

Challenges Faced By Unorganized Building Workers: A Study On Safety, Health And Security In Kanyakumari District

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ABSTRACT

India's construction sector employs 71 million workers, yet 92% operate without formal employment security. This study examines challenges confronting unorganized building workers through primary data from 150 workers using stratified random sampling. SPSS analysis reveals 82% lack safety equipment, 74.7% suffer occupational health problems, 64.7% are unregistered with welfare boards and 78% report job insecurity. Statistical analysis shows significant correlations between education and income ($r = .487, p < .01$) and between safety provisions and health outcomes ($r = -.512, p < .01$). The study identifies inadequate safety measures, health vulnerabilities and social security absence as cardinal challenges requiring urgent policy intervention.

Keywords: Unorganized sector, building workers, occupational safety, health security, construction industry, labor welfare

1. INTRODUCTION

The Indian construction industry contributes 9% to GDP while employing over 71 million workers, making it India's second-largest employment sector after agriculture (Singh et al., 2023). However, beneath this economic significance lies systematic exploitation. Building workers—masons, carpenters, painters, plumbers, electricians and general laborers—face hazardous working conditions, substandard wages and exclusion from social protection mechanisms.

India accounts for 16.4% of global occupational hazards while constituting only 7.5% of the world's labor force, with approximately 38 fatal construction accidents daily (Samanta & Gochhayat, 2021).

The COVID-19 pandemic exposed systemic vulnerabilities, with 65% of registered construction workers failing to receive pandemic-related cash transfers due to registration irregularities (Srivastava, 2020).

Research Objectives

1. Examine socio-demographic profiles of unorganized building workers
2. Analyze safety-related challenges including protective equipment and training
3. Assess health-related challenges including occupational diseases and healthcare access
4. Evaluate security-related challenges encompassing employment stability and social security access
5. Explore correlations between demographic factors and severity of challenges
6. Propose evidence-based recommendations for enhancing worker welfare

2. METHODOLOGY

The study adopted a descriptive research design with stratified random sampling across urban and rural construction sites. Sample size of 150 respondents was determined using Yamane's formula with 95% confidence level and 8% margin of error. Primary data was collected through structured questionnaires covering demographics, employment conditions, safety, health and security dimensions. Data analysis utilized IBM SPSS Statistics Version 26, employing descriptive statistics, chi-square tests, Pearson correlation analysis and reliability testing (Cronbach's alpha = 0.884).

3. DATA ANALYSIS AND KEY FINDINGS

3.1 Socio-Demographic Profile

Age and Gender: Workers are predominantly in productive age groups (66.7% between 26-45 years). Males constitute 68% while females represent 32%, indicating substantial female participation in construction labor.

Education: Educational attainment remains critically low—51.3% possess primary education or less, with 21.3% being illiterate. Only 5.4% completed higher secondary education.

Worker Category: Unskilled workers constitute the largest segment (43.3%), followed by semi-skilled (31.4%) and skilled workers (25.3%).

Monthly Income: Average income of ₹12,685 (SD: ₹3,450) indicates widespread financial vulnerability, with 48% earning below ₹12,000.

3.2 Safety Challenges

Table 1: Safety Equipment Availability

Safety Equipment	Frequency	Percentage
Always provided	12	8.0
Sometimes provided	15	10.0
Never provided	96	64.0

Chi-Square: $\chi^2 = 115.040, p < 0.001$

A critical finding reveals 64% of workers never receive safety equipment (helmets, gloves, safety shoes, harnesses). Only 8% report consistent provision, indicating severe neglect of BOCW Act regulations.

Safety Training: Over half (56.7%) receive no safety training, while only 5.3% receive comprehensive training covering hazard identification and emergency procedures.

Working Hours: Average working day is 10.3 hours (SD: 1.8), significantly exceeding statutory 8-

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hour limits. Extended hours contribute to fatigue and increased accident risk.

Accidents: The prevalence is alarming—68% experienced near-miss incidents, 44.7% suffered minor injuries and 15.3% sustained major injuries requiring hospitalization.

3.3 Health Challenges

Table 2: Occupational Health Problems

Health Problem	Percentage
Musculoskeletal pain	74.7
Respiratory issues	58.0
Skin diseases	37.3
Eye problems	28.7
Hearing impairment	22.7

Musculoskeletal disorders affect three-quarters of workers, resulting from repetitive manual labor and inadequate rest. Respiratory problems (58%) stem from dust exposure without protective masks.

Health Insurance: Only 25.3% have any health insurance coverage—5.3% employer-provided, 8% self-purchased and 12% government scheme. The 74.7% uninsured face catastrophic financial vulnerability.

Impact: Health problems create substantial consequences: 68% experience annual income loss averaging ₹6,840, 52% report frequent work absences averaging 18.3 days yearly and 44.7% incur medical debt averaging ₹23,500.

3.4 Security Challenges

Employment Type: Daily wage employment dominates (61.3%), reflecting extreme job insecurity. Only 18% have monthly or project-based arrangements.

Written Contracts: The overwhelming absence of written contracts (85.3% with verbal agreements or no agreements) enables exploitation and denies legal recourse.

Wage Payments: Only 21.3% receive regular, on-time payments. The majority (78.7%) experience delays ranging from one week to over two weeks, violating Payment of Wages Act provisions.

Welfare Board Registration: Only 22% are registered with Construction Workers Welfare Boards despite mandatory registration for accessing benefits. Concerningly, 13.3% remain unaware of the Board's existence.

Table 3: Social Security Access Pipeline

Scheme	Aware	Enrolled	Received Benefits
Provident Fund	44.7%	8.0%	5.3%
Pension Scheme	36.0%	4.7%	2.0%
Accident Insurance	28.7%	14.7%	7.3%

The awareness-enrollment-benefit pipeline shows massive attrition, revealing implementation failures.

Job Security Perceptions: Mean security score of 2.15 (scale: 1-5) reflects workers' accurate assessment of precarious employment. Combined 78% perceive employment as insecure or highly insecure.

3.5 Integrated Analysis

Table 4: Challenge Rankings (Mean Severity Scores)

Challenge	Mean	SD	Rank
Inadequate safety measures	4.42	0.72	1
Health problems/no insurance	4.35	0.79	2
Job and income insecurity	4.28	0.82	3
Low wages	4.18	0.88	4
Excessive working hours	3.95	1.02	5

Cronbach's Alpha = 0.884 (excellent reliability)

Correlation Analysis: Strong correlations exist between education and income ($r = .487, p < .01$) and safety equipment access shows strongest negative correlation with health problems ($r = -.512, p < .01$), providing empirical evidence that safety provisions directly reduce occupational health issues.

Chi-Square Analysis: Significant associations exist between worker category and safety equipment ($\chi^2 = 28.456, p < 0.001$). Skilled workers have 39.5% likelihood of receiving equipment versus 3.1% for unskilled workers, demonstrating power imbalances.

4. DISCUSSION

This empirical investigation reveals systematic marginalization across safety, health and security dimensions. The finding that 64% never receive safety equipment represents fundamental violation of occupational safety standards. Extended working hours (10.3 hours average) exacerbate safety risks through fatigue and impaired judgment.

Occupational health problems afflict the overwhelming majority (74.7% musculoskeletal disorders, 58% respiratory issues), creating vicious cycles of declining health, reduced earnings and medical indebtedness. The 74.7% lacking health insurance represents catastrophic policy failure despite ESI Act provisions and Ayushman Bharat availability.

Employment insecurity pervades the sector with 61.3% on daily wages and 85.3% without written contracts. Social security exclusion is significant—only 22% registered with welfare boards and 22.7% accessing benefits—revealing disconnect between legislative frameworks and ground-level implementation.

The correlation analysis demonstrates how safety, health and security dimensions interconnect. Educational attainment influences income, which affects safety equipment access, which reduces health problems, which improves job security perception. This chain validates integrated policy approaches over siloed interventions.

5. RECOMMENDATIONS

Immediate Actions:

- Mandate PPE provision as non-negotiable condition for construction licenses
- Implement daily safety briefings and establish site safety committees
- Launch intensive health insurance enrollment drives for Ayushman Bharat
- Mandate written employment contracts with digital wage payment systems
- Simplify Welfare Board registration requiring minimal documentation

Medium-term Interventions:

- Develop vernacular safety training modules with visual aids
- Establish mobile health clinics for on-site screening
- Create employment registration systems linking workers to companies
- Mandate automatic Provident Fund and ESI enrollment

Long-term Reforms:

- Substantially increase penalties for safety violations
- Create occupational health surveillance systems
- Develop career pathways linking skill development to wage progression
- Ensure transparent cess utilization with public dashboards

6. CONCLUSION

This study documents multifaceted challenges confronting unorganized building workers, revealing systematic exploitation despite comprehensive legislative frameworks. Statistical analysis demonstrates challenges are interconnected—inadequate safety measures (M = 4.42) contribute to health problems (M = 4.35), while employment insecurity (M = 4.28) undermines workers' ability to demand better conditions.

Despite Building and Other Construction Workers Act (1996) and related legislation, implementation gaps leave 92% unprotected. Only 8% consistently receive safety equipment, 74.7% lack health insurance, 85.3% work without contracts and 64.7% are unregistered with welfare boards. These statistics represent not merely implementation failures but systematic exclusion from basic protections. Transformation requires political will to enforce regulations, administrative efficiency in benefit delivery, employer accountability for welfare and worker empowerment through organization and awareness. The construction industry's growth offers opportunity to reimagine labor relations based on equity, safety, dignity and social justice. Whether future workers benefit from decent work depends on choices made today by policymakers, employers and society.

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