CHAPTER 2

REVIEW OF RELATED LITERATURE ON HUMAN DEVELOPMENT INEQUALITY IN HUMAN DEVELOPMENT, GENDER INEQUALITY AND POVERTY

The present chapter surveys and reviews the literature on human development, gender development, gender inequality and human poverty on which the study is predominantly focused on. The related indicators for all the four dimensions are studied meticulously. It is an attempt to highlight and review systematically the UNDP HDRs, viz 1990 to 2011. National Human Development Report 2001, India’s Human Development report 2011, States Human Development reports including Gujarat Human Development Report 1999 and 2004, districts Human Development Reports and other related studies. However, since the concept of gender equality and human poverty were first proposed in HDR 1995 and 1997 respectively both of these reports are reviewed in detailed. The recent HDRs 2010 and 2011 are also reviewed in depth as inequality within the sub group are captured and human development and gender development is more meaningfull when adjusted for inequalities. The inequality adjusted indices proposed in HDR 2010 enhances and reflects better picture of development dynamics. In the present study attempt is made to develop Human Development Index, Inequality Adjusted Human Development Index. Gender Inequality Index and Multidimensional poverty Index of districts of Gujarat. However, the present work is the first of its kind at district level and so some surrogate indicators will be introduced as authentic data for all the prerequisite indicators for developing these indices may not be available at district level. The chapter develops the platform by providing some quantitative data which would assist further direction of research in development of all the indices at district level in the state of Gujarat.
Over past years a great deal has been achieved by Human Development Report (HDR) of UNDP in shifting attention of the world community from mechanical indicators of economic progress like GNP and GDP to indicators that come closer to reflecting the wellbeing and freedom actually enjoyed by the population. Moreover, HDR has been influential primarily with its detailed statistical analysis of achievements and limitations of living conditions of people across the parts of the world. The aggregative Human Development Index (HDI) of three dimensions viz Health, Income and Education has played vital role in bringing about reorientation in different facets of development and has helped Governments to reprioritize the allocation of resources.

From the beginning, HDRs were concerned not only with inequalities in opportunities, but also the idea about unequal opportunities and difficult situations faced by women over men. Women and men share many aspect of living together, collaborate with each other yet end up often with different rewards and deprivation. These inequalities can be explained in explicit and implicit way. The explicit measures include difference in sex ratio, female infanticide, and girl feticide literacy rates. The implicit measures include unfair distribution of work, drudgery, education and food. So idea of gender equity analysis is essential and was perceived by UNDP and was initiated in HDRs 1995, which was systematically termed as Gender inequality and Gender empowerment and was calculated as an index viz Gender Development Index (GDI) and Gender Empowerment Index (GEI). Since 1995 HDRs regularly publishes GDI and GEM every year. As present study is based on gender inequality and gender empowerment the detailed literature review of HDR 1995 will be undertaken for in depth understanding of indicators for gender development and gender empowerment. HDR 1997 has also been reviewed in depth as idea of measuring human poverty was initiated in this issue; present study intends to cover in its purview the measurement of human poverty index across the districts of Gujarat.
After, publication of HDR 2010, the new indices viz. the inequality Adjusted Human Development Index, Gender Inequality Index and Multi dimensional Poverty Index was coined that captures subgroup inequalities and hence in the present study these new indices are developed for districts of Gujarat.

2.1 HDR 1990

It is the first human development report published under inspiration and leadership of Mehbub Ul Haq. The report analyzed the record human development for the last three decades, and experiences of 14 countries in managing economic growth and human development. The report emphasized the concept, the component and the parameters of human development. The report argued that poverty alleviation and human development go together. The simple but powerful truth that was emphasized as an opening comment in the report was “The real wealth of a nation is its people and the purpose of development is to create an enabling environment for people to enjoy long, healthy and creative life”. The report discussed in great detail the meaning and measure of human development, proposal for a composite index with longevity, knowledge and income as its principal component. Termed as a landmark in the study of area of development the report contribution was noted to be in providing definition and measurement of human development, policy analysis and recommendation.

2.1.2 HDR 1991

It discussed the role of political commitment towards human development and thus need for allocating financial resources for the same. The report emphasized the enormous potential to structuring both the national budget and international allocation in favour of human development.

2.1.3 HDR 1992

The report of focused on the global dimension of human development. i.e use of global markets, for the benefits of all nations and all people. It looked
at the working of such markets – how they meet or failed to meet the needs of the world’s poorest. The report attempted to place the global markets in proper perspective and analysed it for a human development perspective. Thus the report presented the strategy for raising the access of developing economy to global markets

2.1.4 HDR 1993

The report stressed the role of people and their organizations in achieving human development. The report that people’s participation as the central theme identifying three major means of participation i.e people’s friendliness, perfectly competitive market and decentralization of power and community of organization in human development programmes. People’s participation has become a central issue in as much as it has an impatient urge to participate in the events and process that shapes their lives. If properly nurtures in a responsive national and global framework, it can become a source of tremendous vitality and innovation for the creation of new and just societies. The implication of widespread participation is noted to be propound, embracing every aspect of development- markets need to be reformed to offer everyone access to the benefit they can bring, governance need to be decentralized to permit greater access to decision making and community organization need to be allowed to exert greater influence. The report focused attention on new modes of sustainable human development, new pattern of national and global governance and new form of International Corporation. However the report rightly accepted that “the concept of human development is broader than the measure of human development …..It will never perfectly capture human development.”
2.1.5 HDR 1994

The report mainly focuses on human security. In its entire ramification, it was sought through ensuring universal primary education, primary health care, safe drinking water and sanitation facility, optimum nutritional level and provision for self employment opportunities.

2.1.6 HDR 1995

The report has crucial message: human development if not engendered is endangered. If development is meant to widen opportunities for all people, then continuing exclusion of women from many opportunities of life totally wrap the process of development. The report emphasizes that there is no rationale of such continuation of exclusion. Investing in women’s capabilities and empowering them to exercise their choices is not only valuable in it but is also the surest way to contribute to the economic growth and overall development.

The report observed that although women and men share many aspects of living together, collaborate with each other in complex and ubiquitous ways and yet end up with different rewards and deprivations. This led to the development of Gender development Index (GDI) and Gender Empowerment Index (GEI)

2.1.6.1 Calculating the Gender related Development Index (GDI)

The GDI uses the same variables as the HDI. The difference is that the GDI adjust the average achievement of each country in life expectancy, educational attainments and income in accordance with the degree of disparity in achievement between women and men. For this gender sensitive adjustment a weighted formula that expresses a moderate aversion to inequality, setting the weighting parameter, $\varepsilon$, equal to 2. The harmonic mean
is calculated taking the reciprocal of the population weighted arithmetic mean of the male and female achievement levels. The harmonic mean will be less than arithmetic mean to the degree of disparity between male and female.

2.1.6.2. Calculating variable for life expectancy:

The maximum and minimum values for the male and female is taken as 82.5 and 87.5 and 22.5 and 27.5 respectively. The values for women and men are indexed accordingly.

2.1.6.3. Calculating variable for educational attainment:

It includes adult literacy with two third weight, and gross combined primary, secondary and tertiary enrolment, with a one-third weight. Each of these subcomponents is indexed separately. Both indices use a maximum value of 100 and minimum value of 0. The two indices are added together with respective weight to form composite index for educational attainment.

2.1.6.4. Calculation of Income

The calculation of income variable is done with male and female earned income share. The two pieces of information are used:

- The ratio of female wage to average male wage.
- The female and male percentage share of economically active population aged 15 years and above.

The calculation of gender disparity in income uses available information on the percentage share of men and women in economically active population aged 15 and above are done through female employment and male employment proportional to male and female participation in labor force.
From the ratio of female wage to male wage the ratio of female wage to average wage and ratio of male wage to average wage is derived as follow

- Average Wage = FS_{ca}(\text{Ratio of Female non Agriculture wage to male non agriculture wage}) + MS_{ca}(1)

Where,

FS_{ca}= Percentage Share of Economically active population female.

MS_{ca}= Percentage Share of Economically active population male.

- Female wage to average wage = Ratio of female non agri wage to male non agri. wage/ Average wage.

- Male wage to average wage = Ratio of male non agri wage / Average wage.

- Share of Earned Income.= (Female wage/Average wage) *( Female share of economically active population) + (Male wage/Average wage) *( Male share of economically active population)

- Female and Male proportional income index :
  1. Share of income earned by female /percentage share of female in total population.
  2. Share of income earned by Male /percentage share of male in total population.

2.1.6.5 Equally distributed income index: 

\[
\frac{\text{Percentage Share of Female in total population (Female proportional Income share)}^{1-\varepsilon}}{1-\varepsilon} + \frac{\text{Percentage Share of male in total population (Male proportional income share)}^{1-\varepsilon}}{1-\varepsilon}
\]

The equally distributed income index is derived after indexing the variable with 100 as minimum and 5448 as maximum
2.1.6.6 The Equally distributed Life expectancy Index

\[ \left[ \frac{FS (LE_f)}{1-\varepsilon} + MS (LE_m) \right]^{1-\varepsilon} \]

Where
LE\(_f\) = Life expectancy Female.
FS = Female Share in Population.
LE\(_m\) = Life expectancy male.
MS = Male Share in Population.

2.1.6.7 The Equally distributed educational attainment index

\[ \left[ \frac{FS (EI_f)}{1-\varepsilon} + MS (EI_m) \right]^{1-\varepsilon} \]

Where
FS = Female Share of Population
EI\(_f\) = Educational Index female
EI\(_m\) = Educational Index male
MS = Male share in population
EI\(_f\) = \( \frac{1}{3} \) (Enrolment Rate Female) + \( \frac{2}{3} \) (Adult literacy Female)
EI\(_m\) = \( \frac{1}{3} \) (Enrolment Rate Male) + \( \frac{2}{3} \) (Adult literacy Male)

2.1.6.8 The Gender Empowerment Measure (GEM)

The gender empowerment measure is also calculated in the report to measure the relative empowerment of men and women in political and economic spheres of activity. The inequality aversion parameter used is \( \varepsilon = 2 \) for indexing purpose 50 are taken as maximum value and 0 as minimum value.

2.1.6.9 Calculating equally distributed Parliamentary Representation:

\[ \left( \frac{\text{Percentage Share of male in total population} \times \text{Percentage share of Male in parliamentary representation}}{1-\varepsilon} \right)^{1-\varepsilon} + \text{Percentage Share of Female in total population} \times \text{Percentage share of female in Parliamentary representation} \]
2.1.6.10 Calculating equally distributed administrative and managerial position

\[
\left( \frac{\text{Percentage Share of male in total population} \times (\text{Percentage share of male in administrative and managerial position})^{1-\varepsilon}}{1 - \varepsilon} \right) + \left( \frac{\text{Percentage Share of female in total population} \times (\text{Percentage share of male in administrative and managerial position})^{1-\varepsilon}}{1 - \varepsilon} \right)
\]

2.1.6.11 Calculating equally distributed Professional and Technical position:

\[
\left( \frac{\text{Percentage Share of male in total population} \times (\text{Percentage share of male in Professional and technical position})^{1-\varepsilon}}{1 - \varepsilon} \right) + \left( \frac{\text{Percentage Share of female in total population} \times (\text{Percentage share of female in Professional and technical position})^{1-\varepsilon}}{1 - \varepsilon} \right)
\]

2.1.6.12 Indexing of the variables

- The variable of Parliamentary representation/50
- The variable of Administrative and managerial position/50
- The variable of Professional and technical position/50

2.1.6.13 Computing the combined index:

\[
\text{Index of Administrative and managerial position} + \text{Index of Professional and technical position}
\]

2.1.6.14 Calculating share of earned income:

The criteria used is same that of GDI

Then finally gender empowerment index is calculated as the average of three variable as a simple arithmetic average.
2.1.7 HDR 1996

The report explored the complex relationship between growth and human development and tried to establish long term linkage between economic growth and human development. The report said that “human development is treated as the end, growth as a means”. It identified categorically three parameters: equality of opportunity, sustainability of it and empowerment of people as essential though not exhaustive for choices at all levels of development. The central message of the report was very clear – there is no automatic link between growth and human development but the links are forced. With policy determination, they can be mutually reinforcing—an economic growth will effectively and rapidly improve human development. The report also made recommendations in favor of what countries can do to improve the nature and equality of economic growth. The report argues that economic growth promotes human development, if public action is directed vigorously to ameliorating growth and distributing benefits. There can be both good and bad growth and bad growth is difficult to avoid. HDR 1996 argued in this relation that “determined efforts are needed to avoid growth i.e jobless, ruthless, voiceless, rootless and futureless.

2.1.8 HDR 1997

During first six years of the 1990s the world conferences and summit meetings emphasized the urgency of eradicating poverty. The world summit for Social Development in Copenhagen sharpened this focus. Most countries committed themselves to the goal of eradicating poverty as an ethical, social, political and moral imperative of human kind and recognized the people centered development as the key to achieve this goal. The Human Development Report of 1997 focused on the poverty eradication goal. Its
most important message is that poverty is no longer inevitable. The world has material, natural resources, the know-how and the people to make poverty free world. The report emphasized that it is not only idealism but a practical and achievable goal.

The report offers ideas for eradication of absolute poverty. The agenda includes methodology that goes beyond income, encompassing gender, pro poor growth, globalization and governance.

The report defines poverty as “if human development is about enlarging choice, poverty is opportunities and choice most basic to human development are denied to lead a long, healthy, creative life and to enjoy decent standard of living, freedom, dignity, self –respect and respect of others.” While human development is “conglomerative perspective” poverty is “deprivational perspective”.

The report introduces a human poverty index (HPI), in order to bring together the composite index the different feature of deprivation in the quality of life and to arrive at an aggregate judgments the report included three indicator of poverty as human poverty includes many indicators that cannot be quantified and measured.

The three indicators of the human poverty index include:

1. Deprivation related to survival – due to vulnerability to death at early age and is represented in the HPI by the percentage of people expected to die before age 40.

2. Knowledge- being excluded from the world of reading and communication- and measured by the percentage of adults who are illiterate.
3. Decent standard of living – this is represented by composite three variables:
   - The percentage of people with access to health services.
   - The percentage of people with access to safe drinking water.
   - Percentage of malnourished children under five.

2.1.8.1 Calculating HPI :

\[ HPI = \left( \frac{P_1^a + P_2^a + P_3^a}{3} \right)^{1/3} \]

- \( P_1 \) = Percentage of people not expected to survive to age 40.
- \( P_2 \) = Percentage of adult who are illiterate.
- \( P_3 = \frac{P_{31} + P_{32} + P_{33}}{3} \)

Where,
- \( P_{31} \) = Percentage of people without safe drinking water.
- \( P_{32} \) = Percentage of people with health service
- \( P_{33} \) = Percentage of moderately and severely underweight children under five.

Here \( a=3 \), to give additional but not overwhelming weight to dimension of acute deprivation, if \( a=1 \) then HPI becomes average of its dimension. Higher the value of a greater weight is given to dimension with acute deprivation. Thus if it tends to infinity HPI will be value of dimension with highest deprivation.

2.1.9 HDR 1998

The report examined consumption from the perspective of human development. It concluded that despite a dramatic surge in consumption in many countries, all was not noted to be well; more than a billion people
lacked the opportunities to consume in ways that would allow them to meet their most basic needs. Human Poverty Index II (HPI II) was evolved in 1998 report reflected inequalities in consumption (globally 20% of world’s people in high income countries accounts for 86% of total private consumption expenditure-the poorest 20% minuscule 1.3 percent). and suggested agenda for action by ensuring with maximum consumption requirement as an explicit policy objective in all countries.

2.1.10 HDR 1999

The tenth Human Development report like first and other previous ones was also about people. It was mainly about growing inter dependence of the people in today’s globalizing world. Dedicated to the memory of late Mehbub Ul Haq the report was in favour of power of globalisation to bring economic and social benefits to the societies. The report championed the agenda of the world’s weak, and those marginalised and called for a much bolder agenda- global and national reforms to achieve globalisation with human face. It was presumed that global markets, global technology, global solidarity can enrich the lives of people everywhere greatly expanding their choices.

2.1.11 HDR 2000

This drew our attention to the complex relationship between human development and human rights. In its preamble, the HDR 2000 pointed out seven freedom i.e freedom from discrimination, fear of threat to personal security, thought and speech in decision making, freedom from want to enjoy a decent standard of living, to develop and realize one’s human potential, injustice and violation of the rule pf law and freedom for decent work(without exploitation). Thus human rights and human development were noted to share a common vision and the purpose was to secure freedom, well
-being and dignity of all people everywhere. Human development is considered essential for realizing human rights, and human rights are essential for full human development. Human development brings long term perspective for fulfillment of rights, since it is a process of enhancing human capabilities – to expand choice and capabilities so that each person can lead a life of respect and value. When human development and human rights advances together, they reinforce each other – expanding people’s capabilities and protecting their rights and fundamental freedom. The report pointed out the need for global change in attitude for a positive support in favor of human rights in place of punitive approaches. It analyzed the relationship between poverty, inequality and human development. Poverty and inequality disempowered people and open them to discrimination in many aspect of life and violation for their rights. Eradicating poverty was treated as the more than major development challenge. A decent standard of living, adequate nutrition, health care and other social and economic achievements were not regarded as just development goals. These were treated as human rights inherent in human freedom and dignity. The report pointed out certain key elements in policy decision that were central to accelerating poverty eradication and realizing human rights. These were pursuing pro economic growth policies, restructuring budget, protecting environmental resources, removing discrimination and securing human rights in law.

2.1.12 HDR 2001

The twelfth annual Human Development Report of UNDP, HDR 2001 focused on making new technology work for human development. The report argued that technologies are a key to reducing world poverty and called for an increased public funding of researches in medicine, agriculture, information and communication and energy sectors. It evolved a Technology
Achievement Index (TAI) which, instead of being a measure of country’s progress in global technology, was aimed at assessing the creation and distribution of technology. The report analysed how the uneven diffusion of technology world over adversely affected the human development.

2.1.13 HDR 2002

The report has emphasised on effective governance as central to human development. Though it laid emphasis on democratic governance for human development, it hoped more on a set principles and core values that allows poor people to gain power through participation, while protecting them from arbitrary, unaccounted actions in their lives by government, multi-national corporations and other forces.

2.1.14 HDR 2003

The report base on the theme of “Millennium Development Goals: a compact among nations to end human poverty” sets out millennium development compact. The central part of this report is devoted ton assessing where the greatest problem are and analyzing what needs to be done to reverse these setbacks and offering concrete proposal on how to accelerate progress everywhere towards achievement of these goals The report forwards an argument that even in the poorest country there is still hope that goals can be met. The eight goals adopted by 189 countries at Millennium Summit in September 2000 are halving poverty, halting HIV/AIDS enrolling boys and girls everywhere in primary school. Reducing gender disparity and scarcity/crisis by 2015. The report highlight that though the world is on the track of achieving these goals, but when progress is broken down by region huge amount of work remains.

The report highlights the following:

(1) Data indicating the status of all eight goals
(2) Best practice for reaching the goals and multisectoral approach to sustain progress towards them.

(3) It assert political will to mobilize action for the goal

(4) It present evidences that rich country policy changes on debt relief access to market and transfer of technology are as important as foreign aid.

(5) It analyses factors and policies that leads to economic growth and assert investment in education and health are not rewards of growing economies. They are precondition for sustainable growth.

2.1.15 HDR 2004

It was realized during this period that allowing people full cultural expression is an important development end in itself and to achieve Millennium development Goals and ultimately eradicate poverty it was inevitable. This was built on this analysis and carefully examining the challenge of how best to manage and mitigate conflicts over language, religion, culture and ethnicity. The basic theme on which the report was based was “Cultural liberty in today’s diverse world”. The report rejecting the claim that cultural differences lead the social, economic and political conflict should be controlled and instead it should provide a way to delight our differences

The report makes clear that it is not easy to have one size fit to all rules for all to build multicultural societies. The message of this report is to highlight the vast potential of building a more peaceful, prosperous world by bringing issues of cultural to the mainstream of development

2.1.16 HDR 2005

The successive Human Development Reports have steadily widened the intellectual frontiers of human development in the new millennium. The
report argues that the agenda of millennium goal will not be achieved unless the bottlenecks retarding progress is resolved. The three areas identified by UNDP are Aid, Trade and Security. The report takes a look at this facts and a comprehensive analysis on how it can be done is complied. The report emphasizes on the opportunity that year 2005 offer to the world and to free itself from extreme poverty.

2.1.17 HDR2006

This report looks at the issue of crisis that profoundly influences human potential and progress towards Millennium development Goal. The word crisis is sometime overused. The report rejects the view that crisis does not mean absolute shortage of physical supply of water but its roots lies in poverty, inequality and unequal power. At the start of 21st century uncen water is the biggest killer of children. Every year some 1.8 million children die out of diarrhea and other water caused diseases. Collection of water by women and girl is a ritual that reinforces gender inequality.

This report reflects that sorces of water crisis varies from country to country. But following findings emerges:

(1) Few countries treat water and sanitation as a political priority and witnessed by limited budgetary support.

(2) Some of the world’s poorest people are paying the world high price for water.

(3) International communities have failed to prioritize water and sanitation for development and as a Millennium development goal.

The report captures these issues and argues that among developing world people living in slums and rural villages are provided with clean water and
sanitation. However, overuse of water in some areas is also examined in the report where water uses exceed recharge rates.

2.1.18 HDR 2007 & 2008

The report is based on theme of “Fighting Climate Change: Human solidarity in a divided world. The report recognizes the fact that melting of ice-sheets on Greenland and the West Antartica and change in the course of the Gulf Stream that bring about drastic climatic change.

The report reflects that world is heterogeneous and the climate change will affect the region differently. The change has already starting to affect some poorest communities of the world. The climate change is a massive threat to human development. The climate change may reinforce poverty and violates Millenium Development Goal of poverty eradication. The report suggests various policy and programme to adapt and minimize the impact of climate change.

2.1.19 HDR 2009

The report reflects a very important dimension of human development viz migration. It discusses who the migrants are, where they come from and where they go to, and why they move. It looks at the multiple impacts of migration for all who are affected by it—not just those who move; but also those who stay.

The report findings put light on following:

(1) Immigration from developing to developed countries account for only minor fraction. Migration from developing country to other developing country/countries is much common.

(2) Most of the migrants tend to be successful
(3) Fear about migrants substituting locals is absurd rather when migrants skills complement with the local skill both prosper and society as a whole also benefit.

(4) The report suggests bold set of reforms. It argued when tailored for country specific these changes can amplify human mobility.

(5) The report suggests that to bring such reforms country requires courageous and swift policy.

2.1.20 HDR 2010 “The Real Wealth of Nations: Pathways to Human Development”

The 20th anniversary report rightly argued that the HDR in its journey of last twenty years has achieved conceptual brilliance. It is now almost universally accepted that the country’s success or an individual’s well-being cannot be evaluated by money alone. Income of the people is crucial; without resources, any progress is difficult. Yet, it is necessary to evaluate whether people can lead long and healthy lives, whether they have opportunity to be educated and whether they are free to use their knowledge and talents to shape their own destinies. This pro human development concept has guided not just 20 years of global Human Development but more than 600 nations have drafted their reports on the same line. It has affected policy and development around the world

The report has observed substantial progress in many aspects of human development. Most people today are healthier, live longer, are more educated and have more access to good and services. Even countries facing adverse economic conditions, people’s health and education have greatly improved. Yet, all sides of the story are not positive. There have been increasing instances of inequality at both within and across countries. Even production and consumption patterns are also unsustainable. The report to nullify this
inequality and proposed new measure of human development indices viz the Inequality adjusted Human Development Index (IHDI) and Multidimensional Poverty Index HDI for inequality in distribution of each dimension across the population.

The IHDI adjusted HDI for inequality in distribution of each dimension across the population. It is based on a distributional-sensitive class of composite indices proposed by Foster, Lopez-Calva and Szekely. It is computed as a geometric mean of geometric mean, calculated across the population for each dimension by discounting each dimension’s average value according to its level of inequality. IHDI equals HDI when there is no inequality across people but is less than the HDI as inequality rises. In this sense IHDI is in the actual sense a human development. The loss in potential human development due to inequality is given by difference between the HDI and IHDI and can be expressed in percentage.
2.1.20.1 Calculating IHDI

\[ \text{IHDI} = \sqrt[3]{I_1 \text{ Life } \times I_1 \text{ Education } \times I_1 \text{ Income}} \]

Where,

\[ \text{Life Expectancy Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}} \]

\[ \text{Education Index} = \sqrt{\text{Mean year of Schooling} \times \text{Expected years of Schooling} - 0} \]

Combined Education Index − 0

Where,

\[ \text{Mean Year of Schooling} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}} \]

\[ \text{Expected Year of Schooling} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}} \]

\[ \text{Income Index} = \frac{\log \text{Actual Value} - \log \text{Minimum Value}}{\log \text{Maximum Value} - \log \text{Minimum Value}} \]

The next step adopted was to set goal post; maximum and minimum values for each sub indices in order to transform the indicator to the index between 0 and 1. The report argues that as geometric mean is used for the aggregation so, the maximum value does not affect the relative comparison between two countries and two periods. Infact the maximum values are set according to the actual observed maximum values of the indicators from the countries in the time series, which is 1980 to 2010. The minimum values will affect the comparison so values are subsistence value or natural zero. The progress
against measured as minimum levels that the society needs to survive over time. The minimum for the life expectancy is set as 20 years, for both the education indicators it is set at 0 and $163 for per capita gross national income (GNI). The life expectancy minimum is based on long run historical evidences from Maddison (2010) and Riley (2005). The society cannot subsist without minimum level of education, justifying minimum for education and minimum GNI corresponds the lowest basic income level attained by any country in recorded history and is less than 45 cent a day, which is over a third of World Bank’s $1.25 a day poverty line.

Goal Post used in the report

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Observed Maximum</th>
<th>Observed Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Expectancy</td>
<td>83.2 (Japan 2010)</td>
<td>20</td>
</tr>
<tr>
<td>Mean Year of Schooling</td>
<td>13.2 (US 2000)</td>
<td>0</td>
</tr>
<tr>
<td>Expected Year of Schooling</td>
<td>20.6 (Australia 2002)</td>
<td>0</td>
</tr>
<tr>
<td>Combined Education Index</td>
<td>0.951 (New Zealand 2010)</td>
<td>0</td>
</tr>
<tr>
<td>Per Capita Income (PPP $)</td>
<td>108,211 (UAE 1980)</td>
<td>163 (Zimbabwe 2008)</td>
</tr>
</tbody>
</table>

The report has also advanced calculation of Inequality Adjusted Gender Development Index (IGDI).

The indicators used for the calculation are:

- Maternal Mortality ratio (MMR)
- Adolescent Fertility Rate (AFR)
- Share of parliamentary seat held by each sex (PR)
- Attainment at secondary and higher education (SE)
- Labor Market participation Rate (LFPR)

### 2.1.2.0.2 Calculating IGDI:

For Female

\[ G_f = \sqrt[3]{\left( \frac{1}{MMR} \cdot \frac{1}{AFR} \right) \times \left( PR_f \cdot SE_f \right)^{1/2} \cdot LFPR} \]

For Male

\[ G_m = \sqrt[3]{\frac{1}{PR_m \cdot SE_m} \times \left( PR_m \cdot SE_m \right)^{1/2} \cdot LFPR_m} \]

Aggregating across gender group, using a harmonic mean:

To create equally distributed gender index female and male indices are aggregated by harmonic mean

\[ \text{HARM} (G_f, G_m) = \frac{\left( G_f^{-1} + G_m^{-1} \right)^{-1}}{2} \]

Calculating the geometric mean of the arithmetic mean for each indicator:

The reference standard for computing inequality is obtained by aggregating female and male indices using equal weights and then aggregating indices across dimension

\[ G_{EM} = \sqrt[3]{\text{Health} \cdot \text{Empowerment} \cdot \text{LFPR}} \]
Where,

\[ Health = \left( \frac{1}{\sqrt{\frac{MMR}{AFR}}} \right) + 1 \]

\[ Empowerment = \left( \sqrt{PR_f \cdot SE_f} + \sqrt{PR_m \cdot SE_m} \right) \]

\[ LFPR = \frac{LFPR_f + LFPR_m}{2} \]

Calculating the Gender Inequality Index:

\[ IGD = 1 - \frac{HARM (G_f \cdot G_m)}{G_{EM}} \]

2.1.20.3 Calculating Multidimensional Poverty Index

The Multidimensional Poverty Index (MPI) identifies multiple deprivations at the individual level in health, education and standard of living. It uses micro data from household surveys, and unlike the Inequality adjusted Human Development Index all the indicators needed to construct the measure must come from the same survey. The indicators included are:

- Health:
  1. At least one member is malnourished
  2. One or more children have died

- Education:
  1. No one has completed five years of schooling.
  2. At least one school aged child not enrolled in school.

- Living condition:
  1. No electricity
  2. No access to clean drinking water.
  3. No access to adequate sanitation.
  4. House has dirt floor.
5. Household using dirty cooking fuel (Dung, firewood or Charcoal)

6. Household has no car and owe at most one of the bicycle, motorcycle, radio, refrigerator, telephone or television.

Each indicator is assigned weight for all the two health and education indicator the weight assigned is 1.67 and for each living condition indicator the weight assigned is 0.56. The house scoring 3 or more than 3 the household and everyone in it is multidimensionally poor. The house with the deprivation count between 2 and less than 3 are in risk zone and vulnerable of becoming multidimensionally poor.

The MPI is the product of two measures the multidimensional headcount ratio and the intensity of poverty.

\[ \text{MPI} = H \times A \]

Where,

\[ H = \frac{q}{n} \]

Where \( q \) is the number of who are multidimensionally poor and \( n \) is the total population.

\[ A = \frac{\Sigma_i q_.c}{Q_d} \]

Where \( c \) is the total number of weighted deprivation and \( d \) is the total number of component indicator considered here it is 10.
2.1.21 HDR 2011 “Sustainability and Equity: A Better Future for All”.

The report offers link between sustainability to equity. The report argues that sustainability is exclusively environmental issue but it is fundamentally about how we choose to live our lives, with an awareness that everything we do has consequences for the other seven billion. The report argues that remarkable progress in human development over recent decade cannot continue without a thoughtful step to reduce both environmental risks and inequality. The report identifies the pathways for people to promote environmental sustainability and equity in mutually reinforcing ways.

The report is presented in five section the first section or chapter dealing with ‘Why sustainability and Equity’. The report argues that we value sustainability because future generation should have at least the same opportunities as people today. All inequalities are unjust. People’s chances of living better lives should not be constrained by factors outside their control. Equalities are dangerous when particular group, either because of gender, race or birthplace is systematically disadvantaged.

The put forward the joint pursuit of environmental sustainability and equality does not always means that the two always are mutually reinforcing. In fact in many instances there is trade off. The frame encourages special attention to identify positive synergies and to considering tradeoffs. The report investigates how societies can implement win-win-win solutions that favor sustainability, equity and Human Development.

The chapter two of the report is on ‘Pattern and trends, progress and prospects’. Suggest that in most cases many disadvantages people bear and will continue to bear the repercussions of environmental deterioration, even if they contribute little to the problem. The emission per capita is highest in the high HDI countries because of driving cars, cooling or heating homes
and business, consuming processed and packaged food. An average person in very high HDI countries accounts for four times the carbon dioxide emission and about twice the methane and nitrous oxide emission compared to medium or high HDI countries and about 30 times the person in low HDI countries.

The report argues that around the world rising HDI has been associated with environmental degradation. The countries with higher income generally have high per capita emission but no association is registered between high emission and health and education components. Thus activities of emission are associated with production of goods.

The chapter three ‘Tracing the Effects: Understanding the relations’ tries to see major intersections between equity and the environment. The chapter focuses on how environmental unsustainability affects people and how inequality mediates this relationship. The key theme of the report is that the world’s most disadvantaged people carry a “double burden”. The chapter analyses the relationship between bad environments and health, impeding education for disadvantaged children.

The chapter four is on ‘Positive synergies- winning strategies for the environment, equity and human development’ emphasis on win-win-win strategies. The report argues every authorities should draft their policies to capture in part or full all the viz sustainability, equity and human development. The report emphasis that strategies are varied and wide that cannot be captured but local, state and national authorities should draft context specific solution strategies.

The chapter five is titled ‘Rethinking our development model –levers for change’. The report argues although disparities across people, group and countries add to the large and growing environmental threat the conditions
are quiet conducive to progress than ever before. The report emphasize on integrating equity concern into green economic policies. The report proposes wide policy agenda will redress these imbalances. The report has proposed new growth models with equity and sustainability integrated with human development to suit the future development. The report argues that there are alternatives to inequality and unsustainability. Investments hat improves equity- for example in access to renewable energy, water and sanitation and reproductive health care, could advance sustainability and equity.

2.2 NATIONAL HUMAN DEVELOPMENT REPORT (NHDR), 2001

NHDR published by Union Planning Commission was to bring out certain conceptual and methodological consensus on the use of human development approach in the country in general and framework for identifying indicators and building composite human development indices at State level, in particular.

The basic objective of the report is to guide similar initiative Sub-State level in future and State level reports may be published for the human development dynamics. Specifically, attempt is made by the report to map the state of human development by putting together the ‘outcome’ and composite indices that are contextually relevant and reflect the collective social valuation and development priority of the country.

The indicators presented in the report are seen as tools for guiding public policy and programme towards the development goals of the society and also provide criteria to evaluate the process of social change.

The compilation and mapping of the indicators are done at two levels at first level the indicators are presented on various dimension of well being and the second level indicators are chosen to reflect attributes such as sensitivity to tracking changes in well being of people at more frequent intervals.
In India there is considerable difference in levels of attainments of the people on various aspects of well beings depending on their place of residence ie rural or urban area, Sex –male or female and segment of population i.e Schedule Tribe or Schedule Caste. Depending on the availability of data Gender Gap, Rural Urban Gap has been estimated.

The report estimate HDI, and HPI capturing the coglomerative and deprivational perspective respectively and GEI estimates the relative attainments of women against men.

The report use data published by Census of India, National sample Survey Organization (NSSO), National Family Health Survey (NFHS). Data for all the states and Union Territories are presented and due to gap in the data for some indicators in some state the resource of estimation of data for filling up the gap is sorted.

2.2.1 INDIA HUMAN DEVELOPMENT REPORT 2011 “TOWARDS SOCIAL INCLUSION”

The report published by planning commission of Government of India is the second in series after NHDR published in 2002( the review of this report is undertaken in my Mphil thesis) covers in detail all the indicators of human development across states of India along with employment related , health, educational attainments and deprivation related indicators.

The report shows that the HDI between 1999-2000 and 2007-2008 has increased by 21n percent. The major driver of improvement in HDI in India is high educational attainments, which improved by 28 percent during considered years. Moreover the report also focuses on an important aspect of increase in HDI in the poorest state of India have been much sharper than initial national average. The focus of the report is not only on interstate
disparity but also on inequalities between caste and social groups. The report provides important data for further research on the subject.

2.3 REGIONAL HUMAN DEVELOPMENT REPORTS

The reports covering the region with secondary database on various human development indicators are systematically presented in such reports.

2.3.1 SOUTH INDIA HUMAN DEVELOPMENT REPORT 2001

The report published by National Council of Applied Economics and Research has compiled human development data for the Southern Indian States viz Andhra Pradesh, Karnataka, Tamil Nadu and Kerela. The first Chapter of each section is the profile of the state based secondary data, followed by a survey report based on primary data collected by the NCAER Household survey. The qualitative data on villages are also provided for Karnataka, Tamil Nadu and Kerela.

2.3.2 WEST AND CENTRAL INDIA HUMAN DEVELOPMENT REPORT 2002

The report has compiled human development data of the central Indian State of Madhya Pradesh and three states of western states of Gujarat, Maharashtra and Rajasthan. Same as the report on Southern states this report in its first chapter reflects the profile of states followed by survey report based on primary data collected by NCAER Household Survey. A chapter on quantitative village survey for all states is provided.

2.4 STATE HUMAN DEVELOPMENT REPORTS

With the initiative of UNDP, 21 State governments have published State Human Development Reports (SHDRs) so far. Each of these reports discusses the levels of human development achieved by the respective state
and highlights the state specific issues in improving human development. Some such SHDRs are presented below:


The first report published in 1995 by the state govt. presented district level data on people’s well being, deprivation Vis a Vis education, health and livelihood. The report reflects the then existing situation in the state using available data so that policy formulation and planning can have clear benchmarks on which the future strategies could be formulated.

The second report published in 1998 tries to fill the gaps of 1995 report and looks into the human development dynamics related with standard of living or access to resources for good quality of life which was not captured in the earlier report.

The third report published in 2007 advocates making basic infrastructure the priority and further explores the deficit zones that need immediate attention for equitable growth in the state.

2.4.2 KARNATAKA HUMAN DEVELOPMENT REPORT 1999 AND 2004

The first report brought out by the government in 1999 made the following significant recommendations:

(1) Social indicators of the states rotate around the national average so the state must break the status of average performing states by improving the quality of life of its population by increasing income and production levels, educational attainments and basic healthcare facilities.

(2) Reduce gender inequalities.
Greater state investment in social sector and reduce inter district Disparities

The second report brought out in 2004 after the census of 2001 was based on the following objectives:

1. To develop the baseline data on the status of human development in relation to public investment in the state and the districts
2. To provide comprehensive analysis of human development goals. The role of panchayat raj institutions and the impact of collective actions mobilized by NGOs and self help growth
3. To suggest how the state can mobilize the resources for human development and how resources can be reallocated more effectively both inter sectorally and intrasectorally
4. To ensure that the people are always at the centre of development process

This report was based on the theme of “Financing human development”- HDR 1991, UNDP. The report speaks of four ratios public expenditure ratio, social allocation ratio, social priority ratio and human expenditure ratio.

2.4.3 SIKKIM HUMAN DEVELOPMENT REPORT 2001

The third state of India to produce HDR published by Government of Sikkim. The report was the outcome of worldwide discourse on a new development paradigm and serious search for broader development measures. The commended Sikkim’s Human Development approach but it is quite critical about some of the government policies particularly on non merit and indiscriminate subsidies.
2.4.4 MAHARASHTRA HUMAN DEVELOPMENT REPORT 2002

The report published by the government of Maharastra highlights unique state experience in human development, poverty eradication, education, health, employment and people’s participation in local governance. The access to education and healthcare provision has become more comprehensive in the state. The state also has reflected increased women participation in public life. The report captures all the dynamics of human development as well as many new development challenges that are homogeneous to human development in the state.

2.4.5 RAJASTHAN HUMAN DEVELOPMENT REPORT 2002

The report published by Govt. of Rajasthan reviews the recent changes and progress made towards achieving the millennium development goals. It tries to evaluate human development indicators relating to health, education attainment, income, gender disparity and social expenditure for district of Rajasthan. The report maps the role and status of people centered stage of development. It illustrates the State Government commitment on sustainable human development and is baseline document on interrelated concern about Human Development.

2.4.6 ASSAM HUMAN DEVELOPMENT REPORT 2003

Published by Planning and Development Department, government of Assam highlights the position of Assam among other states of India and presents the profile of gaps in development process across districts of Assam. The reports were drafted with the aim of betterment of all segments of the population including downtrodden.
2.4.7 WEST BENGAL HUMAN DEVELOPMENT REPORT 2004

The report has particular focus on nature and impact of two major public initiatives i.e. land reform, including both greater security of tenure to the tenant cultivators and redistribution of land and decentralization and people’s participation through panchayat institutions. The important questions raised in this report are, how have these initiatives affected human development and condition of the life of people of the state? What specific effect they have had? Why have the positive effect not been even more pronounced? What explain the difference across the regions and districts within the state in this regard? What are the factors constraining human development in the state at present and how can those are overcome?

2.4.8 NAGALAND HUMAN DEVELOPMENT REPORT 2004

The report draws attention on human development indicators in the areas of income and livelihood, education, health and women empowerment which are critical for the all round development of the state. The report has attempted to identify gaps or indicators of deficiency thereby signaling areas that require specific policy attention. The report identifies the strength as well as the weak areas and advocate resources for human development.

2.4.9 ORISSA HUMAN DEVELOPMENT REPORT 2004

The report reflects the current levels of achievements and identify areas of concern an explore policy options which may expedite improvement of human development conditions in Orissa. It highlights impressive gains on literacy front in the State between 1981-2001. However, female literacy is poor and great deal of inter district and gender disparity have been observed. Since the state is prone to natural calamities like cyclone, flood and droughts the problem of poverty is accentuated. Health indicators suggest unsatisfactory conditions. Infant mortality ratio continues to be very high.
The report suggest that more curative and preventive health measures are needed. Even incidence of poverty and food security are also areas of great concern. Several initiative measures are taken by State to tackle these key problems of Human Development. The constitution of Poverty Task Force (PTF) to suggest appropriate policy framework and pro poor growth, so that fruits of growth tickle down to the lowest segment and growth tickle down to the lowest segment of society and opportunities are equitably enjoyed by all. The Mission Shakti to empower women is also to put in place. Infant Mortality Mission has been launched to reduce IMR. The Watershed Mission has been entrusted with task of drought proofing measure the State Government has been trying to promote agricultural growth and private investment to harness natural wealth and to create employment for the people.

**2.4.10 PUNJAB HUMAN DEVELOPEMENT REPORT 2004**

The report published by Government of Punjab highlights the diaparites in the level of achievements among various sections of the society in the State, although the State is most prosperous State of the country other indictors of human development needs great concern

**2.4.11 KERALA HUMAN DEVELOPMENT REPORT 2005**

The report published by the State Planning Board, Trivandrum highlighted the second generation problem of human development such as quality of life. The challenges presented in the report are :

1. The lopsided development i.e. high social development with low economic growth that had characterized the Kerala economy

2. Understanding the new phase of growth during the last 15 years and its possible linkages with human development
(3) Charting human development based strategy for the future

(4) Building up an intellectual case for quality of life as an essential attribute of capability

This report conveys an important message to planners and policy makers through its diagnostic analysis and identification of factors contributing to successes and failures in human development.

2.4.12 TRIPURA HUMAN DEVELOPMENT REPORT 2007

The report describes and analysed human development in State of Tripura and its constituent’s districts and blocks. The report captures the basic human development indicators like occupation of the people health care, education, human security. The key message of the report is that people of the state have experiences significant progress in the social, economic and political indicators of human development.

2.4.13 ANDHRA PRADESH HUMAN DEVELOPMENT REPORT 2007

This is the first human development report of the State, drafted with the objectives to examine the experience of the state and district in human development. The report clearly mentions that an outcome on human development depends on many factors such as macro policies of the central government, strategies of state government in particular with respect to health and education. The report observes that nonetheless there had been many agrarian movements in the state there were no social movements for the development of human beings which could be one reason for the low human development in the state.
2.4.14.1 GUJARAT HUMAN DEVELOPMENT REPORT 1999

The report published by Mahatma Gandhi Labour Institute, Ahmedabad written by Prof Indira Parikh and Dr. Darshini Mahadevia assess the achievement of the state in terms of human development as a goal and as a paradigm. The report suggests that besides assessing the human development indicators the report intends to assess the validity of the path of development of the state to see whether it ensures sustainable human development or not. The main objective of the report is to examine the status of human development in the state with a view to measure its various dimensions, understanding the dynamics of the factors underlying the status of the human development and drawing inferences for sustainable human development. The report measure the human development indices at two levels, namely at individual level and macro level. The macro level HDI incorporates (a) the concern of the South and its poor and poor women (b) it measures human development realistically and comprehensively (c) it is useful for drawing policies for human development.

The report focuses on:

1. Economic diversification which is not sustainable as primary sector and particularly agriculture sector lagged behind distorting the agriculture – industry linkages.
2. Rapid depletion and degradation of natural resources during the past few decades.
3. The state has performed well in overall decline in poverty and backlog of unemployment.
4. The considerable progress has been made in educational attainments in the state as recorded in the report.
5. Improvement is also recorded in key health statistics; public expenditure on health has been improved.

6. Per capita income of the state has steadily risen and economic growth is noteworthy. The state ranks fourth per capita income amongst the states of India and second in Industrialization and urbanization.

7. The state ranks fifth and ninth in education and health among the states of India.

Suggestions:

1. Shifting towards a sustainable macro development to correct the path of development conducive to human beings.

2. Direct intervention of the state to promote human development in persistent way.

3. In health care state should pay attention to its epidemiology of certain major diseases and increase per capita health expenditure.

4. In education sector the state should emphasize not primary but elementary education and increase share of expenditure on education.

5. The infrastructure needs to be strengthening in elementary education by recruiting the required number of teacher, constructing school building and ensuring required equipments and tools to the school.

2.4.14.2 GUJARAT HUMAN DEVELOPMENT REPORT 2004

The report published by Mahatma Gandhi Labour Institute, Ahmedabad written by Prof Indira Parikh and Dr. Darshini Mahadevia incorporates all the indicators of human development in detail. The report make following observations:
(1) The State has experienced a rapid growth during the past few decades, and particularly after the introduction of the economic reforms in 1991.

(2) The State through its aggressive policies in the field of industry, power, ports and other infrastructure has tried to take advantages of new opportunities to attract investment and achieve a high rate of growth.

(3) The State is on the forefront of its industrial development and enjoys 13% of national output.

(4) Although with eye catching economic growth the state lag behind in its achievements in human development. This is due to some distortion they are:

   (A) The agricultural sector of the state lags behind due to weak link between agricultural and non agricultural sector.

   (B) The state encounters depletion and degradation of its environment resources.

   (C) Due to market distortion that do not allow benefits to tickle down to different regions and to different section of population.

(5) The gains that state has made in the different dimension of human development like literacy, education, health etc are much less than the gains in State Domestic Product (SDP).

(6) The report observes that growth and development in eastern tribal region is slow followed by the northern dry region. Both the region experienced high incidence of income poverty and human poverty.
Also agricultural and industrial development is very poor in this region.

(7) From the point of view of poverty reduction small and medium towns’ experiences high incidence of urban poverty and these centre lack finance for improving their conditions.

(8) The report concludes with the suggestion that on the whole the state needs to modify the growth path to strengthen the linkages between growth and development and design specific intervention strategies to intervene in specific region to promote human development.

2.5 DISTRICTS HUMAN DEVELOPMENT REPORT

Currently 56 districts are at various stages of preparation of District Human Development Report (DHDR) under the Planning Commission UNDP Project “Strengthening States Plans for human development”. Gujarat has prepared DHDR for five districts viz Amreli, Dahod, Jamnagar, Surat and Patan, although not yet published. For other state, DHDR is depicted by the table below:

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<th>Chhattisgarh</th>
<th>Gujarat</th>
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2.6 REVIEW OF EMPIRICAL RESEARCH ON HUMAN DEVELOPMENT

In order to shape up the present study and to have in depth insight into the subject various related empirical research papers/study/books are reviewed, that needs a mention at this stage.

The study presented by Preeti Rustagi on “Significance of Gender related Development indicators: An analysis of Indian State” highlights the important and significance of gender related development indicators for assessing relative levels of progress or backwardness of women’s status across states of India. The study has undertaken the analysis of current situation of women across the Indian states based on a select set of indicators covering issues of work, education, health, survival, safety and women participation in private and public decision making. The indicators used in the study include both attainment levels as well as gaps between men and women in selected spheres. The divergent patterns of development are revealed by indicators and also problems are highlighted that complexity and non linearity poses for measuring gender. The article also suggests intervention mechanism that can prove too effective in improving the situation of women. Another three major points are emphasized in the study in context of development indicator of status of women’s status. First, the gender development is a complex and dynamic problem and does not follow uniform path. Second, for any planned development to be effective and for replication of successful experiments, there is a need for more specific details that can be provided by gender related development indicators. Third, the article emphasis that the variables and indicators for women’s status needs to be non complex, simple and individual or disaggregate rather composite, as the purpose of gender development indicators is to generate specific sets of information that can be usefully utilized for identification of
and intervention for the amelioration of the status of women. Individual or disaggregate indicators provide statistical data in format that is amenable to identification of problem and thereby making better tool for comparison than composite index. The writer believes that as the trajectory of growth is dynamic process, so it is by itself not assimilation of different static parts. The study does not aim to undermine the composite index but suggest that for any policy intervention needs tools in the form individual indicators without clubbing which is easily comprehensible and hence useful for implementing intervention. It is worth understanding the indicators considered in the article. The attainment levels and gender gaps are captured in terms of literacy rate and gaps in literacy between men and women. Women work indicator is considered for analyzing the empowerment of women. Other indicators considered are health, survival, participation in private /public decision making and safety/security. Some information on autonomy levels and role of women in decision making in the areas of provisioning of food, healthcare, levels of mobility with having to seek permission have been provided by National Family Health Survey (NFHS) is used in article.

The study by Parveen Nangia and T.K. Roy on “Gender Disparity in Child Care in India: Findings from Two National Family Health Surveys” analysis gender discrimination in child-care practices in India and its states. It also investigates whether this discrimination is declining with time or not. For this purpose data are taken from first two national family health surveys (NFHS) conducted in 1992-93 and 1998-99. The indicators of child-care considered in this study are: immunization of children, duration of breastfeeding, health care of sick children, nutritional status, mortality of children in different ages, and their educational attainment. A gender disparity index is prepared for each indicator and states are ranked on the
basis of this index. States are also ranked on the basis of other indicators of socio-economic development and relationship between gender disparity and socio-economic indicators is explained.

Results of the study show that gender disparity has declined in only some spheres of child-care. For example, at the national level, difference in the proportion of male and female children who did not receive any vaccination declined between first and second NFHS. The male-female difference in the median duration of breast-feeding remained at the same level. Differences in neonatal mortality have reduced, whereas differences in infant and under-five mortality are almost at the same level. The gap between proportion of male and female children age 6-14 attending school and literate children aged 10-14 has also declined between the two surveys. However, the disparity exists in varying degrees in all the states and is noticeably high in the larger states of Bihar, Uttar Pradesh, Orissa and Rajasthan. Increasing social development may help in reducing gender disparity in nutritional status of children. Although educational disparity is strongly related to social development, level of living and female autonomy, it is related to government policies towards child education and implementation of these policies.

The study by J.L.Bharadwaj and Seema Baharadwaj on “Gender Related Development Index for Major States of India: An Economic analysis, propounded that though GDI and GEM are the pioneering work of UNDP it does not reflect the real disparities among men and women in developing countries. The author viewed that women in lower strata of the society is not only economically but they are socially oppressed. The investment in education and health care of females is very low as compared to male. The physical and social environment is also not favourable to women. So, authors have included following variables in construction of GDI:
- Income Component represented by Per Capita Income
- Educational attainment Component
- Health Status Component
- Housing Status Component
- Employment Diversification
- Empowerment of women

The study by *K Seeta Prabhu, P C sarkar and A Radha* on “Gender Related Development Index for Indian State Methodological Issues” draws attention to the problems associated with the construction of GDI at the sub-national level in developing countries using data from 15 Indian states. The analysis shows that a variety of ranking of gender related income attainment and the GDI can be obtained for Indian states using various measures of workforce participation rates and wage rates. The sharp changes in ranks which may be obtained with different sets of data show that there is need for measures of exercising caution while deriving policy measures based on these ranks.

The paper presents five alternate measures of proportional income shares and corresponding GDIs for Indian states. The five measures are used as under:

1. GDI 1, Income 1, using only again workers as defined in ‘99’ census and wage differentials as indicated by the data on average agricultural wage rate for field labour that is reported in ministry of agriculture’s document ‘Agriculture wages in India’.

2. A large number of women in Indian state are engaged as marginal workers and their exclusion in the measure of workers could lead to substantial under enumeration of workforce participation rates of females. So, GDI 2, Income 2, are calculated using main and marginal workers as defined in the 1991 census along with wage differential in agriculture as indicated by the Ministry of Agriculture document.
3. The first two concepts used differential in agricultural wage rates as over 80% of women are engaged in agricultural activities. But UBDP and Shiva Kumar (1996) computes wage differential in non agricultural across males and females. GDI 3, Income 3, calculate income differential in non agricultural activities by NS 43rd round for the year.

4. The census data are subject to certain limitations as far as enumeration of female workforce participation rates are concerned. The NSSO is generally is considered to be more reliable data and so, GDI 4, Income 4 8se NSSO data about rural areas as recorded in 43rd round of NSSO.

5. The last measure is similar to GDI 4 Income 4 measure with only one change which is in casual agriculture workers.

When GDI is calculated taking different measures of income it is realised that states ranking change substantially. The intense care is suggested by authors while deriving policy measures based on such index.

The study on “Recasting Indices for Developing countries: A Gender Empowerment Measure” by Aasha Kapur Mehta tries to develop the three measures of gender empowerment GEI 1, GEI 2, and GEI 3 for 16 Indian states with indicators other than used by HDR UNDP. The author suggests that the indicators or dimensions used in HDR do not reflect the empowerment in India scenario. The third world context the indicator used by UNDP captures very small subset of population and needs to be recasted. The indicators used in the study are:

- Relative representation of women in Gram Panchayat, Panchayat Samits, Zilla Parishads, Legislative and Lok Shabha.
- Relative Literacy rates (As used in HDR)
- Relative life expectancy (As used in HDR)
• Relative exercise to right to vote.
• Relative Income Share:
  ➢ The NSSO data on usual status principal and Subsidiary workers in rural areas and urban areas. The wage differential is calculated taking wage rates for regular agricultural workers as reported by the NSSO round. The WFPRs is taken from Seeta Prabhu study. The goal post used is $ 100 and $ 5448 as minimum and maximum respectively.

The GEM 1 is constructed taking average of nine indices, five of which are political participation as mentioned above and 45% weight in given to political participation and other four indicator is assigned 55% weight.

The GEM 2 is calculated taking one indicator of political participation with the weight of 20% and 20% weight to the rest four indicators.

The GEM 3 is calculated with following weight differential:

• Representation in the Lok Shabha = 5%
• Representation in the legislature = 5%
• Representation in Gram Panchayat = 5%
• Representation in Panchayat Samiti = 5%
• Representation in Zilla –Parisad = 5%
• Literacy Rate = 20%
• Casting Vote = 15%
• Life Expectancy = 15%
• Income = 25%

However, the GEI thus derived from GEM 1, GEM 2 and GEM 3 gives different results the author reveals the indices can b meaningfully used by policy makers and analyst to draw and direct policy decisions.
The study on “Critique of Gender Development Index: Towards an alternative” by Indira Hirway and Darshini Mahadevia devised Gender development index presented by UNDP and calculate GDI for 15 states of India. The indicators used for GDI 1 and GDI 2 are:

The indicators used for GDI 1 are:

1. Income: Percapita share of earned income of women in SDP.
2. Health:  
   (a) Life Expectancy at birth or Maternal mortality rate  
   (b) Incidence of morbidity  
   (c) Percentage of household using polluting fuels.
3. Educational attainment:  
   (a) Literacy rate 7 years above  
   (b) Retention rate after class VIII
4. Housing Status:  
   Percentage of household having no access to either Clean water, or toilet or electricity.
5. Employment diversification:  
   (a) Percentage of women in non farm sector  
   (b) Incidence of rapes per lakh women  
   (c) Percentage of women voting in parliament  
   (d) Percentage of women voting in assembly election

The indicators used for GDM 2 are

1. Environment and Ecology:  
   (a) % of taluka under DDP and DPAP programme.  
   (b) Per capita state area under waste land.
2. Community level basic facilities:  
   (a) Per capita village with all weather approach road.
3. Institutional Participation:  
   (a) Member in credit co-operative per 1000 population.
4. Social Environment:
(a) Incidence of rapes per 1000 women.
(b) Incidence of murder and attempted murder lakh population

5. Inequalities:
(a) Concentration ratio of land ownership.
(b) Range coefficient of variation of per capita bank credit across districts.

The indices for each indicator is created taking maximum and minimum values as maximum and minimum within the 15 states. According to authors the indicators although many dos represent the correct scenario of the countries in south and particularly for the states of India.

The study on” Measurement of Gender differences using Anthropometry’ by Anuradha Khati Rajivan suggest that there is considerable suffering, limitation of choice and inequality even without waiting for the outcome of premature death a dimension that can be captured using anthropometric data. Anthropometry is the systematic measurement of the human body. The article clearly emphasis the inequality in gender through height, weight, head circumference between male and female child.

The study on “Gender Equity in Education: A Review of trends and factors” by Madhumita Bandhopadhyay and Ramya Subramanian, 2008 provides an account of gender equity in schooling in India with particular emphasises on educational access. It aims to highlight educational access issues affecting both boys and girls in India and type of initiative needed to be taken to secure meaningful and sustainable access to all. Specifically, this paper refers to the gendered aspects of access in six zones of exclusion in Indian context viz children who have never been to school and are termed as ‘never enrolled’ (Zone 1); children who enter primary schooling (grades I through V), but drop out before completing primary (Zone 2); children who enter primary schooling but are ‘at risk’ of dropping out (Zone 3); children who
complete primary but fail to make the transition to upper primary (grades VI through VIII) (Zone 4); children who enter upper primary schooling but who drop out before completing the cycle (Zone 5); and children who complete elementary schooling (in the Indian context, ‘elementary’ refers to primary and upper primary levels, or from grade I through grade VIII) but do not enter secondary schooling. Developed as a review of existing literature and data, the paper provides both qualitative and quantitative accounts of gendered access to schooling. In the first section, the paper provides background narrative to the gendered contexts of education in India. There then follows quantitative information on educational access according to gender. Both data and research literature are analyzed to highlight the interlocking nature of educational inclusions and exclusions, viewing gendered access alongside issues such as education of children belonging to scheduled caste, scheduled tribes and Muslims, disability, poverty and child labor. Supply-side issues are also discussed in terms of educational provision and gendered schooling practices. Initiatives designed to address gendered inequalities are then highlighted and critiqued. Finally conclusions are drawn and recommendations are made for future research.

The study on “Developing countries and gender development therein” by Asha Kapur Mehta “Recasting Indices for Developing Countries; A Gender Empowerment Measure”

The study on “Women, Paid Work and Empowerment in India: A review of Evidences and issues” by Sunny Jose analyses that although India is one of the developing countries the women’s participation in the workforce continues to remain quite low, both in absolute and relative terms. As per the recent estimates, 28.7 percent of women as against 54.7 percent of men participated in workforce in 2004-05. Not simply such low participation, rather a progressive range of factors—to which paid work is considered to be
a critical input—make a higher participation desirable. Arguably, the low empowerment of women in India, notwithstanding the conceptual and measurements issues it gives rise to, is one of the factors which provides some persuasive appeal and policy significance to women’s higher participation in paid work. The paper is an attempt to review critically the association between women’s paid work and empowerment in India. As a prelude, we seek to assess the extent of women’s participation in paid work during the last three decades (section two), and offer a glimpse into the nature and quality of women’s work in India (section three). A discussion on the probable causes underlying women’s participation in paid work becomes necessary (section four) so as to assess and contextualize the empowering potentials of women’s paid work (section five). An attempt is also made in the paper to reflect on the issues arising from the assessment with a view to suggest, if necessary, possible directions for further work.

The study by M. Sivakumar on ‘Gender discrimination and women’s development’ tries to study gender discrimination in India, its various form and cause. Importance of women in development, legislation and women participation and solution for gender discrimination.

The working paper on ‘Trends in Regional Disparity in Human and Social Development in India’ by Ravindra. H Dholokia tries to examine the trends in regional disparity in human and social development by considering numerous indicators other than state income. The statistical significance test is used to consider the disparity in the study and the general impression about increasing disparity was not proved. The various output and input indicators are considered in the study and very few indicators exhibited increase in disparity. In fact large number of indicators exhibited either decline in disparity of remained constant. The state government efforts in
social indicators as suggested by the author are perhaps the basic reason for this outcome.

The author suggests that social and human development is considered by all state government as very priority sector in development strategy. The author suggests that the way in which the states government are working in reducing inter state disparity, the central planning may not be required. However, the author clearly suggests that states should have access to public borrowings that will enable them to concentrate in these sectors.

The various indicators used by the author to assess the social and human development are: (The study is for a decade between 1980 to 1990)

- Poverty percentage of the state.
- Per capita consumption expenditure.
- Inflation.
- House hold with Safe drinking water.
- House hold with electricity connection.
- House hold with Toilet facility.
- Infant mortality rate.
- Mortality rate for less than 5 years children.
- Mortality rate for 5 to 9 years children.
- Life Expectancy.
- Overall sex ratio.
- Sex ratio for age 0 to 4
- Total fertility rate.
- Old age dependency ratio.
- Child labor (5 to 14 years)
- Literacy rate
The study by Devaki Jain on ‘Valuing Work: Time as a measure’ explains that there are many inadequacies in the composition of indices especially the GDI and GEI in HDR 1995. The paper addresses the issue of valuation of work which is the crucial element in developing both these indices. The paper has undertaken the field study of the time use of individual in rural areas 127 household is analyzed for six months. The author raises the issue that whether the time itself may not be a more appropriate measure for evaluating work, especially for asset less women workers.

The study by Mukul Mukherjee on ‘Towards Gender-Aware Data System’ explores problems and prospects inherent in developing a data base that can effectively address emerging issues including a more sensitive approach to gender related development index. The paper in the first section provides an overview of state of statistics in four key areas viz education, work participation, health and political participation. The concluding observation shows that data system in our country is efficient and capable of developing measure presented by UNDP, HDR 1995.

The study on ‘Human development, poverty, health & nutrition situation in India’ by G.M. Antony & A. Laxmaiah is undertaken to assess the trends in HDI, human poverty index (HPI) and incidence of poverty among Indian states, the socio-economic, health, and diet and nutritional indicators which determine the HDI, changes in protein and calorie adequacy status of rural population, and also trends in malnutrition among children in India. The paper suggest that India made a study progress in the HDI value but extreme poverty is concentrated in rural areas of northern States while income growth has been dynamic in southern States and urban areas. The study concludes that while India’s HDI value has improved over a time; our rank did not improve much compared to other developing countries. Human poverty has not reduced considerably as per the HPI values. The under nutrition among
preschool children is still a major public health problem in India. The incidence of poverty at different levels of calorie requirement has not reduced in both rural and urban areas. The time trends in nutritional status of pre-school children showed that, even though, there is an improvement in stunting over the years, the trend in wasting and underweight has not improved much.

A study on ‘Estimating Deprivation and Inequality in Human Well beings: A case study of Indian States’ by Dr. Achal Kumar Gaur tries to major human deprivation through Deprivation Index (DI) as developed by Sudhir Anand and Amartya Sen (1994) has been adopted in this paper to measure poverty in twenty Indian States the parameter used are per capita state domestic product, per capita state expenditure on education and per capita state expenditure on medical and public health. The DI of the states is derived as follow:

\[
DI = \frac{\text{Max Value} - \text{Actual Value}}{\text{Max Value} - \text{Min Value}}
\]

The deprivation index for state \( j \) lies in between 0 and 1. An average deprivation index \( DI \) for state \( j \) across the three parameters is defined as a simple un weighted average of the \( DI_j \), i.e.

\[
DI_j = \frac{1}{3} \sum DI_j
\]

The shortfall in the human development index for state \( j \) is then defined to be just this average deprivation. Thus, if \( H_j \) is the human development index for state \( j \), we have, by definition.

\[
HD_j = 1 - DI_j
\]

In order to depict inter-state human poverty (for 20 major states) in Indian federation, deprivation indices for three parameters i.e. per capita state
Domestic product, per capita expenditure on education, per capita expenditure on medical & public health, have been estimated for the period 1981-2002. The paper also attempts to measure the structural shift, if any, in the deprivation indices due to introduction of economic reforms.

*Sonalde Desai* (1994) observed that parent’s reluctance to educate daughters has its roots in the situation of women. Parents have several incentives for not educating their daughters. Foremost is the view that education of girls brings no returns to parents and that their future roles, being mainly reproductive and perhaps including agricultural labor, require no formal education.

*Kalyani Menon Sen and A.K.Shivakumar* (2001) found that girls in India are discriminated against in several ways as fewer months of breastfeeding, less of nurturing and play, less care or medical treatment if they fall ill, less of “special” food, less of parental attention. As a result, girls are far more susceptible than boys to disease and infections, leading to poor health and a shorter lifespan. It is this life-long discrimination in nurturing and care that is the real killer of girls – less visible and dramatic, but as unequivocally lethal as female foeticide and infanticide.

*Berta Esteve – Volart* (2004) described that gender discrimination against women in the market place reduces the available talent in an economy, which has negative economic consequences. Gender discrimination takes many forms. Many social practices seen as normal from a religious or cultural point of view (which may have deep historical roots) have women out of the economic mainstream. These social practices may have profound economic consequences because they do not allow society to take advantage of the talent inherent in women.
Anna-Maria Lind (2006) stated that India’s population still leads traditional lives in rural areas. Religious laws and traditions still determine the lives of many people, particularly women. Even if women are formerly entitled to own land and resources social and religious factors make many women refrain from this right in order not to cause distortions within the family. The preference for having sons permeates all social classes in India, which sets the standard for girls throughout their entire lives. GOI Planning Commission (2008) indicated that discrimination against women and girls impinges upon their right to health and manifests itself in the form of worsening health and nutrition indices. Thus, India continues to grapple with unacceptably high MMR and increasing rates of anemia, malnutrition, HIV/AIDS among women.

Julie Mullin (2008) indicated that the developing world is full of poverty-stricken families who see their daughters as an economic predicament. That attitude has resulted in the widespread neglect to baby girls in Africa, Asia and South America. In many communities, it’s a regular practice to breastfeed girls for a shorter time than boys so that women can try to get pregnant again with a boy as soon as possible. As a result, girls miss out on life-giving nutrition during a crucial window of their development, which stunts their growth and weakens their resistance to disease.