning implies (as it ought to) "expression of the community's sense of belonging to its habitat, its pride in its

cultural heritage and its aspirations for social and economic progress within the national identity".

The district and blocks do serve as convenient administrative units, but more needs to be done within these areas and that also with an awareness of their space relation with adjoining areas. It would be desirable to frame a set of problems having a spatial component and prepare to start with, a Planning Atlas, showing not only the usual features, reliefs etc., but also thematic maps which are likely to reveal the gaps and weaknesses, so that priorities can be discerned in the plan frame and allocation of resources decided. Further it is necessary to measure the level of skills of the regional community and their capability to accept innovations.

The development of a region may be measured in several ways. In the present study, firstly some variables have been identified (as mentioned below) and then by studying their correlation and interdependence, some sex structure regions have been identified. Hence, with the study of these sex structure regions, it has become easier and more systematic to assess the demographic, socio-cultural as well as economic development of the whole North Bengal region.

Variables used for sex structure region:-

To identify the sex structure regions in the North Bengal, some other parameters have been selected and these are

No. of Variable	Definition of Variables
1	Sex Ratio for Total Population
2	Sex Ratio for Rural Population
3	Sex Ratio for Urban Population
4	Sex Ratio for Child (0-6 Ages) Population
5	Sex Ratio for Above 7 Age Population

6	Sex Ratio for Literates
7	Sex Ratio for Scheduled Castes Population
8	Sex Ratio for Scheduled Tribes Population
9	Sex Ratio for Total Workers

9.3 METHODOLOGY

To identify the sex structure regions, in this present study, all the demographic, social, cultural and economic variables are analyzed with the help of 'Z' score or standardized score statistical technique for the period of 2001.

The technique has been explained as follows: -

$$Zij=X_1-\overline{X}/\sigma$$

Where, Zij = Standard score of the observation

X_1 = Original value of the observation

$\overline{X}$ = Mean value for all the values of X

σ = Standard divisions of X

Further, the results of standard score obtained from the different indicators were aggregated by Composite Standard Score (CSS). In this way, the regional disparities in the level of development of North Bengal region may be obtained on a common scale. It is expressed as

Composite Standard Score (CSS) = $\Sigma Zij/N$

Where Zij indicates, 'Z' score of an indicator 'j' in town 'i' and 'N' refers to number of indicators.

The 'Z' score of these indicators finally added to determine the overall pattern of sex structure region to assess the inequality in the levels of development among these regions mainly in terms of status of women and other gender related indicators. All the data have

been arranged in descending order and standardized to zero mean for interpretation. The values relating to the distinct score indicate the various sex structure regions. In order to measure the overall development, the composite standard score value of six districts and sixty nine community development blocks of the North Bengal region on total, rural and urban areas are grouped into the following five categories, viz., Very High, High, Medium, Low and Very Low sex structure regions. These groups measure variation in the status of women on macro, meso and micro level in rural and urban areas of North Bengal.

9.4 SEX STRUCTURE REGIONS IN NORTH BENGAL- DISTRICT LEVEL ANALYSIS

9.4.1 Sex Structure Regions for Total Areas- District wise in North Bengal: -

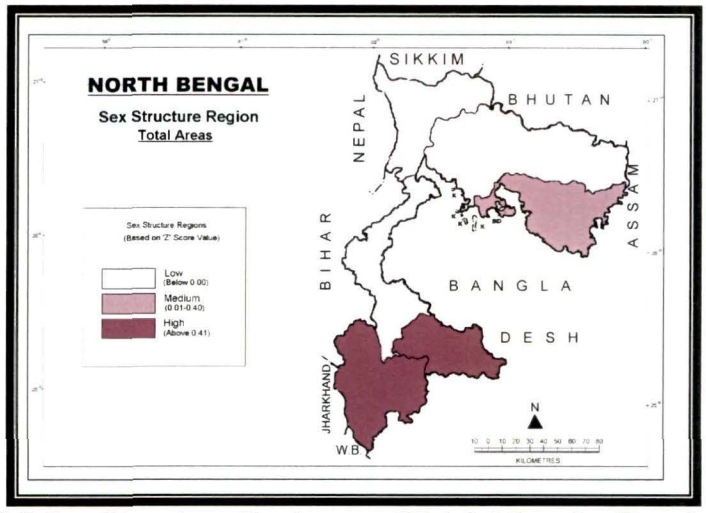
To calculate the Z score for sex structure regions for total areas, nine parameters have been selected including sex ratio for total population, rural population, urban population, child (0-6 Ages) population, above 7 age population; sex ratio among literates, scheduled castes population, scheduled tribes population and total workers.

Table 9.1 Distribution of 'Z' Score for Sex Structure Regions

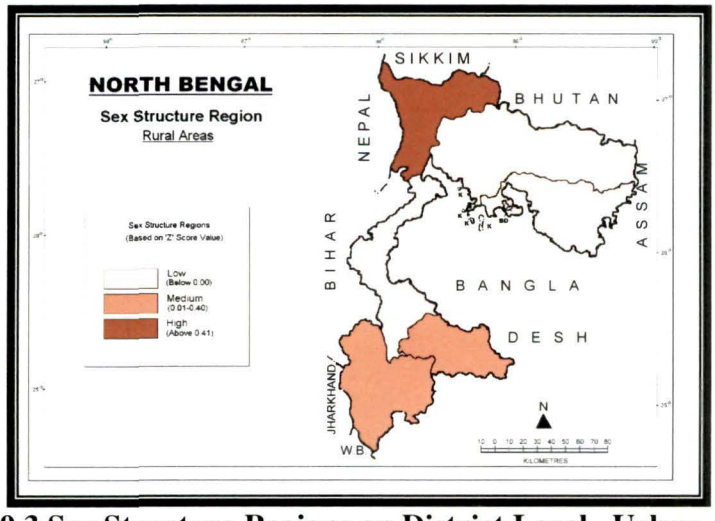
Sl No.	Name of Districts	Mean Z Score for Total Areas	Mean Z Score for Rural Areas	Mean Z Score for Urban Areas
1	**Darjiling**	-0.07	1.10	-0.33
2	**Jalpaiguri**	-0.11	-0.25	-0.06
3	**Koch Bihar**	0.09	-0.47	0.82
4	**Uttar Dinajpur**	-0.82	-0.56	-1.33
5	**Dakshin Dinajpur**	0.42	0.27	0.77
6	**Maldah**	0.62	0.11	0.12

Source: - Calculated from PCA. 2001

Map 9.1 Sex Structure Regions on District Level - Total Areas



Map 9.2 Sex Structure Regions on District Level – Rural Areas



Map 9.3 Sex Structure Regions on District Level –Urban Areas

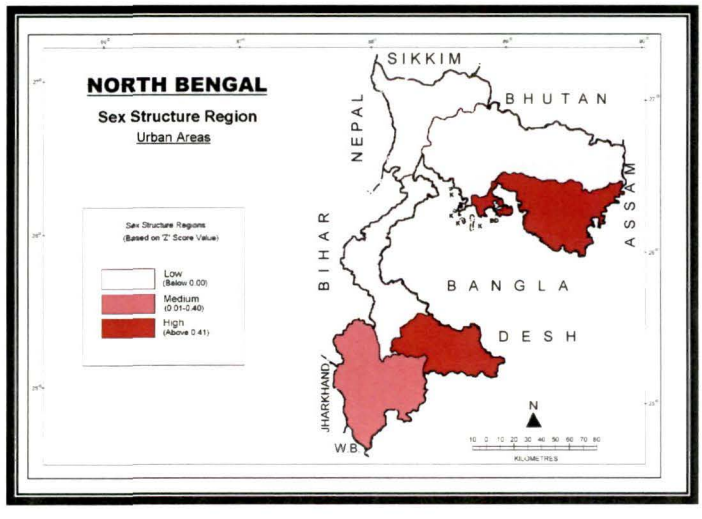


Table 9.1 reveals that, Koch Bihar district records the highest Z score for urban areas with 0.82 while Uttar Dinajpur records the lowest Z score value of -1.33. The table also shows that, along with Koch Bihar, Dakshin Dinajpur and Maldah record positive Z score value.

Among six districts, the mean Z score of sex structure for total areas varies from highest of 0.62 in Maldah to lowest of -0.82 in Uttar Dinajpur district. Dakshin Dinajpur and Koch Bihar follow Maldah. These last mentioned two along with Maldah record positive Z score for sex structure. Remaining three districts, namely Darjiling, Jalpaiguri and Uttar Dinajpur record negative Z score.

Table 9.2 Categorize Districts for Z Score of Sex Structure- Total Areas

Category	Z Score Value	Number of Districts	Percentage of the Total
High	Above 0.41	02	33.33
Medium	0.01-0.40	01	16.67
Low	Below 0.00	03	50.00

Source: - Calculated from PCA. 2001

If we categorize the districts in terms of Z score value into three classes, viz., High, Medium and Low, then table 9.2 shows that 50 percent districts can be categorized as the Low sex structure region. In the High sex structure category, there are two southern districts, namely, Dakshin Dinajpur and Maldah while Koch Bihar alone forms the Medium category in terms of Z value for total areas.

9.4.2 Sex Structure Regions for Rural Areas- District wise in North Bengal: -

The spatial pattern of sex structure represents regional variations for rural areas also. The Z score for rural areas have been calculated taking into consideration of seven parameters and these are sex ratio for rural population, rural child (0-6 Ages) population,

above 7 age population in rural areas; sex ratio among rural literates, rural scheduled castes population, rural scheduled tribes population and rural total workers.

Table 9.1 shows that Darjiling district records the highest Z score for rural areas with 1.10, while the lowest score is observed in Uttar Dinajpur with -0.56. There are total three districts with negative Z score for sex structure region for rural areas and these are (in ascending order), Uttar Dinajpur, Koch Bihar and Jalpaiguri.

Table 9.3 Categorize Districts for Z Score of Sex Structure- Rural Areas

Category	Z Score Value	Number of Districts	Percentage of the Total
High	Above 0.41	01	16.67
Medium	0.01-0.40	02	33.33
Low	Below 0.00	03	50.00

Source: - Calculated from PCA. 2001

Table 9.3 shows that, 50 percent districts of North Bengal are categorized as Low sex structure region with negative Z score value. On the other hand, 33 percent districts are comes under Medium sex structure region for rural areas and these are two southernmost districts, Dakshin Dinajpur and Maldah. While the extreme northern district i.e., Darjiling alone form the High category for rural sex structure region.

9.4.3 Sex Structure Regions for Urban Areas- District wise in North Bengal: -

The Z score for sex structure regions for urban areas is calculated by using seven parameters including sex ratio for urban population, urban child (0-6 Ages) population, above 7 age population for urban areas; sex ratio among urban literates, urban scheduled castes population, urban scheduled tribes population and urban total workers.

Table 9.4 Categorize Districts for Z Score of Sex Structure- Urban Areas

Category	Z Score Value	Number of Districts	Percentage of the Total
High	Above 0.41	02	33.33
Medium	0.01-0.40	01	16.67
Low	Below 0.00	03	50.00

Source: - Calculated from PCA. 2001

Table 9.4 reveals that, half of districts of North Bengal are categorized as low sex structure region in terms of Z score value for urban areas. The High sex structure region category includes two districts constituting about 33 percent of North Bengal and these two are Koch Bihar and Dakshin Dinajpur. Remaining the southernmost district, i.e., Maldah alone form the Medium sex structure category.

9.5 SEX STRUCTURE REGIONS IN NORTH BENGAL- BLOCK LEVEL ANALYSIS

9.5.1 Sex Structure Regions for Total Areas- Block wise in North Bengal: -

The spatial variation of sex structure regions in North Bengal, especially on community development block level, shows a wide variation among its sixty nine blocks. The Z score for the total areas on block level have been calculated using nine variables including sex ratio for total population, rural population, urban population, child (0-6 Ages) population, above 7 age population; sex ratio among literates, scheduled castes population, scheduled tribes population and total workers.

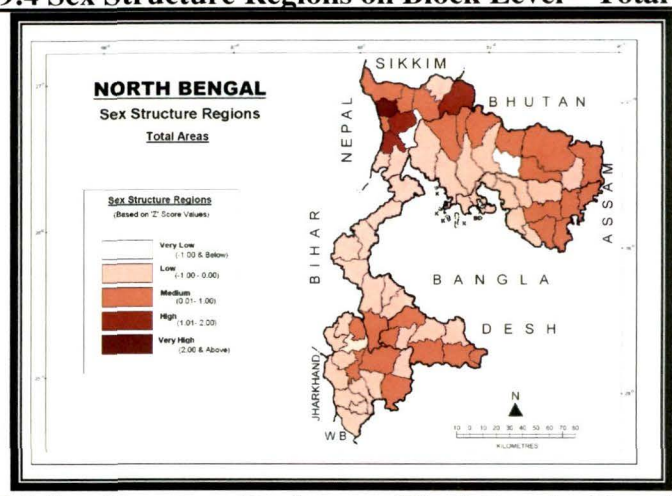
Table 9.5 Categorize Blocks for Z Score of Sex Structure- Total Areas

Category	Z Score Value	Number of Blocks	Percentage of Blocks
Very Low	-1.00 and Below	02	2.90
Low	-1.01-0.00	37	53.62
Medium	0.01-1.00	26	37.68
High	1.01-2.00	03	4.35
Very High	2.01 and Above	01	1.45

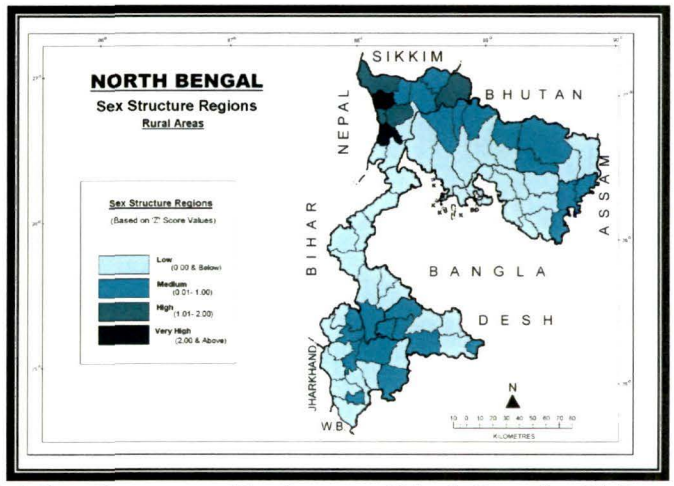
Source: - Calculated from PCA. 2001

The Z score for blocks for total areas varies from the highest of 2.28 in Jorebunglow-Sukhiapokri to the lowest of -7.41 in Falakata. The former is the only one with such a very high sex structure value while later is the only one with such a very low value. There are three blocks, namely, Mirik, Gorubathan and Kurseong with Z value between 1.01 and 2.00. Thus with their Z score values of 1.65, 1.14 and 1.14 respectively these three blocks constituting 4.35 percent of North Bengal form the category of High sex structure region. However, apart from these three extremities, majority of blocks have recorded Z score value for total areas between -1.01 and 0.00 where about 54 percent blocks of North Bengal fall to form the category of Low sex structure region. Remaining about 38 percent blocks form the Medium category of sex structure region with Z score varies from 0.01 to 1.00.

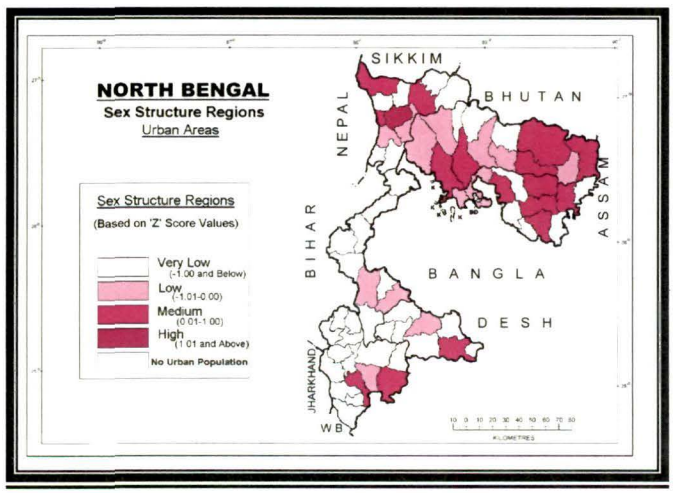
Map 9.4 Sex Structure Regions on Block Level – Total Areas



Map 9.5 Sex Structure Regions on Block Level – Rural Areas



Map 9.6 Sex Structure Regions on Block Level – Urban Areas



Map 9.4 shows that, the whole North Bengal region can be grouped into five sex structure regions and these are Very Low, Low, Medium, High and Very High. It is interesting to note that, both the Very High and Very Low sex structure regions are located in the northern part of the North Bengal concentrated mainly in the Darjiling district. The High sex structure region also concentrated in the northwestern part of the North Bengal. Another interesting point may be noted from the map 9.3 that, except some part, majority of medium sex structure region is located along the border lands including extreme northern and whole of northeastern boundary and some part of southeastern boundary.

9.5.2 Sex Structure Regions for Rural Areas- Block wise in North Bengal: -

The distributional pattern of sex structure regions represents wide variations for rural areas also. The Z score for rural areas have been calculated taking into consideration of seven parameters and these are sex ratio for rural population, rural child (0-6 Ages) population, above 7 age population in rural areas; sex ratio among rural literates, rural scheduled castes population, rural scheduled tribes population and rural total workers.

Table 9.6 Categorize Blocks for Z Score of Sex Structure- Rural Areas

Category	Z Score Value	Number of Blocks	Percentage of Blocks
Low	0.00 and Below	39	56.52
Medium	0.01-1.00	24	34.78
High	1.01-2.00	04	5.80
Very High	2.01 and Above	02	2.90

Source: - Calculated from PCA, 2001

The Z score for rural areas varies from maximum of 3.42 in Naxalbari to the minimum of -0.98 in Falakata. The last mentioned block and Jorebunglow-Sukhiapokri together form the category of Very High sex structure region.

About 6 percent blocks form the category of High sex structure region and these blocks are (in ascending order) Kurseong, Darjiling-Pulbazar, Gorubathan and Mirik. About 35 percent blocks are in the category of Medium sex structure region. The maximum concentration of blocks is located in the Low sex structure region with Z score value of less than 0.00.

Map 9.5 shows that, like sex structure region of total areas, High and Very High sex structure regions are located in the extreme northeastern part of the North Bengal.

9.5.3 Sex Structure Regions for Urban Areas- Block wise in North Bengal: -

Out of total 69 blocks, only 32 blocks have their urban areas and these 46 percent blocks of the whole North Bengal, where urban units present includes 6 blocks of Darjiling district, 10 of Jalpaiguri, 7 of Koch Bihar, 4 of Uttar Dinajpur, 2 of Dakshin Dinajpur and 3 blocks of Maldah district. Hence, to calculate sex structure region for urban blocks, only those blocks are considered where there is urban population.

The pattern of spatial distribution of sex structure regions represents wide variations for urban areas also. The Z score for urban areas have been calculated taking into consideration of seven parameters and these are sex ratio for urban population, urban child (0-6 Ages) population, above 7 age population in urban areas; sex ratio among urban literates, urban scheduled castes population, urban scheduled tribes population and urban total workers.

Table 9.7 shows that, about half of all urban blocks concentrate in the medium sex structure category having Z score value ranges between 0.01 and 1.00. Next concentration of blocks is in the low sex structure category with about 41 percent blocks in this group. On the two extreme end of the distribution (as in the table 9.7) there are 6.25 percent blocks on the lower side while about 3.12 percent blocks are there on the higher side. Only the block Kurseong having Z score value of 1.10 forms the high sex structure category. On the other hand, two blocks namely Islampur and Karandighi with Z score value of -1.63 and -1.61 respectively form the very low category of sex structure region.

Table 9.7 Categorize Blocks for Z Score of Sex Structure- Urban Areas

Category	Z Score Value	Number of Blocks	Percentage of Blocks
Very Low	-1.00 and Below	02	6.25
Low	-1.01-0.00	13	40.63
Medium	0.01-1.00	16	50.00
High	1.01 and Above	01	3.12

Source: - Calculated from PCA, 2001

Map 9.6 shows that major concentration of medium sex structure region category is on the extreme northeastern corner of the North Bengal. The high sex structure region is located on the northwestern corner of North Bengal, while the very low sex structure region spreads over the central part of the study area.

9.6 COMPOSITE SEX RATIO- DISTRICT LEVEL ANALYSIS, 2001: -

9.6.1 Composite Sex Ratio-Total Areas: -

Composite sex ratio is another indicator of distribution of sex ratio among various variables in a region. It reveals the fact that, which area or region has more females than that of males and why. It will also help to compare different districts with each other and above all, the whole region will be divided into several sex structure zones.

Composite sex ratio for social indicators can be calculated taking total seven social indicators, i.e.,

1. Sex Ratio for total population,
2. Sex Ratio for rural population,
3. Sex Ratio for urban population,
4. Sex Ratio for child (0-6) population,

5. Sex Ratio for literates,
6. Sex Ratio for scheduled castes population and
7. Sex Ratio for scheduled tribes population.

In this social composite sex ratio, Darjiling and Dakshin Dinajpur recorded the highest while Uttar Dinajpur records the lowest value. It is interesting to note that, only the last mentioned district records composite sex ratio for social indicators less than 900 females per 1000 males (Table 9.8).

Table 9.8: - Composite Sex Ratio in North Bengal (Total), 2001

	Composite Sex Ratio		
	Social	**Economic**	**Total**
North Bengal	914	1241	1145
Darjiling	923	703	764
Jalpaiguri	914	994	971
Koch Bihar	913	1205	1123
Uttar Dinajpur	891	1430	1279
Dakshin Dinajpur	923	1359	1237
Maldah	918	1353	1231

Source: - Calculated from PCA, 2001

Table 9.8 shows that, composite sex ratio for economic indicators show completely opposite picture. Taking all the eighteen economic variables, composite sex ratio for economic indicators has been calculated.

These economic variables are as follows-

1. Sex ratio for Total Workers,
2. Sex ratio for Main Workers,
3. Sex ratio for Marginal Workers,
4. Sex ratio for Cultivators,
5. Sex ratio for Agricultural Labourers,
6. Sex ratio for Household Workers,
7. Sex ratio for Other Workers,
8. Sex ratio for Agricultural Workers,

9. Sex ratio for Non-Agricultural Workers
10. Sex ratio for Non-Workers
11. Sex ratio for Main Cultivators,
12. Sex ratio for Main Agricultural Labourers,
13. Sex ratio for Main Household Workers,
14. Sex ratio for Main Other Workers,
15. Sex ratio for Marginal Cultivators,
16. Sex ratio for Marginal Agricultural Labourers,
17. Sex ratio for Marginal Household Workers,
18. Sex ratio for Marginal Other Workers

Table 9.8 shows that, the composite sex ratio for economic variables varies from highest of 1430 females per 1000 males in Uttar Dinajpur to minimum of 703 females per 1000 males in Darjiling. It is interesting to note that, Uttar Dinajpur, Dakshin Dinajpur and Maldah- all these three southern districts record composite sex ratio for economic variables more than 1300.

In case of all twenty-five socio-economic variables, in the whole North Bengal, the composite sex ratio is recorded as 1145 females per 1000 males. It ranges among districts from maximum of 1279 in Uttar Dinajpur to minimum of 764 in Darjiling district. Three southern districts, namely, Uttar Dinajpur, Dakshin Dinajpur and Maldah record composite sex ratio of more than 1200 females per thousand males. Only in Koch Bihar, the composite sex ratio falls in between 1000 and 1200. But in two northern districts, it is below 1000 females per thousand males. This very high sex ratio is due to very high sex ratio in total marginal work force, household industry workers, non-workers and all categories of marginal workers, in spite of the fact that there is low sex ratio among all social variables. If we exclude all the economic variables, only social variables, the composite sex ratio is 914 females per 1000 males in the whole region.

9.6.2 Composite Sex Ratio- Rural Areas: -

For rural areas of North Bengal, district level analysis of composite sex ratio has been done taking all five variables as social indicators. These are-

1. Sex Ratio for rural population,

2. Sex Ratio for rural child (0-6) population,
3. Sex Ratio for rural literates,
4. Sex Ratio for rural scheduled castes population and
5. Sex Ratio for rural scheduled tribes population.

Table 9.9: - Composite Sex Ratio in North Bengal (Rural), 2001

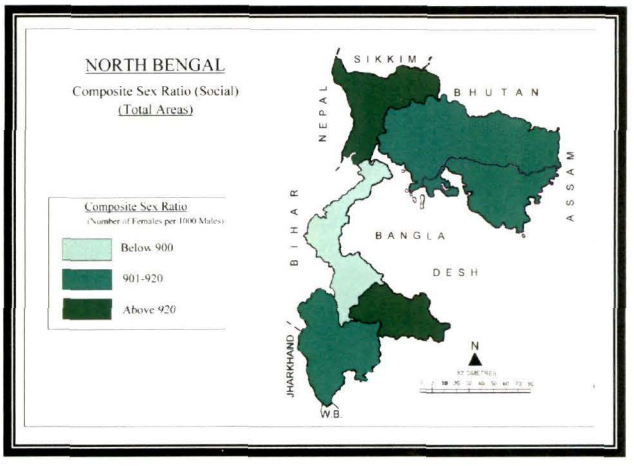
	Composite Sex Ratio		
	Social	**Economic**	**Total**
North Bengal	899	1187	1124
Darjiling	918	749	786
Jalpaiguri	894	1027	998
Koch Bihar	891	1229	1156
Uttar Dinajpur	874	1548	1401
Dakshin Dinajpur	905	1414	1303
Maldah	900	1382	1277

Source: - Calculated from PCA, 2001

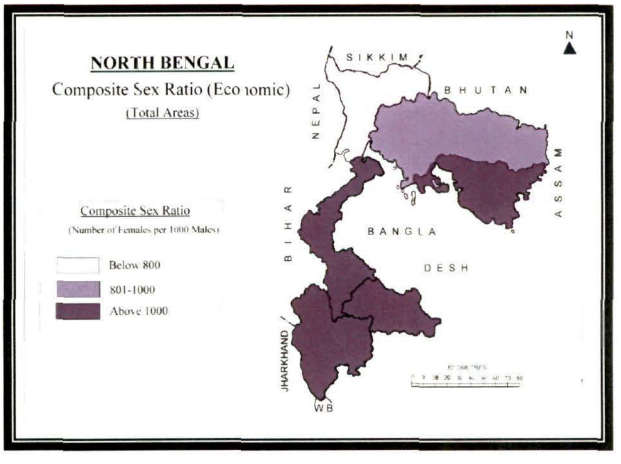
In case of rural areas, the composite sex ratio for social indicators varies from highest of 918 females per 1000 males in Darjiling to minimum of 874 in Uttar Dinajpur.

Among economic indicators the composite sex ratio varies from highest in Uttar Dinajpur to the lowest in Darjiling. Like economic indicators, composite sex ratio for all socio-economic variables in all districts varies from maximum of 1401 in Uttar Dinajpur to minimum of 786 in Darjiling district with region's average of about 1124 females per thousand males. Darjiling along with Jalpaiguri, record composite sex ratio in rural areas of below 1000. Koch Bihar record the sex ratio between 1000 and 1200 females per 1000 males, while Maldah, Dakshin Dinajpur and Uttar Dinajpur recorded sex ratio of more than 1200.

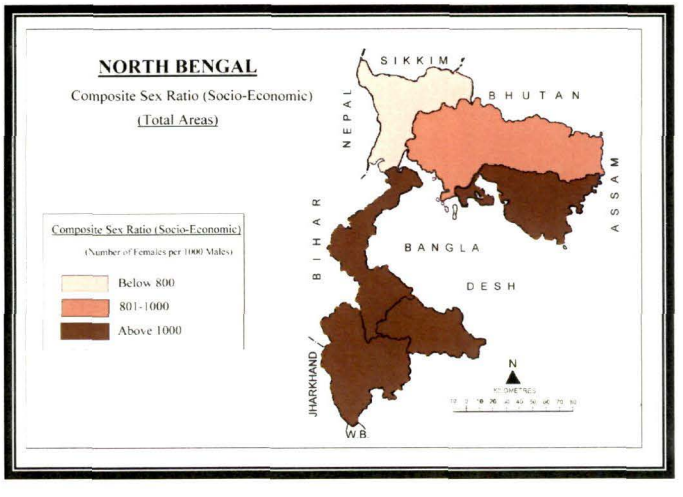
Map 9.7: - Composite Sex Ratio (Social) in North Bengal, 2001



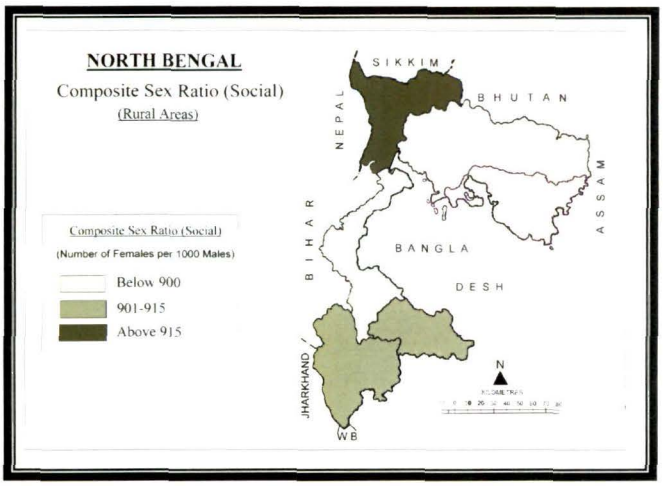
Map 9.8: - Composite Sex Ratio (Economic) in North Bengal, 2001



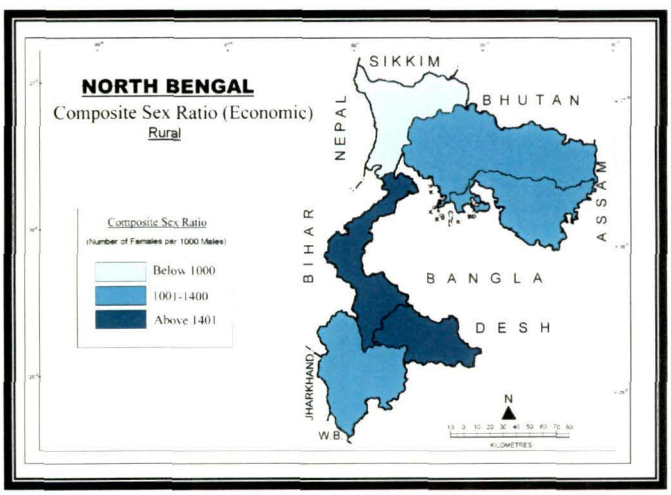
Map 9.9: - Composite Sex Ratio (Socio-Economic) in North Bengal, 2001



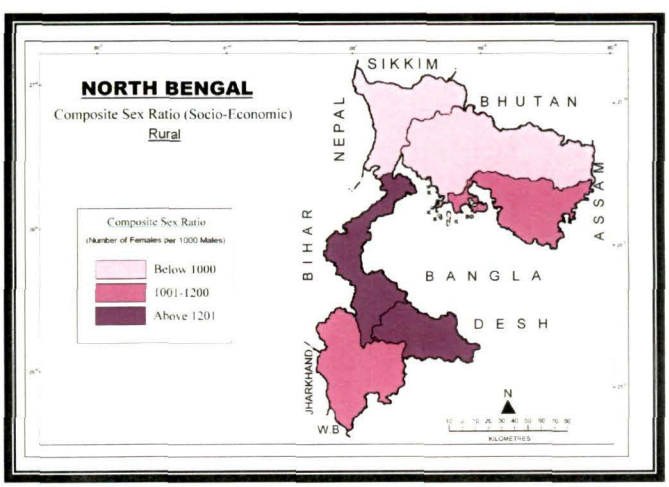
Map 9.10: - Composite Sex Ratio (Social) for Rural Areas in North Bengal, 2001



Map 9.11: - Composite Sex Ratio (Economic) for Rural Areas in North Bengal, 2001



Map 9.12: - Composite Sex Ratio (Socio-Economic) for Rural Areas in North Bengal (Rural), 2001



9.6.3 Composite Sex Ratio- Urban Areas: -

For urban areas of North Bengal, district level analysis of composite sex ratio has been done taking all five variables as social indicators. These are-

1. Sex Ratio for urban population,
2. Sex Ratio for urban child (0-6) population,
3. Sex Ratio for urban literates,
4. Sex Ratio for urban scheduled castes population and
5. Sex Ratio for urban scheduled tribes population.

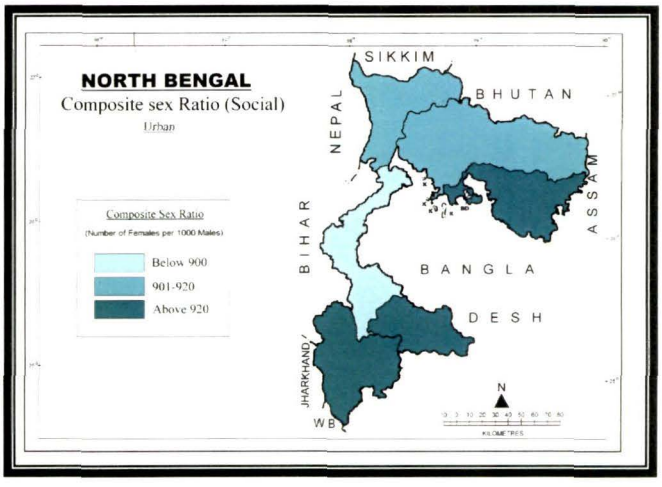
Composite sex ratio for urban areas among social indicators show completely different picture from that of the rural and total areas. Table 9.10 shows that the composite sex ratio for social indicators is highest in Koch Bihar and lowest in Uttar Dinajpur for urban areas. In case of economic indicators, the composite sex ratio is the maximum in Dakshin Dinajpur with about 1071 females per 1000 males. This is the only district with composite sex ratio of more than 1000 in the whole North Bengal. While on the other hand, Darjiling records the lowest with only 531 females per 1000 males. In case of all socio-economic indicators, Dakshin Dinajpur and Darjiling plays the highest and the lowest composite sex ratio recording districts.

Table 9.10: - Composite Sex Ratio in North Bengal (Urban), 2001

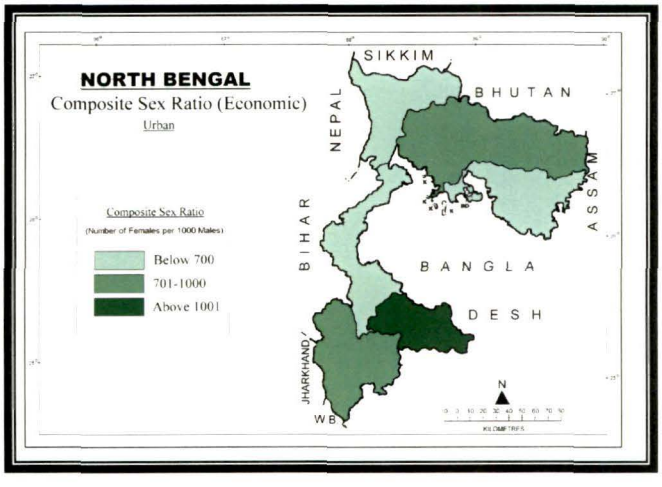
	Composite Sex Ratio		
	Social	**Economic**	**Total**
North Bengal	920	710	755
Darjiling	920	531	615
Jalpaiguri	916	749	785
Koch Bihar	944	589	666
Uttar Dinajpur	864	687	725
Dakshin Dinajpur	932	1071	1041
Maldah	922	835	854

Source: - Calculated from PCA, 2001

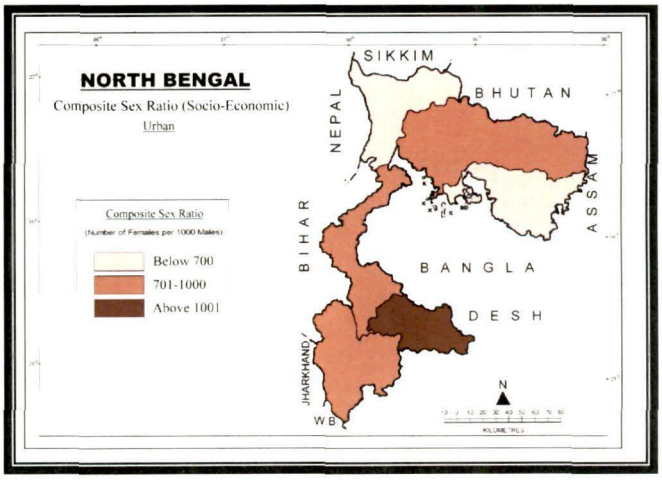
Map 9.13: - Composite Sex Ratio (Social) for Urban Areas in North Bengal , 2001



Map 9.14: - Composite Sex Ratio (Economic) for Urban Areas in North Bengal , 2001



Map 9.15: - Composite Sex Ratio (Socio-Economic) for Urban Areas in North Bengal , 2001



9.7 HUMAN DEVELOPMENT INDEX AND GENDER DEVELOPMENT INDEX AS MEASURES OF SEX STRUCTURE REGIONS

The Human Development Index (HDI) developed and applied for the first time in 1991, is a device to measure a region's achievements in the enhancement of human capabilities. It helps in knowing the impact of planning on the quality of life of people. Sustainable human development is development that not only generates economic growth but also distributes its benefits equitably; generates the environments rather than destroying it; and empowers peoples rather than marginalizing them. It is the development that gives priority to the poor, enlarging their choices and opportunities and providing for their participations in decisions that affect their lives. It is the development, which is pro-nature, pro-people, pro-women and pro-jobs.

The HDI attempts to capture in summary form, the three basic dimensions of health (expressed through longevity, that is life expectancy at birth), knowledge (expressed as a combination of the literacy rate and the school enrolment ratio) and the standard of living (expressed as a combination of per capita income per capita consumption expenditure and population living above the poverty line).

GDI or Gender Development Index is a simple measure of gender disparity based on 'income, health and educational attainment parameters.

Each of these indicators is defined as a dimension with value between 0 and 1 with reference to maximum and minimum values. The general formula for calculating each dimension index is:

Index= (Actual Value- Minimum Value)/ (Maximum Value- Minimum Value)

In case of rural areas, the composite sex ratio for social indicators varies from highest of 918 females per 1000 males in Darjiling to minimum of 874 in Uttar Dinajpur.

Among economic indicators the composite sex ratio varies from highest in Uttar Dinajpur to the lowest in Darjiling. Like economic indicators, composite sex ratio for all socio-economic variables in all districts varies from maximum of 1401 females per 1000 males in Uttar Dinajpur to minimum of 786 in Darjiling district with region's average of about 1124 females per thousand males. Darjiling along with Jalpaiguri, record

composite sex ratio in rural areas of below 1000. Koch Bihar record the sex ratio between 1000 and 1200 females per 1000 males, while Maldah, Dakshin Dinajpur and Uttar Dinajpur recorded sex ratio of more than 1200.

Table 9.11: - Human Development Indices by Districts

	For Human Development Index			Human Development Index (HDI)
	Health Index	Income Index	Education Index	
West Bengal	0.70	0.43	0.69	0.61
Darjiling	0.73	0.49	0.72	0.65
Jalpaiguri	0.61	0.38	0.60	0.53
Koch Bihar	0.50	0.41	0.65	0.52
Dinajpur	0.62	0.39	0.53	0.51
Maldah	0.49	0.36	0.48	0.44

Source: - Human Development Report, West Bengal, 2004

Table 9.11 shows that, only Darjiling district records the Human Development Index more than that of the state. One interesting feature is that, the HDI decreases from North to south among districts of North Bengal with highest in Darjiling to lowest in Maldah.

The GDI adjusts the average achievement in respect of these three dimensions, in order to reflect the inequalities between men and women. For this purpose, each dimension is calculated separately for men and women, according to the formula mentioned above. The measures for the life expectancy and education are straight forward since separate data exists for males and females. For income, the share of women (or men) in all workers (according to Census 2001) and the ratio of female to male wage are taken as proxies for the share of income, with equal wage.

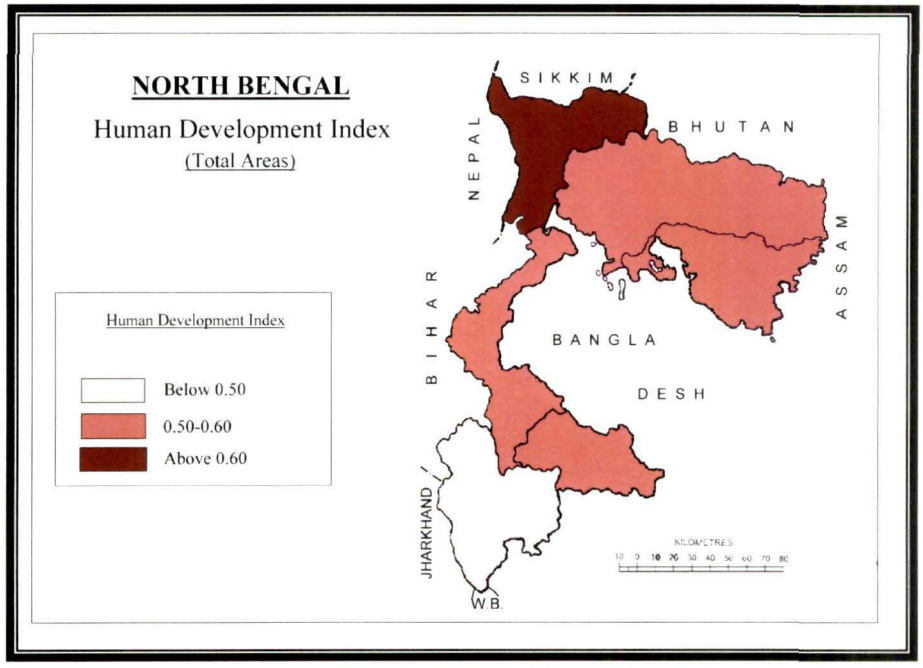
Table 9.12: - Gender Development Indices by Districts

	For Gender Development Index			Gender Development Index (GDI)
	Health Index	Income Index	Education Index	
West Bengal	0.697	0.270	0.681	0.55
Darjiling	0.731	0.356	0.714	0.60
Jalpaiguri	0.614	0.281	0.581	0.50
Koch Bihar	0.497	0.287	0.628	0.47
Dinajpur	0.616	0.291	0.527	0.48
Maldah	0.491	0.291	0.465	0.42

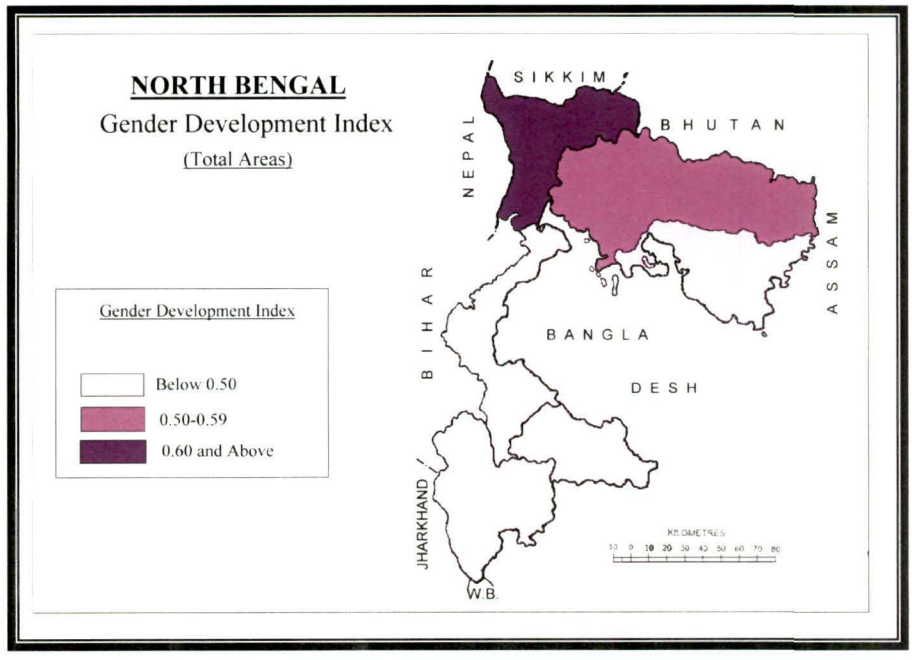
Source: - Human Development Report, West Bengal, 2004

Table 9.12 shows that, like HDI, the Gender Development Index for Darjiling is more than that of the state of West Bengal. In North Bengal, among all districts Darjiling records the highest GDI while it is lowest in Maldah.

Map 9.16: - Distribution of HDI values in North Bengal, 2004-District Level Analysis



Map 9.17: - Distribution of GDI values in North Bengal, 2004-District Level Analysis



9.8 CONCLUSION

From the above discussion, it is clear that in every aspects of social, cultural and economic section of life gender inequality exists. To eradicate this inequality, change in the people's attitude towards women and girl child is necessary. The pillars of women's development essentially consists of literacy, education, better health facilities and nutrition for the mother and child, political representation and financial security including opportunities for the self employment options to become self-reliant. All these are dependent on making women aware about their rights, making them feel proud of being women, creating a conductive atmosphere and giving them opportunities to live the life of dignity.

Women's education and empowerment plays an important role in development and poverty eradication. State and Central Governments should implement schemes to give incentives for the education of girl child and to reduce the dropout cases. To reduce domestic violence and social discrimination, an appropriate social and legal environment needs to be put in place for the implementation of which all sections of society- social organizations, media and the government should work together collectively.