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# Gender Inequality in India: A Mathematical Relationship

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**Abstract**— We know that the advancement, development and empowerment of women in all spheres of life are crucial to the progress, prosperity and peaceful existence of mankind. In this paper we first briefly consider some of the significant works done regarding gender studies in India and abroad in this century. Here in this paper we study whether all or some of these characteristics are dependent on a particular characteristic .Whether some mathematical relationships can be developed taking one of the characteristics as independent variable and other as dependent on it.

**Keywords-** Gender Inequality, human development Index (HDI) and gender related development index(GDE), NFHS, Global Gender Gap Index, LFPR

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### I. INTRODUCTION

We know that the advancement, development and empowerment of women in all spheres of life are crucial to the progress, prosperity and peaceful existence of mankind. In this paper we first briefly consider some of the significant works done regarding gender studies in India and abroad in this century. Nobel Laureate Mr. Amartya Sen<sup>1</sup> in his essay "Many Faces of Gender Inequality" (2001), had formulated about Seven Types of Inequalities. They are (1) Mortality Inequality (2) Natality Inequality (3) Basic Facility Inequality (4) Special Opportunity Inequality (5) Professional Inequality (6) Ownership inequality (7) Household Inequality. He took female-male ratio for the age group 0-5 of German viz. 94.8 as cut-off point below which onlyfemale intervention was suspected. The use of this dividing line produced a remarkable geographical split of India into North-West (below 94.8) and South East part (above 94.8).

It has become widely understood that promoting gender equality is an essential component of an effective economic and human development strategy. For example, World Bank (2003a) reports: "There is now a shared understanding within the development community that development policies and actions that fail to take gender inequality into account and fail to address disparities between males and females will have limited effectiveness and serious cost implications." In its report to

United Nations Questionnaire on implementation of the Beijing platform for Action, the Govt. of India (January, 2005) stated that it had adopted a National policy to the empowerment of women in 2000 to bring about gender justice and make de jure equality to de facto equality. Government of India has taken especial steps to reduce the increased feminization of poverty over last two decades. The UNDP (2006) calculated human development Index and gender related development index (GDE) for almost all the countries of the world. They gave the GDE ranking for 136 countries and the position of India was 96, a rank which is not at all satisfactory<sup>3</sup>. The Gender Inequality Index<sup>4</sup> shows that: Gender inequality varies tremendously across countries—the losses in achievement due to gender inequality (not directly comparable to total inequality losses because different variables are used) range from 17 percent to 85 percent. The Netherlands tops the list of the most gender-equal countries, followed by Denmark, Sweden and Switzerland. Countries with unequal distribution of human development also experience high inequality between women and men, and countries with high gender inequality experience unequal distribution of human development. Among the countries doing very badly on both fronts are Central African Republic, Haiti and Mozambique. The average loss in the HDI due to inequalities about 22 percent—that is, adjusted for inequality, the global HDI of 0.62 in 2010 would fall to 0.49, which represents a drop

from the high to the medium HDI category. Losses range from 6 percent (Czech Republic) to 45 percent (Mozambique), with four fifths of countries losing more than 10 percent, and almost two-fifths of countries losing more than 25 percent. South Asia shows high inequality in health and education: India's loss in HDI is 41 percent in education and 31 percent in health.<sup>5</sup>

In NFHS-3<sup>6</sup> in addition to Household questionnaire, woman's Questionnaire (for women age 15-49), a man's Questionnaire was also there. So this survey gives more scope for comparison of gender statistics for the country and the states. Among the others this survey gives the information about the percentage of women aged 15-49, who have no education, completed 10 years of education, exposure to mass media etc. Similar information can also be obtained for men in the above age group. It also gives information about total fertility rates, infant mortality rates, women (men), whose body mass index is below normal, ever married women of age 15-49 who have ever experienced spousal violence. All these information are given for almost all the states for rural and urban areas.

#### II. INDIA: SOME FACTS

The population of India, at 1210.2 million<sup>7</sup>, is almost equal to the combined population of U.S.A., Indonesia, Brazil, Pakistan, Bangladesh and Japan put together (1214.3 million) Growth during the decade is slightly lower than the population of Brazil .Madhya Pradesh (17th in the world) :Madhya Pradesh is the seventh largest state in the country with population 72.5 million which is more than Thailand, France, United Kingdom, South Africa. Its population is slightly lower than that of countries like Iran, Turkey and Germany. Its population is higher than the combined population of Australia, Sri Lanka and Afghanistan. The increase in population during decade is higher than the total population of Greece (1.13 crore). According to Amartya Sen (1992), there are 32 million missing females in India. Indeed, this deficit is already being felt in many pockets of Punjab, where young men have difficulties finding brides.<sup>8</sup> Men in such situations are increasingly resorting to unusual solutions, such as non-endogamous unions (involving other caste groups), import of brides from other regions (such as tribal India or Southern states) or trafficking.

#### III. POSITION OF WOMEN IN ANCIENT & MEDIEVAL INDIA

It cannot be clearly stated whether equal rights between men and women prevailed or not during the Vedic period. But available sources show that liberal attitudes and practices pertaining to women did exist. Women were actively involved in religious and social matters. They had some freedom to choose their partner in marriage and a widow was permitted to remarry. The high status that women enjoyed during early Vedic period gradually started deteriorating in the late Vedic period. Lineage began to be traced in the male line and sons were the sole heirs to family property. As the economic and social status of sons began to rise, the position of women saw a steep decline. The system of Purdah which was prevalent among royal families, nobles and merchant prince classes prior to the advent of Muslims spread to other classes also. During the medieval period, practices such as polygamy, sati, child marriage, ill treatment of widows already prevalent during Dharmashastra age gained further momentum. The priestly class misinterpreted the sacred texts and created an impression that all these evil practices had religious sanction.

### IV. Position of Women in Modern India

With the advent of the British, the status of women saw many changes. At that time, the customs were devised and sustained by male members . Women were not even consulted. Women were not given equal matrimonial rights to property, rights to widows to remarriage, adoption and divorce rights. The 19thcentury is often termed as the century of social reform. Indians wanted a nation state after independence in which women had a right to vote. Unlike the British and American women, Indian women did not face great difficulty in securing franchise .The word "gender" refers to the sociocultural definition of man and woman, the way societies distinguish men and women and assign them social roles. The distinction between sex and gender was introduced to deal with the general tendency to attribute women's subordination to their anatomy. For ages it was believed that the different characteristics, roles and status accorded to women and men in the society are determined by sex, that they are natural and therefore not changeable.

Women's empowerment in India is heavily dependent on many different variables that include geographical location (urban/rural), educational

status, social status (caste and class), and age. Policies on women's empowerment exist at the national, state, and local (Panchayat) levels in many sectors, including health, education, economic opportunities, gender-based violence, and political participation. In India women continue to be the most marginalized sector of the population and in the context of massive economic restructuring unless women's welfare is integrated into the mainstream economy, very little real progress is likely to be made. The weaker sections are still unable to assert themselves against the privileged class and women have continued to be the single largest group of 'backward citizens'. In the 1991 World Bank Report on Gender and Poverty in India, Lynn Bennett announces: "Now, researchers, women's activities, and government departments are reaching a new consensus: women must be seen as economic actors with a particularly important role to play in efforts to reduce poverty". But, the Shramshakti report on self-employed women and women in the informal sector published in 1988 deplored women's extremely vulnerable working conditions across diverse occupations under high levels of discrimination, as well as the range of health hazards women are exposed to on an everyday basis. <sup>9</sup> Here in this paper we study whether all or some of these characteristics are dependent on a particular characteristic .Whether some mathematical relationships can be developed taking one of the characteristics as independent variable and other as dependent on it.

The gender based disparity in India is reflected in its low position in the Global Gender Gap Index developed by World Economic Forum. Out of the 134 countries covered. India ranks 112 in 2010.<sup>10</sup> India's rank was 98 in 2006,114 in 2007& 2009 and 113 in 2008. Iceland, Norway, Finland, Sweden, New Zealand were top five ranking countries while Sri Lanka was at 16th rank ,USA at 19th, China at 61, Bangladesh at 82, Pakistan at 132 rank. On the basis of Gender Gap Index it is generally agreed that economic discrimination is probably the root cause of difference between the men and women in matters of economic participation and opportunity, educational attainment, health and survival and political empowerment. Global Gender Gap Report 2010 placed India(23) way ahead of some advanced nations like Canada(36), USA (40), France(47), China (56), Japan(101) so far as political empowerment is concerned, however, the participation of women in the economy, their educational attainments and access to health is far below these advanced countries. India is at the rank 128 in economic participation and opportunity, 120th in educational attainment, 132nd in health and survival.

Table No. 1

Table No. 1					
GGI 2006	Out of 115 countries	RANK OF INDIA 98	Score0.601		
GGI 2007	Out of 128 countries	114	0.594		
GGI 2008	Out of 130 countries	113	0.606		
GGI 2009	Out of 134 countries	114	0.615		
GGI 2010	Out of 134 countries	112	0.615		

Sex Ratio: India and Other Countries
Table No. 2

World 984

S.No	Country	Sex ratio
3.140	Country	Sex ratio
1	Russian Federation	1165
2	Japan	1054
3	United Kingdom	1037
4	Brazil	1031
5	South Africa	1028
6	<b>United States of America</b>	1026
7	Republic of Korea	1020
8	Australia	1011
9	Iran	968
10	India*	940
11	China	927
13	Myanmar	1048
13	Srilanka	1032
14	Nepal	1014
15	Bangladesh	978

(Source: World Population Prospects (mid year estimates), 2010 revision, Sex and age, United Nation)

The sex ratio of a few countries is presented in the statement to understand the trend prevailing in various parts of the world. The sex ratio of India is slightly better as compared to China, the most populated country. However, the sex ratios in European, African and American countries are comparatively better than India. The sex ratio of Sri Lanka, Nepal & Myanmar is better compared to India.

Table No. 3

Top Five and Bottom Five States/UTs by Sex Ratio: 2011

Top five		Bottom five	
States/UTs	Sex Ratio	States/UTs	Sex Ratio
Kerela	1,084	Daman & Diu	618
Puducherry	1,038	Dadra & Nagar Haveli	775
Tamil Nadu	995	Chandigarh	818
Andhra Pradesh	992	NCT of Delhi	866
Chhattisgarh	991	Andaman & Nicobar	878

India as per provisional figures of Census 2011

Overall Sex ratio at the National level has increased by 7 points since Census 2001 to reach 940 at Census 2011. Increase in Sex Ratio is observed in 29 States/Uts.

## V. SEX RATIO

There are various evidences of the low status of women in Indian society. The differential access to various opportunities is reflected in the sex ratio which is adverse to females. The sex ratio is 940 females per 1000 male in 2011, while in the United Kingdom, this is 1,170 to 1000. The sex ratio in India has been historically negative. In census 1951, there are eleven states and Union Territories that had sex ratio more than unity but this number declined regularly up to one in 1991 and now in 2011 three (Kerala, Tamilnadu and Puducherry). Among the states Bihar, Gujrat and Jammu-Kashmir and the Dadar&Nagar Haveli and Daman & Diu Union Territories have experienced a decline in the sex ratio. Here it is satisfactory that the states

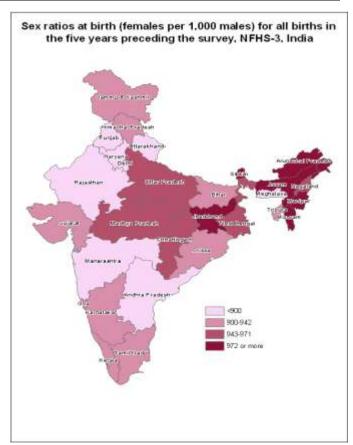
having historically low sex ratio such as Punjab, Haryana, Delhi and Chandigarh have shown some improvement in sex ratio.

It has been revealed that in 2011, the world is having 984 females against 1000 males. In ten most populous countries in the world Russian Federation, Japan, U.S.A., Brazil, Nigeria and Indonesia females outnumber males while it is low in, Bangladesh, China, Pakistan and India.

Table No. 4
Sex Ratio States/UTs

S. No.	India/States/UnionTerritory INDIA 933- 940	Sex Ratio (females per1,000 males)		
	IIVDIA 333- 340	2001	2011	
01	Jammu & Kashmir	892	883	
02	Himachal Pradesh	968	974	
03	Punjab	876	893	
04	Chandigarh #	777	818	
05	Uttarakhand	962	963	
06	Haryana	861	877	
07	NCT of Delhi #	821	866	
08	Rajasthan	921	926	
09	Uttar Pradesh	898	908	
10	Bihar	919	916	
11	Sikkim	875	889	
12	Arunachal Pradesh	893	920	
13	Nagaland	900	931	
14	Manipur	974	987	
15	Mizoram	935	975	
16	Tripura	948	961	
17	Meghalaya	972	986	
18	Assam	935	954	
19	West Bengal	934	947	
20	Jharkhand	941	947	
21	Orissa	972	978	
22	Chhattisgarh	989	991	

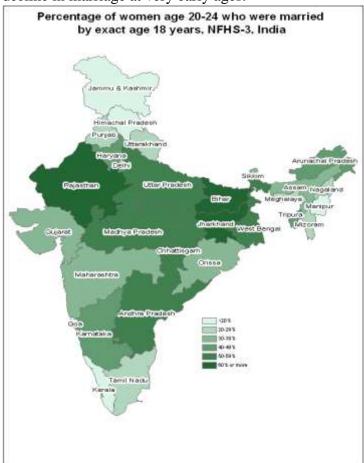
23	Madhya Pradesh	919	930
24	Gujarat	920	918
25	Daman & Diu #	710	618
26	x Dadra & Nagar Haveli #	812	775
27	Maharashtra	922	925
28	Andhra Pradesh	978	992
29	Karnataka	965	968
30	Goa	961	968
31	Lakshadweep #	948	946
32	Kerala	1058	1084
33	Tamil Nadu	987	995
34	Puducherry #	1001	1038
35	Andaman & Nicobar Islands #	846	878



VI. EDUCATION

The literacy for women (65.46%) is lower than that for men (82.14%). In India, only 88 percent girls are enrolled in primary school but out of them only 11 percent girls enroll in tertiary education. Actually education is a key driver of economic growth and social change, and its importance for achieving

gender equality is well recognized. Poverty remains a key obstacle to girls' access to education. Parents in the context of limited family resources may favour educating boys over girls. Women are discriminated against men for health and nutritional facilities. Millions of women simply lack the freedom to go out and seek medical help. In India early marriage can force some girls to drop out of school because the mean age of marriage of Indian women is only 20 years. NFHS-3 data reveals that, The median age at first marriage for women in India has been very slow to increase over time from its low level. For women age 25-49, the median age at marriage was 16.1 in NFHS-1; in NFHS-2 it was 16.4 and in NFHS-3 it is 16.8. Thus, in over a decade, the median age at marriage has risen by less than one year. In NFHS-3, the median age at marriage for men age 25-49 is 22.7 years, almost six years higher than for women. However, the median ages at marriage for women and men and the average age difference mask great variation in the age pattern of marriage for both sexes and the decline in marriage at very early ages.

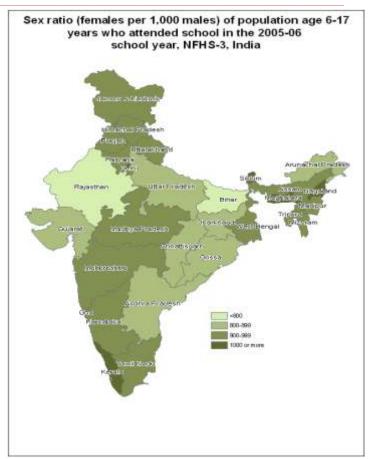


School attendance by age in the school

In the year 2005-06, 71% of children age 6-17 attended school-77% in urban areas and 69% in rural areas (IIPS and Macro International, 2007). As NFHS-3 data shows, 66% of girls age 6-17 attended school, compared with 75% of boys in the same age group. The sex ratio of children 6-17 attending school in the 2005-06 school year is 889 girls per 1,000 boys. While gender differentials in school attendance are minimal among children age 6-10, they increase with age. In fact, the sex ratio of girls attending school per 1,000 boys attending school declines from 957 in the age-group 6-10, to 884 in the age-group 11-14, and then to a low of only 717 in the age-group 15-17. In addition to the gender differential in school attendance among children age 15-17, the low absolute levels of school attendance for both girls and boys in this age group is also of concern. Less than half of boys and about one-third of girls age 15-17 attend school. An examination of the data on school attendance by age, however, reveals that gender disparity in school attendance is largely a rural phenomenon.

## **Educational Scenario in States**

The sex ratio (girls per 1,000 boys) of children age 6-17 who attended school in the 2005-06 school year ranges from 745 in Rajasthan and Bihar to 1,081 in Meghalaya. There are nine states where the sex ratio of children attending school is less than 900, 16 states where the ratio is 900-999 and four states where the proportion of girls attending school is more than the proportion of boys attending school. However, enrollment rates show that far more men attend school than women, and that the number of women falls with each rising level of education. These results suggest that, despite the variation across states in the proportion of children attending school, gender equality in school attendance has been attained in some states and is close to being attained in several other states. States where gender equality in school attendance is close to being attained stretch from the south and west of India, through the center into the north, with several states in the northeast also falling in this group. NFHS data show that educational attainment of ever-married women has increased between the three surveys. In NFHS-1, only 11% of evermarried women had 10 or more completed years of education; this proportion rose to 14% in NFHS-2 and is now at 17% in NFHS-3.



Despite this increase, however, less than 1 in 5 evermarried women have completed 10 or more years of education in India.

NFHS-3 reveals that, Education levels vary widelythroughout India. The percentage of women who have at least 12 or more years of education ranges from 5 percent in Bihar; 7 percent in Tripura, Rajasthan, and Chhattisgarh; and 8-9 percent in Jharkhand, Orissa, West Bengal, Andhra Pradesh, and Madhya Pradesh, to 37 percent in Delhi. The corresponding range for men is from 12 percent in Tripura to 38 percent in Delhi. Delhi, Manipur, Himachal Pradesh, Uttaranchal, Goa, and Kerala are the states with the highest proportion of persons who have completed at least 12 years of education. Notably, the gender gap in the proportions with 12 or more completed years of education is less than 10 percentage points in all states except Manipur (11 percentage points) and Bihar (16 percentage points). In Punjab, Goa, and Kerala, slightly more women than men have completed 12 or more years of education.

Now we found that there is a high Mathematical relationship between percentage of women with no education (pcwnedu) and percentage of women who have completed 10 years of education(pcw10yed).

All women and men here are referred to 15-49 years of age groups. The Karl Pearson correlation co efficient is found out to be r=-0.884. (N=29), R2 for linear, quadratic and cubic relationship comes out to be 0.783 (d.f 17), 0.813 (d.f 16) and 0.838 (d.f 15) respectively. So we can expect a satisfactory third degree relationship between pcwnedu and pcw10yed .Of course loss of d.f. will be higher in this case.

### VII. HEALTH STATUS OF WOMEN IN INDIA

Reports show that India's maternal mortality ratio (MMR) is highest in South Asia. An estimated 1,36,000 women die in India every year due to pregnancy related setbacks. The infant mortality rate in India is steadily declining. The NFHS-3 estimate of infant mortality is 57 deaths per 1,000 live births, compared with the NFHS-2 estimate of 68 deaths per 1,000 live births and the NFHS-1 estimate of 79.Experts estimate that 70% of the maternal-related deaths are preventable. Good sanitation and nutrition and avoiding overwork and stress will improve the health of Indian women. India still ranks first among the 12 countries that account for 2/3 of under-five and maternal deaths in the world. According to the UNICEF report on children 2009, avoidable complications during child birth results in the death of 78,000 women in India every year. One million children born in India are dying every year even before they become 28 days old. The maternal mortality rate of India stands at 301 per 100,000 births. It is highest in Uttar Pradesh at 517 and lowest in Kerala at 110. Despite an increase in institutional deliveries, 60% of pregnant women still deliver their babies at home. In India more than 2/3 of all maternal deaths occur in a handful of states like Uttar Pradesh, Uttarakhand, Jharkhand, Orissa, Madhya Pradesh, Chhattisgarh, Rajasthan and Assam. Correlation coefficient between IMR and percentage of women without education is 0.896, R2 for quadratic and cubic relations are found to be 0.822 and 0.834 with 14 and 13 d.f respectively (N=27). A very high correlation is found between percentage of women without education and TFR (r=.889), R2 for quadratic and cubic relations were 0.857. Percentage of women whose body mass index are below normal and percentages of women with no education are highly correlated (r = 0.81).

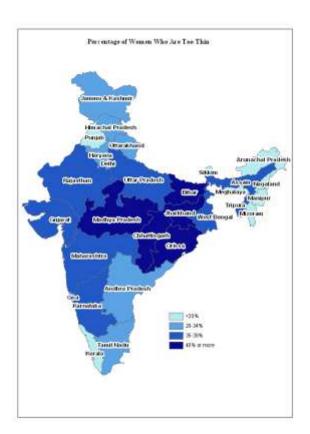
# **Nutritional Status**

Adults in India suffer from a dual burden of malnutrition (abnormal thinness and overweight or obesity). Almost half of Indian women age 15-49 (48 percent) and 43 percent of Indian men age 15-49 have one of these two nutritional problems. According to Economic Survey of Government of India to estimate poverty, nearly 38% of India's population is poor, based on indicators for health, education, sanitation, nutrition and income to estimate the extent of poverty. The nutritional status of Indian women is not adequate; 33 percent of married women (aged 15-49 years) are too thin (i.e, BMI <18.5 kg/ m²), and 11 percent are too short (i.e, height <145 cm). In 2004, more than 75% women were anaemic.

In our study we have found that, when government started the incentive in Janani Suraksha Yoana, in just five years beneficiaries increased 13 times from 0.74 million in 2005-06 to nearly 10 million in 2009-10. But 60% deliveries till 2010 are not attended by skilled health staff. Women are discriminated against men in employment also in India.

NHFS-3 reveals that, More than one-third (36 percent) of women age 15-49 in India have a BMI below 18.5 indicating chronic nutritional deficiency, including 16 percent who are moderately to severely thin. NFHS-3 asked married women who in their household usually make decisions on their health care, on making large household purchases, making purchases for daily household needs, and on visiting their family or relatives. Questions were also asked about access to money and credit, freedom of movement, and gender-role attitudes. Only 37 percent of currently married women participate (make the decision alone or jointly with their husband) in making all four decisions. Forty-five percent of women say they have some money that they can use; 15 percent have a bank or savings account they themselves use; 39 percent know of a programme that gives money to women to start or expand a business of their own; and 4 percent of all women have ever taken a loan from such a programme. Only one-third of women are allowed to go by themselves to the market, to a health facility, and to places outside their own community. The proportion having money varies from 39% among the never married and 45% among the

currently married, to 66% among the divorced, separated, deserted, or widowed women.



VIII. LABOUR FORCE PARTICIPATION

In addition to the overall variations in the estimates of labour force in the country, the gender dimension of the labour force is equally important to understand. In general, women participation in labour market has been typically low in India. Only 25 to 30% women in rural and 15 to 18% in urban areas participate in labour market. One of the reasons of low participation of women in labour force is the non-recognition of a number of women centric works as economic activities (such as cooking, collection of fuel and fodder, house and utensils cleaning etc.). Most of the increase in women participation in labour market is contributed by young women in urban areas. Since India is committed to creating a gender friendly labour market environment, there is increasing realization to broaden the definition of economic activities on the one hand and to provide a conducive working environment on the other, so that women's contribution to the national economy is properly In India Female Labour Force recognised.

Participation Rates are quite lower than male LFPR. The ratio of female LFPR to male LFPR is 0.42.

Table No. 5

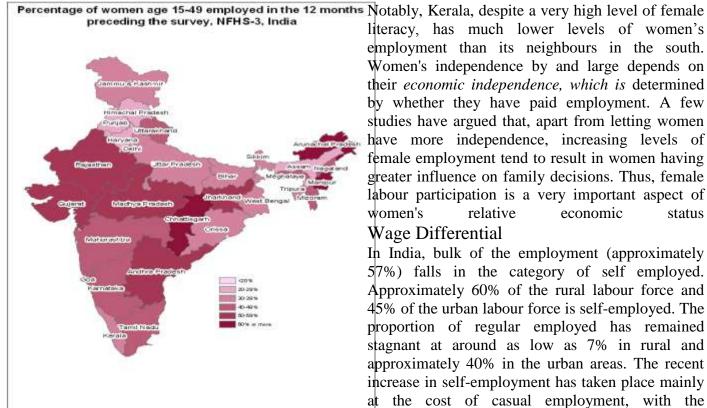
Workforce Participation Rates by Gender, 2004-05

	All Ages			
	Rural		U	rban
Employment Status	Male	Female	Male	Female
<b>Usual Principal Status</b>	53.5	24.2	24.2	13.5
Subsidiary Status only	1.2	8.5	0.8	3.1
Usual Principal & Subsidiary Status	54.7	32.7	54.9	16.6
		15-59	Years	
UsualPrincipal Status	85.6	38	79.2	19.7
SubsidiaryStatus only	1.6	13.5	1	4.5
Usual Principal & Subsidiary Status	87.1	51.5	80.2	24.2

# IX. EMPLOYMENT STATUS

According to NFHS-3 , 87.5% of men and only 43% of women age 15-49 have been employed in the past 12 months. The Census projection report shows that the proportion of population in the working age group (15-59 years) is likely to increase from approximately 58% in 2001 to more than 64% by 2021 .

Most employed women work in agriculture: and only 7% are in professional, technical and managerial occupations. 14% of households in India are headed by a woman. In the 13 years between NFHS-1 and NFHS-3, the proportion of households with a woman designated as the head has risen by more than half, from 9% to 14%. Gender wage gaps persist in all parts of the world and are estimated to range from 3 to 51 per cent, with a global average of 17 per cent.



# **Regional Variation**

Women workers constitute about 32 per cent of the Indian workforce and their share in employment has been on the rise (NSSO data). Most of these women workers are based in rural India. This is because typically rural areas are poorer, and poorer women are more often in paid employment than women from better-off households where social norms and patriarchal values restrict women's entry into the In rural India, labour force labour market. participation rate for women in 2004-05 was 36.6 per cent as compared to 22.3 per cent for urban women. But in recent years, the urban labour force for women is growing at a faster pace than that of rural women (for urban women from 19.7 per cent in 1999-2000, and for rural women from 34 per cent). However, there are also very significant differences across states in India.

# **Women's Employment in States**

The proportion of women age 15-49 who have been employed at any time in the 12 months preceding NFHS-3, ranges from a low of 23% in Delhi, 25% in Punjab, and 28% in Haryana, to a high of 64% in Manipur, 69% in Chhattisgarh, and 73% in Arunachal Pradesh. With a few exceptions, women's employment is lower in the northern and eastern states than in the central and southern states. literacy, has much lower levels of women's employment than its neighbours in the south. Women's independence by and large depends on their economic independence, which is determined by whether they have paid employment. A few studies have argued that, apart from letting women have more independence, increasing levels of female employment tend to result in women having greater influence on family decisions. Thus, female labour participation is a very important aspect of economic women's relative status

# Wage Differential

In India, bulk of the employment (approximately 5/7%) falls in the category of self employed. Approximately 60% of the rural labour force and 45% of the urban labour force is self-employed. The proportion of regular employed has remained stagnant at around as low as 7% in rural and approximately 40% in the urban areas. The recent increase in self-employment has taken place mainly at the cost of casual employment, with the proportion of the latter declining from 37% to 33% in rural and from 18% to 15% in urban areas between 1999-2000 and 2004-05 respectively.

Table No. 6

	Male	Female	Index of gender bias in wage payments
Regular			
Rural	144.93	85.53	0.59
Urban	203.28	153.19	0.75
Casual			
Rural	55.03	34.94	0.63
Urban	75.1	43.88	0.58

Source: Calculated from unit level data of NSSO, 2004-05

# Wage Differential by Gender

In addition to low wages for casual workers, there is also gender bias in wage payments. It is important to note that the gender bias in casual wage payment is low in rural areas (0.63) than in urban areas (0.58). However, the reason for low gender bias in wage payments in rural areas is highly suppressed

wages both for male and female rural workers. The gender bias is also noticeable in case of urban regular workers. Bulk of the employment in India is concentrated in the agriculture sector. In rural areas, agriculture constitutes up to 68% of the total rural employment. Approximately 83% female workers and 66% male workers in rural areas are engaged in agriculture. Obviously, most of the workers engaged in agriculture are highly under-employed with very low levels of return. Diversification of the rural workforce to non-agriculture activities has been very low and the same has been negligible in case of the rural women workforce.

Table No. 7

Workforce Participation Rate by Level of Education, 2004-05						
Highest Level of Educational Attainment	Rural		Urban			
	Male	Female	Male	Female		
Illiterate	50.8	39.2	37.6	20.1		
Literate-&-up to- primary	44.9	21.3	42	12		
Middle	70.3	31.8	66	13.6		
Secondary	72.6	30.3	67	12.2		
Higher-secondary	70.8	25.1	60.8	12.9		
Diploma/certificate- course	81.5	52.2	79.6	48.4		
Graduates & above	85	34.3	79.5	28.9		
All	54.6	32.7	54.9	16.6		

Source: Computed From Unit Level Data Employment-Unemployment Survey NSSO 2004-05,

### Agriculture

In rural areas, nearly 83 percent women workers are engaged in agriculture, either as cultivators or laborers as compared to 66 percent male workers. It shows the decline in the proportion of men as well as women in agriculture; but the decline is much sharper for men.

# Percentage of Rural Male and Female Workers in **Agriculture for Different Years**

1972-73 1977-78 1983 1987-88 1993-94 1999-00 2004-05 Male 83.2 80.7 77.8 74.6 74.1 71.3 66.5 Female89.7 88.2 87.8 84.8 83.2 86.1 85.2 Source: NSSO Employment-Unemployment Surveys, Various

There has been a kind of 'creeping feminization' of agriculture; male workers have steadily moved out of agriculture (and also out of rural areas) while for women workers, this movement has been extremely tardy. Men have entered into more diversified occupations in non-agriculture, while women have largely tended to remain in agriculture that has been largely stagnant. In 1972-93, 83.2 percent male workers and 89.7 percent female workers were engaged in agriculture. By 2004-05, only 66.5 percent male workers were in agriculture compared to 83.2 percent female workers. This has to be seen in the context of the fact that returns to labor are, on average, higher in non-agriculture than agriculture, although the size of assets operated and type of employment, among other factors, are also relevant.

#### X.ECONOMIC **OPPORTUNITIES** AND GENDER DISCRIMINATION

discrimination gender reduces economic opportunities then government action to counter it is desirable. Intervention is made difficult by the fact that discrimination is due to complex interaction of social norms (Such as attitude towards women's employment,) intra household allocations that affect endowments, and other factors that participation in certain segments of the labor market. However, aiming to achieve gender equality through regulatory mechanisms can easily backfire for example, by protecting only the so called "creamy layer" who have entered into the job market while excluding the majority who were not able to do so . This has given rise to demands for a multipronged approach that combines access by opportunities for civic women to property, participation e.g. through reservation of a certain

share of local government seats for women or other disadvantaged groups , and issues pertaining to social discrimination based on castes . Even though there is little evidence of the impact of such measures on the level of discrimination, studies suggest that such an approach may have improved the delivery of local public goods .

### XI. CONCLUSION

A seemingly common belief is that the economic condition of women improves with economic development. This is because economic development improves the population's economy, thereby improving women's absolute economic condition. It also increases the education of women and the rest of society which raises awareness about women's inferior position, thereby prompting remedial action. Note that when talking about women's economic position, one always means relative to men. Economic development certainly can improve everybody's economic status, but it does not necessarily improve the position of women relative to men. Furthermore, if traditional attitudes are deeply rooted in a society, it may take a long time for there to be an acknowledgement of women's subordinate position and attempts to improve it. Women from infant stage to their old age women get an unfair deal in the matter of health. Their health concerns receive a low priority resulting in women bearing pain and discomfort in silence for long periods of time without seeking relief. The sex ratio in India speaks volumes about the neglect. It is not just the poor who for want of resources and with the inherent preference for a boy are guilty of bias. Even in well-to-do families parents tend to spend more on the health-care of boys than on girls.

It is sad that even after more than 67 years of Independence India still has the world's largest number of poor people in a single country. Of its nearly 1 billion inhabitants, an estimated 260.3 million are below the poverty line, of which 193.2 million are in the rural areas and 67.1 million are in urban areas. Poverty affects the woman most in as much as the female members in the family are denied education, healthcare, nutritious food, and good sanitation because of poverty. Poverty directly affects the future of women. Girl children are discriminated in the matter of feeding compared to boys. Studies have shown that girls in rural areas take a mean of 1355K.Cals/day in the 13-15 years

age group and 1291 K.Cals/day in the 16-18 years age group, which is much below the recommended levels. The disproportionate impact of poverty on girls is not an accident but the result of systematic discrimination.

A National Planning Committee instituted in 1939-40 suggested that women should be recognised as workers for their domestic work and be granted the rights and privileges as such, implying that they would gain social security provisions and union support nets. Though nothing ever came of the recommendations of the committee, the idea indicates a need to somehow organise domestic women and make explicit and rewarded the value of their labour. The employment situation in India, as revealed by the study of available data, suggests the presence of discrimination against women at all levels. Labour Force Participation Rates (LFPRs) are lower for women than for men . Government expenditure on health, education, and social services is consistently falling as a percentage of GDP in Indian Economy. The prospect of further worsening India's sex composition requires close monitoring of current sex-ratio trends in the country. The Indian scenario of female discrimination is extremely complex in view of India's social and economic diversity: the interplay of cultural and economic factors, along with the impact of policy initiatives, has produced heterogeneous situation; in turn, this complexity offers ways to better understand the mechanisms at work, and to inform the policy debate on the struggle against gender discrimination.

At the end of this paper, it is clear that biases of gender and economic status are still prevalent in Indian economy and society. Women, at the wrong end of intra- and inter-household resource allocations not only encounter a more intense experience of poverty and resource deprivation but also have fewer means to seek some kind of empowerment that would enable them to cope with that experience. Education must be linked with programs on employment and empowerment.

Globally, women are impoverished: feminization of poverty is not peculiar to India. India has made strides towards bridging the gender gap but still has a long way to go before women can take control of their own lives. The progress made with regard to women's access to and participation in education, employment, health facilities and decision making

process, however, has been unsatisfactory. So it is necessary that steps must be taken to bridge the gender gap that exists in employment opportunities, educational attainment, health status and political empowerment.

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Employment Status / Sector	Rural		Urban			
<u>Agriculture</u>	Male	<u>Female</u>	Persons	Male	<u>Female</u>	Persons
Self Employed	<u>63.8</u>	<u>64.1</u>	<u>64.1</u>	<u>70</u>	<u>62.8</u>	<u>66.9</u>
Regular/salaried	<u>1.3</u>	<u>0.5</u>	<u>1</u>	<u>5,3</u>	<u>1.9</u>	<u>3.8</u>
Casual labour	<u>34.9</u>	<u>35</u>	<u>34.9</u>	<u>24.7</u>	<u>35.3</u>	<u>29.4</u>
Non-agriculture						
Self Employed	<u>47</u>	<u>59.6</u>	<u>49.7</u>	<u>43.1</u>	<u>44.4</u>	<u>43.4</u>
Regular/salaried	<u>24.2</u>	<u>19.8</u>	<u>23.2</u>	<u>42.9</u>	<u>43</u>	<u>43</u>
Casual labour	<u>28.9</u>	<u>20.6</u>	<u>27.1</u>	<u>13.9</u>	<u>12.6</u>	<u>13.7</u>
<u>All workers</u>						
Self Employed	<u>58.1</u>	<u>63.7</u>	<u>60.1</u>	<u>44.8</u>	<u>47.7</u>	<u>45.4</u>
Regular/salaried	<u>9</u>	<u>3.7</u>	<u>7.1</u>	<u>40.6</u>	<u>16.7</u>	<u>39.6</u>
Casual labour	<u>32.9</u>	<u>32.6</u>	32.8	<u>14.6</u>	<u>16.7</u>	<u>15</u>
<u>Total</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Figure 1. Source: Computed From Employment-Unemployment Survey NSSO 2004-05, Unit Level Data.