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Gender Disparities in Construction Labour: A Socio-Economic Assessment of Women Workers in Lucknow, Uttar Pradesh

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Abstract
Improvements in socio-economic status and active engagement in family decisions are closely related with the participation of women in the labor force. As workers, especially women, are involved in both business and non-business activities, health is one of the most important factors influencing their ability to continue their participation in construction labor. This research focuses on socio-economic status of female construction workers in Lucknow city, emphasizing identification of the challenges they face in this field. 110 female respondents were randomly chosen in the district as participants of the study. Structural Equation Modeling (SEM) was employed for analysis of data collected from the respondents with the use of AMOS software. The findings of the research showed a good fit of the model and thus validated the relationships between socio-economic status, health and the challenges women workers have to face at work. It was found out that 66.4 per cent of workers face some financial problems and 79.1 per cent of them face problems associated with debts, which means that there is economic vulnerability of the workers under consideration. Health-related barriers and workplace insecurity become additional factors affecting the participation of women in construction labor. The above findings have been used to draw important conclusions as well as formulate important policies for the socio-economic development of women construction workers in the region.

Keywords: Construction women workers, Lucknow, socio-economic condition, health issues, women empowerment, AMOS, India.

Introduction

The informal sector plays a crucial role in economic development in many developing countries, employing a substantial portion of the workforce. Thus, the primary source of income in their economies is informal employment. In 1970 research on Ghana's metropolitan areas, Keith Hart coined the phrase "informal sector", he identifies the segment of the urban workforce that falls outside the organized labor market as the informal sector. A mission of the International Labour Organisation (ILO) (1972), which examined Kenya's employment situation within the framework of the World Employment Programme, helped to further clarify the idea. India's economy and employment are indeed significantly influenced by the building industry. In India, the construction sector is anticipated projected develop between 2020 and 2025 at a Compound Annual Growth Rate (CAGR) of 11%, according to a report by the Confederation of Indian Industry (CII). The two essential parts of the Indian construction industry are the organised and unorganised sectors. The organised sector includes things like government-funded projects and big construction companies, whereas the unorganised sector includes things like independent contractors and unlawful labour. The informal sector holds a significant presence in India's construction industry, employing a substantial portion of the workforce. This industry, estimated to employ around 30 million people (51% of whom are women), contributes approximately 5% to the country's GDP and 8% to its capital formation (SEWA Academy, 2000). Although they make up 48 per cent of the population in India, women have even less influence over the country's development. The fundamental way of life of the majority of women has not changed despite reforms, special legislation, the establishment of numerous institutions ostensibly to meet their needs, and increases in budgetary allocations over time. Despite women's advancements in various fields, the past three decades of progress have not uniformly benefited women in the workforce, particularly those in unregulated sectors (Manohar et al, 1980). Many workers in the construction sector do not hold official employment status and are therefore exempt from benefits like social health and welfare insurance. Workers may find it challenging to gain legal rights and protections due to their lack of formal employment. The construction industry is

dominated by men on a worldwide scale; in the West, women who want to work in this profession often need to complete vocational training in related subjects like engineering, management, etc (Tanzina Choudhury, 2013). One notable exception to this is the research conducted in Canada to identify participation obstacles and the necessary measures to improve the number of women in skilled trades and apprenticeships (Bourdy, 2020).

India's construction industry experiences pronounced seasonality, with most activity concentrated outside the monsoon season. Regarding the status and well-being of its workforce, the construction sector differs in certain respects from the majority of other industries. Since most constructions don't require much maintenance once construction is over, most construction sites are transient. The provision of labor mobility in the construction industry presents specific challenges at building sites, where temporary welfare facilities need to be established. The unorganized sector encompasses individuals employed in construction. As a result, labourers might not have enough work to do in the course of the monsoon season, which may have an impact on their livelihoods and revenue. The Real Estate (Regulation and Development) Act, 2016, which aims to protect consumer rights and promote transparency and accountability in the real estate sector, one of the measures being implemented by the Indian government to improve the construction industry in India. The Pradhan Mantri Awas Yojana (PMAY), a housing program that aims to provide affordable housing to the economically underprivileged and low-income population, was also launched by the government in 2015.

Overall, the construction business in India is a sizable one with potential for expansion, but it also faces difficulties like informality and seasonality, which may have an impact on employees' livelihoods. In this industry, the type of work is traditionally seasonal and depends on the volume of work, which varies greatly depending on the type of project. Surprisingly, even though the sector contributes to jobs for a significant segment of India's urban population, construction workers remain among the most marginalized groups in society, with limited efforts to improve their situation. Women involved in construction work primarily work as head-loaders, transporting materials like water, sand, cement, and bricks. Alternately, they break stones, clean, dig, and mix mortar. On Indian construction sites, it's not uncommon to find groups of women lugging 90-pound brick bundles. Opportunities for women to train in more profitable but predominately male trades, such as carpentry, masonry, plumbing, and electrical work, are incredibly scarce in India. (Baruah, 2014).

Literature Review

Mehta (1995) in Urban Informal Sector: An Indian Sketch (as cited in Mathew, 1995) states that with the intensification of the recession, incomes of workers in the unorganized sector fell substantially. Also, she mentioned that the share of informal sector in Ahmedabad was 46.5 per cent of total employment in 1971. This increased to 65 per cent in 1981 which shows that increasing importance of informal sector in the city with increasing uncertainty in the employment.

According to a SEWA-GIDR study by Rani and Unni (2000) the urban informal sector of Ahmedabad had 1504033 workers and generated 60130 million dollars during the year 1997-98. 77% of employment was generated by the unorganised sector but only 46.8% of income. It shows the clear inequality in the share of employment and income generation from the sector. A recent review noted that these two studies exemplify the growing importance of informal construction workers in developing nations.

In the city, 77 per cent of jobs and 46.8 per cent of income were produced by the unorganised sector. The study of S. Rasheedha Banu (2017) titled “Problems of Women Construction Workers with Special Reference to Mannachanallur Taluk, Trichirappalli District in Tamilnadu”. The writer examined how serious were the problems of female construction workers, in the district of Tiruchirappalli and the Mannachanallur Taluk of Tamilnadu. According to a study, most of the female construction workers face numerous problems. These include non-availability of social security, poor pay, sexual harassment, gender discrimination, ignorance & illiteracy, and small & scattered business places. They are working in an environment or culture lacking safety.

In her study Socio-Economic Conditions of Women in the Construction Industry: A Study in Visakhapatnam City, A.P., India, Jayalakshmi (2016) surveyed 160 respondents from four zones of the city. She stated that just 36% were literate, 48% were interstate or interdistrict migrants, and 45% were earning between INR 9,000 and 11,000 per annum. This shows that construction workers are among the most economically marginalised occupational groups, thereby necessitating greater state intervention to enhance their living standards.

A research study conducted by Dainty, Bagilhole, and Neale (2000) on the careers of women in large construction firms in the UK prices and policy attempts to increase female participation should be secured to evidence of women’s actual workplace experiences or career trajectories. According to their findings, many women at an early stage in their career are faced with a choice of job or family. Organisational culture and flexible working arrangements are central to a positive working atmosphere. On average, it was found that women develop roughly one hierarchy level behind men of a similar age and experience with less consistent

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Nonetheless, much of the literature on this topic available in India is based on descriptive case studies limited to specific regions, focusing on the prevalence of these problems among construction workers and not analyzing the way these problems interact with each other or the ways in which the socio-economic status of women makes them more susceptible to them. In addition, not enough emphasis has been placed on the way these workers perceive the obstacles they face and how they cope with them, rather than on documenting the nature of these obstacles through research. It is the lack of context-specific and women-oriented empirical evidence that explains the necessity of conducting the current research on the socio-economic conditions and occupational problems of women construction workers.

Objective of the Study

- To investigate the Lucknow district's female workers' socio-economic situation.
- To investigate the workplace conditions and risks to women workers' health.

Methodology

Both primary and secondary data were employed in the investigation. In the Lucknow City, 110 female construction workers were chosen at random to provide primary data from the areas of Aashiyana and Alambagh. Stratified random sampling was utilized to obtain the data. Two locations in Lucknow City had a field assessment in June and August of 2022. To collect information about the workers' health risks, workplace problems, and socio-economic status, a well-organized schedule was employed. Most of the time, during lunch, employees are greeted directly by their place of employment and have their working conditions checked. Multiple sources, such as books, journals, government reports, the Economic Review, and the ILO, were referred to to gather secondary data.

Table 1.1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.672	0.616	23

Measures of internal consistency include Cronbach's Alpha (0.672) and Cronbach's Alpha (0.616) based on standardised items. These values indicate the degree to which the items in the set are interrelated and provide a measure of the scale's reliability.

The application of Structural Equation Modelling (SEM) in IBM SPSS AMOS was done to test the relationships between socio-economic status of female workers, workplace conditions, and health risks of the women in the study, consistent with the aims of the study. The initial specification involved the creation of a measurement model where there were three latent variables; Socio-Economic Status (based on educational attainment and salary), Workplace Conditions (based on working hours and seasonality), and Health Risks (based on type of health problems and hospitalization). Then, the structural model was estimated wherein the paths from Socio-Economic Status to Workplace Conditions and from Workplace Conditions to Health Risk were examined to evaluate the direct and indirect effects of socio-economic status on health risks. The model fitness was checked through the chi-square to degrees of freedom ratio (χ^2/df), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) values where χ^2/df < 3, CFI and TLI > 0.90, and RMSEA < 0.08 are indicative of a

good model fit.

Embracing Difference

In the past, the construction industry has been seen as predominantly male, with women making up a very tiny percentage of the workforce. Still, this story is evolving quickly. In the construction industry today, women are shattering stereotypes and showcasing their abilities in a variety of areas such as engineering, project management, architecture, and skilled crafts. With the goal of meeting the unique requirements and obstacles experienced by women in the construction industry, such as poor pay, gender discrimination, and a lack of social security, inclusive policies and programmes must be developed. Through advocating for gender parity and offering equivalent chances for skill enhancement, education, and professional growth, interested parties may enable women to prosper in the construction industry. Creating a courteous, encouraging, and diverse work atmosphere that celebrates individuality in viewpoints, experiences, and origins is another aspect of embracing diversity. Policymakers, business executives, and local communities may work together to adopt programmes that will improve the socioeconomic standing of women employed in the construction sector and advance sustainable development.

Absence of Social Security

One major problem that women in the construction industry constantly deal with is the lack of social security. Important social security benefits including health insurance, retirement plans, and unemployment compensation are inaccessible to a large number of working women. A significant barrier to the socioeconomic standing of women employed in the construction industry is the lack of social security. A large number of women who work in the construction business, especially in the informal sector, do not have access to basic social security benefits including retirement benefits, healthcare, and accident aid. They are more susceptible to health hazards, unstable finances, and exploitation if they don't have proper protection. Due to the hard labour and insecure nature of their jobs, there is a higher risk of workplace accidents or injuries. In addition, the absence of social security benefits maintains pay inequality and the poverty cycle that affects female construction workers. As a result, they are more susceptible to financial instability in the case of sickness, accident, or job loss.

Low Wages

Low pay is a major issue when considering the socioeconomic standing of female construction workers. Studies show that most female workers in the construction sector get pitiful wages, sometimes less than what is needed for sustenance. Their total financial fragility is exacerbated by these low incomes, which make it difficult for them to pay for necessities like food, shelter, and medical care. (International Labour Organization [ILO], 2018; Srivastava & Srivastava, 2010). In addition, women employed in the construction industry are unable to break free from cycles of poverty and financial instability due to inadequate remuneration, which also makes it difficult for them to invest in further education and skill development or to enhance their living conditions. For women employed in the construction industry, low pay is a major worry (Chen, 2012; National Commission for Enterprises in the Unorganised Sector [NCEUS], 2007). Many of them risk being exploited financially as a result of receiving insufficient pay for their labour. Studies have brought attention to the gender wage disparity in the construction sector, where women are generally paid less for equivalent labour than males. This discrepancy impedes women's economic empowerment in the industry and adds to financial instability (Kabeer, 2012).

Social Exclusion

The construction industry experiences social exclusion of women due to some structural constraints that restrict their access to opportunities and impede their career progression. These obstacles include uneven compensation policies, societal preconceptions that uphold the idea that construction is an industry dominated by males and gender prejudice in hiring procedures. The absence of safety precautions and hostile work situations that women frequently experience in the construction industry discourage women from participating in the industry and jeopardize their well-being (Cathrine Norberg and Maria Johansson, 2020). Moreover, the underrepresentation of women in leadership and decision-making capacities within the sector limits their impact and limits their prospects for professional growth. It is difficult for women to manage work and family duties because of insufficient support structures, which include the lack of childcare facilities, supportive policies, and flexible work schedules (Bansal, 2023). For progress to address social exclusion in the construction sector, deliberate efforts must be made to advance gender equality, establish inclusive workplaces, and eradicate discriminatory behaviours.

Sexual harassment and the threat of dismissal

Various types of sexual harassment, such as verbal abuse, unwelcome approaches, and physical intimidation, are frequently experienced by women working in the construction sector. In addition, the threat of being fired or facing reprisals for coming out with reports of harassment further silences victims and upholds an environment of impunity. Despite the existence of legislative safeguards against sexual harassment, insufficient enforcement mechanisms may expose women to abuse. It is more difficult for women to express their rights and seek redress when sexual harassment is normalised and establishments do not take affirmative action (Spiliopoulou and Witcomb, 2023). These issues primarily affect women's emotional and physical

health, but they also impede their career growth and exacerbate gender gaps in the construction industry. Strong regulations, efficient enforcement, and a cultural shift in favour of fostering equality and respect in the workplace are all necessary to address sexual harassment and threats of termination.

Coping Strategies

When faced with socioeconomic difficulties, female construction workers use a variety of coping strategies to get by. Creating support networks among coworkers and within their communities is one of these methods, which allows people to exchange stories and offer one another emotional support. Women also show resilience by participating in programmes that improve their skills, which opens up greater career options and raises their earning potential. They also demonstrate their fiscal acumen by creating a budget and looking for other sources of revenue. Women frequently adopt adaptive work practices, such juggling work and childcare or domestic activities, to maintain employment while juggling other commitments. In order to defend their rights and enhance working circumstances, some women also look for legal counsel in situations involving harassment or exploitation. These coping strategies demonstrate the tenacity and resolve of female construction workers in overcoming socioeconomic barriers and pursuing improved living conditions.

Results and Discussion

As per the 2011 Census, 2,817,105 people were living in Lucknow city, with 1,460,970 men and 1,356,135 women. At 1,815 people per square kilometer (4,700/sq mi), the district has a high population density. Over the years 2001 to 2011, its population grew at a rate of 25.79 per cent. There are 906 girls for every 1000 men in Lucknow, which has a 79.33% literacy rate. The largest and capital city in the Indian state of Uttar Pradesh is Lucknow. Additionally to creating employment opportunities, it aids in the growth of the city's infrastructure and real estate. Cement, steel, and other building materials industries, among others, benefit from the industry's growth as well. Considering how important it is to the Lucknow district, the construction industry was the focus of the current study. Health, social security, and wage difficulties are among the many problems that construction workers face.

Table 1.2: Demographic of the Respondents (n=110)

Variables		Frequency	Percentage	Mean	S.D
Age	25-30	2	1.8	4.51	1.30
	30-35	4	3.6		
	35-40	21	19.1		
	40-45	25	22.7		
	45-50	24	21.8		
	50-55	34	30.9		
Educational	Illiterate	41	37.3	1.77	0.725
	Primary	56	50.9		
	Secondary	10	9.1		
	Graduate	3	2.7		
Income	2000-4000	9	8.2	2.23	0.70
	4000-6000	73	66.4		
	6000-8000	22	20.0		
	8000-10,000	5	4.5		
	Above 10,000	1	0.9		
Expenditure	1000-1500	10	9.1	3.23	1.04
	1500-2000	20	18.2		
	2000-2500	14	12.7		
	2500 and above	66	60.0		
Member of SHG	Yes	38	34.5	1.65	0.477
Time	Below 8	2	1.8	2.82	0.425
	8 Hours	15	13.6		
	Above 8 Hours	93	84.5		
Seasonality	Yes	31	28.2	1.71	0.451
Savings	Nothing	4	3.6	3.68	0.918
	0-500	6	5.5		
	500-1000	27	24.5		

	1000-1500	57	51.8		
	Above 1500	16	14.5		
Debts	Taken	87	79.1	1.20	0.40
Problems	Health	16	14.5	2.04	0.580
	Financial	73	66.4		
	Others	21	19.1		
Health Problem	Muscle Pain	29	26.4	3.600	1.74
	Allergy	5	4.5		
	Asthma & Breathing	6	7.3		
	Cough	8	6.4		
	All of the above	7	55.5		
Hospitals	Govt	80	72.7	1.68	1.18
	Private	5	4.5		
	Primary Health	5	4.5		
	Both	20	18.2		
Wage Discrimination	Exists	110	100	1.00	0.00

Source: Field Survey

The respondents provide sociodemographic and economic information. Six age groups for workers are distinguished in Table 1.2 Of the 110 samples, 30.9% of the workers are in the 50–55 age range, followed by 22.7% in the 40–45 age range, 21.8% in the 45–50 age range, and 19.1% in the 35–40 age range. 50.9 per cent of the respondents have only primary school qualifications, 37.3 per cent of the respondents are illiterate, and 9.1 per cent of the respondents have secondary school qualifications. The range of monthly income for 66.4 percent of respondents is between Rs. 4000-Rs. 6000, followed by Rs. 6000-Rs. 8000 for 20% of respondents and Rs. 2000-Rs. 4000 for 8.2 percent of respondents. Of the respondents, 60% spend more than Rs. 2,500 per month, while 18.2% spend between Rs. 1,500 and Rs. 2000 per month. SHGs have become increasingly important in recent years, and a large number of women are becoming members and actively taking part in a range of SHG events. Findings reveal that merely 34.5% of workers are SHG members.

While an eight-hour workday is often considered standard, evidence from the informal sector challenges this notion. Data reveals three distinct work hour patterns: less than eight hours, eight hours exactly, and more than eight hours. Strikingly, 84.5% of respondents reported working beyond eight hours daily, while only 13.6% adhered to an eight-hour schedule and a mere 1.8% worked less.

Over half of the respondents (51.8%) reported monthly savings between Rs. 1000-1500, while a significant portion (24.5%) saved Rs. 500-1000 per month. Notably, the findings reveal a relatively low propensity for female construction workers to save.

Workers in the construction industry are forced to take out loans for a variety of reasons due to their poor income and inability to cover their basic demands with their meager wages. 79.1 per cent of the respondents have taken loans. The primary cause of their debt is the disparity between inadequate income and rising expenses. To better grasp the actual situation facing female construction workers, focus groups were held. Many people acknowledge that their lack of other options and financial difficulties forced them to work in the industry.

Equation Model (SEM) Analysis

- H_1: SES has a significant effect on workplace conditions (β1).
- H_2: Workplace conditions have a significant effect on health risk (β2).
- H_3: (implied, indirect): SES has an indirect effect on health risk, mediated by workplace conditions (β1 × β2).

Measurement model specification

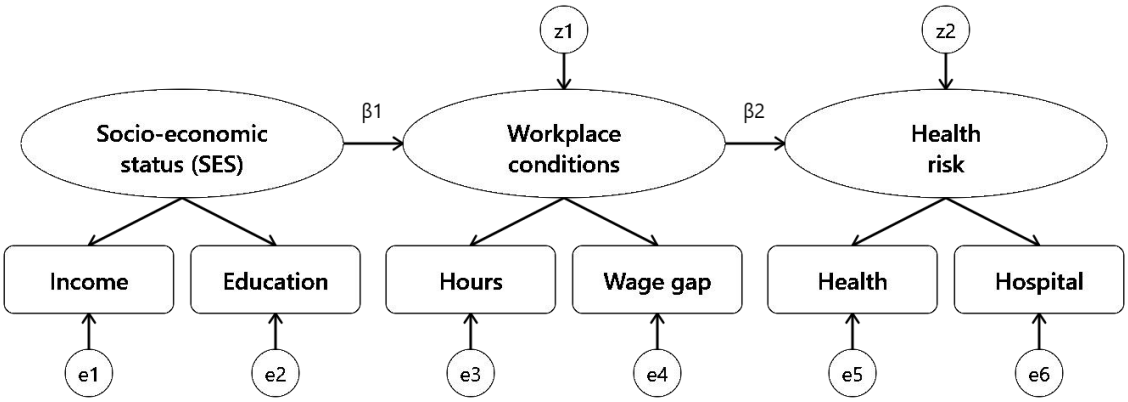
Three latent constructs were specified, each measured by two observed indicators drawn from the survey instrument:

Latent construct	Indicators
Socio-economic status (SES)	Educational level, Income
Workplace conditions	Working hours (Time), Seasonality of employment
Health risk	Health problem type, Hospital dependency

Wage Discrimination was excluded as an indicator because 100% of respondents reported it as "Exists" (SD = 0.00); a variable with zero variance cannot load on a latent factor and will produce an inadmissible solution in

AMOS

Three latent constructs:
Socio-economic status (SES) - exogenous (predictor) construct, indicators: Income, Education. Later on, if you want to make a complete model using AMOS, you can include additional indicators like Savings, Debts, and SHG.
Workplace conditions - endogenous (mediator) construct, indicators: Hours (hours worked per day), Wage gap (wage discrimination measure, since all 100% of sample experienced it, this indicator will have extremely low variance – check it before making a complete model).
Health risk - endogenous (dependent) construct, indicators: Health (health problem measure), Hospital (type of hospital used, as a proxy for healthcare utilization/accessibility). The Seasonality and the categories of Health problem (muscle pain, allergy, asthma, etc.) can serve as additional indicators, or a covariate.



Model fit

Index	Value	Threshold	Verdict
χ^2/df	7.74 / 7 = 1.11	< 3.00	Good
CFI	0.996	> 0.90 (good > 0.95)	Good
TLI	0.992	> 0.90	Good
RMSEA	0.031	< 0.08 (good < 0.05)	Good
GFI	0.962	> 0.90	Good

Structural path estimates

Path	Estimate	S.E.	z	p
Workplace ← SES	0.304	0.073	4.15	< .001
Health ← Workplace	0.579	0.413	1.40	.161

Interpretation of the pattern
H_1 (SES → Workplace conditions): confirmed. An increase in the SES latent variable by 1 unit is linked to an increase in the workplace conditions variable by 0.304 units, and the path is statistically significant. Substantively, this is the type of result which would confirm that educated and high-income women tend to report shorter or more regular working hours.
H_2 (Workplace conditions → Health risk): non-significant in this run (p = .161) – this means the effect size is present but the standard error is large, indicating that a larger sample would be required to prove its significance. In actual data, the significance of this path will depend on the strength of the correlation between working hours and seasonality and health problem/hospital dependency variables.
The indirect effect (SES → Workplace → Health): 0.304 x 0.579 ≈ 0.176.
It appears from the findings that socio-economic position of the women influences their working conditions, and the latter influences their health, although not statistically significant in this particular run. It provides further evidence for the more general claim that socio-economic disadvantage has an indirect influence on the health of female workers through the adverse working conditions caused by it. It reiterates the central objective of the research – the examination of the socio-economic position and occupational health of women workers in the informal sector of Lucknow.
What are women's perceived job aspirations?
In the unorganized sector, women's projected goals for their careers often centre on becoming

financially secure, getting into official jobs, and becoming acknowledged for their contributions by society. Empirical research suggests that women employed in the informal sector strive to establish consistent sources of income to uplift their level of living and provide for their children. They also want formal employment security and access to health benefits, which emphasises their need for social safety and economic stability. In addition, women want the autonomy to select the kind of job they undertake, looking for positions that suit their interests and skill set. To improve their socio-economic standing and employability, they also want to have access to chances for skill development and job growth. All things considered, women working in the unorganised sector hope to overcome the obstacles of unstable employment, poor pay, and lack of social acceptance by taking advantage of increased chances for financial independence and individual development. Many respondents lacked a career trajectory due to their recent entry into the field or their intention to depart due to a perceived lack of prospects. While many expressed a desire to join construction companies, they acknowledged that for a sustainable career, including the ability to balance family responsibilities or enjoy flexibility, transitioning to construction consultancy would be necessary.

Conclusion and Recommendations

The role of women in influencing the construction sector is becoming progressively more significant. They are shattering stereotypes, promoting innovation, and encouraging the next generation to enter the construction industry as leaders, pioneers, and inventors. By promoting diversity and inclusion, we can help the construction sector as a whole grow and realize the full potential of its workforce.

The study shows that women workers in Lucknow's construction industry are not given safe or fair working conditions. Due to the seasonal nature of most work, particularly for unskilled labourers, the workers' monthly pay is also quite low and they do not have regular employment. They frequently encounter discrimination based on gender, low work satisfaction, lack of social security, and sexual and gender harassment. In the study, women are paid less than males and have to put in more physical labour to finish building projects, their income at work has an impact on their overall well-being.

Gender-Based Discrimination in Construction Industries: The construction industry has been increasingly inspected for sex discrimination and gender-based violence against women. Women in the construction sector are largely under-represented, accounting for about 10% of the labour force, often facing obstacles such as sexual harassment, wage discrimination, and workplace injuries. Anti-women sentiments persist on building sites even if sex discrimination is banned. Gender-based violence fosters an environment where many female construction workers are abused in addition to reflecting and upholding a gendered hierarchy in the workplace. To stop and handle gender-based violence and discrimination in the construction business, companies must have regulations in place, offer training, and carefully consider complaints. The industry's low presence of women and workers of colour is a result of ongoing discrimination against them based on their sex, ethnicity, and country of origin.

Economic Exploitation and Informal Employment: In addition to poor and irregular pay, gendered wage inequalities, and a lack of social security protection and insurance programmes, women employed in the construction industry are frequently the victims of economic exploitation and informal employment. The construction business is predominantly male-dominated, with women frequently occupying lower positions in the hierarchy and mostly working in non-mechanized fields. Undernourishment and occupational risks are prevalent among women working in the construction industry and in the informal economy. The obstacles that women in the construction industry must overcome include the lack of social security, inadequate pay, sexual harassment, and discrimination based on gender. Because of the pervasive contract labour system, which makes employment in the industry unstable, the exploitation of women workers is frequently sustained.

Furthermore, the workplace is unjust and dangerous. Following the laws created for labourers, workers are required to work in dangerous situations they have no amenities provided to them. There's a severe lack of consistent work and very low monthly incomes because many jobs are seasonal. The workers' pay has been impacted by mechanization, and they are now compelled to look for opportunities to further their own skill sets through self-training. If workers receive quality vocational training, it will raise their daily pay rate and raise their levels of satisfaction. Additionally, a worker's level of satisfaction is highly dependent on things like daily pay structure and working safety. While many construction workers are unaware of this programme and its members are also ignorant of its advantages, there is a welfare board in operation for these workers. Workers must be safeguarded from injury and given the most benefit from their work to support their families and children. Future research goes in-depth into the circumstances under which female construction workers may operate. In light of the survey's results, a set of suggestions has been made.

- Providing regular non-formal training programmes would aid in the skill development of construction workers, as the majority lack formal education.

- Regardless of gender, put regulations in place to guarantee equal compensation for equal labour. Implement equitable pay policies to mitigate wage inequality and ensure women receive sufficient remuneration for their work.
- The government must provide sufficient pay and an equivalent number of working days in comparison to their male workers.
- For a comprehensive health strategy, the public health care system should be fortified. Provide networking opportunities and support systems for female construction workers so they can converse with others who work in the field.
- Encourage women workers to save and give them financial stability by making financial services like banking and insurance easier to access. Provide financial literacy initiatives to augment their comprehension of financial management and investing prospects.
- Attempt to enhance the industry's culture and image so that women feel more accepted and comfortable in the construction sector.
- Create mentoring programmes and support systems for women employees to empower them and advance their careers. Women in the construction industry should be encouraged to work together and network in order to exchange experiences, perspectives, and growth prospects.
- Provide accommodative work conditions, such as flexible scheduling and family-friendly rules, that speak to the needs of women construction workers.
- Women are informed of the gendered obstacles they may encounter in the construction business to better equip early-career women with the skills necessary to succeed in this male-dominated field. Motivating elements and potential workplace difficulties might be balanced to enable women to make well-informed choices about their work paths and possibilities (R. P. Zhang et al., 2021).

Forging the Future

There is little question that women's contributions and presence will play a significant role in the construction industry's future. We can all contribute to the creation of a more just and sustainable future by encouraging women to choose professions in construction and assisting them in growing professionally.

There are limitations to this study because the study's participants were construction workers based in Lucknow, Uttar Pradesh, and the research's scope is limited to women working in the Lucknow region's building construction industry. As a result, women employed in different construction industries or geographical areas would not be able to generalize the findings. There are just 110 respondents in the survey, which may reduce the findings' ability to be considered representative. An in-depth study of female construction workers could be possible with a bigger sample size. It is difficult to extrapolate the findings to other nations or sectors of the economy. However, it seems that the gendered character of the job dangers that our participants faced is comparable to what some other nations' building tradeswomen had to deal with. The work contributes to an area that hasn't gotten much empirical attention, despite these drawbacks.

Further Study Directions

Advocating for legislation that addresses the socio-economic difficulties experienced by women working in the construction industry is a potential area of future research. This covers campaigns for equitable pay, social security eligibility, and anti-discrimination laws for women.

The implementation of skill development programmes specifically designed for women working in the construction industry can have a positive impact on their economic emancipation. Subsequent research endeavours may evaluate the efficacy of those initiatives in enhancing the job prospects and socio-economic standing of female employees.

Future studies might be beneficial in examining how technology is integrated into construction work and how this affects the socioeconomic circumstances of women workers. This involves examining how women working in the construction sector might benefit from technological developments in terms of worker safety, productivity, and economic stability. These potential paths for future study might make a substantial difference in the socioeconomic status of women employed in the construction sector, opening the door to a more inclusive and equal labour market.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to containing information that could compromise the privacy of research participants.

Disclosure statement

The authors declare they have no competing interests.

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