



Gender Related Educational Development Index (GEDI) of Kolkata Municipal Corporation (KMC) India

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Abstract

Literacy is an indispensable means to acquire skills for improving socio-economic development of well being. The present research paper is Gender Related Education Development Index of Kolkata Municipal Corporation which studies the gender disparity in literacy level in Kolkata Municipal Corporation. For this analysis GEDI or gender development index has been used. On the basis of GEDI value spatial and temporal analysis has done. Here census data of 2001 and 2011 of Kolkata Municipal Corporation have used for this analysis. In Kolkata Municipal Corporation there is a minimum change in GEDI value (2001 to 2011). In 2001 GEDI value was 0.75 and in 2011 it was 0.80 which shows the value is near to 1. It reflects a maximum achievement with perfect gender equality. The percentage of GEDI value changes is 6.67% which is low. The main objective of this study is to measure the gender differences in respect of education with the help of Gender Related Education Development Index at ward level of Kolkata Municipal Corporation.

Keywords: Literacy, education, gender related education development index, gender disparity.

Introduction

Literacy is a significant factor and instrument of socio-economic development. Higher levels of literacy and education enhance greater awareness and contribute in the improvement of quality of life. Due to lack of literacy social and economic development of a country can be minimized¹. It is the very first step to human well-being and consciousness. The gap between male and female literacy leads to social degradation². It is an important indicator of socio-economic transformation and political issues. Literacy and educational attainment together symbolize the quality of life³. The disparity in male-female literacy is a universal phenomenon prevailing in many parts of our country. The reasons for male-female disparity in literacy are shown in socio-economic factors⁴. Literacy leads to societal change and it should maintain in a proper way. Literacy alerts attitude, concept and behavior. It builds personality and generates awareness which is very helpful for socio-economic development. Women's education is very important because it affects socio-economic well being including per capita income, self-employment, participation in various sectors etc. The high literacy rate is one of the important indicators of the highly developed economy. So, literacy is an indicator of socio-economic development of an area.

Here, Gender Related Educational Development Index has been used for measuring the male-female differences in respect of literacy of Kolkata Municipal Corporation. It is a measure of male-female disparity present in the educational development or attainment of both sexes. Census statistics of 2001 and 2011 have been used for the computation of GEDI

value of all the wards of KMC for 2001 and 2011. The maximum value is one and minimum is zero.

The Study Area: The study area is Kolkata Municipal Corporation (KMC). The KMC is located on latitude 22°34' N and 88°24' E. The area of KMC is 185 sq km. KMC has population 4,486,679 persons (2011) and has a density 24,306 persons /sq km (2011). There are 15 boroughs and 141 electoral wards in Kolkata Municipal Corporation. The average literacy of KMC is 87.14 % (2011).

Hypothesis: The hypothesis of this study is that the male-female differences in education are low in Kolkata Municipal Corporation.

Objectives of the study: The objectives of the study are as follows: i. The main objective of this study is to measure the male-female differences in education at ward level with the help of Gender Related Education Development Index. ii. To measure the percentage of changes of GEDI value at ward level of Kolkata Municipal Corporation from 2001 to 2011.

Methodology

Methodology is based on: i. Data collection. ii. Data analysis.

Data collection: Here secondary data has been used. Secondary data of 2001 and 2011 have been used. Data is collected from the Census statistics (2001, 2011).

Data analysis: The methodology is mainly based on UNDP-HDR frameworks; however it has been modified wherever necessary, depending on the availability of the data. The

gender related education index measure education status of an area. The GEDI calculations are based on the harmonic mean of female and male achievements. GEDI value 1 reflects a maximum achievement with perfect gender equality. The minimum value of GEDI is 0 which represents the disparity between male and female increases³.

The methodology is adopted for the computation of GEDI which is presenting the education status of an area⁵.

$$\text{GEDI} = \frac{1}{\text{FP/FL} + \text{MP/ML}}$$

FP- Female Population Index. MP- Male Population Index.
FL- Female Literacy Index. ML- Male Literacy Index

Here

$$\text{Female Population Index} = \frac{\text{Total Female}}{\text{Total Population}}$$

$$\text{Male Population Index} = \frac{\text{Total Male}}{\text{Total Population}}$$

$$\text{Female Literacy Index} = \frac{\text{Total Female Literate}}{\text{Total Female Population}}$$

$$\text{Male Literacy Index} = \frac{\text{Total Male Literate}}{\text{Total Male Population}}$$

Results and Discussion

For GEDI value there is no major variations in Kolkata Municipal Corporation (KMC) from 2001 to 2011. Spatially we have seen the highest GEDI value is found in the southern part and in some wards of northern part of KMC. The lowest GEDI value of KMC is found in some wards located in the western and eastern part of metropolis.

Table 1, refers to spatial distribution of GEDI value. Spatially the southern and northern parts of KMC shows higher GEDI value while eastern and western parts of KMC shows relatively lower GEDI value. As a result major changes have been found in the eastern and western parts of KMC. The maximum and minimum changes occur in Ward 138 and 30 respectively. There is also negative changes for some wards of KMC. In some wards of KMC there is no change of GEDI value from 2001 to 2011(87, 49). In 2001 GEDI value was 0.75 and in 2011 GEDI value is 0.80. The changes of GEDI value from 2001 to 2011 is 6.67%.

Table-1
GEDI value of KMC

WARD	GEDI of 2001	GEDI of 2011	% of Changes
1	0.75	0.8	6.67
2	0.85	0.88	3.52
3	0.77	0.79	2.6
4	0.81	0.84	3.7
5	0.81	0.84	3.7
6	0.65	0.69	6.15
7	0.78	0.83	6.41
8	0.83	0.89	7.23
9	0.79	0.86	8.86
10	0.82	0.89	8.54
11	0.77	0.83	7.79
12	0.73	0.79	8.22
13	0.73	0.77	5.48
14	0.79	0.81	2.53
15	0.89	0.83	-13.48
16	0.82	0.84	2.43
17	0.84	0.87	3.57
18	0.58	0.73	25.86
19	0.76	0.84	10.52
20	0.68	0.8	17.65
21	0.68	0.75	10.29
22	0.72	0.81	12.5
23	0.79	0.75	-7.59
24	0.77	0.69	-10.38
25	0.79	0.81	2.53
26	0.7	0.77	10
27	0.84	0.83	-1.19
28	0.66	0.73	10.61
29	0.57	0.64	-8.77
30	0.81	0.82	1.23
31	0.77	0.81	5.19
32	0.73	0.7	-4.11
33	0.78	0.75	-4
34	0.84	0.87	3.57
35	0.82	0.86	4.88
36	0.5	0.61	22
37	0.61	0.7	14.75
38	0.75	0.8	6.67
39	0.57	0.66	15.78
40	0.74	0.84	13.51
41	0.61	0.77	26.23
42	0.78	0.7	-10.25
43	0.57	0.73	28.07
44	0.64	0.72	12.5
45	0.65	0.7	7.69
46	0.74	0.79	6.76
47	0.7	0.82	17.14
48	0.76	0.78	2.63
49	0.63	0.63	0
50	0.78	0.84	13.51
51	0.84	0.88	4.76

WARD	GEDI of 2001	GEDI of 2011	% of Changes
52	0.74	0.79	6.76
53	0.76	0.84	10.53
54	0.67	0.74	10.45
55	0.71	0.81	14.08
56	0.63	0.79	25.4
57	0.65	0.72	10.76
58	0.55	0.66	20
59	0.61	0.73	19.67
60	0.66	0.74	12.12
61	0.72	0.74	2.78
62	0.69	0.78	13.04
63	0.79	0.8	1.27
64	0.72	0.78	8.33
65	0.65	0.75	15.38
66	0.63	0.72	14.29
67	0.76	0.83	9.21
68	0.82	0.86	4.88
69	0.76	0.79	3.95
70	0.77	0.9	16.88
71	0.82	0.88	7.32
72	0.82	0.86	4.87
73	0.82	0.84	2.43
74	0.74	0.79	6.76
75	0.6	0.72	20
76	0.78	0.81	3.85
77	0.72	0.75	4.17
78	0.69	0.74	7.23
79	0.73	0.72	-1.38
80	0.65	0.63	-3.07
81	0.76	0.79	3.95
82	0.77	0.8	3.9
83	0.76	0.81	6.58
84	0.78	0.8	2.56
85	0.79	0.83	5.06
86	0.75	0.84	12
87	0.86	0.86	0
88	0.73	0.79	3.95
89	0.78	0.86	10.26
90	0.75	0.79	5.33
91	0.81	0.85	4.94
92	0.84	0.89	5.95
93	0.77	0.85	10.39
94	0.77	0.83	7.79
95	0.87	0.91	4.6
96	0.89	0.91	2.25
97	0.85	0.89	4.71
98	0.87	0.91	4.6
99	0.86	0.9	4.65
100	0.86	0.91	5.81
101	0.84	0.89	5.95
102	0.8	0.88	10
103	0.84	0.9	7.14

WARD	GEDI of 2001	GEDI of 2011	% of Changes
104	0.86	0.91	5.81
105	0.84	0.88	4.76
106	0.78	0.86	10.26
107	0.74	0.83	12.16
108	0.59	0.71	20.33
109	0.64	0.78	21.54
110	0.78	0.85	8.97
111	0.83	0.88	6.02
112	0.8	0.85	6.25
113	0.8	0.85	6.25
114	0.8	0.84	5
115	0.86	0.9	4.65
116	0.72	0.8	11.11
117	0.7	0.79	12.86
118	0.8	0.84	5
119	0.82	0.88	7.32
120	0.81	0.87	7.41
121	0.8	0.86	7.5
122	0.81	0.86	6.17
123	0.83	0.88	6.02
124	0.76	0.86	13.16
125	0.81	0.85	4.94
126	0.85	0.87	2.35
127	0.81	0.85	4.94
128	0.84	0.87	3.57
129	0.82	0.86	4.88
130	0.82	0.9	9.76
131	0.85	0.87	2.35
132	0.77	0.83	7.79
133	0.73	0.76	4.11
134	0.55	0.65	18.18
135	0.58	0.68	17.24
136	0.72	0.76	5.55
137	0.56	0.7	25
138	0.47	0.69	46.81
139	0.6	0.68	13.33
140	0.64	0.7	9.34
141	0.66	0.65	-1.55
	0.75	0.80	6.67

Figure 2, refers to the Wardwise distribution of GEDI value of KMC in 2001. The GEDI value which is near to maximum GEDI value 1 which represents that there is no more gender differences in education or it reflects a maximum achievement with perfect gender equality. In 2001 most of the Wards of southern parts indicated highest GEDI value. In 2001 the highest GEDI value was 0.87. The lowest GEDI value was found in some Wards of KMC like 40, 43, 29, 36, 58, 108, 134, 135, 137, 138. In 2001 the GEDI value was 0.75.

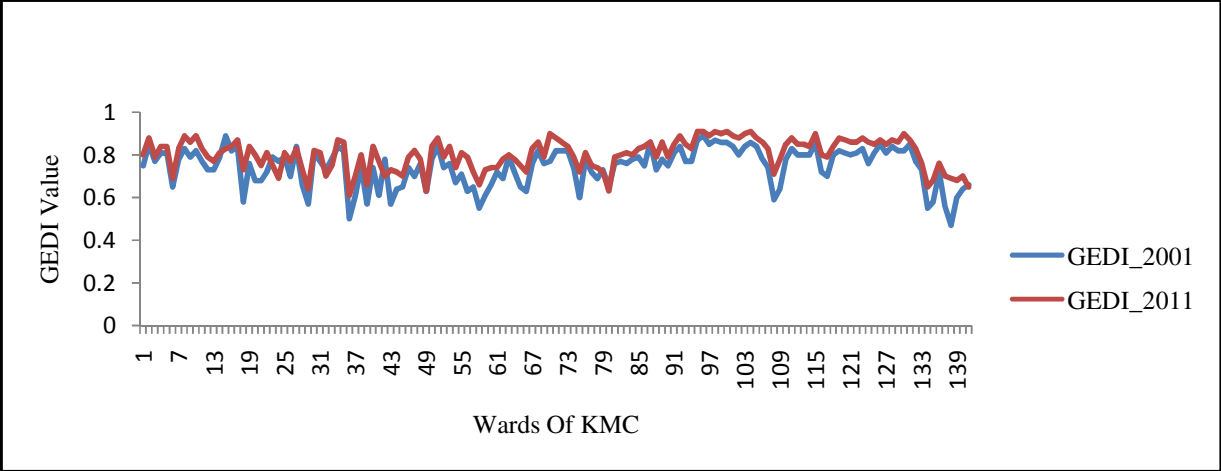


Figure-1
Comparison Between GEDI Value of KMC(2001-2011)

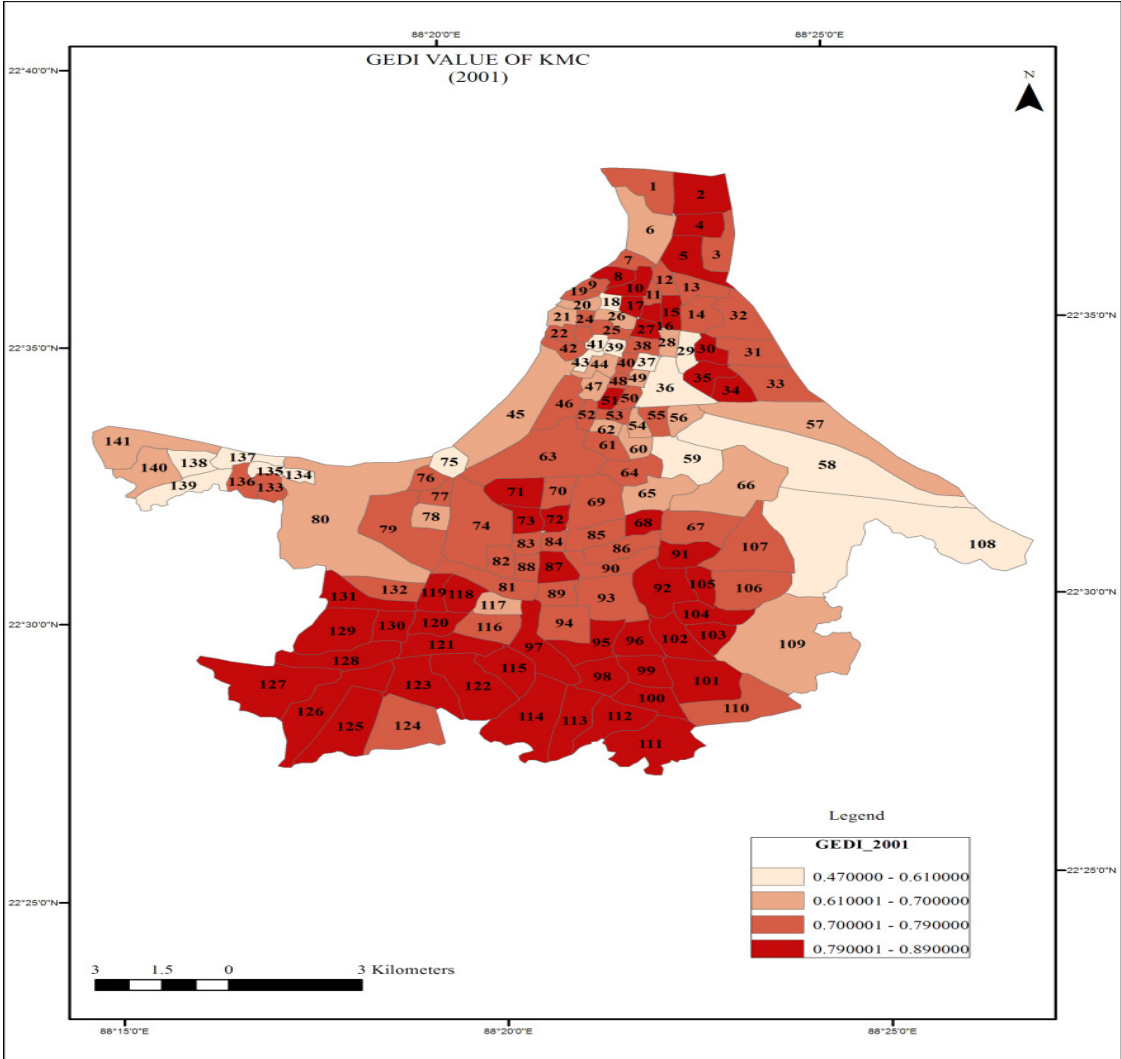


Figure-2
GEDI Value of KMC of 2001

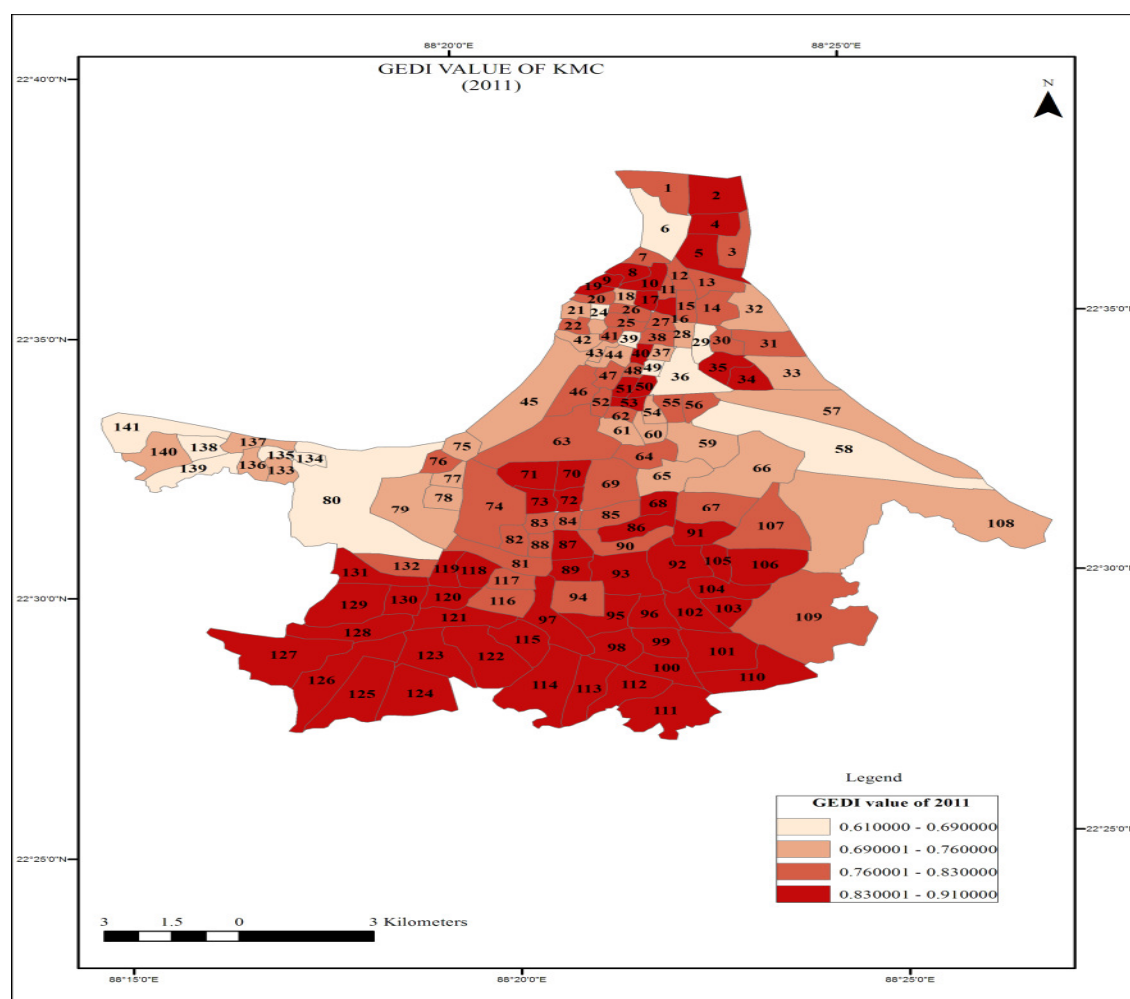


Figure-3
GEDI Value of KMC of 2011

Figure 3, refers to the Wardwise distribution of GEDI value of KMC in 2011. In 2011 most of the Wards of southern parts of Kolkata Municipal Corporation have highest GEDI value and lowest GEDI value have been found in Wards 6, 36, 29, 40, 58, 80, 134, 138, 141. In 2011 we have seen that in some wards the GEDI value has decreased than 2001. As a result we have seen negative changes in these wards. In 2011 the GEDI value is 0.80.

Figure 4, shows the percentage of GEDI value changes of KMC from 2001 to 2011. The Kolkata Municipal Corporation (KMC) has recorded the changes the GEDI value from 2001 to 2011 is 6.67%. It is not a significant change. Maximum change of 46.81% is recorded in Ward 138 where it is shown to have increased to 0.47 to 0.69. Minimum change of 1.13% is recorded in Ward 30 where it is shown to have increased to .79 to .80. Some Wards such as 49 and 87 register no change in GEDI value from 2001 to 2011. Some Wards such as 141, 23, 24, 27, 29, 32, 79 and 80 exhibit a negative change. In Ward 141 the GEDI value decreased from 0.66% in 2001 to 0.65% in 2011. Thus it has been found that the areas with higher GEDI

value have recorded lower percentage of change whereas areas with lower GEDI value have shown greater improvement in GEDI value.

Major Findings of The Study: i. Availability of better educational facilities shows higher GEDI value so both male and female can access same facilities for better education. ii. Kolkata is one of the metropolitan cities as a result the people have a higher level of awareness about literacy. They have the same awareness for male and female. iii. There is a greater functional necessity in literacy in Kolkata Municipal Corporation as it provides employment to both male and female. Females also have a better prospect for employment once they attain education. As a result gender differences in employment get minimised. iv. The people's awareness about increasing female education is one of the most important reasons behind less gender differences in education prevailing in Kolkata Municipal Corporation. v. The incidence of higher GEDI value in Kolkata Municipal Corporation may be attributed to greater immigrations from districts of West-Bengal.

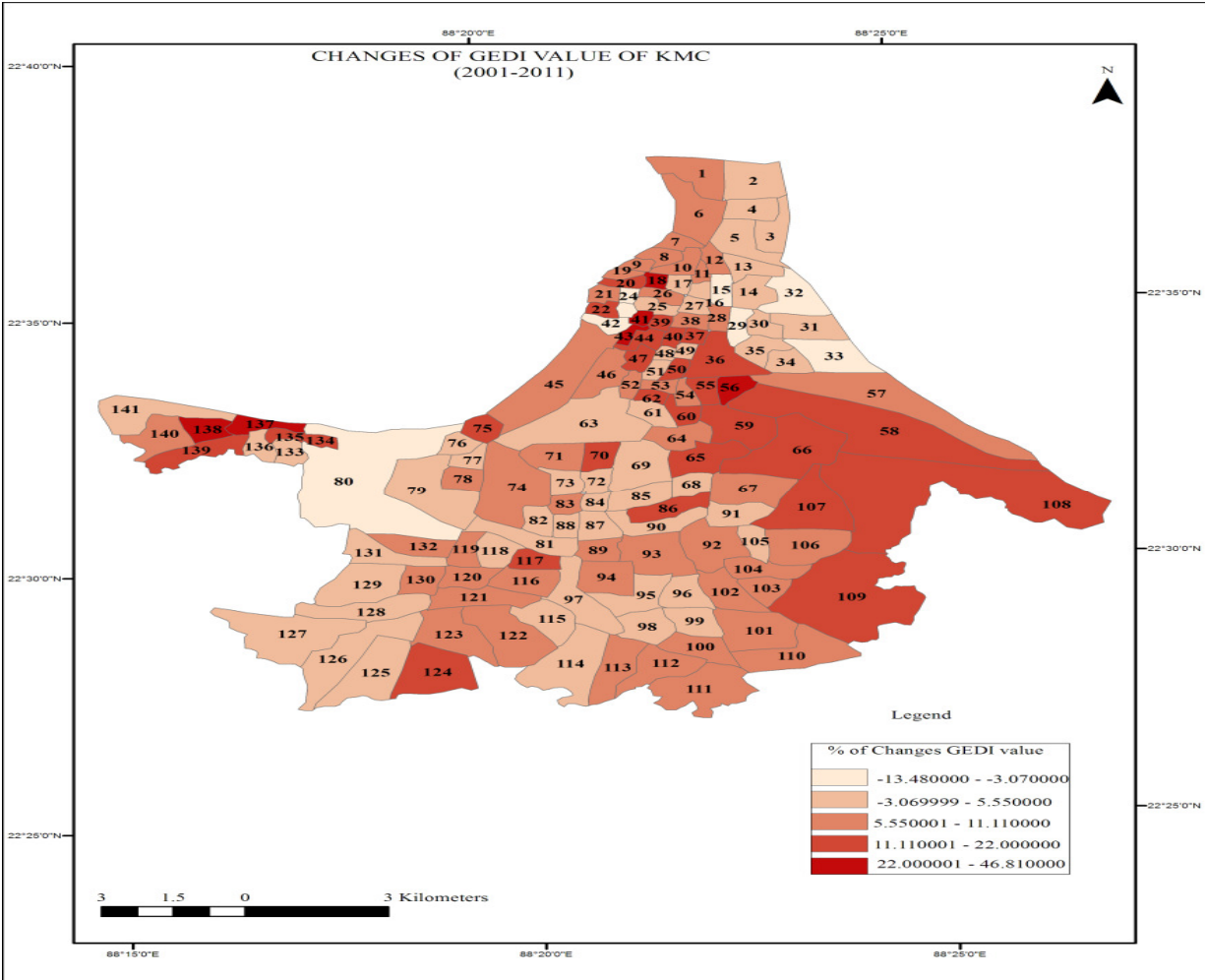


Figure-4
Percentage of Changes of GEDI Value of KMC from 2001 to 2011

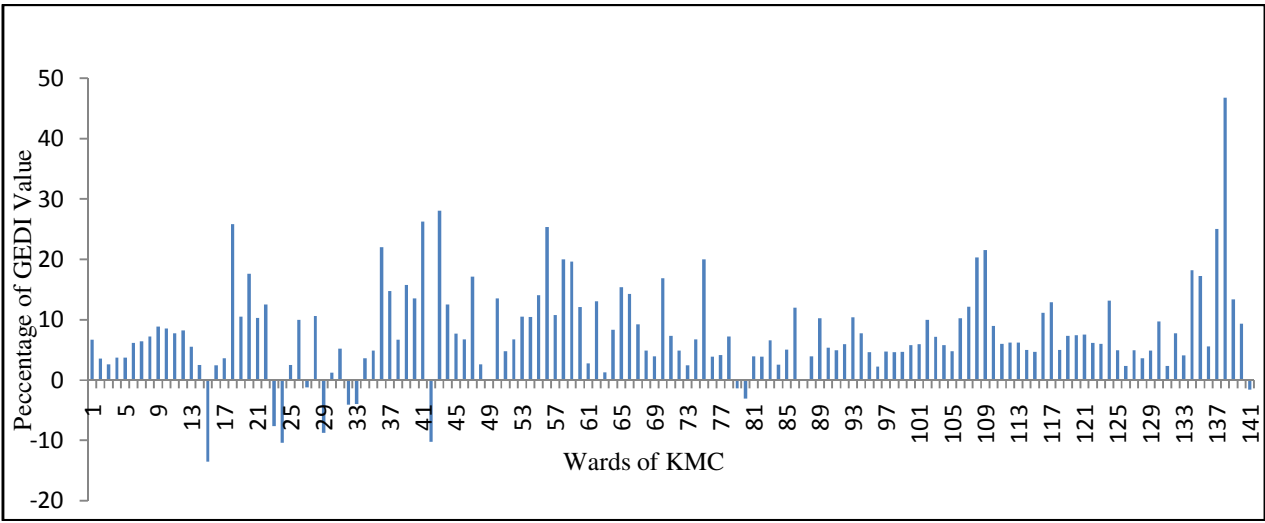


Figure-5
Percentage of changes of GEDI value of KMC

Conclusion

The literacy level of Kolkata Municipal Corporation (KMC) is high. Here, gender differences in education are very low. As a result here GEDI value is near about 1 which represents maximum achievement with perfect gender equality. There is a minimum changes in GEDI value in 10 years that is 6.67 % (2001-2011). GEDI or gender related educational development index represents the quality of urban education. From the above discussion it is evident that GEDI value is near to perfect. As a result percentage of employment is high which enhances socio-economic development for Kolkata Municipal Corporation. The highest GEDI value in 2001 is seen mostly in southern part of Kolkata Municipal Corporation and in 2011 also the same trend is found. However in 2011 more Wards have registered a higher GEDI value.

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