

## REGIONAL DISPARITIES IN EDUCATION: A COMPARATIVE STUDY BETWEEN KBK AND NON-KBK DISTRICTS OF ODISHA, INDIA

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### ABSTRACT

This paper examines regional disparities in education in Odisha with special reference to KBK and non-KBK districts by using secondary data collected from various sources. The study analyses the results using (i) coefficient of variation (ii) Sopher's disparity index, (iii) co-efficient of equality, (iv) gender parity index, etc. The findings clearly show that: (i) there exists regional disparities in education between KBK and non-KBK regions in literacy and enrolment irrespective of gender and social groups. The paper concludes that there are demand side constraints of education in KBK districts. Hence, the findings in the paper suggest that in order to enhance enrolment in the KBK region parental motivation is very significant. Further, government has to take special measures like opening of more schools in remote areas, appointment of more female and ST teachers, provision of special incentive scheme for girls etc.

**KEYWORDS:** Regional Inequalities, Education, Disparities, Literacy

### INTRODUCTION

The process of development of any economy is characterised by regional inequalities. This inequality differs in degree from developed to developing countries i.e. the inequality is less in developed countries and more in developing countries. Unless there is inequality, growth will become stagnant. So the existence of inequality necessitates augmenting the growth process and helps to become more balanced between different regions. Hence, inequality may be considered a pre-condition to the process of growth. Although inequality and disparity are present in different spheres, the paper focuses specifically on education because of its importance in human development and as a determinant of the quality of life. The importance of education in economic growth (Schultz 1961) and human development (Sen 1985, 1993) has been widely recognized.

It is realised that the society with higher percentage of literates has higher levels of development. Primary education takes a lead in economic development, as the return to primary education is the highest followed by secondary and higher education. In India the social rate of return to primary education is 29.3 per cent compared to 10.8 per cent in university education (Tilak, 1994). Education particularly elementary education has the highest impact on generation and distribution of income. This suggests that there is a greater need for expansion of elementary education particularly in a less developed region and among backward population. There is sufficient evidence of educational disparity not only between different social groups but also between different regions of our country.

In India, the education of girls has historically lagged behind that of boys (Agrawal and Aggarwal 1994, Sengupta and Guha 2002; Bandopadhyay and Subrahmaniam 2008; Das and Mukherjee 2008). But none of these works have examined variations in gender discrimination over regions. Husain and Sarkar (2010) found that, on an average, gender disparity is lower across educational levels in southern states. Econometric analysis revealed that, after controlling for socio-economic characteristics, gender disparity decreases. However, region-specific effects were not incorporated in the

econometric model.

Hasan and Mehta's study (2006) of college education focuses on disparities across social castes, but ignores gender disparity in education. Thorat (2006) notes gender differences in access to higher education but does not look at lower levels of education and regional variations. Filmer's (2000) found that in India there is a 16.6 percentage point difference between the school enrollment of girls and boys aged 6 to 14 years.

Further, he found that in India there is a 2.5 percentage point difference in the enrollment of male and female children from the richest household whereas the difference is 34 percentage points for children from the poorest households. Overall, studies have tended to neglect the study of regional dimensions of education. In Odisha, Debi (1996) examined the inter and intra district disparities in literacy by taking three time periods 1971, 1981 and 1991 and found that the inter district variation in literacy rate is found to be higher among females, SCs and STs than their counterparts (Males, non-SCs and non STs). There exists wide gender disparity in literacy rates in backward regions and among backward population. But she has taken literacy rate as the only indicator of education.

The paper makes an attempt to address the issues relating to several dimensions of quantitative and qualitative aspects of elementary education in Odisha with a special reference to the KBK and non-KBK regions. In view of the extreme backwardness of the KBK districts Government has made the districts a special group i.e KBK in order to make special efforts for mainstreaming them in developmental process. KBK districts constitute eight districts with more than one third of their population being scheduled tribes. The incidence of illiteracy among scheduled tribes in these districts is about 70 per cent and this is more pronounced among the females and in rural areas. The female literacy is found to be as low as 7.5 per cent in 2001 census among the scheduled tribes in one of the KBK districts (Malkangiri).

All these together show a gloomy picture of educational development in KBK districts of the state. Since the role of education for the development of backward population and backward region is assumed to be very critical, unequal distribution of educational output may not be able to achieve the desired goal. In this background, an attempt has been made to estimate the inequality and disparity in education between the two regions with respect to gender, social groups. We have taken literacy rate, enrolment as indicators of education.

The paper is divided into five sections. The first section introduces. The second section deals with a brief methodology for analysing the data. The third section has discussed the status of primary education in KBK, non KBK and in the state. The fourth section examines the regional variation in education in the state. The last section deals with concluding observations with some policy suggestions.

## **METHODOLOGY**

The analysis is based on secondary data collected from Economic Survey of Odisha, Statistical Abstract, Odisha Development Report, Odisha Human Development Report (2004), Odisha Primary Education Programme Authority (OPEPA), Government of Odisha, etc. In order to have a better understanding of the status and disparities in education of KBK districts we grouped the 30 districts of the state into two groups namely, KBK (8 districts) and non-KBK (22 districts).

The analysis of the study concentrates to the literacy level and the elementary education only.

### **Tools/Techniques Used in the Analysis**

#### **i. Disparity Index in Literacy between ST and Non-ST**

The disparity index in literacy between ST and non-ST by using the following formula:

$$\text{Disparity Index between ST and non-ST literacy} = \frac{\text{ST Literacy Rate}}{\text{NST Literacy Rate}} - 1$$

### Gender Disparity Index in Literacy

Gender disparity index in literacy is calculated by using Sophers' Disparity Index

$$\text{Disparity Index} = \text{Log} \left( \frac{X_2}{X_1} \right) + \text{Log} \left( \frac{Q - X_1}{Q - X_2} \right)$$

Where,

$$X_2 > X_1 \text{ and } Q = 200$$

$$X_1 = \text{Female Literacy Rate}$$

$$X_2 = \text{Male Literacy Rate}$$

The higher the value of the index, higher is the extent of gender disparity.

### Co-efficient of Equality in Education

The coefficient of equality is estimated by using the following formula:

$$Q = \frac{E_s / P_s}{E_o / P_o}$$

Where,

Q = Coefficient of equality for Scheduled Tribes

$E_s$  = Enrolment of ST Children at a particular level of education.

$E_o$  = Enrolment of non-ST children at the same level of education

$P_s$  = ST Child Population

$P_o$  = non-ST Child population.

Co-efficient of Equality of 100 implies that Scheduled Tribes are at par with other castes in availing the same educational facility like others.

If it is less than 100, it indicates that the tribal children are lagging behind their non ST counterparts. This would provide us idea about the educational status of STs vis-a-vis non-STs.

### Gender Parity Index in Enrolment (GPI)

It is calculated as

$$GPI = \frac{ENR_G}{ENR_B}$$

Where,  $ENR_G$  = Enrolment of Girls

$ENR_B$  = Enrolment of Boys

**Net Enrolment Ratio (NER)**

It is calculated as:

$$\mathbf{NER} = \frac{\mathbf{Enrolment\ in\ Grade\ I\ to\ V\ in\ 6\ to\ 11\ years\ Age\ Group}}{\mathbf{Population\ in\ Age\ 6\ to\ 11\ Years\ Age\ Group}} \times \mathbf{100}$$

**Transition Rate**

It is calculated as:

$$\frac{\mathbf{Total\ Number\ of\ Enrolled\ in\ Class\ VI\ in\ Current\ Year}}{\mathbf{Total\ Enrolled\ Class\ V\ in\ previous\ Year}} \times \mathbf{100}$$

**Repetition Rate**

It is calculated as:

$$\mathbf{Repetition\ Rate} = \frac{\mathbf{Repetition\ Value}}{\mathbf{Total\ Students\ Enrolled}} \times \mathbf{100}$$

**Education Index**

It is measured by as follows:

$$\mathbf{Education\ Index} = \frac{\mathbf{2}}{\mathbf{3}} (\mathbf{Overall\ Literacy\ Index}) + \frac{\mathbf{1}}{\mathbf{3}} (\mathbf{Combined\ GER\ Index})$$

Where,

$$\mathbf{Literacy\ index} = \frac{\mathbf{Literacy\ Rate} - \mathbf{0}}{\mathbf{100} - \mathbf{0}}$$

$$\mathbf{Combined\ GER\ Index} = \frac{\mathbf{GER} - \mathbf{0}}{\mathbf{100} - \mathbf{0}}$$

**STATUS OF EDUCATION IN KBK AND NON-KBK DISTRICTS IN ODISHA**

In view of the contribution of education in general and primary education in particular to the overall development of the recipients of education we have made an attempt to examine the educational status in KBK and non-KBK districts in Odisha.

**Literacy Rate**

Literacy is considered one of the crucial indicators of education. There is a significant difference between a literate and an illiterate person in respect of overall attitude of the concerned individuals. The overall literacy rate in Odisha has increased by about 10 per cent i.e. from 63.03 per cent in 2001 to 73.45 per cent in 2011.

Across KBK and non-KBK districts, as per 2011 census, the overall literacy rate is more in non-KBK Districts (77.56 per cent) and less in KBK Districts (57.10 per cent).

It also observed that the male and female literacy rates are less in the KBK districts compared to both state and non KBK districts in both the years under reference (Table 1).

**Table 1: Literacy Rate in Odisha, 2001 and 2011**

Region	2001			2011 (P)		
	Mal	Femal	Total	Mal	Femal	Total
KBK	57.5	29.10	43.33	68.8	45.61	57.10
Non-KBK	79.56	55.74	67.83	86.27	69.18	77.56
Odisha	75.3	50.51	63.08	82.4	64.36	73.45

Source: Census of India, 2001 and 2011.

## ENROLMENT BASED INDICATORS

### Growth of Enrolment

There has been a significant increase in the enrolment of children in elementary education in the state. The enrolment at the primary and upper primary schools increased at an annual compound growth rate of 1.45 per cent and 2.74 per cent respectively during 1993-94 and 2010-11. It is observed from Table 2 that KBK districts have made a significant progress with respect to enrolment. During the year 1993-94 to 2010-11, the compound growth rate of enrolment is 2.21 per cent in primary education and 3.15 per cent in upper primary education. The corresponding growth rate in case of non-KBK districts is 1.30 per cent in primary and 2.67 per cent in upper primary education. Thus, the compound growth rate of enrolment in case of KBK districts is more than the non-KBK districts and the state average. The situation is similar in case of both boys and girls considered separately. Growth rate of girls' enrolment in KBK districts was higher than that of boys as in the state during this period.

### Net Enrolment Ratio (NER)

Efficacy of GER as a measure of the enrolment of children is considered inexact as it includes both over aged and under aged children in a class. Net Enrolment Ratio (NER), which takes into account only children in school going age group, is viewed as appropriate measure. NER of children in the age group of 11-14 years is very low in KBK districts. In both the years NER for children in 6-11 years age group in KBK districts was 92.80, but 96.90 in non-KBK districts in 2010-11. A similar pattern is observed in the case of children in 11-14 years age group. NER of children in this age group is very low in KBK districts (84.20). Estimate of NER for children of all age groups between gender is lower in KBK districts compared to that of non-KBK districts (Table 2).

**Table 2: Enrolment Based Indicators of Education, 2010-11**

Sl. No.	Enrolment Indicators of Education	Regions	Primary (6-11 age group)			Upper Primary (11-14 age group)		
			Boys	Girls	Total	Boys	Girls	Total
1	Compound Growth of Enrolment from 1993-94 to 2010-11	KBK	0.94	3.68	2.12	1.74	5.41	3.15
		Non-KBK	0.6	2.16	1.3	1.55	4.18	2.67
		Odisha	0.67	2.44	1.45	1.58	4.33	2.74
2	Net Enrolment Ratio ( per cent)	KBK	93.1	92.4	92.8	85.4	82.8	84.20
		Non-KBK	96.5	97.1	96.9	95.4	95.1	95.30
		Odisha	95.5	95.3	95.4	92.8	92.3	92.50
3	Out of School Children ( per cent)	KBK	6.9	7.6	7.2	14.6	17.2	15.80
		Non-KBK	3.5	2.9	3.2	4.6	4.9	4.80
		Odisha	4.5	4.7	4.6	7.2	7.7	7.50
4	Gender Parity Index ( per cent)	KBK	0.95			0.85		
		Non-KBK	0.89			0.90		
		Odisha	0.94			0.93		

Source: www.oepa.in, and Directorate of Elementary Education, Odisha, Bhubaneswar

### Out-of-School Children

Less than 100 per cent enrolment of children in school implies that many children remained outside the school network. These out-of-school children include school dropouts as well as never enrolled children. It is found that the percentage of out-of-school children is higher in the age group of 11-14 years than in the age group of 6-11 years. The proportion of out-of-school children in case of girls is slightly higher than that of boys. The situation in KBK districts is worse compared to non-KBK and the state. In KBK districts, the proportions of out-of-school boys and girls in the age group of 11-14 years were more than two times that in the age group of 6-11 years. Further the proportion of out of school children in KBK districts in the age group 6-11 years were more than double on non KBK region and the corresponding figures for 11-14 age group is more than three times (Table 2).

### Gender Parity Index in Enrolment (GPI)

We have estimated the gender parity index in enrolment, which shows the ratio of girl's enrolment to boy's enrolment. Region wise estimates of gender parity index indicate that the index is higher in case of primary education and lower in case of upper primary education in Odisha and in different regions. It is observed from Table 2 that GPI in KBK districts is higher than that of the non KBK districts and the state as a whole at primary level and lower at upper primary level. The above facts indicate poor educational attainment of girl children at upper primary level in KBK districts. This is mainly because of high dropout rate of girls at upper primary level, distance from UP schools from the residence, higher level of repeaters among girls, etc.

## OUTCOME INDICATORS

### Repetition Rate

Repetition of grades by students is a problem in Odisha. Many students repeat grades in primary schools due to prolonged absence from schools. In some cases, parents request for their children's continuance in the same class to improve achievement levels, although the state government has a policy of no detention in primary classes. It is evident from the Table 3 that repetition rate in the state was 19.10 per cent in 2010-11, which implied that about one-fifth of students stayed more than one year in a class. The proportion of such repeaters in KBK districts was as high as 27.1 per cent compared to 13.5 per cent non-KBK districts. It speaks of poor educational attainment of children in KBK districts.

**Table 3: Repetition Rate at Elementary level, 2010-11**

Region	Boys	Girls	Total
KBK	27.17	27.08	27.12
Non-KBK	14.56	12.35	13.51
Odisha	19.44	18.66	19.07

Source: [www.opepa.in](http://www.opepa.in)

### Transition Rate

One of the important indicators that are essential to achieve universal elementary education (UEE) is high transition from primary level to upper primary level of education. Transition rate is an indicative of educational advancement. The transition rate in Odisha was 86.40 per cent in the year 2010-11. It is observed that transition rate is lower in KBK region (73.29 per cent) compared to non KBK region (91.24 per cent).

### Teacher Related Indicators

### **Female Teachers**

It is well documented by the researchers that presence of female teachers in a school generally encourages enrolment of girls. In view of this, a particular norm (Operation Black Board) has been fixed, which envisages that at least 50 per cent of teachers in a school should be female. In 2010-11, percentages of female teachers in primary and upper primary schools of the state were 57.29 per cent and 38.15 per cent respectively. The corresponding figures in primary and upper primary schools are 63.45 and 51.35 in case of non-KBK districts. However, in case of KBK districts the figures are less than 50 per cent in both primary (34.68 per cent) and upper primary schools (26.32 per cent).

### **Pupil Teacher Ratio (PTR)**

One of the important factors that influence classroom transaction is the number of students per teacher. In 2010-11, overall pupil-teacher ratio in primary and upper primary schools of the state was 33 and 35 respectively. In KBK districts, PTR in primary and upper primary schools were 35 and 38 respectively in 2010-11 indicating that the region was yet to comply the national norm of 35 students per teacher at the primary level. There are more students per teacher at primary and upper primary level in KBK districts compared to non-KBK and the state average. This may be due to more number of single teacher schools in KBK districts.

### **School Related Indicators**

#### **Habitations served by Schools**

As per the national norms agreed to by the state government, a primary school is required to be provided in each habitation having a minimum population of 300 and within the walking distance of one kilometer. The norm is 200 people in the case of habitations located in hilly areas and inhabited by minority population. According to the Seventh All India Educational Survey (2002), 82.93 per cent habitations were served by primary school within one kilometer of walking distance in Odisha. So there are still 17.07 per cent habitations not having a school within a distance of one kilometer. The corresponding figures for KBK and non-KBK region are 77.09 per cent and 88.43 per cent respectively.

As far as upper primary schools are concerned, the Government of Odisha has set a norm of opening one upper primary school within a distance of 3 km in every habitation having a population of 500. As per the Seventh All India Educational Survey (2002), the percentage of habitations served by UP schools within 3 km was 73.55 per cent in Odisha. The corresponding percentages were 51.60 per cent and 81.29 per cent in KBK and non-KBK districts respectively. In a nutshell, the proportions of habitations not served by primary and upper primary schools in KBK districts are higher compare to non-KBK region of the state.

#### **Ratio of Primary to Upper Primary School**

The Programme of Action (1992) for education envisaged an upper primary school/section for every two primary schools/sections. In 2010-11, on an average, there was an upper primary school/section for about 1.8 primary schools at the state level compared to 2.23 and 1.66 in KBK and non-KBK districts. It speaks of neglect of elementary education in KBK districts, where it is needed the most.

### **REGIONAL DISPARITY IN EDUCATION IN ODISHA**

In this paper an attempt has been made to estimate the regional disparity in education between two region (KBK and Non-KBK), between two social groups (ST and Non-ST) between gender in Odisha. We have taken literacy rate and enrolment indicators as indicator of education.

### Disparity in Literacy Rate between KBK and Non-KBK Region

There exist regional disparities in literacy rate between KBK and non-KBK regions of the state. Precise measures of variation in the literacy rates of KBK and non-KBK districts have been computed and presented in Table 4 for the year 2001 and 2011. The male, female and overall mean literacy rate is lower in KBK region compared to non-KBK region in both the years under reference. Standard Deviation (SD) and Coefficient of Variation (CV) of literacy rates in KBK districts are higher than those of the non-KBK districts, implying thereby wider differences in literacy rates of KBK districts compared to that of non-KBK districts.

**Table 4: Variation in Literacy Rate, 2001 and 2011**

Year	Gender	Non KBK			KBK		
		Mean	SD	CV	Mean	SD	CV
2001	All	66.61	9.91	14.88	42.85	11.35	26.49
	Male	79.56	8.88	15.43	57.55	17.93	22.72
	Female	55.74	13.01	44.69	29.1	18.96	41.06
2011	All	78.66	8.48	14.6	58.1	10.16	20.54
	Male	87.07	6.67	9.76	68.3	10.05	16.67
	Female	69.81	10.17	21.81	46.61	10.03	25.76

Source: Census of India, 2001 and 2011

### Disparity in literacy between ST and Non-ST

There exist disparities in literacy rate between ST and non-ST in KBK and non-KBK regions. The male, female and overall literacy rates of STs are higher in non-KBK than KBK region. A similar pattern is also observed in case of non-STs. It is observed from Table 5 that Standard Deviation (SD) and Coefficient of Variation (CV) of literacy rates of STs and non-STs in KBK districts are higher than those of the non-KBK districts, implying thereby wider regional variations between two regions.

**Table 5: Variation in Literacy Rate by Social Groups, 2001**

Social Group	Gender	Non KBK			KBK		
		Mean	SD	CV	Mean	SD	CV
ST	All	43.33	8.95	34.54	25.9	15.36	44.96
	Male	57.85	9.91	25.38	39.06	18.27	35.33
	Female	28.78	8.22	62.84	13.08	12.82	74.75
Non-ST	All	73	27.29	37.39	53.86	46.39	86.13
	Male	84.06	5.22	6.21	68.49	6.81	9.95
	Female	61.53	6.39	10.39	38.99	9.95	25.51

### Gender Disparity in Literacy

The literacy rate of females is always found to be lower than their male counter parts. As stated earlier, the literacy rate of females is extremely low particularly in the KBK districts of the state, which ultimately leads to a higher gender disparity in literacy rate. We have estimated the gender disparity rate by using Sopher's Disparity index. Table - 6 presents the estimates of Gender Disparity Index (GDI) in literacy in KBK districts and non-KBK districts. The disparity index in KBK districts was estimated to be 0.38, which is higher than that in non-KBK districts with an index value of 0.23 in 2001. The corresponding figures for KBK and non KBK districts were 0.25 and 0.16 respectively in 2011. This shows that the though there is significant increase female literacy rate over the decade, there exist regional disparities in the two regions.

**Table 6: Gender Disparity Index in Literacy Rate In KBK and Non-KBK Districts, 2001 & 2011**

Region	2011 (P)	2001
KBK	0.25	0.38
Non-KBK	0.16	0.23

Source: Census of India, 2001 and 2011

### Gender Disparity in Literacy by Social Groups

It is further observed that not only there are gender inequalities in literacy between the regions but also within ST and non ST population. Literacy rate of ST females is extremely low and more so in backward and tribal dominated KBK districts. Non-ST women are more literate than ST women. Therefore, the difference between male and female literacy rates is less in the case of non-ST than ST. Gender disparity within social groups in literacy is estimated by using Sopher's Disparity Index. Table 7 presents estimates of Gender Disparity Index (GDI) in literacy rate between ST and non-ST in the two regions.

**Table 7: Gender Disparity Index in Literacy Rate between ST and non-ST, 2001**

Region	ST	Non-ST
<b>KBK</b>	<b>0.540</b>	<b>0.332</b>
<b>Non-KBK</b>	<b>0.384</b>	<b>0.213</b>

It is observed that there exist gender disparities in literacy across social groups. The disparity index for ST and non-ST in KBK districts are higher than that in non-KBK districts. In KBK districts, the disparity index for ST works out at 0.540, which is higher than the estimate of 0.332 for non-ST. It emerges that the range of variation is wide among ST population than their non-ST counterparts.

From the above analysis it is clear that the extremely low level of literacy rate among the STs in general and females in particular may be one of the most important reasons for their overall backwardness as they are not able to participate in the process of development.

### Disparity in Literacy between ST and non-ST

There exist disparities in literacy between ST and non-ST. The male, female and overall disparity indices in KBK districts are higher than that in non-KBK districts (Table 8). It indicates that there is wider gap in literacy rates of STs and non-STs in KBK districts across gender. It is also observed that the disparity index is higher in case of females. This is because of greater differences in literacy rates of ST and non-ST females.

**Table 8: Disparity in Literacy between Sts and Non-Sts Across KBK Districts, 2001**

Sl. No.	KBK	Disparity Index (ST & Non-ST)		
	Districts	Male	Female	Total
KBK		0.753	1.981	1.08
Non KBK		0.453	1.138	0.685
Orissa		0.587	1.484	0.875

Source: Census of India, 2001

### Gender differences in Enrolment

Enrolment of boys is always found to be higher than that of girls. Gender Parity Index (GPI) is obtained from the ratio of girls' enrolment to boys' enrolment. The GPI is higher in non-KBK region than the KBK region across social

groups both in primary and upper primary level. It is further observed that GPI of STs are higher than non-ST at primary level in both the regions. It may be due to more over aged ST girls studying at the primary level.

**Table 9: Gender Parity Index in KBK and non-KBK Regions of Odisha, 2010-11**

Region	Primary		Upper Primary	
	ST	Non-ST	ST	Non-ST
<b>KBK</b>	<b>0.95</b>	<b>0.90</b>	<b>0.74</b>	<b>0.85</b>
<b>Non-KBK</b>	<b>0.92</b>	<b>0.89</b>	<b>0.84</b>	<b>0.93</b>

Source: Directorate of Elementary Education, Orissa, Bhubaneswar

For none of the region the index was 100 or more. It implies that girls' enrolment in primary and upper primary schools lagged behind that of boys. The tribals are more behind the general population in respect of girls' education. Lower enrolment of girls than boys among the STs in upper primary schools is attributed mainly to (i) extremely low literacy rate among tribal females, (ii) low percentage of female teachers, (iii) low percentage of tribal teachers, (iv) high dropout rate and (v) more number of single teacher/classroom schools. Many studies have documented that girls' education is significantly influenced by mothers' education. Low female literacy among tribal females may be one of the significant factors for low enrolment of ST girls.

### Social Group Differences in Enrolment

The relative gains of children of a community cannot be assessed from growth rate estimates. The base figures play a significant role in determining growth rate. For a precise measure of relative gains of children of a community, Coefficient of Equality in enrolment is measured and made use of. This measure shows the relative gains of ST children compared to their non-ST counterparts.

If the value of co-efficient of equality is 100, it indicates that STs are at par with non-STs in availing educational facilities. A co-efficient value less than 100 indicates that tribal children are lagging behind their non-tribal counterparts in getting the benefits.

**Table 10: Coefficient of Equality in Enrolment Between ST and Non-ST, 2010-11**

Region	Primary			Upper Primary		
	Boys	Girls	Total	Boys	Girls	Total
<b>KBK</b>	<b>105.57</b>	<b>104.89</b>	<b>105.25</b>	<b>70.26</b>	<b>60.26</b>	<b>65.75</b>
<b>Non-KBK</b>	<b>111.23</b>	<b>114.25</b>	<b>112.45</b>	<b>76.37</b>	<b>69.81</b>	<b>72.67</b>

Source: Directorate of Elementary Education, Orissa, Bhubaneswar

Table 10 shows that coefficient of equality in education in non-KBK districts is higher than that in KBK districts at primary and upper primary levels. The co-efficient at upper primary level is less than 100 in both non-KBK and KBK region. At upper primary level more ST children dropout from the school system in KBK districts.

Coefficients of equality in primary schools and upper primary schools for KBK districts are 105.25 and 65.75 respectively. It indicates that in case of primary schools, STs in KBK Districts are at par with non-STs, whereas in case of upper primary schools, they lag behind non-STs.

### CONCLUDING OBSERVATIONS AND SUGGESTIONS

There exist regional disparities in education between KBK and non-KBK regions. The disparity in literacy in KBK district and non-KBK districts declined over the years, but the variation is more in KBK districts. Though there is a

phenomenal increase in female literacy rate over the decade, there exists gender disparity in literacy across social groups between the regions. As regards to enrolment STs are at par with non-STs at primary level both in KBK and non-KBK region but in case of upper primary level STs are not at par with non-STs in both the regions. This gives the impression at higher levels of education demand side factors stand on the way of children's education.

Therefore, it is suggested that in order to reduce dropout rate and enhance enrolment among STs in general and girls in particular, parental motivation is very significant. In addition, government has to take special measures like opening of more schools in remote areas, appointment of more female and ST teachers, provision of special incentive scheme for girls etc. in order to increase children's participation in schools.

## **REFERENCES**

1. Agrawal, S. P. & Aggarwal, J. C. (1994). *Third Historical Survey of Educational Development in India: Select Documents, 1990-1992*. New Delhi: Concept Publishing Company.
2. Bandopadhyay, M. & Subrahmanian, R. (2010). *Gender Equity in Education: A Study of Trends and Factors*. Research Monograph No. 18. New Delhi: National University of Education & Planning.
3. Census of India, Primary Census Abstract, Odisha, 2001 and 2011, Office of the Registrar General, Bhubaneswar.
4. Das, S. & Mukherjee, D. (2008). Role of Parental Education in Schooling and Child Labour Decision: Urban India in the Last Decade. *Social Indicators Research*, 89(2), 305-322.
5. Debi (1996), "Regional Disparity in Education in Orissa", *Indian journal of Regional Science*, Vol. 28, No. 2
6. Dutt, S. (2001) "The Determinants of Children's Educational Attainments: A Socio-economic Empirical Study on Tribals of Tripura", *Indian Social Science Review*, Vol. 3, No. 2.
7. Education Commission (1968), "Education for Development", Report of the education commission, 1964-66, NCERT, New Delhi.
8. Filmer D. (2000), "The Structure of Social Disparities in Education: Gender and Wealth," World Bank Policy Research Working Paper No. 2268
9. Government of Odisha (2010-11), *Economic Survey 2007-08*, Planning and Co-ordination Department, Bhubaneswar. (2004), *Odisha Human Development Report*, Planning and Co-ordination Department,
10. Hasan, R. & Mehta, A. (2006). Under-representation of Disadvantaged Classes in Colleges: What Do the Data Tell Us. *Economic and Political Weekly*, September, 3791- 3796.
11. Kundu, A. & Rao, J. M. (1986). Inequity in educational development: Issues in measurement, changing structure and its socio-economic correlated with special reference to India. In Raza, M. (Ed.), *Educational planning: A long term perspective* (pp. 435-466).
12. Sopher, D.K, (1974) "Measurement of Disparity", *The Professional Geographer*, 26/4, (November), pp.380-392.
13. Sen, A. (1985). *Commodities and Capabilities*. Amsterdam: North Holland.
14. Sen, A. (1999). *Development as Freedom*. New York: Knopf.
15. Schultz, T. W. (1961) *Investment in Human Capital*. *The American Economic Review*, 51, (1), 1-17.

16. Sopher, D. E. (1980). Sex disparity in Indian literacy. In D. E. Sopher (Ed.), *An exploration of India: Geographical perspectives on society and culture* (pp. 130–188). New York: Cornell Press.
17. Sengupta, P. & Guha, J. (2002). Enrolment, Dropout and Grade Completion of Girl Children in West Bengal, *Economic and Political Weekly*, 37(17), 1621-163
18. Tilak, J.B.G (1994), "Education for Development in Asia," New Delhi: Sage Publication.
19. Thorat, S. (2004). Higher Education in India: Emerging Issues Related to Access, Inclusiveness and Equity. Nehru Memorial Lecture, University of Mumbai, Mumbai.