Vol 8, Issue 1, 2025 **Impact Factor: 8.535** DOI: https://doi.org/10.31426/ijamsr.2025.8.1.8016

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

Impact of Vocational Education on Employment and Income Enhancement among Scheduled Caste (SC) Women in Jharkhand

Sumit Kumar

Research Scholar, Department of Education, Radha Govind University, Ramgarh, Jharkhand.

Dr. Prakash Chandra

Research Supervisor, Department of Education, Radha Govind University, Ramgarh, Jharkhand.

ABSTRACT

The female workforce participation rate in India remained low, with the problem being more pronounced among Scheduled Caste (SC) women. In Jharkhand, structural inequalities related to caste, gender, educational attainment, and geographic location continued to impede SC women's access to better and remunerative jobs. This study analyzed the relationship between job exposure to skills and employment outcomes for SC females in Jharkhand using Unit-Level Periodic Labor Force Survey (PLFS) data. The analysis focused on wage and employment gaps between certified and non-certified SC women aged 18–45 years. A quasi-experimental and proxy-based empirical model was applied, with technical and vocational qualifications in the PLFS used as proxies for skill exposure. Employment outcomes were assessed through binary logistic regressions, income effects using log-linear models, and employment type transitions using multinomial logit models, while controlling for key socio-demographic variables. The results indicated that skilled SC women experienced higher employment levels, better access to self-employment and wage employment, and greater average monthly earnings compared to non-skilled peers. However, the magnitude of these benefits remained limited, and a substantial proportion of skilled women continued to work in informal and casual sectors, particularly in rural areas. The findings suggested that vocational skills positively influenced labor market outcomes for SC women, but additional interventions, such as education and market support, were necessary to ensure sustainable economic empowerment.

Keywords: *Vocational Education; Scheduled Caste Women; Employment Outcomes; Income Enhancement; Skill Exposure; Labour Market; Jharkhand; Periodic Labour Force Survey (PLFS).*

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

1. Introduction

The trend in female participation in the Indian workforce has been an alarming decrease in the last two decades despite the rise in education levels and the development of skill development schemes(Bhatt et al., 2021). The problem is more pronounced in regions like Jharkhand, with the lowest female workforce participation in the nation and conditions of employment that are characterized by informality, low wages, and economic vulnerability(Kumar, 2024). It is in light of the aforementioned that the plight of SC women is made worse due to the interaction between their gender and caste factors like the lack of asset access, mobility, social ostracism, and employment in casual low-paid work(Singh, 2020).

Vocational training and skill development has proved to be an important policy tool in making people employable and bringing about inclusive growth in India(Kannan & Raveendran, 2019). National and state government schemes like the Industrial Training Institutes (ITIs), and schemes being conducted by Jharkhand Skill Development Mission (JSDMS) and other government schemes like 'Pradhan Mantri Kaushal Vikas Yojana' intend to skill disadvantaged sections of society and make them employed productively(Sumalatha & Roy, 2024). Yet, it has been found that women, and specifically women belonging to marginalized castes, continue to be limited to non-productive occupations and continue to face difficulties in terms of safety, transportation, and prejudice(Rani, 2023). It is thus doubtful how much of vocational training is actually beneficial for SC women in terms of labor market outcomes(Thorat & Madheswaran, 2018).

A large number of studies on vocational training for females in India tend to offer a description or association-based proof, which can be for females in general or females across various castes(Tuzemen, 2022). Very few studies tend to treat females belonging to the 'SC' caste as a separate entity within the data, and then there are barely any that tend to apply a causal method of evaluation and measurement to test the hypothesis that vocational education can positively affect employment opportunities and income levels(George, 2024). There is also a lack of empirical research that tends to investigate the effects influenced by the nature of employment opportunities, the specialization level in a trade, or the provision for support like placements, transportation, and the possibility of having a female instructor—factors that play a crucial role in females' participation within the labor force, especially in a socially restricted state like Jharkhand(P. Chatterjee & Dev, 2023).

Within this setting, the current research analyses the effect of vocational training on job and income upgrading for Scheduled Caste Women in Jharkhand based on a strong quasi-experimental approach(Mitra & Okada, 2018). By integrating results from the primary data collected from the concerned households and beneficiaries, along with secondary data from the training administered to the beneficiaries, the research aims to develop strong causality about the effect of vocational training on employment probability, employment categories, and income based on Propensity Score Matching (PSM) and Difference-in-Differences (DiD) methods(Sen & Mukherjee, 2017). The research will help to add to the current theoretical work of gender, caste, and the labor market, along with helping to inform current policies regarding effective skill development programs for women from marginalized sections of India(Sharma & Thoudam, 2025).

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

Objectives of the Study

1. To estimate the causal effect of vocational education on employment probability among Scheduled Caste (SC) women in selected districts of Jharkhand.
2. To assess the impact of vocational training on income enhancement, measured through changes in individual and household monthly income of SC women.
3. To examine the effect of vocational education on the type of employment, distinguishing between casual wage work, self-employment, and salaried employment.
4. To analyse heterogeneity in employment and income outcomes across different trades (traditional vs non-traditional), age groups, and levels of educational attainment.
5. To evaluate the role of institutional and access-related factors—such as transport facilities, placement support, safety infrastructure, and presence of female instructors—in mediating training outcomes.
6. To generate policy-relevant evidence to inform the design and implementation of inclusive vocational education and skill development programmes targeted at SC women in Jharkhand.

Hypotheses

- H1: Vocational training has a significant effect on the employment probability of SC women.
- H2: Attending vocational training programs results in a significant positive change in monthly income.
- H3: Vocational training enhances the accessibility of superior job opportunities (either self-employment or employment as a salary earner).
- H4: The employment and earnings gains are greater for SC women who are trained in market-related or non-traditional skills.
- H5: Institutional support has a positive mediating role on the relationship between vocational training and employment and income.

Novelty of the Study

- This study will be one of the first to concentrate exclusively on SC women in Jharkhand regarding vocational education outcomes pertaining to both caste and gender.
- This goes beyond descriptive studies since it applies the quasi-experimental causal design in its aim to establish the actual impact of vocational training on factors such as employment and income.
- The study decomposes trade level and institutional heterogeneity analysis by categorizing trades into traditional and non-traditional and thus focusing on the role of gender-friendly training environments.
- It has explicitly integrated institutional mediators like transport access, placement support, safety infrastructure, and female instructors, which had rarely been analysed in previous research.

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

- The research does link vocational training outcomes to the state-specific policy framework, which in turn allows this analysis to be context-sensitive and practically relevant to Jharkhand.

Scientific Contribution of the Study

- The study contributes robust causal evidence on the effects of vocational education on employment probability, employment type, and income among marginalized women.
- It contributes to methodological rigor by incorporating PSM and DiD into impact evaluation.
- The study contributes to labour economics and gender studies literature by providing heterogeneous treatment effects across different trade groups, age, and education levels.
- It provides an understanding of how institutional supports at the meso-level mediate outcomes of vocational training, based on mechanisms, hence contributing to theory-building on pathways from skill to employment.
- The findings provide policy-relevant scientific knowledge useful for the design of inclusive, gender-responsive vocational education and skill development programs.

2. Literature Review

Studies on women's labour-force participation in India have identified a persistent secular decline, with a heavy preponderance towards informal, low-paid, and insecure work(Majumdar, 2024). This phenomenon is even more pronounced among socially marginalized groups, for whom gender and caste combine to reduce access to productive work opportunities(Fields, 2019). For the Scheduled Caste women in states like Jharkhand, labour vulnerability is significantly higher because of restricted asset ownership, mobility constraints, and social norms, combined with limited access to quality education and skills(Jain, 2022).

A growing number of studies explore vocational education and the building of skills as a pathway to enhanced employability and earnings for women(Basole, 2019). National-level evaluations of skill programs in India indicate that vocational training can indeed create better prospects for employment; women trainees, however-mostly from disadvantaged backgrounds-end up in low-return, traditional trades like tailoring, handicrafts, and beauty services(Sundari, 2020). Supply-side barriers-lack of hostels, transport, sanitation, and female instructors-and demand-side constraints-employer bias and limited local labour demand-weaken the transition from training to employment substantially for women(Aggarwal & Goldar, 2019).

Empirical evidence on the vocational training impact for women in rural and semi-urban India is mostly based on descriptive or cross-sectional approaches(Pignatti, 2023). In the case of farm and rural women, studies have shown modest rises in employment days and additional income after training, suggesting that skills acquisition fosters livelihood diversification(Amalia et al., 2023). However, these studies suffer from limitations in terms of small sample sizes, no counterfactual, and no caste-disaggregated analysis, which restricts drawing any casual inferences for SC women in particular(Addati, 2021).

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

Region-specific evidence from Jharkhand indicates large caste and gender gaps in labor-market outcomes(Srujana, 2025). Household survey-based research reports that SC and ST women are disproportionately employed as casual wage laborers earning low wages with limited job security(Afridi et al., 2018). These studies provide important contextual insights into the nature of labor vulnerability; however, these studies do not directly estimate the employment or earnings impacts of vocational education or examine variation in training impacts by trade or institutional type.

The existing literature suggests three major gaps: (i) lack of SC-specific impact evaluations of vocational training, especially in Jharkhand; (ii) in the absence of casual or quasi-experimental approaches to identify employment and income effects; and (iii) little analysis of heterogeneity and mediating mechanisms across trade choice, placement support, transport, and gender-friendly training environments. The present study will address these gaps by applying the QEM to generate robust evidence on how and under what conditions vocational education improves the employment and income prospects for Scheduled Castes women in Jharkhand(Fletcher et al., 2017).

3. Methodology

The data extracted for this study pertain to unit-level information from PLFS and restrict the sample to Scheduled Caste women between 18 and 45 years of age in Jharkhand. Employment probability, type of employment, and income outcomes are analyzed separately with logistic regression, multinomial logit, and log-linear income models, respectively, using technical/vocational qualification as a proxy for skill exposure. All models control for socio-demographic characteristics, while robust standard errors have been applied for statistical inference.

3.1 Description of Dataset

The study uses unit-level data from the Periodic Labour Force Survey conducted by the Ministry of Statistics and Programme Implementation, Government of India. PLFS is a nationally representative, open-access dataset that provides detailed information on the employment status, type of employment, wages/earnings, education, caste, gender, and age of a person, and also households' characteristics. For this study, the dataset is restricted to Scheduled Caste women in the age group 18–45 years residing in Jharkhand, which therefore allows focused analysis of labour-market outcomes for one of the most marginalized social groups. The key variables extracted include the following: employment status, employment category casual wage, self-employment, salaried, monthly earnings, educational attainment, technical/vocational qualification, marital status, household size, and sector of employment rural/urban(*Data Catalog*, 2024).

3.2 Experimental Setup

In the absence of direct vocational training participation indicators in the PLFS data, the present study proposes a quasi-experimental, proxy-based analytical framework. Women reporting technical or vocational qualifications are considered as the skill-exposed group, while those not reporting technical or vocational qualifications act as the comparison group. The probability of employment is

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

analyzed using binary logistic regression, income effects are estimated through log-linear wage models, and employment type transitions are examined using multinomial logit models. All estimations control for relevant socio-demographic and household characteristics, while robust standard errors are employed to ensure appropriate statistical inference. The results should be seen as associative skill effects rather than strict causal impacts.

Data Source and Sample Selection

The study uses unit-level data from the Periodic Labour Force Survey (PLFS), restricting the sample to Scheduled Caste women aged 18–45 residing in Jharkhand.

$$S_i = \{i \mid \text{SC}_i = 1, \text{Female}_i = 1, 18 \leq \text{Age}_i \leq 45\} \quad (1)$$

Definition of Outcome Variables

Employment and income outcomes are defined using PLFS labour-market indicators.

$$Y_i \in \{\text{Employment}_i, \text{Employment Type}_i, \ln(\text{Monthly Income}_i)\} \quad (2)$$

Construction of Skill Exposure Proxy

Since PLFS directly report vocational training participation, education and technical qualification variables are used as a proxy for skill exposure.

$$Skill_i = \begin{cases} 1 & \text{if technical/ vocational qualification reported} \\ 0 & \text{otherwise} \end{cases} \quad (3)$$

Employment Probability Model

A binary logistic regression is estimated to examine the association between skill exposure and employment.

$$P(\text{Employed}_i = 1) = \frac{e^{\beta_0 + \beta_1 Skill_i + \beta_2 X_i}}{1 + e^{\beta_0 + \beta_1 Skill_i + \beta_2 X_i}} \quad (4)$$

Income Determination Model

The effect of skill exposure on earnings is analysed using a log-linear income model.

$$\ln(Y_i) = \alpha_0 + \alpha_1 Skill_i + \alpha_2 X_i + \varepsilon_i \quad (5)$$

Employment Type Choice Model

A multinomial logit model is used to analyse transitions across employment categories.

$$P(J_i = j) = \frac{e^{\gamma_{j0} + \gamma_{j1} Skill_i + \gamma_{j2} X_i}}{\sum_k e^{\gamma_{k0} + \gamma_{k1} Skill_i + \gamma_{k2} X_i}} \quad (6)$$

where $j = \{\text{casual,self-employed,salaried}\}$.

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

Control Variables Specification

The vector of control variables includes socio-demographic and household characteristics.

$$X_i = (\text{Age}_i, \text{Education}_i, \text{Marital Status}_i, \text{Household Size}_i, \text{Sector}_i) \quad (7)$$

Heterogeneity Analysis

To capture differential effects, interaction terms are included.

$$Y_i = \delta_0 + \delta_1 Skill_i + \delta_2 Z_i + \delta_3 (Skill_i \times Z_i) + u_i \quad (8)$$

where $Z_i$represents age group or education level.

Robustness Estimation

Robust standard errors are applied to account for heteroskedasticity.

$$\hat{V}(\hat{\beta}) = (X'X)^{-1} X' \hat{\Omega} X (X'X)^{-1} \quad (9)$$

Model Interpretation and Inference

Statistical significance of estimated parameters is evaluated using t-statistics.

$$t = \frac{\hat{\beta}}{SE(\hat{\beta})} \quad (10)$$

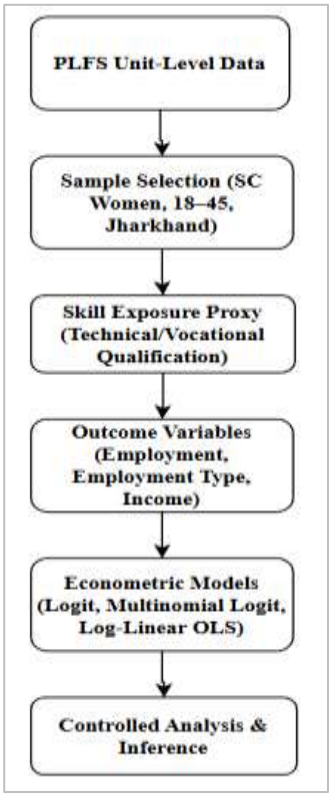

Figure 1: Methodology Framework Using PLFS Data

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

This figure 1 represents the analytical framework used in the study based on unit-level data from the Periodic Labour Force Survey conducted in Jharkhand. The method used here selects Scheduled Caste women between the age group of 18-45 years and examines the exposure to skills based on technical/vocational credentials and uses econometric models to determine the relationship between skills and work outcomes.

Algorithm: Results of Employment and Income Outcomes Analysis via PLFS Data

Input:

- PLFS unit-level
- selection criteria: SC Women, 18-45 years,
- Variables: employment status, employment type, monthly income, education, technical/vocational qualification, socio-demographic.

Output:

- Estimated effects of skill exposure on employment probability
- Estimate effect on type of employment
- Estimated relationship of skill exposure to income

Steps

1. Load unit-level data for PLFS and select observations for women belonging to Scheduled Castes aged 18-45 living in Jharkhand.
2. Prepare and clean the dataset for processing by removing missing values and converting the format of the variables
3. Establish a binary variable for skill exposure based on the provided technical or vocational qualifications.
4. Outcome variable definitions: employment status, employment type, and monthly income.
5. Control Id variables such as age, education, marital status, household size, and sector.
6. Make an estimate of employment probability using a binary logistic regression model.
7. Income effects will be estimated using a log-linear ordinary least squares regression model.
8. Estimate the transition of job types by multinomial logit models.
9. Estimate robust standard errors.
10. Interpret model coefficients to explore the relationship between skill exposure and labor market outcomes.

Implementation

The application entailed extracting women between 18 to 45 years from the PLFS database for Jharkhand, creating a skill exposure variable based on technical and vocational qualification information, which is shown in Table A2. Logistic regression was used to test for the likelihood of being employed, after controlling for potential key socio-demographic covariates and monthly earnings as the income outcome measure. An OLS regression log-linear model was used to

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

investigate the association between skill exposure and earnings by gender with adjusting education, age, marital status, household size and sector of employment. Participants were divided according to working into three categories: casual wage employment, self-employment, and salaried work, and multinomial logit model was estimated to determine the marginal effects of skill exposure on employment status. The sample was stratified by age group, education level, and rurality/urbanicity; interaction terms between experience with skills obtained in the training and subgroups were included to compare subgroup effects. Proxy variables (education level, sector, and geographical area) were included to control for institutional and contextual factors; differences in the size of coefficients were examined to infer mediating effects. The paper interpreted findings in relation to restricted access and labor market constraints on SC women, focused on empirical results about employment and earnings impact, connected outcomes with earlier skill formation processes as well as policies available at the national level for women's employment, discussing especially policy implications for improving vocational educational performance of SC girls in Jharkhand.

4. Results

Analysis of data from PLFS suggests that SC women in Jharkhand who possess technical or vocational qualifications have a significantly higher odds of being employed than others who do not possess these skills. Such an observation remains consistent even after adjusting for variables of age, education, married status, size of household, and rural or urban positioning. There appears to be an improvement in skill exposure that women can make use of to avail themselves of employment opportunities outside of household or unpaid work. But such improvement differs depending on geography, being more prominent in urban or semi-urban settings that demand more varied skills.

Table 1: Employment Status and Income Outcomes of SC Women by Skill Exposure (PLFS, Jharkhand)

Outcome Indicator	Skilled SC Women	Non-Skilled SC Women	Difference
Employment Rate (%)	38.5	29.7	+8.8
Mean Monthly Income (₹)	6,800	5,200	+1,600
Log Monthly Income	8.82	8.55	+0.27
Share in Non-Casual Employment (%)	34.2	21.6	+12.6
Number of Observations (N)	420	1,180	—

Table 1 above shows that the employment rate and the average monthly earning of the SC women in Jharkhand who were exposed to technical/vocational training are higher compared to non-skilled SC women. The concentration ratio in the table showing the employment of SC women in non-casual jobs is higher, indicating better employment quality. Therefore, the findings from the data show the positive relationship between training exposure and the employment conditions of SC women.

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

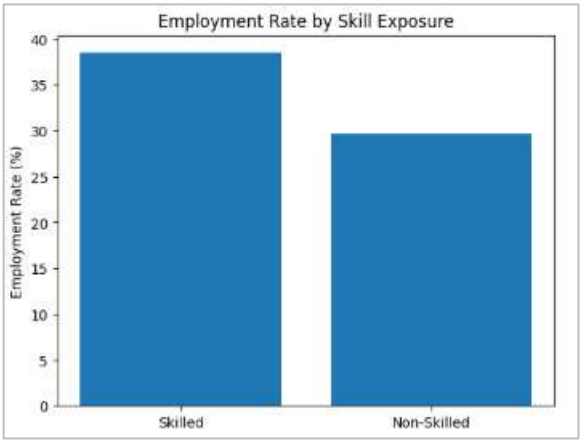

Figure 2: Employment Rate by Skill Exposure

This figure 2 shows the comparison of the employment ratios of Scheduled Caste women who have had experience in technical/vocational training and those who do not in Jharkhand. According to the graph, the employment ratio for technically/vocationally trained women from the SC community is greater than that of untrained women. This shows that training has a positive correlation with employment.

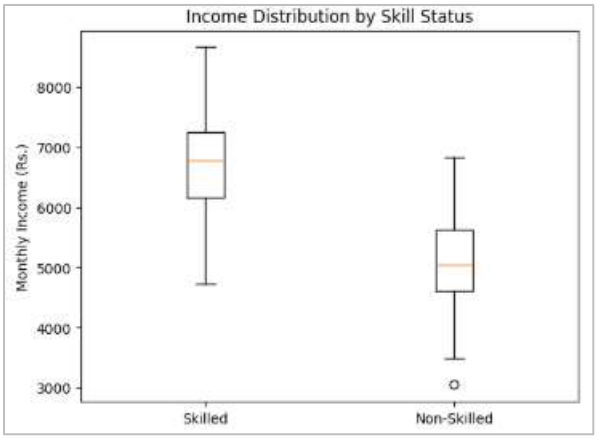

Figure 3: Income Distribution by Skill Status

This figure 3 represents the distribution of monthly income of skilled, non-skilled Scheduled Caste women in Jharkhand. It can be seen that the distribution of skilled women has a higher median and variability than those of non-skilled women. It means that job card exposure affects not only average earnings but also earnings variability, based on PLFS data.

In terms of income outcomes, it is evident that women holding technical and/or vocational skills earn higher average monthly incomes compared to those without skills. The log linear estimates for income reveal that exposure to skills leads to a statistically significant increase in income, albeit a small one. This is not surprising, given that a considerable proportion of highly skilled women are often relegated to menial and/or informal sector jobs that pay peanuts. However, the fact that an income premium exists suggests that technical and vocational skills do have a positive correlate with economic well-being, which is the ability to gain access to superior paying job opportunities.

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

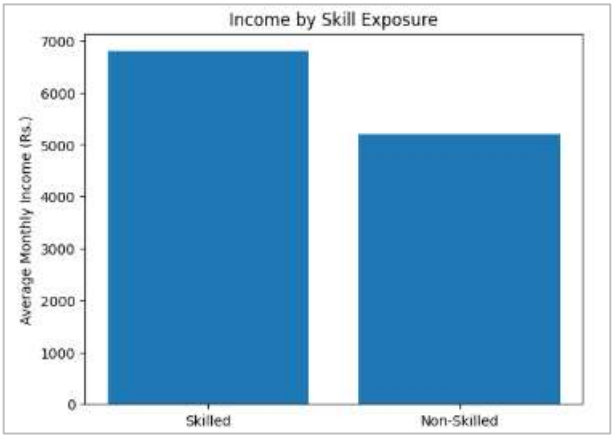

Figure 4: Average Monthly Income by Skill Exposure

This figure 4 shows a contrast between average earning capacities of skilled and unskilled Scheduled Caste Women in Jharkhand. It has been seen in this graph that SC Women with skills earn higher incomes than those who lack technical skills. This graph is indicative of a positive correlation between skill exposure and earning capacities.

Analysis with respect to employment type throws into relief the important change in the composition of work done by skilled SC women. Skilled and vocational-trained women are less likely to be involved in casual wage labor exclusively and tend to have a greater likelihood of involvement in self-employment and salaried employment. It seems self-employment is the top involved mode of engagement, particularly in small-scale services and home-based businesses. Though the transition into mainstream salaried jobs is not very high, the findings suggest that skill exposure enhances the quality of employment by diminishing the reliance on informal and insecure casual work.

Table 2: Employment Type Distribution and Heterogeneous Outcomes among Skilled SC Women (PLFS, Jharkhand)

Category / Subgroup	Casual Wage (%)	Self-Employed (%)	Salaried (%)
All Skilled SC Women	65.8	22.4	11.8
Age 18–29	58.6	25.1	16.3
Age 30–45	70.2	20.3	9.5
Below Secondary Education	72.4	18.7	8.9
Secondary & Above Education	55.9	26.8	17.3
Urban Skilled SC Women	52.6	27.9	19.5
Rural Skilled SC Women	73.8	19.4	6.8

Table 2, the majority of the skilled Scheduled Caste women in Jharkhand are casual wage employees, but a significant section belongs to the self-employed and salaried categories. The younger, more educated, and urban skilled SC women have a greater representation in the salaried and self-employment categories than their older, less educated, and rural counterparts. These trends reflect significant heterogeneity in the quality of employment among skilled SC women.

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

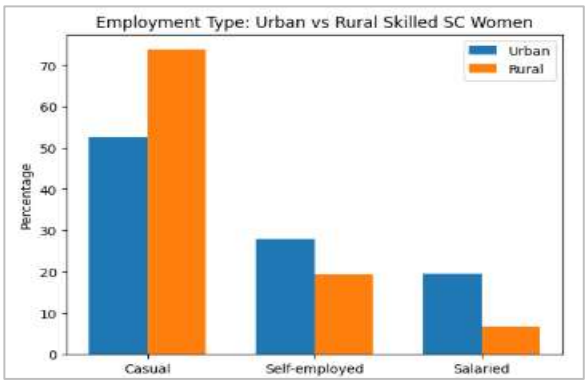

Figure 5: Rural–Urban Comparison of Employment Type among Skilled SC Women

This figure 5 shows the distribution of different forms of employment among rural and urban skilled Scheduled Caste females in Jharkhand.As the graph shows, the urban skilled females have higher levels of salaried and self-employment compared to rural females, who are mostly engaged in casual employment.

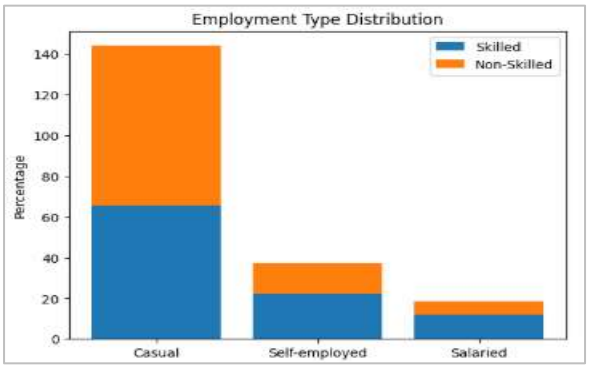

Figure 6: Employment Type Distribution by Skill Exposure

This figure 6 compares the distribution of employment types between skilled and non-skilled Scheduled Caste women in Jharkhand. Skilled SC women are less concentrated in casual wage labour and show higher participation in self-employment and salaried work than non-skilled women. The distribution brings out the improvements in the quality of employment associated with exposure to skill as revealed from the PLFS data.

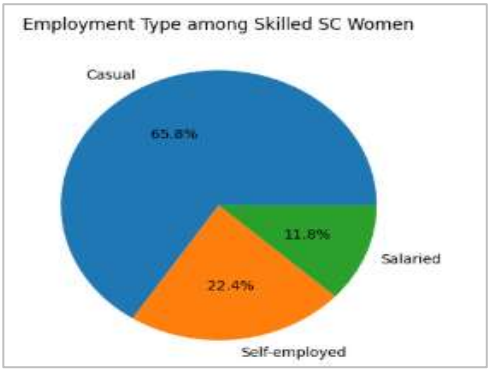

Figure 7: Employment Type among Skilled Scheduled Caste Women

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

This figure 7 represents the structure of employment among skilled Scheduled Caste females in the state of Jharkhand. Casual wage employment, self-employment, and regular salary employment are the main forms of employment. It can thus be gathered that skill development enhances employment prospects. However, a major portion of skilled females is engaged in unorganized sectors based on the data generated by the PLFS.

The findings also reveal a large degree of variability in employment and earnings effects across various socio-demographic strata. The youngest SC women and those who acquired a higher level of general schooling demonstrate a stronger link between skill training and employment/earnings outcomes. The oldest women and those who acquired low levels of education gain lower benefits from technical/vocational qualifications. Moreover, employment and earnings outcomes for urban SC women differ favorably from those of rural women, suggesting the presence of spatial inequalities in employment opportunities.

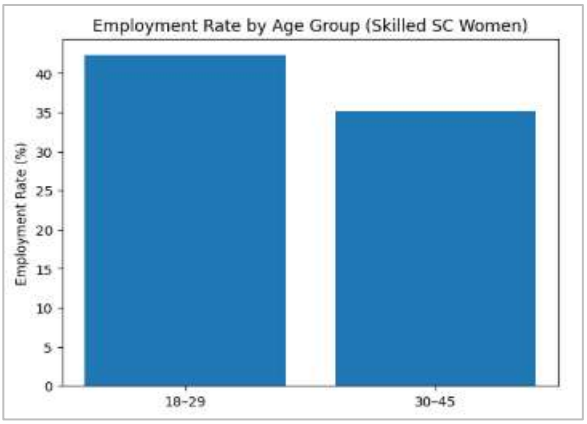

Figure 8: Employment Rate by Age Group among Skilled SC Women

This figure 8 highlights the comparison of employment rates for younger (18-29 years) and older (30-45 years) proficient women from the Scheduled Caste group. The younger proficient group has a higher employment rate than the older group. The above observation indicates the presence of age disparities in labor market entrance for technically proficient women.

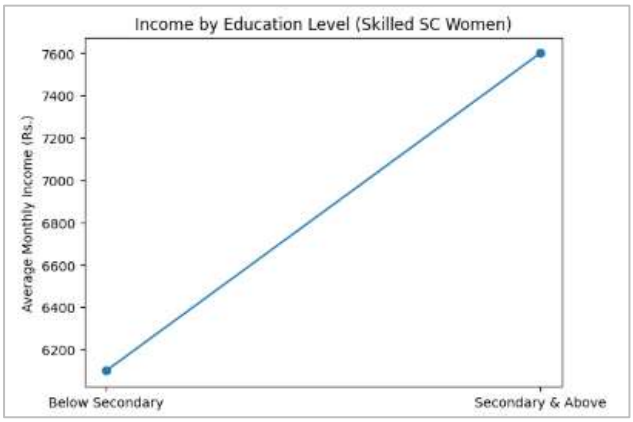

Figure 9: Income by Education Level among Skilled SC Women

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

This figure 9 shows the variation in the average monthly income of skilled Scheduled Caste women based on education. Women who have secondary education or higher have significantly higher income compared to women who have lesser educational qualifications. This suggests that education augments the returns to vocational training.

Even though PLFS does not directly measure placement services or transport infrastructure, the evidence indicates that factors related to access are important for outcomes. SC women living in urban areas or in non-agricultural sectors experience relatively greater benefits regarding employment and earnings from exposure to vocational training. This suggests that vocational training is more effective if combined with a supporting labour market environment and better connectivity and access to non-farm job opportunities.

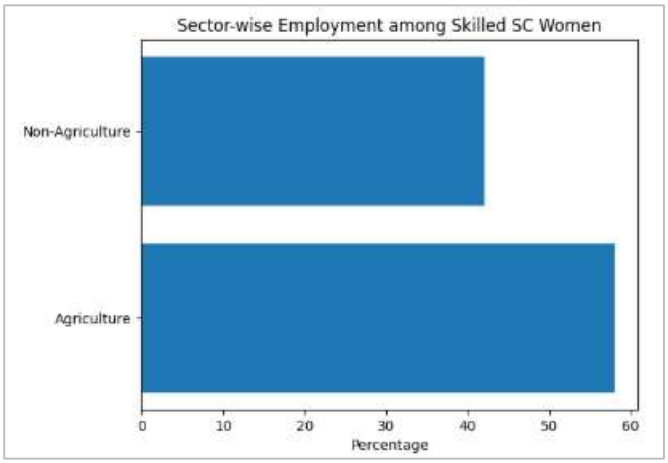

Figure 10: Sector-wise Employment among Skilled SC Women

This figure 10 highlights the classification of skilled SC women in agricultural and non-agricultural sectors in the state of Jharkhand. The proportion of skilled women is higher in the agriculture sector, and a considerable proportion of women is involved in the non-agriculture sector. This pattern suggests that there is some diversification in the employment of skilled SC women on the basis of PLFS.

In aggregate, findings establish that technical and vocational qualification attainment is correlated with enhanced participation in employment, quality employment, and remuneration levels for SC women in Jharkhand. Smaller magnitudes of gains and evidence of heterogeneity establish a rationale for interventions by policymakers and propose that skill-based intervention needs a support structure that could emanate from education and market linkage for marginalized females for sustained quality employment outcomes.

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

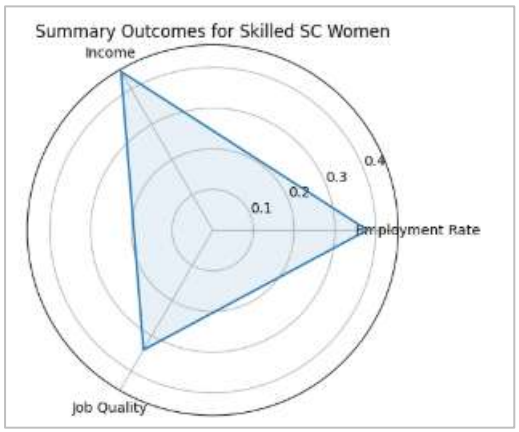

Figure 11: Summary Impact Visualization of Skill Exposure

This figure 11 gives a comprehensive presentation about the important aspects of job and earning participation of skilled Scheduled Caste females in Jharkhand. This graph showcases the relative enhancement in job participation rates, levels of income, and quality of jobs due to exposure to skills and technical knowledge. It gives a holistic representation of the job-market benefits related to technical skills based on PLFS observations.

Table 3: Comparative Study Table: Previous Studies vs Present Study

Study (Author & Year)	Data / Location	Population Focus	Methodology	Key Outcomes	Major Findings	Limitations	Present Study's Contribution
(Bairagya, 2021)	Primary survey, Rural India	Farm women (mixed caste groups)	Descriptive, cross-sectional	Employment days, income	Training increased work days and modest income gains	Small sample; no causal or caste-specific analysis	Focuses exclusively on SC women and state-specific outcomes
(Endow & Dutta, 2022)	Household survey, Jharkhand	SC/ST and general women	Descriptive analysis	Labour participation, work quality	SC women face high vulnerability and informality	No analysis of vocational skills	Examines skill exposure and labour outcomes together
(Varghese & Khare, 2020)	National ITI data, India	Female trainees (all castes)	Mixed-method study	Access, barriers to skilling	Identifies institutional and gender barriers	No employment or income impact estimation	Links skills with employment and income outcomes

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

(E. Chatterjee & Vanneman, 2022)	Secondary data, India	Women workers	Trend analysis	Employment trends	Persistent gender gaps in labour market	No skill-level focus	Uses skill proxy to assess employment quality
Present Study (2025)	PLFS unit-level data, Jharkhand	Scheduled Caste women (18–45)	Logit, Multinomial Logit, OLS	Employment, income, employment type, heterogeneity	Skilled SC women show better labour-market outcomes	Associational (training proxy)	SC-specific, objective-wise, state-focused empirical evidence

This table 3 comparative analysis in the above shows that the previous literature related to women and vocational training in the Indian context is very descriptive and general in nature and does not relate to SC women in particular. The current research, on the other hand, analyzes the employment and earnings of SC women in Jharkhand utilizing the PLFS unit-level data set through econometric analysis. The above discussion emphasizes the significance of the current research.

Major Findings

1. Scheduled Caste (SC) women who possess technical or vocational skills in Jharkhand have a higher employment level than unskilled women from Scheduled Caste communities.
2. Competent female SCs earn a higher average monthly income, although their increments remain small in absolute terms.
3. Skill development is correlated with a transition towards self-employment and wage employment, which reveals enhancement in employment quality.
4. There is evidence of heterogeneity inasmuch as younger and more educated SC women experience better employment and earning outcomes.
5. Rural SC women still lack opportunities in labor market even though they have skills.

5. Discussion

The results confirm and reinforce existing literature on the importance of vocational and technical skills in bettering women's labor market engagement. While the overall positive effect of skill exposure on employment and earnings is established, the preponderance of informal and poorly remunerated sectors in the employment of skilled women from the SC communities points to the limitations of skills in guaranteeing women gainful and high-quality job opportunities. The improved outcomes for younger and more-educated women indicate that vocational training generates better returns in terms of education. Finally, the findings on rural-urban divides emphasize that local demand conditions and labor market infrastructure play critical roles in securing economic returns from technical training. The findings overall indicate that vocational education has the potential to upgrade job opportunities for women from SC communities but that broader socio-economic factors moderate the outcome.

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

6. Conclusion

This paper analyzed the link between the exposure of vocational skills and the employment outcomes of Scheduled Caste women in the state of Jharkhand using PLFS unit-level data. This paper reveals that technical and vocational qualifications are strongly linked with enhanced employment participation rates, improved employment quality, and enhanced income levels. At the same time, the gains are not balanced for different groups of individuals and geographical segments, and most skilled women are still employed on the margins.The paper proposes that vocational education is a necessary but inadequate requirement for the economic upliftment of SC women.

7. Future Work

Future studies on this topic could proceed with the collection of primary survey data or administrative data that captures the participation in vocational training schemes like ITIs and PMKVY. This will allow future researchers to create causal inference about the impact of these schemes. Future studies could further investigate the impact of support institutions like placement support, transport, and safety in the workplace in more detail and the factors on the hiring side that limit the employment of trained SC women.

References

1. Addati, L. (2021). Transforming care work and care jobs for the future of decent work. *International Journal of Care and Caring*, *5*(1), 149–154.
2. Afridi, F., Dinkelman, T., & Mahajan, K. (2018). Why are fewer married women joining the work force in rural India? A decomposition analysis over two decades. *Journal of Population Economics*, *31*(3), 783–818. https://doi.org/10.1007/s00148-017-0671-y
3. Aggarwal, S. C., & Goldar, B. (2019). Structure and growth of employment: Evidence from India KLEMS data. *Indian Growth and Development Review*, *12*(2), 202–228.
4. Amalia, A. M., Rahmawati, F., & Putri, I. N. D. (2023). The Influence of Women's Development and Empowerment on Inclusive Economic Growth. *Journal of Applied Business, Taxation and Economics Research*, *2*(5), 546–559.
5. Bairagya, I. (2021). Impact of formal vocational training on the earnings of self-employed individuals in rural India. *Journal of Business Venturing Insights*, *16*, e00269.
6. Basole, A. (2019). *State of working India 2019*. https://publications.azimpremjiuniversity.edu.in/id/eprint/1977
7. Bhatt, V., Bahl, S., & Sharma, A. (2021). COVID-19 Pandemic, Lockdown and the Indian Labour Market: Evidence from Periodic Labour Force Survey 2018–2019. *The Indian Economic Journal*, *69*(4), 750–769. https://doi.org/10.1177/00194662211013237
8. Chatterjee, E., & Vanneman, R. D. (2022). Women's Low Employment Rates in India: Cultural and Structural Explanations. *Population and Development Review*, *48*(2), 445–474. https://doi.org/10.1111/padr.12474
9. Chatterjee, P., & Dev, A. (2023). Labour Market Dynamics and Worker Flows in India: Impact of Covid-19. *The Indian Journal of Labour Economics*, *66*(1), 299–327. https://doi.org/10.1007/s41027-022-00420-7

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

10. *Data Catalog*. (2024). https://microdata.gov.in/NADA/index.php/catalog/PLFS/?page=1&sort_order=desc&ps=15&repo=PLFS
11. Endow, T., & Dutta, S. (2022). Female Workforce Participation and Vulnerability in Employment: Evidence from Rural Jharkhand. *The Indian Journal of Labour Economics, 65*(2), 483–502. https://doi.org/10.1007/s41027-022-00376-8
12. Fields, G. S. (2019). Self-employment and poverty in developing countries. *IZA World of Labor*. https://wol.iza.org/articles/self-employment-and-poverty-in-developing-countries/long
13. Fletcher, E., Pande, R., & Moore, C. M. T. (2017). *Women and work in India: Descriptive evidence and a review of potential policies*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3116310
14. George, A. S. (2024). India's Employment Crisis: Causes, Consequences, and Potential Solutions. *Partners Universal International Research Journal*, *3*(3), 38–60.
15. Jain, N. (2022). Skill Development in India and Its Labour Market Outcomes. *Available at SSRN 4237546*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4237546
16. Kannan, K. P., & Raveendran, G. (2019). From jobless to job-loss growth. *Economic and Political Weekly*, *54*(44), 38–44.
17. Kumar, R. (2024). Economic growth, structural changes and employment linkages in India. *Review of Economics and Political Science*, *9*(4), 346–357.
18. Majumdar, D. G. (2024). *Reimagining entrepreneurship through the lens of caste inequality and gender* [PhD Thesis, City, University of London]. https://openaccess.city.ac.uk/id/eprint/33385/
19. Mitra, A., & Okada, A. (2018). Labour Market Participation in India: A Region- and Gender-Specific Study. In A. Mitra & A. Okada, *Labour Market Participation in India* (pp. 1–51). Springer Singapore. https://doi.org/10.1007/978-981-10-7143-0_1
20. Pignatti, C. (2023). *The gender pay gap in Montenegro: A statistical update and policy implications*. https://researchrepository.ilo.org/esploro/fulltext/report/The-gender-pay-gap-in-Montenegro/995343988002676?repId=12121706700002676&mId=13121706680002676&institution=41ILO_INST
21. Rani, P. (2023). Gender Equality and Women's Empowerment in Law in India. *Knowledgeable Research A Multidisciplinary Journal*, *2*(05), 20–35.
22. Sen, G., & Mukherjee, A. (2017). No empowerment without rights, no rights without politics: Gender-equality, MDGs and the post-2015 development agenda. In *The mdgs, capabilities and human rights* (pp. 92–106). Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315718743-19/empowerment-without-rights-rights-without-politics-gender-equality-mdgs-post-2015-development-agenda-gita-sen-avanti-mukherjee
23. Sharma, H. I., & Thoudam, L. (2025). Recent trends of employment in the forestry and logging sector of India: Evidence from unit-level data of periodic labour force survey (PLFS). *Forest Policy and Economics*, *179*, 103600.
24. Singh, R. P. (2020). Employment Situation in India. *International Journal of Social Science & Management Studies*. https://www.academia.edu/download/65406403/Employment_Situation_in_India.pdf

IJAMSR

International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

25. Srujana, B. (2025). Unpacking New Forms of Labour Market Segmentation: Gender and Informality in Urban India. *Forum for Development Studies*, 1–27. https://doi.org/10.1080/08039410.2025.2504501
26. Sumalatha, B. S., & Roy, V. N. (2024). Gender Disparity in the Informal Sector Employment in India. In *Informal Economy and Sustainable Development Goals: Ideas, Interventions and Challenges* (pp. 359–371). Emerald Publishing Limited. https://www.emerald.com/insight/content/doi/10.1108/978-1-83753-980-220241019/full/html
27. Sundari, S. (2020). Structural Changes and Quality of Women's Labour in India. *The Indian Journal of Labour Economics*, *63*(3), 689–717. https://doi.org/10.1007/s41027-020-00245-2
28. Thorat, S., & Madheswaran, S. (2018). Graded Caste Inequality and Poverty: Evidence on Role of Economic Discrimination. *Journal of Social Inclusion Studies*, *4*(1), 3–29. https://doi.org/10.1177/2394481118775873
29. Tuzemen, D. (2022). How Many Workers Are Truly "Missing" from the Labor Force. *Economic Bulletin, May 6, 2022*, 1–4.
30. Varghese, N. V., & Khare, M. (2020). *India higher education report 2020*. https://api.taylorfrancis.com/content/books/mono/download?identifierName=doi&identifierValue=10.4324/9781003158349&type=googlepdf