Significance of Gender-related Development Indicators: An Analysis of Indian States

PREET RUSTAGI

This article illustrates the complexities of gender-related development through an analysis of individual indicators covering issues of women's work, education, health, survival, safety and participation in public/private decision-making. State level comparisons based on selected individual gender-related indicators reveal divergent patterns of development, highlighting the problems that complexity and non-linearity pose for measuring gender development. In the absence of unilinear patterns of gender development across Indian states, the significance of non-composite indicators and their importance for problem identification and effective intervention is highlighted.

This article highlights the importance and significance of gender-related development indicators for assessing relative levels of progress or backwardness of women's status across the states of India.[1] An analysis of the current situation of women across the Indian states based on a select set of indicators covering issues of work, education, health, survival, safety and women's participation in private and public decision-making is undertaken here to illustrate the relevance of adopting a simple methodology of individual indicators. The indicators used here include both attainment levels as well as gaps between men and women in selected spheres. This analysis reveals the utility of such a methodology in identifying the areas of gender backwardness and possible intervention mechanisms that can prove to be effective in improving the situation of women.[2]

Preet Rustagi is a Junior Fellow at the Centre for Women's Development Studies, New Delhi. E-mail: preet@cwds.org.

Indian Journal of Gender Studies, 11:3 (2004)
Sage Publications New Delhi/Thousand Oaks/London

The article emphasises three major points in the context of development indicators for women's status. First, it is safe to say that gender development is a complex and dynamic process which does not follow a uniform path. Second, for any planned development to be effective and for replication of successful experiments, there is a need for more specific details that can be provided by gender-related development indicators. Third, the variables and indicators for women's status oriented towards this objective need to be non-complex, simple and individual/disaggregated rather than composite [that is, of the nature of the Human Development Index (HDI) or Gender-related Development Index (GDI) as propounded by the United Nations Development Programme (UNDP)]. The purpose of gender development indicators is to generate specific sets of information that can be usefully utilised for identification of and intervention for the amelioration of the status of women. Individual, disaggregated indicators provide statistical data in a format that is amenable to the identification of problem areas as well as for intervention, thereby making it a better tool in comparison to any composite index.

The development of any nation or region does not necessarily follow a uniform path. Moreover, the direction, pace or intensity of growth do not exhibit unique patterns (Kelley 1991; Krishnaji 1997; Rustagi 2000). That is to say, any impetus or stimulant introduced into an existing situation does not always lead to a predetermined outcome and even the path adopted to attain or reach a particular goal often varies from individual case to case. This is because the trajectory of growth is a dynamic process. The process by itself is not an assimilation of different static parts but an ongoing, interlinked, intertwined combination of varied factors, each of which may react differently even if one aspect alone undergoes a change. The presence and operation of these multiple factors, each of which can assume a different form with the slightest change occurring in any dimension, makes the process dynamic.

To convert all these variables to form a single composite index involves combining them by assigning different weights to different variables thereby subsuming them under one number, which makes it non-transparent. There have been substantial debates and deliberations on these matters of composite indexation and related issues of weightage, standardisation and combination (see Baster 1972; Drewnowski 1977; Hilhorst and Klatter 1985; Morris and

McAlphin 1982; United Nations Educational, Scientific and Cultural Organisation [UNESCO] 1981 among others).

The purpose here is not to undermine the importance of any composite index, which may be a useful tool for certain cross-country comparisons, but does not always help in focused, targeted development planning. The use of composite indices since the 1990s introduced competitiveness among the countries/regions being compared without offering any clues to diagnose or treat the sources of backwardness since numerous variables are hidden within a single number. Therefore, focused policy intervention needs tools in the form of individual indicators without 'clubbing', which are easily comprehensible and hence useful for implementing interventions.

The first section of the article deals with a few of the methodological issues on the choice of indicators, analysis and data sources. Section II deals with the situation of women across Indian states based on a diverse set of dimensions such as work, education, health, survival, private/public participation in decision-making, security and violence. This is followed by a few concluding remarks.

Methodological Issues

This section deals with methodological issues, including selection of indicators, different data sets and the method of analysis adopted to illustrate the significance of using individual indicators. The range of gender-related development indicators that can be identified are numerous, but the feasibility of calculating or measuring them quantitatively is limited by availability of data. Hence, in this article too, the issues under discussion are limited to the set of indicators that can be quantified for state level analysis (for deliberations on non-conventional indicators/other alternative suggestions, see Gurumurthy 1998; Hirway and Mahadevia 1996; Sonpar and Kapur 2001; Viswanathan 2001 among others).

A diverse set of indicators sheds light on women's status and reflects the extent of gender equality and empowerment. Many aspects of women's lives help us to understand their status, but these are not adequately quantifiable. Statistical information for deriving indicators for such aspects is either not available, or not very reliable. For example, issues pertaining to choice and freedom

regarding reproductive behaviour, sexuality, income autonomy and so on pose difficulties.

Prior to the selection of the variables that can be used for the assessment of gender development, the terms 'equality' and 'empowerment' need to be defined.

Questioning the assumptions of development as a gender-neutral process formed the origins of various theories and debates on the concept of gender development (Haddad and Kanbur 1990; Sen 1992; Tinker 1990; United Nations Development Programme 1995; Woolley and Marshall 1994 among many others). In order to work towards development that benefits women too, the need to focus on women came to be recognised in the matter of policies and various developmental programmes. This perspective moved away from the earlier 'welfare' approach wherein women were relegated to being mere recipients of various beneficiary projects, often under the assumption that some benefits would trickle down to them (for a thorough exposition of the processes through which these changes have occurred in the treatment of women's issues, see Feldman 1998; Mazumdar et al. 2001). Gender development,[3] within the gamut of human development (as opposed to income development), lays emphasis on women as individuals, human beings and citizens with equal rights and opportunities, while recognising the need for enhancing their capabilities so as to ensure equal participation and benefit-sharing in development.

Equality refers to equal opportunities in terms of access to sources of livelihood, health, and education, as well as to social, economic and political participation without discrimination. Patriarchal structures aid the prevalence and perpetuation of gender inequalities despite the constitutional provision of equality (Agrawal and Rao 2004; Government of India 1974). Gender inequalities stem from relations of power and authority, class–caste hierarchies and socio-cultural traditions, customs and norms. Empowerment may be defined as the process of transforming these structures and institutions, thereby ensuring equality. The indicators selected and used to assess levels of gender development cannot shed light on all the intricate patterns and dimensions of the changes occurring. However, these indicators provide mechanisms for evaluation to strategise the directions and steps that need to be taken to move towards gender equality and empowerment.[4]

Statistical information is often malleable enough to form more than one indicator. Indicators are designed on the basis of an identified purpose. This process brings in an extremely critical key factor of values, that derives from socially produced knowledge, specific cultural interests and historical circumstances.[5] Feminist epistemologists have discussed the absence of women's issues and their concerns in scholarly endeavours until they began to be addressed in the 1980s and since [see Sutton (1998) for a detailed exposition of the overlooking and silencing of women and their concerns in academic research pursuits].

Individual indicators serve as a far better method for both the identification and evolution of effective intervention strategies. Since these variables transformed into indicators reflect a particular aspect of women's well-being, any number of such dimensions can be considered as may be desirable to understand levels of gender development or backwardness. Hence, there is no upper limit on the number of variables used or indicators constructed. The number of indicators may need to be limited in the context of composition into indices, as a large number of indicators can make the index incomprehensible (see Krishnaji 1997; Rajivan 1998; Rustagi 2000 among others). However, the limitations are only related to the nature of data and methodological issues such as comparability and appropriateness of different data sources for the issue under consideration.

The use of individual indicators, thus, also highlights the fact that different variables follow separate trajectories in the course of development and a state may fare extremely well in one dimension and lag behind in another. Scholars working on indicators have adopted different methods of comparison. The use of indices formed on the basis of best performing level or by setting an optimum benchmark against which all other regions are compared is common. This is a simplistic approach to the growth patterns of regions that are very diverse in terms of their society, culture, geography, economy, polity and so on, since this implicitly or explicitly assumes that the states lagging behind will follow the path traversed by the leading state.

This article considers both attainment levels and gender gaps as they refer to different dimensions of gender inequality and biases against women. For instance, the low literacy or high mortality rate among females depicts a poor status whereas the gap between

men and women in literacy levels or mortality rates signifies gender-based discrimination in society. The tremendous variations in levels of gender development that exist across the states of India are illustrated in this article.[6]

The indicators selected for a comparison of women's status across Indian states serve an illustrative purpose here. The different dimensions covered in this article can be broadly classified under the following six heads—work, education, health, survival, participation in private/public decision-making and safety/security.

Women's work is one of the most crucial indicators and serves as an empowerment tool. However, the number of women who work is poorly captured or enumerated since most of the work they do is not remunerated and hence remains unrecognised. As a consequence, the rate of women's participation in the workforce is shown as low. Given poor human capital investment, the share of women in the organised sector is also low. The only source that reveals a high rate of women's participation is the time use survey that calculates the number of hours per day and hours per week women work.

Education forms a very basic indicator for women's equality and empowerment. Levels of female literacy, gender gaps in literacy levels, enrolment and dropout rates at the primary school level are relevant indicators. Indicators used in measuring women's health are limited to mean age at marriage, total fertility rate, couple protection rate and anaemia levels. For the issue of survival of women and girls, the chosen indicators are sex ratios, especially child sex ratios; infant mortality rates among females; maternal mortality rates and life expectancy at birth among females.

How significant is the participation of women in private and public decision-making? Some information on autonomy levels and the role of women in decision-making in the areas of the provisioning of food, healthcare, levels of mobility without having to seek permission and so on have been provided by the National Family Health Survey (NFHS) data that is used in this article.

The percentages of women as voters, contestants and winners in general elections and in panchayati raj institutions as elected representatives are used as indicators for the role of women in public decision-making. Incidence of crimes against women is used to reveal the safety and security experienced by women.

Based on the latest information available from numerous secondary government data sources, indicators have been constructed to reflect the levels of women's status.[7] For comparison across the Indian states, a simple ranking exercise has been adopted. Ranks have been assigned to highlight states which are most backward. Hence, the lowest rank—1—is given to the state that requires intervention in a given area and the highest rank, say 25, is assigned to the state with the best record. The discussion highlights the relatively backward and the more advanced states, taking all-India rates as the benchmark generally.

The Status of Women in Indian States: What do Different Indicators Reveal?

In this section, the status of women in the states of India is assessed based on a selected set of gender development indicators. As mentioned earlier, the indicators chosen are classified on the basis of six aspects of women's lives—work, education, health, survival, participation in private/public decision-making and safety/security.

Women's Work and the Issue of Non-Recognition

Women work both for the labour market and for the household. Some of this work is recognised and remunerated, while most of it is not enumerated and remains unpaid. Women's contribution to the household, economy and society goes unrecognised since most of the activities females are involved in do not enter the sphere of the market and remain non-monetised. Most of the work undertaken by women is often interspersed with other household chores, making it difficult to separate the various tasks performed. The perpetuation of gender stereotypes and the social division of labour that typecasts women mainly as workers in the domestic sphere has been the chief barrier to the recognition of women's economic work participation (Bardhan 1985; Tinker 1990). Non-recognition of women's participation in economic activities is not only an outcome of (*a*) their work being intertwined with household activities; and (*b*) being unpaid, making it difficult for enumerators to identify women as workers, but also stems from flawed definitions and

the limited scope of economic activity[8] (Agarwal 1985; Duvvury 1998; Government of India 1988).

The role played by women in the care sector, predominantly their reproductive work (bearing, rearing, nurturing children and household maintenance), falls outside the national accounting systems. Many of the tasks 'non-working' women are involved in would be considered work if performed by a person hired for the purpose or unrelated to the household (Visaria 1999). Because women perform roles, which are not statistically counted as economic and hence not monetarily valued, women's roles and their contribution are assigned a lower status.

The role fulfilled by women in household maintenance and care activities cannot be trivialised. Assigning monetary value to all the tasks undertaken by them, however, is not very easy. Some efforts have been made to study the manner in which time is spent by women in the course of the day through time use surveys (Government of India 2000). This reveals the significance of time spent by women in unpaid care activities (Bhatia 2002; Hirway 2002 among others).

The shift from viewing women only as reproducers to recognising them as producers as well came gradually when the focus on their contributions, non-recognition of their work and their under-enumeration as workers began in the 1980s (Feldman 1998; Government of India 1988; Papola and Sharma 1999). This led to the shift within development planning from a concern with women's livelihoods to alleviate their poverty to improving women's access to and ownership of productive resources as well as increasing their labour force participation. Efforts have also been made to capture women's work better by undertaking gender-sensitising exercises with census enumerators and introducing guideline manuals for them to be able to identify the extent of women's participation. This has improved coverage of women's work participation rate ever since the 1980s.

The indicators used to cover economic participation are female work participation rate (FWPR), share of women in organised sector employment, gender differences in work participation rates and unpaid work contributed by women based on time use survey (TUS). Since the time use survey conducted by the Central Statistical Organisation was only a pilot survey[9] covering six states, no state level analysis is provided here.

Female Work Participation Rate and the Gender Gap

The female work participation rate (FWPR) is measured by calculating the proportion of female main plus marginal workers among the female population. Standard definitions of economic activity indicate low rates of FWPR. At the all-India level, only 30 per cent of women are defined as workers, main or marginal. Among the states, Kerala has the lowest FWPR, while Uttar Pradesh, West Bengal and Punjab are also states where female work participation is low (Table 1).

Female work participation rates are high in states with hilly regions and those inhabited by tribals, such as most of the Northeast, Himachal Pradesh and Chattisgarh. These are also the states where there are low gender disparities in terms of work participation. Higher FWPR can be partially explained by the fact that community-based organisation of subsistence production requires a high level of women's labour participation.

Table 1
Female Work Participation and Gender Gap in Participation

States/UTs	*FWPR rank*	*FWPR*	*WGAP rank*	*WGAP*
Kerala	1	17.2	3	40.1
Uttar Pradesh	2	20.0	4	37.8
West Bengal	3	21.0	1	41.8
Punjab	4	21.2	2	41.1
Bihar	5	23.5	6	35.7
Tripura	6	24.3	8	34.2
Goa	7	24.8	5	36.6
Assam	8	24.9	7	34.5
Jammu & Kashmir	9	25.7	10	32.2
Orissa	10	28.6	9	32.9
India		**30.3**		**31.0**
Gujarat	11	30.9	12	30.3
Uttaranchal	12	31.9	18	23.5
Haryana	13	32.1	14	27.8
Jharkhand	14	32.2	15	26.3
Tamil Nadu	15	35.1	11	30.3
Karnataka	16	36.6	13	28.8
Maharashtra	17	37.7	17	24.2
Madhya Pradesh	18	40.1	19	22.3
Andhra Pradesh	19	40.2	16	24.9

(*Table 1 contd.*)

(*Table 1 contd.*)

States/UTs	*FWPR rank*	*FWPR*	*WGAP rank*	*WGAP*
Rajasthan	20	41.0	21	20.5
Meghalaya	21	43.7	23	15.9
Nagaland	22	44.8	28	9.4
Arunachal Pradesh	23	45.0	22	17.2
Sikkim	24	45.5	20	21.0
Manipur	25	46.2	27	10.5
Chhattisgarh	26	48.0	24	15.7
Himachal Pradesh	27	49.7	25	13.2
Mizoram	28	56.8	26	11.3

Source: Based on calculations from Census of India (2001).

Notes: Work participation rates are calculated as the proportion of total workers (main + marginal) among respective populations above six years. FWPR—Female Work Participation Rate; WGAP—Gender Gap in Work Participation.

While in the northern states women's work participation is not encouraged for reasons of social status, in the southern states the participation of women is relatively higher. Some scholars have linked higher participation of women with rice cultivation (Banerjee and Jain 2001; Boserup 1970; Mencher and Saradamoni 1982).

A factor that is also associated with better work participation levels is educational attainment, but not always. Although both Punjab and Kerala have high female literacy levels as well as low differences between male and female literacy levels, educational attainment does not correlate with work participation rate for females.[10] Literacy levels vary widely across social groups as well as rural–urban locations. More in-depth and disaggregated analysis is required to fruitfully examine the linkages between education and economic participation which can be better perceived at the sub-state—that is, district or *taluk*—levels. The participation of women in the organised sector, however, displays the expected link to their educational attainment levels.

Organised Sector Employment

Organised sector employment constitutes a small share of total employment in India. Reliable estimates for this sector are available from the Ministry of Labour, Directorate General of Employment and Training (DGE&T). Women's share in organised sector

employment is only 17 per cent. Even within the organised sector most women are located in the lower rungs of the hierarchy (Joseph and Prasad 1995; Srivastava 1997). Very few are managers, bosses or decision-makers (Agrawal and Rao 2004; Menon-Sen and Kumar 2001).

The highest shares of women in organised sector employment are notably in the southern and northeastern states of India. In Kerala, women constitute 39 per cent of all organised sector workers (DGE&T). This is both an outcome of the educational advancement of women and the widespread opportunities available in the state. The states with a low share of women's employment in organised sector jobs are Bihar, Uttar Pradesh, West Bengal, Jammu and Kashmir and Orissa. A much greater percentage of women are located in the diverse range of unorganised sector activities, not all of which are enumerated despite efforts being made to improve their coverage in data collection.

Time Use Survey—Women's Contribution to Unpaid Activities

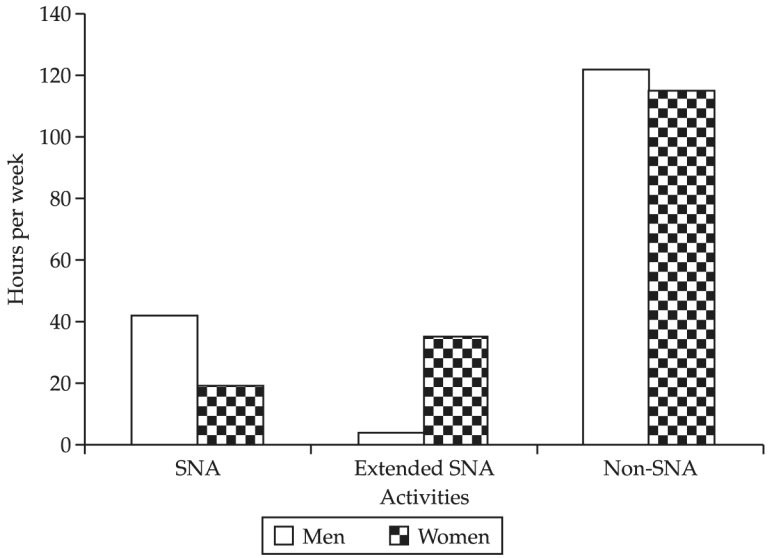
The time use survey divides activities into three categories—those accepted as economic activities as per the System of National Accounting (SNA), extended SNA and non-SNA. Household maintenance, regarded as care activity, is not considered to be an economic activity by the SNA but is included in the second category of extended SNA. SNA activities have been further classified into paid and unpaid activities. While paid SNA activities are undertaken largely by men, women are found to be involved for a larger number of hours in unpaid SNA activities, many of which are prone to go unrecognised (Government of India 2001a).

In SNA activities, women spend 19 hours per week, while the time spent by men is far higher at 42 hours per week on average. The unpaid SNA work burden shared by women takes up 51 per cent of their time, while men devote only 33 per cent of their time.

In extended SNA activities, the scenario of work participation is reversed with women involved in most of the household management and care work (Figure 1). Women spent 35 hours per week while men contributed only 4 hours on extended SNA activities. Even the results of this pilot survey covering six Indian states reveal the excess contribution of work by women when both SNA

and extended SNA are taken into consideration. An extension of this time use survey by the Central Statistical Organisation to cover all states would enable very useful comparisons.

Figure 1
Weekly Average Time Spent on Various Activities by Sex (in hours)



Source: Government of India 2001a.
Note: SNA is System of National Accounting.

On the whole, FWPR is low, partly as a result of the poor coverage given to women's work, especially in the unorganised sector and partly due to heavy domestic responsibilities that inhibit women's economic activities. Nearly 50 per cent of women who are principally involved in home-making reported that there was no other household member to undertake these responsibilities. It is noteworthy that even in this segment, 31 per cent urban and 26 per cent rural women expressed their willingness to undertake work within their homes (Government of India 2001b). Kalpagam (1999) has argued in favour of income earning opportunities for housewives as a means of empowering and improving their economic status.

There is a dire need for employment generation in newer and more sustainable spheres of activities that can productively engage women. In order for women to be able to optimally utilise these opportunities, they must be educated and trained.

Education

Does women's education lead to a positive impact on gender development? Will improvement in female literacy ensure greater gender equality? While it can be stated with a certain degree of certainty that improving the education of women will lead to gender development, it is difficult to affirm that improvements reflected through this variable of female literacy alone will be sufficient to bring about women's equality. Use of this or other education-related indicators reflects attainment/achievement levels and highlights the gap or extent of parity between men and women. Existing levels of discrimination and biases are an outcome of socio-cultural factors and patriarchal structures which are not easily overcome by introduction of literacy alone. Nevertheless, the benefits of education cannot be trivialised as these would have a long-term impact upon the empowerment of women.

From the beginning of the planned era, education along with health and social welfare were accepted as crucial services for women's development. Allocations through the Five Year Plans and special programmes for women's education together with efforts to reduce gender inequalities in school enrolment and dropouts have been undertaken by the state (Gopalan 2002; Mazumdar et al. 2001). Involvement of grassroots organisations, especially for delivering services in informal education and evolving ways of mainstreaming women, have been underway. The challenge posed in trying to increase retention rates of girls in schools surpasses the efforts required to enrol them. Unless girls continue their education up to higher levels of schooling, the potential benefits of education will remain limited.

The indicators that will be examined in this section are female literacy, the gender gap in literacy, and enrolment and dropout rates at primary schooling levels. The effective literacy rate is defined as the number of literates among the female population in the age group 7 years and above.

Female Literacy and Gender Gaps

Literacy is the first step towards formal education. It refers to the ability to read and write. Female literacy has been improving over the years. The proportion of women who are literate has increased by 15 per cent over the last decade from 39 per cent in 1991 to 54 per cent in 2001. This is a remarkable improvement that reflects the concerted efforts of the state along with the assistance of non-governmental organisations and other concerned groups. Yet, even today 193 million women lack the basic capability to read and write.

The emphasis laid on education, especially for women, is visible in the policy documents of the government such as the various Five Year Plans (since the Sixth Plan, 1980–85, in particular), the National Policy on Education (NPE) and so on (see Gopalan 2002; Government of India 1974; Mazumdar et al. 2001, for a detailed exposition of the evolution and planning of women's education). Many programmes targeting different segments of the population have been instituted to promote literacy among women, young and old. These efforts have been only partially successful on account of the lower value ascribed to women's education in our society.

All Indian states have registered improvements in female literacy rates (Table 2). Rajasthan, with the worst literacy levels among women in 1991 (as low as 20 per cent), has doubled its proportion of literate women in a decade to 44 per cent in 2001. Chattisgarh, the newly-formed state, and Madhya Pradesh are the other states with similar levels of improvement in women's literacy. This is an outcome of various educational programmes such as Mahila Samakhya, District Primary Education Programme (DPEP), Adult Literacy Mission and Non-Formal Education ventures (Karlekar 2000; Rampal 1996).

The states with high women's literacy levels are Kerala, Mizoram and Goa. These are also the states where the gap in literacy rates between men and women is low. Bihar, U.P. and Jharkhand remain the worst states in terms of women's literacy, despite some improvements over the decade. The states of Madhya Pradesh, Orissa and Andhra Pradesh exhibit literacy levels that are below the all-India average. These are also the states with higher gender gaps

Table 2
Female Literacy and Gender Gap in Literacy Rates: Statewise—1991 and 2001

States	*FLIT 2001*	*Rank 2001*	*FLIT 1991*	*Rank 1991*	*States*	*LGAP 2001*	*Rank 2001*	*LGAP 1991*	*Rank 1991*
Bihar	33.57	1	21.99	2	Rajasthan	32.12	1	34.55	1
Jharkhand	39.38	2	25.52	4	Jharkhand	28.56	2	30.28	5
Jammu & Kashmir	41.82	3	NA		Uttar Pradesh	27.25	3	30.45	4
Uttar Pradesh	42.98	4	24.37	3	Bihar	26.75	4	29.38	6
Arunachal Pradesh	44.24	5	29.69	7	Madhya Pradesh	26.52	5	29.19	7
Rajasthan	44.34	6	20.44	1	Chhattisgarh	25.46	6	30.55	3
Madhya Pradesh	50.28	7	29.35	6	Orissa	24.98	7	28.41	9
Orissa	50.97	8	34.68	9	Jammu & Kashmir	23.93	8	NA	
Andhra Pradesh	51.17	9	32.72	8	Uttaranchal	23.75	9	31.16	2
Chhattisgarh	52.40	10	27.52	5	Haryana	22.94	10	28.63	8
India	**54.16**		**38.79**		Gujarat	21.90	11	24.49	10
Assam	56.03	11	43.03	12	**India**	**21.69**		**24.52**	
Haryana	56.31	12	40.47	10	Arunachal Pradesh	19.83	12	21.76	17
Karnataka	57.45	13	44.34	13	Andhra Pradesh	19.68	13	22.40	16
Gujarat	58.60	14	48.64	18	Karnataka	18.84	14	22.92	14
Manipur	59.70	15	47.60	17	Maharashtra	18.76	15	24.24	11
West Bengal	60.22	16	46.56	15	Manipur	18.17	16	24.03	12
Uttaranchal	60.26	17	41.63	11	Himachal Pradesh	17.94	17	23.23	13
Meghalaya	60.41	18	44.85	14	Tamil Nadu	17.78	18	22.42	15

(*Table 2 contd.*)

(*Table 2 contd.*)

States	*FLIT 2001*	*Rank 2001*	*FLIT 1991*	*Rank 1991*	*States*	*LGAP 2001*	*Rank 2001*	*LGAP 1991*	*Rank 1991*
Sikkim	61.46	19	46.76	16	West Bengal	17.36	19	21.25	18
Nagaland	61.92	20	54.75	24	Tripura	16.06	20	20.93	19
Punjab	63.55	21	50.41	20	Assam	15.90	21	18.84	21
Tamil Nadu	64.55	22	51.33	21	Sikkim	15.27	22	18.94	20
Tripura	65.41	23	49.65	19	Goa	13.37	23	16.55	22
Maharashtra	67.51	24	52.32	23	Punjab	12.08	24	15.25	23
Himachal Pradesh	68.08	25	52.13	22	Nagaland	9.85	25	12.87	24
Goa	75.51	26	67.09	25	Kerala	6.34	26	7.45	26
Mizoram	86.13	27	78.60	26	Meghalaya	5.73	27	8.27	25
Kerala	87.86	28	86.17	27	Mizoram	4.56	28	7.01	27

Source: Census of India 1991 and 2001.
Note: FLIT - Female Literacy; LGAP - Gender Differences in Literacy Rates.

in literacy. While the low literacy rate may be explained by a range of factors such as non-availability of schools, teachers, equipment and infrastructure, which affect both sexes, it is social attitudes and perceptions that attach lower preference to girls' education that increase the gender gap in literacy.

Both non-economic and economic factors are discussed in the literature to explain the prevalence of the gender gap in literacy rates (Nayar 1993; Nuna 1990; PROBE 1999; Rustagi 2003; Tilak 2002; Wazir 2000 and so on). The situation among other disadvantaged groups such as the Scheduled Castes and Scheduled Tribes is even worse.

Enrolment and Dropout Rates

The enrolment of girls in schools even at the primary level is lower when compared to boys. In 1999–2000, the enrolment ratio for girls was 85 per cent in classes I–V (6–11 years). This dropped further to 50 per cent in classes VI–VIII (11–14 years) (Table 3). The emphasis laid upon training girls for marriage, inadequate facilities for girls in schools, absence of adequate female teachers, fear for their safety and so on are among the reasons for the low enrolment of girls in schools. This is further compounded by higher levels of dropouts among girls. In 1999–2000, 42 per cent of girls in primary schools had dropped out (Table 4).

Table 3
Enrolment Ratio in Classes I–V and VI–VIII of Schools for General Education

	(All students) 1999–2000					
	Classes I–V (6–11 years)			*Classes VI–VIII (11–14 years)*		
States/UTs	*Boys*	*Girls*	*Total*	*Boys*	*Girls*	Total
Andhra Pradesh	105.21	101.39	103.32	52.3	42.77	47.65
Arunachal Pradesh	126.14	108.55	117.54	72.42	66.68	69.71
Assam	124.25	105.36	114.94	81.02	64.63	72.99
Bihar	94.51	61.46	78.56	41.38	22.04	32.36
Goa	71.44	63.96	67.59	77.03	67.36	72.20
Gujarat	124.54	101.43	113.38	71.81	57.31	64.89
Haryana	81.22	82.98	82.04	64.58	59.02	62.00
Himachal Pradesh	92.97	80.83	86.66	91.8	78.66	85.15

(*Table 3 contd.*)

(*Table 3 contd.*)

	(All students) 1999–2000					
	Classes I–V (6–11 years)			*Classes VI–VIII (11–14 years)*		
States/UTs	*Boys*	*Girls*	*Total*	*Boys*	*Girls*	Total
Jammu & Kashmir	92.55	64.78	78.47	79.54	49.18	64.60
Karnataka	112.83	105.87	109.39	70.71	60.49	65.67
Kerala	85.80	84.74	85.28	97.78	93.36	95.61
Madhya Pradesh	126.53	102.94	115.03	75.28	48.70	62.56
Maharashtra	115.80	112.32	114.10	96.72	80.37	88.80
Manipur	101.87	87.41	94.44	79.62	71.34	75.48
Meghalaya	119.46	111.64	115.43	57.42	62.28	59.83
Mizoram	121.84	107.52	114.62	78.77	76.17	77.47
Nagaland	92.21	87.78	90.03	58.67	61.14	59.85
Orissa	125.70	91.48	108.84	66.59	43.75	55.34
Punjab	79.91	81.71	80.75	64.53	64.95	64.73
Rajasthan	137.61	83.81	111.92	105.89	48.35	78.88
Sikkim	139.32	138.48	138.91	70.96	76.59	73.69
Tamil Nadu	102.75	98.62	110.73	88.56	85.15	86.89
Tripura	118.28	100.86	109.37	69.96	60.26	65.13
Uttar Pradesh	78.43	50.18	64.97	48.69	25.80	38.09
West Bengal	105.35	94.86	100.19	57.00	43.91	50.63
A&N Islands	86.76	91.21	88.84	91.22	95.69	93.27
Chandigarh	66.30	65.40	65.88	68.06	71.88	69.79
D&N Haveli	153.43	106.59	128.90	77.28	48.30	62.79
Daman & Diu	119.16	93.99	105.73	92.60	81.20	86.90
Delhi	85.24	83.08	84.20	63.08	81.59	71.71
Lakshadweep	113.20	94.88	104.04	78.93	69.20	74.07
Pondicherry	88.66	79.41	83.96	96.96	86.06	91.43
India	**104.08**	**85.18**	**94.90**	**67.15**	**49.66**	**58.79**

Source: GOI 2001c.

Table 4
Statewise Dropout Rate

		Primary (1999–2000)	
States & UTs	*Rank*	*Total*	*Girls*
Rajasthan	1	52.53	62.68
Uttar Pradesh	2	56.64	62.16
Bihar	3	57.27	58.64
West Bengal	4	54.07	58.48
Meghalaya	5	57.43	57.22
Sikkim	6	58.94	56.35
Mizoram	7	51.64	51.27
Arunachal Pradesh	8	50.23	50.81
Tripura	9	49.47	49.25

States & UTs	Rank	Primary (1999–2000) Total	Girls
Jammu & Kashmir	10	51.84	47.39
Nagaland	11	46.73	46.68
Orissa	12	36.12	44.38
Manipur	13	43.30	42.90
India		**40.25**	**42.28**
Assam	14	33.69	42.20
D&N Haveli	15	31.53	41.29
Andhra Pradesh	16	40.28	41.23
Tamil Nadu	17	41.10	39.19
Himachal Pradesh	18	35.35	33.90
Gujarat	19	29.49	28.10
Karnataka	20	28.87	27.19
Madhya Pradesh	21	19.03	22.97
Maharashtra	22	20.29	21.72
Punjab	23	22.49	20.15
Haryana	24	14.57	12.78
Goa	25	8.58	11.51
Daman & Diu	26	3.59	6.60
Delhi	27	5.67	6.03
A&N Islands	28	5.64	5.77
Lakshadweep	29	2.70	4.08
Kerala	30	–7.05	–5.00
Pondicherry	31	–6.32	–6.19
Chandigarh	32	–66.70	–66.17

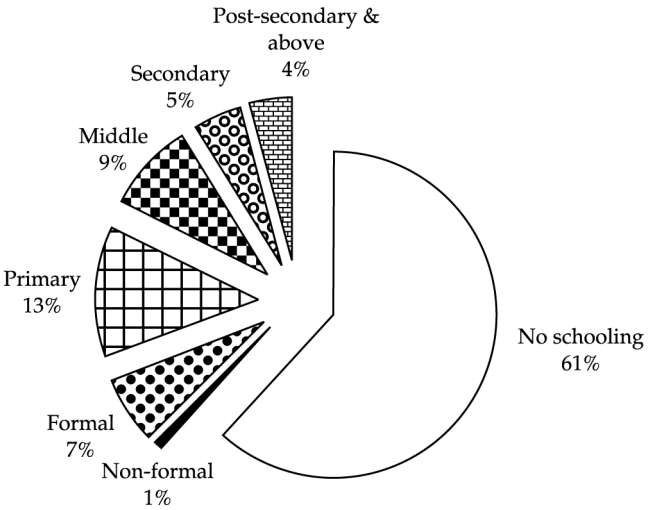
Source: GOI 2001c.

Rajasthan, Uttar Pradesh, Bihar and West Bengal are some of the states where enrolment is low and dropout rate high, implying a very low retention rate of girls at the primary school level. The use of girls in sibling care, as additional hands for helping mothers in the household, farm and off-farm work and so on operate to reduce the availability of formal education for them (Chaudhri 1999; Hirway 2001; Rustagi 2002).

Given low retention at the primary level, very few girls reach middle and secondary school or higher levels of education (Figure 2). This implies low human capital development, poor levels of skill/training to meet market demands, lowering the probability of women joining the labour market except in jobs that are in the informal sector, which are low-paid and virtually with no protection or security. Lower literacy also impacts upon women's awareness levels regarding their own health needs, thereby foreclosing

the possibility of improving their access to the available services for their well-being.

Figure 2
Educational Attainment among Women



Source: GOI 2001c.

Most of the states are still far behind the goal of universal elementary education that has to be met by 2010.[11] Unless improvements in women's educational status take place, their chances of participating in the social, economic and political spheres will remain severely curtailed.

Women's Health

In the state's approach to the issue of women's health there is an excessive focus on reproductive health (see Datta 2003; Gopalan and Shiva 2000; Mazumdar et al. 2001). Women are viewed mainly as the means of reproduction, often at the cost of their own personal, individual identity. Even now, despite some efforts to widen women's health concerns to include the issues of nutrition, sexuality and control over their bodies, state policies and programmes still emphasise and concentrate on family welfare and reproductive

health. A major share of the budgetary allocations are under these heads (see Gopalan and Shiva 2000 and references cited therein).

The indicators selected to reflect the health status of women in the states of India are: mean age at marriage, total fertility rates, anaemia levels in women and couple protection rate.

Age at Marriage among Females

Despite the legally stipulated minimum age of 18 years at marriage, girls still get married before attaining this age in the states of Madhya Pradesh, Rajasthan, Andhra Pradesh, Bihar, West Bengal and Uttar Pradesh (Table 5). The NFHS-II (1998–99) states that nearly 60 to 80 per cent of married women surveyed between the ages of 25 and 49 years were married before they were 18 years old [International Institute for Population Sciences (IIPS) 2000]. Early marriage often accompanies early pregnancy, with young unprepared mothers being saddled with responsibilities beyond their capacities. Pregnancies at young ages are more likely to result in underweight babies, stillbirths or abortions, especially where mothers suffer from poor health and deficiencies.

Table 5
Mean Age at Marriage among Females (MAMF)

States	*Rank*	*MAMF*
Madhya Pradesh	1	16.62
Rajasthan	2	16.67
Andhra Pradesh	3	16.81
Bihar	4	16.95
West Bengal	5	17.21
Uttar Pradesh	6	17.27
India		**17.68**
Tripura	7	17.82
Haryana	8	17.88
Maharashtra	9	17.91
Orissa	10	17.96
Karnataka	11	18.00
Himachal Pradesh	12	18.13
Assam	13	18.23
Arunachal Pradesh	14	18.50
Gujarat	15	19.01
Tamil Nadu	16	19.12

(*Table 5 contd.*)

(*Table 5 contd.*)

States	*Rank*	*Total*
Sikkim	17	19.22
Meghalaya	18	19.33
Manipur	19	19.45
Punjab	20	19.70
Kerala	21	19.85
Nagaland	22	20.12
Mizoram	23	20.30
Goa	24	20.42

Source: Census of India 1991.

Total Fertility Rate

The fertility rate as per the NFHS-II is an average of three babies per woman for the country as a whole. The number of childbirths among women from the states of Meghalaya, Uttar Pradesh, Rajasthan, Nagaland, Bihar and Madhya Pradesh is even higher (Table 6). Although declining for the country as a whole, the total fertility rate is close to replacement level in only some of the states. Low total fertility rates are recorded in the states of Goa, Kerala, Karnataka, Himachal Pradesh and Tamil Nadu.

Table 6
Total and Desirable Fertility Rates

States	*Rank*	*Total desirable fertility rate*	*Total fertility rate*
Meghalaya	1	3.83	4.57
Uttar Pradesh	2	2.83	3.99
Rajasthan	3	2.57	3.78
Nagaland	4	2.98	3.77
Bihar	5	2.58	3.49
Madhya Pradesh	6	2.40	3.31
Manipur	7	2.50	3.04
Mizoram	8	2.66	2.89
Haryana	9	2.10	2.88
India		**2.13**	**2.85**
Sikkim	10	1.65	2.75
Gujarat	11	2.08	2.72
Jammu & Kashmir	12	1.74	2.71
Arunachal Pradesh	13	1.74	2.52
Maharashtra	14	1.87	2.52

States	Rank	Total desirable fertility rate	Total fertility rate
Orissa	15	1.90	2.46
Delhi	16	1.72	2.40
Assam	17	1.75	2.31
West Bengal	18	1.78	2.29
Andhra Pradesh	19	1.88	2.25
Punjab	20	1.55	2.21
Tamil Nadu	21	1.71	2.19
Himachal Pradesh	22	1.50	2.14
Karnataka	23	1.56	2.13
Kerala	24	1.81	1.96
Goa	25	1.47	1.77

Source: IIPS 2000.

Frequent childbearing, often an offshoot of the predominant preference for a son in our society, takes a heavy toll on women (Dasgupta and Bhat 1998; Murthi et al. 1995; Srinivasan 1996 among others). Among resource poor households, it is distressing to note that women breastfeed more than one child simultaneously due to lack of money to feed the older child with an alternative or supplementary diet. During childbirth, several serious complications are commonly reported, such as haemorrhage, excessive bleeding, anaemia, toxicity, premature babies and associated problems (IIPS 2000). Among these, anaemia is a prominent cause leading to maternal deaths, apart from resulting in physically weak children.

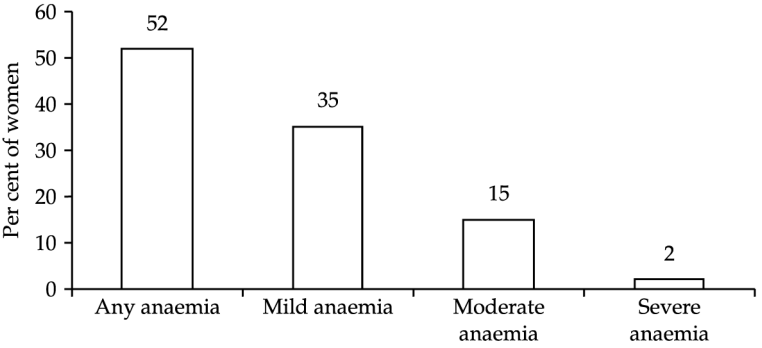
Anaemia among Women

Every second woman in India suffers from some degree of anaemia according to NFHS-II. Severe anaemia is reported by 2 per cent women, while 35 per cent and 15 per cent are affected by mild and moderate anaemia levels respectively (Figure 3).

The majority of women in 10 states are anaemic (Table 7). Iron deficiency is particularly pronounced among women inhabiting the eastern and some of the northeastern states. Lowest prevalence of anaemia is recorded in the states of Kerala, Manipur, Goa and Nagaland. It is difficult to explain such wide variations in the proportion of women suffering from anaemia within Indian states, especially among those belonging to the same region. Efforts to

collate more information from hospital records are needed to make more useful data available on other health-related variables affecting women.

Figure 3
Anaemia among Women in India—NFHS-II (% of women by levels)



Source: IIPS 2000.

Table 7
Women Suffering from Anaemia—Statewise

States	*Rank*	*Percentage of women with any anaemia*	*Percentage of women with:*		
			Mild anaemia	*Moderate anaemia*	*Severe anaemia*
Assam	1	69.7	43.2	25.6	0.9
Bihar	2	63.4	42.9	19.0	1.5
Meghalaya	3	63.3	33.4	27.5	2.4
Orissa	4	63.0	45.1	16.4	1.6
West Bengal	5	62.7	45.3	15.9	1.5
Arunachal Pradesh	6	62.5	50.6	11.3	0.6
Sikkim	7	61.1	37.3	21.4	2.4
Jammu & Kashmir	8	58.7	39.3	17.6	1.9
Tamil Nadu	9	56.5	36.7	15.9	3.9
Madhya Pradesh	10	54.3	37.6	15.6	1.0
India		**51.8**	**35.0**	**14.8**	**1.9**
Andhra Pradesh	11	49.8	32.5	14.9	2.4
Uttar Pradesh	12	48.7	33.5	13.7	1.5
Maharashtra	13	48.5	31.5	14.1	2.9
Rajasthan	14	48.5	32.3	14.1	2.1
Mizoram	15	48.0	35.2	12.1	0.7
Haryana	16	47.0	30.9	14.5	1.6
Gujarat	17	46.3	29.5	14.4	2.5

States	Rank	Percentage of women with any anaemia	Percentage of women with: Mild anaemia	Moderate anaemia	Severe anaemia
Karnataka	18	42.4	26.7	13.4	2.3
Punjab	19	41.4	28.4	12.3	0.7
Delhi	20	40.5	29.6	9.6	1.3
Himachal Pradesh	21	40.5	31.4	8.4	0.7
Nagaland	22	38.4	27.8	9.6	1.0
Goa	23	36.4	27.3	8.1	1.0
Manipur	24	28.9	21.7	6.3	0.8
Kerala	25	22.7	19.5	2.7	0.5

Source: IIPS 2000.

Couple Protection Rate

Apart from anaemia, poor nutritional status, and the strain of maternity and childcare, the additional burden of contraception also falls overwhelmingly on women. The latest data available from the Department of Family Welfare (Ministry of Health and Family Welfare) reveals that female sterilisations account for 95 per cent of all sterilisations. It is as if to emphasise that since women conceive and bear children, it is their sole responsibility to control or protect themselves against further reproduction.

Less than 50 per cent of couples in the reproductive age groups have resorted to some method of contraception (as on 31 March 1999). Punjab, Gujarat, Karnataka and Haryana are the best states in terms of couple protection rates (Table 8). In the states of the Northeast with large tribal populations where traditional beliefs predominate, modern methods of contraception have not made much headway.

The NFHS-II in its states series records very high awareness levels (close to universal) of contraception among the surveyed population. However, adoption of these measures varies across age cohorts due to specific preferences, cultural considerations regarding family size, ideal sex composition of offspring and so on (Basu 1992; Jejeebhoy 1993; Khan et al. 1988 among others). It has been noted that the adoption of contraceptive measures among the older age cohort of women of reproductive age is higher (IIPS 1995 and 2000). Male contraception, however, is still poor, with very few men agreeing to vasectomy.

Table 8
Effective Couple Protection Rate (CPR)

States	*Rank*	*1998*	*1999*
Meghalaya	1	3.9	4.8
Nagaland	2	7.9	7.9
Arunachal Pradesh	3	12.6	14.6
Jammu & Kashmir	4	16.4	15.4
Assam	5	17.6	17.3
Bihar	6	20.9	20.1
Manipur	7	21.3	21.2
Sikkim	8	20.7	22.6
Tripura	9	25.6	27.2
Goa	10	27.8	29.3
West Bengal	11	33.8	34.4
Mizoram	12	38.2	35.3
Rajasthan	13	34.6	41.8
Orissa	14	39.0	41.9
Kerala	15	41.3	42.4
Uttar Pradesh	16	39.1	42.4
India		**45.4**	**48.6**
Himachal Pradesh	17	50.3	51.5
Tamil Nadu	18	50.8	52.1
Andhra Pradesh	19	49.1	52.4
Madhya Pradesh	20	47.7	52.4
Maharashtra	21	50.7	52.5
Haryana	22	50.7	55.8
Karnataka	23	55.4	57.4
Gujarat	24	53.8	60.4
Punjab	25	68.9	73.1

Source: Government of India 2001a.
Note: As on 31 March 1999.

Public awareness creation measures have been adopted by the state, aid agencies and various non-governmental organisations through the media regarding the option, possibility and relative ease of male sterilisation. These efforts will have to spread more widely to remote areas in the country.

The decline in fertility rates has been linked to falling sex ratios among the child population in both South Asian and East Asian countries (Krishnaji 2001). The introduction of hazardous injectible contraceptives such as Depo-provera, Net-En, and so on has been opposed by women's groups (Agnihotri Gupta 2000). With the advent of newer technologies it is very easy to trample upon and

violate the human rights of women who in any case have poor control over their bodies.

The Issue of Survival

The indicators chosen to represent this aspect of women's or girls' survival are child sex ratios, infant mortality rates among girls, maternal mortality rate and life expectancy at birth among women. Child sex ratios are defined as the number of girls for every 1,000 boys in the 0–6 years group in the population. This indicator is insulated from the disturbances created by migration in the overall sex ratio for the population (Agnihotri 2000; Bhat 2002a; Mazumdar and Krishnaji 2001 among others).

The share of the female infant mortality rate in the overall mortality rate is very high (Clark 1987; Dyson and Crook 1984; Visaria 1985 among others).[12] Among adults, the maternal mortality rate (MMR) is the selected indicator (Sample Registration System 2000a). At the overall level, the life expectancy at birth among females is the chosen indicator.

Sex Ratios

A decline in the proportion of women in the populations of many countries the world over has been witnessed over the years (Krishnaji 2000; Dasgupta and Bhat 1997). This is especially so in societies with a strong cultural tradition of son preference. Strong male preference is common not only in India but also in other Asian societies—Japan, China, South Korea, etc. Patrilineal property transfers, religious and ritualistic practices and other patriarchal social structures together lay emphasis on the need for a male offspring. This forms the basis for a family which aspires to have at least one or more boys. The lower status ascribed to women stemming from societal beliefs and practices that view them as burdens, costs and dangers to family honour and dignity, further intensifies son preference. Among the younger cohorts, the sex ratios are most strikingly imbalanced and have been declining over the years in India.

India has had an imbalanced sex ratio from the beginning of the last century (Mitra 1979; Visaria 1971). Even if this could have been explained by the sex ratio at birth and other factors such as mortality differentials among male and female children at different ages,

what is not explicable is the continuing decline in sex ratios over a period of time. Waldron (1998) suggests that either more males are conceived or females have higher mortality than males during the embryonic and foetal stages of the child's growth. This is based on certain evidences that indicate a possibility of there being far more males than females by the second month of foetal development.

The reduction of male mortality at younger ages due to the improvements in health services and the existence of a gender bias in availing healthcare facilities may account for some of the imbalance. Nevertheless, this is inadequate explanation of the extent of imbalance (Bhat 2002b; United Nations 1998). Researchers have linked son preference to gender bias against girls in healthcare, nutrition, food allocation and so on to explain the declining sex ratio (Clark 1987; Kanitkar 1991; Miller 1981; United Nations 1998 among others). The desired family size and gender composition of children under the prevalent regime of male preference (Dasgupta and Bhat 1998; Jejeebhoy 1993 among others) work towards the elimination of girls in the foetal stages through intervention of advanced scientific technologies (Agnihotri Gupta 2000), infanticide, neglect and discrimination (Bardhan 1982; George et al. 1992; Mazumdar 1994; Muthulakshmi 1997; Sudha and Irudaya Rajan 1999).

Child Sex Ratios

Table 9 presents child sex ratios for all the states of India between 1991 and 2001. This reveals the low proportion of girls in the states of Punjab, Haryana, Gujarat, Himachal Pradesh, Rajasthan, Uttar Pradesh and Maharashtra. The declining trend is almost universal, except for the states of Sikkim, Tripura, Kerala and Mizoram. Although not conclusive, historical prevalence of matriliny, women's control over property and resources, greater economic participation and a more significant role in decision-making are some of the likely factors that may explain the better demographic balance and the improvements in sex ratios in these states.

A rapid decline in sex ratios has been observed in northwestern India from the beginning of the 20th century (Mazumdar and Krishnaji 2001; Mitra 1979). The low status of women in these regions is the most likely explanation for the adverse sex ratios

Table 9
Child Sex Ratio over the Decade 1991–2001 among States

States	*Rank 2001*	*Child sex ratio*		*Rank*	*Difference*
		2001	*1991*	*1991*	*2001–1991*
Punjab	1	793	875	1	–82
Haryana	2	820	879	2	–59
Gujarat	3	879	928	4	–49
Himachal Pradesh	4	897	951	8	–54
Rajasthan	5	909	916	3	–7
Uttar Pradesh	6	915	928	5	–13
Maharashtra	7	917	946	6	–29
India		**927**	**945**		**–18**
Goa	8	933	964	13	–31
Madhya Pradesh	9	933	952	9	–19
Bihar	10	938	959	11	–21
Tamil Nadu	11	939	948	7	–9
Karnataka	12	949	960	12	–11
Orissa	13	950	967	15	–17
Manipur	14	961	974	19	–13
Arunachal Pradesh	15	961	982	22	–21
Kerala	16	963	958	10	5
West Bengal	17	963	967	16	–4
Andhra Pradesh	18	964	975	20	–11
Assam	19	964	975	21	–11
Mizoram	20	971	969	18	2
Tripura	21	975	967	17	8
Nagaland	22	975	993	24	–18
Meghalaya	23	975	986	23	–11
Sikkim	24	986	965	14	21

Source: Calculated from Census of India 1991 and 2001.

(Dasgupta 1987; Khan et al. 1988; Miller 1981 and others). Originally, the prejudice against girl children arose because girls by nature are vulnerable to sexual assault and kidnapping, thereby compromising family honour. Second, marriages were costly affairs, turning girls into financial liabilities. Son preference has been a steady reason for the discrimination against girl children—even today the expanding custom of dowry, adding to the cost of securing the future of a girl, and decreasing family size with a preference for sons, not daughters, are factors accounting for the rejection of girl children (Centre for Women's Development Studies 2002; Kishor 1993).

It seems rational to expect poor sections of society, for whom bringing up a daughter might be economically burdensome, to resort to various measures against the girl child's survival; on the contrary it is those who are prosperous who pose a threat to the lives of girls, before and after birth (Agnihotri 2000; Mazumdar 1994; Rustagi 2003). This explanation holds good for the fall in sex ratios in the states of Punjab, Haryana, Gujarat and Maharashtra. The role of advanced scientific technologies in facilitating the elimination of female foetuses has been highlighted by many researchers and groups in these states where due to the connivance of greedy medical professionals the rates of female foeticide are high (Patel 1997; Sharma and Joseph 1994).

The Female Infant Mortality Rate

Mortality rates are the highest in the stages of infancy as compared to all other ages (Sample Registration System 2000b). The infant mortality rate (IMR) is defined as the probable number among every 1,000 babies who would fail to survive within the first year of being born. Male infants are known to be more susceptible to death than females due to biological and genetic reasons (Waldron 1976). However, in India, the female infant mortality rate surpasses that of males, which reflects socio-cultural influences on mortality (Agnihotri 1999; Clark 1987; Visaria 1985).

The indicators used here are the infant mortality rate among females (IMRFs) and gender differences in the infant mortality rate (IMRD). The gender gap in infant mortality rate is defined as the difference between the female infant mortality rate and the male infant mortality rate. A positive value of IMRD implies higher infant mortality rate among females as compared to males, while a negative figure reflects excess male mortality among infants.

The data for IMR is based on the Sample Registration System (SRS) of 1999. The infant mortality rate among females for India from this source is 71, while the male infant mortality rate is lower at 70. The gender gap reveals one excess female not surviving during infancy, as compared to males, among every 1,000 babies born (Table 10). Among the 16 major states for which SRS provides information for 1999, eight states recorded higher mortality rates for females.

The states of Haryana, Punjab, Rajasthan and Gujarat, where sex ratios among children of 0–6 years have been low and declining, are among those where infant mortality rates among females are higher than those of male infants. Tamil Nadu is a state that is joining this group. In some of the districts of Tamil Nadu, infanticide practices have been prominently reported (George et al. 1992; Muthulakshmi 1997; Sunanda 1995). In other words, the SRS data on IMRs does not seem to contradict the census-based sex ratios. Although these mortality figures may not be adequate in explaining the rate of decline in women's share as represented in the sex ratios (Bhat 2002b; United Nations 1998), there is no doubt, however, that discrimination in access to healthcare services for females and the lower status ascribed to females in our society is at the base of excess female mortality in the infancy stages (see Basu 1989; Basu and Basu 1991; Levinson 1974; Timaeus et al. 1998; Visaria 1988).

Table 10
Infant Mortality Rates among Females and Gender Differences—1999 (Total)

States	*IMRF*	*Gender gap*
India	**70.8**	**1.0**
Andhra Pradesh	63.5	–5.4
Assam	76.4	1.7
Bihar	62.3	–0.9
Gujarat	64.8	3.1
Haryana	78.4	19.3
Himachal Pradesh	51.1	–5.8
Karnataka	56.7	–1.9
Kerala	15.3	1.6
Madhya Pradesh	89.5	–0.1
Maharashtra	48.5	0.7
Orissa	96.0	–1.3
Punjab	56.4	5.9
Rajasthan	83.9	5.0
Tamil Nadu	54.5	4.2
Uttar Pradesh	83.5	–1.7
West Bengal	43.0	–17.7

Source: Sample Registration System (SRS) 2000a.

Note: IMRF refers to infant mortality rates among females. The Gender gap is the difference between female and male infant mortality rates.

Maternal Mortality Rate

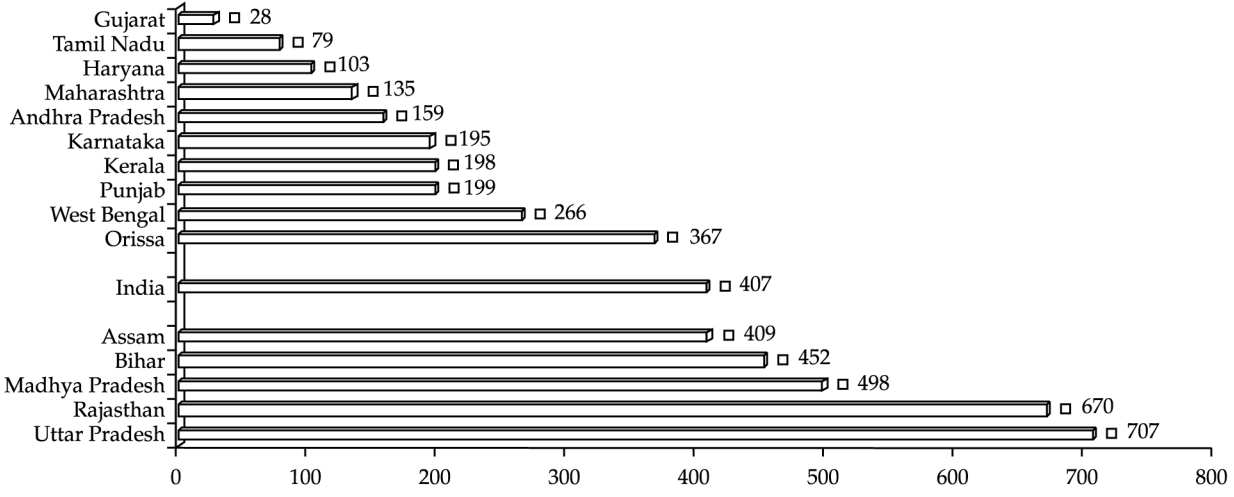
The Maternal Mortality Rate (MMR) is calculated as the number of maternal deaths per 100,000 live births. This indicator is based on information collected that refers to deaths of women on account of pregnancy, childbirth or within 42 days of childbirth. MMR indicates how safe motherhood is. The all-India rate for 1998 is 407 (Figure 4). The range of MMRs across the states of India varies from 28 in Gujarat to 707 in Uttar Pradesh for the year 1998 (Sample Registration System 2000a). It is the BIMARU states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh which record the highest MMRs.[13]

The mean age at marriage for females in India stands at 17 years despite the legal minimum age of marriage being 18 years (Census of India 1991). Early marriage leads to girls becoming mothers at a younger age. Often these young mothers are neither mentally nor physically prepared for the responsibility of bearing and rearing children. Poor health and nutritional status further take their toll, raising the number of maternal deaths.

Among rural females, tuberculosis and anaemia are the prominent causes of death. This is a reflection of low immunity levels due to lack of balanced food intake, proper nutrition and healthcare for women. Even deaths during childbirth are often an outcome of these factors together with the unhygienic conditions in which both institutional and non-institutional deliveries occur, which increases the chances of severe infections that adversely affect the survival of women. Deliveries that occur without formal help or with the assistance of untrained *dai*s (midwives) increase the risk of non-survival of infants, especially in cases of complicated pregnancies. Women living in Rajasthan, Madhya Pradesh, Bihar and Assam have a higher propensity to die in childbirth (IIPS 2000).

It needs to be highlighted here, however, that contrary to popular belief, the high rates of maternal mortality are not due to reproduction, but are a result of poor health conditions that are an outcome of gender discrimination meted out over the years from childhood (Gopalan and Shiva 2000; Krishnaji and James 2002; Qadeer 1998). Deprivations in healthcare and nutrition on the one hand and the compulsions of marriage and reproduction on the other, adversely affect female bodies, and lead to fatalities. Women who survive

Figure 4
Maternal Mortality Rate for India and the Larger States—1998



Source: SRS 2000a.

beyond their reproductive years tend to outlive men as is seen in the life expectancy figures.

Life Expectancy at Birth among Females

The expected years of survival at birth for females has been showing a positive trend over the years. Women live up to an average of 62 years (Table 11). A number of explanatory factors which have led to this improvement over a long period of time in India can be identified. The NFHS-II lists a few as follows: reduction of the crude birth rate from 40.8 births per 1,000 people in 1951 to 26.4 in 1998; halving of the infant mortality rate from 146 per 1,000 live births in 1951 to 72 per 1,000 live births in 1998; reduction of the crude death rate from 25 deaths per 1,000 people in 1951 to 9 in 1998; quadrupling of the couple protection rate from 10 per cent in 1971 to 44 per cent in 1999; and reduction in the total fertility rate from 6.0 in 1951 to 3.3 in 1997 (IIPS 2000).

Table 11
Expectation of Life at Birth by Sex: India

Year	*Male*	*Female*	*Percentage*
1901–11	22.6	23.3	22.9
1911–21	19.4	20.9	20.1
1921–31	26.9	26.6	26.8
1931–41	32.1	31.4	31.8
1941–51	32.4	31.7	32.1
1951–61	41.9	40.6	41.3
1961–71	46.4	44.7	45.6
1971–75	50.5	49.0	49.7
1976–80	52.5	52.1	52.3
1981–85	55.4	55.7	55.4
1986–90	57.7	58.1	57.7
1987–91	58.1	58.6	58.3
1988–92	58.6	59.0	58.7
1989–93	59.0	59.7	59.4
1990–94	59.4	60.4	60.0
1991–95	59.7	60.9	60.3
1992–96	60.1	61.4	60.7
1993–97	60.4	61.8	61.1

Sources: Registrar General of India, 1. Census Actuarial Reports, 2. Sample Registration System based on abridged life tables 1986–90, 3. Central Statistical Organisation 2001.

These developments have occurred at the same time as an overall improvement in the standards of living over the years and have enhanced life chances and longevity, even for women. It is worth noting that unlike the sex ratios which exhibit a correlation with prosperity, the life expectancy at birth indicator seems to correlate positively with estimates of poverty (Rustagi 2003). The states with low life expectancy at birth among females are Madhya Pradesh, Uttar Pradesh, Orissa, Assam, Bihar and Rajasthan, which rank among the poor states in the country. The states judged 'best' by this indicator are Kerala, Punjab, Maharashtra, Himachal Pradesh and Tamil Nadu.

Increased life expectancy at birth reflects a positive trend for gender development. However, this implies that there are bound to be many more women in the older age cohorts in the future. Given the absence of social security on the one hand, and declining support structures such as the family on the other, feminisation of old age is bound to be a cause of concern for policy makers and planners in the immediate future.

Women's Participation in Decision-making

Since women are located in different households, castes, communities and regions and are bound by distinct rituals, practices and structures of power, they rarely view themselves as a group with similar demands and needs. They are often governed by decisions that others take on their behalf which are unquestioningly followed.

Do women have any autonomy? What is the extent of their public presence and participation as voters, contestants and winners in the general elections of the country? Women's presence in local governance structures, the panchayati raj institutions and its implications are considered in this section.

Autonomy

Autonomy indicators ought to reflect the level of control women have over themselves, their bodies, their incomes and in conducting their lives. Not all of these aspects are amenable to easy quantification. Case studies based on qualitative surveys have shown that even when women work and earn their own incomes, they have little or no control over expenditure (Batliwala et al. 1998; Visaria 1993).

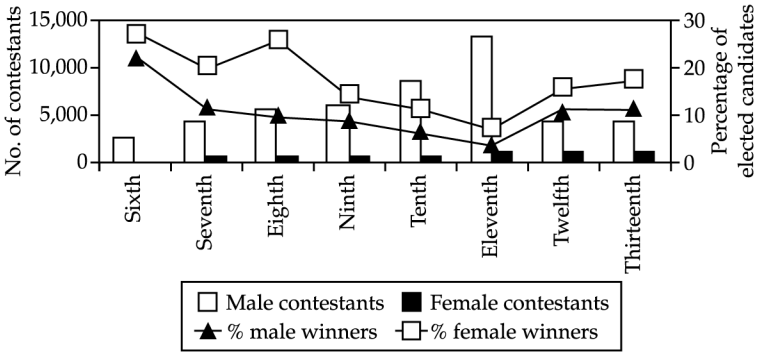
Some aspects of women's lives which are only partially indicative of the extent of autonomy they have are captured by the NFHS-II. This data is used here to emphasise the relative levels of autonomy women have across these states in the limited spheres covered (Table 12). NFHS-II information has been collated on decision-making in certain common spheres of women's daily lives to assess their autonomy in what to cook, their own healthcare, purchasing jewellery and similar items, and staying with their parents/siblings. The extent of mobility and women's ability to make these choices to go to the market or visit friends/relatives without having to seek permission to do so are also covered.

A large percentage of women in most states have the freedom to choose what to cook. Mobility indicators reveal that women have a very low degree of freedom of movement.

Public Decision-making

Women's participation in public decision-making is gradually improving. In the last eight general elections from 1977 to 1999, 51 to 59 per cent of women have participated as voters. Of the few contestants among women, the winning rate is higher than that of men (Figure 5).

Figure 5
Number of Contestants and Percentage of Elected Candidates—Various Elections



Source: GOI 2001a.

Table 12
Women's Autonomy by State

States	% not involved in any decision-making	% involved in decision-making on:				% who do not need permission to		% with access to money
		What to cook	Own healthcare	Purchasing jewellery, etc.	Staying with her parents/ siblings	Go to the market	Visit friends/ relatives	
Andhra Pradesh	7.4	86.2	56.1	61.4	57.7	20.1	14.6	57.7
Arunachal Pradesh	1.4	93.6	70.0	76.5	74.8	46.8	53.7	78.6
Assam	4.6	88.4	65.1	54.3	45.4	13.2	13.9	35.0
Bihar	13.5	82.4	47.6	42.9	44.0	21.7	20.5	66.7
Delhi	5.3	83.0	68.7	58.5	46.5	51.7	33.9	82.3
Goa	3.6	89.9	61.6	62.5	72.4	66.7	58.7	82.4
Gujarat	4.1	90.4	71.4	73.6	65.1	55.1	50.6	73.6
Haryana	3.4	93.5	67.2	77.8	64.5	36.7	20.8	70.8
Himachal Pradesh	0.8	95.1	80.8	93.4	91.4	32.5	31.1	80.1
Jammu & Kashmir	12.4	80.0	55.5	58.2	48.9	12.0	7.8	58.1
Karnataka	8.1	88.4	49.3	47.3	44.5	43.0	34.3	67.0
Kerala	7.2	80.9	72.6	63.4	59.7	47.7	37.9	66.2
Madhya Pradesh	12.5	81.7	36.6	44.3	38.1	21.0	19.5	49.3
Maharashtra	7.2	87.5	49.9	50.3	44.4	48.5	32.1	64.2
Manipur	3.3	87.4	43.3	66.3	63.2	28.6	28.3	76.8
Meghalaya	2.6	91.7	78.9	70.6	78.4	46.5	48.5	81.5

(*Table 12 contd.*)

(*Table 12 contd.*)

States	% not involved in any decision-making	% involved in decision-making on:				% who do not need permission to		% with access to money
		What to cook	Own healthcare	Purchasing jewellery, etc.	Staying with her parents/ siblings	Go to the market	Visit friends/ relatives	
Mizoram	5.8	88.2	73.2	77.8	77.0	64.2	59.5	55.0
Nagaland	0.4	97.4	69.4	77.3	80.0	17.3	20.1	27.9
Orissa	10.6	86.3	38.6	54.8	48.3	18.2	15.4	46.3
Punjab	1.0	96.7	78.5	75.3	67.6	50.1	28.0	78.3
Rajasthan	13.3	82.3	40.6	42.7	39.3	19.0	17.0	40.5
Sikkim	2.7	92.1	60.2	57.9	56.7	38.2	41.6	78.9
Tamil Nadu	2.4	92.1	61.1	67.4	62.4	78.5	55.9	79.0
Uttar Pradesh	16.4	77.8	44.8	41.4	36.1	17.4	12.4	52.3
West Bengal	8.0	87.4	45.1	48.4	46.7	17.8	14.1	51.4
India	**9.4**	**85.1**	**51.6**	**52.6**	**48.1**	**31.6**	**24.4**	**59.6**

Source: IIPS 2000.

Panchayati Raj Institutions

Nearly a million women have gained entry at different levels of governance through a policy of reservation of one-third seats for women in village level panchayats and urban municipalities. This space in local governance structures has been created in the 1990s by the 73rd and 74th Amendment to the Constitution of India (Kasturi 1999; Mazumdar et al. 2001). Opportunities for women to participate in local politics have opened up to allow them to advance the interests of the local people, especially women and children. Despite cases of misuse and the incidence of 'proxy' members and sarpanches, there have been encouraging results, more gender-just developments and hope for the empowerment of women (Buch 2000; Institute of Social Science 1995–2001). Only the future will reveal whether this can be sustained. The bill on reservations for women in Parliament is stuck in the pipeline for the last few years, not yet accepted by a male-dominated Parliament (see John 1999; Kasturi 1999; Raman 1999 for discussions on the proposed bill).

Safety and Security

The extent of violence in a society and crimes against women reflect how secure women feel and how safe they actually are. To live life with dignity is a basic necessity for all people, including women. Placed on the wrong side of power and hierarchies, women often face the brunt of violence. Since they are viewed as the property of the men in their lives, whose responsibility it is to protect them, conflict between men and women over any issue provokes violence against women (Centre for Women's Development Studies 2002; Gurumurthy 1998; International Centre for Research on Women 1999). The fear of violence permeates all spheres and persons of all ages, proving to be a severe hindrance to women's capacity-building and attainment of their potential. How safe and secure a place is considered by women and society at large affects girls' education, their mobility, employment, skill enhancement, income-earning capacity and political participation. Discrimination and neglect in different spheres of their lives can also be considered forms of violence. Violence assumes various forms, not all of which are quantifiable.

The National Crime Records Bureau (NCRB) collates information based on police records of different crimes on an annual basis. Crimes against women (CAW) under the Indian Penal Code (IPC) include dowry deaths, rape, molestation, sexual harassment, cruelty by husband and his relatives and kidnapping and abduction of women and girls.

Crimes against Women (CAW)

Crimes against women have been increasing at a higher rate than crimes overall. Between 1998 and 1999, CAW increased from 123 to 127 cases per million persons (Table 13), while the total cognisable crime rate declined from 1,837 to 1,823 over the same period.

Table 13
States/UTs Ranked by Crime Rates against Women in 1998 and 1999

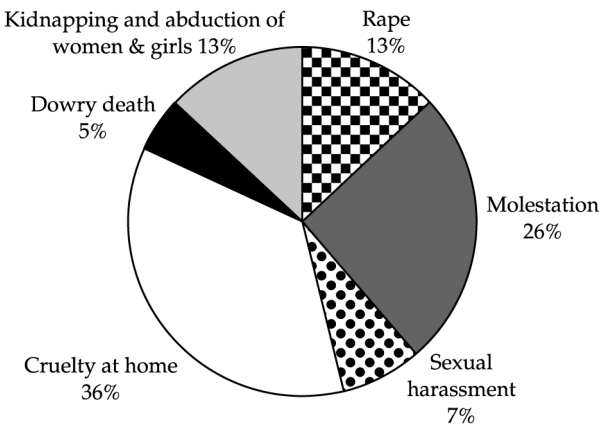
States	*Rank 1999*	*1999*	*Rank 1998*	*1998*
Rajasthan	1	231	1	246
Madhya Pradesh	2	206	2	221
Mizoram	3	171	4	176
Haryana	4	152	6	166
Jammu & Kashmir	5	184	3	165
Andhra Pradesh	6	143	8	161
Kerala	7	153	5	154
Arunachal Pradesh	8	123	12	148
Maharashtra	9	151	7	144
Gujarat	10	139	9	140
Assam	11	130	11	138
Himachal Pradesh	12	134	10	135
India		**123**		**127**
Orissa	13	121	13	124
Uttar Pradesh	14	103	14	101
Tamil Nadu	15	83	17	100
Tripura	16	102	15	98
West Bengal	17	89	16	90
Karnataka	18	74	19	81
Punjab	19	53	22	66
Goa	20	61	20	58
Sikkim	21	75	18	56
Bihar	22	54	21	53
Manipur	23	39	23	29
Meghalaya	24	33	24	25
Nagaland	25	18	25	11

Source: NCRB (relevant years).

However, CAW constitutes only 6 per cent of total crimes. The low share of CAW as a proportion of total crimes may also be due to low reportage.

Women often face violence at the hands of their so-called protectors (Centre for Women's Development Studies 2002). Among crimes against women, cruelty by the husband and his relatives as defined by Section 498A of the Indian Penal Code (IPC) consistently tops the list, followed by molestation. Cruelty/torture cases constitute 36 per cent, while the figure for molestation is 26 per cent of total CAW (Figure 6). The crimes that have increased the most are sexual harassment and cruelty at home (Figure 7).

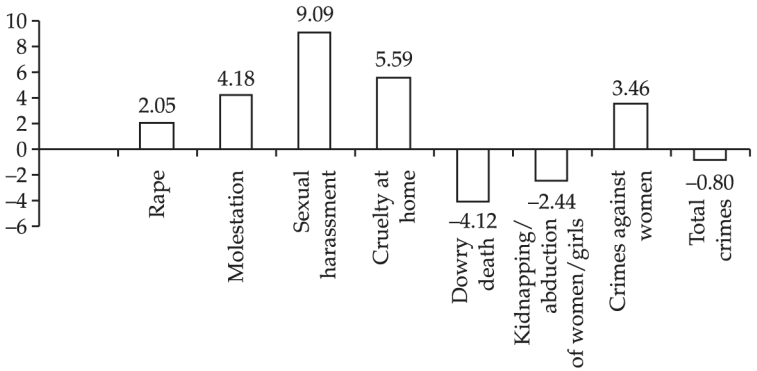
Figure 6
Components of Crimes against Women
India 1999



Source: NCRB 1999.

The decline in the dowry death rate over the years 1998 to 1999 cannot be seen as a reduction in the incidence of dowry-related violence. The incidence of female deaths classified as suicide or accidental deaths by burns are very useful in this context. Many women's organisations, concerned groups or individuals highlight the false categorisation of female murders as suicides or accidents (Vimochana 1999; Viswanathan 2001). Eleven per cent each of all accidental deaths and suicides in India are by fire. *Women's* deaths by fire comprise an exceptionally high share of this figure (Table 14).

Figure 7
Percentage Change in Crime Rates per Million Persons
1998–99



Source: NCRB, 1998 and 1999.

Table 14
Accidental Deaths and Suicides by Fire (2000)

Category	*Males*	*Females*
Accidental deaths by fire	7,531	17,936
Suicides by fire/self-immolation	3,904	7,701

Source: NCRB 2000, Accidental Deaths and Suicides in India.

Efforts are being made to improve institutional mechanisms and to sensitise police personnel to approach and judge these cases more carefully. Various channels are being developed for obtaining the assistance of concerned groups.

Crime rates based on recorded data available with the police differ widely from state to state. Crimes against women are the highest in Rajasthan with a rate of 246 cases per million persons. This is followed by Madhya Pradesh (221) and Mizoram (176) in 1999.

Mizoram and Madhya Pradesh recorded particularly high rates of rape and molestation. Torture and the killing/burning of women are prominent among the northern states of Haryana, Uttar Pradesh, Punjab and Rajasthan.

Reportage of crimes against women has been low due to the social taboos associated with them. Nevertheless, a greater number of cases are being reported now. More effort is required to work

towards creating an appropriate environment for women to be able to access the institutional structures that exist to assist them.

Concluding Remarks

Each individual indicator has its own significance in measuring gender development or backwardness. When a set of indicators is used to measure one particular dimension of women's status, say survival, each indicator under this broad head—such as sex ratio, mortality rate, life expectancy and so on—will have a distinct body of information to convey, with patterns diverging for each state. Often, puzzling contradictions occur within each state. Thus a state may be shown as advanced as well as backward, its profile changing with each individual indicator used. The use of several indicators to reveal women's status on one dimension thus provides a more nuanced picture in all its complexity. For example in Maharashtra, a relatively prosperous state, the child sex ratio is clearly in favour of males with fewer females than the Indian average. Yet the female infant mortality rate is far lower than what prevails in many other states. Among the states with lower child sex ratios, such as Punjab, Haryana, Rajasthan and Gujarat, the level of female infant mortality is also high, underscoring the grim picture. Another example to illustrate the complexity of ground realities (justifying the use of individual rather than composite indices) is in the measurement of the educational status of females in different states. In the northeastern states of Meghalaya, Mizoram and Nagaland, the female literacy levels are above average and the gap in literacy levels strikingly low; however, enrolment rates for girls as they grow beyond the age group of 6–11 years and move into the 11–14 years age group decline drastically. The dropout rates for girls at the primary school level in these states are also fairly high. A third example is Kerala—otherwise a developed state with positive indicators in terms of literacy, health and sex ratios—where there is much scope for improvement in the areas of women's work, women's autonomy and crimes against women (Panda 2003; Visaria 1993).

A truer, more refined picture calls for different approaches and remedies to bridge gender imbalances in different spheres within states. This article seeks to emphasise that clubbing together different variables to provide a composite index to depict a particular aspect of women's development does not reveal the contradictions

that would require each state to have its own individual policy to achieve gender development and gender equality within its borders. For each state is advanced as well as backward in clear-cut ways.

State-level analysis as undertaken in this article illustrates the usefulness of individual gender development indicators to identify a particular problem or constraint requiring specific remedial policy interventions. Since states fare differently according to different indicators even within broad heads such as education and survival, it is more than clear that development has generally followed a non-linear path. A detailed examination of women's development using different indicators even at district level and below to elicit specific information is essential to understand, then strategise, plan and formulate new programmes as well as implement existing government policies effectively. To improve the status of women in different regions and locales in India, specific interventions—varying from state to state—based on specific needs and priorities should be the order of the day.

Notes

1. Alternatively, 'gender' is a relational term used to signify aspects pertaining to both men and women. Some scholars view this as a physical descriptive term and the tendency to use it to connote gender relations is considered erroneous. These advocates of women's equality still consider the shift from 'women' to 'gender' as tokenism, meaningless and, even more strongly, as erroneous (see Feldman 1998 and references cited therein; Mazumdar et al. 2001). However, another stream of scholars within women's studies as well as the U.N. agencies (which spearheaded at the international level the movement for gender equality and empowerment) have articulated the shift from 'women' to 'gender' within development discourse as an advance towards recognising the power relations within institutional structures that subordinate women and therefore, need to be transformed for the elimination of prevailing gender inequalities (see Kabeer and Subrahmanian 1999). In gender analysis, the problem of the subordination of women is addressed and women's backwardness in different spheres is considered both individually and relative to men. As Kabeer (1994: xiii) states 'Just as a class analysis can be used to understand and address the problems of the poor, so too a gender analysis can be used to understand and address the problems of women's subordination'. Similarly, gender-related development indicators are used to reflect the situation of women per se as well as to assess their relative position vis-à-vis men. For purposes of analysis here in this article,

the two terms are used interchangeably to refer to women's subordination, gender discrimination and biases against women that stem from patriarchal mindsets entrenched within social, economic, political and cultural institutions. Since the focus is on measuring inequalities through a range of indicators to illustrate the need for adoption of individual indicators of women's status for understanding the extent of gender-related backwardness, the discussion pertaining to the changing terminologies and their meanings is beyond the scope of this article.

2. Gender backwardness is a term used to connote women's poor status measured by selected indicators in one sphere or area, denoting the opposite of gender development. The term 'gender development' gained coinage while questioning the assumption of gender neutrality in development thinking and planning. The shift from addressing women's specific (practical and strategic) needs through policy intervention in planned development (either WID or WAD) to gender and development (GAD) recognises the need for transforming power relations embedded in institutional structures to make possible a process of transformation and the realisation of equality/empowerment. It is from this point of view that the two terms 'gender development' and 'women's development' are used interchangeably here.
3. It must be stated here that the term 'gender development' differs from the GAD approach, for while the former highlights the importance of engendering human development without which it is endangered (United Nations Development Programme 1995), the latter signifies the institutionalised basis of male power and privilege within which the relational dynamics of gender inequality in the development process need to be analysed. Gender development focuses on enhancing capabilities for improving women's participation in development and ensuring that women share the benefits of development equally too. This may be further extended to mean that women must be recognised as individual entities with their own sets of rights.
4. The spearheading role of the United Nations and its agencies along with other international and national efforts in generating awareness of gender inequalities, measuring gender gaps in education, health, work, income, and so on together with making efforts to identify and fill data gaps by advocating more gender disaggregated information from different sources needs to be acknowledged. These efforts include setting objectives/targets in different spheres that are viewed as critical for women's development and movement towards gender equality. These form the basis for advocacy with national governments and many of these have been successfully adopted in policies/programmes for improving the status of women and their empowerment (a term that has gained coinage in the 1990s) (see Agrawal and Rao 2004).
5. In the choice of indicators, this plays a critical role. It is not always obvious which is the most appropriate indicator to depict a particular concern. For instance, when considering whether sex ratio or life expectancy is the appropriate indicator for survival, life expectancy was found to be more acceptable and included in the composite indices [Physical Quality of Life Index (PQLI) as well as in the Human Development Index (HDI)]. Currently, however, in South Asian countries as well as in some East Asian countries such as China and South Korea where the female to male sex ratios are declining, especially

among child populations, the sex ratio as an indicator is increasingly favoured. However, in this article value-based choice and prioritising of indicators is not being discussed. Rather, the author is supporting a multiple indicator approach that can accommodate as many dimensions as data makes feasible.

6. Even a simple correlation coefficient calculated among different indicators of women's status reveals this variation: among the indicators denoting survival status, child sex ratios (CSR) and infant mortality rate among females (IMRF) have a low insignificant correlation. However, the gap between males and females in infant mortality rates (IMRD) correlate significantly with CSR (–0.629**). The IMRF and IMRD indicators do not exhibit a significant correlation, strengthening the point regarding use of individual indicators both for attainment levels and gender gap measurement to assess women's status. These observations are for readers who prefer statistical measurements to substantiate the analysis offered in the article. I would like to emphasise that composite indices using variables which have very dissimilar patterns can result in extremely confusing conclusions.
7. The data sources used for various gender development indicators have been procured from the Registrar General's office—the Census of India, Sample Registration System (SRS), and information collected by the Vital Statistics Division; the Central Statistical Organisation (CSO); the National Family Health Survey (NFHS); the National Crime Records Bureau (NCRB); and the Election Commission of India (ECI). Other sources include various departments and ministries of the Government of India, such as the Department of Family Welfare, Ministry of Health and Family Welfare; Ministry of Rural Development, Directorate General of Employment and Training (DGE&T) in the Ministry of Labour and so on.
8. A number of tasks women perform have either remained outside the definition of economic activities or remain invisible since enumerators are not clued in to notice these tasks. The labour contributed by women to subsistence production, for instance in tasks such as drying, husking, winnowing and parboiling thus remains invisible (see Bardhan 1985; Feldman 1998).
9. This innovative exercise was designed to test the validity and usefulness of undertaking an independent time use survey in six regionally representative Indian states.
10. The correlation coefficient among female literacy and work participation levels is insignificantly low.
11. The Sarva Shiksha Abhiyan envisages achieving the goal of Universal Elementary Education by 2010 (Mehta 1998; Ministry of Human Resource Development 2000).
12. The likelihood of female infants not surviving beyond the age of one year among every 1,000 female babies is calculated and is known as the female infant mortality rate.
13. BIMARU (meaning 'sick' or 'ailing' in Hindi) refers to the backward states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh.

References

Agnihotri Gupta, Jyotsna. 2000. *New Reproductive Technologies, Women's Health and Autonomy*. New Delhi: Sage.

Agnihotri, S.B. 1999. 'Inferring Gender Bias from Mortality Data—A Discussion Note', *Journal of Development Studies*, 35(4): 175–200.

———. 2000. *Sex Ratio Patterns in the Indian Population—A Fresh Exploration*. New Delhi: Sage.

Agarwal, Bina. 1985. 'Work Participation of Rural Women in Third World—Some Data and Conceptual Biases', *Economic and Political Weekly*, 20(51–52): A-155–64.

Agrawal, Rashmi and B.V.L.N. Rao. 2004. *Gender Issues—A Road Map to Empowerment*. New Delhi: Shipra.

Banerjee, N. and Devaki Jain. 2001. 'Indian Sex Ratio through Time and Space: Development from Women's Perspective', in Vina Mazumdar and N. Krishnaji (eds.), *Enduring Conundrum*, pp. 73–119. New Delhi: Rainbow Publishers.

Bardhan, Kalpana. 1985. 'Women's Work, Welfare and Status: Forces of Tradition and Change in India', *Economic and Political Weekly*, 20(50, 51–52): 2207–20 and 2261–69.

Bardhan, Pranab K. 1982. 'Little Girls and Death in India', *Economic and Political Weekly*, 17(36): 1448–50.

Baster, N. 1972. 'Development Indicators: An Introduction', in N. Baster (ed.), *Measuring Development*, pp. 1–20. London: Frank Cass.

Basu, A. 1989. 'Is Discrimination in Food Really Necessary for Explaining Sex Differentials in Childhood Mortality?', *Population Studies*, 43(2): 193–210.

———. 1992. *Culture, the Status of Women and Demographic Behaviour*. Oxford: Clarendon Press.

Basu, A. and K. Basu. 1991. 'Women's Economic Roles and Child Survival: The Case of India', *Health Transition Review*, 1(1): 83–103.

Batliwala, S., B.K. Anita, A. Gurumurthy and C.S. Wali. 1998. *Status of Rural Women in Karnataka*. Bangalore: National Institute of Advanced Studies.

Bhat, P.N. Mari. 2002a. 'On the Trail of "Missing" Indian Females—I: Search for Clues', *Economic and Political Weekly*, 37(51): 5105–18.

———. 2002b. 'On the Trail of "Missing" Indian Females—II: Illusion and Reality', *Economic and Political Weekly*, 37(52): 5244–63.

Bhatia, Rajesh. 2002. 'Measuring Gender Disparity Using Time-Use Statistics', *Economic and Political Weekly*, 37(33): 3464–69.

Boserup, Ester. 1970. *Women's Role in Economic Development*. New York: St. Martin's Press.

Buch, Nirmala. 2000. *Women's Experience in New Panchayats: The Emerging Leadership of Rural Women*. Occasional Paper No. 35. New Delhi: Centre for Women's Development Studies.

Census of India. 1991 and 2001. *Provisional Population Totals*. Registrar General of India. New Delhi: Government of India.

Centre for Women's Development Studies. 2002. *Crimes against Women: Bondage and Beyond—Revelation of Data*. New Delhi: Centre for Women's Development Studies.

Chaudhri, D.P. 1999. 'Female Child Labour and Gender Bias in School Education in Indian States: 1961–1991', in T.S. Papola and A.N. Sharma (eds.), *Gender and Employment in India*, pp. 278–95. New Delhi: Vikas.

Clark, Alice. 1987. 'Social Demography of Excess Female Mortality in India: New Directions', *Economic and Political Weekly*, 22(17): WS12–21.

Dasgupta, Monica. 1987. 'Selective Discrimination against Female Children in Rural Punjab, India', *Population and Development Review*, 13(1): 77–99.

Dasgupta, Monica and P.N. Mari Bhat. 1997. 'Fertility Decline and Increased Manifestation of Sex Bias in India', *Population Studies*, 51: 307–15.

———. 1998. 'Intensified Gender Bias in India: A Consequence of Fertility Decline', in M. Krishnaraj et al. (eds.), *Gender, Population and Development*, pp. 73–93. New Delhi: Oxford University Press.

Datta, Anindita. 2003. 'Articulation of an Integrated Women's Health Policy Using the Life Cycle Approach', *Indian Journal of Gender Studies*, 10(1): 25–43.

Drewnowski, J. 1977. 'Poverty, its Meaning and Measurement', *Development and Change*, 8(2): 183–208.

Duvvury, Nata. 1998. 'Women and Agriculture in the New Economic Regime', in M. Krishnaraj, Ratna M. Sudarshan and Abusaleh Shariff (eds.), *Gender, Poverty and Development*, pp. 223–44. New Delhi: Oxford University Press.

Dyson, Tim and N. Crook. 1984. *India's Demography: Essays on Contemporary Population*. New Delhi: South Asian Publishers Pvt. Ltd.

Feldman, Shelley. 1998. 'Conceptualising Change and Equality in the "Third World" Contexts', in Nelly P. Stromquist (ed.), *Women in the Third World—An En-cyclopedia of Contemporary Issues*, pp. 24–36. New York: Garland Publishing.

George, Sabu, Rajarathram Abel and B.D. Miller. 1992. 'Female Infanticide in Rural South India', *Economic and Political Weekly*, 27(22): 1153–56.

Gopalan, Sarla. 2002. *Towards Equality—The Unfinished Agenda: Status of Women in India—2001*. National Commission for Women. New Delhi: Government of India.

Gopalan, Sarla and Mira Shiva. 2000. *National Profile on Women, Health and Development.* New Delhi: Voluntary Health Association of India (compiled for WHO).

Government of India. 1974. *Towards Equality.* Report of the Committee on the Status of Women in India. New Delhi: Ministry of Education and Social Welfare.

———. 1988. *Shramshakti—Report of the National Commission on Self-Employed Women and Women in the Informal Sector.* Delhi: Government of India.

———. 2000. Central Statistical Organisation. *Report of the Time Use Survey.* New Delhi: Ministry of Statistics and Programme Implementation.

———. 2001a. *Women and Men in India 2000*. Central Statistical Organisation, Ministry of Statistics and Programme Implementation. New Delhi: Government of India.

———. 2001b. *Employment and Unemployment in India 1999–2000, National Sample Survey 55th Round*. Ministry of Statstics and Programme Implementation. New Delhi: Government of India.

Government of India. 2001c. *Selected Educational Statistics* (as on 30 September 1999)—*1999–2000*. New Delhi: Department of Secondary Education and Higher Education, Planning, Monitoring and Statistics Division, Ministry of Human Resources Development.

Gurumurthy, Anita. 1998. *Women's Rights and Status—Questions of Analysis and Measurement*. Gender in Development, Monograph Series No. 7. New Delhi: UNDP.

Haddad, L. and R. Kanbur. 1990. 'How Serious is the Neglect of Intra-Household Inequality?', *The Economic Journal*, 100: 866–88.

Hilhorst, J.G.M. and M. Klatter (eds.). 1985. *Social Development in the Third World—Level of Living Indicators and Social Planning*. London: Croomhelm.

Hirway, Indira. 2001. 'Understanding Children's Work in India: An Analysis of their Time Use', Paper presented in Workshop on Food Security and Child Work in Rural India organised by World Food Programme and Institute for Human Development, New Delhi, 15–17 March.

———. 2002. 'Employment and Unemployment Situation in the Nineties: How Good are the NSS Data?', *Indian Journal of Labour Economics*, 45(1): 69–87.

Hirway, Indira and Darshini Mahadevia. 1996. 'Critique of Gender Development Index—Towards an Alternative', *Economic and Political Weekly*, 31(43): WS87–96.

Institute of Social Science. 1995–2001. *Women and Political Empowerment Series*. New Delhi: Institute of Social Science.

International Centre for Research on Women. 1999. *Domestic Violence in India: A Summary Report of Three Studies*. Washington DC: International Centre for Research on Women.

International Institute for Population Sciences (IIPS). 1995. *National Family Health Survey (MCH and Family Planning) India 1992–93*. Mumbai: IIPS.

———. 2000. *National Family Heath Survey (NFHS-II)—1998–99—India*. Mumbai: IIPS.

Jejeebhoy, Shireen J. 1993. 'Family Size, Outcomes for Children and Gender Disparities—Case of Rural Maharashtra', *Economic and Political Weekly*, 28(35): 1811–21.

John, Mary E. 1999. 'Democracy, Patriarchies and Reservations for Women: A Note', *Indian Journal of Gender Studies*, 6(1): 145–49.

Joseph, Cherian and K.V. Eswara Prasad (eds.). 1995. *Women, Work and Inequality—The Reality of Gender*. Noida: V.V. Giri National Labour Institute.

Kabeer, Naila. 1994. *Reversed Realities—Gender Hierarchies in Development Thought*. New Delhi: Kali for Women.

Kabeer, Naila and Ramya Subrahmaniam (eds.). 1999. *Institutions, Relations and Outcomes—A Framework and Case Studies for Gender-Aware Planning*. New Delhi: Kali for Women.

Kalpagam, Uma. 1999. 'Women, Work and Domestic Duties: Income Planning for Housewives', *Indian Journal of Labour Economics*, 42(4): 567–80.

Kanitkar, I. 1991. 'The Sex Ratio in India: A Topic for Speculation and Research', *Journal of Family Welfare*, 37(3): 18–22.

Karlekar, Malavika (ed.). 2000. *Reading the World: Understanding the Literacy Campaigns in India*. Mumbai: Asian South Pacific Bureau of Adult Education.

Kasturi, Leela. 1999. 'Pernicious or Necessary', *Indian Journal of Gender Studies*, 6(1): 123–28.

Kelley, A.C. 1991. 'The Human Development Index: Handle with Care', *Population and Development Review*, 17(2): 315–24.

Khan, M.E., Richard Anker, S.K. Ghosh Dastidar and Sashi Bairathi. 1988. 'Inequalities between Men and Women in Nutrition and Family Welfare Services: An Indepth Enquiry in an Indian Village', *Social Action*, 38: 398–417.

Kishor, S. 1993. 'May God Give Sons to All: Gender and Child Mortality In India', *American Sociological Review*, 54: 247–65.

Krishnaji, N. 1997. 'Human Development Index—A Critique', *Economic and Political Weekly*, 32(35): 2202–5.

———. 2000. 'Trends in Sex Ratio—A Review in Tribute to Asok Mitra', *Economic and Political Weekly*, 35(14): 1161—63.

———. 2001. 'The Sex Ratio Debate', in V. Mazumdar and N. Krishnaji (eds.), *Enduring Conundrum: India's Sex Ratio: Essays in Honour of Asok Mitra*, pp. 28–35. Delhi: Rainbow.

Krishnaji, N. and K.S. James. 2002. 'Gender Differentials in Adult Mortality with Notes and Rural-Urban Contrasts', *Economic and Political Weekly*, 37(46): 4633—37.

Levinson, F.J. 1974. *Morinda: An Economic Analysis of Malnutrition among Young Children in Rural India*. Cambridge, Massachussetts: MIT/Cornell University Press.

Mazumdar, V. 1994. *Amniocentesis and Sex Selection*, CWDS Occasional Paper 21. New Delhi: Centre for Women's Development Studies.

Mazumdar, V. and N. Krishnaji (eds.). 2001. *Enduring Conundrum: India's Sex Ratio: Essays in Honour of Asok Mitra*. Delhi: Rainbow.

Mazumdar, V., K. Sharma, N. Buch and C.P. Sujaya. 2001. *Gender and Governance—A Country Paper—India*. Study commissioned by UNDP. New Delhi: Centre for Women's Development Studies.

Mehta, Arun C. 1998. *Education for All in India—Enrolment Projections*. New Delhi: Vikas.

Mencher, Joan P. and K. Saradamoni. 1982. 'Muddy Feet, Dirty Hands: Rice Production and Female Agricultural Labour', *Economic and Political Weekly*, 17(52): A149–67.

Menon-Sen, Kalyani and A.K. Shiva Kumar. 2001. *Women in India: How Free? How Equal?* Report commissioned by the Office of the United Nations Resident Coordinator in India. New Delhi: UNDP.

Miller, Barbara D. 1981. *The Endangered Sex: Neglect of Female Children in Rural North India*. Ithaca and London: Cornell University Press.

Ministry of Human Resource Development. 2000. *Sarva Shiksha Abhiyan: A People's Movement for Education for All, Draft Guidelines*. New Delhi: Government of India.

Mitra, Asok. 1979. *Implications of Declining Sex Ratio in India's Population*. New Delhi: Allied Publishers.

Morris, D. Morris and Michelle B. McAlphin. 1982. *Measuring the Condition of India's Poor: The Physical Quality of Life Index*. New Delhi: Promilla and Co.

Murthi, M., Anne Catherine Guio and Jean Drèze. 1995. *Mortality, Fertility and Gender Bias in India: A District Level Analysis*, DEP No. 61, June. London: London School of Economics.

Muthulakshmi, R. 1997. *Female Infanticide—Its Causes and Solutions.* New Delhi: Discovery Publishing House.

National Crimes Record Bureau (NCRB). 1998. *Crime in India.* New Delhi: Ministry of Home Affairs, Government of India.

———. 1999. *Crime in India.* New Delhi: Ministry of Home Affairs, Government of India.

———. 2000. *Accidental Deaths and Suicides in India*. New Delhi: Ministry of Home Affairs, Government of India.

Nayar, U. 1993. *Universal Primary Education of Rural Girls in India.* New Delhi: National Council for Educational Research and Training.

Nuna, Sheel. 1990. *Women and Development.* New Delhi: National Institute of Educational Planning and Administration.

Panda, P.K. 2003. *Rights-based Strategies in the Prevention of Domestic Violence*, Working Paper 344. Trivandrum: Centre for Development Studies.

Papola, T. S. and A. N. Sharma (eds.). 1999. *Gender and Employment in India*. New Delhi: Vikas.

Patel, Vibhuti. 1997. 'Technology in Service of Female Foeticide', *Humanscape*, 4(7): 19–20.

PROBE. 1999. *Public Report on Basic Education in India*. New Delhi: Oxford University Press.

Qadeer, Imrana. 1998. 'Reproductive Health—A Public Health Perspective', *Economic and Political Weekly*, 33(41): 2675–84.

Rajivan, Anuradha K. 1998. 'Engendering Official Data Systems—At State and District Levels'. Department of Women and Child Development, New Delhi: Government of India.

Raman, Vasanthi. 1999. 'Women's Reservation and Democratisation—An Alternative Perspective', *Economic and Political Weekly*, 34(50): 3494–95.

Rampal, Anita. 1996. 'Education for a Possible Structural Change', in N. Rao, Luise Rurup and R. Sudarshan (eds.), *Sites of Change—The Structural Context for Empowering Women in India*, pp. 269–98. New Delhi: UNDP.

Rustagi, Preet. 2000. 'Identifying Gender Backward Districts Using Selected Indicators', *Economic and Political Weekly*, 35(48): 4276–86.

———. 2002. 'Girl Child Labour: Regional Dimensions and Motivations', *Indian Journal of Labour Economics*, 45(3): 465–77.

———. 2003. *Gender Biases and Discrimination against Women: What do Different Indicators Say?* New Delhi: UNIFEM.

Sample Registration System. 2000a. *SRS Bulletin*, 33(1). New Delhi: Registrar General of India.

———. 2000b. *Sample Registration System Statistical Report, 1998*. New Delhi: Registrar General of India.

Sen, A.K. 1992. *Inequality Re-examined.* Oxford: Clarendon Press.

Sharma, Kalpana and Ammu Joseph. 1994. 'Female Foeticide: The Abuse of Technology', in Ammu Joseph and Kalpana Sharma (eds.), *Whose News? The Media and Women's Issues*, pp. 64–69. New Delhi: Sage.

Sonpar, Shobna and Ravi Kapur. 2001. 'Non-Conventional Indicators—Gender Disparities under Structural Reforms', *Economic and Political Weekly,* 36(1): 66–78.

Srinivasan, K. (ed.). 1996. *Population Policy and Reproductive Health.* New Delhi: Hindustan Publishing Corporation.

Srivastava, Nisha. 1997. 'Striving for a Toe-hold: Women in the Organised Sector', *Indian Journal of Labour Economics,* 40(3): 527–43.

Sudha, S. and S. Irudaya Rajan. 1999. 'Female Demographic Disadvantage in India 1981–91: Sex Selective Abortions and Female Infanticide', *Development and Change,* 30: 585–618.

Sunanda, K.S. 1995. *Girl Child Born to Die in Killing Fields?* Madras: Alternative for India Development.

Sutton, Margaret. 1998. 'Feminist Epistemology and Research Methods', in Nelly P. Stromquist (ed.), *Women in the Third World—An Encyclopedia of Contemporary Issues*, pp. 13–23. New York: Garland Publishing.

Tilak, Jandhyala B.G. 2002. 'Education Poverty in India', *Review of Development and Change*, 7(1): 1–44.

Timaeus, Ian, Katie Haris and Francesca Fairbairn. 1998. 'Can Use of Health Care Explain Sex Differentials in Child Mortality in the Developing World?', in *Too Young To Die: Genes or Gender?* pp. 154–78. New York: United Nations.

Tinker, Irene (ed.). 1990. *Persistent Inequalities.* New Delhi: Oxford University Press.

United Nations Educational, Scientific and Cultural Organisation (UNESCO). 1981. *Women and Development: Indicators of their Changing Role.* Socio-Economic Studies 3. Paris: UNESCO.

United Nations. 1998. *Too Young To Die: Genes or Gender?* Department of Economic and Social Affairs, Population Division. New York: United Nations.

United Nations Development Programme. 1995. *Human Development Report.* New Delhi: Oxford University Press.

Vimochana. 1999. *Unnatural Deaths of Women in Marriage: A Campaign Diary.* Bangalore: Vimochana.

Visaria, Leela. 1985. 'Infant Mortality in India—Levels, Trends and Determinants', *Economic and Political Weekly,* 20(32, 33, 34): 1352–92; 1399–1405; and 1447–50.

———. 1988. 'Sex Differentials in Nutritional Status and Survival during Infancy and Childhood: Review of Available Evidence', Paper presented at the Conference on Women's Position and Demographic Change in the Course of Development, Asker, Norway, 15–18 June.

———. 1993. *Regional Variations in Female Autonomy and Fertility and Contraception in India.* Working Paper No. 50. Ahmedabad: Gujarat Institute of Development Research.

Visaria, Pravin. 1971. *Sex Ratio of the Population of India*, Monograph No. 10, Census of India 1961. New Delhi: Office of the Registrar General.

———. 1999. 'Level and Pattern of Female Employment—1911–94', in T.S. Papola and A.N. Sharma (eds.), *Gender and Employment in India*, pp. 23–51. New Delhi: Vikas.

Viswanathan, Renuka. 2001. 'Development, Empowerment and Domestic Violence—Karnataka Experience', *Economic and Political Weekly*, 36(24): 2173–77.

Waldron, Ingrid. 1976. 'Why do Women Live Longer than Men?', *Social Science and Medicine*, 10: 349–62.

———. 1998. 'Sex Differences in Infant and Early Childhood Mortality: Major Causes of Death and Possible Biological Causes', in *Too Young to Die: Genes or Gender*, pp. 64–83. New York: United Nations.

Wazir, Rekha (ed.). 2000. *The Gender Gap in Basic Education: NGOs as Change Agents*. New Delhi: Sage.

Woolley, F.R. and J. Marshall. 1994. 'Measuring Inequality within the Household', *Review of Income and Wealth*, 40(4): 415–32.