


# Inequalities in Farm Sector Labour Force in India

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## Abstract

*The back bone of the rural economy in India is the farm sector or agricultural sector. It also contributes an overall economic and social development towards the nation. Farm activities include agriculture (crop production), plantation, animal husbandry (milk, meat, egg, etc.), forestry & logging, and fishing. In India, the lion share of the labor force is engaged in the farm sector (Pal and Dutta.*

*Though the female labor force participation is typically low in our country, their share in agriculture is commendable and not decreasing as it has been noticed in all other sectors in the recent past. But whether this participation in true sense is in gain full economic activities is to be looked into. Wage discrimination, stereotyping of works, working hours are some inequalities that females are facing at the workplace. In this analysis, an attempt has been made to see the inequality in male-female participation in farm sectors. Their wage differentials in rural-urban sectors, in different states, have been computed following NIC (National Industry Classification) and NCO (National Classification of occupation) using unit-level data of NSS (National Sample Survey, 68th round 2011-12 and Periodic labour force survey, 2017-18). From preliminary observations, it is noted that there is an increase of rural females as market-oriented crops producers or animal producers and related workers from 2011-12 to 2017-18. The NIC gives the industry-specific picture, where they mainly engaged in mixed farming, plant propagation, post-harvest activities along with perennial and non-perennial crop production. Reduction in a rural male in all these industries is noted as an opposite criterion. In both the rural and urban sectors, gender inequalities persist in wages in almost all NIC activities. Some exceptions like raising of cattle, supporting activities for crop production, fresh water aquaculture, growing of bush fruits and nuts where average earnings of females are a little bit higher than male workers working as either casual labor or regular waged salaried person.*

**Keywords:** Wage inequality, Gender stereotyping, Agriculture labor, Female labor force participation and Activity status.

## Introduction

The importance of agriculture can never be over-stated in India. Although the share of agriculture in nation's GDP has been declining, yet agriculture and its allied sectors like forestry and fishing (but not including mining and quarrying) contributes nearly 14% to India's GDP, accounts for about 11% of our exports, and supports half of our population's livelihood, besides also being the source of raw material for a large number of industries (FICCI, 2015). Farm sector, agriculture, and the allied sectors include agriculture (crop production), plantation, animal husbandry (milk, meat, egg, etc.), forestry & logging, and fishing. It is said to be the backbone and most important sector in rural India, major means livelihood for the group of the rural dwellers (about 70.7 percent in 2017-18, PLFS 2017-18, GOI). This sector also plays a vibrant role in reducing the incidence of poverty in the country. Agriculture continues to account for more than half of the work force even though its share of GDP (As per the Economic Survey 2017–2018) is about 16% to India's GDP at the current price. While more than half of all the rural males reported themselves as workers, the corresponding proportion for females by various measures only between

one-fifth and one-third of the relevant population. The total work force participation (WPR) in India by usual status was 51.7 percent for rural males, 17.5 percent for rural females, 53 percent for urban males, and 14.2 percent for urban females (As per Periodic Labour force survey 2017-18 by NSS).

### Literature Survey

Women worldwide perform most of the domestic tasks, including both household maintenance and childcare. In our country, their primary role established as homemakers and care giver within the household. As an outcome, the Indian labor force is characterized by low female participation. The investigation reveals that the workforce participation rate (Primary status, PS+ Subsidiary status, SS) for female workers in the rural areas was recorded 34.0 percent during 1983, which experienced a continuous decline after the introduction of new economic policy. However, their share in agriculture is commendable and not decreasing, as has been noticed in all other job sectors in the recent past. More than 70% of females and more than 50% male of the total work force were engaged in agriculture till 2017-18 (PLFS survey NSS, 2017-18). Agriculture provides employment not only to the adult males of households but also to women in households. Women work extensively in the production of major grains and millets, in land preparation, seed selection and seedling production, sowing, applying manure, weeding, transplanting, threshing, winnowing, and harvesting (FICCI, 2015).

In our country, women are indispensable providers to agriculture and rural economics, as seen in other developing countries. But very often, women's participation in agriculture fails to focus much attention. Their participation remains inadequately recognized, hence hidden and unclearly reflected in the total labor force. The causes of this may be in the fact that a large section of rural female workers (Almost 69 percent in the year 2011-12) concealed within the aggregate figures of self-employment as unpaid family labor/helper. They don't receive any independent payment/income but contribute their labor to the production. Moreover, agricultural support services concentrate heavily on field crop production, ignoring small scale

agriculture like poultry rearing, home-gardening, small scale aquaculture, etc., which is predominantly women's sectors of participation.

As it is pointed out that the majority of the women in rural areas work in agriculture related activities, it would also be interesting to know in which form they are working; for instance, three-quarters of the women work as cultivators in family farms and some 5 percent in rented land. Livestock farming and dairy farming are also prevalent, though very less.

In India, the lion shares of the labor force who are engaged in the farm sector are self-employed. However, whether this lion share of the workforce is in true sense, engaged in gainful economic activities, is to be looked into. The female has to face various types of discrimination in the work place; wage is one the most significant issue. This wage discrimination arises from different factors. Social group variation, religious affiliation changes in occupational structure, state/regional variation also account for wage discrimination. Due to the lack of educational awareness and technology-led advancement, rural females failed to derive equal opportunities in the farm sector or this background; the present study has been conducted with the objectives to:

1. Reveal the extent of women's participation in different agricultural activities.
2. Explore the present status of women participation in agricultural extension services.
3. Their wage differentials that exist in rural-urban sectors, in different states, among different social groups or different religions.
4. The amount of time spent by male/female in their daily schedule.

### Data

The analysis has been done following NIC (National Industry Classification, 2008) and NCO (National Classification of Occupation, 2004) using unit-level data of NSS. It is a nationwide large scale population-based survey under the Ministry of Statistics and Program Implementation of the GOI. The data from the two surveys are:

- Employment and Unemployment Survey in the year 2011-12 (68th round).
- Periodic Labour Force survey conducted in the year 2017-18.

Unit level data of NSS (which is considered as good as primary data) 68th round 2011-12 and Periodic labor force survey 2017-18 has been used in this analysis. NSS provides information on each member of the household and identifies his/her occupation by National Industrial Classification (NIC) in 5digit code and National classification of Occupations (NCO) in 3-digit codes. At first, I have estimated the number of male and female workers following NCO and NIC codes. From the given sample observations, a good representation or estimation of total male and female workers at the national level has been done using multipliers (this is a number provided against every sampled personnel, and then multiplied by the sample value; giving the total or estimate of that sample observation at National level).

The sample size consists of 2,80,763 individuals in rural and 1,76,236 individuals in urban and, in total, 4,56,999 individuals in the year 2011-12. Covering 4,33,339 total individuals in the year 2017-18, of which 2,46,809 are from rural and 1,86,530 individuals from urban.

The wages are defined as the total of earnings in Indian rupees (INR) received as cash or kind converted into money6 value over survey days. These earnings are then divided by the number of days worked. The total number of days is calculated as the sum of full days worked, which are given the values 1.0, and the number of half-days worked represented by 0.5. The wage received per day is weighted by an appropriate population multiplier to obtain the industry/occupation specific wage rate. These rates are calculated separately for men and women.

**Methodology**

- Simple percentage distribution.
- Gender Ratio = F/M (population)
- Segregation index: (ID).

Index value ranges from ‘0’ (no segregation) to ‘1’ (total segregation)

**Lorenz Curve**

In this study, at first, the average wage rate for males and females has calculated by the simple average formula.

The wage gap is calculated in relative terms, following the method of Fortune and Huberban, 2002.

**Huberban wage Decomposition**

The average wages of men and women can be written as:

$$\bar{w}_g = \sum_{j=1}^J \alpha_j^g w_j^g, g = m, f$$

where  $\alpha_j^g$  as the proportion of group g in occupation j, and  $w_j^g$  is the average wage of group g in occupation j. These proportions can be rewritten as

$$\alpha_j^g = \alpha_j s_j^g$$

g = male/female, where  $\alpha_j$  a is the proportion of the whole workforce (men and women) in occupation j, and where  $s_j^g$  is the relative share of group g in occupation j. This relative share is equal to the share of group g in occupation j divided by the share of group g in the whole workforce

$$s_j^g = \frac{(N_j^g / N_j)}{(N_g / N)}$$

The gender gap in wages can be written as:

$$G = \sum (\alpha_j s_j^m w_j^m - \alpha_j s_j^f w_j^f)$$

It then can have decomposed into a term that reflects male-female differences in the distribution of occupations, and a term that reflects male-female wage differences within a given occupation class:

$$G = \sum_{j=1}^J \alpha_j (s_j^m - s_j^f) \bar{w}_j + \sum_{j=1}^J [\alpha_j s_j^m (w_j^m - \bar{w}_j) - \alpha_j s_j^f (w_j^f - \bar{w}_j)]$$

where  $\bar{w}_j$  is the average wage (for men and women) in job j, and  $s_j = s_j^m - s_j^f$  is the gender difference in job share j. The two terms on the right-hand side refer to the inter-occupational and intra-occupational effects, respectively. This difference may be explained by a check of two extreme cases. In the first, if males and females have identical occupational distribution, then the inter-occupational effect will be zero. Similarly, if the men and the women receive the same mean wage in occupation j, then the intra-occupational component will be zero. In reality, neither extreme will hold, so we can have a

measure that tells how the decomposition allows one to find out the extent of the comparative significance of the two components.

**Result**

Following NIC, we can find the share of workers by industry classification and in any particular industry which occupation an individual possesses can be found from NCO.

**Table 1: Showing Gender Ratio**

NIC RURAL	Gender Ratio
Crop and animal production, hunting and related service activities (1)	0.40
Forestry and logging (2)	0.18
Fishing and aquaculture (3)	0.16
<b>NIC URBAN</b>	
Crop and animal production, hunting and related service activities (1)	0.36
Forestry and logging (2)	0.07
Fishing and aquaculture (3)	0.11
<b>NCO RURAL</b>	
Market gardeners & crop growers(611)	0.32
Market oriented Animal producers and related workers (612)	1.25
Market oriented crop &Animal producers (613)	0.28
Forestry and industry related works (614)	0.09
Fishery workers, Hunter and Trappers (615)	0.13
Subsistence Agricultural and Fishery workers (620)	0.60
<b>NCO URBAN</b>	
Market gardeners & crop growers (611)	0.20
Market oriented Animal producers and related workers (612)	0.57

Market oriented crop &Animal producers (613)	0.41
Forestry and industry related works (614)	0.38
Fishery workers, Hunter and Trappers (615)	0.09
Subsistence Agricultural and Fishery workers (620)	0.36
<b>Social Group</b>	
ST	0.58
SC	0.44
OBC	0.38
Others	0.27
<b>Religion</b>	
Hindu	0.41
Muslim	0.23
Other Religion	0.32

**Source:** Author’s calculation from unit level data

As stated above that female labor participation is very low in our country, it can be seen from the Gender ratio (GR). From table 1, it is found that female participation is very low compared to their male counterpart. In both the rural and urban sectors, the gender ratio is found that females are nearly 40 percent of the male workers. The only exception in the group of market-oriented animal producers (following NCO), where the GR is 1.25.

Social group or religion also plays a very prominent role for the female to inroad in the labor market in India. By social group classification, it is noted that the highest share of females is from ST, followed by SC, and the lowest share is from the upper caste. The social taboo of hierarchy or education or economic safeguard may be the cause for the higher class women to keep away themselves from agricultural work, which is not marked as a so-called good job.

By religion classification, Hindu holds the highest GR and Muslim the lowest one.

**Table 2: Percentage Distribution of Usually Working Persons by National Occupational Classification (NCO) of Work Over two time points**

NCO code	Rural				Urban			
	Male		Female		Male		Female	
	2011-12	2017-18	2011-12	2017-18	2011-12	2017-18	2011-12	2017-18
Market gardeners & crop growers (611)	35.24	35.90	35.99	35.00	3.06	2.69	2.88	2.94

Market oriented Animal producers and related workers (612)	0.79	1.36	3.15	6.30	0.45	0.39	1.24	1.22
Market oriented crop & Animal producers (613)	0.5	1.26	0.44	3.22	0.04	0.15	0.09	0.39
Forestry and industry related works (614)	0.57	0.21	0.17	0.17	0.57	0.11	1.04	0.01
Fishery workers, Hunter and Trappers (615)	0.35	0.34	0.14	0.02	0.42	0.26	0.17	0.06
Subsistence Agricultural and Fishery workers (620)	1.63	1.44	3.11	2.38	0.11	0.15	0.19	0.23
<b>Total</b>	<b>39.08</b>	<b>40.51</b>	<b>43</b>	<b>47.09</b>	<b>4.65</b>	<b>3.75</b>	<b>5.61</b>	<b>4.85</b>

NSS report 2011-12 and PLFS 2017-18

**Table 3: Percentage Distribution of Usually Working Persons by National Industry Classification (NIC) of Work Over two time points**

NIC code	Rural				Urban			
	Male		Female		Male		Female	
	2011-12	2017-18	2011-12	2017-18	2011-12	2017-18	2011-12	2017-18
(011) Growing of non-perennial crops	52.94	47.97	46.33	58.35	3.8	3.39	5.06	5.70
(012) Growing of perennial crops	2.25	2.04	2.51	3.35	0.42	0.54	0.86	0.84
(013) Plant propagation	2.25	0.06	0.01	0.07	0.04	0.02	0.01	0.01
(014) Animal production	0.04	1.33	0.4	6.62	0.53	0.59	1.12	1.68
(015) Mixed farming	0.25	1.67	0.56	2.73	0.08	0.11	0.07	6.20
(016) Support activities to agriculture and post-harvest crop activities	1	1.28	0.47	1.90	0.15	0.23	0.14	0.51
(017) Hunting, trapping and related service activities	0.51	0.03	0.00	0.00	0	0.03	0	0.00
(021) Silviculture and other forestry activities	0.02	0.02	0.01	0.01	0.01	0.05	0.01	0.00
(022) Logging	0.12	0.09	0.04	0.08	0.03	0.05	0.01	0.00
(023) Gathering of non-wood forest products	0.02	0.02	0.02	0.03	0	0.00	0	0.00
(024) Support services to forestry	0.03	0.04	0	0.00	0.04	0.05	0.01	0.00
(031) Fishing	0.22	0.31	0.07	0.05	0.31	0.23	0.15	0.10
(032) Aquaculture	0.01	0.10	0	0.00	0.02	0.09	0	0.01
<b>Total</b>	<b>58.11</b>	<b>54.95</b>	<b>52.68</b>	<b>73.19</b>	<b>5.45</b>	<b>5.38</b>	<b>9.07</b>	<b>7.44</b>

NSS report 2011-12 and PLFS 2017-18

By 3-digit NIC (table 3) it is noted that there is an overall reduction of male workers by 4% point and over all enhancement of female workers by 20% point in agricultural and allied activities in the rural sector. At a 3-digit desegregated level, it is found that rural female work participation has increased in perennial, non-perennial crop production, mixed farming, support activities to agriculture, and in

post-harvest crop activities. NCO (Table 2) depicts that this increment has taken place mostly in allied activities. There is a remarkable increase (3.15 to 6.30 percent point) of rural female workers in market-oriented crops producers or animal producers and related workers from 2011-12 to 2017-18 as compared to men. So female has to uplift their share as producers while their share dwindled in other

works like fisheries or forestry. In forestry, their works mainly limited to gathering fire wood. It is a welcome feature that they have engaged themselves in those works that ensure a way of earning directly. Very often, their labor does not provide cash directly to their hand for the existing patriarchal societal norms.

In the urban sector, the share of both male-female has been reduced. Only the share of urban females in mixed farming has enhanced more than six times. In this case, mixed farming indicates the animal farming that includes raising of cattle and buffaloes, raising and breeding of camels and camelids, raising of sheep and goats, raising of swine/pigs, raising of poultry. Participation in agricultural extension activities can enhance women’s income and possibilities of sharing valuable information, which in turn can improve the quality of their livelihood.

Occupational Gender Segregation is an inequality that females are facing worldwide. In India, the picture is not much like that. As a whole, around the ID (Duncan index) value was 0.4 in 2004-05. But in agriculture, this value is all time very low. It is 0.16 in 1993 and 0.19 in the year 2005 (Chakraborty 2013).

**Table 4: Showing Gender Ratio and ID values for some States**

State	GR	ID
Himachal Pradesh	2.00	0.2
Uttaranchal	1.01	0.3
Sikkim	1.10	0.04
Meghalay	0.91	0.08
Andhra Pradesh	0.95	0.08
Bihar	0.10	0.11
Daman and Diu	0.10	0.17
Lakshadweep	0.02	0.21

Source: Author’s calculation from unit level data

In this study, the GR and ID value for some state has been calculated where the female participation in agriculture is higher than male. Table 4 shows that in some states like Himachal Pradesh, Uttranchal, Sikkim, Meghalaya, and Andhra Pradesh has more

than 1 GR values, but ID values are low. Whereas Bihar, Lakshadweep, Daman, and Diu has very low GR values with low ID values. In two opposite situations, gender integration in agriculture is noted. High female participation or low female participation do not make any issue for the female to take part in most of the agricultural occupation.

**Table 5: Showing Percentage distribution of paid unpaid Workers (2011-2012)**

Tripura	Male	Female
Paid Workers	96.7	76.23
Unpaid Family labour	4.3	23.80
Chattisgarh	Male	Female
Paid Workers	79.5	50.00
Unpaid Family labour	21.5	50.00
Gujarat	Male	Female
Paid Workers	79.24	60.00
Unpaid Family labour	20.76	40.00
Maharashtra	Male	Female
Paid Workers	85.00	66.00
Unpaid Family labour	15.00	34.00
India	Male	Female
Paid Workers	78.0	52.2
Unpaid Family labour	18.0	47.8

Source: Author’s calculation from unit level data

A large share of self-employment is also a characteristic Indian Labour market in which unpaid labor has taken a major part. A cursory look at the industrial distribution of unpaid women workers in rural areas confirms the belief that an overwhelming proportion of them are engaged in agriculture. The unpaid workforce in rural areas is largely composed of peasant wives or daughters working as cultivators or supervisors on land owned by either their husbands or in-laws or fathers or parents (Neetha & Mazumdar 2006). Till 2017-18 as per this analysis, about 18% male and 48% female work as unpaid family labor in agriculture. High-level unpaid workers are found in the states of Chattisgarh, Gujrat, Maharastra, and Tripura (Table 5). Share of female workers are higher than male the states mentioned above.

**Table 6.1: Showing Wages for BY Status in the year 2011-12**

NIC-digit	Status	NCO	GR	Male Wg (daily)	Female wg (daily)	Fwg / mwg
1	Regular salaried workers (31)	Market gardeners & crop growers 611	0.13	153.45	101.71	0.66
2	Regular salaried workers (31)	Forestry and industry related works 614	0.03	481.04	495.85	1.03
3	Regular salaried workers (31)	Fishery workers, Hunter and Trappers 615	0.01	206.48	225.00	1.09
3	Regular salaried workers (31)	Subsistence Agricultural and Fishery workers 620	5.98	116.67	171.00	1.47
1	Laborer 51	Market gardeners & crop growers 611	0.32	141.87	99.31	0.70
1	Laborer (51)	Market oriented Animal producers and related workers 612	0.47	158.04	75.80	0.48
1	Laborer (51)	Market oriented crop & Animal producers 613	0.20	101.94	80.00	0.78
1	Laborer (51)	Fishery workers, Hunter and Trappers (615)	0.05	142.50	114.29	0.80
1	Laborer (51)	Subsistence Agricultural and Fishery workers 620	0.82	127.06	104.02	0.82
2	Laborer( 51)	Forestry and industry related works (614)	0.09	216.43	150.00	0.69
3	Laborer (51)	Fishery workers, Hunter and Trappers 615	0.00	270.12	50.00	0.19
1	Casual Laborer in public work (41)	Market gardeners & crop growers 611	27.00	68.02	162.50	2.39

Source: Author's calculation from unit level data

**Table 6.2: Showing Male Female Wages for BY Status in the year 2017-18**

NIC	Status	GR	Mwg	fwg	Fwg/ mwg
Crop and animal production, hunting and related service activities (1)	Self Employed own account workers	0.06	269.57	168.37	0.62
1 Crop and animal production, hunting and related service activities (1)	12 Self Employed Employer	0.04	438.77	286.23	0.65
1 Crop and animal production, hunting and related service activities (1)	21 Self Employed unpaid /under paid family labour	0.96	0.41	0.01	0.02
Forestry and logging (2)	Self Employed own account workers	0.34	63.50	68.03	1.07
Fishing and aquaculture (3)	Self Employed own account workers	0.03	323.53	304.07	0.94
Crop and animal production, hunting and related service activities (1)	31 Regular salaried workers	0.07	209.70	117.83	0.56
Fishing and aquaculture (3)	31 Regular salaried workers	0.00	421.27	NA	

Source: Author's calculation from unit level data

Although women have entered the agricultural sector in progressive numbers in the country, this participation does not yield equal earnings for men and women. This inequality also differs according to the status that any workers hold. The Status of employment is an important measure to examine the working condition and type of employment in a

particular country. Types of the status of every worker have marked by NSS in the survey methodology. Every individual is marked according to their status code which is as follows: (1) self-employed, under which(a) own account worker or (b) employer, (c) worked as helpers or unpaid family workers, (2) worker as regular salaried, (3) worked as casual

wage labor in public work, (4) worked as casual wage labor in other types of works. Table 6.1 and 6.2 gives the wages per day by status in two-time points. The wages of self-employed groups are not provided before PLFS (2017-18), and in this survey, the wages against 3- digit desegregated NIC have not provided as it was in 2011-12. So comparison in wages cannot be made between two years in all respect. In tables 6.1 and 6.2, the wages are provided as available. In Forestry and industry-related works, Fishery workers, Hunter, and Trappers, when working as regular salaried female's earning are higher than male. While working as laborer their earning ranges from 20 percent to 80 percent of the male earnings.

The female as regular salaried workers (31) of NCO classification has higher wage-earning than males. But when they are working as laborers (51),

female's earnings are less.

By status, it is observed that the highest share is reflected in the group of unpaid family labor and a little bit as own-account workers in forestry and logging.

Now it is to look that why there exists a gender discrepancy in wages among the workers. A very small share of workers is in regular salaried workers in the agriculture sector and mostly confined in the allied jobs, which are marked as female-dominated. But the bulk is laborers. So what is the cause of wage inequality, whether it for gendering in occupational structure or inherent inequality in the wage that prevails within an occupation group. To get this answer, Huber bun wage decomposition has been used.

**Table 7: Decomposition of Male/ Female Earnings Gap into 'Between' and 'Within' Components in different years**

		Between Occupation classes	Within Occupation classes	Total male female Earning Gaps
1993-94	Wage gap	0.89	6.15	7.05
	Relative gap	0.04	0.28	0.32
	Percentage of total	12.62	87.38	
1999-2000	Wage gap	0.65	11.47	12.77
	Relative gap	0.02	0.29	0.30
	Percentage of total	5.09	94.91	
2004-05	Wage gap	8.74	8.94	17.68
	Relative gap	0.25	0.25	0.50
	Percentage of total	49.49	50.51	
2011-12 Rural	Wage gap	4.29	6.42	10.71
	Relative gap			0.12
	Percentage of total	40.05	59.95	
2011-12 Urban	Wage gap	-0.64	4.71	4.07
	Relative gap			0.33
	Percentage of total			

**Table 8: Decomposition of Male/ Female Earnings Gap into 'Between' and 'Within' Components among the social groups (2011-12)**

By Caste		Between Occupation classes	Within Occupation classes	Total male female Earning Gaps
ST and SC	Wage gap	1.07	2.92	3.99
	Relative gap	0.07	0.20	0.28
	Percentage of total	26.8	73.1	



Others	Wage gap	0.22	0.71	0.93
	Relative gap	0.02	0.08	0.11
	Percentage of total	23.65	76.34	

Source: Author's calculation from unit level data

**Table 9: Decomposition of Male/ Female Earnings Gap into 'Between' and 'Within' Components among different religious groups**

By Religion		Between Occupation classes	Within Occupation classes	Total male female Earning Gaps
Hindu	Wage gap	.034	1.51	1.55
	Relative gap			0.14
	Percentage of total	2.2	98.8	
Other minorities	Wage gap	1.68	1.68	3.36
	Relative gap			0.24
	Percentage of total	50.00	50.00	

Source: Author's calculation from unit level data

From table 7, 8 and 9, it is observed that over the years' gender wage gap is mainly due to group wage discrimination, which explains that gender differences in earnings within the occupational classes are the more contributable factor to the total wage gap and gender segregation is a less contributory factor to the total wage gap.

The between gap components results in negative in the case of the rural workforce of 2011-12. It is because relative share of females in some occupations is larger than the relative share of males, which in turn produced negative when multiplied by average wage and the proportion of the whole work force.

By social group classification within-group earning difference contributes more than 70 % both for ST/SC and other classes.

In the religion line, gender wage discrimination is above 98% for the Hindu. But for other minorities, between-group classification has a 50% contribution to the total wage gap, i.e., male-female share in any particular occupation is not equal.

By state the same trend has been observed, nearly 70% earning difference is due to group wage discrimination, and discrimination due male-female occupational distribution is less contributory one.

**Table 10: Percentage Distribution of Male and Female According to hours Spent per Day (Year 2017-18)**

Hours spend in a day	Male	Female
0	5.04	18.47
1	0.04	0.12
2	0.59	1.48
3	1.13	2.70
4	3.88	7.23
5	6.90	11.05
6	13.88	16.16
7	9.09	8.49
8	44.18	28.60
9	6.85	3.28
10	6.58	2.00
11	0.34	0.08
12	1.45	0.32
13	0.01	0.00
14	0.03	0.00
15	0.03	0.00
<b>Total</b>	100	100

Source: Author's Calculation from unit level data

**Table 11 : Percentage Distribution of hours Spent by Workers for Different Age Groups**

Hours spend in a day	Age group up to 30		30 to 45		Above 45	
	Male	Female	Male	Female	Male	Female
0	6.14	20.17	4.26	18.18	5.04	17.70

1	0.00	0.22	0.06	0.08	0.05	0.12
2	0.60	1.77	0.29	1.16	0.87	1.76
3	1.00	2.11	0.66	2.65	1.68	3.19
4	3.45	6.81	2.84	6.59	5.18	8.49
5	6.66	8.92	5.54	11.80	8.38	11.42
6	12.61	15.17	12.62	16.19	15.94	16.81
7	8.23	9.01	9.45	8.24	9.31	8.49
8	45.16	28.88	47.58	29.66	40.24	26.83
9	7.20	4.01	7.18	2.95	6.30	3.28
10	6.91	2.28	7.29	2.14	5.65	1.61
11	0.49	0.17	0.37	0.08	0.21	0.03
12	1.51	0.47	1.75	0.28	1.10	0.27
13	0.01	0.00	0.01	0.00	0.03	0.00
14	0.02	0.00	0.03	0.00	0.02	0.00
<b>Total</b>	100	100	100	100	100	100

Source: Author's calculation from unit level data

**Table 12 : Percentage Distribution of Hours Spent by Workers for Unpaid and Apid Works**

Hours Spend in a Day	Unpaid Work		Paid Work	
	Male	Female	Male	Female
0	NA	NA	5.42	27.71
1	0.00	0.24	0.05	0.06
2	1.57	3.01	0.45	0.67
3	2.10	5.08	1.00	1.45
4	7.15	13.80	3.44	3.75
5	10.68	18.02	6.39	7.39
6	17.83	23.79	13.37	12.19
7	9.34	9.10	9.08	8.23
8	36.66	21.91	45.39	32.46
9	6.01	2.44	6.99	3.77
10	7.32	2.28	6.49	1.87
11	0.33	0.11	0.34	0.07
12	0.98	0.21	1.52	0.38
13	0.02	0.00	0.00	0.00
14	0.00	0.24	0.03	0.00
<b>Total</b>	100	100	100	100

Source: Author's calculation from unit level data

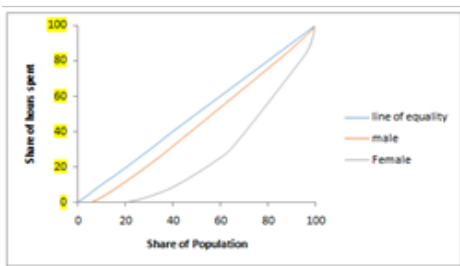
Time is a resource equally distributed in society. What is not equal is the way time is allocated and the implications of this allocation for the structuring of social relations and its consequences in the well-being of a person. Time allocation is determined by several factors, and social roles seem to be one set of relevant determinants of time allocation inequalities

(Medeiros, 2005). The inequality in spending time within males and females also deserves some attention, and this inequality within women and men is done separately, by using Lorenz curves, as they provide information about relative inequality within each group. The more curves away from the line of equality, the more is the inequality in time spent in

a particular activity. Table 10,11,12 gives the time spent by the male-female during a day for works they did in their daily schedule.

The amount of time spent by women and men in works is quite different. Men form a more homogeneous group as insight from the graph; it is closer to the diagonal line. The inequality exists in the distribution of time employed in activities is for the female workers.

The first Graph shows that 21% of the adult female in India does not allocate any time for works; only 5% of the men can afford time for no work. Half of the women Spend 10% of all total time, while this share is nearly 40% for half of the men.



**Figure 1: Lorenz Curve for agricultural workers**

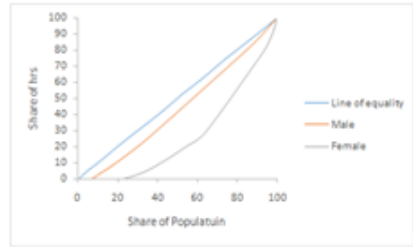
Table 11 shows the distribution of workers by age group classification. It is observed that the workers for all age groups are spending 8 hours a day. Females are spending less time in works than men in higher working hours. From the graph 2,3 and 4, It is seen that 20% of female is not allocating any time in the outside works. This feature can be explaining in the way that female has to bear the responsibility of household chores in her daily routine apart from outside works. The ‘zero’ time working hours, not for leisure, rather for other responsibilities a female bound to shoulder every day.

Though it is obvious from table 12 that the distribution of women and men is quite different in spending time in paid and unpaid works, by using the Lorenz curve, we can capture the relative inequality present within each group. From graphs 5 and 6, it is also observed that women form a more heterogeneous group than men regarding time allocation in paid/unpaid jobs.

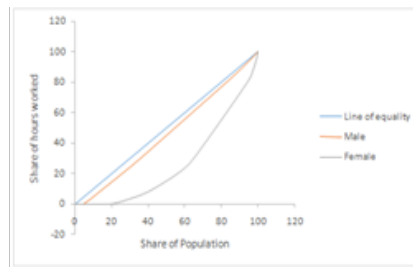
The Lorenz curve for paid work shows that 30 percent of women spent no time. They are bound to perform household work or devoting their labor in productive activities as unpaid hands. 50% of

women spent only 10 percent of total time allocated for paid work, whereas this share for unpaid work is about 30 percent.

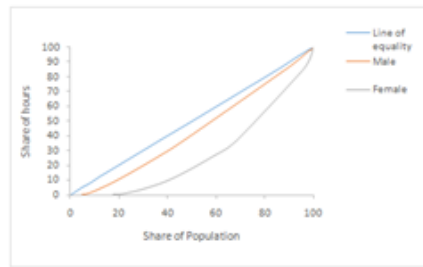
This indicates that females have to involve themselves more as unpaid family labor even in the production realm.



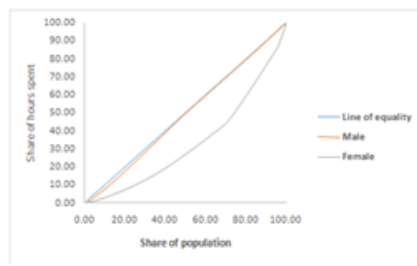
**Figure 2: Age group upto age 30**



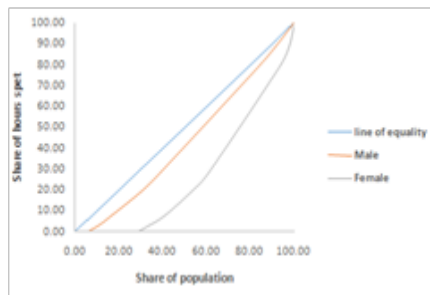
**Figure 3: Age group 30 to 45**



**Figure 4: Age group 45 above**



**Figure 5: Lorenze curve for unpaid workers**



**Figure 6: Lorenz curve for paid workers**

## Conclusion

Female labor force participation is typically low in India, and mostly, they are engaged in agriculture. Various surveys by National Sample Survey Organisation (NSSO) of India on ‘Employment and Unemployment Situation in India’ reveal that 90 percent of women who did not participate in the workforce attributed a ‘pressing need for domestic work’ as the primary cause for their nonparticipation (Hirway & Jose, 2011)

Their participation covers almost all the sectors of agriculture, particularly crop processing, small scale vegetable, poultry, cattle, and fish production. The enhancement of rural female workers as a crop grower to market-oriented crop producers or animal producers or engaging themselves in post-harvesting works, shifting from farm to non-farm work.

In the urban sector, the share of both male-female workers is declining in agriculture; a shifting of occupation towards the nonagricultural sector may be a possible explanation.

As the main bulk of female work force engaged in agriculture, an occupational integration prevails in this industry. But their earnings do not acquire the equality status. As in many other sectors, a sharp wage difference is present among the common agriculture laborers. The wage gap between male-female depends more on gendering in the wage system that prevails in informal work places, not for the between occupational structure.

There exists a commendable share of unpaid family labor in agriculture; most of them are female. Female members are assets of agriculture households, the whole agriculture household fully depends on these unpaid family members, but their contribution has been inadequately acknowledged.

Winding up, it can be said that equality, in all respect in agriculture, similar to other informal sectors, is far to attain. By obtaining more education, they will have exposure to new technologies, which further enhances their participation rate.

It could happen to some extent only when there is proper valuation of female’s unpaid/under paid works. Proper shaping the occupational structure on behalf of these unpaid/underpaid female workers, like incentivizing entrepreneurship, upgrading skills, and training activities, and increasing the availability of credit for small-scale start-ups is prior necessary. The drive should be to alter the role of rural women, from self-employed, unpaid family helpers to self-employed workers or casual wage workers.

Linking women with agricultural extension services could provide widespread benefits, such as improving business efficiency, strengthening food security, reducing poverty, and ensuring household nutrition. It will also open a new window of job opportunities and remove discriminatory beliefs and practices.

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