



# INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact Factor: 6.078

(Volume 11, Issue 3 - V11I3-1154)

Available online at: <https://www.ijariit.com>

## Gender Disparities in Employment

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### ABSTRACT

*Gender inequality in employment describes barriers to accessing, opportunities in, and treatment offered in the workplace. These disparities can result in pay gaps, lower representation of women in leadership roles, and a stagnating economy. Gender inequality in employment restricts a country's full economic potential and sustains or elevates social inequalities. This study assesses gender disparity in employment in India on a zone-wise basis, by reviewing the NSDP, and gender-based labour force participation and unemployment from 2011 to 2024. The research utilizes publicly available data from government-sourced employment datasets such as the PLFS and MOSPI. The findings indicate various disparities in work engagement rates by regions and gender. Regression models assess the influence of male and female participation on the economic output by state. The study supplements fixed effects with year, allowing the study to fulfil studying if states including females into the labour pool favourably correlated with inclusive economic performance. Overall, the study found that female labour participation was positively correlated with economic output under fixed effects with year. Urban areas typically have a higher full employment unemployment (UE) rate for females, against a backdrop of increased educational access to women, and that the North-East demonstrates enhanced gender participation even with lower NSDP. In aggregate, the study identifies that structural changes, social changes, and natural, smart, and inclusive gender-based policy changes are essential to encourage equitable growth and to favourably use a society's economic potential.*

**Keywords:** Gender Disparities, Employment Inequality, Gender Wage Gap, Labor Force Participation, Workplace Discrimination, Occupational Segregation, Equal Pay, Gender Bias, Glass Ceiling, Pay Equity, Women In Workforce, Economic Empowerment, Career Advancement

### INTRODUCTION

Employment is a condition where people have paid work, and they participate in economic activities to earn a living. It is important for the economic development of a nation, social stability, and its overall growth. Despite this, employment opportunities are not always equal, and gender inequalities form one of the main issues in the labor market. Gender discrimination in the workplace is the discriminatory treatment of workers based on gender in the areas of hiring, remuneration, promotion, and career advancement. These differences persist even with improvement in education and policy changes and affect not only individual living conditions but also the economies of countries. The wage gap is one of the manifestations of gender discrimination in the workplace.

All over the globe, women are paid less than men for doing the same work, and globally the estimated gender pay gap stands at about 20%, says the International Labour Organization (ILO). The reasons for this disparity are numerous, ranging from job segregation by occupation, to discrimination in salary negotiations, and the "motherhood penalty," whereby women experience pay cuts and few career opportunities after giving birth. Furthermore, women tend to be employed in informal or part-time work with lower pay and fewer benefits, which further perpetuates financial insecurity. Aside from wages, gender-based employment discrimination is also observed in occupational segregation. The division of labor has been caused by traditional societal expectations, where men hold the high-paying fields of technology, finance, and engineering, while women are disproportionately found in low-paying fields of caregiving, education, and administration.

This segregation restricts women's professional opportunities and further perpetuates sex stereotypical professions. Additionally, even leadership jobs remain male-dominated, and women encounter the "glass ceiling" that will not allow them to ascend into executive positions based on equal or better qualifications. Gender inequalities at work directly relate to a nation's Gross Domestic Product (GDP). Closing the gender employment gap can appreciably raise economic growth according to studies. A report by McKinsey Global Institute indicates that progress in gender equality in the workplace can add \$12 trillion (about \$37,000 per person in the US) to the world GDP by 2025. Nations that do not deal with employment discrimination on the basis of gender have lower productivity, lower consumer spending power, and ineffective talent utilization.

Women's constrained entry into the formal labor market results in a loss of potential economic contribution, as companies lose out on diverse ideas that fuel development and innovation. The economic effects of gender inequalities are also compounded by unpaid care work, which is disproportionately done by women.

Because of social norms, women dedicate more time to domestic work and caregiving, lowering their engagement in full time or better-paying employment. In the absence of proper policies like paid parental leave, affordable childcare, and flexible work schedules, most women must make a choice between career progression and family obligations, resulting in long-term economic losses. Solving gender imbalances in the labor market calls for holistic approaches, such as policy changes, business interventions, and societal changes. Governments need to act against equal pay gaps, tighten anti-discrimination policies, and support women's entry into male-dominated sectors. Firms need to have diversity and inclusion initiatives, mentorship programs, and open compensation plans to facilitate equity in the workplace.

Moreover, a shift in mindsets of people regarding gender roles is important in establishing a situation where opportunities for employment are skill and merit-based, not gender based.

In summary, gender inequalities in the workplace are an ongoing concern with long-term implications for individuals and national economies. Wage differentials, occupational segregation, and employment discrimination hamper economic development and social advancement. Closing the gaps is not only a question of social justice but also an economic imperative. Through equitable policies, combating stereotypes, and creating inclusive workplaces, societies can realize the full potential of their labor force and create the conditions for sustainable development.

## LITERATURE REVIEW

Klasen & Pieters (2015) studied urban India and found that the decline in female employment is mainly due to increasing household incomes, increased education among women along with a lack of suitable employment opportunities. According to Deshpande & Kabeer (2019) despite controlling for education, experience, and sector, the wage disparity is prevailing and increasing in the economy. ILO (2018) stated that the gender pay gap in India is about 34%, with women earning ₹46.19 on average for every ₹100 earned by a man. NCEUS (2007) reported that about 94% of female workers are in the informal sector resulting in wage disparity. Influence of caste on wage discrimination is also prevalent in India as Deshpande (2011) found significant employment and wage gaps for SC/ST women compared to others. Jodhka & Shah (2010) highlighted how caste and gender together effects the job market. There is also zonal disparity in the economy as Mazumdar & Neetha (2011) documented regional disparities where southern and northeastern states show relatively better female employment metrics than northern states. Though economist vouch for increasing education to get better productivity, Das & Mehta (2012) explored the paradox of rising education and falling employment for women. Similarly, Kingdon & Unni (2001) argue that education alone does not guarantee women's labor participation unless accompanied by market linkages and safety infrastructure. Gurumurthy & Chami (2016) studied how digital exclusion widens the gender employment gap in India, especially in tech-related fields.

## LITERATURE GAP

From the above literature, zone wise study on the aspect of gender wise participation rate, unemployment rate and impact of gender wise participation on NSDP is missing. Hence this paper takes up such a project.

**Objectives-** the paper tries to evaluate

- Evaluate zone-wise Per Capita NSDP over the years and compare gender-wise labour workforce participation rate across the states over the years.
- Impact of labour workforce participation on NSDP. the state will be divided into 6 zones, zone-wise Per Capita NSDP will be evaluated to check existence of inequalities through simple charts and diagrams.
- Impact of labour workforce participation for male and female separately on the NSDP will be evaluated over the years through panel model.

## METHODOLOGY

This paper is based on secondary data. Study period is from 2011-12 to 2023-24. Data have been collected from secondary sources, primarily from government websites and bulletins including the Periodic Labour Force Survey (PLFS), National Sample Survey Office (NSSO), the Ministry of Statistics and Programme Implementation (MOSPI), and the Reserve Bank of India – Handbook of Statistics on Indian States. Zonal classification has been done according to the Ministry of Home Affairs, Government of India. Initially the states are divided into 6 zones according to the Ministry of Home Affairs, Government of India. The average per capita Net State Domestic Product (NSDP), gender wise labor force participation rate of each zone has been calculated over the study period (2011–2019). These have been evaluated to check whether there is any disparity across the states. This has been described with the help of simple charts and diagrams using Microsoft excel. For the third objective, a panel regression has been run over the study period 2011-19 using Stata software.

## RESULT AND ANALYSIS

This section is divided into three subparts according to the objectives.

### Objective 1-

For Objective 1, the states are divided into 6 zones according to the Ministry of Home Affairs, Government of India. The average per capita Net State Domestic Product (NSDP) of each zone has been calculated over the study period (2011–2019). The zone-wise per capita NSDP has been evaluated to check whether there is any disparity across the states. It is also presented through a table (table 1) and a column diagram (Figure 1).

Zones	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Central zone	56495.25	59286.25	62701	64630	68197.75	74020.25	77597	81392.5	83166.5

North zone	77949.6	80842.8	85397.2	88260	95842.8	102049.6	107752.6	113701.6	118679.2
South zone	88281.6	91356	96037.6	101171.2	110790.2	119867.6	130146.2	139030.8	146624.4
East zone	40761.5	42655.25	43782	45411.75	46170.25	50771.25	53935.75	56841.75	60309.25
West zone	148840.6	140236.6	136875.6	155836.3	174057.6	158682.6	201360.3	223210	223203.3
North-East zone	66308.8	67485.37	71240.3	77857.25	80909.5	85670.62	92762.5	96660.8	99675.6

Table 1- zone wise NSDP over the study period. (author's own estimation based on data from RBI – Handbook of Statistics, MOSPI) The results show that the West Zone consistently records the highest per capita NSDP from 2011–12 to 2019–20. This is followed by the South and North Zones. The superior economic performance of the West Zone can be attributed to the presence of economically dominant states like Maharashtra and Gujarat, which benefit from strong industrial bases, higher urbanization, and a vibrant services sector. These states also attract significant domestic and foreign investment, resulting in higher income generation and productivity. On the other hand, the East and North-East Zones remain at the lower end of the spectrum throughout the time period, with the North-East Zone emerging as the lowest. The persistent lag in these regions could be explained by geographical isolation, lack of infrastructure, limited industrialization, and a dependence on agriculture or informal employment sectors. These factors limit income levels and slow down economic development, leading to wide regional disparities in per capita NSDP across the country. This is also shown through figure 1.

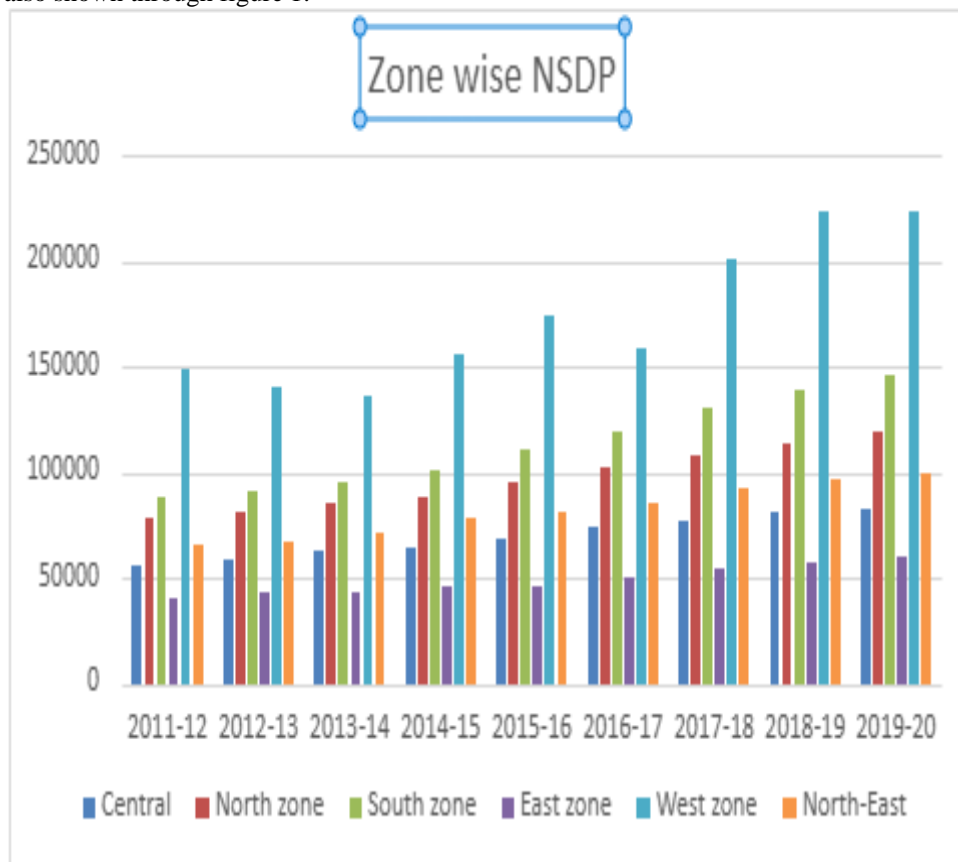
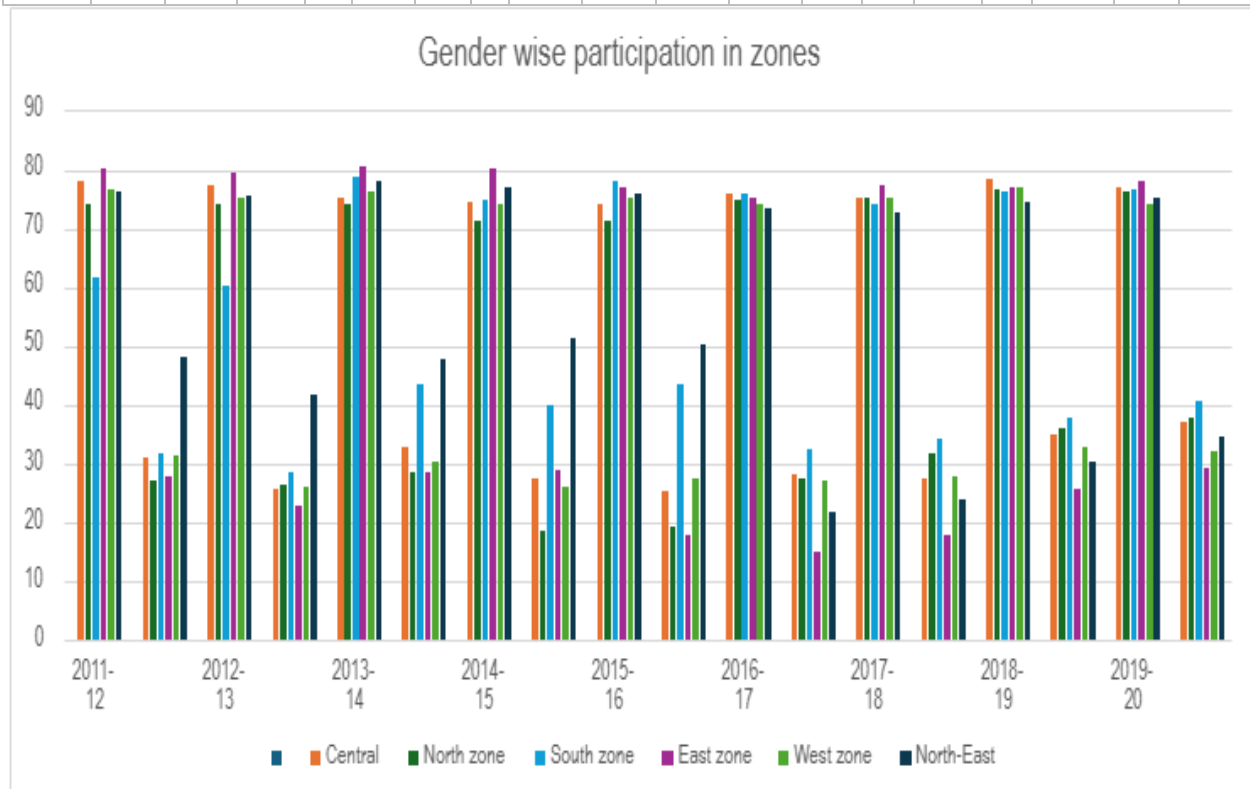


Figure1 – Zone wise NSDP (author's own estimation)

A separate table (table 2) and diagram (figure 2) highlights labour workforce participation across these zones by gender. The results indicate a stark gender gap in employment across all regions, with male participation rates consistently higher than female rates during the years 2011–12 to 2019–20. Despite this, some zones show relatively better inclusion trends than others. The West and North Zones report high overall workforce engagement, with male participation hovering around 75–80% and female participation between 25–35%. Some literatures also support these results. As Field et al. (2016) describes how restrictive social norms and safety concerns significantly limit women's labor force participation, particularly in northern India resulting in a huge gender wise gap in work force participation. With time, these zones have reflected economic development and urbanization by promoting some degree of gender inclusivity, although the gap remains significant. Interestingly, the North-East Zone, while being the lowest in per capita NSDP, demonstrates one of the smallest gender gaps and higher female labour force participation compared to other regions. This anomaly may be rooted in distinct social structures, matrilineal systems in certain communities, and the cultural normalization of women's economic contributions. In contrast, the East and Central Zones report both low female participation and wider gender gaps despite moderate male participation, suggesting the influence of deep-rooted socio-cultural barriers and limited access to education or employment opportunities for women. This is shown through table 2 and figure 2.

**Table 2- Zone wise labor participation over the study period (Source: author's own estimation based on data from Periodic Labour Force Survey (PLFS), MOSPI.)**

zone s	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20	
	mal e	fem ale	ma le	f e m a l e	m ale	f e m a l e	m a l e	f e m a l e	mal e	fem ale	mal e	f e m a l e	m a l e	f e m a l e	m a l e	fem ale	ma le	fema le
Cent ral	77. 9	31.	77. 2	2 5 . 6	75	32 .7	7 4 . 4	27. 4	74. 05	25. 2	76. 0	28 .1 5	7 5. 0 7 5	27. 32 5	7 8. 2 2 5	35.0 7	76. 8	37.1
Nort h zone	74. 0	27. 0	74. 2	2 6 . 5	74.	28 .6	7 1 . 1	18. 5	71. 3	19. 3	74. 8	27 .3 2	7 5. 0	31. 7	7 6. 6	36.	76. 2	37.2
Sout h zone	61. 8	31. 9	60. 2	2 8 . 3	78.	43 .5	7 5	40	78	43. 58	75. 9	32 .2 6	7 4. 2	34. 2	7 6. 1 6	37.8 8	76. 5	40.2
East zone	80. 1	27. 9	79. 3	2 2 . 9	80. 5	28 .3	8 0 . 0 7 5	28. 7	76. 9	17. 8	75. 1	14 .9 5	7 7. 4	17. 9	7 7. 0 5	25.5 75	77. 95	29.1
West zone	76. 5	31. 3	75. 2	2 6 . 1	76. 4	30 .3	7 4 . 3	26. 1	75. 0	27. 5	74. 2	27 .2	7 5. 1	27. 6	7 6. 9	32.6 6	74. 1	32.1 3
Nort h- East	76. 2	48	75. 4	4 1 . 6	77. 9	47 .6	7 7 . 1	51. 25	75. 7	50. 1	73. 4	21 .7	7 2. 5	24. 05	7 4. 6 2 5	30.4 1	75. 05	34.5 1



**Figure2- Zone wise labor participation over the study period (Source: author's own estimation)**

Considering both charts together presents a nuanced understanding of regional disparities in India. The West Zone can be seen as the best-performing region overall, combining strong economic indicators with relatively inclusive labour participation rates. It highlights the role of industrial and urban development in facilitating gender access to employment. However, the North-East Zone presents a contrasting model—while economically lagging, it reflects progressive trends in gender participation, pointing towards the role of culture and societal norms in shaping employment patterns.

The East and Central Zones, which fare poorly on both economic output and gender inclusivity, emerge as areas of concern requiring focused policy attention. This dual analysis underscores the need for region-specific interventions that not only promote economic growth but also ensure equitable gender participation in the workforce across all zones. This is shown through figure 2.

## Objective 2:

The Labour Force Participation Rate (LFPR) trends from 2017–18 to 2023–24 show a consistent pattern where males dominate the workforce across both rural and urban sectors in India. In rural areas, male participation remains high, averaging around 77–80% over the years, while female participation, though improving, remains significantly lower—rising from 24.6% in 2017–18 to 47.6% in 2023–24. The combined rural LFPR shows an overall increase from 50.7% to 63.7%, indicating growth in participation, especially among rural women, which is a positive shift likely driven by increased awareness, MGNREGA-like schemes, or rising economic need. In urban areas, male LFPR hovers around 74–75% consistently, but female LFPR, while slightly higher than rural in earlier years, still remains low—only reaching 28% in 2023–24 from 20.4% in 2017–18. This demonstrates a gender gap that persists in urban India, with male urban participation being nearly triple that of female participation in many years. This is shown in Table 3.

	Rural			Urban			Rural + Urban		
Survey period	male	female	person	male	female	person	male	female	person
2023-24	80.2	47.6	63.7	75.6	28	52	78.8	41.7	60.1
2022-23	80.2	41.5	60.8	74.5	25.4	50.4	78.5	37	57.9
2021-22	78.2	36.6	57.5	74.7	23.8	49.7	77.2	32.8	55.2
2020-21	78.1	36.5	57.4	74.6	23.2	49.1	77	32.5	54.9
2019-20	77.9	33	55.5	74.6	23.3	49.3	76.8	30	53.5
2018-19	76.4	26.4	51.5	73.7	20.4	47.5	75.5	24.5	50.2
2017-18	76.4	24.6	50.7	74.5	20.4	47.6	75.8	23.3	49.8

Table 3- gender wise labor force participation rate (**Source:** PLFS Annual Reports (2017–2024), Ministry of Statistics and Programme Implementation.)

Interestingly, the rural-urban combined LFPR for females increased from 23.3% in 2017–18 to 41.7% in 2023–24, signaling overall progress. However, this figure is still far below the male combined LFPR, which increased marginally from 75.8% to 78.8% during the same period. What is particularly striking is that despite urban areas offering greater access to education, liberal environments, and diverse employment avenues, the gender gap is wider in urban settings compared to rural ones. This may seem counterintuitive, but the reason lies in structural and cultural constraints—urban employment often requires formal skills, degrees, and competitive exposure, which many women might not possess due to historic educational neglect or familial restrictions. Furthermore, urban women often face stronger societal pressures around balancing domestic responsibilities and professional work, unlike rural women who are more engaged in informal or agricultural labour by necessity.

The Unemployment Rate (UR) data further reveals that urban areas have consistently higher unemployment rates for both males and females compared to rural counterparts. In 2017–18, the urban female unemployment rate was 10.8%, which declined to 5.1% by 2023–24, showing improvement. However, rural female unemployment stood much lower at just 2.1% in 2023–24. This reinforces the trend of rural women being more economically engaged, albeit in low-paying or informal jobs, while urban women, though potentially more educated, face greater competition and fewer accessible jobs. Some literature also supports this type of results as Mehrotra & Parida (2017) found that urban women face different barriers than rural women, such as professional job mismatch or urban informality. This may be the reasons for higher urban female unemployment rate than rural one in the economy. This is shown in table 4.



**Table4- Gender wise unemployment rate in rural and urban areas (Source: PLFS Annual Reports (2017–2024), MOSPI.)**

Years	Rural			Urban			Rural+Urban		
	male	female	person	male	female	person	male	female	person
2023-24	2.7	2.1	2.5	4.4	7.1	5.1	3.2	3.2	3.2
2022-23	2.7	1.8	2.4	4.7	7.5	5.4	3.3	2.9	3.2
2021-22	3.8	2.1	3.2	5.8	7.9	6.3	4.4	3.3	4.1
2020-21	3.8	2.1	3.3	6.1	8.6	6.7	4.5	3.5	4.2
2019-20	4.5	2.6	3.9	6.4	8.9	6.9	5	4.2	4.8
2018-19	5.5	3.5	5	7	9.8	7.6	6	5.1	5.8
2017-18	5.7	3.8	5.3	6.9	10.8	7.7	6.1	5.6	6

The gender unemployment gap also narrows in rural areas compared to urban regions, again suggesting that economic necessity drives higher rural female engagement.

Overall, rural males continue to lead in workforce participation, followed by urban males, rural females, and lastly, urban females. This hierarchy reflects deeply rooted gender norms, lack of supportive infrastructure for working women (such as childcare), and the mismatch between female educational qualifications and employability in formal sectors, particularly in urban India.

### **Objective 3:**

The third objective of this paper intends to check the impact of male and female worker participation on the net value state domestic product by a panel regression over the study period. .

The model is given as below: Total observation (N) =261 No. of explanatory variables (k) in the equation is 2

Equation:

$$y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon_{it}$$

i= 1, 2, 3, .....,29.

t = 1, 2, 3,4.....9.

$Y_{it}$  = Birth rate

$\alpha$ = Slope coefficient

$\beta_1$  = Coefficient of variable

$X_{1it}$  = Male workers participation

$X_{2it}$  = Female workers participation

$\varepsilon_{it}$  = Residual

. xtreg NSDP maleparticipation femaleparticipation, fe

Fixed-effects (within) regression Number of obs = 261

Group variable: code Number of groups = 29

R-squared: Obs per group:

Within = 0.0048 min = 9

Between = 0.1324 avg = 9.0

Overall = 0.0955 max = 9

F(2,230) = 0.55

corr(u\_i, Xb) = -0.3515 Prob > F = 0.5773

NSDP	Coefficient	Std. err.	t	P> t	[95% conf. interval]
maleparticipation	-2381.163	2443.784	-0.97	0.331	-7196.228 2433.902
femaleparticipation	721.5191	771.5064	0.94	0.351	-798.6045 2241.643
_cons	459648.6	169580.3	2.71	0.007	125519 793778.1
sigma_u	313623.21				
sigma_e	78905.438				
rho	.94046916	(fraction of variance due to u_i)			

F test that all u\_i=0: F(28, 230) = 124.48 Prob > F = 0.0000

. est store fe

. xtreg NSDP maleparticipation femaleparticipation, re

Random-effects GLS regression Number of obs = 261

Group variable: code  
R-squared:  
    Within = 0.0047  
    Between = 0.1313  
    Overall = 0.0942  
Number of groups = 29  
Obs per group:  
    min = 9  
    avg = 9.0  
    max = 9  
Wald chi2(2) = 0.47  
Prob > chi2 = 0.7903  
corr(u\_i, X) = 0 (assumed)

```
-----+-----
NSDP | Coefficient Std. err. z P>|z| [95% conf. interval]
-----+-----
maleparticipation | -1587 2425.341 -0.65 0.513 -6340.582 3166.581
femaleparticipation | 445.7076 764.1974 0.58 0.560 -1052.092 1943.507
_cons | 408612 177447.5 2.30 0.021 60821.21 756402.8
-----+-----
sigma_u | 298047.69
sigma_e | 78905.438
rho | .93450277 (fraction of variance due to u_i)
-----+-----
```

```
. est store re
. hausman fe re ----
---- Coefficients ----
| (b) (B) (b-B) sqrt(diag(V_b-V_B))
| fe re Difference Std. err.
```

```
-----+-----
malepartic~n | -2381.163 -1587 -794.1623 299.6646
femalepart~n | 721.5191 445.7076 275.8115 105.9453
-----+-----
```

	b	=	Consistent	under	H0	and	Ha;	obtained	from	xtreg.
B	=	Inconsistent	under	Ha,	efficient	under	H0;	obtained	from	xtreg.

Test of H0: Difference in coefficients not systematic

$\chi^2(2) = (b-B)'(V_b-V_B)^{-1})(b-B)$   
= 6.77

Prob >  $\chi^2 = 0.0339$

(V\_b-V\_B is not positive definite)

. xtreg NSDP maleparticipation i.YEAR , fe

Fixed-effects (within) regression Number of obs = 261

Group variable: code Number of groups = 29

R-squared: Obs per group:

Within = 0.4934 min = 9

Between = 0.0927 avg = 9.0

Overall = 0.0049 max = 9

F(10,222) = 21.62

corr(u\_i, Xb) = -0.1054 Prob > F = 0.0000

```
-----+-----
NSDP | Coefficient Std. err. t P>|t| [95% conf. interval]
-----+-----
maleparticipation | -798.9678 1816.33 -0.44 0.660 -4378.424 2780.488
femaleparticipation | 1419.45 606.2507 2.34 0.020 224.707 2614.193
YEAR |
2012 | 17756.33 15205.92 1.17 0.244 -12210.1 47722.75
2013 | 24571.64 15053.97 1.63 0.104 -5095.33 54238.62
2014 | 41775.4 15187.5 2.75 0.006 11845.27 71705.53
2015 | 65763.59 15245.74 4.31 0.000 35718.7 95808.49
2016 | 101312.3 15925.47 6.36 0.000 69927.89 132696.8
2017 | 121727.1 15644.27 7.78 0.000 90896.83 152557.4
2018 | 137343.4 15116.45 9.09 0.000 107553.3 167133.5
2019 | 150065.1 15107.08 9.93 0.000 120293.5 179836.8
_cons | 243003.4 127169.6 1.91 0.057 -7610.671 493617.5
-----+-----
```

```
-----+-----
sigma_u | 315131.79
sigma_e | 57299.899
rho | .96799653 (fraction of variance due to u_i)
-----+-----
```

F test that all  $u_i=0$ :  $F(28, 222) = 235.84$

Prob > F = 0.0000

To investigate the impact of gender-wise participation in MGNREGA on state-level economic performance, a panel data regression was conducted using Net State Domestic Product (NSDP) as the dependent variable. Fixed effects estimation, which controls for time-invariant state-specific factors, revealed that male participation in MGNREGA was negatively associated with NSDP, while female participation showed a positive coefficient; however, neither was statistically significant. A Hausman test confirmed the appropriateness of the fixed effects model ( $p = 0.0339$ ), indicating potential correlation between the regressors and unobserved heterogeneity across states. When adjusting for year-fixed effects to control for macroeconomic trends, female participation emerged as a statistically significant predictor of NSDP ( $p = 0.020$ ), highlighting the potential economic contributions of women's involvement in the program. These findings suggest that policies promoting greater female engagement in rural employment schemes may have broader developmental implications.

There can be various influencing factors for this type of results. Firstly, in the sectors where most male and female workers are engaged (e.g., agriculture, informal services) have low productivity, and then even high workforce participation doesn't necessarily raise NSDP. The nature of employment matters more than raw participation rates. A huge percentage of India's workforce (both male and female) is in the informal sector, much of which is not captured accurately in NSDP estimate. That is why, even if worker's participation is high, its economic value is underreported. Also, other important determining factors affecting NSDP like capital investment, education, infrastructure, industrial output have not been considered in this model, causing omitted variable bias. Further studies are required in this aspect.

## CONCLUSION

This paper examines the intricate relationship between gender and economic development through an analysis of state-level regional differences in NSDP, male and female participation in the workforce together with employment patterns across states in India. When comparing economic development across Indian states, the results are telling; while the West and South (the more economically developed zones) have a higher per capita NSDP, they also have estimated labor force participation disparities (participation gaps) between men and women. In contrast, the North-East zone, though economically less developed, displayed relatively better female participation in the workforce, underscoring the substantive influence of culture and societal norms.

The gender disparity in labor force participation remains widespread. Since economic conditions in rural areas are often more demanding, they reflect increasing female participation. In urban areas, where educational participation rates for women are high, women occupy less space in the workforce than men. Women's participation rates in urban areas are often stymied by institutional attitudes and societal norms. This paradox highlights the implications of both informal sector prominence and social values that shape expectation standards for all. Panel regression analysis serves only to confirm the economic benefits of gender inclusion. Male participation does not have any significant impact on NSDP; however, female labor force participation was a lagged positive contributor when the effects of years were fixed. In this instance, we found that gender heterogeneity wasn't just a question of "equity," but a question of "growth". Nevertheless, the confounding effects of omitted variable bias from exogenous variables such as capital investment, education, and sectoral composition diminish the explanatory power of the model specified above.

Therefore, taking substantial strides towards the objective of higher workforce participation requires multi-dimensional policy intervention featuring better safety and infrastructure for working women; appropriate remuneration; education for females with linkages to labour-market; and greater availability of parental leave and childcare. As well as that, old gender stereotypes and limiting workplace norms also need to be addressed if we are to narrow the gender gap. In summary, addressing gender disparities in employment is essential for India's development strategy that embraces social inclusion and sustainability. Supporting women's workforce participation is more than a matter of social justice, it is also a systematic opportunity that can yield sustainable economic benefits.

## REFERENCES

- [1] Das, M. B., & Mehta, S. K. (2012). *Women workers in India: Why so few among so many?* (Policy Research Working Paper No. 8843). World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/103761468269724920/women-workers-in-india-why-so-few-among-so-many>
- [2] Deshpande, A. (2011). *The grammar of caste: Economic discrimination in contemporary India*. Oxford University Press.
- [3] Deshpande, A., & Kabeer, N. (2019). The (In)visibility of women's work and the dynamics of gender inequality in India. *Indian Journal of Labour Economics*, 62(2), 147–164. <https://doi.org/10.1007/s41027-019-00165-3>
- [4] Field, E., Jayachandran, S., & Pande, R. (2016). *Norms and the economic empowerment of women* (Harvard University Working Paper). [https://scholar.harvard.edu/files/rpande/files/norms\\_and\\_empowerment.pdf](https://scholar.harvard.edu/files/rpande/files/norms_and_empowerment.pdf)
- [5] Gurumurthy, A., & Chami, N. (2016). *Digital India and gender justice: Making women visible in digital economies*. IT for Change. [https://itforchange.net/sites/default/files/ITfC/ITfC\\_Digital%20India%20and%20Gender%20Justice.pdf](https://itforchange.net/sites/default/files/ITfC/ITfC_Digital%20India%20and%20Gender%20Justice.pdf)
- [6] International Labour Organization. (2018). *Global wage report 2018/19: What lies behind gender pay gaps*. ILO. [https://www.ilo.org/global/publications/books/WCMS\\_650553/lang-en/index.htm](https://www.ilo.org/global/publications/books/WCMS_650553/lang-en/index.htm)
- [7] Jodhka, S. S., & Shah, G. (2010). Comparative contexts of discrimination: Caste and untouchability in South Asia. *Economic and Political Weekly*, 45(48), 99–106.
- [8] Kingdon, G. G., & Unni, J. (2001). Education and women's labour market outcomes in India. *Education Economics*, 9(2), 173–195. <https://doi.org/10.1080/09645290110056994>



- [9] 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. <https://doi.org/10.1093/wber/lhv003>
- [10] Mazumdar, I., & Neetha, N. (2011). Gender dimensions: Employment trends in India, 1993–2004. *Economic and Political Weekly*, 46(43), 118–126.
- [11] Mehrotra, S., & Parida, J. K. (2017). Why is the labour force participation of women declining in India? *World Development*, 98, 360–380. <https://doi.org/10.1016/j.worlddev.2017.05.003>
- [12] National Commission for Enterprises in the Unorganised Sector (NCEUS). (2007). *Report on conditions of work and promotion of livelihoods in the unorganised sector*. Government of India. [http://dcmsme.gov.in/Condition\\_of\\_workers.pdf](http://dcmsme.gov.in/Condition_of_workers.pdf)
- [13] Ministry of Statistics and Programme Implementation (MOSPI). Periodic Labour Force Survey Reports (2017–2024). <https://mospi.gov.in>