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Working Conditions and Economic Vulnerability of Female Handloom Workers in India: A Descriptive-Analytical Study Based on Secondary Data

Shweta Sonkar¹¹Research Scholar, Department of Economics, Mahatma Gandhi Kashi Vidyapith, Varanasi

Abstract

Handlooms constitute one of India's oldest and most widely dispersed sources of non-farm rural livelihood, and women form the overwhelming majority of the workforce engaged in this sector. According to the Fourth All India Handloom Census (2019–2020), women accounted for 72.29 per cent of the country's 35.22 lakh handloom workers, yet their contribution remains poorly remunerated, largely informal, and analytically under-examined as a distinct category. This paper synthesises government census data, official scheme documents, and peer-reviewed empirical studies to examine the working conditions, income levels, occupational health status, and social position of female handloom workers in India. The review shows that a majority of female weaver households earn below the statutory minimum wage, that women disproportionately combine part-time weaving with unpaid domestic and caregiving responsibilities, and that musculoskeletal disorders, poor access to credit, and dependence on middlemen further compound their economic precarity. Government interventions such as the National Handloom Development Programme, the Handloom Weavers' Comprehensive Welfare Scheme, and the e-Shram portal have improved coverage of insurance and identity documentation, yet gaps persist in wage protection, occupational safety regulation, and gender-disaggregated data collection. The paper concludes that female handloom workers occupy a position of layered vulnerability arising from the intersection of informal employment, patriarchal household structures, and market dependence, and recommends targeted wage floors, health surveillance, credit access, and systematic gender-disaggregated monitoring to secure sustainable livelihoods in the sector.

Keywords: Female Handloom Workers, Informal Employment, Economic Vulnerability, Occupational Health, Gender and Work, Handloom Census

INTRODUCTION

The handloom sector occupies a distinctive place in the Indian economy as the largest cottage industry after agriculture, sustaining the livelihoods of millions of rural households while preserving centuries-old textile traditions. Unlike most segments of manufacturing, handloom production in India remains overwhelmingly home-based and family-organised, which has historically drawn women into the workforce as weavers and as allied workers engaged in pre-loom and post-loom activities such as warping, sizing, dyeing, and finishing. The Fourth All India Handloom Census, conducted by the Office of the Development Commissioner (Handlooms) under the Ministry of Textiles, recorded 35,22,512 handloom workers across the country, of whom 25,46,285, or 72.29 per cent, were women (Press Information Bureau [PIB], 2022). This numerical dominance, however, has not translated into commensurate economic security or recognition. The same census found that a majority of weaver households earned less than Rs. 5,000 per month, that female weavers were far more likely than male weavers to work part-time, and that women in the sector had markedly lower levels of formal education (PIB, 2020; PIB, 2022).

The economic vulnerability of female handloom workers cannot be explained by production statistics alone; it is embedded in a broader structure of informal employment, gendered division of household labour, and dependence on intermediaries for market access.

Handloom work in India is carried out predominantly outside the ambit of formal labour law, without written contracts, fixed wages, or access to statutory social security of the kind available to organised-sector workers. As a leading government census itself acknowledges, most handloom production is sold through open markets or master weavers rather than through organised cooperative channels, with only 8.8 per cent of output moving through cooperative societies (Office of the Development Commissioner for Handlooms [DC Handlooms], 2019). This dependence on middlemen depresses the price realised by individual weavers, a large share of whom are women working from home on a piece-rate basis.

Women's engagement with handloom work is also shaped by their disproportionate responsibility for unpaid domestic and care work. National time-use evidence shows that Indian women spend nearly ten times as many minutes on unpaid domestic work each day as men (Singh & Pattanaik, 2020), a burden that constrains the hours women can devote to income-generating weaving and pushes many into part-time or interrupted work patterns. The handloom census corroborates this pattern directly: only 39.4 per cent of female weavers work full-time, compared with 75.6 per cent of male weavers (DC Handlooms, 2019). The consequence is a workforce that is numerically female-dominated but structurally positioned at the lower end of the income and bargaining hierarchy within the sector.

Against this background, the present paper undertakes a systematic review and synthesis of available government data, census reports, and empirical research to characterise the working conditions and economic vulnerability of female handloom workers in India. The paper is organised as follows: after reviewing the existing literature and identifying the research gap, it sets out the objectives and methodology of the study, before examining working conditions, economic vulnerability, and social and occupational issues in turn. It then reviews institutional and government support measures, discusses key findings, and concludes with policy recommendations.

REVIEW OF LITERATURE

A substantial body of research has documented the precarious position of women in India's informal and craft-based industries, and handloom weaving has received particular scholarly attention because of its scale and its historically feminised allied-work component. Reshmi (2022), in a qualitative study of women weavers in Sualkuchi, Assam, found that economic necessity, poverty,

limited education, and large family size were the principal reasons that drew women into handloom work, and that low wages, unhealthy working environments, and unpaid household responsibilities combined to entrench their vulnerability. The study also noted that women were largely excluded from decision-making roles within household weaving units, occupying subordinate positions relative to male family members despite performing a substantial share of productive labour. Extending this line of enquiry, Das and Roth (2025) examined the same weaving cluster and documented how migrant women weavers financed their daily lives through overlapping and often high-interest forms of debt, incurred both to sustain production and to meet household consumption needs, illustrating how indebtedness has become embedded in the everyday reproduction of the handloom workforce.

Occupational health has emerged as a second major theme in the literature. Siddiqui, Banerjee, Chokhandre, and Unisa (2021), in a cross-sectional household survey of 364 weavers in Varanasi, reported significantly elevated odds of musculoskeletal disorders among weavers relative to non-weavers, with odds ratios of 4.52 for shoulder pain, 6.9 for lower-back pain, and 5.63 for upper-back pain. Comparable findings have emerged from other weaving regions: Meher, Venkatachalapathy, and Panda (2025) found that approximately 80 per cent of handloom weavers surveyed in Odisha reported work-related musculoskeletal symptoms, while Tanty and Pramanik (2025), studying the Bhulia weaving community of western Odisha, recorded musculoskeletal disorders among 18.34 per cent of women weavers and 25.84 per cent of men, attributing the burden to prolonged static postures, repetitive hand and foot movements, and inadequate rest breaks. A descriptive study of 330 weavers in Kanchipuram district, Tamil Nadu, similarly found a mean daily working duration of 8.65 hours and a substantial ergonomic burden, alongside indications of poor access to healthcare and low awareness of occupational safety measures (Seenivasan, Doss Prasanna, & Tamilarasi, 2025). Comparative evidence from Lampang Province, Thailand, where 82.7 per cent of women handloom weavers reported musculoskeletal symptoms in the preceding twelve months (Sombatsawat, Saeng-iam, & Kaewdok, 2025), suggests that the occupational health burden associated with handloom weaving is not unique to India but is a structural feature of manual loom-based work performed under poor ergonomic conditions.

A third strand of literature addresses income and market structure. Using the Fourth Handloom Census data,

government sources report that 67.1 per cent of weaver households earned less than Rs. 5,000 per month and a further 26.2 per cent earned between Rs. 5,001 and Rs. 10,000, meaning that fewer than seven per cent of households crossed the Rs. 10,000 monthly threshold (PIB, 2020). Independent fieldwork has produced converging estimates: a study by the Institute for Human Development and the Crafts Council of India, covering more than 4,600 craft and handloom establishments across five states, found average value added of approximately Rs. 7,000 per worker per month, below the prescribed skilled-worker minimum wage in every state surveyed (as cited in Menon, 2026; Governance Now, 2020). Studies of home-based embroidery and needlework, closely allied to handloom production and performed almost entirely by women, have documented even lower realised earnings, with average monthly incomes of approximately Rs. 2,860 against a statutory minimum wage of Rs. 6,998 and an estimated living wage of Rs. 8,007 (as cited in Menon, 2026). Field-level studies from Tamil Nadu report similarly depressed daily wages, with weavers earning an average of Rs. 289.76 per day for approximately eleven hours of work (Ramamoorthy, 2021). Interventions that alter the technology or marketing channel available to weavers appear capable of raising incomes: the adoption of electronic jacquard looms has been associated with an increase in average monthly income from approximately Rs. 9,600 to Rs. 15,000, and direct-to-consumer e-commerce channels have been linked to income increases of the order of 20 to 30 per cent for weavers in the Banarasi and Co-optex clusters (Drishti IAS, 2026; Venkatesh & Angmo, 2026).

Finally, a body of work situates women's handloom labour within the broader literature on unpaid care work and gendered time allocation in India. Singh and Pattanaik (2020) show that the intensity of unpaid domestic work among Indian women is shaped by education and household wealth, and that women's paid work is frequently structured around, and constrained by, unpaid domestic obligations. Complementary evidence from time-use surveys indicates that women with heavier domestic and care burdens are more likely to opt for self-employment and home-based production, of which handloom weaving is a prominent example, rather than casual or salaried wage work (Chakraborty & Mukherjee, 2023). This literature helps explain why female weavers are more likely than male weavers to work part-time and independently, as documented in the handloom census itself (DC Handlooms, 2019), and situates the economic vulnerability of women

weavers within a wider pattern of gendered labour market segmentation in India.

RESEARCH GAP

Despite the size of the female handloom workforce, the literature reviewed above reveals three persistent gaps. First, government census and survey instruments, while extensive in scope, have not consistently disaggregated income, working-hours, and occupational-health data by sex at the national level; the Ministry of Textiles itself has acknowledged that no dedicated study of women weavers' incomes and working conditions has been undertaken (as reported in Menon, 2026). This absence limits the precision with which policy can be targeted at the specific constraints faced by women in the sector. Second, existing empirical studies are overwhelmingly localised, cluster-specific investigations, whether of Sualkuchi in Assam, Varanasi in Uttar Pradesh, Kanchipuram in Tamil Nadu, or the Bhulia community of western Odisha, so that findings on wages, health, and household bargaining power cannot readily be generalised to the national female handloom workforce, whose regional, caste, and product-market contexts vary considerably. Third, the literature tends to examine economic, occupational-health, and gender dimensions of women's handloom work as separate research streams rather than as interacting sources of vulnerability; few studies integrate the effects of informal employment status, unpaid domestic responsibilities, occupational morbidity, and dependence on intermediaries into a single analytical account of how these factors compound one another for women weavers specifically. This paper addresses this gap by drawing together census data, scheme documentation, and disaggregated findings from the occupational health and gender-economics literatures to construct an integrated account of female handloom workers' working conditions and economic vulnerability in India.

OBJECTIVES OF THE STUDY

The specific objectives of this study are:

- To examine the demographic and employment profile of female handloom workers in India using the Fourth All India Handloom Census and related official data.
- To assess the working conditions of female handloom workers, including working hours, employment status, and occupational health outcomes, as documented in the empirical literature.
- To evaluate the income levels and economic vulnerability of female handloom workers relative to statutory minimum and living wage benchmarks.

- To analyse the social, gender, and household dimensions that shape women's participation in handloom work, including the role of unpaid domestic labour.
- To review government schemes and institutional support mechanisms available to handloom workers and to assess their adequacy for addressing the specific vulnerabilities of women in the sector.
- To offer evidence-based recommendations for improving the working conditions and economic security of female handloom workers.

RESEARCH METHODOLOGY

This study adopts a descriptive-analytical design based entirely on secondary data and does not involve primary fieldwork or direct data collection from handloom workers. The evidence base comprises three categories of sources. The first category consists of official government data, principally the Fourth All India Handloom Census (2019–2020) conducted by the Office of the Development Commissioner (Handlooms), Ministry of Textiles, along with press releases of the Press Information Bureau and scheme guidelines published by the Ministry of Textiles and the Ministry of Labour and Employment. The second category comprises peer-reviewed empirical studies published in occupational health, labour economics, and gender studies journals between 2019 and 2026, identified through targeted searches of academic databases and journal repositories using combinations of the terms "women," "female," "handloom," "weavers," "working conditions," "wages," "musculoskeletal," and "India." The third category consists of institutional reports, including the joint study by the Institute for Human Development and the Crafts Council of India on the economics of Indian craft, and reputable news reporting on government data and field surveys where primary reports were referenced.

Data were synthesised through a narrative review approach, in which quantitative findings from the census and from individual empirical studies were compared, contextualised, and integrated under thematic headings corresponding to working conditions, economic vulnerability, and social and occupational issues. Because the underlying studies vary in sample size, geographic scope, and methodology, ranging from nationally representative census enumeration to small-sample cluster surveys, the findings reported from individual studies should be read as indicative of conditions in the specific localities and worker groups studied rather than as nationally representative estimates, except where explicitly drawn from the national census. This distinction is maintained

throughout the paper: figures attributed to the Fourth All India Handloom Census or to Ministry of Textiles sources reflect national administrative data, whereas figures attributed to named authors and specific districts or clusters reflect the primary findings of those individual studies. No new statistical data were generated, and no numerical estimates have been extrapolated or interpolated beyond what is explicitly reported in the cited sources. This paper is therefore best understood as a structured synthesis intended to consolidate a fragmented literature and to identify patterns and gaps for future primary research and policy design.

Working Conditions of Female Handloom Workers

The Fourth All India Handloom Census provides the most comprehensive national picture of the demographic and employment profile of women in the sector. As Table 1 shows, women constitute nearly three-quarters of the handloom workforce, yet they are considerably more likely than men to work part-time. Only 39.4 per cent of female weavers reported full-time engagement, compared with 75.6 per cent of male weavers, while 60.6 per cent of women weavers worked part-time (DC Handlooms, 2019). The census also recorded that a higher proportion of female weavers worked independently, that is, without being directly supervised within an organised production unit, than male weavers, a pattern consistent with the home-based, family-organised character of much handloom production.

Table 1. Profile of Female Handloom Workers in India

Indicator	Value
Total handloom workers (India)	35,22,512
Women handloom workers	25,46,285 (72.29%)
Households engaged in handloom activity	31.45 lakh (up from 27.83 lakh in 2010)
Weaver households	approx. 25.45 lakh
Weaver households in rural areas	88.7%
Female weavers (number)	19.1 lakh
Female allied workers (number)	6.3 lakh
Female weavers working full-time	39.4% (vs. 75.6% of male weavers)
Female weavers working part-time	60.6% (vs. 24.4% of male weavers)
Female allied workers with no formal education	27.1% (vs. 20.5% of male allied workers)
Female allied workers who are graduates	2.4% (vs. 4.7% of male allied workers)

Note. Data compiled from the Fourth All India Handloom Census, 2019–2020 (Office of the Development Commissioner for Handlooms, Ministry of Textiles) and Press Information Bureau releases (PIB, 2022).

Educational attainment among women in the sector remains markedly lower than among men. The census

recorded that 27.1 per cent of female allied workers, those engaged in pre-loom and post-loom activities such as warping, sizing, and finishing, had received no formal education at all, compared with 20.5 per cent of male allied workers, while only 2.4 per cent of female allied workers were graduates, against 4.7 per cent of their male counterparts (DC Handlooms, 2019). Low educational attainment constrains women's bargaining power in the market, limits their capacity to access formal credit and government schemes that require documentation, and reduces their prospects of moving into higher-value design, marketing, or supervisory roles within the sector.

Working hours in the sector are also demanding. A descriptive study of 330 handloom weavers in Kanchipuram district, Tamil Nadu, recorded a mean working duration of 8.65 hours per day, with a mean overall ergonomic index of 29.29 per cent, indicating substantial exposure to poor postural and workstation conditions (Seenivasan, Doss Prasanna, & Tamilarasi, 2025). A separate field-based study of weaving households in Tamil Nadu recorded even longer working days, with respondents working approximately eleven hours per day for around twenty-six days per month (Ramamoorthy, 2021). Because handloom work is overwhelmingly home-based, these working hours are typically undertaken in addition to, rather than instead of, women's household and caregiving responsibilities, producing a compounded daily workload that is not captured by measures of weaving hours alone.

The physical demands of handloom weaving, involving repetitive limb movements, sustained sitting or squatting postures, and continuous use of foot pedals and hand shuttles, have been consistently linked to musculoskeletal disorders in the occupational health literature, discussed further in Section 8. Workplace conditions are compounded by the fact that most handloom units are located within domestic dwellings rather than purpose-built workspaces, so that ventilation, lighting, and ergonomic design are governed by housing conditions rather than occupational safety standards. Government-supported workshed construction schemes have sought to address this gap: an intervention providing subsidised worksheds was associated with an increase in average daily production of 53 per cent, an increase in working hours of 60 per cent, and an increase in daily earnings of 42 per cent, from approximately Rs. 328 to Rs. 465 (Drishti IAS, 2026), suggesting that basic workspace improvements can generate measurable productivity and income gains, even though such

interventions do not by themselves resolve the underlying informality of employment relations in the sector.

Economic Vulnerability and Livelihood Challenges

Income data from the Fourth All India Handloom Census confirm that economic vulnerability is pervasive across the sector, and disproportionately affects women given their numerical dominance within it. As Table 2 shows, 67.1 per cent of weaver households earned less than Rs. 5,000 per month, and a further 26.2 per cent earned between Rs. 5,001 and Rs. 10,000, meaning that more than 93 per cent of weaver households nationally earned below Rs. 10,000 per month (PIB, 2020). While this figure represents an improvement over the Third Handloom Census of 2009–10, when 99 per cent of weaver households earned less than Rs. 5,000 per month and average household earnings stood at approximately Rs. 3,042 per month (PIB, 2020), the pace of improvement has been slow, and the majority of households remain well below prevailing minimum-wage benchmarks in most states.

Table 2. Distribution of Handloom Households by Monthly Income

Monthly Income Category	Number of Households	Share of Households
Less than Rs. 5,000	21,09,525	67.1%
Rs. 5,001 – 10,000	8,24,021	26.2%
Rs. 10,001 – 15,000	1,40,509	4.5%
Above Rs. 15,000 (residual)	approx. 70,457	approx. 2.2%

Note. Compiled from Fourth All India Handloom Census data as reported by the Press Information Bureau (PIB, 2020). The residual category (above Rs. 15,000) is derived by subtracting the three reported categories from the total number of handloom worker households and should be treated as an approximate figure.

Independent fieldwork corroborates the census finding of pervasive under-earning. A joint study by the Institute for Human Development and the Crafts Council of India, based on fieldwork conducted between December 2023 and February 2025 across more than 4,600 handicraft and handloom establishments in five states, found average value added of approximately Rs. 270 per day, or roughly Rs. 7,000 per month, per worker, a figure the study explicitly identified as below the prescribed skilled-worker minimum wage in every one of the five states surveyed (as cited in Menon, 2026). Women engaged in closely allied home-based needlework and embroidery, much of which is undertaken by the same rural and peri-urban households that supply handloom labour, report even lower realised

earnings: one study found embroidery homeworkers earning an average of Rs. 2,860 per month against a statutory minimum wage of Rs. 6,998 and an estimated living wage of Rs. 8,007, so that the typical homeworker earned under half of a living wage, while capturing only 54 to 58 per cent of the labour cost embedded in the final embroidered product (as cited in Menon, 2026). A separate assessment of home-based chikankari embroidery work in Lucknow recorded average earnings of approximately Rs. 4,000 per month for roughly twenty-five working days at seven to twelve hours per day (as cited in Menon, 2026).

Economic vulnerability in the sector is compounded by structural dependence on intermediaries for market access. According to the Fourth Handloom Census, 64.1 per cent of handloom producers sold their output in the open market, 17.6 per cent sold to master-weaver households, in which more than half of the workers engaged are hired labour rather than family members, and only 8.8 per cent sold through cooperative societies, with e-commerce, exports, and organised fairs remaining marginal channels for most direct producers (DC Handlooms, 2019). This channel structure leaves individual weavers, and women weavers in particular given their concentration in home-based and independent work, exposed to price-setting by traders and master weavers who control access to yarn, designs, and buyers. Where alternative market channels have been introduced, the income effects have been substantial: adoption of direct-to-consumer e-commerce has been associated with income increases of approximately 20 to 30 per cent among Banarasi weavers, whose average monthly income rose from approximately Rs. 6,000 to Rs. 10,000, and among Co-optex-affiliated weavers in Tamil Nadu, whose average monthly income rose from approximately Rs. 7,000 to Rs. 12,000 (Venkatesh & Angmo, 2026). Similarly, adoption of electronic jacquard looms has been linked to a rise in average monthly income from approximately Rs. 9,600 to Rs. 15,000, alongside a 56 per cent increase in daily wages, from Rs. 360 to Rs. 560 (Drishti IAS, 2026). These findings indicate that low incomes in the sector are not solely a function of weak product demand but also reflect the structure of market intermediation and limited technology adoption, both of which are amenable to policy intervention.

Financial vulnerability is further exacerbated by weavers' reliance on informal credit. Studies of migrant women weavers in Assam's Sualkuchi cluster have documented how debt, incurred both from employers and through mutual-aid networks among migrant workers, has become embedded in the everyday financing of household

consumption, working-capital needs, and prior debt repayment, producing a cycle in which migration itself functions as a strategy to escape high-interest borrowing in home villages even as it exposes women to new forms of employer-linked indebtedness (Das & Roth, 2025). Limited access to formal financial products compounds this problem: government credit schemes linked to bank account-based disbursal, such as loans under the Pradhan Mantri Mudra Yojana, have had limited reach among handloom households precisely because such households frequently lack the collateral, documentation, or continuous formal income history that formal lenders require (Economic and Political Weekly [EPW] Engage, 2019).

Social, Gender and Occupational Issues

Women's participation in handloom weaving is structured by gender norms that assign them primary responsibility for unpaid domestic and care work, regardless of their contribution to household income through weaving. National time-use evidence indicates that Indian women spend, on average, around 297 minutes per day on unpaid domestic work compared with approximately 31 minutes for men, a gap far larger than the global average (Singh & Pattanaik, 2020). This asymmetry has direct implications for handloom work: because weaving is typically carried out at home, it is fitted around, rather than substituted for, domestic responsibilities, which helps explain why female weavers are more likely than male weavers to work part-time and to describe themselves as working independently rather than as part of an organised production unit (DC Handlooms, 2019). Research on occupational choice more broadly confirms that Indian women carrying a heavier burden of domestic and care work are more likely to opt for self-employment and home-based production than for casual or salaried wage work, a pattern consistent with women's concentration in home-based handloom activity (Chakraborty & Mukherjee, 2023).

Within the household and the weaving unit, women's labour frequently goes unrecognised as a distinct economic contribution. Qualitative research on the Sualkuchi cluster in Assam found that although handloom production is largely household-based and dependent on the labour of the entire family, women were rarely accorded decision-making authority over production, pricing, or the disposal of income, and instead occupied a position at the bottom of an implicit household hierarchy despite performing a substantial share of productive work (Reshmi, 2022). This pattern echoes a broader critique of the census's own framing: while the Fourth Handloom Census presents the high proportion of

women in the sector as evidence of women's empowerment through direct remuneration and improved self-worth, commentators have argued that this framing understates the extent to which women's work in family-based units may not translate into independent control over earnings or into formal recognition as workers in their own right (EPW Engage, 2019).

Occupational health constitutes a further dimension of gendered vulnerability. Table 3 summarises findings from recent cross-sectional studies of musculoskeletal disorders among handloom weavers in India and, for comparative purposes, in Thailand. Across these studies, prolonged static postures, repetitive limb and foot movements associated with pedal-operated looms, and the absence of ergonomic workstation design emerge as consistent risk factors, with prevalence estimates for musculoskeletal symptoms ranging from under one-fifth to more than four-fifths of surveyed weavers, depending on the population, measurement instrument, and body regions assessed. Where studies disaggregate results by sex, findings are somewhat mixed: the Bhulia community study in western Odisha found a higher reported prevalence of musculoskeletal disorders among men than women (Tanty & Pramanik, 2025), while comparative research among women weavers specifically in Thailand recorded very high prevalence rates concentrated in the shoulder, knee, and upper arm (Sombatsawat, Saeng-iam, & Kaewdok, 2025), suggesting that sex-specific risk may vary with loom type, task allocation, and years of exposure rather than following a uniform pattern. In addition to musculoskeletal disorders, the literature records eye strain from prolonged close work, exposure to cotton dust with associated respiratory symptoms, and limited access to healthcare among weaving households given their low and irregular incomes (Tanty & Pramanik, 2025; Seenivasan, Doss Prasanna, & Tamilarasi, 2025).

Table 3. Occupational Health Findings Among Handloom Weavers: Selected Studies

Study Location and Sample	Source	Key Findings
Varanasi, Uttar Pradesh (mixed-gender weavers)	Siddiqui, Banerjee, Chokhandre, & Unisa (2021)	Elevated odds of musculoskeletal disorders among weavers versus non-weavers: shoulder (OR 4.52), lower back (OR 6.9), upper back (OR 5.63)

Odisha (handloom weavers, mixed-gender)	Meher, Venkatachalapathy, & Panda (2025)	Approximately 80% reported work-related musculoskeletal symptoms; age, marital status, and non-occupational activity levels were significant correlates
Western Odisha, Bhulia community (120 men, 120 women)	Tanty & Pramanik (2025)	Musculoskeletal disorders reported by 18.34% of women and 25.84% of men weavers; back pain, eye strain, joint pain, and respiratory symptoms also recorded
Kanchipuram, Tamil Nadu (330 weavers)	Seenivasan, Doss Prasanna, & Tamilarasi (2025)	Mean working duration of 8.65 hours/day; mean ergonomic index of 29.29%, indicating substantial ergonomic risk
Lampang Province, Thailand (women weavers, comparative)	Sombatsawat, Saeng-iam, & Kaewdok (2025)	82.7% reported musculoskeletal symptoms in the past 12 months; shoulder (68.0%), knee (63.3%), and upper arm (54.7%) most affected

Note. Compiled from peer-reviewed cross-sectional studies as cited. The Thailand study is included for regional comparison and does not represent Indian data.

Debt and migration represent a further gendered dimension of vulnerability. In weaving clusters characterised by long-term female migration for work, such as Sualkuchi in Assam, women weavers rely on overlapping forms of debt, taken both from employers and through mutual-aid arrangements within migrant networks, to finance daily consumption, repay prior obligations, and make small productive investments (Das & Roth, 2025). While migration itself can function as a strategy for escaping high-interest debt in home villages, it simultaneously exposes women to new, often employer-linked, forms of indebtedness, illustrating how mobility and financial vulnerability are closely intertwined for women in the sector rather than operating as independent risks.

Government Schemes and Institutional Support

The Government of India has instituted a range of schemes aimed at supporting the handloom sector, several of which have direct relevance for the economic security of women workers. The National Handloom Development

Programme (NHDP) forms the umbrella framework for cluster development, workshed construction, and design and technology upgradation, while the Handloom Weavers' Comprehensive Welfare Scheme (HWCWS) converges multiple insurance instruments, namely the Pradhan Mantri Jeevan Jyoti Bima Yojana, the Pradhan Mantri Suraksha Bima Yojana, and the Mahatma Gandhi Bunkar Bima Yojana, to provide life, accident, and disability cover to weavers and allied workers between 18 and 59 years of age (PIB, 2019; IndiaFilings, 2024). A dedicated Health Insurance Scheme operated on a pattern modelled on the Rashtriya Swasthya Bima Yojana until 2014, after which health coverage was absorbed into the converged welfare architecture (PIB, 2019). More recently, the Ministry of Textiles has introduced direct income support of Rs. 8,000 per month for award-winning handloom weavers above 60 years of age in indigent circumstances, together with education scholarships of up to Rs. 2 lakh per year for their children (PIB, 2026).

Table 4. Selected Government Schemes Supporting Handloom Weavers

Scheme	Type of Support	Key Provisions
National Handloom Development Programme (NHDP)	Development / Production support	Provides end-to-end support for cluster development, workshed construction, design and technology upgradation, and procurement of looms and accessories.
Handloom Weavers' Comprehensive Welfare Scheme (HWCWS)	Insurance / Social security	Converges Pradhan Mantri Jeevan Jyoti Bima Yojana, Pradhan Mantri Suraksha Bima Yojana, and the Mahatma Gandhi Bunkar Bima Yojana to provide life, accidental, and disability insurance cover to handloom weavers and workers.
Yarn Supply Scheme (YSS)	Raw material support	Facilitates supply of yarn to handloom weavers at subsidised rates to reduce input costs.
Comprehensive Handloom Cluster Development Scheme (CHCDS)	Cluster development	Supports development of large, identified handloom clusters through infrastructure, design, and marketing interventions.
Financial support for elderly and awardee weavers	Direct income support	Provides Rs. 8,000 per month to award-winning handloom weavers/workers above 60 years of age in

		indigent circumstances with annual income below Rs. 1 lakh, along with scholarships of up to Rs. 2 lakh per year for their children's education.
e-Shram Portal	Identity and social security registration	National database of unorganised workers, including weavers and artisans, providing a portable Universal Account Number linked to Aadhaar; over 53% of registered workers nationally are women.

Note. Compiled from Ministry of Textiles press releases and scheme documentation (PIB, 2019, 2026; IndiaFilings, 2024) and the e-Shram Portal (Press Information Bureau, 2024; SMC Insurance, 2026).

A significant institutional development for informal workers generally, including handloom weavers and allied artisans, has been the e-Shram portal, launched by the Ministry of Labour and Employment in 2021 to create a national, Aadhaar-linked database of unorganised workers and to enable more targeted delivery of social security benefits (PIB, 2024). As of mid-2026, the portal had recorded more than 31.8 crore registrations nationally, with women accounting for over 53 per cent of registered workers, making it one of the largest gender-inclusive databases of informal workers in the world (SMC Insurance, 2026; Organiser, 2026). For female handloom workers, many of whom lack formal employment records, registration on the portal offers a pathway to establishing an identifiable work history that can be linked to welfare entitlements, disaster relief, and skill development programmes. However, the portal's utility depends on continued Aadhaar and bank-account linkage, mobile-phone access, and awareness among workers, conditions that are not uniformly met among the poorest and least literate segments of the female weaving workforce, particularly in remote or tribal weaving clusters.

Notwithstanding this institutional architecture, independent assessments have raised concerns about the adequacy and reach of existing schemes. A critical review of the Fourth Handloom Census observed that a large pool of weavers remains unable to access credit instruments such as Mudra loans because these are structured as direct transfers to bank accounts, a design that assumes a level of financial inclusion not yet achieved among many handloom households, and that the census itself does not report year-on-year data on the number of weavers who have actually

benefited from such credit lines (EPW Engage, 2019). More fundamentally, government sources have acknowledged that no dedicated national study of women weavers' incomes and working conditions has been conducted, despite women constituting the substantial majority of the workforce (as reported in Menon, 2026), indicating that scheme design continues to proceed without the gender-disaggregated evidence base that would allow interventions to be calibrated to women's specific constraints, such as time poverty arising from domestic responsibilities, lower literacy, and more limited independent access to bank accounts and mobile phones relative to men in weaving households.

FINDINGS AND DISCUSSION

The evidence synthesised in this paper points to a coherent pattern of layered vulnerability among female handloom workers in India, arising from the interaction of four factors: informal employment status, gendered division of household labour, market dependence on intermediaries, and occupational health risk. First, despite constituting nearly three-quarters of the handloom workforce, women are concentrated in part-time, independent, and home-based work arrangements that fall outside conventional labour-law protections, a pattern documented consistently in national census data and corroborated by cluster-level qualitative research (DC Handlooms, 2019; Reshmi, 2022). This structural informality means that wage floors, working-hour limits, and social security entitlements that apply to organised-sector workers have limited practical purchase on the conditions actually experienced by most women weavers.

Second, income data converge across sources, from national census statistics to independent multi-state fieldwork, on the finding that a large majority of handloom-dependent households earn below prevailing minimum-wage benchmarks, with home-based needlework and embroidery workers, who are almost entirely women, appearing to fare worse than weavers engaged directly with looms (PIB, 2020; as cited in Menon, 2026). Because census income data are collected at the household rather than the individual level, it is likely that the actual earnings attributable to women's specific labour contribution are lower still than reported household averages, given that women's work is frequently embedded within, and subordinated to, a male-headed household production unit, as the qualitative evidence from Assam suggests (Reshmi, 2022). This measurement gap is itself a policy-relevant finding: without individual, sex-disaggregated income data, it is difficult to assess whether existing income-support and

credit schemes are reaching women workers directly or are being captured at the household level by male decision-makers.

Third, occupational health evidence indicates that handloom weaving imposes a substantial physical burden through musculoskeletal disorders linked to repetitive movement and poor ergonomic design, a risk that appears across multiple regions and, to varying degrees, across sexes (Siddiqui et al., 2021; Meher et al., 2025; Tanty & Pramanik, 2025; Sombatsawat et al., 2025). For women, this health burden interacts with limited access to healthcare, itself a function of low household income and, in many cases, limited independent decision-making authority over healthcare expenditure, compounding the economic costs of ill health with reduced capacity to earn from continued weaving work.

Fourth, the market structure of the sector, in which the majority of output moves through open-market sales or master-weaver intermediaries rather than cooperative or direct-to-consumer channels, appears to be a significant determinant of the low prices realised by individual producers (DC Handlooms, 2019). The observation that technology adoption, such as electronic jacquard looms, and market-channel innovation, such as e-commerce platforms, are each associated with income increases in the range of 20 to 56 per cent (Drishti IAS, 2026; Venkatesh & Angmo, 2026) suggests that a meaningful share of the sector's low-income equilibrium is amenable to intervention through technology access, digital literacy support, and market-linkage programmes, rather than being an unavoidable feature of handloom production itself. Given women's concentration in home-based, independently marketed production, however, the benefits of such interventions will accrue to women only if access to looms, digital platforms, and training is deliberately extended to them rather than defaulting to male household members, who typically have greater mobility and interaction with external markets.

Taken together, these findings suggest that the numerical dominance of women in the handloom workforce, often celebrated in official discourse as evidence of the sector's contribution to women's empowerment, coexists with, and in some respects is a product of, a pattern of labour-market segmentation in which women are drawn into low-paid, home-based, and unprotected forms of production precisely because these forms of work can be combined with unpaid domestic responsibilities that remain socially assigned to them (Singh & Pattanaik, 2020; Chakraborty & Mukherjee, 2023). This reframes the relationship between women's

participation and empowerment: participation alone, without corresponding gains in wages, decision-making authority, health protection, and independent market access, does not necessarily constitute economic empowerment, a distinction that the existing critique of the Fourth Handloom Census has also raised (EPW Engage, 2019).

CONCLUSION

Female handloom workers occupy a paradoxical position in the Indian textile economy: they constitute the overwhelming majority of a workforce sustaining one of the country's oldest livelihoods, yet they remain concentrated in its least secure, lowest-paid, and least visible segments. The evidence reviewed in this paper indicates that most weaver households earn below prevailing minimum-wage and living-wage benchmarks, that women weavers disproportionately combine part-time, home-based weaving with unpaid domestic and care responsibilities, that occupational musculoskeletal disorders are widespread across weaving communities, and that dependence on intermediaries for market access continues to depress the returns individual producers, particularly women working independently from home, are able to realise from their labour. Government schemes addressing insurance, raw material supply, cluster development, and, more recently, unorganised-worker registration through the e-Shram portal have expanded the institutional architecture available to handloom workers, but the absence of a dedicated, gender-disaggregated study of women weavers' incomes and working conditions, acknowledged even by the Ministry of Textiles, represents a significant evidentiary gap that constrains the design of interventions specifically calibrated to women's constraints. Addressing the economic vulnerability of female handloom workers will require measures that go beyond production-side support to engage directly with the structural sources of their vulnerability: informal employment status, unequal household bargaining power, and the physical toll of the work itself.

RECOMMENDATIONS

On the basis of the evidence reviewed, the following recommendations are offered.

Strengthen gender-disaggregated data systems

Future rounds of the Handloom Census and related labour force surveys should collect and publish individual-level, sex-disaggregated data on income, working hours, and occupational health outcomes, rather than reporting income primarily at the household level, so that the specific

economic position of women workers within weaving households can be assessed directly.

Extend wage-floor protection to home-based and piece-rate work

State minimum-wage notifications applicable to the handloom and allied handicraft and embroidery sectors should be actively enforced and periodically benchmarked against living-wage estimates, with particular attention to home-based, piece-rate arrangements that are disproportionately performed by women and are most easily excluded from conventional labour inspection.

Expand cooperative and direct-market access for women weavers

Given the demonstrated income gains associated with cooperative marketing, e-commerce access, and reduced dependence on master weavers, targeted digital literacy training, subsidised access to e-commerce platforms, and outreach specifically directed at women producers, who are more likely than men to work independently from home and to have less direct interaction with external markets, should be prioritised within existing cluster development programmes.

Integrate occupational health screening into welfare schemes

The Handloom Weavers' Comprehensive Welfare Scheme and related insurance instruments should incorporate periodic musculoskeletal and ergonomic health screening, along with subsidised ergonomic loom modifications, workstation redesign, and physiotherapy access, given the consistently high prevalence of musculoskeletal disorders documented across weaving regions.

Improve financial inclusion and reduce debt dependence

Credit schemes intended for handloom workers should be redesigned with simplified documentation and collateral requirements suited to home-based women workers, alongside financial literacy programmes and expanded self-help-group-linked micro-credit, to reduce reliance on high-interest informal debt, particularly among migrant women weaving communities.

Recognise and redistribute unpaid domestic work

Complementary social policy measures, such as accessible childcare and eldercare services in handloom-producing villages, are needed to reduce the unpaid domestic burden that constrains women's working hours and bargaining position within family-based weaving units,

alongside awareness initiatives that encourage more equitable intra-household recognition of women's economic contribution.

Strengthen last-mile scheme delivery

Given uneven Aadhaar linkage, bank-account access, and digital literacy among the poorest weaving households, last-mile facilitation through Common Service Centres and community-based women's collectives should be strengthened to ensure that e-Shram registration and associated welfare benefits reach women workers in remote and tribal handloom clusters, rather than being captured disproportionately by more accessible or better-connected households.

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