A cross-sectional study of female employment patterns in India

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Introduction

Economic development is incomplete in developing countries like in India without increasing the participation rate of women in the labor force. Nearly, half of the population constitute women and their employment is crucial fot economic and social development. Women empowerment significantly fosters poverty reduction, incubates household income and contracts gender inequality. This study using the latest data collected by periodic labour force survey (PLFS) for the period January 2024-December 2024 examines the Indian labour market particularly focusing on female employment patterns. A cross-sectional study provides scope for capturing workforce dynamics that rises through various demographic factors like regional, educational, and age-wise categorization.

This study unveils major patterns of female employment in India. First, the rural female employment is higher than the urban employment. However, analyzing the quality of employment, it shows that women in rural areas are employed in low skilled and low paying jobs such as unpaid family worker or as casual worker. Second, a U-shaped relationship between the female labour force participation rate and educational levels is observed. Thirdly, there is a huge gender gap in employment of male and female with the same level of education. Fourthly, the study also shows that the unemployment rate is high especially among the females in the young workforce with higher educational levels. Fifthly, a large proportion of female are attending only domestic duties. Thus, improving the quality of employment especially in the rural areas, creating employment opportunities matching the skill levels and providing important facilities like childcare facilities, safety and secure working conditions helps in increasing female employment and reducing the gender gap.

Data and Methodology

The National Sample Survey Office has been conducting the periodic labor force survey since 2017 to provide data on labour in India. The survey provides household and individual data about employment, education, the sector of employment, earnings, etc. For this study, we use January 2024-December 2024 dataset to study the employment patterns by different demographic factors focusing on female employment. The total number of persons surveyed was 4,15,549 (2,09,035 male, 206499 female and 15 third gender). Among which the total number of persons of age 15 and above are 3,18,344 (158424 male, 159906 female and 14 third gender).

The PLFS collects labour data in accordance to three reference periods viz, the principal activity (ps), subsidiary activity(ss) and current weekly activity status (cws). The principal activity is the activity status in which a person has spent relatively larger part of the time in the 365 days preceding the date of survey. Subsidiary activity is the activity status in which a person performs other activity apart from the principal activity for 30 days or more in the reference period of 365 days preceding the date of survey. The current weekly status is activity status in the reference period of 7 days preceding the date of survey. The principal and subsidiary status together is known as the usual activity status.

The principal and subsidiary status are considered to impute the labour market indicators.The three labour market indicators are worker population ratio (WPR), labour force participation ratio (LFPR) and unemployment rate (UR). The WPR is defined as percentage of employed persons in the population, the LFPR is defined as the percentage of the labor force (that is who are working and who are seeking/available for work) in the population and the UR is the percentage of unemployed among the persons in the labour force. The study uses data wrangling methods to clean the data and exploratory data analysis methods to study the employment patterns.

Employment levels in India

Recent studies have shown improvement in female labour market participation. However, there exists huge gender gap. PLFS captures the broader activity status of people. To capture the major activity status the broader categories formed are employed, unemployed, enrolled in education, attending domestic duties (and duties for household use) and out of labour force, figure 1 shows the distribution of major activity of persons by gender. It can be observed that there is huge difference between the proportion of male to female employment. 76.6 percent of male are employed while only 39 percent of female were reported to be employed. A large proportion of female population (42.8 percent) spend their time attending to only domestic duties (and other duties like colecting woods, tailoring for household use).

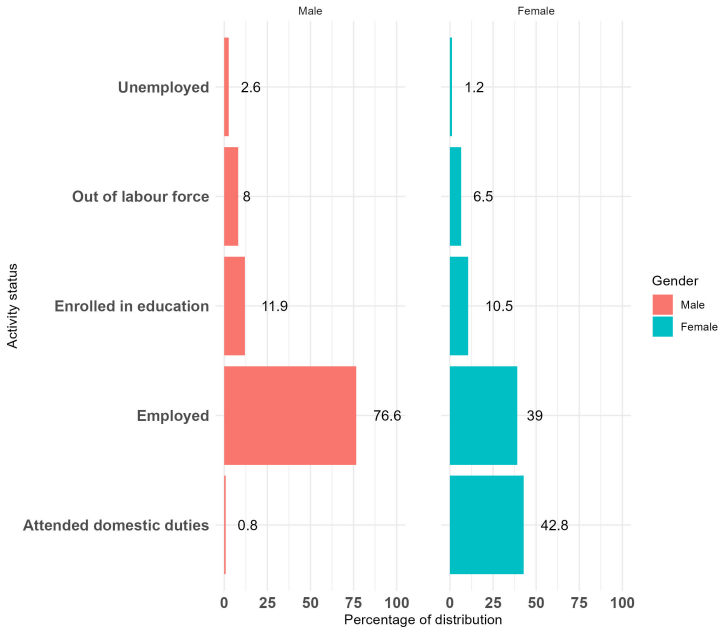


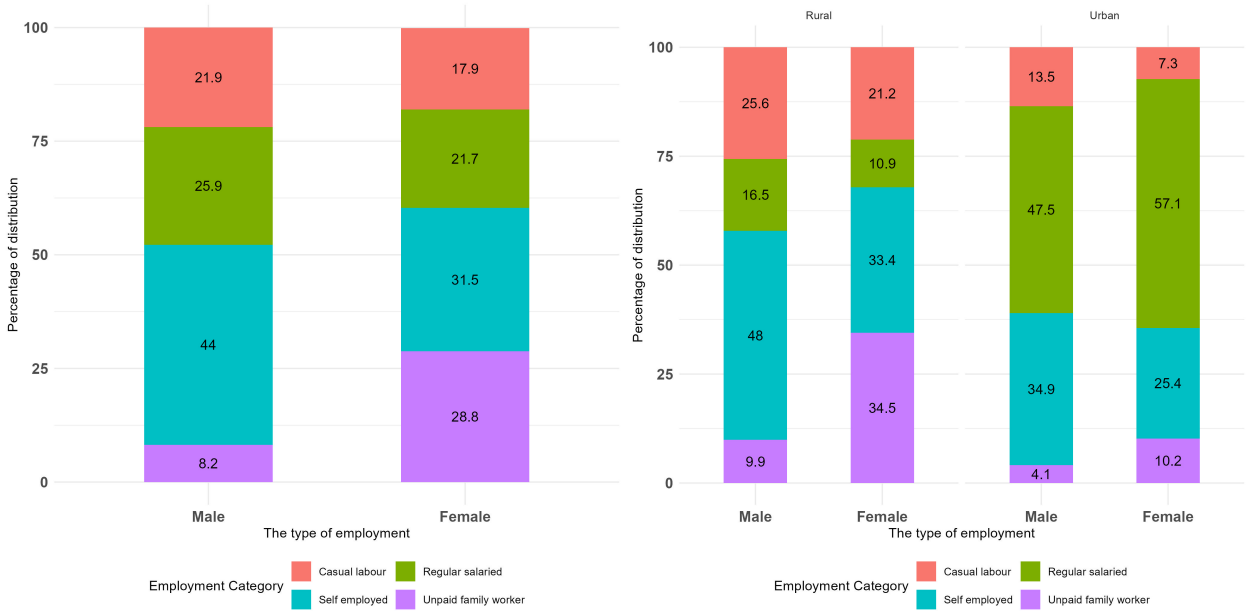
Figure 1. Distribution of population by activity status (ps+us)

Table 1. Labour market indicators (ps+ss) for the age group 15 and above

	Rural		Urban		Total		Overall
	Male	Female	Male	Female	Male	Female	
WPR	78.4	44.8	72.9	25.8	76.6	39	57.7
LFPR	80.6	45.8	76.2	27.6	79.2	40.3	59.6
UR	2.8	2.1	4.4	6.7	3.3	3.1	3.2

LFPR shows the proportion of employed and people who are unemployed but seeking work. WPR shows the proportion of people who are employed and UR shows the unemployed who are seeking work out of total labour force. Table 1 shows the three labor market indicators for the principal and subsidiary status by region and gender. The LFPR of male is higher (79.2) than female (40.3). There isn't much difference in the total UR of female and male, but a regional comparison shows that the female UR is the highest with 6.7 percentage. But a categorization by age shows a better picture of UR which is discussed later in the study. Following a highest UR, the regional comparison shows that the female LFPR is the lowest with 27.6 percentage and WPR with 25.8 percentage in urban areas. In contrast the rural female labour force participation is higher with 45.8 percentage.

This leads to two questions one, why the rural female employment is higher and what is the nature of employment and second, why is the female LFPR is lower and UR is higher in urban areas. To answer this the quality of employment and employment patterns by education and age groups are explored.



(a) By gender

(b) By gender and region

Figure 2. The nature of employment

Quality of employment

Generally, studies have shown that women are often employed in low skilled and low paid jobs under precarious conditions. To understand the structure of employment the employed persons are categorized as self-employed, regular salaried and casual labour. Self-employed are those workers who run their own enterprises for their own use and/ or trade purposes. This category includes own account workers who own their enterprise, then the employers who run business with hired workers and unpaid workers who work on their family business without payment. In this study we club own account worker and employer into self-employed category and present the unpaid worker separately. From the notion that earning money gives empowerment among the self-employed the unpaid worker is considered inferior as there is no payment and doesn't really empower the one who performs it. Following, the casual labour is considered inferior employment as this type of employment is unstable where the workers are employed for a short period on daily or monthly basis. Regular salaried are considered as better job out of all these categories as the employed in this category are those who get salaries on regular basis.

More than 60 percentage of women fall under self-employed category out of which 28.8 percent of women act as unpaid family worker as opposed to only 8.2 percent of male (figure 2a). This difference is even stark in rural areas where 34.5 percentage of women work as unpaid family worker. 17.9 percentage of females work as casual labour (figure 2b). A regional comparison shows a even a higher proportion of 21.2 percentage of female as casual labourers. Regular salaried / wage proportion is only 25.9 and 21.7 percentage for male and female respectively. Nevertheless, the regional distribution shows a higher proportion of 57.1 percentage of women in urban areas but only about 11 percentage in rural areas (figure 2b). Thus, out of the employed category, atleast half of the females in urban region work in better job (regular salaried) as opposed to females in rural region.

PLFS provides data on the type of industry in which a person works using the National Industry Classification (NIC) code. In this study three broader categories are namely, agriculture, industrial and service sectors are formed to understand the sectoral distribution. A sectoral distribution by region wise shows that (figure 3) 74.4 percentage of women are employed in agriculture sector as compared to males (47.3). 66.2 percentage of female in urban areas work in service sector which is slightly higher than their male counterparts with 61.3 percentage. Thus, in rural areas though overall female employment is high but the nature employment is largely informal which indicate the possibility of working in low paid and low skilled jobs. In urban areas the quality of employment is better, but the overall female employment is very small which has to be increased. So, there are dual goals one to improve the nature of job in rural areas and to increase the overall female employment in urban areas.

Unemployment of young workforce

Studies show that an age-wise categorization shows better picture of unemployment rate. An age-wise analysis shows that in India the unemployment rate for the young workforce is higher for both female and male with 11.15 and 9.92 percentage respectively (Table 2). In the middle age group while 96 percentage of male get employment only half of the female (53.7) get employment in this age-group.

Table 2. Labour market indicators by age category (ps+ss)

	Young workforce (15-29)	Middle Aged (30-50)	60 and above (60>=)	Young workforce (15-29)	Middle Aged (30-50)	60 and above (60>=)
WPR	58	96.8	52.2	24.4	53.7	21.8
LFPR	64.4	97.5	52.2	27.5	54.1	21.8
UR	9.92	0.7	0.11	11.15	0.78	0.03

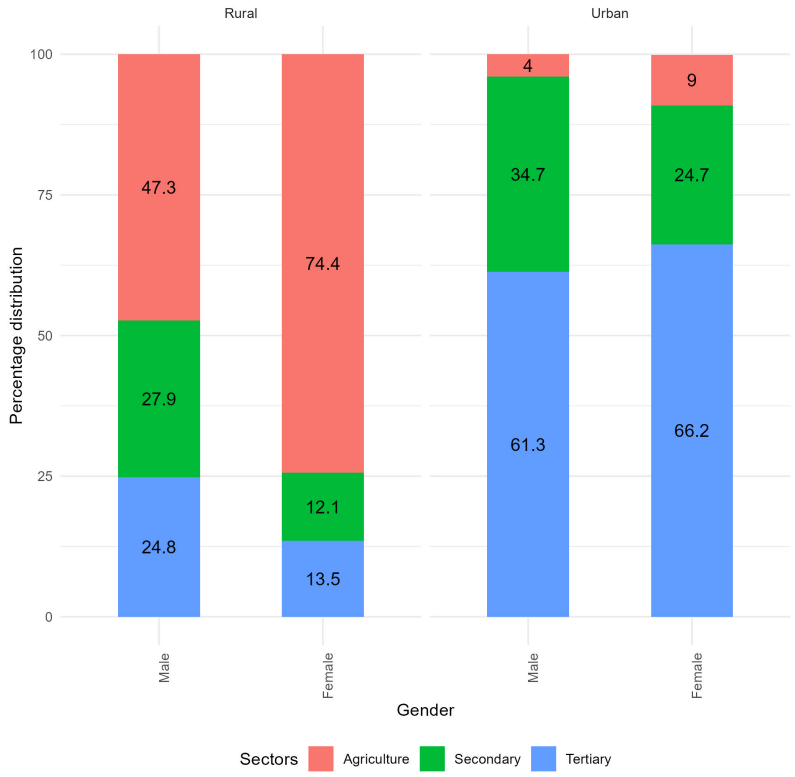


Figure 3. Sectoral distribution by region

Education level and employment patterns

Education is one of the crucial factors in getting employment opportunities. figure 4 shows the worker population ratio by educational levels and gender. PLFS provides data on general educational and technical educational. In this study we considerate the general educational level and are categorized as shown in figure 4 . Two main insights are drawn from this figure. One, there are significant difference between the worker population ratio for male and female irrespective of different educational levels, that is the WPR for male is roughly between 66 to 85 percentage, while female WPR is only between 25 to 50 percentage. Second, the U-shaped relationship can be observed between the female WPR and education levels. That is for people with lower levels of education and for higher levels of education the WPR is higher, while for people with middle level of education WPR is lower. For instance, the WPR for females who are illiterates and/or literates without formal schooling is

49.2 percentage and for post graduates it is 40 percentage while the WPR of female with secondary level of education is only 25.3 percentage.

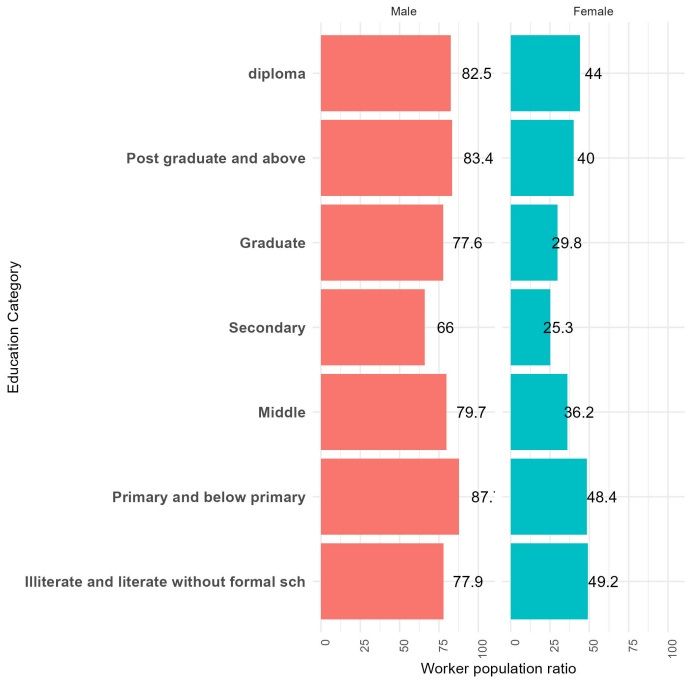


Figure 4. Worker population ratio by education and gender

Females with low level of education find jobs out of necessity, where they might choose low skilled and/ or low paid jobs, while higher educated females may find better jobs in skilled jobs. This is evident from figure 5 where it can be observed that with increase in educational level the proportion of casual labour and unpaid family worker shrinks and regular salaried increases. Studies show that females with secondary levels of education often exit labour market due to mismatched aspirations and limited suitable opportunities.

Figure 6 shows the unemployment rate by different educational categories. At lower levels of education unemployment rate is

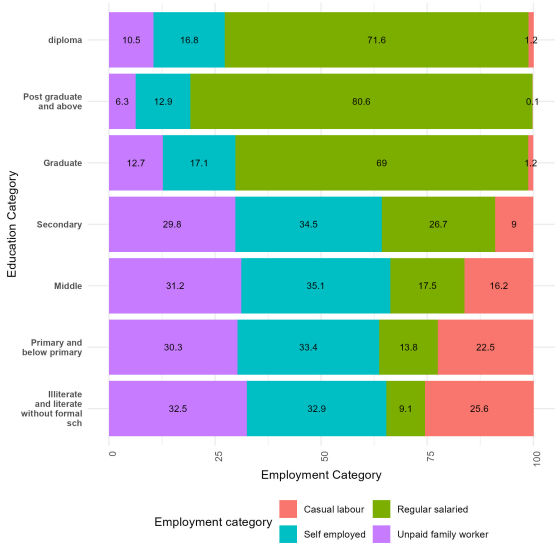


Figure 5. The nature of female employment by educational level (ps)

higher for males within the range of 3.4 to 7.4 percentage as opposed to their female counterparts with 0.1 to 4.8 percentage. But for the graduates and other higher levels of education the unemployment rate is higher for female than male ranging between 31.1 to 39 percentage than 15.5 to 26.6 percentage for males. Thus, access to higher education and commensurate job creation according to skill levels becomes two cutting blades to increase female employment.

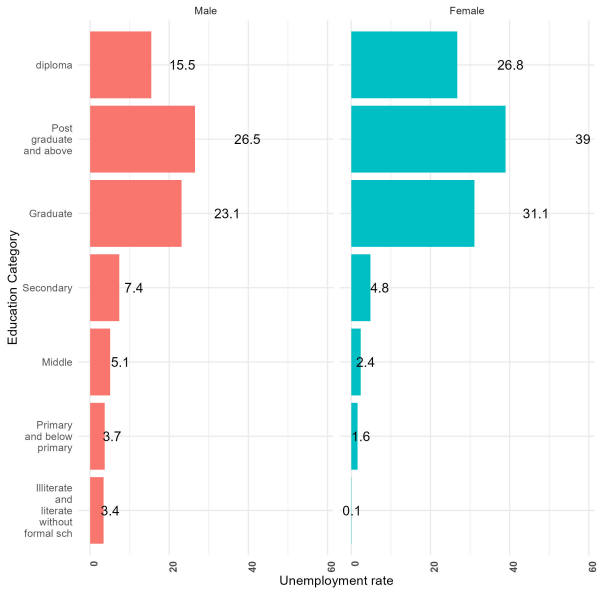


Figure 6. Unemployment rate of young workforce by education and gender

Conclusion

In conclusion, the cross-sectional study of female employment patterns in India using January to December 2024 PLFS data gives the following major insights. One, a larger part of female population are confined to domestic duties only. In India the overall female employment is just 39 percent as opposed to 77 percent of males. Thus, there is a need for including the females in the labour market to get fuller utilization of labour force for socio-economic growth and wellbeing. Second, analyzing the quality of employment by region reveals that the overall female employment in rural areas is higher than in urban regions. However, the quality of employment is better in urban region with majority in regular salaried category. A majority of rural females are employed as unpaid family worker. Thus, a major proportion of rural females are employed in low skilled and low paid jobs. Thirdly, there is a huge gender gap in employment rate for the same level of education between female and males. Fourthly, there is U shaped relationship between educational levels and female LFPR. Fifth, the unemployment rate among the young workforce is also high, especially among the females with higher educational levels.

Thus, with public policy in focus to address these issues there is a need to increase the quality of job in rural areas, need of increasing skill sets and education and need of creating employment opportunities (especially in urban areas with high proportion of educated unemployed females). Also, creation of childcare facilities, safe and secure working conditions helps larger women to join the labour market and thus contributing to the economic growth.

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