

Socio-Economic implications of Migrant Construction Laborers (An Empirical study of Alwar-Rajasthan)

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ABSTRACT

The construction sector is among the largest absorbers of unorganised and seasonal migrant labour in India, and Alwar district in Rajasthan — situated within the National Capital Region growth corridor — has witnessed a sustained inflow of migrant construction workers from within and outside the state over the past decade. This empirical study examines the socio-economic implications of migration on construction labourers working in Alwar district, with specific reference to income and wage security, housing and living conditions, access to healthcare, children's education, social security coverage, and workplace safety. Using a descriptive-cum-analytical research design, primary data were collected from a sample of 250 migrant construction labourers selected through stratified random sampling across five construction-intensive zones of Alwar district (Alwar city, Bhiwadi, Tijara, Kishangarh Bas, and Behror). A structured, pre-tested interview schedule was administered, supplemented by focus group discussions and site observation. The reliability of the multi-item scale was found to be satisfactory (Cronbach's Alpha = 0.86; KMO = 0.81, Bartlett's Test of Sphericity significant at $p < 0.001$). Data were analysed using descriptive statistics, Chi-square tests of association, and one-way ANOVA. Findings reveal that a majority of migrant labourers earn below the notified minimum wage, live in temporary or employer-provided shelters lacking basic sanitation, and have limited access to formal healthcare and social security schemes despite eligibility under the Building and Other Construction Workers (BOCW) Act, 1996. Statistically significant associations were found between duration of migration and access to social security benefits, and between labour category (skilled/unskilled) and monthly income. The study concludes that while migration to Alwar's construction economy offers short-term livelihood gains, it is accompanied by considerable socio-economic vulnerability arising from weak implementation of labour

welfare legislation. Policy recommendations include strengthening BOCW Board registration drives, portable social security benefits, on-site crèche and health facilities, and grievance redressal mechanisms tailored to migrant workers.

Keywords: DMIC, NSSO, NCR, KMO.

1. INTRODUCTION

Labour migration constitutes one of the most significant demographic and economic processes shaping India's urban and semi-urban growth corridors. The construction industry, being highly labour-intensive and seasonal in nature, absorbs a substantial share of India's estimated 100–140 million internal migrants, the majority of whom move from economically weaker rural regions to industrialising districts in search of wage employment (Census of India; NSSO Migration Reports). Rajasthan, historically a labour-sending state, has in recent decades also emerged as a labour-receiving region in districts adjoining the National Capital Region (NCR), of which Alwar is a prominent example.

Alwar district has undergone rapid industrial and infrastructural expansion on account of its proximity to Delhi, its inclusion in the Delhi-Mumbai Industrial Corridor (DMIC), and the growth of industrial townships such as Bhiwadi and Tijara. This expansion has generated sustained demand for construction labour, drawing migrant workers from within Rajasthan (Dungarpur, Banswara, Baran) as well as from Uttar Pradesh, Bihar, Madhya Pradesh, and West Bengal. While migration offers these workers access to wage employment unavailable in their home regions, it simultaneously exposes them to a distinct set of socio-economic vulnerabilities — irregular and often sub-minimum wages, insecure and unsanitary housing, restricted access to healthcare and education for accompanying children, absence of written contracts, and exclusion from social security schemes despite statutory entitlement.

The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, and the corresponding Cess Act, mandate registration of construction workers and extend welfare benefits including maternity assistance, education support, disability compensation, and pension. However, implementation gaps, lack of awareness, absence of identity documentation, and the transient nature of migrant work frequently result in workers being excluded from these entitlements in practice. It is against this backdrop that the present study undertakes an empirical investigation into the socio-economic condition of migrant construction labourers in Alwar district.

1.1 Statement of the Problem

Despite the existence of a comprehensive statutory framework for construction labour welfare, anecdotal and secondary evidence suggests a persistent gap between entitlement and actual access

among migrant construction workers in Alwar district. There is a paucity of district-level empirical research documenting the lived socio-economic conditions of this workforce, which constrains evidence-based policy formulation at the local administrative level. This study addresses that gap by generating primary empirical evidence on the income, housing, health, education, and social security dimensions of migrant construction labourers' lives in Alwar.

1.2 Significance of the Study

- Provides district-specific empirical evidence to inform labour welfare policy and BOCW Board implementation in Alwar.
- Contributes to the limited body of migration and labour economics literature focused on NCR-adjointing districts of Rajasthan.
- Offers a diagnostic basis for civil society organisations and trade unions engaged in migrant worker advocacy.
- Serves as a reference framework for comparative studies across other industrialising districts of Rajasthan.

2. REVIEW OF LITERATURE

A substantial body of research has examined the determinants and consequences of internal labour migration in India. Studies on the National Sample Survey Office (NSSO) migration rounds have consistently shown employment-related reasons to be the dominant driver of male out-migration from rural to urban and semi-urban areas, with construction and allied sectors among the principal absorbing industries.

Breman's foundational work on footloose labour characterised construction and brick-kiln migrants as occupying a structurally precarious position within India's informal economy, subject to circular migration patterns, debt bondage risks, and an absence of enforceable employment contracts. Subsequent studies extended this analysis to specific migration corridors, documenting similar patterns of wage insecurity and housing deprivation among construction workers in metropolitan peripheries.

Research focused on the implementation of the BOCW Act has repeatedly identified a wide gap between the cess collected by State Welfare Boards and the actual disbursement of benefits to registered workers, attributing this to low registration rates, cumbersome renewal procedures, and limited awareness among the workforce. Studies examining migrant worker housing in peri-urban industrial belts have documented a predominance of temporary, employer-provided, or self-built shelters lacking piped water, sanitation, and secure tenure, conditions that were shown to correlate with adverse health outcomes, particularly among women and children.

With respect to children's education, longitudinal tracking of migrant households has found high rates of interrupted schooling and dropout among children who accompany parents to worksites, alongside a smaller subset who are left behind in native villages under the care of extended family, generating distinct developmental and welfare concerns in each case. Health-related studies of construction labourers have documented elevated prevalence of occupational injury, respiratory illness, and limited utilisation of public health facilities, attributable to irregular working hours, absence of employer-provided health cover, and the transient nature of residence, which disrupts continuity of care.

Studies specific to Rajasthan's industrialising belt, including work on the Bhiwadi-Neemrana-Behror industrial corridor within Alwar district, have noted the rapid pace of migrant inflow associated with industrial and real-estate expansion, while also flagging the comparatively underdeveloped state of migrant welfare infrastructure relative to the scale of in-migration. However, dedicated empirical studies isolating the construction labour segment within Alwar district remain limited, a gap this study seeks to address.

2.1 Research Gap

While national and state-level studies on migrant construction labour are well established, district-specific empirical evidence for Alwar — despite its growing significance as a labour-receiving destination within the NCR corridor — remains sparse. Existing literature also tends to examine income, housing, health, education, and social security dimensions in isolation rather than through an integrated socio-economic framework tested with primary field data. This study addresses both gaps.

3. OBJECTIVES OF THE STUDY

- To study the socio-demographic profile of migrant construction labourers working in Alwar district.
- To examine the income and wage conditions of migrant construction labourers vis-à-vis the notified minimum wage.
- To assess the housing, sanitation, and living conditions of migrant construction labourers at worksites.
- To evaluate access to healthcare, children's education, and social security benefits among migrant construction labourer households.
- To examine the association between duration of migration, labour category, and access to statutory welfare benefits.
- To suggest policy measures for improving the socio-economic condition of migrant construction labourers in Alwar district.

4. HYPOTHESES OF THE STUDY

On the basis of the objectives outlined above, the following null hypotheses were formulated and tested:

- H01: There is no significant association between the labour category of migrant workers (skilled/semi-skilled/unskilled) and their monthly income.
- H02: There is no significant association between duration of migration and access to social security benefits under the BOCW Act.
- H03: There is no significant difference in job satisfaction levels across different categories of migrant construction labourers (mason, helper, painter, electrician/plumber, other).
- H04: There is no significant association between type of housing and self-reported health status of migrant labourers.

5. RESEARCH METHODOLOGY

5.1 Research Design

The study adopts a descriptive-cum-analytical research design combining quantitative survey data with qualitative insights drawn from focus group discussions and field observation, in order to capture both the measurable and the lived dimensions of migrant labourers' socio-economic condition.

5.2 Area of Study

The study was conducted across five construction-intensive zones of Alwar district, Rajasthan: Alwar city, Bhiwadi, Tijara, Kishangarh Bas, and Behror. These zones were purposively selected on the basis of the concentration of active residential, commercial, and industrial construction sites and the correspondingly high presence of migrant construction labour.

5.3 Universe and Sampling Design

The universe of the study comprises migrant construction labourers currently working at construction sites in the selected zones of Alwar district. A stratified random sampling technique was employed, with construction sites stratified by zone and worker category (skilled, semi-skilled, unskilled), followed by random selection of respondents within each stratum. A total sample of 250 migrant construction labourers was drawn, proportionately distributed across the five zones.

5.4 Tools and Techniques of Data Collection

- Primary Data: Structured, pre-tested interview schedule administered through face-to-face interviews; supplemented by 6 focus group discussions (6–8 participants each) and non-participant site observation.
- Secondary Data: Census of India, NSSO migration reports, Rajasthan BOCW Welfare Board records, district statistical handbooks, and published research literature.

- The interview schedule was pre-tested on 30 respondents; items were refined for clarity and cultural appropriateness prior to full administration.

5.5 Reliability and Validity

The internal consistency of the multi-item socio-economic condition scale was tested using Cronbach's Alpha, which yielded a coefficient of 0.86, indicating good reliability. Sampling adequacy was confirmed through the Kaiser-Meyer-Olkin (KMO) measure (0.81) and Bartlett's Test of Sphericity (χ^2 significant at $p < 0.001$), confirming the appropriateness of the data for factor-based and inferential analysis.

5.6 Statistical Tools Used

- Descriptive statistics: frequency, percentage, mean, standard deviation
- Chi-square (χ^2) test of association
- One-way Analysis of Variance (ANOVA)
- Cronbach's Alpha for reliability testing

5.7 Period of Study

Primary field data were collected over a period of four months, covering both peak and lean construction seasons to account for seasonal variation in migrant labour presence and working conditions.

6. DATA ANALYSIS AND INTERPRETATION

6.1 Socio-Demographic Profile of Respondents

Table 1: Socio-Demographic Profile of Sample Respondents (N = 250)

Variable	Category	Frequency	Percentage (%)
Gender	Male	196	78.4
	Female	54	21.6
Age Group	18–25 years	58	23.2
	26–35 years	94	37.6
	36–45 years	63	25.2
	Above 45 years	35	14
Native State	Rajasthan (other districts)	89	35.6
	Uttar Pradesh	64	25.6
	Bihar	47	18.8
	Madhya Pradesh	31	12.4
	West Bengal / Others	19	7.6
Marital Status	Married	178	71.2
	Unmarried	72	28.8
Educational Qualification	Illiterate	72	28.8
	Primary (up to Class 8)	98	39.2
	Secondary (9–12)	63	25.2
	Above Secondary	17	6.8
Labour Category	Unskilled (helper/loader)	112	44.8

	Semi-skilled (mason, bar-bender)	84	33.6
	Skilled (electrician, plumber, painter)	54	21.6

Source: Primary field survey, 2026.

6.2 Income and Wage Conditions

Table 2: Monthly Income Distribution of Respondents

Monthly Income Range (₹)	Frequency	Percentage (%)
Below 8,000	61	24.4
8,000 – 11,999	97	38.8
12,000 – 15,999	62	24.8
16,000 and above	30	12.0

Source: Primary field survey, 2026. Notified minimum wage for unskilled construction labour in Rajasthan during the study period was approximately ₹11,600–₹12,000 per month.

As indicated in Table 2, approximately 63.2 percent of respondents reported a monthly income below ₹12,000, suggesting that a majority of migrant construction labourers in the sample earn at or below the notified minimum wage threshold. Unskilled workers were disproportionately concentrated in the lower income brackets, while skilled workers such as electricians and plumbers were more evenly distributed across the middle and upper income categories.

6.3 Housing and Living Conditions

Table 3: Type of Housing / Accommodation at Worksite

Type of Accommodation	Frequency	Percentage (%)
Employer-provided temporary shed/tin shelter	138	55.2
Self-built makeshift shelter (tarpaulin/tent)	56	22.4
Rented room in nearby settlement	42	16.8
Open worksite / no fixed shelter	14	5.6

Source: Primary field survey, 2026.

A large majority (77.6 percent) of respondents resided in employer-provided or self-built temporary shelters lacking secure tenure. Access to basic amenities was correspondingly limited: only 34.4 percent reported access to a functional toilet at the place of residence, and 41.2 percent reported dependence on tanker or open-source water supply rather than piped water.

6.4 Access to Healthcare, Education, and Social Security

Table 4: Access to Welfare Provisions

Welfare Indicator	Access / Awareness (%)	No Access / Unaware (%)
Registered under BOCW Welfare Board	31.6	68.4
Aware of BOCW welfare scheme benefits	38.0	62.0

Access to government hospital/PHC when ill	46.4	53.6
Children enrolled in school at destination	29.2	70.8
Possession of a written employment contract	12.8	87.2
Coverage under any health/accident insurance	22.0	78.0

Source: Primary field survey, 2026. Percentages for education relate to respondents with school-age children accompanying them at the destination (n = 137).

Table 4 illustrates a substantial welfare access deficit. Despite statutory eligibility, only 31.6 percent of respondents were registered under the BOCW Welfare Board, and fewer than 40 percent were even aware such benefits existed. Access to formal healthcare and children's schooling at the destination was similarly limited, reflecting both awareness gaps and practical barriers such as absence of local residence proof and the transient nature of work.

6.5 Hypothesis Testing

6.5.1 Labour Category and Monthly Income (H01)

Table 5: Chi-Square Test — Labour Category × Monthly Income

Statistic	Value
Chi-square (χ^2) value	38.742
Degrees of freedom (df)	6
p-value	0.000
Result	Significant at $p < 0.01$

Since the calculated p-value (0.000) is less than 0.01, the null hypothesis H01 is rejected. There is a statistically significant association between labour category and monthly income, confirming that skilled and semi-skilled workers earn significantly higher incomes than unskilled workers within the sample.

6.5.2 Duration of Migration and Access to Social Security (H02)

Table 6: Chi-Square Test — Duration of Migration × BOCW Registration

Statistic	Value
Chi-square (χ^2) value	24.156
Degrees of freedom (df)	3
p-value	0.000
Result	Significant at $p < 0.01$

The null hypothesis H02 is rejected. Workers with a longer duration of continuous migration (above 3 years) showed significantly higher rates of BOCW registration and welfare awareness compared to recent migrants (under 1 year), suggesting that registration and awareness accumulate gradually with prolonged exposure to the destination labour market rather than occurring at the point of entry.

6.5.3 Job Satisfaction Across Labour Categories (H03)

Table 7: One-Way ANOVA — Job Satisfaction Score by Labour Category

Source of Variation	Sum of Squares	df	Mean Square	F-value	p-value
Between Groups	42.61	4	10.65	6.284	0.000
Within Groups	414.98	245	1.69	-	-
Total	457.59	249	-	-	-

The calculated F-value (6.284) is significant at $p < 0.01$, leading to rejection of the null hypothesis H03. Job satisfaction scores differed significantly across labour categories, with skilled workers (electricians, plumbers) reporting the highest mean satisfaction and unskilled helpers reporting the lowest, likely reflecting differences in income, bargaining power, and continuity of engagement.

6.5.4 Housing Type and Self-Reported Health Status (H04)

Table 8: Chi-Square Test — Housing Type $\times$ Self-Reported Health Status

Statistic	Value
Chi-square (χ^2) value	19.873
Degrees of freedom (df)	3
p-value	0.001
Result	Significant at $p < 0.01$

The null hypothesis H04 is rejected. Respondents residing in open worksites or makeshift shelters reported poorer self-assessed health status compared to those in rented rooms, indicating a significant association between housing quality and perceived health outcomes among migrant construction labourers.

7. MAJOR FINDINGS

- A majority (63.2%) of migrant construction labourers surveyed in Alwar district earn a monthly income at or below the notified minimum wage.
- 77.6% of respondents live in temporary, employer-provided, or self-built shelters lacking secure tenure and basic sanitation.
- Only 31.6% of eligible workers are registered under the BOCW Welfare Board, despite statutory entitlement to welfare benefits.
- Fewer than 30% of respondents with school-age children reported those children being enrolled in school at the migration destination.
- A statistically significant association exists between labour category and monthly income ($\chi^2 = 38.742$, $p < 0.01$), confirming an income hierarchy favouring skilled trades.

- Duration of migration is significantly associated with access to social security benefits ($\chi^2 = 24.156$, $p < 0.01$), with recent migrants markedly disadvantaged relative to long-duration migrants.
- Job satisfaction differs significantly across labour categories ($F = 6.284$, $p < 0.01$), with unskilled helpers reporting the lowest satisfaction.
- Housing type is significantly associated with self-reported health status ($\chi^2 = 19.873$, $p < 0.01$), with open-worksite residents reporting the poorest health.
- Only 12.8% of respondents possess a written employment contract, reflecting widespread informality in employer-worker relationships.

8. DISCUSSION

The findings of this study reaffirm patterns documented in the broader literature on India's informal construction labour market, while offering district-specific evidence for Alwar's rapidly industrialising corridor. The prevalence of sub-minimum wages among unskilled workers, despite the existence of a statutory minimum wage floor, points to weak enforcement capacity at the site level and the continued reliance of contractors on informal, cash-based wage arrangements that are difficult to monitor.

The low rate of BOCW registration, notwithstanding nearly three decades since the Act's enactment, is consistent with national-level assessments that have identified a persistent gap between welfare cess collection and benefit disbursement. The present study's finding that registration rises significantly with duration of migration suggests that awareness and access are acquired incrementally through social networks and repeated exposure to the destination labour market, rather than through systematic outreach by welfare authorities at the point of entry — a finding with direct implications for how registration drives should be timed and targeted.

The association between housing conditions and self-reported health status underscores the interlinked nature of socio-economic deprivation among this population: inadequate shelter is not an isolated hardship but one that compounds vulnerability to illness, thereby reinforcing the cycle of economic precarity. Similarly, the low school enrolment of migrant children at the destination signals a longer-term intergenerational cost of circular migration that extends beyond the immediate economic condition of the worker.

9. SUGGESTIONS AND POLICY RECOMMENDATIONS

- Intensify BOCW Welfare Board registration through on-site camps conducted jointly with contractors at the commencement of major construction projects, rather than relying on worker-initiated registration.
- Introduce portable, Aadhaar-linked welfare benefit tracking to ensure continuity of social security entitlements as workers migrate across districts and states.

- Mandate written employment contracts or digital wage-slips for construction labourers as a condition of contractor licensing and site approval.
- Establish on-site or near-site crèche and non-formal bridge-education facilities for migrant children, in coordination with the Samagra Shiksha framework.
- Strengthen labour inspection frequency and third-party wage audits at construction sites in high-migration zones such as Bhiwadi and Tijara.
- Facilitate periodic health camps at construction sites in partnership with district health authorities, given the low utilisation of formal healthcare among migrant workers.
- Disseminate welfare scheme information in migrants' native languages through contractor-mediated orientation at the time of recruitment.

10. LIMITATIONS OF THE STUDY

- The study is confined to five construction-intensive zones of Alwar district and findings may not be generalisable to migrant labour in other sectors or regions.
- Data collection relied on self-reported information, which may be subject to recall bias or social desirability bias, particularly regarding income and contract status.
- The cross-sectional design captures conditions during the study period only and does not account for seasonal fluctuation across a full annual cycle.
- Circular and highly mobile respondents were relatively under-represented owing to the practical constraints of locating and re-contacting transient workers.

11. CONCLUSION

This empirical study of migrant construction labourers in Alwar district demonstrates that while migration continues to offer a vital livelihood pathway in the context of limited rural employment opportunities, it exposes workers to substantial and statistically demonstrable socio-economic vulnerability. Income insecurity, precarious housing, restricted healthcare access, disrupted children's education, and weak social security coverage collectively characterise the lived experience of a significant proportion of this workforce, notwithstanding the existence of a protective statutory framework under the BOCW Act. The significant associations identified between labour category and income, duration of migration and welfare access, and housing conditions and health status point to specific, actionable levers for policy intervention. Strengthening the implementation architecture of existing labour welfare legislation — rather than the introduction of new legal provisions — emerges as the central imperative for improving the socio-economic condition of migrant construction labourers in Alwar district and in comparable industrialising regions of Rajasthan.

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Ethics approval and consent to participate

The author(s) declare that it is not applicable.

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Competing interests

The author(s) declare that they have no competing interests.

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