

Gendered Pattern of Labour Force Participation in India: Trends, Socio-economic Differentials, and Determinants Using PLFS 2023–24

1. Background

Female labour force participation is a key indicator of inclusive economic growth and gender equality, as it reflects the extent to which women are able to translate their education and skills into paid employment. The International Labour Organization (ILO)¹ defines the labour force participation rate (LFPR) as the share of the working-age population that is either employed or actively seeking work. In India, however, female LFPR remains persistently low despite sustained economic growth, rising levels of female educational attainment, and declining fertility rates. This disconnect points to deep-seated structural and institutional constraints that hinder women's integration into the labour market, rather than a simple deficit of human capital alone (Mehrotra & Sinha, 2017)².

India exhibits a well-documented U-shaped relationship between female labour force participation and levels of education or income, wherein participation is relatively high among women at the lowest and highest ends of the socio-economic spectrum, but markedly lower among those in the middle (Klasen & Pieters, 2015)³. The literature attributes this pattern to the interaction of weak labour demand, poor job quality, and restrictive gender norms governing marriage, mobility, and unpaid care responsibilities (Jayachandran, 2021)⁴. For many women, particularly those from middle-income households, the economic and social costs of paid employment often outweigh its benefits when available work is low-paid, informal, or socially stigmatized (Fletcher, Pande, & Moore, 2017)⁵.

Although recent rounds of the Periodic Labour Force Survey (PLFS) indicate a recovery in female labour force participation, much of this increase is concentrated in informal, self-employed, or unpaid family work, raising concerns about the quality and sustainability of employment. The continued predominance of informal work among women constrains progress towards Sustainable Development Goals (SDGs) 5 (Gender Equality) and 8 (Decent Work), highlighting the importance of examining not only the extent of women's labour force participation but also the nature and underlying determinants of their work in India.

This paper examines recent patterns and socio-economic determinants of female labour force participation in India, with particular emphasis on the nature and quality of women's employment. Guided by the 'Leave No One Behind (LNOB)' principle, the study further identifies sub-groups of women who remain systematically excluded from labour market participation by analysing disparities across age, education, marital status, place of residence, and socio-economic characteristics. This approach enables an assessment of inequalities in women's access to paid work alongside aggregate participation trends.

¹ International Labour Organization (ILO). ILOSTAT Database: Concepts and Definitions of Labour Force Participation.

² Mehrotra, S., & Sinha, S. (2017). Explaining falling female employment in India. *Economic & Political Weekly*, 52(39).

³ Klasen, S., & Pieters, J. (2015). What explains the stagnation of female labor force participation in urban India? *World Bank Economic Review*, 29(3), 449–478.

⁴ Jayachandran, S. (2021). Social norms as a barrier to women's employment in developing countries. *IMF Economic Review*, 69(3), 576–595

⁵ Fletcher, E. K., Pande, R., & Moore, C. (2017). *Women and work in India: Descriptive evidence and a review of potential policies*. Harvard Kennedy School Working Paper

2. Data and Methods

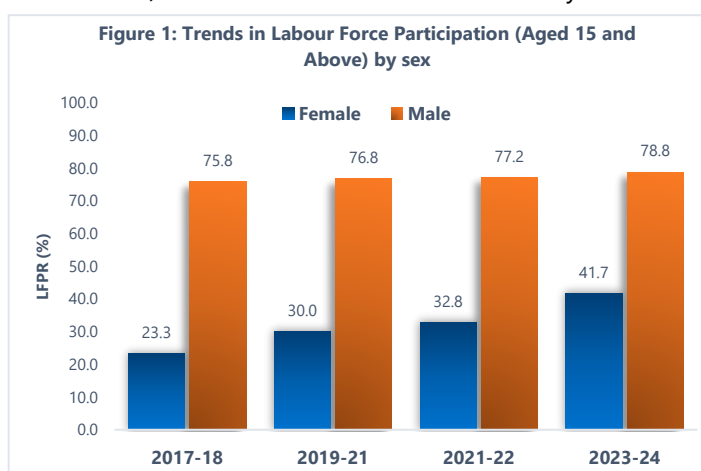
This paper draws on unit-level data from the Periodic Labour Force Survey (PLFS) 2023-24 conducted by the National Sample Survey Office (NSSO) under the Ministry of Statistics and Programme Implementation, Government of India. The PLFS is a nationally representative survey designed to produce annual estimates of key labour force indicators for both rural and urban areas. Household and individual level datasets from the first visit schedule were merged to construct the analytical dataset. The study population consists of persons aged 15 years and above, in line with the official definition of the working-age population.

Female labour force participation is measured using the usual status (principal and subsidiary) approach, whereby women are classified as being in the labour force if they are either employed or unemployed but available for, or actively seeking work. Appropriate survey weights were applied to ensure national representativeness.

Using unit-level data, the study employs descriptive statistics to examine levels and differentials in female labour force participation, followed by binomial logistic regression analysis to estimate the socio-economic determinants of women's labour force participation. Regression results are presented as odds ratios, with standard errors adjusted to account for the complex survey design. To further examine gender differences in labour force participation, a Fairlie decomposition analysis was employed to assess how much of the female-male participation gap can be explained by differences in socio-economic characteristics and the extent to which it remains unexplained. All analyses were conducted using STATA version 19 and R software.

3. Trends in Labour Force Participation Rate

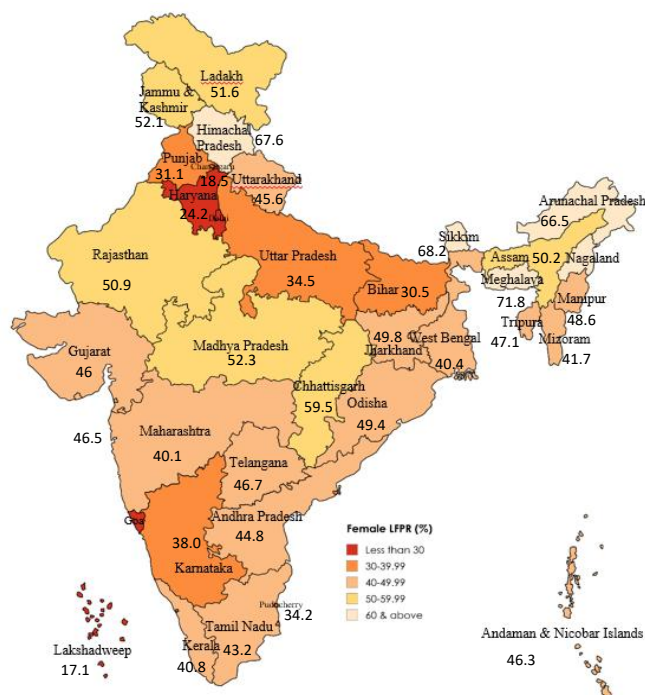
- Female labour force participation (aged 15 years and above) in India has increased substantially over the past six years, rising by 18.4 percentage points, from 23.3% in 2017–18 to 41.7% in 2023–24, effectively nearly doubling over this period (Figure 1). The sharpest increase occurred in the most recent phase, between 2021–22 and 2023–24, when female LFPR rose by 8.9 percentage points, suggesting an acceleration in women's labour market participation.
- In contrast, male LFPR has remained high and largely stable, increasing only marginally from 77.2% to 78.8% during the same period.



4. Differentials by State in Female Labour Force Participation Rate

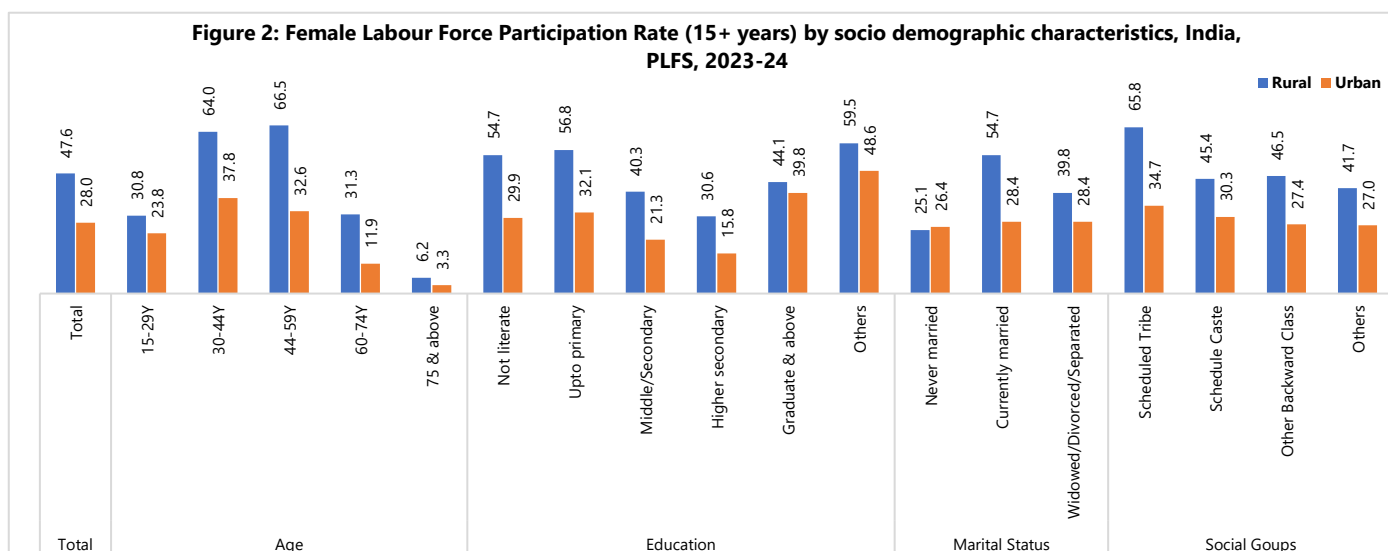
- Female labour force participation in India exhibits substantial inter-state variations. The lowest LFPR (below 30%) is observed in several Union Territories and states such as Lakshadweep (17.1%) and Delhi (18.5%) (Map 1).
- In contrast, north-eastern and hilly states, such as Meghalaya (71.8%), Sikkim (68.2%), Himachal Pradesh (67.6%), Arunachal Pradesh (66.5%) and Nagaland (64.3%) record higher female LFPR, supported by greater female involvement in agriculture and informal activities.
- Large states such as Andhra Pradesh (44.8%), Gujarat (46.0%), Rajasthan (50.9%), and Madhya Pradesh (52.3%) lie in the middle of the distribution, indicating heterogeneity in economic structure, labour market opportunities, and social norms.

Map 1: State wise Female Labour Force Participation (15+ years) in India



5. Socio-economic Differentials

- A pronounced rural–urban divide persists, with female LFPR nearly 20% points higher in rural areas (47.6%) than urban areas (28.0%) and is consistently higher in rural areas across the socio-demographic groups.
- By age, participation rises sharply from 30.8% (rural) and 23.8% (urban) among women aged 15–29 years to a peak among women aged 30–44 years (64.0% rural; 37.8% urban) and 45–59 years (66.5% rural; 32.6% urban), before declining at older ages.



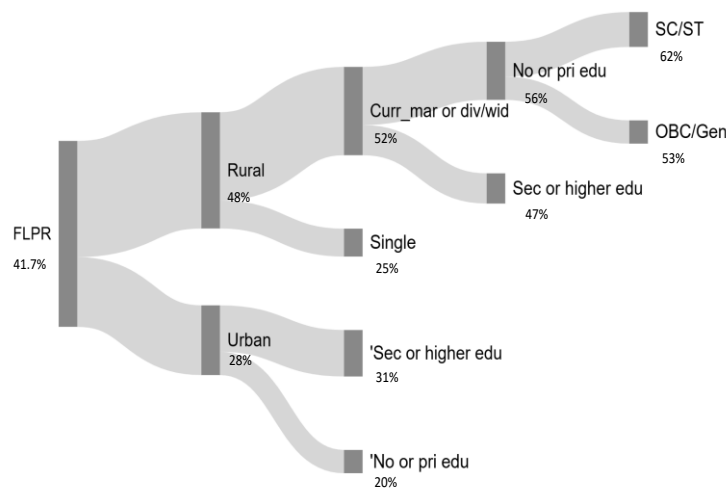
- Clear educational differences are evident. Female LFPR is highest among women with no schooling (54.7% rural; 29.9% urban) and those educated up to primary level (56.8% rural; 32.1% urban), declines among women with secondary and higher secondary education (40.3% and 30.6% in rural areas), and rises again among women with graduate and above education (39.8% urban; 44.1% rural), reflecting a U-shaped pattern.

- Currently married women show substantially higher participation in rural areas (54.7%) compared to urban areas (28.4%), while participation among never-married women is relatively low and similar across residence (25.1% rural; 26.4% urban).
- Scheduled Tribe women record the highest LFPR (65.8% rural; 34.7% urban), followed by Other Backward Classes and Scheduled Castes, whereas women from 'Other' social groups exhibit comparatively lower participation, especially in urban areas (27.0%).

6. Inequality among female workforce participation

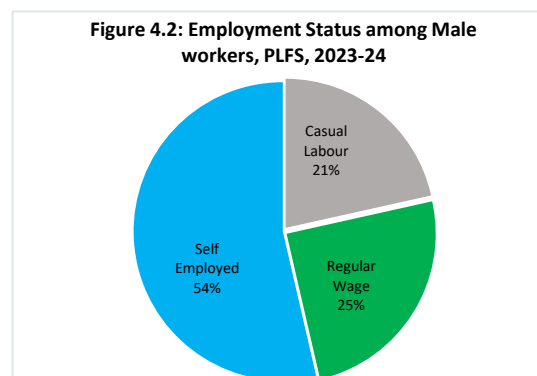
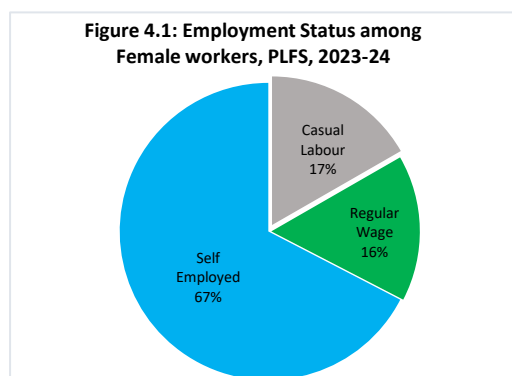
- The CART analysis (Figure 3) reveals pronounced heterogeneity in female labour force participation across socio-economic groups. Participation is substantially higher in rural areas (48%) than in urban areas (28%). Within rural areas, marital status further differentiates outcomes, with currently married, divorced, or widowed women exhibiting higher labour force engagement. Social group intensifies these disparities: women from Scheduled Castes and Scheduled Tribes show the highest participation rates (62%), compared with 53% among those from OBC or general categories. The subgroup with the highest female labour force participation (62%) comprises rural women who are currently married, divorced, or widowed, have no or only primary education, and belong to SC or ST social groups.

Figure 3: Classification and Regression Tree Analysis of Female Labour Force Participation Rate (15+ years), 2023-24



7. Nature of employment among Female Workforces

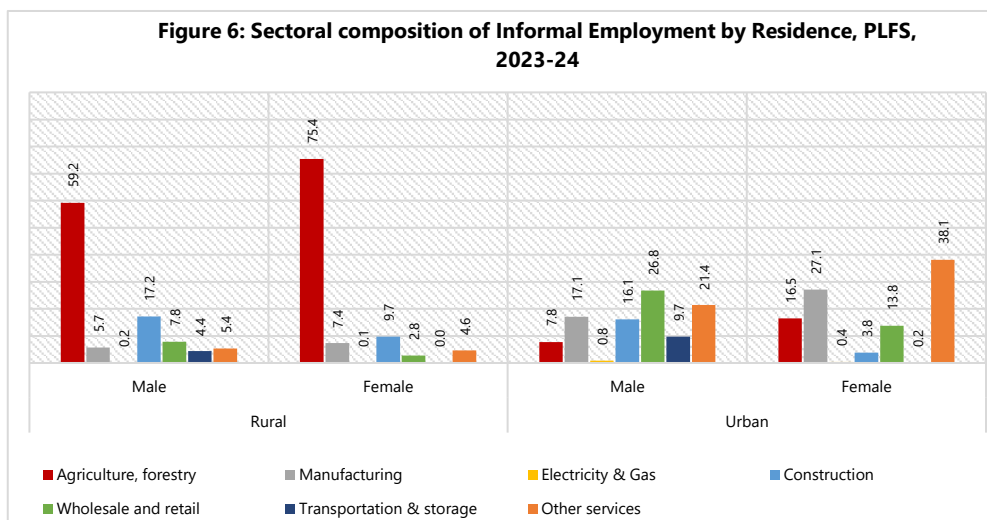
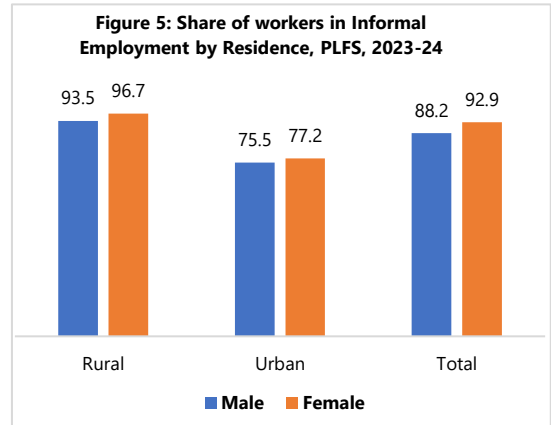
- In 2023–24, self-employment emerged as the dominant form of work for both females and males, however, it is more prevalent among female, with approximately 67% of female workers self-employed, compared to 54% of male workers.



- Engagement in regular wage or salaried employment is lower among females (16%) than males (25%), indicating women’s relatively limited access to stable, salaried jobs. Casual labour accounts for 17% of female employment and 21% of male employment, suggesting a slightly higher concentration of men in casual work.

8. Sectoral concertation

- In India, most workers are employed in the informal sector, with both men and women showing high levels of participation. However, women exhibit a slightly higher share of informal employment than men in both rural and urban areas (figure 5).
- A clear rural-urban difference is evident: over 96% of women’s employment in rural areas is concentrated in the informal economy compared with 77% in urban areas.
- Figure 6 shows that in rural areas, the largest share of informal employment for both sexes is accounted in agriculture and forestry, with women accounting for an even higher proportion (~75%) than men (~59%).



- In contrast, urban informal workers exhibit a more diversified sectoral composition, with wholesale and retail trade, transportation, storage and “other services” being prominent. Men are notably represented in transportation and storage (~21%) and construction (~17%), while women are more concentrated in retail and other services.

9. Determinants of Female Labour Force Participation

- To examine the socio-economic determinants of female labour force participation (FLFP) in India, a multivariate logistic regression analysis was conducted using unit-level data from the PLFS. The analysis focuses specifically on individuals aged 20–29 years, a key life-course stage when transitions related to education completion, labour market entry, marriage, and childbearing strongly shape labour force engagement.
- After controlling for other factors, gender emerged as the strongest predictor of labour force participation. Young women have significantly lower odds of participation than young men (OR = 0.09 vs OR=1.0), indicating that they are roughly 11 times less likely to be in the labour force than men (Table 1).

- Labour force participation is lowest among individuals with higher secondary education and significantly higher among graduates, indicating a non-linear, U shaped relationship between education and employment.
- Urban youth are less likely to participate in the labour force than their rural counterparts, reflecting limited availability of entry-level employment opportunities outside agriculture.
- Youth belonging to Scheduled Caste, Other Backward Class, and other social groups have lower odds of labour force participation compared to Scheduled Tribe youth. Additionally, those residing in larger households have lower odds of participation, highlighting the influence of social group differences and household structure on labour market outcomes.
- Economic status is positively associated with labour force participation compared with youth from the poorest households, those belonging to higher MPCE households exhibit greater participation.

Background Characteristics	Odds Ratio	95% CI	Background Characteristics	Odds Ratio	95% CI
Gender			Household size group		
Men [®]			1 member [®]		
Women	.09***	0.09-0.09	2-3 members	0.89**	0.81-0.97
Place of Residence			4-5 members	0.78***	0.71-0.85
Rural [®]			6+ members	0.79***	0.72-0.87
Urban	0.59***	0.57-0.62	Religion		
Education level			Hindu [®]		
Not literate [®]			Muslim	0.85***	0.81-0.89
Up to primary	1.54***	1.38-1.72	Christian	0.89**	0.81-0.97
Middle/Secondary	1.36***	1.23-1.50	Sikh	1.15*	1.00-1.33
Higher secondary	0.41***	0.37-0.46	Others	1.04	0.91-1.19
Graduate & above	1.53***	1.38-1.69	Household livelihood type#		
Others	2.13***	1.81-2.51	Self-employed [®]		
Marital status			Casual labour	1	0.96-1.05
Never married [®]			Regular wage/salary earning	0.93**	0.88-0.98
Currently married	1.02	0.98-1.06	Others	0.50***	0.46-0.54
Widowed/Divorced/Separated	3.23***	2.55-4.09	Monthly Per Capita Expenditure		
Social group			Poorest [®]		
Scheduled Tribe [®]			Poorer	1.12***	1.05-1.19
Schedule Caste	0.52***	0.48-0.56	Middle	1.18***	1.10-1.25
Other Backward Class	0.56***	0.52-0.59	Rich	1.16***	1.09-1.24
Others	0.58***	0.54-0.62	Richest	1.20***	1.12-1.29

*Reference Category; *** p<0.001, ** p<0.01, p<0.05*

10. Explaining Gender Differences in Labour Force Participation: A Fairlie Decomposition

- The Fairlie decomposition is a statistical technique used to analyse differences in outcomes between two groups (e.g., men vs. women, urban vs. rural) when the outcome is binary (like employment vs. unemployment, or participation vs. non-participation in the labour force). This technique is used to quantify how much of the observed gap in a binary outcome between two groups can be explained by differences in characteristics (like education, age, marital status etc.) and how much remains unexplained. This provides answer to the questions like why men and women have different labour force participation rates and how much of the gap is due to differences in education, age, household structure etc. versus unobserved factors like discrimination.
- An attempt has been made to decompose the male-female labour force participation gap for individuals aged 20-29 years in India (2023-24) using Fairlie decomposition. The gap is defined as male participation minus female participation.

- The difference in labour force participation between young men and young women is 45.9 percentage points (Table 2). The observable characteristics in the analysis include education level, marital status, household size, place of residence, social group, religion, household livelihood type and monthly per capita HH expenditure, as available in the data set. Each variable contributes either positively or negatively to the explained gap. A variable has a positive contribution if it widens the gap and negative contribution if it reduces the gap.
- The Fairlie decomposition results indicate that observable characteristics explain -13.7 percent of the gender gap in labour force participation among youth aged 20–29 in India. Interestingly, the explained component is negative (-6.3), implying that compositional differences between men and women actually narrow the observed gap.
- Marital status emerges as the single largest contributor, accounting for -94.5 percent of the explained component. The negative sign indicates that the higher incidence of marriage among young women acts to narrow the observed gender gap.
- Place of residence (-7.5%) and household livelihood type (-5.3%) have negative contributions indicating that the differences in place of residence and household livelihood type reduced the gender gap by 7.5 and 5.3% respectively. Rural women may have higher participation especially in agriculture or informal work as these households require family labour thereby decreasing the gender gap.
- Education accounts for 5.8% of the explained component and if women had the same education distribution as men, the gender gap in labour force participation would reduce by 0.365 percentage points. Small positive contributions are seen for Household size (0.9%), indicating differences in household size slightly widen the gap. Very small positive contribution of caste composition is observed meaning differences play a minimal role. Religion (0.1%) has almost negligible contribution in explaining the gender gap in labour force participation. Monthly household per capita expenditure (0.2%) is not statistically significant explaining that the economic status differences do not meaningfully explain the gap.
- The bulk of the gender gap (113.7 percent) remains unexplained, pointing toward structural constraints, gender norms, and differential returns to characteristics as the dominant drivers of young women’s low labour force participation.
- The overall results show that the youth gender gap in labour force participation is not primarily due to differences in education, caste, religion, or income in India, it is largely due to structural and gender-specific effects, especially related to marriage.

Table 2: Fairlie Decomposition of the Female-Male Labour Force Participation Gap (20-29 Years), India, 2023-24

Background Characteristics	Contribution (Coefficient x 1,00)	% Contribution
Education level	0.365***	5.8%
Marital status	-5.94***	-94.5%
Household size	0.06**	0.9%
Residence	-0.47***	-7.5%
Social group	0.02**	0.3%
Religion	0.01***	0.1%
Household livelihood type	-0.33***	-5.3%
Monthly per capital expenditure	0.01	0.2%
Explained gap	-6.3	-13.7%
Total gap	45.9	100%
Unexplained gap	52.2	113.7%
Number of observations	68,947	-

Note: *** p<0.01, ** p<0.05 & * p<0.10
Source: Computed from PLFS 2023-24 data files
