

GEM Estimates for India and the States/UTs: Results and Analysis

5. GEM Estimates for India and the States/UTs: 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 indicators used to estimate each of these dimensions are listed below:

Indicators for the Dimension 'Political Participation and Decision-making Power'

- i) % Share of Parliamentary Seats (elected)
- ii) % Share of Seats in Legislature (elected)
- iii) % Share of Seats in *Zilla Parishads* (elected)
- iv) % Share of Seats in *Gram Panchayats* (elected)
- v) % Candidates in Electoral Process in National Parties
- vi) % Electors exercising the right to vote

Indicators for the Dimension 'Economic Participation and Decision-making Power'

- i) % Share of officials in service in Indian Administrative Service, Indian Police Service and Indian Forest Service
- ii) % Share of enrolment in medical and engineering colleges

Indicators for the Dimension 'Power over Economic Resources'

- i) % Female/Male operational land holdings (due to data gaps in assets)
- ii) % Females/Males with Bank Accounts in Scheduled Commercial Banks (with credit limit above Rs. 2 lakh)
- iii) Female/Male Estimated Earned Income Share per capita per annum.

Data was collected on each of the above to estimate GEM for India and 35 States/UTs for 1996 and 2006. In the provisional Summary Report released on 8th March, 2009, All-India averages were applied (or adjustments were made for data gaps) for an indicator for a State/UT where no data was available. However, since this adjustment led to higher ranks for States/UTs where a political or economic activity was non-existent, such as the case of election to *Gram Panchayats*, instead of replacing the data gap with the All-India average, the score for that State/UT for the Dimension(s) was based on the indicators for which data was available. The Dimension score was determined by dividing the total score for the indicators for which data was available, by the number of indicators for which data was available. Details regarding indicators for which data gaps constrained the estimation of GEM are listed in detail in Chapter 6.

Table 5.1: GEM Scores for India, 2006 and 1996

Year	PI	EI	PoERI	GEM
2006	0.625	0.546	0.319	0.497
1996	0.573	0.443	0.231	0.416

Note: PI = Index of 'Political Participation & Decision-making Power'; EI = Index of 'Economic Participation and Decision-making Power'; PoERI = Index of 'Power over Economic Resources'; and GEM = Gender Empowerment Measure

The aggregate score for GEM for India was 0.497 in 2006 and 0.416 in 1996 (Table 5.1).

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 more than double (0.497) of 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 'Political Participation & 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 0.573 and lowest for PoERI at 0.231 in 1996. While all three indices reflect an increase over the decade, the increase is smallest for PI (from 0.573 in 1996 to 0.625 in

2006) and largest for EI (from 0.443 in 1996 to 0.546 in 2006). The Index 'Power over Economic Resources' (PoERI) increased from 0.231 in 1996 to 0.319 in 2006.

GEM Scores and Ranks for States/UTs

Scores achieved by India and the States/UTs on GEM and on each of its three dimensions are presented in Table 5.2. Improvement in GEM scores attained by India and the States/UTs over the decade and ranks based on scores are presented in Table 5.3, with the highest ranking State/UT getting rank 1.

States/UTs were divided into four categories (see Table 5.4), with Category I comprising the best performers (shaded green in Figures 5.1 and 5.2), Category II comprising the second best performers (shaded yellow), Category III comprising the third level performers (shaded orange) and Category IV comprising the worst performers (shaded red). States/UTs in Category I achieved GEM index value between 0.485 and 0.564; States/UTs in Category II achieved GEM index value between 0.416 and 0.485; States/UTs in Category III achieved GEM index value between 0.316 and 0.415; and States/UTs in Category IV achieved GEM index value between 0.165 and 0.315.

Table 5.2: Dimension-wise GEM Scores, 2006 and 1996

S. No.	State/UT	GEM 2006				GEM 1996			
		PI	EI	PoERI	GEM	PI	EI	PoERI	GEM
1	Andhra Pradesh	0.628	0.597	0.418	0.547	0.559	0.498	0.344	0.467
2	Arunachal Pradesh	0.482	0.566	0.360	0.469	0.223	0.370	0.330	0.307
3	Assam	0.588	0.476	0.187	0.417	0.529	0.354	0.057	0.313
4	Bihar	0.628	0.252	0.258	0.379	0.399	0.303	0.133	0.278
5	Goa	0.494	0.697	0.463	0.551	0.458	0.638	0.387	0.494
6	Gujarat	0.585	0.554	0.317	0.485	0.544	0.426	0.256	0.409
7	Haryana	0.682	0.586	0.328	0.532	0.604	0.558	0.204	0.455
8	Himachal Pradesh	0.696	0.605	0.318	0.540	0.491	0.482	0.206	0.393
9	Jammu & Kashmir	0.407	0.451	0.207	0.355	0.358	0.474	0.147	0.326
10	Karnataka	0.581	0.611	0.385	0.526	0.549	0.417	0.301	0.422
11	Kerala	0.610	0.537	0.426	0.525	0.561	0.505	0.393	0.486
12	Madhya Pradesh	0.632	0.531	0.225	0.463	0.622	0.430	0.167	0.406

Contd...

S. No.	State/UT	GEM 2006				GEM 1996			
		PI	EI	PoERI	GEM	PI	EI	PoERI	GEM
13	Maharashtra	0.605	0.567	0.376	0.516	0.556	0.461	0.298	0.438
14	Manipur	0.498	0.403	0.353	0.418	0.585	0.404	0.151	0.380
15	Meghalaya	0.279	0.176	0.583	0.346	0.407	0.131	0.156	0.231
16	Mizoram	0.250	0.418	0.455	0.374	0.250	0.338	0.349	0.312
17	Nagaland	0.250	0.254	0.364	0.289	0.249	0.040	0.205	0.165
18	Orissa	0.635	0.375	0.169	0.393	0.611	0.293	0.084	0.329
19	Punjab	0.707	0.643	0.191	0.514	0.634	0.613	0.106	0.451
20	Rajasthan	0.627	0.490	0.208	0.442	0.640	0.438	0.130	0.403
21	Sikkim	0.536	0.581	0.223	0.447	0.393	0.327	0.178	0.300
22	Tamil Nadu	0.611	0.480	0.404	0.498	0.499	0.526	0.352	0.459
23	Tripura	0.491	0.408	0.247	0.382	0.552	0.305	0.148	0.335
24	Uttar Pradesh	0.625	0.517	0.213	0.452	0.565	0.303	0.134	0.334
25	West Bengal	0.678	0.426	0.202	0.435	0.643	0.308	0.098	0.350
26	Chhattisgarh	0.590	0.495	0.309	0.464	0.622	0.430	0.168	0.407
27	Jharkhand	0.614	0.415	0.277	0.435	0.399	0.303	0.133	0.278
28	Uttarakhand	0.556	0.566	0.276	0.466	0.565	0.303	0.135	0.334
29	Andaman & Nicobar Islands	0.701	0.431	0.547	0.560	0.575	0.355	0.381	0.437
30	Chandigarh	0.505	0.715	0.279	0.500	0.514	0.683	0.151	0.449
31	Dadra & Nagar Haveli	0.590	0.459	0.389	0.479	0.532	0.333	0.290	0.385
32	Daman & Diu	0.594	0.490	0.426	0.503	0.575	0.330	0.333	0.413
33	NCT Delhi	0.609	0.657	0.426	0.564	0.560	0.597	0.280	0.479
34	Lakshadweep	0.575	0.417	0.397	0.463	0.577	0.337	0.341	0.418
35	Puducherry	0.585	0.624	0.464	0.558	0.282	0.565	0.371	0.406
	All India	0.625	0.546	0.319	0.497	0.573	0.443	0.231	0.416

Note: PI = Index of 'Political Participation & Decision-making Power'; EI = Index of 'Economic Participation and Decision-making Power'; PoERI = Index of 'Power over Economic Resources'; and GEM = Gender Empowerment Measure.

Table 5.3: GEM Scores and Ranks for States/UTs, 2006 and 1996

S.No.	States/UTs	GEM Scores 2006	GEM Scores 1996	GEM Rank 2006	GEM Rank 1996	GEM Rank 1996-2006	GEM Score Difference
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
1	Andhra Pradesh	0.547	0.467	5	4	-1	0.081
2	Arunachal Pradesh	0.469	0.307	17	30	13	0.162
3	Assam	0.417	0.313	28	28	0	0.104
4	Bihar	0.379	0.278	31	33	2	0.101
5	Goa	0.551	0.494	4	1	-3	0.057
6	Gujarat	0.485	0.409	15	14	-1	0.077
7	Haryana	0.532	0.455	7	6	-1	0.077
8	Himachal Pradesh	0.540	0.393	6	19	13	0.147
9	Jammu & Kashmir	0.355	0.326	33	27	-6	0.029
10	Karnataka	0.526	0.422	8	11	3	0.103
11	Kerala	0.525	0.486	9	2	-7	0.038
12	Madhya Pradesh	0.463	0.406	21	16	-5	0.056
13	Maharashtra	0.516	0.438	10	9	-1	0.078
14	Manipur	0.418	0.380	27	21	-6	0.038

Contd...

S.No.	States/UTs	GEM Scores 2006	GEM Scores 1996	GEM Rank 2006	GEM Rank 1996	GEM Rank 1996-2006	GEM Score Difference
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
15	Meghalaya	0.346	0.231	34	34	0	0.115
16	Mizoram	0.374	0.312	32	29	-3	0.062
17	Nagaland	0.289	0.165	35	35	0	0.124
18	Orissa	0.393	0.329	29	26	-3	0.064
19	Punjab	0.514	0.451	11	7	-4	0.063
20	Rajasthan	0.442	0.403	24	18	-6	0.039
21	Sikkim	0.447	0.300	23	31	8	0.147
22	Tamil Nadu	0.498	0.459	14	5	-9	0.039
23	Tripura	0.382	0.335	30	23	-7	0.047
24	Uttar Pradesh	0.452	0.334	22	25	3	0.118
25	West Bengal	0.435	0.350	25	22	-3	0.086
26	Chhattisgarh	0.464	0.407	19	15	-4	0.058
27	Jharkhand	0.435	0.278	26	32	6	0.157
28	Uttarakhand	0.466	0.334	18	24	6	0.132
29	Andaman & Nicobar Islands	0.560	0.437	2	10	8	0.122
30	Chandigarh	0.500	0.449	13	8	-5	0.050
31	Dadra & Nagar Haveli	0.479	0.385	16	20	4	0.094
32	Daman & Diu	0.503	0.413	12	13	1	0.090
33	NCT Delhi	0.564	0.479	1	3	2	0.085
34	Lakshadweep	0.463	0.418	20	12	-8	0.045
35	Puducherry	0.558	0.406	3	17	14	0.152
All India		0.497	0.416				0.081

Table 5.4: Categorising States/UTs on the basis of GEM Scores, 2006 and 1996

Category/Year	2006	1996
Category I Above 0.485 to 0.564	NCT Delhi, Andaman & Nicobar Islands, Puducherry, Goa, Andhra Pradesh, Himachal Pradesh, Haryana, Karnataka, Kerala, Maharashtra, Punjab, Daman & Diu, Chandigarh and Tamil Nadu	Goa and Kerala
Category II 0.416 to 0.485	Gujarat, Dadra & Nagar Haveli, Arunachal Pradesh, Uttarakhand, Chhattisgarh, Madhya Pradesh, Uttar Pradesh, Sikkim, Lakshadweep, Rajasthan, West Bengal, Jharkhand, Manipur and Assam	NCT Delhi, Andhra Pradesh, Tamil Nadu, Haryana, Punjab, Maharashtra, Chandigarh, Karnataka, Andaman & Nicobar Islands and Lakshadweep
Category III 0.316 to 0.415	Orissa, Tripura, Bihar, Mizoram, Jammu & Kashmir and Meghalaya	Gujarat, Chhattisgarh, Madhya Pradesh, Puducherry, Rajasthan, Himachal Pradesh, Daman & Diu, Manipur, Dadra & Nagar Haveli, West Bengal, Tripura, Uttarakhand, Uttar Pradesh, Orissa and Jammu & Kashmir
Category IV 0.165 to 0.315	Nagaland	Assam, Mizoram, Arunachal Pradesh, Sikkim, Jharkhand, Bihar, Meghalaya, Nagaland

Some of the salient points emerging from analysis of Tables 5.2, 5.3 and Figures 5.1 and 5.2 are listed below:

- The GEM score for India was 0.416 in 1996 and increased to 0.497 in 2006.
- There was overall improvement in performance on GEM over the decade, both in the All-India score and in the scores achieved by all the States/UTs.
- 14 States/UTs achieved the highest GEM Category I in 2006 while only 2 had achieved scores for this category in 1996 (shaded green).
- 14 States/UTs achieved the second highest set of GEM scores or were in GEM Category II in 2006 while only 10 States/UTs achieved Category II in 1996 (shaded yellow).
- Only 6 States/UTs achieved the second lowest set of GEM scores or were in GEM Category III in 2006 while as many as 15 States/UTs were in this Category in 1996 (shaded orange).
- Only 1 State remained in the GEM Category IV in 2006 whereas 8 States/UTs were in this category in 1996 (shaded red).
- The States/UTs that achieved Category I on GEM in both 1996 and 2006 were Goa and Kerala. Of the other States/UTs that achieved Category I on GEM in 2006, 9 States/UTs were in Category II in 1996. These were NCT Delhi, Andhra Pradesh, Tamil Nadu, Haryana, Punjab, Maharashtra, Chandigarh, Karnataka and Andaman and Nicobar Islands. Daman & Diu, Puducherry and Himachal Pradesh moved from Category III in 1996 to Category I in 2006.
- 8 States had low GEM scores or were in Category IV in 1996. These were Assam, Mizoram, Arunachal Pradesh, Sikkim, Jharkhand, Bihar, Meghalaya and Nagaland (shaded red in Figure 5.2). Of these, only Nagaland remained in the low GEM category in 2006 (red in Figures 5.1 and 5.2). The other 7 States/UTs moved to higher GEM categories in 2006.
- Goa was ranked first in 1996 and achieved a GEM score of 0.494. It moved to fourth place in 2006 with a score of 0.551.
- Kerala was placed second in 1996 with a score of 0.486 but moved down to the ninth rank in 2006 with a GEM score of 0.525.
- Andhra Pradesh was ranked fourth in 1996 with a score of 0.467. It moved to fifth rank in 2006 with a score of 0.547.
- The newly formed States of Jharkhand and Uttarakhand achieved large gains on GEM scores of 0.157 and 0.132 respectively and improved their ranks on GEM by 6 positions each over the decade. While the GEM score for Uttar Pradesh and Bihar also increased significantly, the improvement in their GEM scores was lower in comparison (0.118 and 0.101 respectively). However, Chhattisgarh improved its score on GEM by only 0.058, compared with an improvement of 0.056 by Madhya Pradesh. These States lost 4 and 5 ranks respectively over the decade.
- Other States/UTs which increased their GEM scores by more than the All-India average increase of 0.081 points included Arunachal Pradesh, Puducherry, Himachal Pradesh, Sikkim, Andaman and Nicobar Islands, Nagaland, Dadra and Nagar Haveli, Meghalaya, Daman and Diu, Assam, Karnataka, West Bengal and NCT Delhi.
- States/UTs that improved their rank on GEM over the decade were Arunachal Pradesh, Himachal Pradesh and Puducherry by 13 and 14 ranks respectively; Sikkim and Andaman and Nico-

bar Islands by 8 ranks each; and Jharkhand and Uttarakhand by 6 ranks each.

- Other gainers on rank included Dadra & Nagar Haveli by 4 ranks; Uttar Pradesh and Karnataka by 3 ranks; Bihar and NCT Delhi by 2 ranks each and Daman and Diu by 1 rank.
- Assam, Meghalaya and Nagaland were the only States that retained their rank on GEM over the decade.
- The States/UTs that suffered the largest losses in rank on GEM were Tamil Nadu (9 ranks); Lakshadweep (8 ranks); and Kerala and Tripura (7 ranks) Jammu & Kashmir, Rajasthan and Manipur (6 ranks), Chandigarh and Madhya Pradesh (5 ranks).
- Additionally, Chhattisgarh and Punjab each lost 4 ranks; Goa, Mizoram, Orissa and West Bengal each lost 3 ranks; Maharashtra, Gujarat, Andhra Pradesh and Haryana each lost 1 rank.

The States/UTs that attained the best scores on each of the three Dimensions constituting GEM, in 2006, are given below.

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

- The States/UTs with the best performance on Dimension 1, 'Political Participation and Decision-making Power' in 2006, were Punjab, Andaman & Nicobar Islands, Himachal Pradesh, Haryana and West Bengal.
- In 2006, both Punjab and Andaman & Nicobar Islands had a score above 0.700 for this Dimension with an Index value of 0.707 and 0.701 respectively.
- Other States/UTs with 2006 scores above the All-India value of 0.625 on this Dimension

were Orissa, Madhya Pradesh, Bihar, Andhra Pradesh, Rajasthan, Haryana, Himachal Pradesh and West Bengal.

- While Punjab moved up during the decade from third position to first position on this Dimension, West Bengal moved down from first to fifth position and Rajasthan from second to tenth position.

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

- The States/UTs that achieved high scores on the 'Economic Participation and Decision-making Power' Index in 2006 and also in 1996 were Chandigarh, Goa, NCT Delhi, Punjab and Puducherry.
- Only Chandigarh had a score above 0.700 for this Dimension with an Index value of 0.715 in 2006.
- In addition to the 5 States/UTs mentioned above, those scoring above the All-India value of 0.546 on this Dimension in 2006, were Karnataka, Himachal Pradesh, Andhra Pradesh, Haryana, Sikkim, Maharashtra, Arunachal Pradesh, Uttarakhand and Gujarat.

GEM Dimension 3: 'Power Over Economic Resources'

- The 5 States/UTs with high scores on the 'Power Over Economic Resources' Index in 2006 were Meghalaya, Andaman and Nicobar Islands, Puducherry, Goa, and Mizoram.
- Other States/UTs with scores above the All-India average of 0.319 were Kerala, NCT Delhi, Daman & Diu, Andhra Pradesh, Tamil Nadu, Lakshadweep, Dadra & Nagar Haveli, Karnataka, Maharashtra, Nagaland, Arunachal Pradesh, Manipur and Haryana.

- Kerala, Goa, Andaman & Nicobar Islands, Puducherry, Tamil Nadu and Mizoram had the highest scores on 'Power over Economic Resources' in 1996.

It may be noted that no women were elected to 11th Lok Sabha (1996) from Arunachal Pradesh, Goa, Himachal Pradesh, Jammu & Kashmir, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tamil Nadu, Tripura, Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry. In 1996, no women were elected to the Legislature in Manipur, Mizoram and Nagaland.

There was no data for Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, and Lakshadweep for this indicator in 1996 and 2006. As explained earlier, wherever data was not available, the Dimension score was determined by dividing the total score for the remaining indicators by the number of indicators for which data was available.

Correcting Gender Disparities in Empowerment: Issues and Challenges

The 73rd and 74th Constitutional Amendments led to the reservation for women of one-third seats in *Panchayati Raj* Institutions/Urban Local Bodies. Therefore, policy-based affirmative action or positive discrimination has tried to empower women by ensuring their participation in decision-making in democratic institutions at the local level.³² The impact of affirmative action is clear from Tables 5.5 and 5.6. Table 5.5 shows the huge gap between the percentage of seats held by women in Parliament and in the *Gram Panchayats*. Women hold only 8.3 percent seats in Parliament compared with 36.75 percent seats in the *Gram Panchayats*.

Himachal Pradesh has the highest representation of women in Parliament with women holding 25 percent of seats. This is followed by Jammu and Kashmir with 17 percent, Punjab with 15 percent and Delhi with 14 percent. Only four other States have more than 10 percent of seats in Parliament held by women. There are no women representing the States/UTs of Arunachal Pradesh, Assam, Goa, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Uttarakhand, Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry in Parliament.

In sharp contrast, women hold 33.33 percent seats in the *Gram Panchayats* in virtually all States/UTs. 51.28 percent of seats in the *Gram Panchayats* in Manipur, 47 percent in Bihar and 43 percent in Karnataka are held by women. Additionally, in 17 States, women hold between 35 and 40 percent of seats in the *Gram Panchayats*. Data gaps exist for *Gram Panchayats* in Meghalaya, Mizoram and Nagaland as they have traditional Councils; Jammu & Kashmir has not adopted the 73rd Constitutional Amendment Act, 1992; elections to the Rural Local Bodies have not been conducted so far in Jharkhand and in Delhi, the Panchayati Raj system is yet to be revived.

Affirmative action through the 73rd Constitutional Amendment has resulted in higher representation of women in *Gram Panchayats* and *Zilla Parishads*, which in turn has led to higher values for Dimension 1, i.e., 'Political Participation and Decision-making Power'. The impact of this on GEM scores for 2006 can be seen in Table 5.6 by comparing column 3 with column 4 and for 1996 by comparing column 5 with column 6. Given the share of population living in rural India, the importance of the 73rd Amendment in empowering women through strengthening their participation in decision-making at all levels cannot be over-emphasised.

³² Aasha Kapur Mehta (1996), op. cit.

Table 5.5: Empowering Women through Affirmative Action: Percent Seats Held by Women in Parliament and in the Gram Panchayats in 2006

State/UT	Percent Seats Held by Women in	
	Parliament	Gram Panchayats
Andhra Pradesh	7.1	35.74
Arunachal Pradesh	0.0	34.54
Assam	0.0	39.20
Bihar	7.5	46.68
Goa	0.0	34.00
Gujarat	3.8	33.33
Haryana	10.0	36.65
Himachal Pradesh	25.0	39.13
Jammu & Kashmir	16.7	*
Karnataka	7.1	43.33
Kerala	10.0	35.32
Madhya Pradesh	6.9	34.56
Maharashtra	10.4	33.33
Manipur	0.0	51.28
Meghalaya	0.0	*
Mizoram	0.0	*
Nagaland	0.0	*
Orissa	9.5	35.83
Punjab	15.4	35.03
Rajasthan	8.0	35.30
Sikkim	0.0	38.90
Tamil Nadu	10.3	33.69
Tripura	0.0	34.60
Uttar Pradesh	8.8	38.85
West Bengal	9.5	36.63
Chhattisgarh	9.1	33.80
Jharkhand	7.1	*
Uttarakhand	0.0	37.64
Andaman & Nicobar Islands	0.0	34.43
Chandigarh	0.0	32.69
Dadra & Nagar Haveli	0.0	39.47
Daman & Diu	0.0	38.96
NCT Delhi	14.3	*
Lakshadweep	0.0	37.65
Puducherry	0.0	36.14
All India	8.3	36.75

Note: *denotes States/UTs where data is not available as there is no Gram Panchayat in that State/UT.

Source: Ministry of Panchayati Raj, 2008.

It needs to be noted that male-female inequality is almost non-existent when measured in terms of the electorate exercising the right to vote in the Lok Sabha elections. A woman's vote matters for the victory or defeat of even male candidates and this too is a reason for women being encouraged to vote. The ideal value for indexed EDEP is 1 and it can be seen that the indexed EDEP is between 0.99 and 1 for 27 States/UTs and above 0.96 for all States. This reflects the fact that since the right to vote is vested in the individual, a woman exercising her right to vote is not "taking anything away" from a man in the process of casting her vote. Hence the outcome for the indicator based on percentage of men and women exercising their right to vote as a proportion of those eligible to vote is equitable. However whether or not the decision regarding the choice of candidate for whom the vote is cast is taken independently by women, needs further investigation.

Women candidates participating in the electoral process as candidates on behalf of national political parties in 2004 Lok Sabha elections exceeded 10 percent in only 8 States/UTs. The highest estimates were for Puducherry (50%), Andaman & Nicobar Islands (20%) and Punjab (17%). While a large number of States/UTs had no women candidates from national parties, Bihar had only 3%, Tamil Nadu 4% and Karnataka 5%.

In the absence of affirmative action or firm commitment by political parties, there will be continued disparity in participation of women in setting the agenda, determining priorities and decisions in the political domain.

The most important sources of disempowerment faced by women are:

- i) Harassment through violence, both physical and sexual and
- ii) Severe disparities in access to assets such as land and low share of "paid" work and income.

Table 5.6: Impact of Affirmative Action on GEM Scores: Estimates With and Without Representation in the Gram Panchayats and Zilla Parishads in 2006 and 1996

S.No.	State/UT	GEM 2006		GEM 1996	
		(with GP and ZP)	(without GP and ZP)	with GP and ZP)	(without GP and ZP)
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6
1	Andhra Pradesh	0.547	0.501	0.467	0.411
2	Arunachal Pradesh	0.469	0.398	0.307	0.322
3	Assam	0.417	0.357	0.313	0.286
4	Bihar	0.379	0.317	0.278	0.278
5	Goa	0.551	0.478	0.494	0.455
6	Gujarat	0.485	0.432	0.409	0.349
7	Haryana	0.532	0.489	0.455	0.405
8	Himachal Pradesh	0.540	0.499	0.393	0.327
9	Karnataka	0.526	0.462	0.422	0.354
10	Kerala	0.525	0.476	0.486	0.432
11	Madhya Pradesh	0.463	0.414	0.406	0.360
12	Maharashtra	0.516	0.467	0.438	0.381
13	Manipur	0.418	0.341	0.380	0.322
14	Orissa	0.393	0.346	0.329	0.279
15	Punjab	0.514	0.479	0.451	0.404
16	Rajasthan	0.442	0.390	0.403	0.360
17	Sikkim	0.447	0.381	0.300	0.262
18	Tamil Nadu	0.498	0.450	0.459	0.392
19	Tripura	0.382	0.312	0.335	0.277
20	Uttar Pradesh	0.452	0.394	0.334	0.298
21	West Bengal	0.435	0.394	0.350	0.303
22	Chhattisgarh	0.464	0.413	0.407	0.361
23	Uttarakhand	0.466	0.404	0.334	0.298
24	Andaman & Nicobar Islands	0.560	0.512	0.437	0.356
25	Chandigarh	0.500	0.442	0.449	0.389
26	Dadra & Nagar Haveli	0.479	0.394	0.385	0.319
27	Daman & Diu	0.503	0.416	0.413	0.332
28	Lakshadweep	0.463	0.382	0.418	0.337
29	Puducherry	0.558	0.529	0.406	0.406
All India		0.496	0.444	0.416	0.366

Note: GEM estimates are not listed in Table 5.6 for Jammu & Kashmir, Meghalaya, Mizoram, Nagaland, Jharkhand and NCT Delhi as PRI elections were not conducted.

Women face physical, mental, emotional and sexual abuse both within and outside their home. Table 5.7 reflects the high incidence of violence against women in almost all parts of the country but especially in Bihar, Madhya Pradesh, Tripura, Rajasthan, Manipur, Tamil Nadu, West Bengal, Uttar Pradesh, Assam, Orissa and Arunachal Pradesh.

Based on empirical data from Karnataka, Renuka Viswanathan³³ draws attention to “routine domestic violence against women resulting in death that has gone unpunished under the penal code of the country.” She points out that basic flaws in the reporting and monitoring process “have resulted in systematic concealment of horrifying data.” She argues strongly for monitoring all unnatural deaths as they conceal the alarming increase in kitchen accidents despite the availability of statistics in the Crime Record Bureau. She argues that “lives can be saved and criminals punished if statistics is placed at the service of victims of marital violence.”

Estimation of GEM requires the use of data for both men and women. Even though data on dowry deaths, rape, eve teasing and violence against women grossly underestimates the extent to which women face harassment, inclusion of these indicators in an index of empowerment requires the availability of equivalent data for men. In any case, gender empowerment cannot be achieved without actions that ensure that all spaces, both inside and outside the home, are safe for women.

In the context of work, it is well known that women work longer hours than men and participate in the work force to a far greater extent than is measured by the data. Official estimates of work force participation consistently underestimate the work done by women. A plethora of micro studies provide detailed estimates of measurement failure. A few of these are

Table 5.7: Percentage of Women Age 15-49 who Have Experienced Physical or Sexual Violence in India and States, 2005-06

State	Physical or sexual violence
Bihar	55.6
Madhya Pradesh	46.8
Tripura	44.7
Rajasthan	44.6
Manipur	38.9
Tamil Nadu	38.7
West Bengal	38.3
Uttar Pradesh	38.1
Assam	36.5
Orissa	36.2
Arunachal Pradesh	35.5
Jharkhand	34.8
Andhra Pradesh	33.8
Punjab	30.9
Chhattisgarh	30.1
Maharashtra	29.2
Haryana	29
Gujarat	27.8
Uttaranchal	26.8
Mizoram	25.5
Sikkim	20.9
Karnataka	19.9
Nagaland	19
Kerala	17.3
Delhi	16.5
Meghalaya	16
Goa	15
Jammu & Kashmir	12.9
Himachal Pradesh	5.6
India	35.4

Source: NFHS -3

cited below and they show the gross inaccuracies inherent in the official statistics. For instance, based on surveys conducted in the 1970s, Jain and Chand³⁴ found that 20 out of 104 females reported as non-workers in a West Bengal village in the Census, were actually winnowing, threshing, parboiling or

³³ Renuka Viswanathan (2000), Measuring Development, Human Rights and Domestic Violence, International Association for Official Statistics Conference at Montreux (op.cit.)

³⁴ Devaki Jain and Malini Chand, (1982). Report on a Time Allocation Study: Its Methodological Implications, Indian Social Studies Trust, April.

working as domestic servants for 8-10 hours a day. Omvedt³⁵ found 239 women workers in one area where the Census counted 38 and 444 women workers in another area where the Census listed 9. While the 1991 Census gave the Female Work Force Participation Rate for Punjab as 4.4%, National Council of Applied Economic Research, with a probe, got 28.8%.³⁶ Prem Chowdhry³⁷ refers to an inquiry into dairy development in Ambala, which reported no female to be a worker in Animal Husbandry. As even a cursory familiarity with agriculture shows, women are very clearly allied with animal husbandry, from bringing fodder from fields, cutting chaff, preparing food mix for cattle, giving water and feed to bathing and cleaning cattle, cleaning cattle sheds, treating sick cattle, making dung cakes, storing them, making compost, etc. Yet their contribution remained invisible. The NSS 1993-94 household survey³⁸ reports that 29% of rural and 42% of urban women were engaged only in household work and were without work even in the subsidiary status. Subsequently, they noted that 58% of women characterised in this way in rural areas and 14% in urban areas were actually maintaining kitchen gardens, household poultry, collecting fish, collecting firewood, husking paddy, grinding foodgrains, preserving meat, preparing *gur*, making baskets etc. In other words they were engaged in economic activities. NSS calculates the percentage of wrongly classified women as constituting 17% of women in rural and 6% in urban areas. The NSS further states that “an upper limit of women worker

population ratio can approximately be obtained by raising the ratio of women workers by this percentage” but does not take the logical next step and make the correction.³⁹ All the studies referred to above pertain to tasks that are in the realm of “work.”

As the Report of the Planning Commission Subgroup on Gender and Agriculture for the Eleventh Plan⁴⁰ notes: “Women today play a pivotal role in agriculture – as female agricultural labour, as farmers, co-farmers, female family labour and (with male out-migration, widowhood, etc) as managers of farms and farm entrepreneurs. Three-fourths of women workers are in agriculture. Women work extensively in production of major grains and millets, in land preparation, seed selection and seedling production, sowing, applying manure, fertilizer and pesticide, weeding, transplanting, threshing, winnowing and harvesting; in livestock production, fish processing, collection of non-timber forest produce (NTFP) etc.... Landless women agricultural labourers play a pivotal role as they are involved in most of the agricultural operations.” Further, “53% of all male workers but 75% of all female workers, and 85% of all *rural* female workers, are in agriculture. Women constitute 40% of the agricultural work force and this percentage is rising. An estimated 20 percent of rural households are *de facto* female headed, due to widowhood, desertion, or male out-migration”.⁴¹

Additionally, there are a large number of tasks that women do and that entail drudgery but that are not

³⁵ Gail Omvedt (1992). The “Unorganised Sector” and women workers, *Guru Nanak Journal of Sociology*, *Guru Nanak Journal of Sociology*, Vol.13 (1); April 1992; pp 19 -61.

³⁶ Ratna Sudarshan, (1998). Employment of Women, Trends and Characteristics, National Seminar on in Search of New Vistas, Women’s Vocational Training Programme, Directorate General of Employment and Training, New Delhi, July 30-31, 1998).

³⁷ Prem Chowdhry (1994). High Participation, Low Evaluation: Women and Work in Rural Haryana, Page No.A-140-141, *EPW* 1994, Vol. 24.

³⁸ Sarvekshana (1997). A Note on Participation of Indian Women in Household Work and Other Specified Activities, October-December.

³⁹ Aasha Kapur Mehta, (2000), *The Invisible Workers: Women’s Unrecognised Contribution to the Economy*, Manushi, November-December.

⁴⁰ Report of the Planning Commission Subgroup on Gender and Agriculture for the Eleventh Plan 2008.

⁴¹ Agarwal, Bina (2006). Women’s economic empowerment and the Draft Approach to the 11th Plan: Comments as Member of the 11th Plan Working Group on Land Relations.

part of “economic” activity. An attempt was made by Mukherjee⁴² to estimate an ‘extended Net Domestic Product (NDP)’ that includes unpaid household services. Even when the agricultural earnings rate is used for evaluation of household work, women’s share in extended NDP for 1980-81 increases from 16 to 36 percent. Use of national average earnings per worker raises the figure to as much as 45 percent. Mukherjee points out that the extended NDP concept helps depict men’s and women’s contribution as reasonable aggregates. Kulshrestha and Singh⁴³ also tried to measure an extended NDP that includes the value of housewives’ services and also estimate the share of women in the extended NDP. They provide two alternate estimates of extended NDP for 1990-91, in which household work is evaluated at 1980-81 prices based on average agricultural earnings and national average earnings per worker. Whereas they calculate the share of women in the usually calculated estimates of NDP at 17 per cent, the contribution of women to the economy increases to 33 per cent when agricultural earnings are used to evaluate unpaid household work and to 44 per cent when national average earnings per worker are used for the computation.

The Ministry of Statistics and Programme Implementation conducted a Time Use Survey in 18,591 households spread over six selected States namely, Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya. The Survey found that if System of National Accounts (SNA) and extended SNA activities were taken together, out of 168 hours, the “average time spent by rural males is only 46.05 hours as compared to 56.48 hours by rural females.

The estimate is 44.50 hours for urban males compared to 45.60 hours for urban females. Therefore, women were found to be working for longer hours than males.” Further, the Survey found that no payment was made for about 38% of the time spent in SNA activities. “The amount of unpaid activities was more (51%) for female as compared to only 33% for male. The predominance of females in unpaid activities was visible in all the States. The percentage of time spent by females in unpaid activities was highest in Haryana (86%) followed by Meghalaya (76%) and Orissa (69%). The percentage was lowest for Tamil Nadu (32%).” The report also states that “it was generally found that females spent about double the time as compared to males in activities relating to taking care of children, sick and elderly people.”⁴⁴

As demanded by MWCD, National Commission for Women, and women’s groups, the statistical invisibility of women’s work (both paid and unpaid) must be corrected through preparation of a satellite account that should include, in detail, the work that women undertake. The lack of recognition of the work that women do has an impact on the status of women in society, their opportunities in public life and the gender blindness of development policy.⁴⁵ Further, since access to assets such as land and livestock are among the important means of escaping poverty,⁴⁶ policies and programmes that enable women’s access to productive assets must be given priority.

Women face severe disadvantages as farmers due to lack of access to productive resources, especially land and credit. Access to resources provided through Government programmes and schemes must be registered in the name of both husband and wife.

⁴² Mukherjee, M. (1985) ‘Bread and Roses’, *Journal of Income and Wealth*, July.

⁴³ A.C. Kulshrestha and Gulab Singh, (1996). Domestic Product by Gender in the Framework of 1993 SNA. *Economic and Political Weekly*, Vol. 31, No. 51, December 21, 3330-34.

⁴⁴ Ministry of Statistics and Programme Implementation, Time Use Survey (1998-99)

⁴⁵ UNDP (1995) Human Development Reports, Oxford University Press, New Delhi.

⁴⁶ Bhide Shashanka and Aasha Kapur Mehta, (2004). Correlates of Incidence and Exit from Chronic Poverty in Rural India: Evidence from Panel Data, CPRC-IIPA Working Paper 15, May.

The share of women in earned income is also low because they are paid lower wages on the assumption that women are less productive. Mencher and Sardamoni⁴⁷ point out that this is not based on any fact. “No one has ever measured the amount of paddy harvested by a woman and that harvested by a man. In those parts of Kerala where harvesting is paid by a share of what is harvested, usually 1 to 6, one tends to find a larger proportion of harvesting done by females. Still, we have never heard a complaint from a landowner that women were not good at harvesting, or any claim that males could harvest more in a given period of time”.

Women are excluded from extension services and special efforts must be made to provide strong exten-

sion and technical support to them in the context of agriculture and animal husbandry to enable increase in agricultural productivity and incomes.

Availability of water and of water for daily needs must be given the highest priority as having to walk for miles to fetch water entails drudgery, increases women’s work burden, is disempowering and has an opportunity cost both within and outside the home. Additionally, mandatory availability in a time-bound manner of safe drinking water in each home and safe sewage disposal are urgently needed. Costs in terms of person days lost and drudgery suffered by women justify this.

Data gaps and adjustments made in calculation of HDI, GDI and GEM are presented in Chapter 6.

⁴⁷ Mencher, Joan P. and Sardamoni, K. (1982). Muddy Feet, Dirty Hands. *Economic and Political Weekly, Review of Agriculture*, Vol. 17, No. 52, December 25.

**Data Gaps in Estimating HDI, GDI and GEM:
Need for Corrective Action**

6. Data Gaps in Estimating HDI, GDI and GEM: Need for Corrective Action

While significant progress has been made with regard to collection of gender disaggregated data, several gaps remain and many of these constrained the estimation of GDI and GEM. The data source and specific year for which data was available for each of the indicators used for estimating HDI, GDI and GEM for the two time periods, 1996 and 2006, are listed in Table 6.1.

Data Gaps in Indicators and Adjustments/Assumptions Made in Estimating HDI, GDI and GEM for States/UTs

Important data gaps pertaining to each of the indicators used to calculate HDI, GDI and GEM and the specific adjustments made are listed below.

Life Expectancy at age 1

- Life Expectancy at age 1 (LE1) is available for only 15 major States for the period 1992-96 and for 16 major States for the period 2002-2006. LE1 is not available for both 1996 and 2006 for Jammu & Kashmir, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Goa, Delhi, Chhattisgarh, Jharkhand, Uttarakhand, Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry. Additionally, LE1 is also not available for Himachal Pradesh for 1996.

The following adjustments were made:

- The All-India average value was applied to Jammu & Kashmir.
- The value for Assam was applied to all the North Eastern States, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.
- The average of the values for Karnataka and Maharashtra were applied to Goa.
- The value for Madhya Pradesh was applied to Chhattisgarh.
- The value for Bihar was applied to Jharkhand.
- The value for Uttar Pradesh was applied to Uttarakhand.
- The All-India average value was applied to the Union Territories, Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu, and Lakshadweep.
- The average of the values for Punjab and Haryana was applied to Chandigarh.
- The average of the values for Haryana and Uttar Pradesh was applied to Delhi.
- The value for Tamil Nadu was applied to Puducherry.
- The average of the values for Punjab and Haryana was applied to Himachal Pradesh for 1996.

Table 6.1: Indicators and Source of Data used to estimate HDI, GDI and GEM

Indicators	Year for which data used to estimate 1996 Index	Year for which data used to estimate 2006 Index	Data Source
Infant Mortality Rate	1996	2006	SRS, Registrar General of India (RGI)
Life Expectancy at age 1	1992-96	2002-06	SRS, RGI
7+ Literacy Rate	1996	2006	NSSO 52 nd Round (1995-1996) NSSO 62 nd Round (2005-06)
Mean Years of Education for 15+ age group	1993-94	2004-05	NSSO 50 th Round (1993-94) NSSO 61 st Round (2004-05)
WFPR and Wage Rate for Casual Labour	1993-94	2004-05	Computed from NSSO unit records 50 th Round (1993-94) and 61 st Round (2004-05)
NSDP	1995-96	2005-06	CSO data for 1996 and 2006. Spliced for conversion to 1999-2000 base year
Parliamentary Seats (elected)	1996	2004	Election Commission of India
Seats in Legislature (elected)	Varying years closest to 1996	Varying years closest to 2006	Election Commission of India
Seats in <i>Zilla Parishads</i> (elected)	Varying years closest to 1996	Varying years closest to 2006	For 1996: Reviving Democracy: The Emerging Role of Women in Decision Making, A Study of Women's Participation in Governance in South Asia, 2003, Institute of Social Studies, New Delhi For 2006: The State of <i>Panchayats</i> : 2007-08, Ministry of <i>Panchayati Raj</i>
Seats in <i>Gram Panchayats</i> (elected)	Varying years closest to 1996	Varying years closest to 2006	For 1996: Reviving Democracy: The Emerging Role of Women in Decision Making, A Study of Women's Participation in Governance in South Asia, 2003 For 2006: The State of <i>Panchayats</i> : 2007-08
Candidates in Electoral Process in National Parties in Parliamentary Election	1996	2004	Election Commission of India
Electors exercising the right to vote in Parliamentary Election	1996	2004	Election Commission of India
Enrolment in Medical and Engineering Colleges	2004-05	1995-96	Selected Educational Statistics 1995-96 and 2004-05, Min. of Human Resource Development
Number of officials in service in IAS, IPS and Indian Forest Service	1996	2006	(i) Indian Administrative Service, Civil List, Department of Personel and Training, 1996 and 2006 (ii) Indian Police Service, Civil List, Ministry of Home Affairs, 1996 and 2006 (iii) Indian Forest Service, Civil List, Min. of Environment and Forests, 2008
Number of Operational Land Holdings	1995-96	2001	Agriculture Census, 2000-01
Number of Females/Males with Bank Accounts in Scheduled Commercial Banks (with credit limit above Rs. 2 lakh)	1996	2006	Reserve Bank of India

Infant Mortality Rate

- Data for Infant Mortality Rate (IMR) is not available for the States of Jammu & Kashmir and Mizoram for 1996.

The following adjustments were made:

- The value for Himachal Pradesh was applied to Jammu & Kashmir.
- The average of the values for Assam, Manipur and Tripura was applied to Mizoram.

7+ Literacy Rate

- National Sample Survey (NSS) 7+ Literacy Rate is available from the NSSO 62nd Round (2005-06) for the north eastern States as a group and for union territories as a group and not for each of them individually.
- Data for 7+ Literacy Rate is not available for the year 1996 for the newly formed States, Chhattisgarh, Jharkhand and Uttarakhand.

The following adjustments were made:

- The value of Madhya Pradesh was used for Chhattisgarh.
- The value for Bihar was used for Jharkhand.
- The value for Uttar Pradesh was used for Uttarakhand.
- The value for the group of north eastern States was applied to Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.
- The value for the group of union territories was applied to Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry.

Mean Years of Education for 15+ age group

- Published data is not available for Mean Years of Education for 15+ age group and the data had to be generated from NSS unit level data.

Net State Domestic Product

- Net State Domestic Product (NSDP) at factor cost at constant 1999-2000 prices was not available for 1996. This had to be estimated by splicing index numbers.
- NSDP at factor cost is not available for Dadra & Nagar Haveli, Daman & Diu and Lakshadweep for 2006.
- Estimates of NSDP are not available for 1996 for Mizoram, Chhattisgarh, Jharkhand, Uttarakhand, Dadra & Nagar Haveli, Daman & Diu and Lakshadweep.

The following adjustments were made to estimate NSDP (and corresponding population estimates):

- The value for Assam was used for Mizoram for 1996.
- The value for Madhya Pradesh was used for Chhattisgarh.
- The value for Bihar was used for Jharkhand.
- The value for Uttar Pradesh was used for Uttarakhand.
- The All-India average NSDP value was used for Dadra & Nagar Haveli, Daman & Diu and Lakshadweep for 1996 and 2006.

Work Force Participation Rate

- Data on work force participation rates is from NSS quinquennial rounds conducted in

1993-94 (used for the 1996 estimates) and 2004-05 (used for the 2006 estimates). Work force participation rates are not available for Chhattisgarh, Jharkhand and Uttarakhand for 1993-94 separately from the parent States.

The following adjustments were made:

- The value for Madhya Pradesh was used for Chhattisgarh.
- The value for Bihar was used for Jharkhand.
- The value for Uttar Pradesh was used for Uttarakhand.

Wage Rate

- Aggregate or average agricultural and non-agricultural wage rates are not available for States and UTs for the years 1996 and 2006.
- Estimates of wage per day for female and male casual labour had to be estimated from NSS quinquennial rounds conducted in 1993-94 (used for the 1996 estimates) and 2004-05 (used for the 2006 estimates).
- Wage rate estimates are not available separately for the newly formed States, Chhattisgarh, Jharkhand, and Uttarakhand for both time points; for Nagaland for 1993-94 and for Chandigarh for 2004-05.

The following adjustments were made:

- Wage rates for Madhya Pradesh were used for Chhattisgarh.
- Wage rates for Bihar were used for Jharkhand.
- Wage rates for Uttar Pradesh were used for Uttarakhand.

- Wage rates for Assam were used for Nagaland for 1993-94.
- The female wage rate for Punjab was used for Chandigarh for 2004-05.

The Data Gaps and Adjustments Made while Calculating GEM

It may be noted that where data was not available for some of the indicators included in, for instance, the Dimension 'Political Participation and Decision-making Power', or 'Economic Participation and Decision-making Power' and 'Operational Holdings' or 'Credit', no adjustments were made. Instead, the Dimension scores were determined by dividing the total score for the indicators for which data was available by the number of indicators for which data was available. However, in the case of the three newly formed States of Chhattisgarh, Jharkhand and Uttarakhand, since data was not available separately for 1996, estimates for the parent States were applied to each of them.

Parliamentary Elections

- For 1996, no data is separately available on performance of men and women candidates in the Parliamentary election for Chhattisgarh, Jharkhand and Uttarakhand, as they were newly formed States.

The following adjustments were made:

- The value for Madhya Pradesh was used for Chhattisgarh.
- The value for Bihar was used for Jharkhand.
- The value for Uttar Pradesh was used for Uttarakhand.

State Legislature

- Elections to State assemblies occurred in different years and not exactly in 2006 and 1996. Therefore data for elections to assemblies was taken for the year(s) closest to 2006 and 1996.
- There is no data for assemblies for Chhattisgarh, Jharkhand and Uttarakhand for 1996 as these were new States.
- Performance of men and women candidates in the State Assemblies is not available for both 1996 and 2006 for Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu and Lakshadweep as there are no legislative assemblies in these Union Territories.

The following adjustments were made:

- The value for Madhya Pradesh was used for Chhattisgarh.
- The value for Bihar was used for Jharkhand.
- The value for Uttar Pradesh was used for Uttarakhand.

Panchayati Raj Institutions

- The States of Meghalaya, Mizoram & Nagaland have traditional Councils. Jammu and Kashmir has not adopted the 73rd Constitutional Amendment Act 1992. In Jharkhand, *Panchayat* elections have not been conducted so far. For the National Capital Territory of Delhi, *Panchayati Raj* Institutions are yet to be revived.
- For 1996, the data is not separately available on performance of men and women candidates in the *Panchayati Raj* election for Chhattisgarh, Jharkhand and Uttarakhand, as they were newly formed States.

- Data for women and men elected to the *Panchayati Raj* Institutions, is not available for Orissa for the election conducted in 2007.

The following adjustments were made:

- Data for 2002 PRI elections was used for Orissa for estimating indices for 2006.
- The value for Madhya Pradesh was used for Chhattisgarh.
- The value for Bihar was used for Jharkhand.
- The value for Uttar Pradesh was used for Uttarakhand.

IAS, IPS and IFS Officers

- For All India Services – Indian Administrative Service (IAS), Indian Police Service (IPS) and Indian Forest Service (IFS), data for men and women is available under one cadre of (i) (AGMUTs) for the States and union territories of Arunachal Pradesh, Goa, Mizoram, Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Delhi, Lakshadweep, and Puducherry, (ii) (AM) for Assam and Meghalaya and (iii) (MT) for States of Manipur and Tripura.

The following adjustments were made:

- The value for AGMUTs cadre was applied to the States and union territories of Arunachal Pradesh, Goa, Mizoram, Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, NCT Delhi, Lakshadweep and Puducherry.
- The value for AM cadre was applied to Assam and Meghalaya.
- The value for MT cadre was applied to Manipur and Tripura.

Enrolment in Medical and Engineering Colleges

- There was no data on this indicator for Meghalaya, Mizoram, Nagaland, Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu and Lakshadweep and so this indicator was not considered for calculating the Dimension score for these States/UTs.

Operational Holdings

- Gender disaggregated data on ownership of assets is not available for most assets for India and the States. The exception is Operational Holdings. Data on Number of Operational Holdings is from the Agriculture Census, 1995-96 and 2000-01.
- No Census was conducted in Jharkhand in 2000-01.
- For 1995-96, combined values were provided for Uttar Pradesh and Uttarakhand and similarly for Chhattisgarh and Madhya Pradesh.
- Data pertaining to the States of Bihar and Meghalaya is based on estimates.

The following adjustments were made:

- The combined values provided were used for Madhya Pradesh and Chhattisgarh.
- The combined values provided were used for Uttar Pradesh and Uttarakhand.
- The estimated values provided for Bihar were used for Bihar and Jharkhand.
- Data for 1995-96 was used for computing the indices for 1996, while data for 2000-01 was used for computing indices for 2006.

Credit Accounts

- Sex disaggregated data is not available even for bank accounts in scheduled commercial banks with credit limit below Rs. 2 lakh. Additionally sex disaggregated data for access to credit above

Rs. 2 lakh is not available separately for Chhattisgarh, Jharkhand and Uttarakhand for men and women for 1996.

The following adjustments were made:

- The value for Madhya Pradesh was used for Chhattisgarh.
- The value for Bihar was used for Jharkhand.
- The value for Uttar Pradesh was used for Uttarakhand.

Data Gaps in Estimating HDI, GDI and GEM at the District Level

- Data is not available for Life Expectancy at age 1 at the district level.
- Data on the Infant Mortality Rate (IMR) and Literacy Rate are available only for Census years, 1991 and 2001.
- Compiled and published data on all the other indicators used for calculating HDI, GDI and GEM are not available at the district level.

Data Gaps in Other Desirable Dimensions

- Data collected by the national data procurement machinery on morbidity sharply underestimates morbidity relative to data generated by micro studies.
- Data on workforce participation rate is available but does not accurately capture women's participation in economic activity.
- Data on women's care work needs to be captured and made statistically visible.
- Data on percentage share of women and men in Urban Local Bodies (ULBs) was not published for all the tiers of local governance.

- Information regarding women and men enrolled in management institutes is not compiled and published.
- Information regarding women and men members of trade unions is not available for the States. It is only available at the national level.
- Information regarding women and men in State Planning Boards (SPBs) is not available. Searching each site yields a few names. While some are by position, the name/gender is not discernible.
- Data on women and men Internet users, phone and mobile users is not available.
- Gender disaggregated data for watching television at least once a week, male and female listening to radio at least once a week and reading newspaper at least once a week is only available for 2005-06 from National Family Health Survey (NFHS), that too for 29 States only.
- Data regarding participation in decisions regarding household purchases, child's education, etc. is available from NFHS only for women for 2005-06 at National and State level (29 States only) and not for men for the two time periods.
- NSDP per capita for men and women are not available.

Estimation of HDI, GDI and GEM for the Two Districts, Mahabubnagar (Andhra Pradesh) and Jodhpur (Rajasthan)

An attempt was made to estimate HDI, GDI and GEM in two districts in India on a pilot basis. The purpose was to identify the extent to which data pertaining to the selected indicators is or is not available at the district level. The criterion for selection of districts was

Table 6.2: HDI, GDI and GEM estimates for Mahabubnagar and Jodhpur

	Districts	Partial HDI/GDI
HDI 2001	Mahabubnagar	0.520
HDI 2001	Jodhpur	0.534
GDI 2001	Mahabubnagar	0.505
GDI 2001	Jodhpur	0.511
		GEM
GEM 2006 with representation in Parliament	Mahabubnagar	0.534
GEM 2006 without representation in Parliament	Mahabubnagar	0.574

Note: HDI = Human Development Index; GDI = Gender Development Index; GEM = Gender Empowerment Measure.

that one district should be selected from a State with relatively more advanced and one from a State with relatively less advanced data collection systems. The two States that were selected, based on discussions, were Andhra Pradesh and Rajasthan. The two districts that were selected were Mahabubnagar and Jodhpur respectively. However the estimates could not be computed for 1996 due to data gaps. HDI and GDI were computed for 2001 for both the districts and GEM for 2006 only for Mahabubnagar. GEM for 2006 for Jodhpur could not be calculated as data for indicators of one of the dimensions, i.e. "Economic Participation and Decision Making", are not available/received. The data source and specific year for which data was available for each of the indicators used for estimating HDI, GDI for 2001 for both the districts – Mahabubnagar & Jodhpur – and GEM for 2006 for Mahabubnagar along with the details of available and used data are presented in Statistical Tables for Districts in pages 162 to 166 of the report.

These estimates are at best partial and are not strictly comparable with the estimates computed for India and the States/UTs as explained earlier. The calculated value of HDI, GDI and GEM for the districts of Jodhpur and Mahabubnagar are shown in Table 6.2.

It may be appreciated that the indicator on percent representation in Parliament (elected) for the district with "1" seat in Parliament will take extreme values of 0% or 100% and may distort the Index. As such, GEM 2006 for Mahabubnagar has been calculated in both ways i.e. with representation in Parliament and without representation in Parliament.

The exercise of calculating HDI, GDI and GEM at district level clearly highlights the necessity of strengthening the statistical systems at district and local levels to enable generation of the district and local level statistics comparable with All India and State statistics.

The next chapter, Chapter 7 presents the Conclusions and Way Forward.

Conclusions and the Way Forward

7. Conclusions and the Way Forward

The Report "Gendering Human Development Indices: Recasting the Gender Development Index and Gender Empowerment Measure for India" estimates human and gender development indices for India and the 35 States/UTs within the limitations of data availability. The report compiles and presents HDI, GDI and GEM for India and the States/UTs for two periods of time, 1996 and 2006. The Dimensions used for computing HDI and GDI are, Dimension 1: 'A Long and Healthy Life', Dimension 2: 'Knowledge' and Dimension 3: 'A Decent Standard of Living'. The Dimensions used for computing GEM are, Dimension 1: 'Political Participation & Decision-making Power', Dimension 2: 'Economic Participation and Decision-making Power' and Dimension 3: 'Power over Economic Resources'.

The HDI, GDI and GEM scores attained by the 35 States/UTs and changes in the scores and ranks over time reflect performance on these indices and the extent to which a State/UT has progressed in translating its growth into a better quality of life for both women and men. Disparities in access to resources and outcomes are penalised and result in lower levels of attainment on GDI and GEM.

The HDI score for India was 0.530 for 1996 and 0.605 for 2006. For 2006, the HDI score was highest for the Union Territory of Chandigarh at 0.784 and lowest for Bihar at 0.507. The GDI score for India was 0.514 for 1996 and 0.590 for 2006. For 2006, the GDI score was highest for the Union

Territory of Chandigarh at 0.763 and lowest for Bihar at 0.479. The GEM score for India was 0.416 for 1996 and 0.497 for 2006. For 2006 the GEM score was highest for NCT Delhi at 0.564 and lowest for Nagaland at 0.289.

Table 7.1 presents the scores and ranks attained by the States/UTs on HDI, GDI and GEM for the year 2006.

Gaps between HDI and GDI reflect the existence of gender disparities in translating development into equitable outcomes. Table 7.1 shows that the gap between HDI and GDI scores at the All-India level was 0.015 in 2006. The States/UTs that had higher gaps between HDI and GDI than the All-India level are, Lakshadweep, NCT Delhi, Tripura, Bihar, Daman & Diu, Jammu & Kashmir, Chandigarh, West Bengal, Uttar Pradesh, Puducherry, Kerala, Jharkhand, Goa and Andaman & Nicobar Islands. The gap between HDI and GDI was however largest for Lakshadweep, NCT Delhi and Tripura.

States/UTs that perform markedly better on GEM (in terms of rank) than on GDI include Andhra Pradesh, Karnataka, Haryana, Madhya Pradesh, Uttar Pradesh and Chhattisgarh.

Despite limitations, scores attained by the States/UTs on the dimensions that comprise HDI, GDI and GEM, reveal gender-based disparities that can meaningfully be used by policy-makers and analysts. For instance, analysis of Tables 4.4 and 4.7 in Chapter 4 shows

Table 7.1: HDI, GDI and GEM Scores and Ranks for States/UTs in 2006

S.No.	States/Union Territories	HDI 2006	Rank	GDI 2006	Rank	GEM 2006	Rank
1	Andhra Pradesh	0.585	28	0.574	27	0.547	5
2	Arunachal Pradesh	0.647	20	0.642	18	0.469	17
3	Assam	0.595	26	0.585	26	0.417	28
4	Bihar	0.507	35	0.479	35	0.379	31
5	Goa	0.764	2	0.747	2	0.551	4
6	Gujarat	0.634	23	0.624	22	0.485	15
7	Haryana	0.643	21	0.632	20	0.532	7
8	Himachal Pradesh	0.667	15	0.664	13	0.540	6
9	Jammu & Kashmir	0.590	27	0.568	28	0.355	33
10	Karnataka	0.622	25	0.611	25	0.526	8
11	Kerala	0.764	2	0.745	3	0.525	9
12	Madhya Pradesh	0.529	33	0.516	33	0.463	21
13	Maharashtra	0.689	11	0.677	10	0.516	10
14	Manipur	0.702	7	0.699	6	0.418	27
15	Meghalaya	0.629	24	0.624	23	0.346	34
16	Mizoram	0.688	12	0.687	9	0.374	32
17	Nagaland	0.700	8	0.697	7	0.289	35
18	Orissa	0.537	32	0.524	32	0.393	29
19	Punjab	0.668	14	0.663	14	0.514	11
20	Rajasthan	0.541	31	0.526	31	0.442	24
21	Sikkim	0.665	17	0.659	15	0.447	23
22	Tamil Nadu	0.666	16	0.655	16	0.498	14
23	Tripura	0.663	18	0.626	21	0.382	30
24	Uttar Pradesh	0.528	34	0.509	34	0.452	22
25	West Bengal	0.642	22	0.622	24	0.435	25
26	Chhattisgarh	0.549	30	0.542	30	0.464	19
27	Jharkhand	0.574	29	0.558	29	0.435	26
28	Uttarakhand	0.652	19	0.647	17	0.466	18
29	Andaman & Nicobar	0.708	6	0.692	8	0.560	2
30	Chandigarh	0.784	1	0.763	1	0.500	13
31	Dadra & Nagar Haveli	0.677	13	0.673	12	0.479	16
32	Daman & Diu	0.700	9	0.677	11	0.503	12
33	NCT Delhi	0.740	4	0.701	5	0.564	1
34	Lakshadweep	0.697	10	0.635	19	0.463	20
35	Puducherry	0.725	5	0.706	4	0.558	3
	All India	0.605		0.590		0.497	

that although Andhra Pradesh performs relatively well on HDI and GDI Dimension 1, 'A Long and Healthy Life' and Dimension 3, 'A Decent Standard of Living', achievement on Dimension 2, 'Knowledge' (based on Literacy Rate and Mean Years of Education) is lower than the estimates for States that have a high proportion of their population below the poverty line, such as Madhya Pradesh, Orissa and Uttar Pradesh. Despite improvements over time, gender differentials in education related indicators continue to be high in several States/UTs. Analysis of Table 7.1 shows that although NCT Delhi is ranked 4th on HDI and 5th on GDI in 2006, there is a large gap between the HDI score (0.740) and GDI score (0.701) that shows the existence of gender disparities. The indices draw attention to this and call for corrective action.

Similarly, the low scores attained, nation-wide, on GEM Dimension 3, 'Power over Economic Resources' draw attention to the severe gender disparities that exist with regard to access to resources and assets and the historical discrimination faced by women in access to land, livestock, credit and other productive resources, despite their unpaid and unrecognised contribution to agriculture and farm and non-farm family based economic activities.

This requires special attention as access to resources can enhance opportunities and lead to enhancement of capabilities, thereby lead to higher levels of gender empowerment as well as development. As the Eleventh Plan notes, "international evidence shows that women's access to land or homestead is positively linked to the family's food security, child survival, health, education, and children's exposure to domestic violence. Women with land and house are also at lower risk from spousal violence, have greater bargaining power in the labour market, and are better able to protect themselves and their children from destitution if the father dies from ill health, natural disaster, or HIV/AIDS."⁴⁸

However it is important to reiterate 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.

Maternal mortality is unacceptably high in India at 254 per 100,000 live births on average for 2004-06 with estimates as high as 480 for Assam and 440 for Uttar Pradesh/Uttarakhand. In comparison, MMR estimates are only 10 for Japan and 56 for China. The Eleventh Plan draws attention to the high levels of maternal mortality and points out that these are directly correlated to women's "lack of access to health care facilities", "discriminatory practices that deny women access to good nutrition and care" and deliveries without assistance from any health personnel⁴⁹. Additionally, the Eleventh Plan notes that "inaccessibility of health centres and poverty prevent (women) from getting timely medical aid. Absence of toilets and drinking water adversely impacts their health. NFHS-3 data reveals that only 27.9% households in rural areas and 70% in urban areas have access to piped water. Further, only 25.9% households in rural areas have access to toilets." Together with access to nutritive diets, access to preventive and curative health care, safe drinking water and sanitation within the home, safe disposal of solid waste and hygiene is critical if we are to reduce the levels of mortality and morbidity and reduce drudgery for women. Urgent action is needed if we are to reduce MMR.

Large gaps exist between morbidity data provided by the NSS and data collected through micro-studies. While Life Expectancy at Birth or Age 1 continues to be used to reflect the state of health, this is available for only around half the States/UTs in the country. Therefore, accurate data on a range of health-related indicators such as morbidity are urgently required so that the computed scores for Dimension 1 of HDI and GDI, 'A Long and Healthy Life', are more representative and better able to capture the ground reality.

⁴⁸ Planning Commission (2008), Eleventh Plan 2007-12, Volume 2, Oxford University Press, New Delhi, p. 192.

⁴⁹ Planning Commission (2008), *ibid*, p. 186.

The most serious aspect of gender discrimination that confronts us however, is violence against women, one manifestation of which is the alarmingly low female-male sex ratio. Special cognisance needs to be taken of this problem and actions taken to put a stop to violence against women and the girl child.

The Constitution allows positive discrimination in favour of women. There is one-third reservation for women in PRIs and ULBs. The representation of women in PRIs has increased well beyond the one-third limit in several States and reached an All-India average of 36.75% in 2006. In comparison, representation of women in the 15th Lok Sabha (2009) is only 10.7% and in Rajya Sabha (2009) it is 9.52%. This is extremely low. This clearly shows that affirmative action has resulted in increased representation and participation of women in decision-making at the grassroots level.

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 ensure quality implementation of programmes which provide access to assets and income earning opportunities for women, such as through providing right to work to all citizens; providing access to work at decent wages to enable exit from poverty and thereby reducing gender disparities in work and standard of living; providing access to safe drinking water to reduce the disease burden caused by drinking contaminated water; and provid-

ing access to health facilities and timely access to medical care to reduce gender disparities in morbidity and mortality.

MWCD's Vision Statement is "Ensuring overall survival, development, protection and participation of women and children of the country" and 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 which demand that corrective policies, programmes and schemes be implemented in order to achieve gender justice and equitable development outcomes.

While only a few indicators can be used for computing an index, for the other gender-based indicators, data must be collected at regular intervals so that it can be used to track and monitor progress and bring about change, which can translate growth into better and more equitable 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 high time that due priority is accorded for bridging the data gaps in gender disaggregated data. The national and State/UT Statistical Systems must be geared up to meet the challenges and should be strengthened accordingly. Based on quality and timely gender disaggregated data and information, it would be possible to measure and understand gender disparities and correct them through plans, policies, programmes and schemes.