Gendering Human Development Indices:

Recasting the Gender Development Index and Gender Empowerment Measure for India

Summary Report

Towards a new dawn

MINISTRY OF WOMEN AND CHILD DEVELOPMENT
GOVERNMENT OF INDIA
2009

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1. Introduction

Gender relations are the key to understanding the inequalities between men and women. These inequalities are expressed in many ways - explicit and implicit. The explicit measures are well known and are revealed in statistics depicting differences in the sex ratio, child infanticide, literacy rates, health and nutrition indicators, wage differentials and ownership of land and property. The implicit measures are embedded in power relations and hierarchies and are more difficult to measure. Located in the household, in custom, religion and culture, these intra-household inequalities result in unequal distribution of power, unequal control over resources and decision-making; dependence rather than self-reliance; and unfair, unequal distribution of work, drudgery, and even food. For governments and concerned citizens seeking to redress these inequalities, gender disaggregated data and indices are tools that can be used to identify gender inequalities, determine the issues that must be addressed, take steps to redress the inequalities, provide feedback on the effectiveness of actions and re-prioritise allocation of resources.

United Nations Development Programme's (UNDP) annual Human Development Reports (HDRs) have successfully shifted the development debates and attention from uni-dimensional, income or Gross Domestic Product based indices to inclusion of non-income and multi-dimensional variables in measurement of development. The Human Development Index (HDI) introduced by UNDP in 1990 is a simple average of three dimension indices that measure average achievements in a country with regard to 'A long and healthy life', as measured by life expectancy at birth; 'Knowledge', as measured by the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio; and 'A decent standard of living', as measured by estimated earned income in Purchasing Power Parity (PPP) US$. In 1995, the UNDP introduced two new indices: a Gender-related Development Index (GDI) and a Gender Empowerment Measure (GEM). UNDP's HDRs have estimated HDI each year since 1990 and GDI and GEM since 1995. The Gender-related Development Index adjusts the average achievements in the same three dimensions that are captured in the HDI, to account for the inequalities between men and women. The Gender Empowerment Measure focuses on opportunities and captures gender inequality in three key areas: 'Political participation and decision-making power', as measured by women's and men's percentage shares of parliamentary seats; 'Economic participation and decision-making power', as measured by two indicators—women's and men's percentage in employment as legislators, senior officials and managers and women's and men's percentage shares of professional and technical positions; and 'Power over economic resources', as measured by women's and men's estimated earned income (PPP US$). The GEM was intended to measure women's and men's abilities to participate actively in economic and political life and their command over economic resources.

2. Ministry of Women and Child Development's Initiative: The Process of Recasting GDI and GEM for India and the States/Union Territories

GDI and GEM developed by UNDP need to be recast to realistically capture the gender gaps in development and empowerment in the Third World. These indices have been developed from a northern perspective, and do not incorporate the perspective of the south. How can we recast GDI and GEM to make them meaningful for India within the limitations of data availability? Can GDI and GEM become effective instruments for building gender equity?

With this as the objective, the Ministry of Women and Child Development (MWCD) decided to recast GDI and GEM for India and States/Union Territories (UTs). UNDP also came forward to support this initiative with technical and financial assistance through the MWCD–UNDP project for "Promoting Gender Equality". The Indian Institute of Public Administration (IIPA), New Delhi was identified as the Technical Collaborating Institution for the task. In January 2007, MWCD constituted a Technical Advisory Committee (TAC) with the Statistical Adviser, MWCD as the Chairperson and Prof. Aasha Kapur Mehta, Professor of Economics, IIPA, as the Member Secretary. The TAC members comprised representatives from the Ministry of Statistics and Programme Implementation, Social Sector Ministries, a few of the women economists who had worked on these indicators in 1996 and UNDP.

An iterative process was followed through three brainstorming TAC Workshops. The final choice of dimensions and indicators was based on the need to use variables that are intuitively understandable and relevant, within the constraints imposed by availability of reliable data. The decisions taken in the TAC workshops that enabled determination of these indicators are the following:

- Only two indices would be calculated: (i) GDI and (ii) GEM. These would be calculated at the national or all-India level and for States/UTs. Calculation of GDI and GEM would be attempted for two districts to identify data gaps. The indices would be calculated for 2 periods 1996 and 2006.

- The index compiled should be simple, easily calculable and easy to interpret.

- For maintaining international comparability, the dimensions used would be the same as those used by UNDP. Equal weights would be assigned to all the dimensions. However, within dimensions, the indicators chosen, weights and goal posts would be more relevant to the Indian context.

- Critical gaps in data availability may be highlighted.

3. Dimensions, Indicators, Goal Posts and Weights for HDI, GDI and GEM

The final list of indicators used was constrained by availability of data for India and for most States and Union Territories. Data gaps exist even for the finally selected indicators, thereby requiring assumptions /application of averages. Apart from GDI and GEM, HDI was also calculated for 1996 and 2006 based on the same dimensions and indicators identified for GDI. The Dimensions and Indicators identified for computing HDI, GDI and GEM are given below.

HDI and GDI

HDI and GDI Dimension 1: 'A Long and Healthy Life'

Indicators: i) Infant Mortality Rate and ii) Life Expectancy at age 1.
The negative index for infant mortality rate was converted to a positive indicator by subtracting the value from 1.

HDI and GDI Dimension 2: 'Knowledge'

Indicators: i) 7+ Literacy Rate and ii) Mean Years of Education.

HDI and GDI Dimension 3: 'A Decent Standard of Living'

Indicator: i) Estimated Earned Income per capita per annum.

GEM

GEM Dimension 1: 'Participation in Political Arenas and Decision-making Power'

Indicators: i) % Share of Parliamentary Seats; ii) % Share of Seats in Legislature; iii) % Share of Seats in *Zilla Parishad*; iv) % Share of Seats in *Gram Panchayats*; v) % Candidates in Electoral Process in National Parties and vi) % Electors Exercising the Right to Vote.

GEM Dimension 2: 'Economic Participation and Decision-making Power'

Indicators: i) % Share in Indian Administrative Service, Indian Police Service and Indian Forest Service; ii) % Share of Professionals graduating from medical and engineering colleges and iii) % Share of High Court Judges (and Supreme Court for all India estimate).

GEM Dimension 3: 'Power over Economic Resources'

Indicators: i) % Female/Male Operational Land Holdings; ii) % Female/Male Availed of Credit (accounts over Rs. 2 Lakhs); iii) % Female/Male Estimated Earned Income Share.

Using goal posts and weights, the dimension indices are calculated. In case of GDI and GEM, while calculating dimension indices, the penalty for gender inequality, i.e., the value of epsilon is taken as 2, which is moderate penalty. The methodology of calculation adopted is the same as followed by UNDP.

The goal posts fixed for estimating HDI and GDI are presented in Table 3.1 and weights for combining the three dimensional indices as well as the indicators within each dimension and for HDI, GDI and GEM are in Tables 3.2 and 3.3.

Table 3.1: Goal Posts for HDI and GDI

	Maximum	Minimum
'A Long and Healthy Life'		
Infant Mortality Rate	200 per 1000 live births	0 per 1000 live births
Life Expectancy at age 1 for HDI	85 years	25 years
Life Expectancy at age 1 for GDI	87.5 years for females and 82.5 for males	27.5 years for females and 22.5 for males
'Knowledge'		
7+ Literacy Rate	100 percent	0 percent
Mean Years of Education	25 years	1 year
'A Decent Standard of Living'		
Female/Male Estimated Earned Income Share per capita per annum	Rs 1,50,000	Rs 100

Table 3.2: Weights for Dimensions and Indicators - HDI and GDI

Dimensions/Indicators	Weights
Dimension 1: 'A Long and Healthy Life'	**One-third**
Infant Mortality Rate	Half for each indicator within the dimension
Life Expectancy at age 1	
Dimension 2: 'Knowledge'	**One-third**
7+ Literacy Rate	Two thirds within the dimension
Mean Years of Education	One third within the dimension
Dimension 3: 'A Decent Standard of Living'	**One-third**
Female/Male Estimated Earned Income Share	

Table 3.3: Weights for Dimensions and Indicators - GEM

Dimensions/Indicators	Weights
Dimension 1: 'Participation in Political Arenas & Decision Making'	**One-third**
% Shares of Parliamentary Seats	One sixth for each indicator within the dimension
% Share of Seats in Legislature	
% Share of Seats in *Zilla Parishad*	
% Share of Seats in *Gram Panchayats*	
% Candidates in Electoral Process in National Parties	
% Electors Exercising the Right to Vote	
Dimension 2: 'Economic Participation and Decision-making Power'	**One-third**
% Share in IAS, IPS and Indian Forest Service	One third for each indicator within the dimension
% Share of Professionals Graduating from Medical and Engineering Colleges	
% Share of Judges	
Dimension 3: 'Power over Economic Resources'	**One-third**
% Share of Operational Land Holdings	One third for each indicator within the dimension
% Female/Male Availed of Credit (accounts over Rs. 2 Lakhs)	
% Female/Male Estimated Earned Income Share	

4. HDI and GDI Estimates for India: Results and Analysis

HDI and GDI scores estimated for India and the scores for each of the three dimensions for the two points of time viz., 1996 and 2006, are presented in Tables 4.1, 4.2 and 4.3 respectively.

Table 4.1: Estimated HDI and GDI for India - 2006 and 1996

Year	Human Development Index	Gender Development Index
2006	0.648	0.633
1996	0.584	0.568

Table 4.2: Dimension Scores for HDI for 2006 and 1996

Year	Health Index	Education Index	Income Index	Human Development Index
2006	0.706	0.506	0.730	0.648
1996	0.653	0.429	0.671	0.584

Table 4.3: Dimension Scores for GDI for 2006 and 1996

Year	Health Index	Education Index	Income Index	Gender Development Index
2006	0.704	0.494	0.702	0.633
1996	0.653	0.409	0.643	0.568

The estimates of HDI and GDI (Table 4.1) show a rise in the level of both human development and gender development in India between 1996 and 2006. The value of the Human Development Index increased from 0.584 in 1996 to 0.648 in 2006. The Gender Development Index is the HDI adjusted for disparities between women and men and the estimated GDI score for India is lower than the HDI score at both points of time due to the existence of gender based disparities in all three dimensions. However, GDI scores show a significant increase from 0.568 in 1996 to 0.633 in 2006. Additionally, the three dimension indices that

constitute HDI and GDI also reflect an increase over the decade, thereby implying that progress has been made in each of these areas (Tables 4.2 and 4.3).

However, it is important to stress that the value of HDI and GDI is extremely sensitive to choice of indicators and goals posts. The value of the HDI decreases by 0.015 points and GDI by 0.014 points when an additional variable (percent of underweight children below -2 S.D.) is added to the Health Index (Table 4.4); the Health Index of HDI declines from a score of 0.706 (based on IMR and Life Expectancy at age 1) to 0.662 with the addition of just one indicator of malnutrition (Table 4.5). Correspondingly, the value of the gender disparity based Health Index, which is a component of the GDI, declines from 0.704 to 0.661 (Table 4.6).

Table 4.4: Estimating HDI and GDI for India with and without Data on Malnutrition - 2006

Year	Human Development Index	Gender Development Index
2006 (without data on malnutrition)	0.648	0.633
2006 (with % of Underweight Children, Below -2 S.D.)	0.633	0.619

Table 4.5: Dimension Scores for HDI with and without Data on Malnutrition - 2006

Year	Health Index	Education Index	Income Index	Human Development Index
2006 (without data on malnutrition)	0.706	0.506	0.730	0.648
2006 (with % of Underweight Children, Below -2 S.D.)	0.662	0.506	0.730	0.633

Table 4.6: Dimension Scores for GDI with and without Data on Malnutrition - 2006

Year	Health Index	Education Index	Income Index	Gender Development Index
2006 (without data on malnutrition)	0.704	0.494	0.702	0.633
2006 (with % of Underweight Children, Below -2 S.D.)	0.661	0.494	0.702	0.619

HDI and GDI Scores for States/UTs

Tables 4.7 and 4.8 present HDI and GDI scores and their dimensions for India and the States/UTs.

- In 1996, Kerala had the highest score in the country achieving 0.747 on HDI and 0.731 on GDI. However, Kerala was ranked 2nd on HDI and 3rd on GDI in 2006 with scores of 0.775 and 0.757.

- Chandigarh was ranked 2nd on both HDI and GDI in 1996 but attained the highest HDI and GDI score in 2006 at 0.801 and 0.781 respectively.

- Goa was ranked 3rd on both HDI and GDI in 1996. It remained 3rd on HDI (0.775) in 2006 but improved its rank to 2nd on GDI (0.758).

- The States with the consistently low achievement on both HDI and GDI are Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan and Orissa.

- Bihar had the lowest rank on both HDI and GDI in both 1996 and 2006 among the 35 States/UTs.

- Uttar Pradesh was 31st on HDI and 32nd on GDI in 1996. The State declined to the second lowest rank or was 34th with regard to both HDI and GDI in 2006.

- Madhya Pradesh ranked 33rd among all the States/UTs on both HDI and GDI in 1996 and 2006.

- The States/UTs that accomplished the largest gains on HDI over the decade were Uttarakhand and Jharkhand. These States also had the largest improvements in GDI. Other States/UTs which increased their HDI scores by more than the 0.063 points and GDI scores by more than 0.065 that were gained by India on average, included Arunachal Pradesh, Bihar, Chhattisgarh, Dadra & Nagar Haveli, Daman & Diu, Haryana, Himachal Pradesh, Madhya Pradesh, Manipur, Sikkim, Tamil Nadu and Tripura.

- Additionally, Uttar Pradesh exceeded the all India average gain on GDI by increasing its GDI score from 0.494 to 0.563, i.e., 0.069 points over the decade.

- None of the States/UTs have a HDI or GDI score less than 0.5 in 2006.

- The lowest score for HDI is 0.552 for Bihar in 2006 and 0.484 in 1996. The lowest score for GDI is 0.525 for Bihar in 2006 and 0.454 in 1996.

- 14 States/UTs rank better on GDI than on HDI in 2006. These are Andhra Pradesh, Goa, Gujarat, Haryana and Punjab with a gain of 1 rank each; Arunachal Pradesh, Himachal Pradesh, Mizoram, Sikkim and Dadra & Nagar Haveli with a gain of 2 ranks each; Manipur, Nagaland, Uttarakhand with a gain of 3 ranks each and Meghalaya with a gain of 4 ranks.

- 8 States/UTs lose their position on GDI relative to HDI in 2006. These are Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu and West Bengal, with a loss of 1 rank each; and Lakshadweep, Tripura and Daman & Diu with larger losses.

- 13 States/UTs maintain their ranks for HDI and GDI in 2006. These are Assam, Bihar, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, Chhattisgarh, Jharkhand, Andaman & Nicobar Islands, Chandigarh, Delhi and Pondicherry.

Table 4.7: Dimension-wise HDI Scores for States/UTs 2006 and 1996

S. No.	States/ UTs	HDI 2006				HDI 1996			
		HI 06	EdI 06	YI 06	HDI 06	HI 96	EdI 96	YI 96	HDI 96
1	Andhra Pradesh	0.715	0.434	0.733	0.627	0.673	0.363	0.668	0.568
2	Arunachal Pradesh	0.714	0.606	0.712	0.677	0.700	0.358	0.675	0.578
3	Assam	0.647	0.607	0.682	0.645	0.612	0.529	0.656	0.599
4	Bihar	0.678	0.403	0.575	0.552	0.641	0.317	0.494	0.484
5	Goa	0.826	0.654	0.845	0.775	0.791	0.629	0.764	0.728
6	Gujarat	0.719	0.545	0.757	0.674	0.682	0.481	0.697	0.620
7	Haryana	0.733	0.533	0.792	0.686	0.685	0.455	0.724	0.621
8	Himachal Pradesh	0.747	0.598	0.771	0.705	0.709	0.516	0.689	0.638
9	Jammu & Kashmir	0.718	0.483	0.686	0.629	0.674	0.434	0.661	0.590
10	Karnataka	0.741	0.504	0.730	0.658	0.714	0.417	0.662	0.598
11	Kerala	0.870	0.697	0.758	0.775	0.867	0.679	0.695	0.747
12	Madhya Pradesh	0.628	0.470	0.656	0.585	0.559	0.371	0.589	0.506
13	Maharashtra	0.778	0.596	0.773	0.716	0.739	0.531	0.725	0.665
14	Manipur	0.787	0.635	0.707	0.710	0.738	0.518	0.627	0.627
15	Meghalaya	0.682	0.612	0.713	0.669	0.677	0.566	0.648	0.631
16	Mizoram	0.752	0.642	0.682	0.692	0.675	0.634	0.656	0.655
17	Nagaland	0.764	0.647	0.734	0.715	0.715	0.628	0.692	0.678
18	Orissa	0.639	0.463	0.674	0.592	0.573	0.403	0.623	0.533
19	Punjab	0.765	0.561	0.777	0.701	0.752	0.486	0.739	0.659
20	Rajasthan	0.678	0.415	0.681	0.591	0.618	0.342	0.647	0.536
21	Sikkim	0.732	0.610	0.728	0.690	0.664	0.542	0.660	0.622
22	Tamil Nadu	0.766	0.566	0.750	0.694	0.710	0.482	0.695	0.629
23	Tripura	0.724	0.611	0.733	0.690	0.675	0.551	0.621	0.616
24	Uttar Pradesh	0.651	0.459	0.636	0.582	0.598	0.363	0.606	0.522
25	West Bengal	0.754	0.533	0.726	0.671	0.703	0.478	0.662	0.614
26	Chhattisgarh	0.661	0.429	0.696	0.595	0.587	0.371	0.589	0.516
27	Jharkhand	0.705	0.447	0.683	0.611	0.647	0.317	0.494	0.486
28	Uttarakhand	0.721	0.607	0.726	0.685	0.643	0.363	0.606	0.537
29	Andaman & Nicobar Islands	0.771	0.644	0.780	0.732	0.759	0.605	0.736	0.700
30	Chandigarh	0.818	0.684	0.901	0.801	0.800	0.632	0.797	0.743
31	Dadra & Nagar Haveli	0.761	0.619	0.730	0.704	0.690	0.488	0.671	0.616
32	Daman & Diu	0.778	0.655	0.730	0.721	0.681	0.493	0.671	0.615
33	Delhi	0.759	0.707	0.837	0.768	0.731	0.642	0.779	0.717
34	Lakshadweep	0.786	0.630	0.730	0.716	0.792	0.632	0.671	0.698
35	Pondicherry	0.788	0.642	0.809	0.747	0.806	0.575	0.679	0.687
	All India	0.706	0.506	0.730	0.648	0.653	0.429	0.671	0.584

Note: **HI** is the Index of 'A long and healthy life' based on Infant Mortality Rate and Life Expectancy at age 1; **EdI** is the Index of 'Knowledge' based on 7+ Literacy rate and Mean Years of Education; and **YI** is the Index of 'A decent standard of living' based on Earned Income and **HDI** is 'Human Development Index'

Table 4.8: Dimension-wise GDI Scores for States/UTs 2006 and 1996

S. No.	States/ UTs	GDI 2006				GDI 1996			
		HI 06	EdI 06	YI 06	GDI 06	HI 96	EdI 96	YI 96	GDI 96
1	Andhra Pradesh	0.712	0.422	0.716	0.617	0.672	0.346	0.656	0.558
2	Arunachal Pradesh	0.713	0.603	0.702	0.673	0.703	0.351	0.667	0.573
3	Assam	0.651	0.608	0.650	0.636	0.611	0.523	0.606	0.580
4	Bihar	0.674	0.377	0.524	0.525	0.637	0.274	0.449	0.454
5	Goa	0.826	0.652	0.797	0.758	0.790	0.627	0.711	0.709
6	Gujarat	0.720	0.529	0.742	0.664	0.680	0.454	0.682	0.605
7	Haryana	0.731	0.521	0.773	0.675	0.685	0.434	0.700	0.607
8	Himachal Pradesh	0.746	0.594	0.767	0.702	0.708	0.506	0.689	0.634
9	Jammu & Kashmir	0.717	0.466	0.639	0.608	0.673	0.411	0.638	0.574
10	Karnataka	0.740	0.494	0.707	0.647	0.712	0.403	0.642	0.586
11	Kerala	0.868	0.697	0.705	0.757	0.867	0.678	0.649	0.731
12	Madhya Pradesh	0.627	0.451	0.641	0.573	0.559	0.335	0.576	0.490
13	Maharashtra	0.777	0.587	0.748	0.704	0.736	0.516	0.704	0.652
14	Manipur	0.785	0.631	0.705	0.707	0.738	0.505	0.611	0.618
15	Meghalaya	0.683	0.609	0.700	0.664	0.679	0.565	0.640	0.628
16	Mizoram	0.753	0.640	0.676	0.690	0.677	0.630	0.641	0.649
17	Nagaland	0.765	0.644	0.727	0.712	0.700	0.626	0.666	0.664
18	Orissa	0.638	0.450	0.651	0.579	0.572	0.380	0.600	0.517
19	Punjab	0.781	0.558	0.749	0.696	0.752	0.479	0.701	0.644
20	Rajasthan	0.678	0.381	0.672	0.577	0.615	0.284	0.637	0.512
21	Sikkim	0.732	0.608	0.713	0.685	0.665	0.537	0.616	0.606
22	Tamil Nadu	0.767	0.559	0.722	0.683	0.710	0.469	0.671	0.617
23	Tripura	0.724	0.608	0.628	0.653	0.677	0.542	0.529	0.583
24	Uttar Pradesh	0.649	0.437	0.604	0.563	0.596	0.321	0.563	0.494
25	West Bengal	0.753	0.526	0.675	0.651	0.703	0.468	0.614	0.595
26	Chhattisgarh	0.661	0.413	0.688	0.587	0.586	0.335	0.576	0.499
27	Jharkhand	0.702	0.418	0.665	0.595	0.645	0.274	0.449	0.456
28	Uttarakhand	0.720	0.600	0.718	0.679	0.641	0.321	0.563	0.508
29	Andaman & Nicobar Islands	0.769	0.642	0.737	0.716	0.759	0.594	0.723	0.692
30	Chandigarh	0.826	0.684	0.832	0.781	0.803	0.633	0.744	0.726
31	Dadra & Nagar Haveli	0.760	0.619	0.722	0.700	0.690	0.480	0.667	0.612
32	Daman & Diu	0.780	0.660	0.654	0.698	0.691	0.458	0.624	0.591
33	Delhi	0.759	0.703	0.727	0.730	0.732	0.641	0.707	0.694
34	Lakshadweep	0.785	0.627	0.551	0.654	0.794	0.636	0.589	0.673
35	Pondicherry	0.787	0.638	0.759	0.728	0.807	0.564	0.645	0.672
	All India	**0.704**	**0.494**	**0.702**	**0.633**	**0.653**	**0.409**	**0.643**	**0.568**

Note: **HI** is the Index of 'A long and healthy life' based on Infant Mortality Rate and Life Expectancy at age 1; **EdI** is the Index of 'Knowledge' based on 7+ Literacy Rate and Mean Years of Education; and **YI** is the Index of 'A decent standard of living' based on Earned Income and **GDI** is 'Gender Development Index'

5. GEM: Results and Analysis

Gender Empowerment Measure (GEM) is intended to measure women's and men's ability to participate actively in economic and political life and their command over economic resources. It focuses on opportunities and captures gender inequality in three key areas, 'Political Participation and Decision-making Power', 'Economic Participation and Decision-making Power' and 'Power over Economic Resources'. The aggregate score for GEM for India was 0.413 in 1996 and 0.451 in 2006 (Table 5.1).

Table 5.1: GEM Scores for India, 2006 and 1996

Year	PI	EI	PoERI	GEM
2006	0.581	0.452	0.319	0.451
1996	0.566	0.442	0.231	0.413

Note: **PI** = Index of 'Participation in Political Arenas & Decision Making', **EI** = Index of 'Economic Participation and Decision-making Power' (based on three indicators for 2006 and two indicators for 1996 as data for men and women judges was not available for 1996), **PoERI** = Index of 'Power over Economic Resources', **GEM** = Gender Empowerment Measure

The GEM scores for India estimated by UNDP are a very low 0.228 (UNDP HDR 1998). Using the indicators listed above is more relevant for India and although it yields GEM scores that are double (0.451) those estimated by UNDP, the values attained still reflect the existence of sharp disparities in gender empowerment.

Scores for the three composite indices, Index of 'Participation in Political Arenas and Decision Making Power' (PI), Index of 'Economic Participation and Decision-making Power' (EI) and Index of 'Power over Economic Resources' (PoERI) are also presented in Table 5.1. The scores are highest for PI at 0.566 and lowest for PoERI at 0.231 in 1996. While all three indices reflect an increase over the decade, there is only a small increase from 0.566 in 1996 to 0.581 in 2006 for PI and from 0.442 in 1996 to 0.452 in 2006 for EI. However, the Index of 'Power over Economic Resources' (PoERI) while still low, increases significantly from 0.231 in 1996 to 0.319 in 2006.

Table 5.2 shows that:

- Andhra Pradesh had the highest score for GEM for 2006. It moved from 14th rank in 1996 to the 1st position in 2006 with a significant improvement in its GEM score.

- Goa and Haryana were the other two states with GEM scores at or above 0.5 in 2006. Goa had the highest rank in 1996 as well and achieved a score above 0.5 in 1996 together with Delhi, which was at the second position in that year. However, Delhi fell to the 7th position over the decade.

- Nagaland and Jammu & Kashmir had the lowest rank in 2006 with GEM scores of 0.304. Bihar, Orissa and Jharkhand had the lowest GEM scores in 1996 at 0.329.

- While 16 states improved their ranks over the decade, 18 states lost their relative position on GEM over this period.

- The largest gainers were Uttar Pradesh, Andhra Pradesh, Arunachal Pradesh and Himachal Pradesh with an improvement of over 10 ranks.

- The largest losers on GEM were Chandigarh, Jammu & Kashmir, Mizoram and Lakshadweep with fall of between 12 and 21 positions over the decade.

- Punjab, Himachal Pradesh, Haryana, West Bengal, Orissa, Madhya Pradesh, Bihar and Andhra Pradesh get the highest ranks on PI in 2006.

- Punjab achieves the 1st rank on PI with a score of 0.707, and the 3rd rank on EI with a score of 0.537. Even though no State gets a High score on PoERI, Punjab performs extremely poorly with a score of 0.191. Therefore the aggregate GEM score for Punjab is 0. 478 and it ranks 10th on GEM in 2006.

- Similarly, Himachal Pradesh ranks 2nd on PI with a score of 0.696. However, since it falls to 17th rank on EI with a score of 0.404 and 19th rank on PoERI with a score of 0.318, the aggregate GEM score for Himachal Pradesh is 0.473 and it ranks 11th in 2006.

- Andhra Pradesh does not perform exceptionally well on any individual GEM dimension. It gets the 7th rank on PI with a score of 0.628; 8th rank on EI with a score of 0.481 and 9th rank on PoERI with a score of 0.418. And yet, Andhra Pradesh ranks 1st on GEM with the highest score of 0.509 due to the fact that unlike, for example Punjab, it does not suffer a sharp decline in performance on any of the three dimensions in 2006.

Table 5.2: Dimension-wise GEM Scores 2006 and 1996

S. No.	States/ UTs	GEM 2006				GEM 1996			
		PI	EI	PoERI	GEM	PI	EI	PoERI	GEM
1	Andhra Pradesh	0.628	0.481	0.418	0.509	0.431	0.498	0.344	0.424
2	Arunachal Pradesh	0.482	0.444	0.360	0.429	0.332	0.370	0.330	0.344
3	Assam	0.588	0.382	0.187	0.386	0.586	0.354	0.057	0.333
4	Bihar	0.628	0.269	0.258	0.385	0.550	0.303	0.133	0.329
5	Goa	0.494	0.568	0.463	0.508	0.528	0.646	0.387	0.520
6	Gujarat	0.585	0.497	0.317	0.466	0.544	0.426	0.256	0.409
7	Haryana	0.682	0.489	0.328	0.500	0.604	0.558	0.204	0.455
8	Himachal Pradesh	0.696	0.404	0.318	0.473	0.491	0.482	0.206	0.393
9	Jammu & Kashmir	0.407	0.297	0.207	0.304	0.522	0.474	0.147	0.381
10	Karnataka	0.581	0.473	0.385	0.480	0.549	0.417	0.301	0.422
11	Kerala	0.610	0.451	0.426	0.496	0.561	0.497	0.393	0.484
12	Madhya Pradesh	0.632	0.481	0.225	0.446	0.622	0.430	0.167	0.406
13	Maharashtra	0.605	0.482	0.376	0.488	0.556	0.461	0.298	0.438
14	Manipur	0.498	0.336	0.353	0.396	0.585	0.404	0.151	0.380
15	Meghalaya	0.186	0.357	0.583	0.375	0.555	0.388	0.156	0.366
16	Mizoram	0.167	0.437	0.415	0.340	0.450	0.495	0.349	0.432
17	Nagaland	0.166	0.383	0.364	0.304	0.450	0.341	0.205	0.332
18	Orissa	0.635	0.325	0.169	0.376	0.611	0.293	0.084	0.329
19	Punjab	0.707	0.537	0.191	0.478	0.634	0.613	0.106	0.451
20	Rajasthan	0.627	0.327	0.208	0.387	0.640	0.438	0.130	0.403
21	Sikkim	0.536	0.387	0.223	0.382	0.393	0.485	0.178	0.352
22	Tamil Nadu	0.611	0.431	0.404	0.482	0.499	0.526	0.352	0.459
23	Tripura	0.491	0.339	0.247	0.359	0.552	0.305	0.148	0.335
24	Uttar Pradesh	0.625	0.401	0.213	0.413	0.565	0.303	0.134	0.334
25	West Bengal	0.678	0.349	0.202	0.410	0.643	0.308	0.098	0.350
26	Chhattisgarh	0.590	0.321	0.309	0.407	0.622	0.430	0.168	0.407
27	Jharkhand	0.281	0.494	0.277	0.350	0.550	0.303	0.133	0.329
28	Uttarakhand	0.556	0.377	0.276	0.403	0.565	0.303	0.135	0.334
29	Andaman & Nicobar Islands	0.584	0.244	0.547	0.458	0.505	0.495	0.381	0.461
30	Chandigarh	0.421	0.476	0.279	0.392	0.454	0.676	0.208	0.446
31	Dadra & Nagar Haveli	0.492	0.253	0.419	0.388	0.469	0.495	0.289	0.418
32	Daman & Diu	0.495	0.263	0.462	0.407	0.505	0.495	0.332	0.444
33	Delhi	0.406	0.628	0.426	0.487	0.657	0.594	0.280	0.511
34	Lakshadweep	0.479	0.239	0.393	0.370	0.506	0.495	0.341	0.448
35	Pondicherry	0.585	0.416	0.464	0.488	0.472	0.574	0.371	0.472
	All India	0.581	0.452	0.319	0.451	0.566	0.442	0.231	0.413

Note: **PI** = Index of 'Participation in Political Arenas & Decision Making', **EI** = Index of 'Economic Participation and Decision-making Power' (based on three indicators for 2006 and two indicators for 1996), **PoERI** = Index of 'Power over Economic Resources', **GEM** = Gender Empowerment Measure

6. Conclusions

The HDI, GDI and GEM scores attained by the 35 States/UTs reflect their performance on human and gender development indices. Changes in the scores and ranks over time depict the extent to which a State/UT has progressed in translating its growth into a better quality of life for **all** its people. Disparities in outcomes and access to resources are penalised and result in lower levels of attainment on GDI and GEM. States/UTs can be ranked on the basis of HDI, GDI and GEM scores at the two time points and the improvement in them. However it may be reiterated that the scores and ranks achieved are sensitive to the choice of indicators (constrained by available gender disaggregated data), choice of goal posts, weights used, etc. For instance the scores on the Health dimension decline with the inclusion of malnutrition.

Scores and ranks obtained by the States/UTs for HDI, GDI and GEM and the dimensions that comprise these indices, reveal gender-based disparities that can meaningfully be used by policy-makers and analysts. For instance, while Andhra Pradesh performs relatively well on health and income indicators, the Female Literacy Rate and Mean Years of Education are lower than the estimates for some of the States/UTs with high levels of income poverty. The indices draw attention to this and call for corrective action. Similarly, the low scores attained nation-wide on the 'Power over Economic Resources' Dimension draw attention to the severe gender disparities that exist with regard to access to resources and assets. Further, differences in State/UT attainment reflected in ranks for Net State Domestic Product (NSDP) per capita and HDI draw attention to the policy challenge facing the Governments of States/UTs in not being able to translate their achievements on NSDP per capita into a better quality of life for their people. Many of the relatively high income States/UTs must take cognisance of this.

The consistently low scores on all three dimensions of HDI and GDI in many of the low-income States reiterate the fact that the Central and concerned State Governments must give attention to improving access of women and men to health, education, infrastructure and income earning opportunities to reduce poverty and multidimensional deprivation in these States as the gap between them and the high HDI and GDI States is wide.

Human and gender development indices can be used as tools to re-allocate resources for programmes and schemes designed to correct gender gaps at all levels of governance through monitoring and tracking progress regularly and ensuring implementation; provide access to assets and income earning opportunities for women such as providing right to work to all citizens; provide access to work at decent wages to enable exit from poverty and thereby reduce gender disparities in work and standard of living; provide access to safe drinking water to reduce the disease burden; and provide access to health facilities and timely access to medical care to reduce gender disparities in morbidity and mortality.

MWCD's Mission Statement is Budgeting for Gender Equity. Together with Gender Budgeting, HDI, GDI and GEM are tools that can be used to identify deep-rooted gender based inequities and demand that corrective policies, programmes and schemes be implemented in order to achieve gender just and equitable development outcomes. Data gaps continue to constrain the construction of appropriate indices especially in the context of access to land, productive assets, credit, income, etc. It is hoped that data gaps will be bridged so that gender disparities can be better measured and corrected through policies, programmes and schemes.

Towards a new dawn