

1 Dr. Mukesh Kumar Mishra<sup>1</sup>

2 <sup>1</sup> NIMS College T.U

3 Received: 14 February 2012 Accepted: 29 February 2012 Published: 15 March 2012

4

---

## 5 **Abstract**

6 Human development paradigm is one of the emerging development models which is widely  
7 accepted all over the world. This paper tries to shed light on the methodology applied by  
8 Nepal for calculating GDI and GEM and it also focuses on the trend and pattern of GDI and  
9 GEM in Nepal. The primary objective of this study is to examine the change in pattern of  
10 GDI and GEM of Nepal over the last 10 years from 1996 to 2006. This study is based on the  
11 secondary source of information collected from the Nepal Human Development Reports  
12 (NHDR) 1998 to 2009A.D. The study indicates that desegregation of GDI and GEM at sub  
13 national levels has enormous differences in terms of human development especially from  
14 gender perspective. The level of both, GDI and GEM has increased over the time (the value of  
15 GDI has improved from 0.267 in 1996 to 0.499 in 2006. Likewise, the value of GEM has also  
16 increased from 0.191 in 1996 to 0.496 in 2006) but still it has not reached in satisfactory level,  
17 particularly while comparing the status of these two indicators in development regions , there  
18 is wide gap. This study can be effective for policy intervention and further planning for  
19 women empowerment.

20

---

21 **Index terms**— Gender Related Development, Gender Empowerment Measures.

## 22 **1 INTRODUCTION**

23 The term 'human development' has come to be accepted in the development literature as an expansion of human  
24 choices, an enhancement of freedom and fulfillment of human rights. Human development is the process of  
25 enlarging people choices. Enlarging people's choices is achieved by expanding human capabilities and functioning.  
26 At all level of development, there are three essential capabilities of human development -to lead long and healthy  
27 life, to be knowledgeable and to have a decent standard of living. If these basic capabilities are not achieved,  
28 many choices are simply not available and many opportunities remain inaccessible. But human development  
29 further goes on; political, economic and social opportunities for being creative and productive to enjoying self  
30 respect, empowerment and a sense of belonging to a community.

31 The human development paradigm is a holistic development model. The development must put people at the  
32 center of its concern. The purpose of development is to enlarge all human choices not just income. The human  
33 development paradigm is concerned both with building up human capabilities (through investment on people)  
34 and with using those human capabilities fully (through an enabling framework for growth and empowerment). It  
35 defines the ends of development and analyses sensible option for achieving them. Human development has four  
36 essential pillars equity, sustainability, production and empowerment.

37 Since the birth of human development, it was criticized to be less attentive to gender issues. Owing to  
38 the criticism, the beginning Human Development Reports were devoted to discover gender issues subjectively.  
39 However, the need of gender sensitive development measurement was realized by all development practitioners.

40 The reason for demanding gender sensitive development measure was sustained, particularly in case of human  
41 development which stood on the principle of equity. Equitable human development can be achieved with providing  
42 equal opportunities for gender. There are explicit evidences that demonstrate gender differences or/and inequality  
43 in both biological and social ground. Biologically, sex ratio at birth is higher for male children, 1.05 per female  
44 live birth, but female lives longer than male by about 5 to 7 years on the average (life expectancy at birth). The  
45 evidences suggest that if males and females receive similar health care, nutritional opportunities, and so on,

## 4 MEASUREMENT OF HUMAN DEVELOPMENT

---

46 women tend to have significantly lower death rates at most age groups, and end up living much longer than  
47 men do. On the basis of social, cultural and economical sphere, "women and men share many aspects of living  
48 together, collaborate with each other in complex and ubiquitous ways, and end up often enough -with very  
49 different rewards and deprivations" (Anand and Sen, 1995). This is because, unequal treatment in access to food,  
50 health care, education, employment and income earning opportunities. There may a systematic antifemale bias  
51 in the distribution of health care, nutrition, and other ingredients of living. Gender bias exists, both within the  
52 households and in public sphere -in labour market, in access to public health services. At the result, lower life  
53 expectancy of females than males in many parts of the world (especially in Asia and North Africa).

54 achievements is important both because of questions of justice and because of the practical importance confirmed in many empirical studies -of the long run impact of women's education on the social well-being of both  
55 women and men. Therefore, Gender desegregation is necessary in human development. Human development  
56 index is well-suited to examining gender inequalities that result from such unequal treatment.

57 The Human Development Report 1995 highlighted that if development is not engendered, is endangered.  
58 In 1995, two composite indexes were constructed to account for gender inequalities. They are Gender-related  
59 Development Index (GDI) and Gender Empowerment Measure (GEM). In estimating the GDI, a measure is  
60 constructed for the overall achievements of women and men in the three dimensions of the HDI-life expectancy,  
61 educational attainment and adjusted real income after taking note of inequalities between women and men. In  
62 other words, the GDI is the HDI adjusted for gender inequality.

63 The gender empowerment measure concentrates on participation economic, political and professional. It seeks  
64 to determine how much women have been empowered or enfranchised to take part in different aspects of public  
65 life in comparison with men. It focuses on only three variables; economic-earning power, share in professional  
66 and managerial jobs and share of parliamentary seats.

## 68 2 II.

### 69 3 OBJECTIVES

70 The primary objective of this study is to discuss the methodology of calculation GDI and GEM followed by Nepal  
71 as well as compare these indices over past. The specific objectives are :

72 ? To shed light on the methodology adopted by Nepal to calculate GDI and GEM over past.

## 73 4 MEASUREMENT OF HUMAN DEVELOPMENT

74 With the annual editions of Human Development Reports (HDRs) that are proving influential in re-orienting  
75 development minds to re-found objective. It was increasingly felt that national reports could best reflect national  
76 concerns and serve better the identification of state-specific priorities. It was believed that national report helps to  
77 search on policies that directly improve the capabilities of people and reduce human deprivation. On the basis of  
78 importance of national report, Nepal has produced four NHDRs to date. The first NHDR was published in 1998,  
79 second in 2001, third in 2004 and last one published in 2009 A.D. NHDR 1998 and 2004 provide regional as well as  
80 district level of measurement of HD, while the reports of 2001 and 2009 provide only regional level measurements  
81 with using the latest data available. This report measures the HD using the following measurements -Human  
82 Development Index (HDI), Gender Development Index (GDI), Gender Empowerment Measure (GEM), Human  
83 Poverty Index (HPI) and Human Empowerment Index (HEI). a) Methodology to Calculate GDI and GEM i.  
84 Gender related Development Index(GDI)

85 In Nepal, GDI measures achievements in the same dimensions and variables as the HDI (HDI is a composite  
86 index based on three indicators -longevity measured by life expectancy at birth; educational attainment measured  
87 by combination of adult literacy (two-third weight) and the combined gross primary, secondary and tertiary  
88 enrolment ratio (one-third weight); and standard living measured by gross domestic product (GDP) per capita  
89 (PPP US\$).), but takes into account inequality in achievements between women and men. The greater the gender  
90 disparity in human development, the lower in the country's GDI compared to its HDI. In other words, higher  
91 value corresponds to the higher gender equality or higher level of achievements made by both men and women.  
92 The GDI is simply the HDI adjusted downwards for gender inequality. GDI falls when achievements levels of  
93 both women and men in a country go down or when the disparity between their achievements increases. While  
94 calculating GDI, dimension index is computed by transforming original values into normalized scores separately  
95 for male and female. The equation is Using the above relation, three indices are computed -life expectancy (LEI),  
96 educational attainment (EAI), and GDP index (GDPI). For EAI, first, compute the dimension index of both  
97 adult literacy and combined gross enrolment separately for male and female; then take the average with two-third  
98 weight of adult literacy and one-third of gross enrolment or mean years of schooling. The formula is, Educational  
99 attainment index =  $\{2/3 * ALI\} + \{1/3 * MYS\}$ , where, ALI is adult literacy index and MYS is mean years of  
100 schooling index. At last, Income index is obtained by logarithmic transformation, since income is treated as a  
101 proxy of decent living. The formula is; Income index =  $\log(\text{Actual}) - \log(\text{Min}) / \{\log(\text{Max}) - \log(\text{Min})\}$ . The  
102 second step involves computation of "equally distributed index". The formula is Where, pf and pm respectively  
103 refer to the proportional share of female and male in the population,

104 5 April 2012

## 105 Difference between male and female educational

## 106 6 Minimum Maximum

107 7 Minimum

110 By using this formula, we have to estimate; an equally distributed index of life expectancy at birth (EDILE),  
111 an equally distributed index of educational attainment (EDIEA) and an equally distributed index of income  
112 (EDII). The notion of "equally distributed equivalent" achievement between women and men plays an important  
113 role in developing gender-equality sensitive indicators.

Finally GDI is calculated as the simple average of these three equally distributed indices, such as:

115 As the GDI, the GEM seeks to determine how much women have been empowered or enfranchised to take  
116 part in different aspects of public life in comparison with men. It measures the relative empowerment of women  
117 and men in political and economic activities. Empowerment is measured by participation with decision making  
118 power. Percentage share of men and women in parliamentary seats and participation of men and women in  
119 local elections at VDC and municipality levels represent political empowerment. Percentage share of men and  
120 women in the administrative and managerial positions and in the professional and technical positions and income  
121 represent economic empowerment.

122 It focuses on women's opportunities rather than capabilities. The opportunities are related to economic and  
123 public participation and decision-making. Then, the GEM captures gender inequality in three key areas. 1. Political participation and decision-making, it measured by female and male percentage shares of parliamentary  
124 seats in 1998 NHDR reports and female and male percentage shares of parliamentary seats as well as local election  
125 in 2001 and 2004 NHDR. 2. Economic participation and decision-making, it is measured by the simple average of  
126 two indicators such as female and male percentages shares of positions as legislators, senior officials and managers,  
127 and female and male percentage shares of professional and technical positions. 3. Power over economic resources,  
128 it is measured as female and male estimated earned income (PPP US\$). The first two dimensions concentrate on  
129 the political and economic sphere primarily from the perspective of participation -higher the participation, the  
130 higher the empowerment. The third is the power over economic resources.

132 For estimating GEM, at first Equally Distributed Equivalent Index (EDEI) are calculated for each three index.  
133 Equally distributed equivalent index is computed as according to the following formula, assuming that the value  
134 of  $i$  is 2.

135 V.

## <sup>136</sup> 8 RESULT AND DISCUSSION

## 9 a) GDI and GEM at national level

144 Where, pf and pm respectively refer to the proportional share of female and male in the population, and  $X_f$   
 145 and  $X_m$  respectively the male and female indices computed in the first step.

146 To get final EDEI for participation and decisionmaking, divide each combined share by 50. The rational for  
147 dividing by 50 is an ideal society, with equal empowerment of the sexes, each combined share would equal 50%  
148 -that is, women's share would equal men's share. At last, GEM is calculated as the simple average of these three  
149 indices as follows;

150 IV. have higher GDI and GEM than their rural counterparts for obvious reasons, such as; better access to  
151 health care, better educational opportunities, income opportunities, opportunities for political participation and  
152 decision making c) Ecological differential of GDI and GDM.

## 153 10 DATA AND METHODS

154 11 This

155 12 April 2012

156 The gender inequality is higher in rural areas than that of urban areas as the report of NHDR 2006 shows the  
157 rural GDI of Nepal is merely 0.471 where as it is 0.819 for urban areas. Likewise, it also suggests that women  
158 in the rural areas are less empowered than that of women in urban areas. The value of GDI and GEM both are

## 16 VI. CONCLUSION AND SUGGESTION

---

159 high in urban areas in each report in comparison with rural areas. However, the value of the GDI and GEM has  
160 improved in both urban and rural areas over the time period. Urban areas, in general,

### 161 13 April 2012

162 The values of GDI and GEM have improved for each development regions over the time period. The value of  
163 GDI was higher for central development region in 1996 and 2000, but in 2001 the value of GDI was higher in  
164 western development region but again in 2006 the value of GDI was found Highest in CDR. Likewise, the far  
165 western development regions have least value of GDI for each year except in 2006, during this period MWDR  
166 had the least GDI.. Similarly, the value of GEM was higher for central development region till 2001 but in 2006  
167 the EDR had highest value for GEM .Similarly the lowest value was found in mid western development region  
168 for each year respectively. It indicates that there was a high gender disparity and women were less

### 169 14 Eco

### 170 15 April 2012

171 of enhancing a more just distribution of these capabilities among men and women.

172 It can be inferred from the strong positive association between women's empowerment and their achievements  
173 in basic capabilities, that low GDI is the outcome of a relatively low level of empowerment among women.  
174 Although the line of caution between the development of women's capabilities and their empowerment may not  
175 be absolute, it appears that the best policy option is to empower women in order to enhance their capabilities  
176 even while working to close the gender gaps in capability. To narrow the gender gap further, it is important to  
177 concentration education, especially focusing on girls and women. It is equally important to expand opportunities  
178 and make them accessible to all -again, with special emphasis on women's participations.

179 To address this alarming marginalization, Nepal needs to enhance the education and training of women at  
180 higher levels. The government should also consider taking appropriate measures to increase women's participation  
181 in the political process and the recruitment of more women into professional and administrative jobs. This can be  
182 sustained only by increasing opportunities for women in both education and employment. Expanding economic  
183 opportunities will require a shift in the structure of the economy away from subsistence agricultural and thus a  
184 rise in income generating scope for both men and women. and Dadeldhura. It also indicates that districts having  
185 higher value of GEM have higher correspondingly value of GDI, except a few exceptions (Figure 5) (for more see  
186 Annex 1).

## 187 16 VI. CONCLUSION AND SUGGESTION

188 Desegregation of GDI and GEM at sub national levels show enormous differences in human development from  
189 gender perspective. It can thus be observed that the intensity of discrimination against women at various socio-  
190 organizational levels -national, regional and district levels in basic capabilities formation in Nepal is quite high.  
191 Nepal, thus, faces the challenges The classification shows that the values of GDI for 35 districts are greater than  
192 national average and remaining have below the national average. There was less gender disparity in Kathmandu  
193 district, followed by Kaski and Lalitpur respectively. Likewise, there is high gender disparity in Bajura, followed  
194 by Bajhang and Achham, respectively.

195 Similarly, the value of GEM for 24 districts is greater than that of national average and the value of remaining  
196 (majority districts, 51) is below the national average. Lalitpur has the highest value of GEM (0.448), followed by  
197 Kathmandu (0.442) and Kaski (0.433), respectively. Likewise, the women of Pyuthan district are least empowered  
198 followed by the women in Mahottari e) Districts level differential There was variation in values of GDI and GEM  
199 at the district level. For the majority of districts, the values of GDI and GEM have below the national level.

200 Figure 5 shows the level of GDI and GEM of 75 districts in alphabetical order from left to right considering  
201 the national average a point '0' (0 indicate 0.452 for GDI and 0.391 for GEM). <sup>1 2 3</sup>

---

<sup>1</sup>© 2012 Global Journals Inc. (US) © 2012 Global Journals Inc. (US) Global Journal of Human Social Science  
Volume XII Issue VII Version I 2

<sup>2</sup>© 2012 Global Journals Inc. (US)

<sup>3</sup>© 2012 Global Journals Inc. (US) © 2012 Global Journals Inc. (US)



1

Figure 1: Figure 1 :

[Note: © 2012 Global Journals Inc. (US)]

Figure 2:

1

	1996	2000	2001	2006
GDI(EDR)	0.297	0.465	0.475	0.516
GdI(CDR)	0.273	0.476	0.467	0.517
GDI(WDR)	0.305	0.463	0.477	0.511
GDI(MWDR)	0.22	0.376	0.385	0.441
GDI(FWDR)	0.216	0.356	0.377	0.447

Figure 3: Table 1 :

1

-Region	GDI						GEM		
	1996	2000	2001	2006	1996	2000	2001	2006	
Eastern Mountain	0.307	0.399	0.462	0.514	0.126	0.369	0.394	0.538	
Eastern Hill					0.313	0.497	0.486	0.534	0.142
Eastern Tarai					0.338	0.473	0.469	0.508	0.123
Central Mountain	0.210	0.425	0.410	0.441	0.134	0.376	0.343	0.489	
Central Hill					0.332	0.499	0.528	0.589	0.224
Central					0.256	0.443	0.416	0.463	0.098
Tarai									0.372
Western Mountain	0.280	0.405	0.478	0.414	0.119	0.427	0.511	0.413	
Western Hill					0.304	0.472	0.479	0.547	0.172
Western Tarai					0.308	0.411	0.474	0.455	0.136
Mid-Western					0.185	0.287	0.314	0.325	0.066
Mountain									0.273
Mid-Western Hill	0.238	0.408	0.400	0.439	0.093	0.315	0.334	0.410	
Mid-Western					0.266	0.439	0.422	0.477	0.137
Tarai									0.364
Far-Western					0.185	0.246	0.319	0.325	0.052
Mountain									0.322
Far-Western Hill					0.181	0.355	0.369	0.421	0.059
Far-Western Tarai	0.273	0.407	0.432	0.492	0.109	0.381	0.346	0.469	
Nepal					0.267	0.452	0.452	0.499	0.191
									0.385
									0.391
									0.496

The value of GDI was found highest in Central Hill continuously from 2000 to 2006 A.D.

Figure 4: Table 1 )

---

Gulmi Salyan	0.457	0.382
Humla Sankhuwasabha	0.337	0.467
Ilam Saptari	0.513	0.416
Jajarkot Sarlahi	0.328	0.377
Jhapa Sindhuli	0.482	0.453
Jumla Sindhupalchok	0.316	0.401
A Kailali Kalikot Kanchanpur Sir- prilaha Solukhumbu Sunsari Kapil- 2010 astu Surkhet	ANNEX Annex 2 : GDI and GEM at district levels, 2001	0.428 0.274
2 Kaski Syangja	2001	GDI 0.578 0.518
42		
Kathmandu Tanahu	0.635	0.516
Nepal	0.452	
Kavrepalanchok Taplejung	0.527	0.451
Districts (In alphabetic order) Khotang Terhathum	0.425	0.504
Achham Lalitpur Udayapur	0.314	0.569 0.474
Arghakhanchi Baglung Mahot- tari Lamjung Source : NHDR, 2004	0.463	0.481 0.368
Baitadi Makwanpur	0.361	0.468
Bajhang Manang	0.289	0.495
Bajura Morang	0.277	0.511
Banke Mugu	0.463	0.263
Bara Mustang	0.420	0.470
Bardiya Myagdi	0.411	0.486
Bhaktapur Nawalparasi	0.578	0.466
Bhojpur Nuwakot	0.457	0.445
Chitawan Okhaldhunga	0.505	0.461
Dadeldhura Palpa	0.396	0.478
Dailekh Panchthar	0.358	0.472
Dang Parbat	0.388	0.492
Darchula Parsa	0.394	0.429
Dhading Pyuthan	0.394	0.399
Dhankuta Ramechhap	0.493	0.414
Dhanusha Rasuwa	0.416	0.376
Dolakha Rautahat	0.425	0.384
Dolpa Rolpa	0.341	0.357
Doti Rukum	0.368	0.364
Gorkha Rupandehi	0.445	0.527

[Note: A]

Figure 5:



---

202 [ Human Development Report ()] , *Human Development Report* 1990. 1990. Oxford University Press. (UNDP)

203 [ Human Development Report ()] , *Human Development Report* 1991. 1990. Oxford University Press.

204 [ Human Development Report ()] , *Human Development Report* 1995. 1990. Oxford University Press.

205 [ Nepal Human Development Report ()] , <http://www.undp.org.np> *Nepal Human Development Report* 1998.  
206 1998. Pulchowk.

207 [ Nepal Human Development Report ()] , <http://www.undp.org.np> *Nepal Human Development Report* 2001.  
208 1998. Pulchowk.

209 [ Nepal Human Development Report ()] , <http://www.undp.org.np> *Nepal Human Development Report* 2004.  
210 1998. Pulchowk.

211 [Anand and Sen ()] Sudhir Anand , Amartya Sen . *Gender Inequality and Human Development: Theories and  
212 Measurement*, (New York) 1995. Human Development Office, United Nation Development Programme.

213 [Readings in Human Development Kathmandu: Pulchowk ()] <http://www.undp.org.np> *Readings in Human  
214 Development Kathmandu: Pulchowk*, (Nepal) —, 2006.

215 [State Transformation and Human Development ()] *State Transformation and Human Development*, 2009.

216 [Mahub Ul ()] ‘The Human Development Paradigm’. Haq Mahub Ul . *Reading in Human Development*, (New  
217 York) 1995. Oxford University Press.