

GENDER DEVELOPMENT INDICATORS: ISSUES, DEBATES AND RANKING OF DISTRICTS

Preet Rustagi

I. Introduction

The major contradiction facing this century relates to development sans equality, growth without equitable distribution, prosperity alongside rising gender inequalities, none of which are natural but are rather influenced by social and cultural factors. The need to broaden the concept of development to encompass the overall well-being of people rather than just denoting rising incomes has been clear ever since the weak links between economic growth and welfare have been established. That national incomes as calculated by the Gross National Product (GNP) measure is no indication of the standard or level of living of the nations' peoples, shifts the emphasis onto the question of distribution, i.e. inequalities.

Income growth and economic prosperity were accepted as key indicators of progress and development till the first half of the twentieth century. The assumption was that with economic growth or higher incomes, basic requirements of life for well being would be satisfied. This was a preoccupation of the classical economists. The discipline of *Development Economics* is of more recent vintage, inspired by more humanitarian considerations influenced by post-World War II conditions as well as those ensuing from the Cold War. The conditions of poverty, illiteracy, disease and mortality in backward agrarian countries generated deep concern and interest in the West [Bell (1987)].

Although backwardness has many dimensions, most often than not, backwardness has been associated with poor industrialisation in contrast to the relatively affluent living standards in industrialised countries. But as Clive Bell (1987) points out “ To reduce thus the problem of economic development to that of building an industrial society is to do it a good deal of violence. For those who place the realisation of individual potential at the centre of things, dignity, liberty and satisfaction at the workplace count for quite as much as material affluence” [also see Seers (1969)].

It is noteworthy, however, that the so-called backward countries themselves perceive industrialisation as the path to development. Even if Gerschenkron's (1952) viewpoint that latecomers have an 'advantage of backwardness' over pioneers is accepted, many questions remain: Is such adoption of 'advanced' techniques socially desirable, is access to such knowledge free, are these comparable to the stage of development in which the latecomer country is situated and so on¹.

In fact, substantial questioning of the lines of thinking which push for prosperity along the path of industrialised societies have been on-going, but, inconclusive. Increasing awareness of the persistence of inequalities in spite of income growth and higher prosperity levels forced a break from the simplistic percolation effect as visualised by “trickle-down” theorists. Research by

¹ Interestingly, it has been argued that the damage to latecomers by the pioneers existence is “not through the exercise of monopoly power or conspiracy, but through the inevitable demonstration effects on the tastes of latecomers” [Bell (1987)].

development theorists also brought about a shift from the assumption of development being class and gender neutral.

Both the pre- and the post-globalised worlds have witnessed tremendous inequalities in the manner in which development gets distributed [see Abramovitz (1959), Adelman and Morris (1973), Chenery, et al. (1974), Kuznets (1953, 1966), Rao and Linnemann (1996), Tinker (1990)]. Historical differences in ownership of resources continue to persist even today. Socially created divisions constrain the flow or distribution of income generated. All these aspects together with cultural, legal, political and physical factors prevent equal access to all. The case of women is further influenced by patriarchal forces, structures and institutions which affect their capabilities [see Haddad and Kanbur (1990), Woolley and Marshall (1994)].

The demand to replace the hitherto supreme income measure by some alternative, based on a concept of overall welfare was juxtaposed to the basic principles of economic theorisation in the latter half of the twentieth century. The effort towards developing a concept of human development questioned the theory of maximisation (be it of utility, consumption, or income) which stated that more is always preferred than less².

With increasing inequalities, policy makers were in a quandary as to whether blindfold pursuance of the goal of higher income had much meaning unless it was accompanied by the satisfaction of other basic needs as well. In spite of these confusions, the income maximisation - based principle gained momentum, while a few marginal voices tried to say that 'small is beautiful' [Schumacher (1977)]. Large scale is not always the best. More mechanisation is not essential for industrialisation. Greater industrialisation is not the only way to develop. Such criticisms of Western industrialisation expressed deep concern over the ethics of wealth [Gandhi (1975)]. Bipan Chandra Pal questions whether we need to produce commodities at the expense of humanity in his essay "On Nation Building" [as quoted in Ganguli (1975)].

Ignoring the broad concerns of people results in misery, ill health, undernourishment, unemployment and poverty to many while a few flourish, prosper, progress and develop. Can we consider this to be true, real development? There is a need for measures of development that are broad enough so as to take into account both positive and negative aspects along with a considerable understanding of societies and its people. Development is not only about growing GDP, higher output/production, improved education and health status but must also address crime, poverty, unemployment and so on. Just as positive elements add on, negative factors pull back levels of development.

These debates on what constitutes development have managed to enlarge the list of indicators clearly dethroning the income measure that hitherto reigned supreme. However, in the absence of a well-defined or quantifiable measure of development, substantial confusion and indecision has prevailed. Amartya Sen, echoing Keynes, took a broader view of the problem, questioning the rejection of 'being vaguely right in favour of being precisely wrong' [Sen (1987)] on the grounds that what is easily usable need not be the most relevant. Sen ruled out all subjective criteria from the measure of development to give way to precise calculations based on objectivity, as recommended by the pioneer of statistical measurement, Sir William Petty, while accepting the not-so-precise reflection of social reality of the indicators used for quantification. It is on the basis of this logically designed approach that the concept of human development was conceived.

² While of course acknowledging the caveat of diminishing marginal utility, that is, excess of anything can have a detrimental effect beyond a point.

The resort to composite indexation by the United Nations Development Programme (UNDP) in the 90s under the leadership of the late Prof. Haq unfortunately does not reflect the conceptual richness of human development. There are two major problems with this measure. First, the assessment of different countries level of development on a scale of the developed countries growth path is highly erroneous simply because growth patterns or paths of development differ from country to country. The increasing pressure from the international agencies for a global agenda and preparation of national indicators of human development need to be critically assessed³. The objective that such a calculation serves is highly questionable. For instance, in the context of South Asia, what does the lower or higher position of Pakistan vis-à-vis India signify? Additionally, the method adopted by the UNDP for measuring its various indices is far from optimal [see Krishnaji (1997), Kelley (1991), Dijkstra and Hanmer (1997), among others].

Secondly, national indices are insignificant for countries with large populations, vast geographical areas, and diversities stemming from social, cultural, political, economic factors, as is the case with a country like India. Even the states of India, by themselves large areas, exhibit substantial differences in varied aspects of development. Intra-country analysis of human development, therefore, preferably should be undertaken at the sub-state level, at least up to the district level.

The present study emphasises on independent variable analysis at the disaggregated district level to account for such problems. It is less likely for districts (as compared to states) to exhibit highly diverse socio-economic or political structures. There is a need to find out and know what is the level of development or backwardness of a particular region as compared to others, which are the areas where certain regions require positive intervention of a targeted/focussed kind and so on. This is essential both for policy makers and planners as well as researchers and activists.

Any study based on statistical information must aim to be simple and easily comprehensible even to laypersons without too many complex calculations and methods. Keeping these considerations in view, this study adopts a very simple methodology without aggregation or composite indexation. Composite calculations can have the effect of losing some aspects of the information used.

This paper is divided into seven sections. After the introduction, the second section deals with some of the debates and measures of development indicators. Section three presents the methodology, objectives and scope of the study. The fourth section discusses the selected indicators along with a state level analysis of each of them. A detailed presentation of district-wise data analysis is undertaken in the fifth section under specific sub-heads of demographic, educational, health, socio-cultural and economic indicators. The main findings are presented in the sixth section. Some concluding remarks, including directions for further explorations and limitations of the present study are provided in the last section.

II. Development Indicators -The Debates and Measures

The realisation that growth in national incomes does not necessarily percolate leading to higher per capita incomes (as assumed by the 'trickle-down' theorists) on the one hand, and significant deviations in simple correlations between average per capita incomes and indicators of general well-being such as literacy, life expectancy, infant mortality, health on the other hand, resulted in the search for alternative measures of development. The persistence of inequalities raised doubts

³ I am indebted to Dr. Mary John to bring this to my attention.

about the policy of aiming for higher income levels alone, unless they were accompanied by the satisfaction of other basic needs of people as well.

Inequalities, far from disappearing were in fact widening. This caused grave concern among policy makers worldwide. Since the post World War II period, efforts to quantify and measure aspects of development for inter-country comparisons have been on-going [FAO (1949), UN (1954, 1963), OECD (1976), UNRISD (1968) and so on]. Efforts were made by the United Nations (UN) and its agencies, Organisation for Economic Co-operation and Development (OECD), World Bank, International Funding Agencies, Planning Commission of the developing countries and other concerned groups and individuals. The 1960s were the time of human capital theories by Becker and others. Much later in the 1980s and 1990s, social capital gained importance.

The focus of these attempts was oriented towards calculating an appropriate measure which took into account the social concerns of any country's development, which included individual security, social adjustment, political participation, freedom, justice, peace and harmony in addition to health, literacy, employment, income, consumption and so on.

A variety of concepts sprung up in the process, with subtle differences at times. For instance, while the notion of the standard of living denotes 'what ought to be', the level of living is an objective concept wherein a consideration of 'what is' predominates. Many issues were raised for discussion -- normative vs. observed indicators, criteria of inclusion/exclusion of variables, material and non-material aspects of the level of living, the statistical characteristics of indicators - whether independent or interrelated, problems of international comparison and so on [Liu (1978), Bayless and Bayless (1982), UN (1954), Hilhorst and Klatter (eds.) (1985)]. In effect, notwithstanding the sincere attempts made, they remained limited to a discourse on the choice of indicators, their quantification and inclusion, weights assigned to different indicators and the suitability of such calculations in cross-country comparisons [Baster (1972), Drenowski (1977), Hilhorst and Klatter (eds.) (1985)].

Many of these efforts remained abortive by the end of the quarter century, 1950-1975. The conclusion arrived in the UN report, as early as in 1954, was that no single indicator could replace the income measure. Another OECD study gloomily stated that "a single unitary 'social well-being' index serving the same summarisation purpose as GNP with regard to a certain range of economic activities has been ruled out as giving almost no information whatsoever" [OECD (1976)].

The first composite index was the Physical Quality of Life Index (PQLI) propounded by Morris D. Morris in 1979. It evolved as a limited measure of social well being. The selection of indicators for the PQLI was done with the objective that indicators should be simple, based on results not inputs, not assume a single development pattern or cultural value and should reflect the distribution of social results [Morris and McAlphin (1982)].

One of the problems in creating a broad-based index of measurable welfare was due to the practice of comparing the progress of developed countries with developing ones, which made the total number of indicators into an intractable obstacle. By delimiting his task, Morris settled for assessing the situation of the "world's poorest billion" - and the extent to which *certain* basic needs are being satisfied.

From a set of as many as 100 indicators, only 3 were found to be suitable for international comparability. Based on the three components of life expectancy, infant mortality and literacy,

the PQLI measures the performance of the world's poor countries in meeting the most basic needs of people. While it served to provide a ranking of countries with respect to their relative performance, the PQLI did not 'grow in stature' to incorporate or reflect the complex variety of social and psychological characteristics as suggested by the term 'quality of life' - security, justice, freedom, human rights, and so on. Rather, the PQLI modestly admitted of reflecting only some important elements of what *must* be included in a humane existence. The name 'physical' was added to quality of life (QOL) with the specific purpose of indicating the narrowness of the target. This composite index, PQLI, was not a substitute for GNP, but served instead as a complement to measures of income.

In contrast to the narrowly defined PQLI, the concept of 'human development' deployed by UNDP's Human Development Report (HDR) in the 1990s was much broader. Development was defined as enlarging people's choices through equal opportunities, their sustainability over generations and peoples' empowerment to enable their participation. This approach to development of enhancing capabilities is indeed, well conceived. It questions earlier assumptions of development as a gender-neutral process benefiting all income classes.

The launch of HDR 90 denoted the beginning of a new era of measuring human development. HDI was and is still seen as a measure of the countries' overall progress in achieving human development. However, the measure that was evolved to reflect such development levels, remained highly inadequate. The Human Development Index (HDI) calculated by HDR 90 was essentially similar to PQLI, together with the income measure. No doubt, it possessed a tremendous degree of technical sophistication. Even so, HDI remains a simple average of the life expectancy index, educational attainment index and adjusted real GDP per capita index.

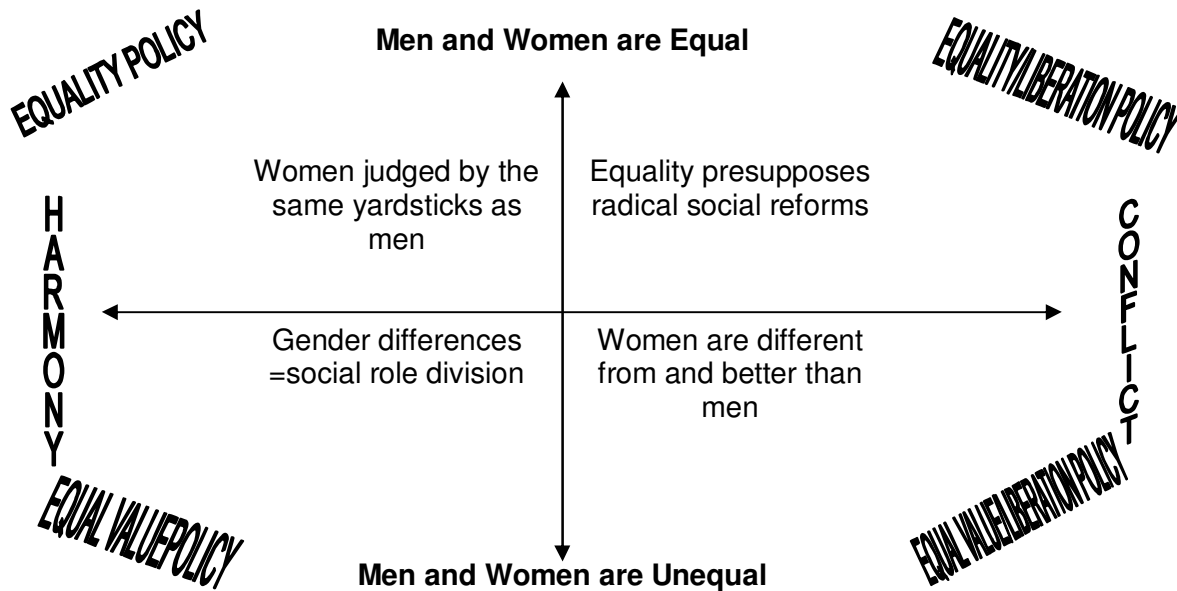
It is only now ten issues later in 1999, that the HDR has reproduced an article by Prof. Sen (by then Nobel Laureate in Economics) in defense of late Prof. Mahbub-ul-Haq and his brainchild the HDI, by describing it as an essential, although inescapably crude measure which enabled a wealth of information on diverse aspects of human development to reach people. No other means could have been able to generate such keen interest in the concepts and HDRs other than this measure which is "of the same level of vulgarity as GNP" (HDR 1999, Special Contribution by Sen, p.23). It has therefore been acknowledged that the index which has come to be the flagship of HDRs over the years is but a crude measure with the added plus point of being vulgar yet "not blind to social aspects of human lives as GNP is".

Each year, the HDR seeks to enrich the concept, analyse a specific aspect critically and develop more elegant measures of well being. In 1991, the HDR focussed on participatory development for reallocation of resources to serve humanity better. They even calculated a Human Freedom Index proposed by Humana. In 1995, gender disparity was the theme. The 1995 HDR revealed that gender inequality was a worldwide phenomenon. The unequal treatment of women in many countries is reflected in rights regarding inheritance, marriage and divorce, rights to acquire nationality manage property or seek employment [UNDP (1995)].

The need to integrate women into development, without which no country can lay claim to development, was internationally proclaimed in the 1995 Beijing conference. Simultaneously, the UNDP's 1995 HDR that focussed on gender disparity highlighted that women receive unequal treatment all over the world. The pursuance of equality brings with it a string of problematic

issues, although there is no opposition⁴ at the conceptual level to the goal of equality. Yet the process through which this is to be achieved presents itself in varied frameworks [CSWI (1975), Eduards, et al (1985), Phillips (1987), Stromquist (1998)]. In fact, even the meanings ascribed to inequality results in a variety of debates. Chart.1 gives one mapping of the different political and -ideological conceptions of gender inequality and equality.

CHART –1: Gender Ideologies and Gender Politics



Source: Eduards, et.al (1985), p.157.

Two new indices were floated by the UNDP in the 1995 HDR - the Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM). The GDI uses the same variables as HDI, considering the gender disparity in them. For making such gender sensitive adjustment, a weighting formula is used which expresses moderate aversion to inequality.⁵ The measure GDI is intended to reflect the extent of gender equity. Apart from the fact that mere consideration of three variables is inadequate for measuring gender equity, studies have shown that GDI is very strongly correlated with the per capita income of the country [see Dijkstra and Hanmer (1997)].

Dijkstra and Hanmer (1997) have clearly stated the three limitations of the GDI - (i) such a measure should aim at measuring gender inequality or equality in itself and should not take absolute measures of well-being into account; (ii) even if the chosen 3 variables are assumed to be relevant for measuring human development, the concrete indicators and the way in which they have been measured do not capture important aspects of gender inequality; and (iii) it is a measure based on a single point of time. This does not take into account any possible causal

⁴ Karin Andersson, a former chairperson of the Swedish Equality Committee very rightly expressed "it is difficult to struggle for something on which, formally, everyone agrees" [Eduards, et al. (1985)]

⁵ The weighting parameter ϵ (epsilon) is set to 2. This is the harmonic mean of the male and female values.

relations between in socio-economic and gender inequality, thereby reducing its relevance for policy intervention.

Additionally, the inability of this measure in capturing gender development levels in countries like India have been highlighted in different fora by bringing out the complex set of issues influencing women's development and empowerment [Rao, et.al (1996); Hirway and Mahadevia (1996)].⁶ Access to assets and services may have inherent gender bias, which can be social, economic, cultural, legal or political in nature.

GEM exposes inequality in opportunities in selected areas - the participation of women in economic and political life and decision making. The components of this measure are the percentage of women in Parliament, among administrators, managers, professional and technical workers, and women's earned income share as a percentage of men's. Most of these variables as represented by specific parameters in the context of developing countries reflect a very minor domain of women's activities. For instance, it neglects the political participation of women in local bodies at sub-national levels. The work categories considered are subject to the class bias existing in the measures of women's work. On the whole, the different economic and political structures across developed and developing countries create problems in comparisons based on such indices.

The efforts of the UNDP at measuring the complex phenomenon of gender development, although well conceptualised, are strewn with problems as they resort to trivial mechanisms for calculating/quantifying such measures. The difficulties stem partly from the non-quantifiability of certain critical aspects and partly due to lack of comparable data on all components essential for such a measure. The HDR admits of HDI not being "a substitute for the full treatment of the richness of the concerns of the human development perspective". Nevertheless, it needs to be stressed that laudable efforts have gone into conceptualising very tricky and difficult aspects of development in these HDRs. Unfortunately, one of the basic unstated premises of this approach is the assumption of a single path of development.

By using one composite index, a synthetic number, whose meaning is highly questionable, the implicit assumption is that the conditions facing the people of different countries, classes, communities, castes and so on are in some way comparable [Krishnaji (1997), Rustagi (1998)]. Inter-country comparisons are problematic since the historical processes and political regimes of different countries that influence the development goals and efforts to meet them are in no way accounted for. Even intra-country comparisons on human development for large countries like India are affected by similar considerations. Most exercises of calculating development indices in the 1990s for India have been minor improvements on the UNDP measure, and are restricted by and large to the state level [Prabhu, et al (1996), Shiv kumar (1995)]. The more comprehensive alternatives as suggested by Hirway and Mahadevia (1996) too, resort to composition of all selected variables into an index for the state level.

States in India are a geographically large area comprising of substantial diversities, hence there is a need to look at the sub-state level, at the districts. The district is the administrative unit for which the Census of India collects and provides information. Both, policy planning and intervention can be undertaken at this level. The present study attempts to look into the various facets of human development with a view to emphasise and highlight gender disparities. This

⁶ Hirway and Mahadevia (1996) have suggested an elaborate alternative measure of calculating gender development both at individual and social levels.

exercise limits itself to secondary data and draws out the profiles of gender differences at the district level. Further disaggregation is limited by non-availability of data.

III. Methodology, Objectives and Scope of the Study

An individual variable reflecting any aspect of development implicitly assumes the uniform availability of and accessibility to all the persons under analysis. But this is not necessarily the real situation, given that the social structures of class, caste and gender exhibit substantial variations in attitudes, awareness and access. The bias introduced in the quantification of any specific indicator under such circumstances will only be magnified with the aggregation or composition of various indicators, in spite of well-calculated weights being assigned to them. While it is difficult to assess how far from reality composite indices are, the incidence of bias being lower in case of individual indicators can be stated with some degree of certainty.

This study is an exercise in ranking based on individual indicators. The use of single indicators allows for the incorporation of a greater number of variables with relative ease, as the complications stemming from assigning weights and aggregating for composite indexation do not arise. Additionally, the method remains simple and easy to comprehend even by laypersons.

Since the objective of the study is to assess the relative levels of backwardness or development in relation to one indicator at a time, no standardisation of the variables is required. The simple statistical tool of ranking serves the purpose of identifying relatively better off and worse districts with respect to each selected indicator. Through the identification of gender backward districts, this exercise will serve policy makers and enable focussed intervention in the area of weakness through planned welfare programmes in a systematic manner. Additionally, the districts which record backwardness for a majority of the indicators can be chosen for primary surveys to understand the processes operating there, by supplementing with sufficient degrees of qualitative detail.

Other efforts at the measurement of development have made use of benchmarks to evaluate how poorly developed a region is as compared to other relatively better off ones. The inadequacy of such benchmark based measures stems from the comparison of regions that cannot be compared due to numerous differences in geographical, social, political and economic structures. Needless to say these calculations are based on implicit and explicit assumptions.

An earlier effort at the identification of districts that require intervention from government and other sources adopted a dual strategy for analysis [see Rustagi (1998)]. The earlier exercise differentiated districts in terms of their relative levels of development or backwardness by comparing districts within any state, using the state average of each of the indicators as the standard. This ensured that districts belonging to the backward states would not get concentrated in the identification of gender backward districts. In fact, one of the surprising findings of the study was that no district of Bihar or Orissa figured in the gender backward districts, while some districts of the relatively prosperous states of Punjab and Haryana were identified as relatively gender backward.

The present study undertakes an analysis of all districts without differentiating according to levels of backwardness or progress within the state. In the earlier study, districts relatively better in terms of say, education levels within the state could potentially get excluded irrespective of the fact that they might be poor by the standards of even the poorest districts of another state. In this study, it is the relative levels of backwardness among districts that are given emphasis irrespective of the state the districts belong to. Apart from the individual indicator based ranking,

an average of ranks of the 13 selected indicators for all districts is attempted. As it turns out, there is little difference in the two alternative exercises undertaken for this study.

The present study considers the 15 major Indian states to ensure some degree of reliability and comparability. The states covered are Andhra Pradesh (AP), Bihar (BI), Gujarat (GU), Himachal Pradesh (HP), Haryana (HA), Karnataka (KA), Kerala (KE), Madhya Pradesh (MP), Maharashtra (MA), Orissa (OR), Punjab (PU), Rajasthan (RA), Tamil Nadu (TN), Uttar Pradesh (UP) and West Bengal (WB) [excluding J&k, Delhi, Goa, 7 North-Eastern States and Union Territories]. In all, the number of districts in the 15 selected states is 370 [see Table.1].

TABLE – 1

Statewise Number of Districts

S. No.	State	No. of Districts
1.	Andhra Pradesh	22
2.	Bihar	42
3.	Gujarat	19
4.	Haryana	16
5.	Himachal Pradesh	12
6.	Karnataka	20
7.	Kerala	14
8.	Madhya Pradesh	45
9.	Maharashtra	29
10.	Orissa	13
11.	Punjab	12
12.	Rajasthan	27
13.	Tamil Nadu	20
14.	Uttar Pradesh	63
15.	West Bengal	16
	Total	370

It needs to be stated here that this is a one-point study and no attempt has been made to look at transitions over time. Only rural areas have been considered keeping in mind the lower levels of development with regard to certain basic gender related parameters. Sex ratios, female literacy, age at marriage are all lower in rural areas while school dropouts, fertility rates, mortality of girl children are all lower in urban areas [see EPW Research Foundation (1994), NFHS (1992-93), Nayar (1993)]. There is little doubt, that urban areas display their own sets of problems, but that is not the focus of this study.

In short, this study aims to be a compendium for district level analysis of a select set of gender sensitive indicators. The study will utilise secondary source data to identify rural districts that are backward with regard to each of the specific indicators - demographic, educational, health-related, social, cultural and economic. The data sources used for this study are the Census of India, 1991, mortality estimates from Rajan and Mohanachandran(1998) and UNFPA's calculated data on fertility and female age at marriage.

IV. Selected Indicators - A Discussion

The choice of indicators to be included and the manner of their inclusion are at the heart of the debate on measuring development. Basic needs are categorised as food, clothing, housing, health, education, clean water supply together with participation, equality and quality of working life [see Table-2, Baster (1985)]. Criteria of comparability limit the variables in any study. Other reasons of non-availability or inaccessibility of data sources at the chosen disaggregated level of analysis constrain the elaborate treatment for measuring relative development or backwardness. This section provides the rationale for selection of variables with a brief discussion of the variables excluded in the study.

TABLE - 2

Levels of Living: Categories/Components in Selected Studies

International definition and measurement of levels of living (United Nations)	Drewnowski's level of living and welfare	OECD: measuring social well-being: social concerns	Categories of basic needs (lists)
Health Consumption and nutrition Education Employment and conditions of work Housing Social security Clothing Recreation Human freedoms Background components Population and labour force Income and expenditure Communications and transport	Level of Living Nutrition Clothing Shelter Health Education Leisure Social security Social environment Physical environment Level of welfare Somatic status Educational status Social status	Health Individual development through learning Employment and quality of working life Time and leisure Personal economic situation Physical environment Personal safety and administration of justice Social opportunity and participation	Food Clothing Housing Health Education Clean water Supply Participation Equality Quality of Working life

Source: Baster, Nancy (1985), "Social Indicator Research :Some Issues and Debates" in Hilhorst, J.G. M and M. Klatter, Social Development in the Third World - Levels of Living Indicators and Social Planning, Croomhelm, London.

This study is limited to the consideration of variables which pertain to individuals. Those indicators which reflect the macro picture in terms of environment and ecology, community level facilities, institutional participation and social environment [Hirway and Mahadevia (1996)] are not considered here, although they are equally relevant in assessing the development of a region in a manner which enlarges the choices available to women in achieving their potential.

The study includes variables that are indicative of the demographic, educational, health related, social, cultural and economic status of women. As the study is an experimental one, exploring the possibilities of a more detailed exercise, the variables selected are in no way meant to be exhaustive. The female to male ratio (FMR) is used as a demographic variable. These ratios are calculated for the total population above the age of 6 years, children in the age of 0-6 years and

Scheduled Caste population. The sex ratio among the Scheduled Tribe population is considered only for districts with more than 10 per cent ST population. Female literacy serves as a basic indicator of educational status. Both the effective literacy rate among females and the gender differentials in literacy rates are used in the exercise. The health-related variable is mortality rates. Mortality among female infants [Q(1)] and children [Q(5)] together with gender differences in mortality levels serve as indicators of health status. The socio-cultural variables employed are mean age at marriage and fertility rates. Female work participation along with the difference in male and female work participation rates is the economic indicator selected for the study (see Table 3 for the indicators list with abbreviations). A brief discussion on each of the variables is presented here.

TABLE – 3

List of Chosen Indicators

A: DEMOGRAPHIC (refers to rural areas only)		
▪ Sex Ratio of population above the age of 6 years		SR>6
▪ Child Sex Ratio (0-6 years)		CSR
▪ Sex Ratio among Scheduled Castes Population		SRSC
▪ Sex Ratio among scheduled Tribe Population		SRST
B: LITERACY RATES (refers to rural areas only)		
▪ Effective Female Literacy		FLIT
▪ Gender Differential in Literacy levels		LGAP
C: MORTALITY RATES (refers to rural areas only)		
▪ Infant Mortality Rate among Females [Q(1)]		IMRF
▪ Child Mortality Rate among Females		CMRF
▪ Gender Differential in IMR		IMRD
▪ Difference in CMR among Males and Females		CMRD
D: MARRIAGE AND FERTILITY (refers to all areas)		
▪ Mean age at Marriage among females		MAMF
▪ Total Fertility Rate		TFR
E. WORK PARTICIPATION RATES (refers to rural areas only)		
▪ Proportion of Main Female Workers in the total female population above the age of 7 years		FWPR
▪ Gap in Work Participation Rates among Males and Females		WGAP

Demographic Indicators

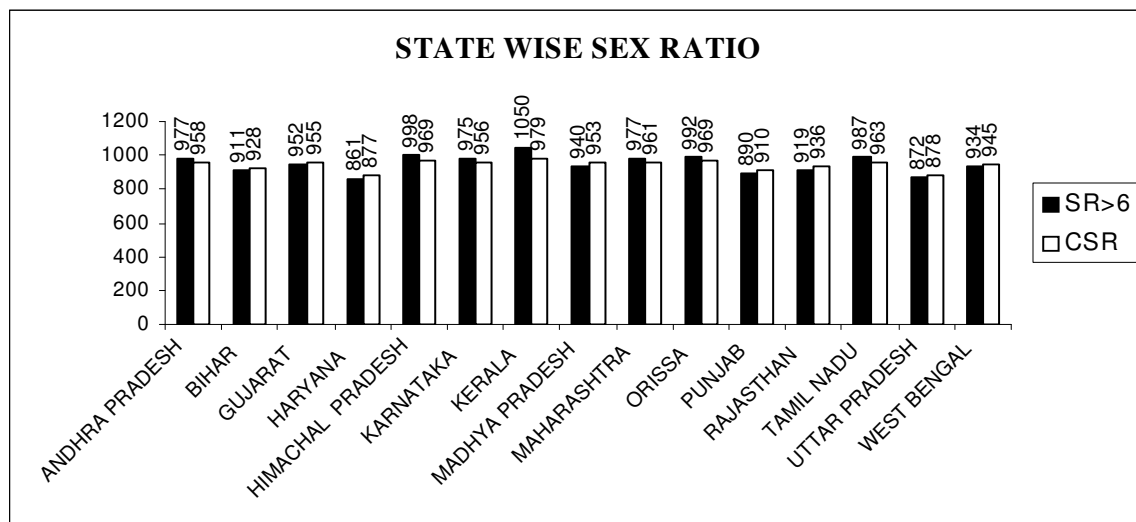
The sex ratio (as females per 1000 males) is a composite indicator of women's health, nutrition and survival status. The increasing trend towards masculinisation of sex ratios observed in India as opposed to the natural male-female balance is a very disturbing factor. This demographic imbalance is not due to problems of invisibility, i.e. the missing out of females while enumerating censuses, but a case of 'missing women' [for a discussion on the issue, see Rajan, et al. (1991), Kundu and Sahu (1991), Agnihotri (1995), Dreze and Sen (1995) among others]. There is a clear and sharp decline in the sex ratio since 1901 to 1991 from 972 to 929 for India as a whole.

The sex ratio has been strongly recommended by several researchers as an indicator of gender development. It was the Committee on Status of Women in India [(CSWI (1975))] which highlighted the demographic factor as the most secular and composite indicator of women's declining status in the country over a long period. Dreze and Sen (1995) feel that it even displays intra-household inequalities.⁷

To account for discrepancies in FMR resulting from migration, an additional variable of child sex ratio (CSR) is included. CSR is the female to male ratio among 0-6 years population. The discrimination of children prior to birth by amniocentesis - based abortion of female foetuses, post-birth through infanticide and subsequent neglect of females is reflected in the CSR.⁸

In order to avoid duplication of any sort, the FMR excludes the child population of 0-6 years and considers sex ratio among population above the age of 6 years (SR>6). The state level SR>6 ranking reveals that the demographic imbalance is prominent in the north-Indian states of Haryana, UP, Punjab, Bihar and Rajasthan [See Diagram - 1]. While the southern states are relatively better in their demographic gender balance, it is only the by now well acknowledged “wonder state” of Kerala which actually records a higher female population - 1050 females for every 1000 males. Even so, it is interesting and disturbing to note the shifts in ranks in the child sex ratio where Kerala moves from top position to the 10th, recording a CSR of only 958 [see Diagram - 2]. The high rate of male out migration from the state is certainly a factor for explaining the higher FMR figure. Himachal Pradesh is another state with a high FMR - 998 females per 1000 males in the above 6 years population, but records a CSR of 955.

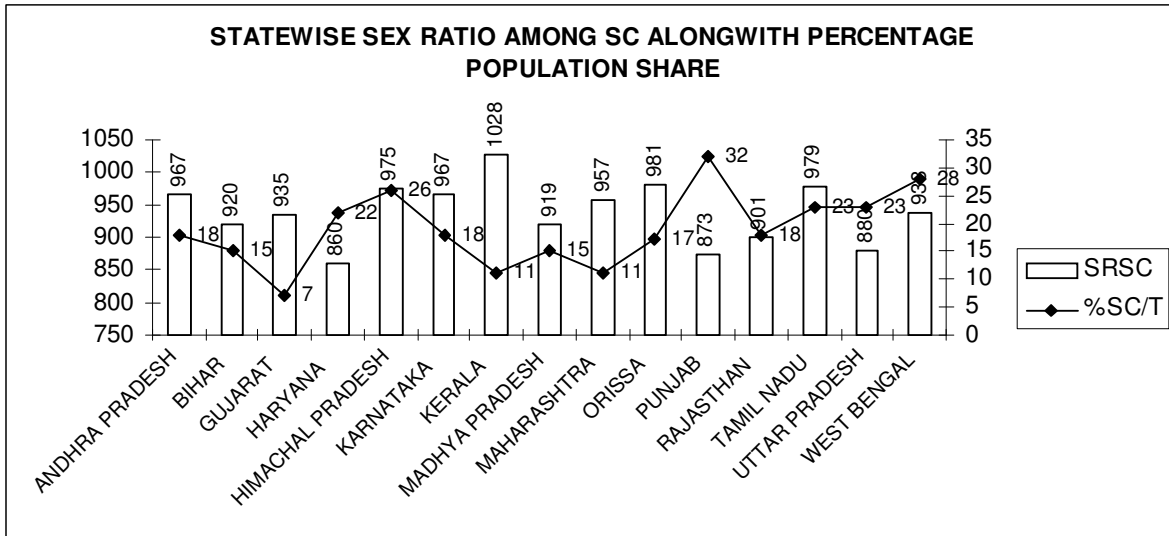
Diagram - 1



⁷ Hirway and Mahadevia (1996) however, are wary of including FMR as an indicator within the country as it is affected by migration. Considering the migration figures for males as well as females could rectify this. Alternatively, the child sex ratio, which is less affected by migration, can be included as an indicator (as is done here).

⁸ Discriminatory or unequal treatment among girls and boys at the young ages is captured better by juvenile sex ratio (JSR) which is the FMR among children of 0-9 years. However, inaccessibility of gendered data by age group 0-9 prevented the use of JSR for the study (see Miller (1981); Agnihotri (1996) on the use of JSR as a rough indicator of basic gender inequality).

Diagram – 2



However, the case of Punjab and Haryana, which witness substantial in-migration, is not reflected in higher CSR for the states. Haryana remains at the bottom in both lists although the CSR is slightly higher than SR>6. Punjab presents a very scary scenario with CSR dropping to 878 from SR>6 of 890. It is noteworthy that Bihar actually moves up, with a CSR of 961 from a SR>6 of 911.

TABLE – 4

**Statewise Sex Ratio among SC
along with Percentage Population Share**

Rank	State	%SC/T	SRSC
1.	Haryana	22	860
2.	Punjab	32	873
3.	Uttar Pradesh	23	880
4.	Rajasthan	18	901
5.	Madhya Pradesh	15	919
6.	Bihar	15	920
7.	Gujarat	7	935
8.	West Bengal	28	938
9.	Maharashtra	11	957
10.	Andhra Pradesh	18	967
11.	Karnataka	18	967
12.	Himachal Pradesh	26	975
13.	Tamil Nadu	23	979
14.	Orissa	17	981
15.	Kerala	11	1028

TABLE – 5**Sex Ratio among STs**

Sl. No.	State	%ST/T	SRST
1.	Rajasthan	15	936
2.	Gujarat	21	971
3.	Maharashtra	13	976
4.	M.P.	29	989
5.	Orissa	24	1006

In addition to SR>6 and CSR, the sex ratio among Scheduled Castes (SRSC) and among Scheduled Tribes (SRST)⁹ have been considered. Women of the SC population largely belong to the poorer masses, with little access to resources and livelihoods. To some extent, the inclusion of SRSC as an indicator accounts for women's position among the poor masses that have been socially deprived for a long time. Table - 4 shows that the position of women in the northern states of Haryana, Punjab along with the BIMARU states is lamentable. Kerala, Orissa and Tamil Nadu have a more equitable gender balance in the SC population. The fact that a higher proportion of the SC population inhabits the former northern states makes matters worse.

The status of women among the Scheduled Tribe (ST) population is generally observed to be better as compared to other categories. It would be interesting to see how the sex ratio among ST population varies across districts. Districts with 10 per cent and above ST population are chosen for analysis. State level SRST is applicable only to 5 of the 15 states which satisfy the above caveat [see Table - 5]. Except for Rajasthan, all other states record a reasonable SRST with Orissa at the top. There are 1006 ST women for every 1000 ST men in Orissa as per 1991 Census.

Educational Indicators

Education is a basic parameter reflecting the level of development of any region. It is important for gender development as female educational status relates to child care, access to health, fertility, reproduction, mortality and so on [Nayar (1993), Murthi, et.al (1995), Acharya (1996), Srivastava and Nigam (1997)]. Additionally, education enables economic and political participation of women. This is directly related to the perception of women in the household and society, which can undergo change only if women increase their participation in 'public' spheres.

Low levels of literacy among women and girls, is one of the basic elements of gender backwardness. Education is sought to be universalised at least up to the primary levels of education. Despite measures to make primary education free for all children, literacy among girls remains low hinting at other than economic factors influencing girls education. Literacy rate among rural females is the total number of female literates as a percentage of total female population for the age group greater than 7 years (FLIT). Even in areas where substantial progress is witnessed with high educational status, female literacy rates especially in rural areas always trail behind male literacy rates.

⁹ . The SRST is limited to the states or districts with more than 10 per cent ST population.

TABLE - 6
Statewise Female Literacy and Gender Gap in Literacy Levels

State	FLIT	LGAP
Andhra Pradesh	24	23
Bihar	18	30
Gujarat	39	28
Haryana	33	32
Himachal Pradesh	50	24
Karnataka	35	26
Kerala	85	8
Madhya Pradesh	20	31
Maharashtra	41	29
Orissa	31	29
Punjab	44	17
Rajasthan	12	36
Tamil Nadu	42	25
Uttar Pradesh	19	33
West Bengal	38	24

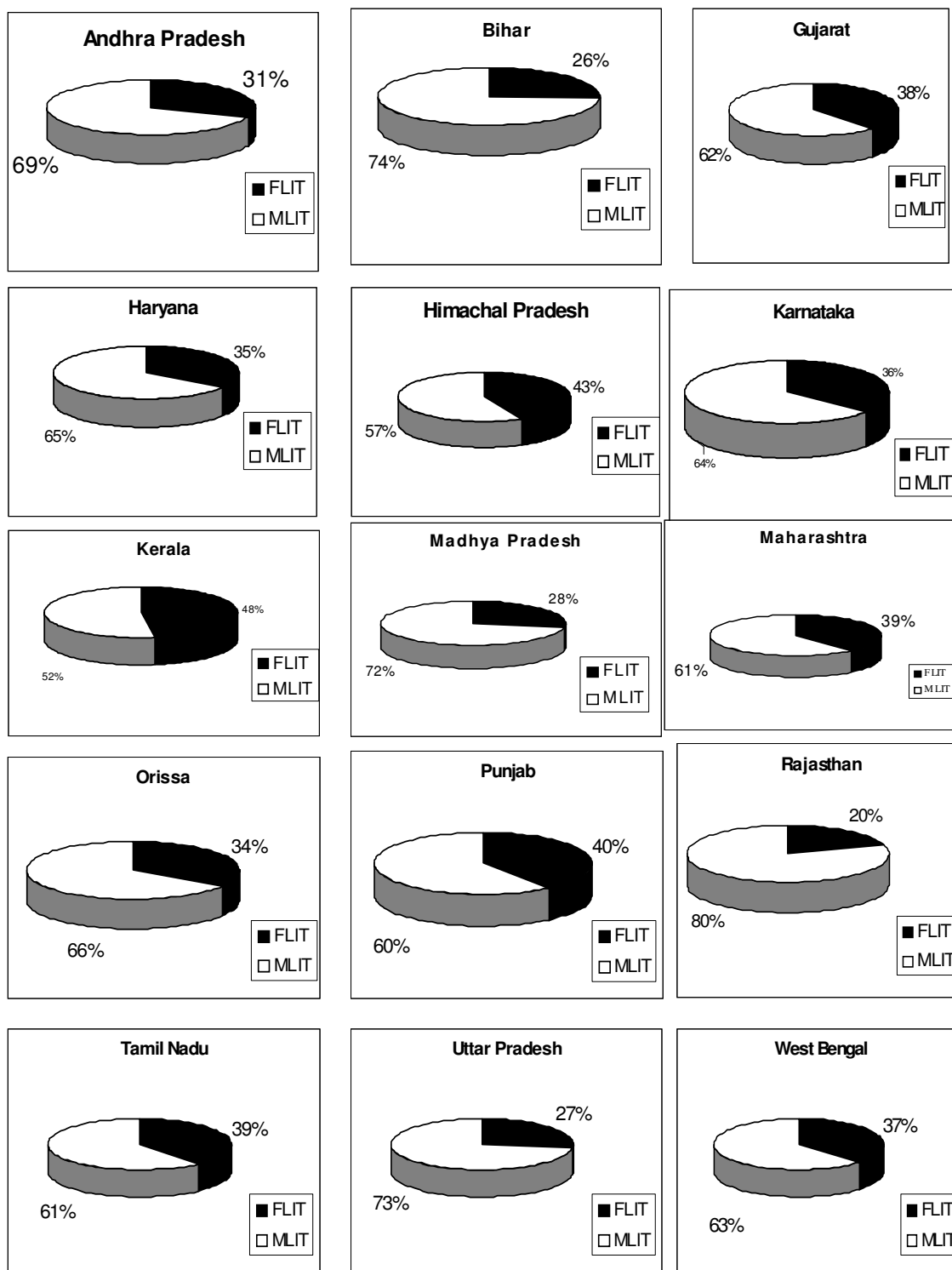
The difference between female and male literacy rates is used to indicate gender gap in literacy rates. Wide gaps in literacy levels (LGAP) among males and females indicate the specific gender dimensions of the educational backwardness of the region. Considering the gender gap in literacy implying that gender discrimination is also high highlight districts that may otherwise be exhibiting fairly high educational levels among girls. Such regions would otherwise be missed out.

State level data on female literacy highlights the backward educational status of women in the BIMARU states [see Table - 6]. Kerala, Himachal Pradesh, Punjab, Tamil Nadu and Maharashtra reveal female literacy levels above 40 per cent.

Only Kerala and Punjab, despite considerable difference in the literacy levels, are both high with regard to proportion of literate females as well as low in terms of gender differentials. The case of Haryana with 33 per cent female literacy is noteworthy as the gender gap in educational status is very high [see Table - 6]. Similarly, Maharashtra with 41 per cent female literacy records a LGAP of 29 [see Diagram-3]. In fact, all states except for Kerala and Punjab reveal high levels of educational disparity even when applying one of the most liberal definitions of literacy as used by the Census.

There is little doubt that further information such as provided by enrolments and dropouts for girls at various levels of education would bring out such gender inequalities more starkly. The present exercise limits itself to the above mentioned two indicators.

Diagram - 3
Gender Differences in Literacy Rates



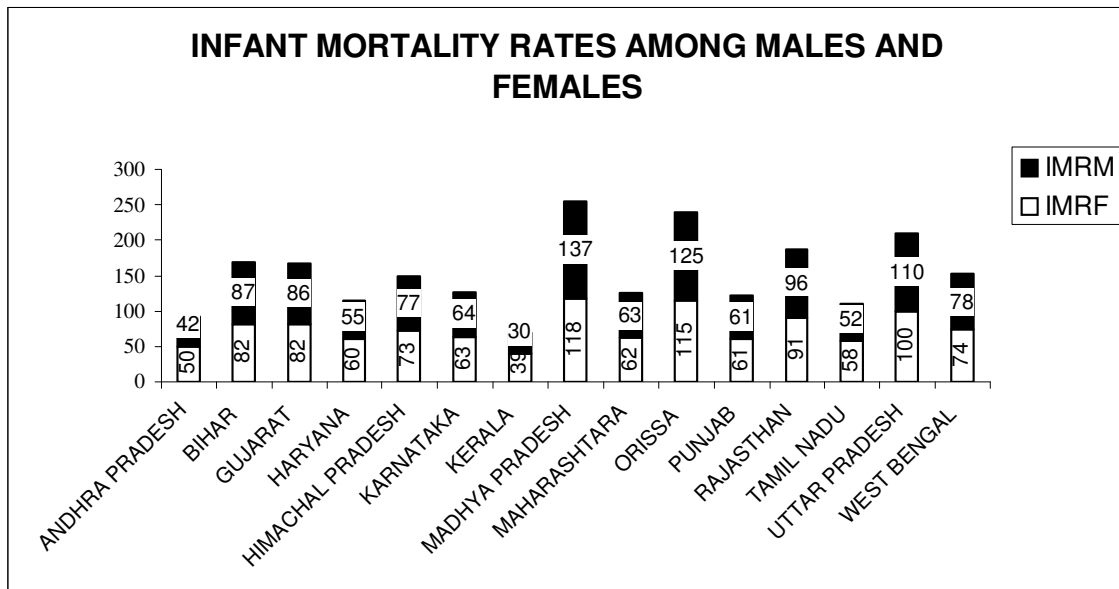
MLIT = Male Literacy Rates; FLIT=Female Literacy Rates

Mortality Rates

The strong preference for sons results in the neglect of girls and females infants, especially in some regions. Whether it is the inhuman practice of female infanticide or the 'scientific' sex determination based selective foeticide, the ultimate effect of such practices is that there are fewer girls in the population. The chance of a female child not surviving beyond her first year of birth among every 1000 babies born is reflected in the infant mortality rates among females (IMRF).

High IMRF reflects upon the health status of the child as well as mother. Mortality rates are generally higher among male infants due to male frailty. Biologically, the female child has a greater survival potential. The gender differences in IMRs (IMRD) is considered as another variable to bring to notice all such districts which exhibit the reverse, that is, higher IMRF in comparison to the IMR among males. This reflects the various socio-cultural biases operating in the care and nurturance of girls right from infancy.

Diagram - 4



The gender bias against girls becomes glaring in the post-breast feeding period. The otherwise similar treatment to infants in the ages when they depend on mother's milk is altered subsequent to weaning. At times, weaning itself starts early for girls. Neglect of their health and nutrition leaves them weak and susceptible to ailments, some of which can be fatal in the light of poor health facilities or the lack of resources to avail such protective services. The child mortality rate among females (CMRF) indicates the probability of female children not surviving above 5 years. Despite the lowering death rates, some districts still have very high CMRF.

The discrimination is seen in the gap between the mortality rates of boys and girls. CMRD, the gender difference in CMRs reveals the unequal distribution of food, nutrition, affection and care. The gender differences in access to health care and services is noted in a number of primary survey based studies, when girls are in need or ill [Miller (1981), Murthi, et.al (1995), CWDS (1990), Dasgupta (1987), Shariff (1998) among others].

Bihar and Gujarat are at the national average IMRF of 82, while four states of MP, Orissa, UP and Rajasthan have a higher IMRF [see Table - 7]. Of these, only UP stood apart with high gender differences in IMR as well. The other two states with considerable IMRD are Bihar and Gujarat. While Tamil Nadu along with Kerala and Punjab record almost equal mortality rates among male and female infants, the states of HP, Maharashtra, AP and Karnataka have negative IMRD, implying higher male infant mortality rates [see Diagram-4].

TABLE – 7

Infant Mortality Rates among Females and Gender Differences in IMR - Statewise

Rank	State	IMRF	Rank	State	IMRD
1	Madhya Pradesh	118	1.	Bihar	19
2.	Orissa	115	2.	Gujarat	10
3.	Uttar Pradesh	100	3.	Uttar Pradesh	10
4.	Rajasthan	91	4.	Madhya Pradesh	5
5.	Bihar	82	5.	Orissa	5
6.	Gujarat	82	6.	Haryana	4
7.	West Bengal	74	7.	Rajasthan	4
8.	Himachal Pradesh	73	8.	West Bengal	4
9.	Karnataka	63	9.	Kerala	1
10.	Maharashtra	62	10.	Punjab	1
11.	Punjab	61	11.	Tamil Nadu	0
12.	Haryana	60	12.	Karnataka	-5
13.	Tamil Nadu	58	13.	Andhra Pradesh	-6
14.	Andhra Pradesh	50	14.	Maharashtra	-8
15.	Kerala	39	15.	Himachal Pradesh	-9

TABLE – 8

Child Mortality Rates among Females and Gender Difference in CMR – Statewise

Rank	State	CMRF	Rank	State	CMRD
1	Madhya Pradesh	180	1	Bihar	31
2.	Orissa	173	2.	Uttar Pradesh	31
3.	Uttar Pradesh	149	3.	Rajasthan	20
4.	Rajasthan	131	4.	Haryana	17
5.	Bihar	111	5.	Gujarat	16
6.	Gujarat	110	6.	Madhya Pradesh	12
7.	West Bengal	104	7.	Orissa	11
8.	Himachal Pradesh	95	8.	Tamil Nadu	10
9.	Karnataka	93	9.	West Bengal	8
10.	Haryana	90	10.	Karnataka	4
11.	Tamil Nadu	82	11.	Kerala	3
12.	Maharashtra	79	12.	Punjab	2
13.	Punjab	77	13.	Andhra Pradesh	-2
14.	Andhra Pradesh	76	14.	Maharashtra	-7
15.	Kerala	49	15.	Himachal Pradesh	-9

As infants survive to become 5 year-old children, in all the 15 states the mortality rates become higher. Even Kerala with the lowest IMRF of 39 moves up to a CMRF of 49 - 10 points higher [see Table 8]. The gender differences are more prominent too.

In UP for instance, while 10 more female infants do not survive as compared to male infants among every 1000 infants who die, the gender difference increases three times with CMR at 31. Tamil Nadu, Karnataka, Kerala and Punjab also witness gender bias in child mortality rates, however marginal this may be.

Although a number of other variables can substantiate the mortality figures in indicating the health status of women - such as maternal morbidity rates, life expectancy at birth, morbidity and so on - this exercise looks at infant and child mortality, with specific emphasis on gender inequalities. The PQLI and GDI use life expectancy at birth to indicate health status across countries. The preference of age specific mortality rates to life expectancy at birth in capturing gender equity in development is discussed in the literature [see Hirway and Mahadevia (1996), among others]

Marriage and Fertility:

As indicators of socio-cultural aspects, the age at marriage and fertility rates among women are selected for this study. Early marriage of girls is receding with the legislation of minimum age at marriage and the awareness created about the ills of child marriages. Getting young girls married has repercussions for the woman/girl's health, risk to her life in reproduction as well as the child's survival.

TABLE – 9

Female Mean Age at Marriage

States	MAMF	TFR
Andhra Pradesh	16.81	3.42
Bihar	16.95	5.26
Gujarat	19.01	4.20
Haryana	17.87	4.31
Himachal Pradesh	18.10	3.55
Karnataka	18.01	3.87
Kerala	19.85	2.60
Madhya Pradesh	16.63	4.92
Maharashtra	17.91	3.72
Orissa	18.00	4.27
Punjab	19.70	3.80
Rajasthan	16.67	3.80
Tamil Nadu	19.12	3.10
Uttar Pradesh	17.27	5.60
West Bengal	17.22	3.61

Source: Registrar General, India (1997).

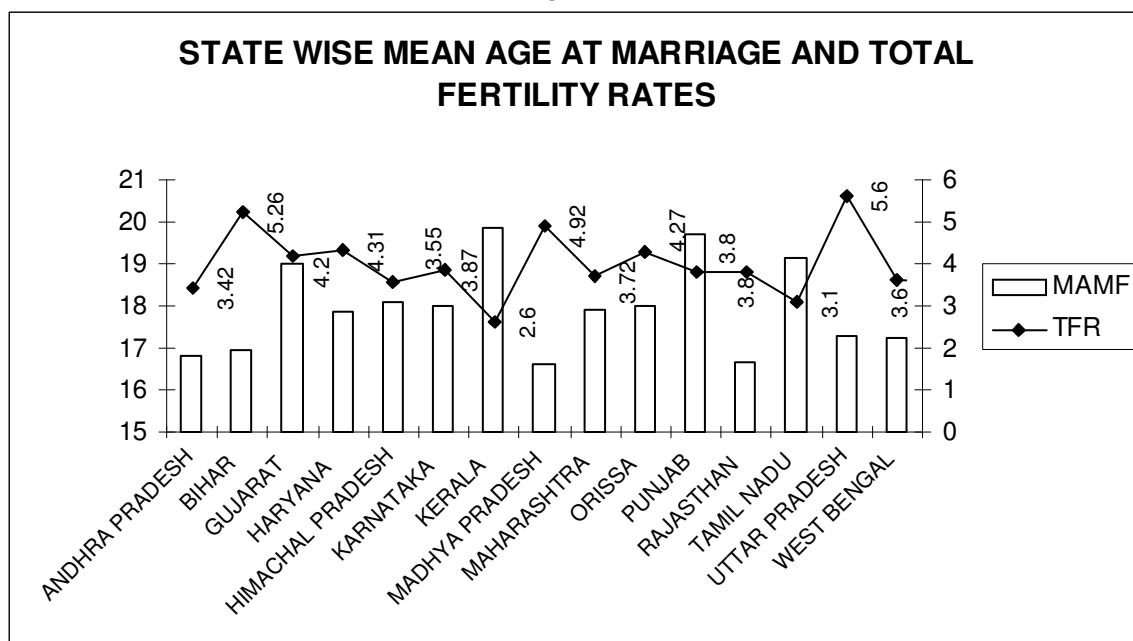
Given the near universal nature of marriages in India, parents of girl children face tremendous pressure of getting their daughters married. The added social menace of dowry, so rampant in recent times, further compels them to get girls married off preferably at a young age. Early marriages result in longer reproductive spans that can affect women adversely.

The legally stipulated minimum of 18 years for marriage of girls seems to deter few, as only 7 of the 15 major states selected for the study have figures for the mean age at marriage above 18 years. In fact, the all-India MAMF as per the 1991 Census is 17.7. Table 9 shows M.P., Rajasthan, A.P. and Bihar as the states with the lowest MAMF.

The total fertility rate (TFR) is the average number of children born to a cohort of women experiencing a set of age specific fertility rates. The TFR as defined by the Registrar General's office takes note of the fact that none of the children born, die before completing the reproductive period. This is the most commonly used indicator among all fertility measures.

Although on the decline, the TFR at the all-India level is 4.30. U.P., Bihar and Rajasthan at the state level, record fertility rates above 5 (see Table – 9 and Diagram-5). Higher fertility rates prove detrimental to the health of the mother. Lower fertility rates are generally associated with better status of women, although there is skepticism regarding higher fertility rates being indicative of their backwardness [see McNay (1995), Murthi, et.al.(1995)].

Diagram - 5



In general, the demand for sons appears to result in a corresponding pressure for frequent pregnancies. The poor health facilities for deliveries, with an even worse utilisation pattern of the available infrastructure, have undesirable impact on the young married women [NFHS (1992-93)]. Deaths of women related to childbirth are common. Frequent deliveries result in low weight babies who find it difficult to survive. There is a circular relation between fertility and mortality, as the lower child mortality by itself has the effect of bringing down fertility rates. The assurance of the survival of children already born prevents numerous births as a mere precaution.

Women's education is related both to the mortality of children and to fertility. With education, women are more aware of the child's needs and better able to protect and take care of the child. Education, in so far as it increases mobility and allows for economic participation of women, additionally affects their fertility as well.

Female Work Participation

The proportion of main female workers in the total female population is denoted here as the female work participation rate (FWPR). The low work participation of females as revealed by the Census is an outcome of the manifold problems in the enumeration and definition of 'work' in standard secondary sources of data, which has been discussed extensively in the literature¹⁰ [see Agarwal (1985), Kalpakam (1988), NCSEW (1988), Bardhan (1985) among others]. On the other hand, it is necessary to be cautious in drawing simple positive conclusions about high work participation rates. More often than not, there is a stronger correlation between high work participation rate and poverty than with economic well being or empowerment.

Given the standard theoretical conceptualisation of 'work' as market wage/ paid labour, a whole lot of activities women undertake for or within the household gets excluded. The non-recognition of women's work is linked to a variety of socio-economic and cultural factors. This association of women with the 'private', i.e., all things pertaining to inside the household has been the source of non-recognition of all the contribution they make to the family and society at large. In rural areas where women are employed as agricultural workers, most of them work on their own land. Even among those who work as paid labourers on others land, the wages paid to them are lower than that paid to men. Moreover, when there is an overall job crunch, women are the worst affected.

Household survey based studies among others have indicated how women are faced with a double burden as a result of their compulsory participation in the labour market. Participation of women necessitated by economic need, adds to the household chores already being carried out by them, with hardly any assistance from other members of the household. Moreover, there is perceived enhancement of women's status by withdrawing them from labour market participation with upward mobility of their families.

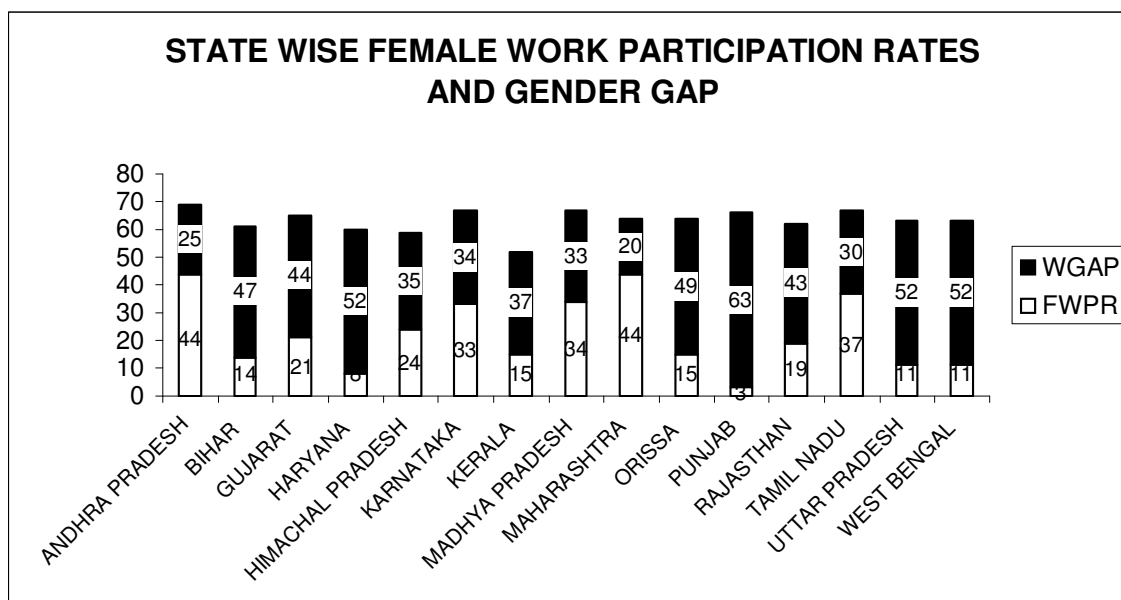
In the light of the treatment to women's work and the added factors of mobility and income earnings that come with their economic participation as main workers, low work participation can be seen as an indicator of gender backwardness. Since the Census data used for work participation accounts for main workers¹¹, this indicator reflects women's access to work as well. This is despite the fact that mobility of women is subject to socio-cultural restrictions, and income earned by women does not always provide them the independence or autonomy to spend it [see Visaria (1993)].

The notion of women as 'non-productive' members is based on this status of non-workers that is associated with them, which make them a liability, while sons are an asset, for further investments. An additional aspect of working women is that a greater income share is devoted for children's food and basic requirements, resulting in better nutritional intakes, school enrolments, and so on. Alternatively lack of access to such incomes acts as an obstacle to giving priority to these aspects of the social well being of household members, especially children.

¹⁰ A great deal of effort has gone into improving and expanding the definitions of work both in the Census and N.S.S. as the direct result of pressure and lobby by women's groups and scholars.

¹¹ The Census defines main workers as persons working for a major portion of the year, i.e., for more than 180 days.

Diagram – 6



In addition to low FWPR, the gender gap in work participation rates (WGAP) has also been looked into. In the striving for equal opportunities, the availability of and access to work should also be equal between men and women. Although at the state level, low FWPR is associated with high gender differences and vice versa, this is not always the case when the analysis moves to a more disaggregated district level. Table - 10 provides FWPR and WGAP at the state level. Punjab, Haryana, UP and West Bengal are states with the lowest female participation rates for women as main workers. The gender gap in work participation is also high for these states [see Diagram-6].

TABLE – 10

Statewise Female Work Participation Rate and Gender Difference

Sl. No.	States	FWPR	WGAP
1	Punjab	3	63
2	Haryana	8	52
3	Uttar Pradesh	11	52
4	West Bengal	11	52
5.	Bihar	14	47
6.	Kerala	15	37
7.	Orissa	15	49
8.	Rajasthan	19	43
9.	Gujarat	21	44
10.	Himachal Pradesh	24	35
11.	Karnataka	33	34
12.	Madhya Pradesh	34	33
13.	Tamil Nadu	37	30
14.	Maharashtra	44	20
15.	Andhra Pradesh	44	25

The next section provides a more detailed analysis of district level data for all the indicators developed in this study. The significance of district level analysis comes out clearly in this section. It reveals the widespread variations across the different districts belonging to a single state. By resorting to this disaggregated exercise, certain specific aspects of particular districts get highlighted. For instance, the low child sex ratios in districts of Salem and Jaisalmer that have been noted for incidence of infanticide is identified by this exercise. Similarly, the similarities across districts of some states also become prominent. All districts of Punjab and Haryana have low child sex ratios. Many other specific and general observations at the district level make the analysis of the following section rich and informative.

V. District Level Analysis

This section provides an analysis of disaggregated district level information on all the chosen indicators. Variations across districts reveal the inadequacy of limiting such an analysis to the state level.

A. Demographic Indicators

Among the sex ratio of population above the age of 6 years (SR>6), only 51 of the 370 districts record a demographic balance with a greater or at least equal number of females for every 1000 males [see Table 11]. The number of districts are reduced to only 4, two in Orissa and one each in Gujarat and M.P., when the Child Sex Ratio above 1000 category is considered [See Table - 12].

TABLE – 11

Distribution of Districts by Range of SR>6

States	R A N G E			
	Less than 900	900 to < 1000	1000 & above	Total No. of Districts
Andhra Pradesh	-	20	2	22
Bihar	16	25	1	42
Gujarat	-	19	1	19
Haryana	14	2	-	16
Himachal Pradesh	3	4	5	12
Karnataka	1	17	2	20
Kerala	-	2	12	14
Madhya Pradesh	15	24	6	45
Maharashtra	-	25	4	29
Orissa	-	10	3	13
Punjab	8	4	-	12
Rajasthan	11	15	1	27
Tamil Nadu	-	14	6	20
Uttar Pradesh	42	13	8	63
West Bengal	-	16	-	16
Total	110	209	51	370

TABLE -12**Distribution of Districts by Range of CSR**

States	R A N G E			
	Less than 900	900 to < 1000	1000 & above	Total No. of Districts
Andhra Pradesh	-	22	-	22
Bihar	-	42	-	42
Gujarat	2	16	1	19
Haryana	16	-	-	16
Himachal Pradesh	-	12	-	12
Karnataka	-	20	-	20
Kerala	-	14	-	14
Madhya Pradesh	3	41	1	45
Maharashtra	-	29	-	29
Orissa	-	11	2	13
Punjab	12	-	-	12
Rajasthan	6	21	-	27
Tamil Nadu	1	19	-	20
Uttar Pradesh	11	52	-	63
West Bengal	-	16	-	16
Total	51	315	4	370

Dholpur of Rajasthan is at the first rank in the district listing by SR>6 as well as SRSC revealing the strikingly low sex ratio in the population above the age of 6 years and in the SC population. The other districts are from U.P. as shown in Table - 13. Interestingly, unlike the state level ranks where Haryana has the lowest SR>6 and Kerala the highest - it is specific districts of Maharashtra, Ratnagiri and Sindhudurg, which top the list of SR>6. Hamirpur of Himachal Pradesh, Almora and Garhwal of Uttar Pradesh follow them.

The CSR listing reveals a few noteworthy points. The districts of Salem in Tamil Nadu and Jaisalmer of Rajasthan, noted for the practice of infanticide, figure in the first and third ranks for the lowest sex ratios. The best districts are those of Orissa - Koraput and Kalahandi, which are otherwise known for their poorly developed, drought-ridden status. What is striking in the CSR listing are the districts recording above 1000, which are Koraput and Kalahandi of Orissa, the Dangs of Gujarat and Bastar of Madhya Pradesh. All four districts have a large proportion of ST peoples.

As expected, the sex ratio among the SC population as compared to SR>6 has fewer districts in the above 1000 category [See Tables - 14 and 11]. The states with a larger concentration of districts in the below 900 SRSC category are the BIMARU states along with Haryana and Punjab.

Only one-third of the 15 states have more than 10 per cent ST population. At the district level, 107 districts belonging to 12 of the 15 states come under this category. Among these, only 5 districts, 4 of Rajasthan and one belonging to UP record SRST lower than 900, while 27 districts have SRST above 1000 [See Table 15], lending support to the relatively better position of women among the STs as revealed by the prevailing sex ratios among them.

TABLE – 13**The Bottom and Top Five Ranking Districts by Demographic Indicators**

Indicator	Bottom Five Districts	Top Five Districts
SR>6	RA - Dholpur (763) UP – Shahjehanpur (769) UP – Budaun (774) UP - Mathura (781) UP – Hardoi (786)	MA - Ratnagiri (1288) MA - Sindhudurg (1181) HP - Hamirpur (1160) UP - Almora (1156) UP - Garhwal (1144)
CSR	TN - Salem (821) MP - Bhind (846) RA - Jaisalmer (852) HA - Kaithal (854) HA - Jind (855)	OR - Koraput (1009) OR - Kalahandi (1005) GU - The Dangs (1004) MP - Bastar (1002) AP - Vizianagaram (999)
SRSC	RA - Dholpur (779) UP - Shahjehanpur (790) UP - Budaun (794) MP - Bhind (795) MP - Etawah (799)	MA - Sindhudurg (1113) MA - Ratnagiri (1100) GU - Valsad (1061) KE –Thiruvananthapuram(1061) KE - Thrissur (1053)
SRST*	RA - Sawai Madhopur (859) RA - Bundi (887) RA - Jaipur (896) UP - Dehradun (898) RA - Kota (898)	MP - Kinnaur (1082) MP - Durg (1042) OR - Ganjam (1041) MP - Rajnandgaon (1041) MP - Raipur (1031)

* SRST refers to the 107 districts with more than 10 per cent ST population.

TABLE - 14
Distribution of Districts by Range of SRSC

States	R A N G E			
	Less than 900	900 to < 1000	1000 & above	Total No. of Districts
Andhra Pradesh	-	21	1	22
Bihar	10	31	1	42
Gujarat	2	16	1	19
Haryana	14	2	-	16
Himachal Pradesh	1	9	2	12
Karnataka	-	20	-	20
Kerala	-	4	10	14
Madhya Pradesh	16	23	6	45
Maharashtra	-	24	5	29
Orissa	-	11	2	13
Punjab	12	-	-	12
Rajasthan	10	17	-	27
Tamil Nadu	-	16	4	20
Uttar Pradesh	42	16	5	63
West Bengal	-	16	-	16
Total	107	226	37	370

TABLE – 15

**Distribution of Districts by Range of SRST
(For districts with more than 10% ST Population)**

States	R A N G E			
	Less than 900	900 to < 1000	1000 & above	Total No. of Districts
Andhra Pradesh	-	6	1	7
Bihar	-	10	2	12
Gujarat	-	6	1	7
Himachal Pradesh	-	1	2	3
Karnataka	-	3	-	3
Kerala	-	-	1	1
Madhya Pradesh	-	22	11	33
Maharashtra	-	12	1	13
Orissa	-	3	7	10
Rajasthan	4	7	1	12
Uttar Pradesh	1	-	-	1
West Bengal	-	5	-	5
Total	5	75	27	107

B. Educational Indicators

Female literacy rates portray a bleak scenario with a larger number of districts concentrated at lower educational levels (See Table - 16). Out of 370, as many as 217 districts record FLIT of below 30. The spread of these districts is concentrated among the BIMARU states.

In the midst of Kerala's districts which crowd the top ranks of both FLIT and LGAP, Gandhinagar of Gujarat is the only other district with FLIT of 80. It is also one of the 2 districts from Gujarat which experiences a relatively lower differential in literacy rates across gender. In the FLIT range of between 70 and 80, there are 4 districts - Kanyakumari of Tamil Nadu along with 3 districts of Kerala. All of these have a minimal gender gap too.

TABLE - 16**Distribution of Districts by Range of Female Literacy**

States	R A N G E									Total
	Less than 10	10 - <20	20 - <30	30 - <40	40 - <50	50 - <60	60 - <70	70 - <80	80 & above	
Andhra Pradesh	--	10	7	4	1	-	-	-	-	22
Bihar	1	22	19	-	-	-	--	-	-	42
Gujarat	-	1	1	7	9	-	-	-	1	19
Haryana	-	-	6	4	6	-	-	-	-	16
Himachal Pradesh	-	-	1	3	4	1	3	-	-	12
Karnataka	-	2	4	7	4	2	1	-	-	20
Kerala	-	-	-	-	-	-	-	3	11	14
Madhya Pradesh	3	20	19	3	-	-	-	-	-	45
Maharashtra	-	-	6	6	12	4	1	-	-	29
Orissa	1	3	5	1	3	-	-	-	-	13
Punjab	-	-	1	3	2	6	-	-	-	12
Rajasthan	11	15	1	-	-	-	-	-	-	27
Tamil Nadu	-	-	-	7	9	3	-	1	-	20
Uttar Pradesh	4	27	22	8	2	-	-	-	-	63
West Bengal	-	-	5	6	2	3	-	-	-	16
Total	20	100	97	59	54	19	5	4	12	370

Four districts from Rajasthan, Barmer, Jaisalmer, Jalore and Jodhpur record the lowest FLIT rates [See Table - 17]. The gender bias in the attainment of literacy levels is the highest in Rajasthan and U.P., followed by M.P. and Haryana [see Table 18].

TABLE - 17**The Bottom and Top Five Ranking Districts by Educational Indicators**

Indicator	Bottom Five Districts	Top Five Districts
FLIT	RA - Barmer (4)	KE - Kottayam (94)
	RA - Jaisalmer (5)	KE - Pathanamthitta (93)
	RA - Jalore (6)	KE - Alappuzha (92)
	RA - Jodhpur (6)	KE - Ernakulam (88)
	MP - Jhabua (7)	KE - Kollam (87)
LGAP	RA - Sikar (46)	KE - Pathanamthitta (3)
	UP - Tehri Garhwal (46)	KE - Kottayam (3)
	UP - Uttarkashi (46)	KE - Alappuzha (5)
	RA - Bharatpur (46)	KE - Ernakulam (7)
	UP - Mathura (45)	KE - Thrissur (7)

TABLE – 18

Distribution of Districts by Range of Gender Differences in Literacy Rates

States	R A N G E					Total
	Less than 10	10 - <20	20 - <30	30 - <40	40 & above	
Andhra Pradesh	-	3	18	1	-	22
Bihar	-	-	18	24	-	42
Gujarat	-	2	10	7	-	19
Haryana	-	-	6	8	2	16
Himachal Pradesh	-	1	7	4	-	12
Karnataka	-	2	15	3	-	20
Kerala	11	3	-	-	-	14
Madhya Pradesh	-	2	14	25	4	45
Maharashtra	-	2	14	12	1	29
Orissa	-	1	6	6	-	13
Punjab	-	10	2	-	-	12
Rajasthan	-	-	5	15	7	27
Tamil Nadu	1	-	17	2	-	20
Uttar Pradesh	-	-	21	30	12	63
West Bengal	-	2	11	2	1	16
Total	12	28	164	139	27	370

C. Mortality Rates

Infant mortality rates among females (IMRF) are high in the states of Madhya Pradesh, Orissa, U.P. and Rajasthan. This is substantiated by the large number of districts belonging to these states being concentrated in the above 100 category. In all, 98 of the 369 districts¹² record high IMRF [See Table - 19].

Baleshwar of Orissa seems like an outlier with exceptionally high rates by all the four indicators of mortality, including gender differences. The other 4 of the 5 worst districts in terms of both IMRF and CMRF are those of M.P. - Shivpuri, Chattarpur, Satna and Tikamgarh [See Table -20].

Among the best five districts are Thiruvananthapuram and Malappuram of Kerala, Dakshin Kannad of Karnataka, Kanyakumari of Tamil Nadu and Krishna district of A.P. Ludhiana of Punjab with IMRF at 64 - an average district of the state records the highest gender disparity in infant mortality rates [See Table - 20]. Bhind of M.P., one of the 36 districts of the state with IMRF above 100 is prominent for the difference in IMRs among male and female infants. Sitamarhi district has the highest IMRF (114) in the state of Bihar, while IMRF is 92 in Darbhanga. These two districts along with another 15 districts of Bihar stand out for the high gender disparity as revealed by the IMRs [See Table - 21].

¹² Mortality estimates of Rajan and Mohanachandran (1998), that have been used in this study provide information for only 26 districts of Rajasthan, excluding Dholpur rural.

TABLE – 19**Concentration of Districts by Female Infant Mortality Rate Levels**

States	Infant Mortality Rates among Females		
	Above 100	Less than 100- above 50	Less than 50
Andhra Pradesh	-	10	12
Bihar	4	37	1
Gujarat	1	15	3
Haryana	-	14	2
Himachal Pradesh	-	10	2
Karnataka	-	18	2
Kerala	-	-	14
Mahdya Pradesh	36	9	-
Maharashtra	1	19	9
Orissa	12	1	-
Punjab	-	12	-
Rajasthan	11	15	-
Tamil Nadu	-	14	6
Uttar Pradesh	32	30	1
West Bengal	1	14	1
Total	98	218	53

Of the 369 districts, 211 districts reveal that there is a gender difference in IMRs. This may be due to any number of reasons, physical, social, cultural or economic [see Clark (1987), Das Gupta and Bhat (1997), Khan, et. al (1983), Miller (1981), Murthi, et. al(1995)]. While 11 districts record equal IMRs for males and females, 147 districts infact have a higher male infant mortality rate [see Waldron (1976)].

Districts belonging to M. P., Orissa and U.P. numbering 17, 3 and 2 respectively have a high CMRF above 200 (See Table - 22). The districts which record a low CMRF are Thiruvananthapuram, Alappuzha and Pathanamthitta of Kerala, Karimnagar of A.P. and Dhanbad of Bihar (See Table – 20).

TABLE – 20**The Worst and Best five Districts by Mortality Rates**

Indicator	Worst Five Districts	Best Five Districts
IMRF	OR - Baleshwar (197) MP - Shivpuri (163) MP - Chatarpur (158) MP - Satna (149) MP – Tikamgarh (146)	KE - Thiruvananthapuram (25) KA - Dakshin Kannad (26) TN - Kanyakumari (28) KE - Malappuram (28) AP - Krishna (28)
IMRD	OR - Baleshwar (81) PU - Ludhiana (42) MP - Bhind (38) BI - Sitamarhi (36) BI - Darbhanga (35)	AP - Adilabad (-26) MA - Wardha (-21) KA - Dakshin Kannad (-20) MP - Bhopal (-19) KA - Shimoga (-19)
CMRF	OR - Baleshwar (341) MP - Shivpuri (290) MP - Chattarpur (278) MP - Satna (259) MP – Tikamgarh (251)	KE - Thiruvananthapuram (29) KE - Alappuzha (40) KE - Pathanam-thitta (43) AP - Karimnagar (43) BI - Dhanbad (44)
CMRD	OR - Baleswar (167) MP - Rajgarh (77) MP - Datia (76) MP – Tikamgarh (72) MP - Shivpuri (71)	RA - Udaipur (-36) MP - Bhopal (-33) OR - Dhenkanal (-30) MP - Jabalpur (-29) UP - Chamoli (-28)

TABLE – 21**Statewise Number of Districts by Gender Differences in IMRs**

States	GENDER DIFFERENCE IN IMRs (IMRF - IMR AMONG MALES)				
	20 and above	Less than 20 but Positive	Zero Gender difference	Negative upto -10	IMRF-IMRM above 10
Andhra Pradesh	-	3	-	17	2
Bihar	17	20	2	2	1
Gujarat	1	13	-	3	2
Haryana	2	11	-	3	-
Himachal Pradesh	-	-	-	9	3
Karnataka	-	3	-	13	4
Kerala	-	9	-	3	2
Madhya Pradesh	6	23	-	8	8
Maharashtra	-	5	2	17	5
Orissa	2	6	1	3	1
Punjab	1	6	-	4	1
Rajasthan	1	14	1	9	1
Tamilnadu	-	7	1	10	2
Uttar Pradesh	9	42	1	6	5
West Bengal	1	9	3	2	1
Total	40	171	11	109	38

TABLE – 22
Number of Districts by Range of Female Child Mortality Rates

States	Child Mortality Rates among Females (CMRF)		
	Above 200	Less than 200- above 100	Less than 100
Andhra Pradesh	-	4	18
Bihar	-	33	9
Gujarat	-	10	9
Haryana	-	6	10
Himachal Pradesh	-	7	5
Karnataka	-	5	15
Kerala	-	-	14
Madhya Pradesh	17	28	-
Maharashtra	-	10	19
Orissa	3	10	-
Punjab	-	-	12
Rajasthan	-	22	4
Tamil Nadu	-	4	16
Uttar Pradesh	2	53	8
West Bengal	-	9	7
Total	22	201	146

As one moves from IMRD to CMRD, the concentration of districts in the higher gender bias categories increases. Positive CMRD is recorded in 255 of 369 districts indicating greater child mortality among females as compared to males (See Table - 23).

In all the 15 states, there are districts that do not record bias against girl children, but rather reveal male child frailty. Udaipur (Rajasthan), Bhopal and Jabalpur (M.P.), Dhenkanal (Orissa) and Chamoli of U.P. are the five districts where boy children experience a higher mortality as compared to females.

D. Age at Marriage and Fertility

The age at marriage for girls ranges from 14.9 in Tonk (Rajasthan) to 20.9 in Kanyakumari (Tamil Nadu) (See Table - 24). The data on mean age at marriage among females reveals clearly that the legally stipulated minimum of 18 years does not act as a deterrent.

Out of a total of 374 districts, rural and urban, 244 districts record age at marriage below 18 years (See Table -25). It is only among the districts of Punjab, Gujarat, Kerala and Tamil Nadu that the mean age at marriage is above the stipulated minimum.

TABLE – 23

Number of Districts by Range of Gender difference in Child Mortality Rates

Number of Districts by Range of Gender Difference in Child Mortality RatesStates	Gender Difference in Child Mortality Rates					
	50 & above	20 to <50	Positive <20	Zero Difference	Negative upto-10	Negative above -10
Andhra Pradesh	-	1	8	1	10	2
Bihar	2	29	8	-	2	1
Gujarat	1	7	6	1	2	2
Haryana	-	6	9	-	1	-
Himachal Pradesh	-	-	-	1	6	5
Karnataka	-	-	13	1	4	2
Kerala	-	-	10	1	3	-
Madhya Pradesh	8	15	8	-	6	8
Maharashtra	-	-	12	-	13	4
Orissa	2	1	5	1	1	3
Punjab	-	-	6	-	4	2
Rajasthan	1	11	8	-	4	2
Tamil Nadu	-	2	10	1	6	1
Uttar Pradesh	3	35	16	-	6	3
West Bengal	-	4	8	-	4	-
Total	17	111	127	7	72	35

TABLE - 24

The Worst and Best Five Districts by Marriage and Fertility Indicators

Indicator	Worst Five		Best Five	
TFR	UP – Firozabad	(6.65)	KE - Pathanamthitta	(1.85)
	MP - Morena	(6.63)	KE - Alappuzha	(1.99)
	UP – Siddharthnagar	(6.42)	KE - Ernakulam	(2.10)
	UP - Gonda	(6.38)	KE - Thrissur	(2.10)
	RA - Dholpur	(6.34)	KE - Kollam	(2.14)
MAMF	RA - Tonk	(14.90)	TN - Kanyakumari	(20.90)
	MP – Shajapur	(15.10)	KE - Kottayam	(20.80)
	RA - Bhilwara	(15.30)	KE - Ernakulam	(20.80)
	RA - Bundi	(15.30)	KE - Alappuzha	(20.70)
	UP - Lalitpur	(15.30)	KE - Thiruvannthapuram	(20.50)

TABLE – 25**Distribution of Districts by Mean Age
at Marriage among Females**

STATES	MEAN AGE AT MARRIAGE AMONG FEMALES		
	Less than 18 years	18 to <19 years	Above 19 years
Andhra Pradesh	21	2	-
Bihar	38	4	-
Gujarat	-	5	14
Haryana	10	5	1
Himachal Pradesh	5	5	2
Karnataka	10	8	2
Kerala	-	3	11
Madhya Pradesh	43	2	-
Maharashtra	20	7	3
Orissa	7	6	-
Punjab	-	-	12
Rajasthan	24	3	-
Tamil Nadu	-	5	16
Uttar Pradesh	53	10	-
West Bengal	13	3	1
Total	244	68	62

Madhya Pradesh, Rajasthan, and U.P. along with certain districts of Andhra Pradesh and Bihar stand prominent among those districts with a low age at marriage. All of these states' districts also have high TFR values, except Andhra Pradesh. The district of Mahbubnagar (A.P.) has the highest TFR at the state level - at 4.49. Firozabad, Siddharthnagar and Gonda (U.P.), Morena of MP and Dholpur of Rajasthan are the worst five districts in terms of TFR. See Table - 26 for the distribution of districts in each state by TFR ranges.

Only 23 of 374 districts (rural + urban) have a TFR lower than 3. Eleven districts of Kerala, 7 of Tamil Nadu, 2 each from Karnataka (Kodagu and Hassan), and Maharashtra (Kolhapur and Sangli) and one in West Bengal (Hugli) fall in this category.

E. Work Participation

The distribution of districts based on the level of FWPR reveals lower female participation in the states of Punjab, Haryana, Bihar, Kerala, Orissa, and West Bengal (See Table 27). Uttarkashi (U.P.), Rajnandgaon (M.P.), which are the districts with the highest FWPRs, also have the lowest gender differences in work participation rates (See Table - 28). It is the hilly areas of U.P. - Almora, Chamoli, Uttarkashi, Tehri Garhwal which, alongside higher female participation levels, reveal a smaller gender disparity in labour market participation.

The higher gender disparity levels are concentrated in the states with lower female participation rates - U.P., Punjab, Haryana and Bihar (See Table 29). However, it must be remembered that this analysis takes into consideration only that proportion of workers wherein female enumeration

is low, leaving aside the informal sector workers. Even so, the extent of inequality is likely to have remained the same, and may well have increased, had there been a broader data frame, which included such workers as well.

TABLE - 26
Statewise Number of Districts by Total Fertility Rate

States	Total Fertility Rate					Total
	>6	>5 to <6	>4 to <5	>3 to <4	<3	
Andhra Pradesh	-	-	6	17	-	23
Bihar	1	24	15	2	-	42
Gujarat	-	2	11	6	-	19
Haryana	-	1	12	3	-	16
Himachal Pradesh	-	-	4	8	-	12
Karnataka	-	-	5	13	2	20
Kerala	-	-	1	2	11	14
Madhya Pradesh	4	20	18	3	-	45
Maharashtra	-	-	10	18	2	30
Orissa	-	1	8	4	-	13
Punjab	-	-	1	11	-	12
Rajasthan	1	12	14	-	-	27
Tamil Nadu	-	-	-	14	7	21
Uttar Pradesh	8	41	13	1	-	63
West Bengal	-	1	5	10	1	17
Total	14	102	123	112	23	374

TABLE – 27
Distribution of Districts by Range of Female Work Participation Rates

States	FWPR Range						Total
	Less than 10	10 to <20	20 to <30	30 to <40	40 to <50	50 and above	
Andhra Pradesh	-	-	1	3	11	7	22
Bihar	12	18	11	1	-	-	42
Gujarat	-	8	9	1	-	1	19
Haryana	12	4	-	-	-	-	16
Himachal Pradesh	1	3	2	3	2	1	12
Karnataka	-	-	8	7	5	-	20
Kerala	2	8	4	-	-	-	14
Madhya Pradesh	1	5	15	12	9	3	45
Maharashtra	-	-	1	6	14	8	29
Orissa	3	5	5	-	-	-	13
Punjab	12	-	-	-	-	-	12
Rajasthan	5	10	7	5	-	-	27
Tamil Nadu	-	1	1	8	9	1	20
Uttar Pradesh	29	24	3	2	3	2	63
West Bengal	6	8	2	-	-	-	16
Total	83	94	69	48	53	23	270

TABLE – 28**The Worst and Best Five Districts by Economic Indicators**

Indicator	Worst Five	Best Five
FWPR	UP – Mainpur (1) UP – Bareilly (1) UP – Shahjehanpur (1) UP – Firozabad (2) PU – Sangrur (2)	MP - Rajnandgaon (62) UP - Uttarkashi (58) MP - Durg (58) AP - Nizamabad (57) GU - The Dangs (56)
WGAP	UP – Shahjehanpur (68) BI – Kishanganj (68) UP – Budaun (67) PU – Sangrur (67) UP – Bareilly (66)	UP - Almora (3) UP - Chamoli (4) UP - Uttarkashi (4) Up - Tehri Garhwal (7) MP - Rajnandgaon (7)

TABLE – 29**Distribution of Districts by Range of Gender Gap in Work Participation Rates**

States	Less than 10	10 to <20	20 to <30	30 to <40	40 to <50	50 to <60	60 & above	Total
Andhra Pradesh	-	8	9	4	1	-	-	22
Bihar	-	-	-	6	25	9	2	42
Gujarat	-	1	-	1	14	3	-	19
Haryana	-	-	-	-	5	8	3	16
Himachal Pradesh	-	-	6	2	4	-	-	12
Karnataka	-	-	7	7	6	-	-	20
Kerala	-	-	-	10	4	-	-	14
Madhya Pradesh	2	2	8	14	14	5	-	45
Maharashtra	-	15	13	1	-	-	-	29
Orissa	-	-	-	2	4	7	-	13
Punjab	-	-	-	-	-	1	11	12
Rajasthan	-	-	1	7	14	5	-	27
Tamil Nadu	-	2	7	9	2	-	-	20
Uttar Pradesh	5	1	-	2	18	20	17	63
West Bengal	-	-	1	1	3	11	-	16
Total	7	29	52	66	114	69	33	370

VI. MAIN FINDINGS

In all, 214 out of 370 districts are listed in at least one of the 13 select gender sensitive indicators (GSI) based Backward District Lists (BDL) (see Table-30 for the statewise distribution of districts). In the states of Rajasthan, Haryana and Punjab all districts record poor status of women while in U.P., M.P. and Bihar most districts exhibit backwardness by one or more GSI. Andhra Pradesh, West Bengal and Orissa with 7 districts each are the middling states. The states of Karnataka, Kerala, Tamil Nadu, H.P., Maharashtra and Gujarat record relative progress in terms of the chosen variables.

The main findings of this study are being presented in the form of a series of lists containing the fifty worst districts in terms of any single indicator. In all, 13 such Backward Districts Lists have been prepared based on the ranking by the selected gender sensitive variables. A noteworthy finding by perusing the GSI based BDLs, is the listing of all districts of Haryana and Punjab within the bottom most 50 ranks of CSR (see List-I). The alarmingly low ratio of girls to boys in the 0-6 years in the districts of Punjab and Haryana presents a strong case of amniocentesis based foeticide being practised in the states [See Agnihotri (1997), Das Gupta (1987), Mazumdar (1994) among others]. Numerous reports by scholars, medical practitioners and journalists have addressed the prevalence and growing menace of sex selective foeticide in these states. Amritsar, Faridkot of Punjab and Kaithal, Jind, Kurukshetra and Hisar of Haryana are ranked in the bottom 10 among the total of 370 districts.

TABLE – 30

Number of Districts listed in at least one of the 13 BDLs

States	Districts figuring in one or more B D lists	Total No. of Districts
Andhra Pradesh	7	22
Bihar	30	42
Gujarat	4	19
Haryana	16	16
Himachal Pradesh	2	12
Karnataka	0	20
Kerala	0	14
Maharashtra	3	29
Madhya Pradesh	39	45
Orissa	7	13
Punjab	12	12
Rajasthan	27	27
Tamil Nadu	1	20
Uttar Pradesh	59	63
West Bengal	7	16
Total	214	370

Infanticide is another practice, which is prevalent in some pockets of India. The districts of Salem, Madurai and specific locations within these districts such as Usilampatti taluk of Tamil Nadu are notorious for this inhuman act of killing female infants within short periods of their birth. The methods adopted to do away with girls born into some households are described along with the peculiar reasoning¹³ offered by those resorting to this practice in detail by Sunanda (1995), George, et.al (1992), Muthulakshmi (1997), Vasanti (undated), Venkatachalam and Srinivasan (1993) among others.

The lowest rank from among 370 districts in the CSR list is that of Salem of Tamil Nadu. This is the sole entry from this state in any of the 13 BDLs. Incidentally, Jaisalmer of Rajasthan figures

¹³ Referring to foeticide after the sex selective tests and the legal provision of abortion, which as per the practitioners of infanticide is harmful to the women's body, they consider their own resort to the inhuman practice of killing babies as being considerate to the well being of the woman.

in the third most bottom ranks, which is another district notorious for infanticide. This highlights the critical value of developing district level indicators, since practices like infanticide were otherwise very difficult to identify in secondary data sources.

LIST - I BDL FOR CHILD SEX RATIO(0-6 YEARS)				LIST - II BDL FOR SEX RATIO OF POPULATION ABOVE 6 YEARS				LIST - III BDL FOR SEX RATIO AMONG SC			
RANK	NO	DISTRICT	CSR	RANK	NO.	DISTRICT	SR>6	RANK	No.	DISTRICT	SRSC
1	23	SALEM	821	1	21	DHOLPUR	763	1	21	DHOLPUR	779
2	13	BHIND	846	2	25	SHAHJEHANPUR	769	2	25	SHAHJEHANPUR	790
3	21	JAISALMER	852	3	25	BUDAUN	774	3	25	BUDAUN	794
4	8	KAITHAL	854	4	25	MATHURA	781	4	13	BHIND	795
5	8	JIND	855	5	25	HARDOI	786	5	25	ETAWAH	799
6	20	AMRITSAR	864	6	25	BAREILLY	795	6	25	ETAH	802
7	20	FARIDKOT	866	7	25	AGRA	796	7	25	JALAUN	805
8	8	KURUKSHETRA	867	8	9	LAHUL AND SPITI	797	8	25	HARDOI	805
9	8	HISAR	868	9	25	ETAH	797	9	25	FIROZABAD	806
10	20	PATIALA	868	10	13	GWALIOR	800	10	25	MATHURA	807
11	21	DHOLPUR	870	11	25	SITAPUR	801	11	25	BAREILLY	807
12	20	BATHINDA	873	12	25	JALAUN	803	12	25	FARRUKHABAD	809
13	8	PANIPAT	874	13	25	FARRUKHABAD	804	13	25	MAINPURI	813
14	25	FIROZABAD	875	14	13	BHIND	804	14	13	GWALIOR	813
15	8	ROHTAK	875	15	21	JAISALMER	806	15	25	AGRA	814
16	8	FARIDABAD	875	16	25	FIROZABAD	808	16	21	BHARATPUR	814
17	20	KAPURTHALA	875	17	25	ETAWAH	809	17	13	MORENA	814
18	8	SONIPAT	876	18	25	KHERI	809	18	25	BAHRAICH	822
19	8	KARNAL	876	19	13	MORENA	811	19	25	KANPUR DEHAT	824
20	20	SANGRUR	876	20	25	MAINPURI	811	20	25	ALIGARH	830
21	21	BHARATPUR	877	21	21	BHARATPUR	812	21	8	JIND	830
22	13	MORENA	880	22	25	KANPUR NAGAR	814	22	25	MEERUT	830
23	20	GURDASPUR	881	23	25	BAHRAICH	815	23	9	LAHUL AND SPITI	832
24	21	SAWAI MADHOPUR	881	24	25	GHAZIABAD	818	24	25	HAMIRPUR	832
25	20	RUPNAGAR	884	25	25	PILIBHIT	820	25	25	MORADABAD	834
26	25	ETAH	885	26	8	SONIPAT	820	26	25	SITAPUR	835
27	8	BHIWANI	885	27	25	ALIGARH	820	27	13	DATIA	835
28	25	BUDAUN	885	28	25	BANDA	821	28	13	SHIVPURI	835
29	8	SIRSA	885	29	25	RAMPUR	822	29	25	RAMPUR	836
30	25	MEERUT	887	30	25	KANPUR DEHAT	822	30	25	SAHARANPUR	837
31	25	AGRA	887	31	25	HAMIRPUR	823	31	8	KAITHAL	838
32	20	LUDHIANA	887	32	25	MORADABAD	825	32	25	MUZAFFARNAGAR	838
33	25	ALIGARH	887	33	13	DATIA	826	33	8	ROHTAK	840
34	25	GHAZIABAD	888	34	25	MEERUT	828	34	25	PILIBHIT	842
35	8	AMBALA	888	35	8	JIND	829	35	25	GHAZIABAD	843
36	25	MATHURA	889	36	13	SHIVPURI	831	36	8	SONIPAT	843
37	25	ETAWAH	889	37	25	SAHARANPUR	832	37	25	HARDWAR	843
38	8	YAMUNANAGAR	890	38	8	FARIDABAD	832	38	25	DEHRADUN	846
39	25	MAINPURI	890	39	25	HARDWAR	833	39	25	KHERI	847
40	20	HOSHIARPUR	890	40	25	BARABANKI	834	40	25	BULANDSHAHR	848
41	7	GANDHINAGAR	890	41	25	LUCKNOW	835	41	25	KANPUR NAGAR	848
42	20	JALANDHAR	891	42	25	JHANSI	836	42	25	BANDA	848
43	8	REWARI	891	43	8	ROHTAK	836	43	25	JHANSI	848
44	8	MAHENDRAGARH	891	44	25	BULANDSHAHR	837	44	8	PANIPAT	849
45	20	FIROZPUR	892	45	9	KINNAUR	838	45	8	KARNAL	850
46	13	GWALIOR	893	46	13	CHHATARPUR	838	46	8	FARIDABAD	852
47	21	GANGANAGAR	894	47	25	LALITPUR	839	47	13	CHHATARPUR	853
48	21	PALI	894	48	25	MUZAFFARNAGAR	840	48	25	BARABANKI	853
49	8	GURGAON	896	49	8	PANIPAT	842	49	25	BIJNOR	854
50	7	KHEDA	897	50	25	DEHRADUN	844	50	13	TIKAMGARH	854

Source: District Primary Census Abstract, Census Of India, 1991

LIST - IV			
BDL FOR FEMALE LITERACY RATES			
RANK	NO.	DISTRICT	FLIT
1	21	BARMER	4
2	21	JAISALMER	5
3	21	JALAU	6
4	21	JODHPUR	6
5	13	JHABUA	7
6	5	KISHANGANJ	8
7	25	BAHRAICH	8
8	25	RAMPUR	8
9	25	BUDAUN	8
10	19	KORAPUT	8
11	25	MAHARAJGANJ	9
12	21	BIKANER	9
13	21	BANSWARA	9
14	21	SIROHI	9
15	21	JHALAWAR	9
16	21	CHURU	9
17	13	SHIVPURI	9
18	21	BUNDI	9
19	13	RAJGARH	9
20	21	TONK	9
21	21	BHILWARA	10
22	25	BAREILLY	10
23	25	GONDA	10
24	25	MORADABAD	10
25	21	NAGAU	10
26	21	SAWAI MADHOPUR	10
27	21	DHOLPUR	10
28	13	GUNA	10
29	21	UDAIPUR	10
30	25	LALITPUR	10
31	21	CHITTORGARH	11
32	25	SIDDHARTH NAGAR	11
33	5	PASHCHIM CHAMPARAN	11
34	13	SIDHI	11
35	21	PALI	11
36	5	PURBA CHAMPARAN	12
37	13	BASTAR	12
38	21	JAIPUR	12
39	5	GIRIDIH	12
40	25	PILIBHIT	12
41	21	DUNGARPUR	12
42	5	ARARIA	12
43	25	BANDA	12
44	25	SHAHJEHANPUR	12
45	19	KALAHANDI	12
46	21	BHARATPUR	12
47	25	SONBHADRA	12
48	13	SARGUJA	12
49	25	KHERI	13
50	25	SITAPUR	13

LIST - V			
BDL FOR GENDER GAP IN LITERACY			
RANK	NO.	DISTRICT	LGAP
1	21	SIKAR	46
2	25	TEHRI GARHWAL	46
3	25	UTTARKASHI	46
4	21	BHARATPUR	46
5	25	MATHURA	45
6	21	JHUNJHUNU	44
7	21	JAIPUR	43
8	13	MANDSAUR	43
9	8	FARIDABAD	43
10	25	PITHORAGARH	43
11	25	CHAMOLI	43
12	8	MAHENDRAGARH	42
13	25	ALMORA	42
14	25	AGRA	41
15	25	BULANDSHAHR	41
16	21	AJMER	41
17	21	SAWAI MADHOPUR	41
18	25	JAUNPUR	41
19	13	INDORE	40
20	26	PURULIYA	40
21	25	PRATAPGARH	40
22	21	ALWAR	40
23	25	VARANASI	40
24	13	BHIND	40
25	13	DATIA	40
26	14	JALNA	40
27	25	ALLAHABAD	40
28	25	JHANSI	39
29	5	BHOJPUR	39
30	5	DHANBAD	39
31	21	KOTA	39
32	25	GORAKHPUR	39
33	13	SHAJAPUR	39
34	13	GWALIOR	39
35	13	MORENA	39
36	8	BHIWANI	38
37	8	REWARI	38
38	13	UJJAIN	38
39	14	PARBHANI	38
40	13	DEWAS	38
41	5	SARAN	38
42	25	ALIGARH	38
43	25	GHAZIPUR	38
44	14	AURANGABAD	38
45	25	JALAUN	37
46	13	BILASPUR	37
47	21	JODHPUR	37
48	13	SEHORE	37
49	21	DHOLPUR	37
50	25	DEORIA	37

Source: District Primary Census Abstract, Census Of India, 1991

LIST - VI			
BDL FOR INFANT MORTALITY RATES AMONG FEMALES			
RANK	NO	DISTRICT	IMRF
1	19	BALESHWAR	197
2	13	SHIVPURI	163
3	13	CHHATARPUR	158
4	13	SATNA	149
5	13	TIKAMGARH	146
6	25	BUDAUN	144
7	13	PANNA	142
8	13	VIDISHA	141
9	13	BETUL	140
10	13	GUNA	139
11	13	REWA	139
12	13	JHABUA	137
13	13	RAJGARH	136
14	19	PHULBANI	135
15	13	DATIA	134
16	25	ETAH	134
17	19	SAMBALPUR	132
18	13	SAGAR	131
19	13	DAMOH	131
20	25	HARDOI	131
21	13	HOSHANGABAD	129
22	25	SHAHJEHANPUR	128
23	13	BHIND	127
24	13	RAISEN	127
25	13	NARSIMHAPUR	124
26	13	CHHINDWARA	124
27	25	BAHRAICH	123
28	13	JABALPUR	122
29	13	SEHORE	121
30	25	GONDA	121
31	13	UJJAIN	120
32	13	MORENA	119
33	13	RATLAM	119
34	13	BHOPAL	119
35	25	SULTANPUR	119
36	25	FIROZABAD	118
37	21	PALI	117
38	25	RAE BARELI	117
39	13	WEST NIMAR	116
40	19	CUTTACK	116
41	19	PURI	116
42	25	LALITPUR	116
43	13	EAST NIMAR	115
44	21	SIROHI	115
45	25	BAREILLY	115
46	5	SITAMARHI	114
47	13	SHAHNOL	113
48	25	RAMPUR	112
49	13	SIDHI	111
50	13	BALAGHAT	111

LIST - VII			
BDL FOR GENDER DIFFERENCES IN MORTALITY RATES			
RANK	NO	DISTRICT	IMRD
1	19	BALESHWAR	81
2	20	LUDHIANA	42
3	13	BHIND	38
4	5	SITAMARHI	36
5	5	DARBHANGA	35
6	21	JAISALMER	33
7	26	DARJILING	33
8	13	TIKAMGARH	31
9	5	PURBA CHAMPARAN	29
10	25	ETAH	28
11	5	MADHUBANI	27
12	19	SAMBALPUR	27
13	25	SULTANPUR	27
14	25	MIRZAPUR	27
15	5	BEGUSARAI	26
16	25	BULANDSHAHR	26
17	25	MAINPURI	25
18	5	NAWADA	24
19	5	SAMASTIPUR	24
20	13	MORENA	24
21	13	SHIVPURI	24
22	13	CHHATARPUR	24
23	25	FIROZABAD	24
24	5	BHOJPUR	23
25	5	GAYA	23
26	5	SAHARSA	23
27	5	SIWAN	22
28	5	MADHEPURA	22
29	5	MUNGER	22
30	5	PALAMU	22
31	7	MAHASANA	22
32	25	GONDA	22
33	25	DEORIA	22
34	25	VARANASI	22
35	5	AURANGABAD	21
36	8	PANIPAT	21
37	13	DATIA	21
38	5	PASHCHIM CHAMPARAN	20
39	5	LOHARDAGA	20
40	8	KAITHAL	20
41	5	VAISHALI	19
42	5	PURNIA	19
43	5	DEOGHAR	19
44	13	NARSIMHAPUR	19
45	25	GARHWAL	19
46	25	GHAZIABAD	19
47	5	NALANDA	18
48	7	JAMNAGAR	18
49	13	GUNA	18
50	13	UJJAIN	18

Source: Estimates from Rajan And Mohanachandran, 1998

LIST - VIII			
BDL FOR FEMALE CHILD MORTALITY RATES			
RANK	N O	DISTRICT	CMRF
1	19	BALESHWAR	341
2	13	SHIVPURI	290
3	13	CHHATARPUR	278
4	13	SATNA	259
5	13	TIKAMGARH	251
6	13	DATIA	247
7	13	PANNA	242
8	13	BETUL	239
9	13	GUNA	236
10	13	JHABUA	236
11	25	BUDAUN	234
12	13	REWA	224
13	13	SAGAR	217
14	13	DAMOH	217
15	25	HARDOI	217
16	13	VIDISHA	216
17	19	PHULBANI	215
18	13	HOSHANGABAD	214
19	19	SAMBALPUR	210
20	13	RAJGARH	209
21	13	RAISEN	205
22	13	SHAJAPUR	200
23	25	FIROZABAD	197
24	25	LALITPUR	196
25	21	PALI	193
26	13	UJJAIN	192
27	13	NARSIMHAPUR	192
28	13	CHHINDWARA	192
29	25	BAHRAICH	191
30	25	SHAHJEHANPUR	190
31	25	HAMIRPUR	189
32	13	GWALIOR	188
33	13	SEHORE	188
34	13	JABALPUR	188
35	25	GONDA	188
36	25	ETAH	187
37	13	BHOPAL	184
38	13	RATLAM	183
39	13	BHIND	181
40	25	BAREILLY	180
41	25	RAE BARELI	180
42	25	SIDDHARTH NAGAR	180
43	13	EAST NIMAR	176
44	13	BALAGHAT	175
45	21	SIROHI	175
46	13	MORENA	173
47	13	SHAHDOL	170
48	21	TONK	170
49	21	AJMER	169
50	25	MAHARAJGANJ	169

LIST - IX			
BDL FOR GENDER DIFFERENCES IN CHILD MORTALITY RATES			
RANK	NO	DISTRICT	CMRD
1	19	BALESHWAR	167
2	13	RAJGARH	77
3	13	DATIA	76
4	13	TIKAMGARH	72
5	13	SHIVPURI	71
6	13	CHHATARPUR	70
7	25	FIROZABAD	65
8	13	BHIND	62
9	21	JAISALMER	62
10	5	SITAMARHI	57
11	19	SAMBALPUR	57
12	25	MAINPURI	57
13	13	UJJAIN	55
14	7	MAHASANA	54
15	13	GUNA	53
16	5	MADHEPURA	51
17	25	HAMIRPUR	51
18	13	HOSHANGABAD	49
19	25	AGRA	49
20	5	PURBA CHAMPARAN	48
21	25	GONDA	48
22	5	DARBHANGA	47
23	5	MUNGER	47
24	13	MORENA	47
25	25	MATHURA	47
26	5	BEGUSARAI	46
27	13	GWALIOR	46
28	13	JHABUA	46
29	25	BANDA	46
30	5	MADHUBANI	45
31	21	SAWAI MADHOPUR	45
32	5	SAMASTIPUR	44
33	26	DARJILING	44
34	25	SIDDHARTH NAGAR	43
35	2	NALGONDA	42
36	5	NAWADA	42
37	13	PANNA	42
38	25	ALIGARH	42
39	25	DEORIA	42
40	25	MIRZAPUR	42
41	5	PATNA	41
42	5	GAYA	41
43	5	SAHARSA	41
44	13	NARSIMHAPUR	41
45	25	JHANSI	41
46	5	MUZAFFARPUR	40
47	25	SULTANPUR	40
48	25	RAMPUR	39
49	25	BAREILLY	39
50	5	NALANDA	38

Source: Estimates from Rajan and Mohanachandran, 1998

Low sex ratios among children, in the total population above 6 years and in the SC population are recorded in some districts of M.P. and many of the U.P. districts (see Lists - II and III). Prominent among the U.P. districts are those belonging to the western region, with 8 of 13 western U.P. districts being ranked in all the three demographic indicators BDLs. The only two districts of H.P. among the 13 BDLs are Kinnaur and Lahul and Spiti, both of which, have low sex ratios among the population above 6 years. Of the four Gujarat districts, Gandhinagar and Kheda record low CSR.

Koraput and Kalahandi, the two districts which are prominent for the highest child sex ratio get listed for low female literacy (see List-IV). All the 27 districts of Rajasthan fall in one or more BDLs. Except for Ganganagar, all other 26 districts are backward in terms of educational indicators (see List - V). Among the districts of Maharashtra, Jalna, Parbhani and Aurangabad, are the only three districts that figure in any of the 13 BDLs and they are ranked for high gender gaps in literacy rates.

Although literacy among females is quite high in the prosperous Green Revolution states of Haryana and Punjab, 4 of Haryana's districts - Faridabad, Mahendragarh, Bhiwani and Rewari - are listed in the BDL for gender differences in literacy rates, indicating their gender backwardness in education. Of the 7 districts of West Bengal which are listed in any of the BDLs, Darjeeling and Purulia record high gender difference in literacy along with infant mortality rates indicating discrimination of girls.

In the case of M.P., 39 of the 45 districts figure in one or more BDLs. The aspect of backwardness which leads to the placing of these districts in the BDLs are literacy and mortality along with high gender differentials in the two (see Lists IV to IX).

A majority of Bihar's districts figure prominently in the list for gender differences in mortality among infants and children while the mortality rates among females themselves are not very high, relative to the other states with high female mortality. Jamnagar and Mahesana of Gujarat are noted for the gender differences in mortality rates.

Apart from Koraput and Kalahandi, the two tribal, economically poor districts which record high CSR and low literacy among females, all the other 5 districts - Baleshwar, Sambalpur, Phulbani, Cuttack and Puri which figure in any of the 13 BDLs are mostly for high mortality rates among females and/or high female mortality as compared to male mortality. This indicates poor health status in general as well as gender discrimination in these districts. In Punjab, Ludhiana is the only district that records an extremely high gender gap in infant mortality rates.

The districts of M.P., apart from bad health status indicated by high mortality and gender gaps in it, also exhibit lower age at marriage among females and high fertility rates (See Lists X and XI). Except for Jhabua, all districts which are listed for high total fertility rates also seem to be those which figure in MAMF list, although the reverse does not hold. It could be hypothesised that districts with higher fertility necessarily reveal lower ages at marriage among females. However, such a relationship does not hold in the case of other states. In Rajasthan, nine districts figure in the MAMF list, while another three-Dholpur, Sawai Madhopur and Barmer are listed for high TFR.

LIST - X			
BDL FOR MEAN AGE OF MARRIAGE AMONG FEMALES			
RANK	STATE	DISTRICT	MAMF
1	RAJASTHAN	TONK	14.90
2	MADHYA PRADESH	SHAJAPUR	15.10
3	RAJASTHAN	BHILWARA	15.30
4	RAJASTHAN	BUNDI	15.30
5	UTTAR PRADESH	LALITPUR	15.30
6	ANDHRA PRADESH	WARANGAL	15.40
7	MADHYA PRADESH	TIKAMGARH	15.40
8	MADHYA PRADESH	RAJGARH	15.40
9	ANDHRA PRADESH	KARIMNAGAR	15.50
10	ANDHRA PRADESH	NALGONDA	15.50
11	BIHAR	DEOGHAR	15.60
12	MADHYA PRADESH	CHHATAPUR	15.60
13	RAJASTHAN	CHITTAURGARH	15.60
14	ANDHRA PRADESH	MAHBUBNAGAR	15.70
15	ANDHRA PRADESH	MEDAK	15.70
16	ANDHRA PRADESH	NIZAMABAD	15.70
17	MADHYA PRADESH	REWA	15.70
18	MADHYA PRADESH	MANDSAUR	15.70
19	RAJASTHAN	JHALAWAR	15.70
20	MADHYA PRADESH	SHIVPURI	15.80
21	MADHYA PRADESH	SIDHI	15.80
22	BIHAR	NAWADA	15.90
23	MADHYA PRADESH	MORENA	15.90
24	MADHYA PRADESH	BHIND	15.90
25	MADHYA PRADESH	SAGAR	15.90
26	MADHYA PRADESH	SATNA	15.90
27	MADHYA PRADESH	SHAHDOL	15.90
28	RAJASTHAN	CHURU	15.90
29	MADHYA PRADESH	DATIA	16.00
30	MADHYA PRADESH	DAMOH	16.00
31	MADHYA PRADESH	UJJAIN	16.00
32	MADHYA PRADESH	VIDISHA	16.00
33	UTTAR PRADESH	SULTANPUR	16.00
34	MADHYA PRADESH	GUNA	16.10
35	MADHYA PRADESH	PANNA	16.10
36	MADHYA PRADESH	DEWAS	16.10
37	UTTAR PRADESH	FAIZABAD	16.10
38	UTTAR PRADESH	MAHARAJGANJ	16.10
39	MADHYA PRADESH	RATLAM	16.20
40	MADHYA PRADESH	RAISEN	16.20
41	RAJASTHAN	SIKAR	16.20
42	BIHAR	GIRIDIH	16.30
43	MADHYA PRADESH	SEHORE	16.30
44	MADHYA PRADESH	RAJNANDGAON	16.30
45	RAJASTHAN	KOTA	16.30
46	UTTAR PRADESH	SIDDHARTHANAGAR	16.30
47	ANDHRA PRADESH	ADILABAD	16.40
48	BIHAR	GAYA	16.40
49	BIHAR	MADHUBANI	16.40
50	RAJASTHAN	JHUNJHUNUN	16.40

SOURCE: UNFPA

LIST - XI			
BDL FOR TOTAL FERTILITY RATES			
RANK	STATE	DISTRICT	TFR
1	UTTAR PRADESH	FIROZABAD	6.65
2	MADHYA PRADESH	MORENA	6.63
3	UTTAR PRADESH	SIDDHARTHANAGAR	6.42
4	UTTAR PRADESH	GONDA	6.38
5	RAJASTHAN	DHOLPUR	6.36
6	UTTAR PRADESH	PILIBHIT	6.34
7	UTTAR PRADESH	BUDAUN	6.30
8	UTTAR PRADESH	BIJNOR	6.26
9	MADHYA PRADESH	TIKAMGARH	6.24
10	UTTAR PRADESH	KANPUR-DEHAT	6.18
11	BIHAR	MUNGER	6.16
12	MADHYA PRADESH	RAISEN	6.14
13	UTTAR PRADESH	FATEHPUR	6.05
14	MADHYA PRADESH	SIDHI	6.02
15	UTTAR PRADESH	ETAH	5.99
16	UTTAR PRADESH	MIRZAPUR	5.96
17	RAJASTHAN	SAWAI MADHOPUR	5.95
18	UTTAR PRADESH	RAE-BARELI	5.95
19	UTTAR PRADESH	RAMPUR	5.90
20	UTTAR PRADESH	BULANDSHAHR	5.90
21	MADHYA PRADESH	GUNA	5.85
22	UTTAR PRADESH	BAREILLY	5.84
23	UTTAR PRADESH	AZAMGARH	5.84
24	UTTAR PRADESH	SULTANPUR	5.83
25	UTTAR PRADESH	DEORIA	5.81
26	UTTAR PRADESH	BANDA	5.80
27	UTTAR PRADESH	MUZAFFARNAGAR	5.79
28	UTTAR PRADESH	ALLAHABAD	5.79
29	UTTAR PRADESH	MAINPURI	5.77
30	HARYANA	GURGAON	5.74
31	UTTAR PRADESH	ALIGARH	5.71
32	UTTAR PRADESH	UNNAO	5.70
33	MADHYA PRADESH	JHABUA	5.69
34	MADHYA PRADESH	PANNA	5.68
35	UTTAR PRADESH	MATHURA	5.67
36	BIHAR	LOHARDAGA	5.66
37	MADHYA PRADESH	REWA	5.59
38	UTTAR PRADESH	BAHRAICH	5.59
39	UTTAR PRADESH	LALITPUR	5.58
40	UTTAR PRADESH	PRATAPGARH	5.58
41	RAJASTHAN	BARMER	5.57
42	UTTAR PRADESH	MAU	5.56
43	UTTAR PRADESH	JAUNPUR	5.56
44	BIHAR	PALAMU	5.55
45	BIHAR	KISHANGANJ	5.55
46	MADHYA PRADESH	BHIND	5.55
47	MADHYA PRADESH	CHHATAPUR	5.55
48	MADHYA PRADESH	VIDISHA	5.55
49	BIHAR	GOPALGANJ	5.54
50	BIHAR	KHAGARIA	5.54

LIST - XII			
BDL FOR FEMALE WORK PARTICIPATION RATES			
RANK	NO.	DISTRICT	FWPR
1	25	MAINPURI	1
2	25	BAREILLY	1
3	25	SHAHJEHANPUR	1
4	25	FIROZABAD	2
5	20	SANGRUR	2
6	25	ETAWAH	2
7	8	YAMUNANAGAR	2
8	20	GURDASPUR	2
9	25	BUDAUN	2
10	20	PATIALA	2
11	20	LUDHIANA	2
12	25	ETAH	2
13	25	PILIBHIT	2
14	20	RUPNAGAR	2
15	25	AGRA	2
16	20	AMRITSAR	2
17	25	RAMPUR	3
18	25	MORADABAD	3
19	8	KURUKSHETRA	3
20	8	AMBALA	3
21	25	BIJNOR	3
22	25	FARRUKHABAD	3
23	13	BHIND	3
24	20	JALANDHAR	3
25	20	BATHINDA	3
26	20	HOSHIARPUR	3
27	25	GHAZIABAD	3
28	21	DHOLPUR	3
29	25	KHERI	3
30	25	SAHARANPUR	3
31	26	HOWRAH	3
32	25	HARDWAR	3
33	26	SOUTH 24 PARAGANAS	3
34	20	KAPURTHALA	4
35	20	FARIDKOT	4
36	25	BULANDSHAHR	4
37	5	SITAMARHI	4
38	25	SITAPUR	4
39	20	FIROZPUR	4
40	25	HARDOI	4
41	25	ALIGARH	4
42	25	MATHURA	4
43	19	CUTTACK	4
44	26	NADIA	4
45	8	KAITHAL	4
46	19	BALESHWAR	5
47	26	NORTH 24 PARAGANAS	5
48	5	VAISHALI	5
49	8	KARNAL	5
50	19	PURI	5

LIST - XIII			
BDL FOR GENDER GAP IN WORK PARTICIPATION			
RANK	NO.	DISTRICT	WGAP
1	25	SHAHJEHANPUR	68
2	5	KISHANGANJ	68
3	25	BUDAUN	67
4	20	SANGRUR	67
5	25	BAREILLY	66
6	20	BATHINDA	66
7	25	KHERI	66
8	25	RAMPUR	66
9	20	AMRITSAR	65
10	25	SITAPUR	65
11	20	FIROZPUR	65
12	25	PILIBHIT	65
13	20	FARIDKOT	65
14	20	PATIALA	64
15	25	BAHRAICH	64
16	20	LUDHIANA	63
17	25	HARDOI	63
18	25	SAHARANPUR	63
19	25	HARDWAR	63
20	25	ETAH	63
21	25	MORADABAD	63
22	20	KAPURTHALA	62
23	25	BIJNOR	61
24	25	FARRUKHABAD	61
25	25	MAINPURI	61
26	5	SITAMARHI	61
27	20	GURDASPUR	61
28	20	RUPNAGAR	61
29	20	JALANDHAR	60
30	25	FIROZABAD	60
31	8	YAMUNANAGAR	60
32	8	KURUKSHETRA	60
33	8	AMBALA	60
34	25	ETAWAH	59
35	25	AGRA	59
36	26	NADIA	59
37	26	KOCH BIHAR	59
38	21	DHOLPUR	59
39	21	GANGANAGAR	58
40	26	NORTH 24 PARAGANAS	58
41	8	KAITHAL	58
42	26	HOWRAH	58
43	25	ALIGARH	58
44	20	HOSHIARPUR	58
45	25	KANPUR NAGAR	58
46	25	UNNAO	57
47	25	MUZAFFARNAGAR	57
48	25	MEERUT	57
49	8	KARNAL	57
50	25	MATHURA	57

Source: District Primary Census Abstract, Census of India, 1991

The work participation rate list XII and XIII reveals an interesting concentration of Punjab, Haryana and U.P. districts. All districts of Punjab, just as for CSR, also figure in the BDLs for FWPR and WGAP. Ambala, Yamunanagar, Kurukshetra, Kaithal, Karnal are the five districts of Haryana which record poor work status among women as per the census definitions. Another five districts of West Bengal - North and South 24 Parganas, Howrah, Koch Bihar and Nadia are seen in the low FWPR and/or high gender gap in work participation rates.

Uttar Pradesh, the most populous and large state with 63 districts requires a separate treatment. Except 4 districts, all others are listed in one or more of the BDLs. The districts not figuring in any of the BDLs are Basti, Balli, Azamgarh and Nainital - the first three are that of eastern U.P. and the last belongs to the hilly region.

The districts of the hilly region are relatively the best - all of the 8 districts of this region are listed in only one or two BDLs. Dehradun has a low sex ratio among population above 6 years as well as SCs. Uttarkashi, Chamoli, Tehri Garhwal, Almora, Pithoragarh record high gender difference in literacy rates. This is shared by four of the eastern U.P. districts as well. Among western region of U.P., only the districts of Mathura, Agra and Aligarh record high difference in literacy among females and males.

Of the 13 Most Gender Backward Districts which belong to the Western U.P. region - low sex ratios are prominent according to either two or three of the selected indicators. However, it is noteworthy that only 9 districts of the western U.P. region are listed for CSR, while districts belonging to the eastern, central or Bundelkhand region are listed for low sex ratios among SCs as well as total population above 6 years.

Except for Bahraich in eastern U.P. and Dehradun in the hilly region, all other districts belonging to these regions exhibit relatively better sex ratios. Apart from LGAP, the only indicator that records a district of the hilly region (namely, Garhwal of Uttar Pradesh) is the female infant mortality rate in excess of male infants.

High total fertility rates are found in the western and eastern U.P. districts mostly. However, a far fewer number of districts figure in the MAMF list. Only Lalitpur of Bundelkhand region and 4 eastern U.P. districts record lower ages of marriage. The non-representation of western or central U.P. districts in the BDL for MAMF may be due to the average of relatively better taluks/blocks with those recording lower ages at marriage.

Most of the U.P. districts which figure in the IMRF list also record high child mortality among girls, which points out to the poor health status of girls in these districts. Gender discrimination afflicts a different set of districts, which also reveals a worse situation among both infants and girl children. Firozabad and Gonda are the 2 districts that are listed in all the four BDLs based on mortality rates.

As for work status among women, all districts of the hills, Bundelkhand and eastern region of U.P. do not figure in the BDLs for FWPR and WGAP, with the exception of Bahraich of eastern U.P. which records high gender difference in work participation. Few of the Central U.P. and almost all of western U.P. districts reveal a poor work participation rate among females. The prosperity effect on women's work participation in the strict definitional sense of 'paid outside labour' is revealed clearly among the western U.P. districts.

VII. Concluding Remarks

The consolidation of GDI based BDLs enables identification of 43 districts (see List - A). These are a set of districts which are listed in 5 or more BDLs. They consist of 24 districts from U.P., 12 from M.P., 4 from Rajasthan and one each from Bihar, Orissa and Haryana.

LIST - A

MOST GENDER BACKWARD DISTRICTS Based on Individual Indicators Analysis

State		Backward Districts (by No. of Indicators)
Madhya Pradesh - 12 Districts	1	Bhind (11)
	1	Morena (10)
	3	Shivpuri, Datia, Chattarpur (8)
	2	Guha, Tikamgarh (7)
	2	Gwalior, Ujjain (6)
	3	Rajgarh, Panna, Jhabua (5)
Uttar Pradesh - 24 Districts	1	Firozabad (10)
	3	Bareilly, Budaun, Etah (9)
	4	Mainpuri, Aligarh, Mathura, Rampur (8)
	3	Shahjehanpur, Bahraich, Agra (7)
	5	Gonda, Lalitpur, Hardoi, Piliphit, Bulandshahr (6)
	8	Siddharth Nagar, Sultanpur, Moradabad, Etawah, Banda, Sitapur, Kheri, Ghaziabad (5)
Rajasthan - 4 Districts	1	Dholpur (8)
	3	Jaisalmer, Bharatpur, Sawai Madhopur (5)
Bihar	1	Sitamarhi (5)
Orissa	1	Baleshwar (5)
Haryana	1	Kaithal (5)

An alternative consideration of the disaggregated individual indicator based analysis calculates an average of the ranks of all 13 gender sensitive indicators. List B provides a total of 38 districts - 24 of UP, 8 of M.P., 4 of Rajasthan and 2 of Bihar. These 33 districts are similar to that of List - A, with only 5 districts of List B are not listed in List A. They are 4 U.P. districts - Hamirpur, Barabanki, Jhansi, Maharajganj and Dharbanga of Bihar. List - A however, includes another 10 districts.

A noteworthy issue in connection with the most Gender Backward Districts (GBD) identified in Lists A and B relates to the prominence of western U.P. districts. The prosperity effect of gender backwardness is highlighted by the fact that most of the districts which are listed as Most GBD do not figure in the BDL for the Relative Index of Development (RID) calculated by the Centre for Monitoring Indian Economy (CMIE). The index is developed as a proxy indicator of relative development of a district. It is largely indicative of the districts' economic situation.

LIST - B

MOST GENDER BACKWARD DISTRICTS Based on average of ranks

S.No.	State	District Name	S.No.	State	District Name
1	M.P.	Bhind	20	Rajasthan	Bharatpur
2	M.P.	Morena	21	M.P.	Chattarpur
3.	U.P.	Gonda	22	U.P.	Bahraich
4.	M.P.	Guna	23	U.P.	Mathura
5	M.P.	Shivpuri	24	U.P.	Hardoi
6	U.P.	Bareilly	25	U.P.	Rampur
7	U.P.	Budaun	26	U.P.	Sultanpur
8	M.P.	Datia	27	Rajasthan	Sawai Madhopur
9	U.P.	Shahjehanpur	28	U.P.	Hamirpur
10	U.P.	Etah	29	U.P.	Agra
11	Bihar	Sitamarhi	30	U.P.	Barabanki
12	U.P.	Lalitpur	31	U.P.	Pilibhit
13	U.P.	Mainpuri	32	U.P.	Moradabad
14	Rajasthan	Jaisalmer	33	U.P.	Etawah
15	U.P.	Firozabad	34	Rajasthan	Dholpur
16	M.P.	Tikamgarh	35	Bihar	Darbhanga
17	U.P.	Aligarh	36	U.P.	Jhansi
18	M.P.	Gwalior	37	U.P.	Banda
19	U.P.	Siddharth Nagar	38	U.P.	Maharajganj

The economically relatively better - off districts being identified as the Gender Backward Districts raises an hypothesis which certainly calls for a more in-depth inquiry. This finding hints that the prosperity effect of gender backwardness is heightened among relatively better - off regions as compared to the more starkly poverty ridden regions (See Agnihotri (1997) for a similar finding and other references cited there). In other words, those who are deprived exhibit a somewhat lesser incidence of gender discrimination as compared to those who have better access to development.

The comparison of the 43 districts (List - A) identified as the Most Gender Backward Districts in terms of the selected 13 variables with the CMIE's RID reveals that all the districts are average or above average ones. Only 6 districts, Panna and Jhabua of M.P., Bahraich and Gonda, both from eastern U.P. region, Jaisalmer of Rajasthan and Sitamarhi of Bihar are figuring as backward districts in the CMIEs List of Relative Index of Development.

Another important observation emerging from this exercise has to do with the significance of sex ratios as an indicator of gender backwardness. This was a finding of tremendous usefulness even for the CSWI in the framing of its report *Towards Equality* that remains to date an irreplaceable document in understanding women's issues. Demographic imbalances by themselves act as a composite indicator of women's relative status in society.

LIST - CMIE-RELATIVE INDEX OF DEVELOPMENT			
RANK	NO	DISTRICT NAME	RID
1	5	SAHARSA	24
2	5	SITAMARHI	25
3	21	BARMER	25
4	5	PALAMU	27
5	5	MADHEPURA	28
6	5	DARBHANGA	29
7	5	GODDA	29
8	21	JALOR	30
9	5	KATIHAR	31
10	5	VAISHALI	31
11	5	DUMKA	32
12	21	JAISALMER	32
13	5	SAMASTIPUR	33
14	5	NAWADA	34
15	13	JHABUA	34
16	13	MANDLA	34
17	21	DUNGARPUR	34
18	5	GUMLA	35
19	13	BASTAR	35
20	5	GOPALGANJ	36
21	5	PURBA CHAMPARAN	36
22	5	SAHIBGANJ	36
23	5	SIWAN	37
24	7	THE DANGS	37
25	5	MUNGER	38
26	13	SIDHI	38
27	25	CHAMOLI	38
28	5	BEGUSARAI	39
29	5	BHAGALPUR	39
30	5	GAYA	39
31	5	MUZAFFARPUR	39
32	5	SARAN	39
33	7	PANCH MAHALS	40
34	25	TEHRI GARHWAL	40
35	5	AURANGABAD	41
36	5	DEOGHAR	41
37	25	BAHRAICH	41
38	21	NAGPUR	42
39	25	PRATAPGARH	42
40	13	PANNA	44
41	25	GONDA	44
42	5	PASHCHIM CHAMPARAN	45
43	13	SEONI	45
44	21	BANSWARA	45
45	5	BHOJPUR	46
46	5	NALANDA	46
47	9	CHAMBA	46
48	13	SURGUJA	46
49	21	CHURU	46
50	21	SIKAR	46

SOURCE: CMIE, 1993

It needs to be stated that to really be able to make a statement from these statistical observations one requires looking at temporal changes. This, however, is beyond the scope of this exercise but it will surely be an aspect worth analysing in future work undertaken in this area. The other lacunae of this study stem from the absence of certain critical aspects of women's lives that ought to have been considered. From the negative side - violence against women, to the positive - political empowerment of women there are a range of indicators which need to be quantified systematically at the district level in order to be included in such a study. Efforts in this regard have already begun, with increasing realisation both at the national and the international levels of the need to quantify and include these crucial elements of gender development into any measure to indicate the status of women. In order for the concerted efforts of governmental agencies to be successful, substantial social support and political will is required.

Survey based qualitative studies together with quantification of other critical indicators of gender development promises many more insights in the future. The significance of this study in addition to the main findings of the exercise attempted, lies in the power of the methodology used. This method based on individual indicators developed at the district level enables the capturing of manifold dimensions not feasible under the more popular composite index methods. This is extremely important, since the realities facing people and women in particular assume very different proportions that cannot be captured by a few variables such as life expectancy, literacy and income parameters. Moreover, it needs to be highlighted that no state or district exhibits a uniform pattern of either being backward or better off in terms of all the gender sensitive indicators. This reinforces two points. One, is the importance of disaggregated analysis and secondly, the significance of looking at different aspects of gender development.

References

- Abramovitz, Moses (1959), "The Welfare Interpretation of Secular Trends in National Income and Product" in M. Abramovitz, et.al., *The Allocation of Economic Resources: essays in Honor of Bernard Francis Haley*, Stanford University Press, Stanford, California.
- Acharya, Sarthi (1996), "Access to Primary Education : Rural Maharashtra", Studies on Human Development in India, Discussion Paper Series No. 19, **UNDP**, December.
- Adelman, Irma and Cynthia Taft Morris (1973), *Economic Growth and Social Equity in Developing Countries*, Stanford University Press, Stanford, California.
- Agarwal, Bina (1985), "Work Participation of Rural Women in Third World - Some Data and Conceptual Biases", *Economic and Political Weekly*, December 21-28.
- Agnihotri, S.B. (1995), "Missing Females - A Disaggregated Analysis", *Economic and Political Weekly*, August 19.
- Agnihotri, S.B. (1997), *Sex Ratio Imbalances in India - A Disaggregated Analysis*, Unpublished Ph.D. Thesis submitted to the School of Development Studies of the University of East Anglia, April.
- Aijaz, Nasim (1997), *Gender Profile - North-Eastern Districts of Uttar Pradesh*, Royal Netherlands Embassy, October.
- Aijaz, Rumi (1997), *Gender Profile - Saharanpur District, Uttar Pradesh*, Royal Netherlands Embassy, October.
- Arnold, Fred (1992), "Sex Preference and its Demographic and Health Implications", *International Family Planning Perspectives*, 18(3): pp. 93-101.
- Bardhan, Kalpana (1985), "Women's Work, Welfare and Status : Forces of Tradition and Change in India", *Economic and Political Weekly*, Vol. 20, No. 50, December 14 & 21-28.
- Baster, N.(1972), 'Development Indicators: An Introduction', in N. Baster (ed.), *Measuring Development*, Frank Cass, London, pp. 1-20
- Bauer, R.A. (1966), Detection and Anticipation of Impact. The Nature of the Task, in R.A. Bauer (ed), *Social Indicators*, MIT. Press, Cambridge, Mass, pp. 1-67.
- Bayless, M and S Bayless (1982), 'Current Quality of Life Indicators: Some Theoretical and Methodological Concerns', in *American Journal of Economics and Sociology*, Vol. 41, No. 4, pp. 421-37.
- Bell, C. (1987), "Development Economics", entry in Palgrave's Dictionary of Economics.
- Bhandari, Rajika (1991), *"Amniocentesis : Sunset at Dawn"*, Human Rights Monograph Series, Vol. 11, No. 9, June, Centre for Research and Documentation in Human Rights and Citizen's Entitlement.
- Booth, T.A. (1982), "Economics and the Poverty of Social Planning" in *Public Administration*, Vol.60, No.2, pp.197-214.
- Census of India (1991), **District Primary Census Abstract**, digitised data from the office of the Registrar General of India, New Delhi.

- Census of India, (1991), **Primary Census Abstract**, Office of the Registrar General of India, New Delhi.
- Chenery, H.B., Montek.S. Ahluwalia, C.L.G. Bell, John. H. Duloy and R. Jolly (1974), **Redistribution with Growth**, Oxford University Press, London.
- Clark, Alice W. (1987), "Social Demography of Excess Female Mortality in India - New Directions", **Economic and Political Weekly**, April 25.
- CMIE (1993), **Profiles of Districts**, Centre for Monitoring Indian Economy, Bombay, November.
- CSWI (1975), **Towards Equality**, Report of the Committee on Status of Women in India, Ministry of Education and Social Welfare, Government of India, Delhi.
- CWDS (1990), "The Indian State and Gender Justice", **The Administrator**, Vol. 35, No. 1, January-March.
- Das Gupta M. and P.N. Mari Bhat (1997), "Fertility Decline and Increased Manifestation of Sex Bias in India", **Population Studies**, 51.
- Das Gupta, Monica (1987), "Selective Discrimination Against Female Children in Rural Punjab, India", **Population and Development Review**, 12, No.1, March.
- Debi, Sailabala (1996), "Growth and Possible Determinants of Literacy/Education in Orissa (District Level Secondary Data)", Studies on HDI, Discussion Paper Series No. 18, UNDP Project, December.
- Dijkstra, A. Geske and Lucia C. Hammer (1997), "Measuring Socio-Economic Gender Inequality : Towards an Alternative to the UNDP Gender Related Development Index", ISS Working Paper Series No. 251, The Hague, Netherlands, July.
- Drewnowski, J. (1974), **On Measuring and Planning the Quality of Life**, Mouton, for the Institute of Social Studies, The Hague.
- (1977), 'Poverty, its Meaning and Measurement', in **Development and Change**, Vol.8, No.2, pp. 183-208.
- Dreze, J and A.K. Sen (1995), **India:Economic Development and Social Opportunity**, Oxford University, New Delhi.
- Duvvury, Nata (1989), "Women in Agriculture : A Review of the Indian Literature", **Economic and Political Weekly**, October 28.
- Eduards, M. et al (1985), "Equality: How Equal?", in Haavio-Mannila, Ilina et.al., **Unfinished Democracy - Women in Nordic Politics**, Pergamon Press, Oxford.
- EPW Research Foundation (1994), "Social Indicators of Development for India - I & II", **Economic and Political Weekly**, May 14 and 21.
- FAO (1949), **Essential of Rural Welfare**, FAO Agricultural Studies No. 27, Rome.
- Ganguli, B. N. (1975), **Concept of Equality**, Indian Institute of Advanced Studies, Shimla.
- George, Sabu, Rajarathram Abel and B.D. Miller (1992), "Female Infanticide in Rural South India", **Economic and Political Weekly**, May 30.

- Gerschenkron, A (1952), "Economic Backwardness in Historical Perspective", in *The Progress of Underdeveloped Countries*, B. Hoselitz (ed.), Chicago University Press, Chicago.
- Gulati, Leela and Hilde Jannsen (1997), *Gender Profile - Karnataka*, Royal Netherlands Embassy, October.
- Gulati, Leela, Ramalingam and I.S. Gulati (undated), *Gender Profile - KERALA*, Royal Netherlands Embassy, New Delhi.
- Haddad, L and R. Kanbur (1990), "How Serious is the Neglect of Intra-Household Inequality", *The Economic Journal*, 100: pp. 866-888.
- Haq, Mahbub-ul (1997), *Human Development in South Asia*, Oxford University Press, Karachi.
- Hicks, N. and P. Streeten (1979), 'Indicators of Development, : The Search for a Basic Needs Yardstick', *World Development*, Vol.7, No. 6, pp. 567-580.
- Hilhorst, J.G.M and M. Klatter (eds) (1985), *Social Development in the Third World - Level of Living Indicators and Social Planning*, Croomhelm, London.
- Hirway, Indira and Darshini Mahadevia (1996), "Critique of Gender Development Index : Towards an Alternative", *Economic and Political Weekly*, October 26.
- IIPS (1995), *National Family Health Survey (MCH and Family Planning), India, 1992-93*, International Institute for Population Sciences, Bombay, August.
- International Labour Office (1976), *Employment, Growth and Basic Needs*, ILO, Geneva.
- Jejeebhoy, Shireen J. (1993), "Family Size, Outcomes for Children, and Gender Disparities - Case of Rural Maharashtra", *Economic and Political Weekly*, August 28.
- Jetley, Surinder (1987), "Impact of Male Migration on Rural Females", *Economic and Political Weekly*, October 31.
- Joshi, Sudhanshu (1997), *Gender Profile - Uttar Pradesh*, Royal Netherlands Embassy, March.
- Kalpagam, U. (1986), "Gender in Economics - The Indian Experience", *Economic and Political Weekly*, October 25.
- Kelley, A. C. (1991), "The Human Development Index: Handle with Care", *Population and Development Review*, Vol. 17, No. 2.
- Khan, M.E., et.al., (1983), "Women and Health - A Case Study of Sex Discrimination", Paper presented at the Joint ICMR, Ford Foundation Workshop on *Child Health, Nutrition and Family Planning*, Bangalore, Nov. 9-11, 1983.
- Krishnaji, N. (1987), *Poverty and Sex Ratio – Some Data and Speculations*, Occasional Paper No. 91, Centre for Studies in Social Sciences, Calcutta, April.
- (1991), "Human Development Index – A Critique", *Economic and Political Weekly*, August 30.
- Kundu, A. and M. Sahu (1991), "Variations in Sex Ratio : Development Implications", *Economic and Political Weekly*, Vol., 26, Issue 41.
- Kuznets, S. (1953), *Economic Change*, W.W. Norton, New York.

- (1966), *Modern Economic Growth: Rate, Structure and Spread*, Yale University Press, New Haven and London.
- Larson, B.A. and W.T. Wilford (1979), 'The Physical Quality of Life Index: A Useful Social Indicator?', *World Development*, Vol.7, No.6, pp.581-584.
- Lisk, F. (1979), 'Indicators of Basic Needs - Oriented Development Planning', *Labour and Society*, Vol. 4, No.3.
- Liu, B. (1978), 'Variations in Social Quality of Life Indicators in Medium Metropolitan Areas' in *American Journal of Economics and Sociology*, Vol. 37, No.3, pp.241-60.
- Mazumdar, V. (1994), *Amniocentesis and Sex Selection*, CWDS Occasional Paper No. 21.
- Mc Nay, Kirsty (1995), "Fertility and Frailty - Demographic Change and Health Status of Indian Women", *Economic and Political Weekly*, October 28.
- McGranahan, D.V., C. Richard-Proust, M.V. Sovani, and M. Subramanian (1972), *Contents and Measurement of Socio-Economic Development*, Praeger, New York.
- Mehta, Aasha Kapur (1996), "Recasting Indices for Developing Countries: A Gender Empowerment Measure", *Economic and Political Weekly*, October 26.
- Miller, Barbara D. (1981), *The Endangered Sex : Neglect of Female Children in Rural North India*, Cornell University Press, Ithaca and London.
- Morris, D. Morris and Michelle B. McAlphin (1982), *Measuring the Condition of India's Poor: The Physical Quality of Life Index*, Promilla and Co., New Delhi.
- Morris, M.D. (1979), *Measuring the Condition of the World's Poor*, Pergamon, New York.
- Moser, C. (1973), 'Social Indicators - Systems, Methods and Problems' The *Review of Income and Wealth*, Vol.19, No.2, pp. 133-141.
- Murthi, M., Anne Catherine Guio and Jean Dreze (1995), "*Mortality, Fertility and Gender Bias in India : A District Level Analysis*", DEP No. 61, June, London School of Economics, London.
- Muthulakshmi, R. (1997), *Female Infanticide -Its Causes and Solutions*, Discovery Publishing House, New Delhi.
- Nayar (1993), *Universal Primary Education of Rural Girls in India*, National Council for Educational Research and Training, New Delhi.
- NCRB (1991), *Crime in India*, National Crime Records Bureau, Government of India, New Delhi.
- NCRB (1995), *Crime in India*, National Crime Records Bureau, Government of India, New Delhi.
- NCSEW (1988), *Shramshakti*, Report of the National Commission for Self-Employed Women, Government of India, Delhi.
- OECD (1973), *List of Social Concerns*, OECD, Paris.
- OECD (1976), *Measuring Social Well-Being: A Progress Report on the Development of Social Indicators*, Organisation for Economic Co-operation and Development, Paris.

- Oldenburg, Philip (1992), "Sex Ratio, Son Preference and Violence in India - A Research Note", *Economic and Political Weekly*, December 5-12.
- Phillips, Anne (ed) (1987), *Feminism and Equality*, Basil Blackwell, U.K.
- Rajan, S. Irudaya and P. Mohanachandran (1998), "Infant and Child Mortality Estimates - Part I", *Economic and Political Weekly*, Vol. 33, No. 19, May 9-15.
- Rajan, S.I., U.S. Mishra and T.K. Vimala (1996), "Choosing a Permanent Contraceptive - Does Son Preference Matter?", *Economic and Political Weekly*, July 20.
- Ramasundaram, S., T Rangarajan and S. Muthuramalingan (1997), "The Role of Political Will and Official Commitment in Tamil Nadu's Fertility Decline", Discussion Paper Series No. 24, *UNDP*, April.
- Rao, C. H. H. and Hans Linnemann (ed.) (1996), *Economic Reforms and Poverty Alleviation in India*, Indo- Dutch Studies on Development Alternatives -17, Sage, New Delhi.
- Rustagi, P. (1998), *Ranking of Districts in terms of Indicators of Women's Status*, Central Social Welfare Board, New Delhi.
- Sandhya, S. (1986), "Socio-Cultural and Economic Correlates of Infant Mortality : A Case Study of Andhra Pradesh", *Demography India*, Vol. 15, No. 1, Jan.-June, pp. 86-102.
- Schumacher, E.F. (1977), *Small is Beautiful: A Study of Economics as if People Mattered*, Radhakrishna, Delhi.
- Seers, D. (1969), "The Meaning of Development", *International Development Review*, 11(4), pp 2-6.
- Seeta Prabhu, K. et. al., (1996), "Gender-related Development Index for Indian States : A Preliminary Exercise", in Rao, Nitya et.al. (eds.), Sites of Change - The Structural Context for Empowering Women in India, *FES & UNDP*, New Delhi.
- Seetharam, Mukkavilli (undated), "Gender Profile - GUJARAT", Prepared by PRASNA Society for Participatory Research and Consultancy, Hyderabad for *Royal Netherlands Embassy*, New Delhi.
- Seetharam, Mukkavilli and P. Suvarchala Rani (undated), "Gender Profile - ANDHRA PRADESH", Prepared by PRASNA (Society for Participatory Research and Consultancy), Hyderabad for *Royal Netherlands Embassy*, New Delhi.
- Sen, A. (1987), *The Standard of Living*, Tanner Lectures, Clare Hall, Cambridge.
- Sharma, B.D. (1990), *Report of the Commissioner for Scheduled Castes and Scheduled Tribes*, Twentyninth Report, 1987-89, GOI, Delhi.
- Srivastava, Ravi S. and Vivek Nigam (1997), "District Level Trends in Educational Access and Human Development in Rural Uttar Pradesh", Studies on HDI, *UNDP* Project, April.
- Stromquist, Nelly. P. (ed.) (1998), *Women in the Third World - An Encyclopedia of Contemporary Issues*, Garland Publishing, New York and London.
- Sunanda, K.S. (1995), *Girl Child Born to Die in Killing Fields?*, Alternative for India Development, Madras.
- Tinbergen, J. (1956), *Economic Policy: Principles and Design*, North Holland, Amsterdam.

- Tinker, I (ed) (1990), *Persistent Inequalities – Women and World Development*, Oxford University Press, New York.
- UN (1954), *Report on International Definition and Measurement of Standards and Levels of Living*, United Nations, New York.
- (1961), *International Definition and Measurement of Levels of Living: An Interim Guide*, United Nations, New York.
- UN (1963), *1963 Report on the World Social Situation*, United Nation, New York.
- UN Secretariat (1988), “Sex Differentials in Survivorship in the Developing World: Levels, Regional Patterns and Demographic Determinants”, *Population Bulletin of the UN*, 25: pp.51-64.
- UNDP (Various reports from 1990-1999), *Human Development Report*, United Nations Development Programme, Oxford University Press, New Delhi.
- UNESCO (1981), *Women and Development: Indicators of their Changing Role*, UNESCO Socio-Economic Studies 3, Paris.
- UNRISD (1968), *Annual Report*, UN Research Institute for Social Development, Geneva.
- (1970), *Contents and Measurement of Socio-Economic Development*, UNRISD, Geneva.
- Vasanthi (undated), *Born to Die - Female Infanticide in Usilampatti Taluk, Tamil Nadu*, Institute for Community Organisation Research, Madras.
- Venkatachalam, R. and Viji Srinivasan (1993), *Female Infanticide*, Har-Anand Publications, New Delhi.
- Visaria, L. (1985), “Infant Mortality in India, Level, Trends and Determinants”, *Economic and Political Weekly*, Vol. 20, Nos. 32,33,and 34, Aug. 10, 17 and 24, pp. 1352-1359, 1399-1405 and 1447-1450.
- Visaria, Leela. (1987), “Sex Differentials in Nutritional Status in a Rural Area of Gujarat State : An Interim Report”, Working Paper No. 7, The *Gujarat Institute of Area Planning*, Ahmedabad.
- Visaria, Leela. (1993), “Regional Variations in Female Autonomy and Fertility and Contraception in India”, Working Paper No. 50, *Gujarat Institute of Development Research*, Ahmedabad.
- Waldron, Ingrid (1976), “Why do Women Live Longer than Men?”, *Social Science and Medicine*, vol. 10, p;p. 349-362.
- Woolley, F.R. and J. Marshall (1994), “Measuring Inequality within the Household”, *Review of Income and Wealth*, 40(4): pp 415-432.