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POLICY BRIEF #41

A Manufactured Gender Bias:

The State of Women in the Indian Manufacturing Sector

Recommendations from the Fourth Roundtable of the Network on Economic Policies for Women-led Development (EPWD)

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Economic Policies for Women-led Development

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Abstract

This policy brief is based on a Roundtable Conversation hosted by the Indian Council for Research on International Economic Relations (ICRIER) to foster dialogue on women's participation in the manufacturing sector workforce. Held under the ongoing Economic Policies for Women-led Development (EPWD) programme, the roundtable informed the brief's analysis of current trends and future opportunities for enhancing female employment in India's manufacturing industry. It highlights the underlying causes of the persistent gender gap in the formal sector and applies a gender perspective to assess sectoral and regional labour market differences. Drawing on stakeholder inputs from the roundtable and insights from field visits to both large and small manufacturing units, the brief offers targeted policy recommendations to increase women's participation by addressing challenges at the sector, firm, and regional levels. It provides a practical roadmap for policymakers, businesses, and civil society to advance gender diversity in the manufacturing ecosystem.

Acknowledgement

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[1] Participant List is attached in Annex 1

A Manufactured Gender Bias:
The State of Women in the Indian Manufacturing Sector

Tanu M Goyal, Cledwyn Fernandez, Shravani Prakash and Anjhana Ramesh

1. Background and Context

Women are significantly under-represented in the manufacturing sector in India. As of 2023-24**,** the share of women working in the manufacturing sector was around only 11.6 per cent – far below the female workforce in agriculture (64.4 per cent) and services (24.2 per cent).[2] Within the manufacturing sector, women constitute just about 20 per cent of the formal manufacturing workforce – a share that has remained stagnant even as female workforce participation in other sectors has gradually grown. In contrast, countries like Vietnam and Bangladesh have successfully leveraged female labour to expand and globalise their manufacturing bases. Since India's 'Viksit Bharat' vision aims for 70 percent of women to take part in economic activities, the manufacturing sector must play a major role in achieving this.[3]

The sector's performance in India as a whole has remained below par, despite manufacturing being a key driver of growth and employment generation globally. The contribution of the manufacturing sector to India's gross value added (GVA) has stagnated over the last decade – dropping slightly from 17.9 per cent in 2011-12 to 17.3 per cent in 2022-23,[4] a level far below that in other developing economics. The sector faces several structural challenges, including a large informal workforce, significant fragmentation and a predominance of contractual employment.

Women's participation can be a key driver to the growth of the manufacturing sector. According to a World Bank Report, India's manufacturing output would increase by 9 per cent if more women joined the workforce (World Bank, 2024). In this context, the low female workforce coupled with the stagnant share of manufacturing GVA has led policy makers looking to recognise the need to redesign the playbook to enable a more inclusive growth in the sector. Against this backdrop, a roundtable was convened to explore the key barriers limiting women's participation in the manufacturing labour market. The discussion also examined policy measures at the central, state and firm levels that could enhance women's involvement in the sector. The findings were substantiated by field visits and interactions with manufacturing firms to gain first hand insights into their experiences with employing women.

[2] Annual Survey of Industries, 2022-23
[3] https://www.indiabudget.gov.in/doc/budget_speech.pdf
[4] National Account Statistics, Government of India

Box 1: Key Messages from the Roundtable Event

- Lack of a safe working environment, inadequate facilities such as care infrastructure and the disparity in skilling are some of the reasons for low participation of women in the manufacturing sector.
- Large enterprises have a crucial role in overcoming these barriers and fostering inclusive work environments for women, including through the provision of shared infrastructure accessible to MSMEs.
- At the sub-national level, while it is established that gender-disparity is lower in some states which have also seen high growth in manufacturing sector – such as Tamil Nadu, Andhra Pradesh and Karnataka – other states such as Bihar and West Bengal are likely to drive growth in the coming years.
- Skill development is essential to resolve certain supply-side challenges, and the government plays a pivotal role in scaling up skilling initiatives.

2. Gender Gaps in the Indian Manufacturing Workforce

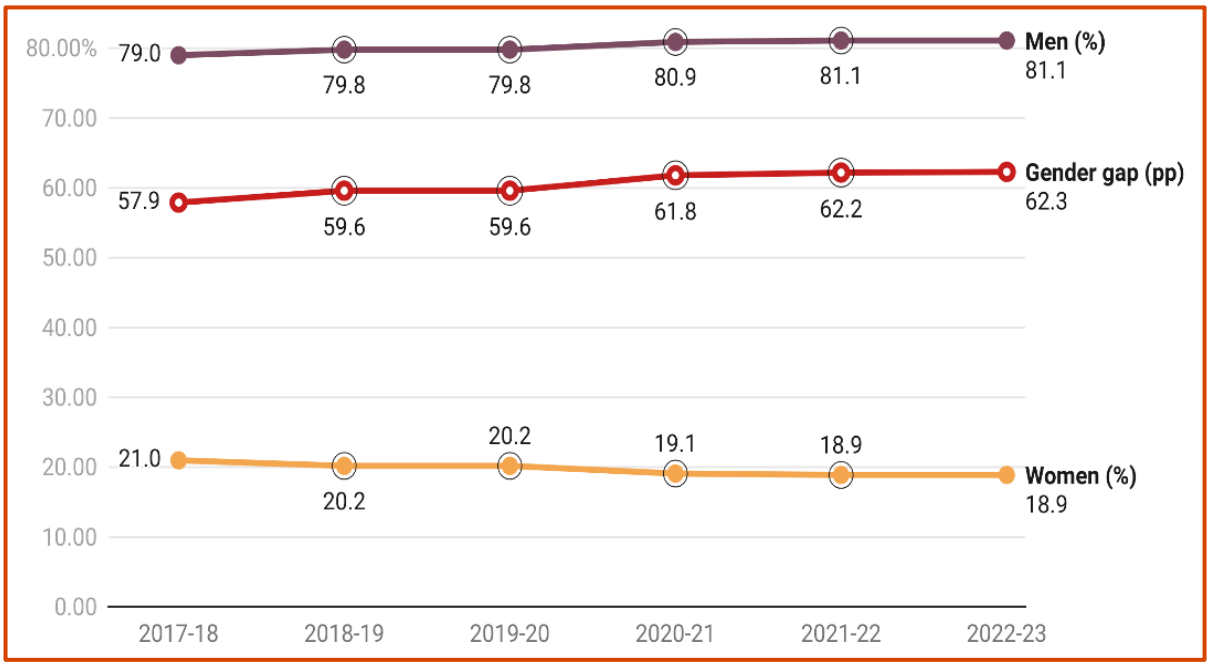
The manufacturing sector not only has a low female workforce participation but also shows deeper gender gaps within the workforce in terms of a higher concentration of women in informal jobs in a limited number sectors and in certain states of the country.

India's manufacturing sector is highly skewed towards the informal sector. Out of a total of 45.2 million workers in the manufacturing sector, only 14.6 million (32 percent) are engaged in the formal sector.[5] Within the formal sector, most of the jobs are contractual in nature, implying temporary work without any job security or social security benefits. According to data from the Annual Survey of Industries (ASI), about two in every five workers in the formal manufacturing sector is a contract worker. This contractual nature of employment leads to low wages, no social security benefits and no safety regulations.

The gender gap in the formal manufacturing sector has been increasing over the years. While only 18.5 per cent of the formal sector workers comprise of females, that proportion is close to 43 per cent in the informal sector.[6] More specifically in the formal manufacturing sector, the average gender gap across industries, has increased from 57.9 percentage points in 2017-18 to 62.2 percentage points in 2022-23, as there has been a decline in the women workforce in manufacturing post-COVID. Figure 1 represents the gender gap in the formal manufacturing workforce over time.

[5] Annual Survey of Industries, 2022-23, and Annual Survey of Unincorporated Enterprise, 2022-23
[6] Annual Survey of Industries, 2022-23, and Annual Survey of Unincorporated Enterprise, 2022-23

Figure 1: Gender Gap in Formal Manufacturing

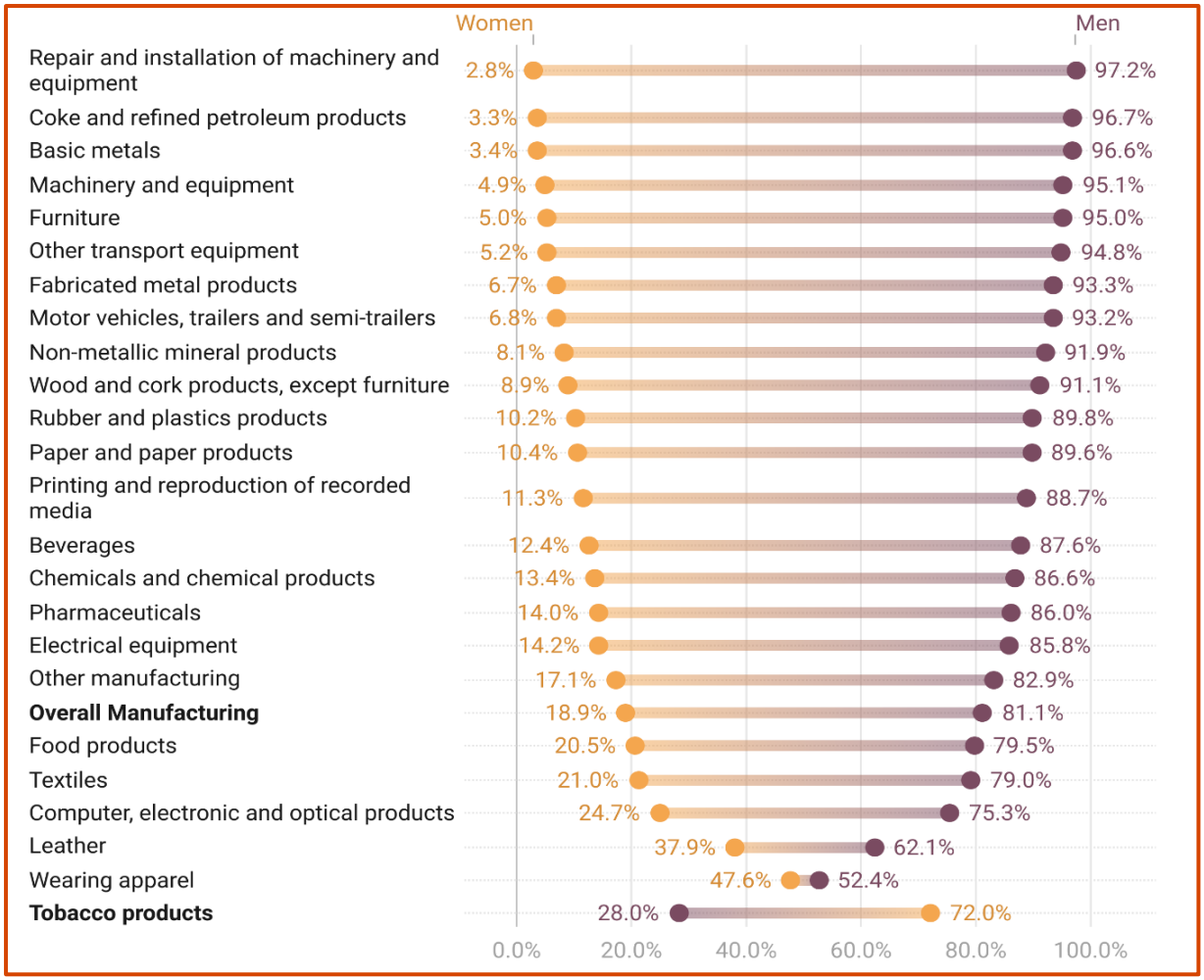


Source: Annual Survey of Industries (ASI), 2022-23

Further, the women's workforce in the formal manufacturing sector is highly concentrated at the industry level. There is relative equality or lower gender gap in sectors including food products, textiles, wearing apparel and tobacco manufacturing. In fact, tobacco manufacturing is the only industry with a negative gender gap (implying that more women than men work in this sector). While this is encouraging, it is also unfortunate as the tobacco manufacturing sector is typically hazardous, with adverse health impact, poor working conditions and the possibility of addiction. Compared to this, the industries that contribute to the highest gender gaps are **repair and installation of machinery, coke and refinery products, and basic metals**.[7] Figure 2 represents the gender gap across industries in the formal manufacturing workforce.

[7] Annual Survey of Industries, 2022-23

Figure 2: Gender Gap across Industries in Formal Manufacturing

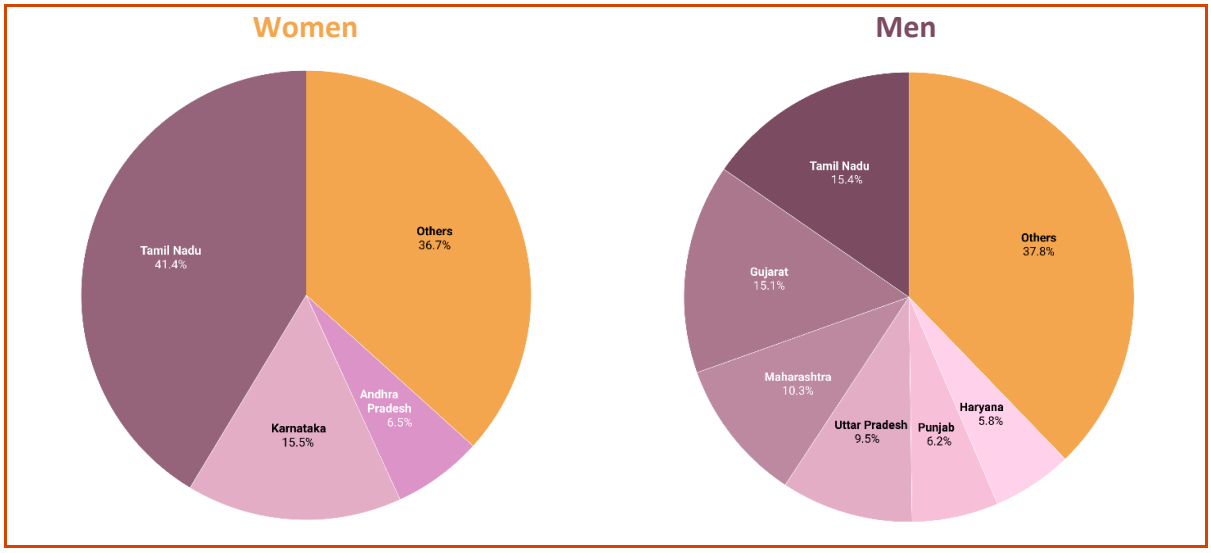


Source: Annual Survey of Industries (ASI), 2022-23

There is also a geographical concentration of women workforce in formal manufacturing. Tamil Nadu, Andhra Pradesh, and Karnataka make up close to 60 per cent of the formal manufacturing workforce in India.[8] There has been no change in this trend over the last five years. On the contrary, the geographical split for men in the formal manufacturing workforce is more diverse and spread across states (Figure 3). Uttar Pradesh, West Bengal, and Bihar have shown the highest growth rates in the share of women participation in the informal sector while the southern states (particularly Tamil Nadu, Karnataka and Andhra Pradesh) have been leaders in terms of the employment of women in the formal manufacturing sector. The gender gap in the formal sector is the lowest in Kerala, Karnataka and Tamil Nadu. The gender gap in the informal sector manufacturing is negative in Telangana, Karnataka, West Bengal and Puducherry.

[8] Annual Survey of Industries, 2022-23

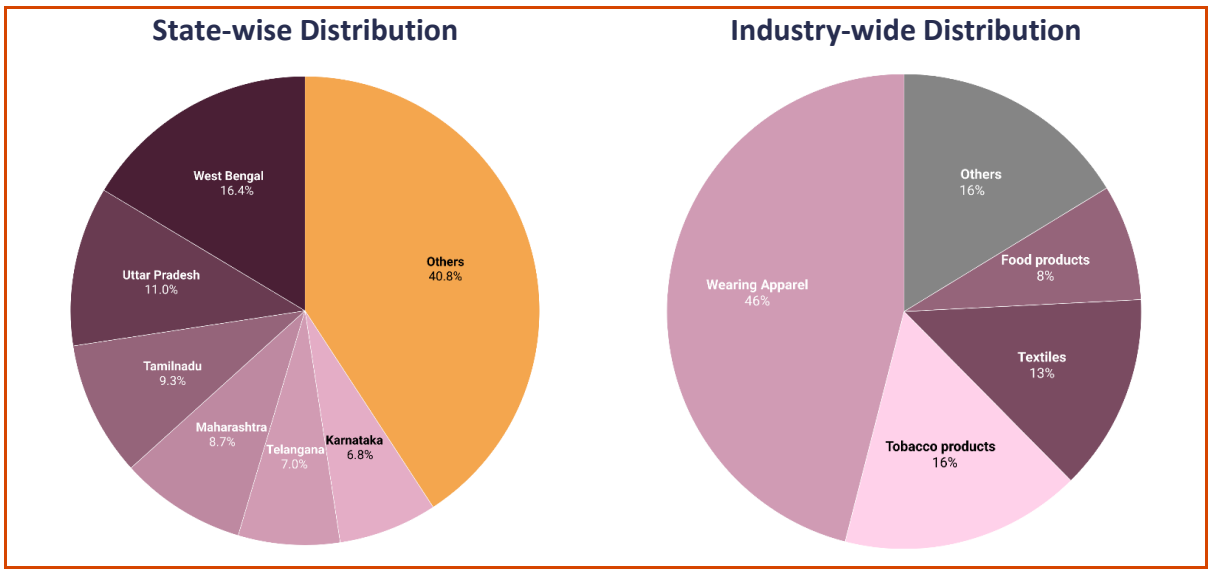
Figure 3: Distribution of Women and Men in the Manufacturing Sector Across States



Source: Annual Survey of Industries (ASI), 2022-23

The sectoral and geographical diversification is higher in the informal sector than the formal sector. Women's participation in manufacturing is more diversified both in terms of geography and industries in the informal sector (see Figure 4). The top-states contributing to the high share of women participation in the informal sector are West Bengal, Uttar Pradesh, and Tamil Nadu. Among the industries, wearing apparel and tobacco products have a high share of women participation. Two out of 18 industries have a negative gender gap, and two industries (textiles and chemical products industry) have almost equal participation.[9]. Thus, within the manufacturing sector, there is more gender disparity in the formal sector, which is often also characterised by better job quality, than the informal sector.

Figure 4: Distribution of Women Workforce across States and Industries in the Informal Sector



Source: Annual Survey of Unincorporated Enterprises (2022-23)

[9] Annual Survey of Industries, 2022-23

3. Key Challenges and Actionable Policy Recommendations

The gender gaps in manufacturing sector employment are a reflection of several demand and supply-side structural barriers that prevent women's productive participation in the sector. The challenges include the lack of safe and affordable transport to travel to factories, most of which are at remote locations. At the workplace, women are deterred by inadequate safety and enabling infrastructure such as insufficient sanitation facilities, poor lighting and missing crèches or lactation rooms.

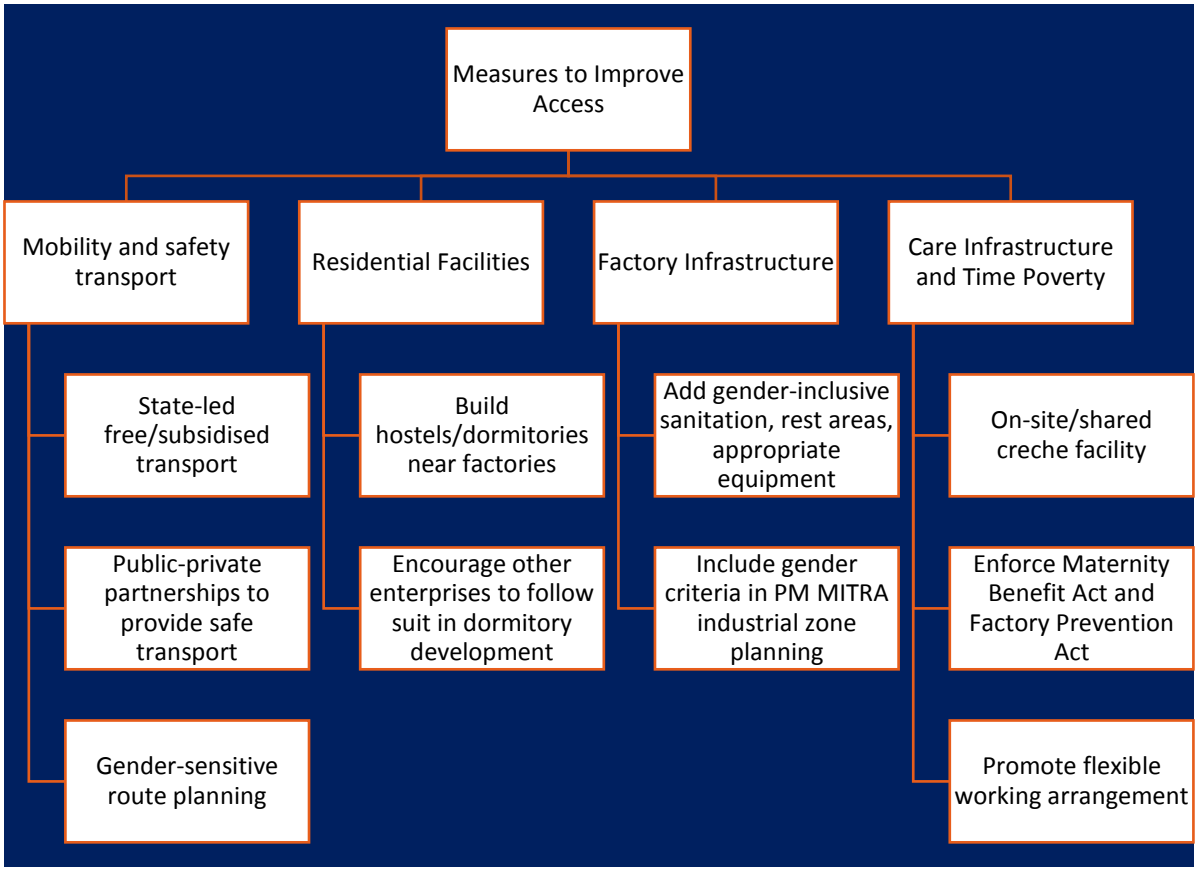
Further, occupational segregation has meant that women are mostly employed in low-skill, non-technical and non-supervisory roles. They have limited access to skilling and vocational programmes that can help them become more employable or move up the ladder. This leads to significant wage gaps for similar work – especially for informal and contract-based work. The majority of women lack access to maternity benefits, social security benefits or paid leave, especially in subcontracted or unregistered units.

The roundtable discussion generated several key recommendations to address these challenges and enable women's participation in the industrial workforce. The recommendations can be grouped into three core categories: **enhancing access, augmenting women's contribution, and alleviating the gaps** in the workforce. To **improve access and participation**, targeted supply-side interventions are needed, including skilling programmes, addressing socio-cultural barriers, and ensuring mobility and care infrastructure. To **augment women's contribution**, efforts must focus on facilitating the shift from informal to formal employment and supporting enterprises in hiring more women. To **advance women's role in the workforce and improve entrepreneurship abilities,** it is essential to promote women into leadership positions and improve their access to credit.

Additionally, there is an urgent need to improve the geographical and sectoral concentration of the female workforce given the gendered nature of the manufacturing workforce calls for urgent need to. This can be achieved by sharing best practices from states and sectors where formal female manufacturing sector employment is higher. States should learn from the best practices of other states to harmonise labour laws, policies and practices.

The interventions and best practices are elaborated in the following paragraphs.

Figure 5. Measures to Improve Access



Source: Compiled by authors from consultation and field visits

Mobility and safety remain significant challenges for women in manufacturing. According to a report by the World Bank, 84 per cent of trips taken by women for work in India was estimated to be by public, intermediate public, and non-motorised transport (World Bank, 2022). Manufacturing factories (apart from some textiles, handicrafts, wearing apparel and food processing units) are often located outside city boundaries. These remote locations are difficult to access – particularly for women – due to the lack of safe, reliable and convenient transportation. With the double burden of domestic work and employment, the long commute time is a significant challenge for women. Besides, since manufacturing facilities have a shift-based working approach, women are often unable to work in nightshifts due to safety concerns. Public-private partnerships (PPPs) can play a crucial role in addressing this challenge. Certain states like Haryana, Karnataka and Odisha have implemented schemes to address the mobility challenge by providing free or subsidised public transport for women. For instance, the 'Shakti' scheme in Karnataka, launched in June 2023, provides free bus transport services to all women in the state. This has reportedly resulted not only in a significant growth in women ridership but also in the state's workforce participation.[10]

[10] https://www.newindianexpress.com/states/karnataka/2025/Apr/01/shakti-encourages-women-labour-force-participation-in-karnataka-survey

However, there is still a need to address systemic issues such as overcrowding, safety concerns and gender-mainstreamed route planning.

Another key intervention to address the mobility barrier to workforce participation is building hostels, residential quarters or dormitories closer to the workplace, given that most manufacturing factories are at the outskirts of towns and cities. Certain states like Tamil Nadu have initiated the provision of these facilities and have received a positive response. Electronics major Foxconn, which employs more than 35,000 women, recently opened a large industrial housing facility developed in partnership with the State Industries Development Corporation of Tamil Nadu, to accommodate more than 18,000 female workers near its manufacturing facility.[11] Other large companies, especially in the electronic manufacturing sector around the country, are also in the process of developing dormitories around their factories.[12]

Improving infrastructure within the factories and manufacturing facilities is also vital for increasing the participation of women in the workforce. Given the high representation of men in the manufacturing workforce, many factories are designed without the female workforce in mind. Industries such as basic metals, fabricated metal products, furniture and heavy manufacturing often lack essential infrastructure like separate washroom facilities for women as well as appropriate equipment for heavy lifting. Working women also face a severe lack of basic sanitation facilities on the factory floor. A study conducted by the International Labour Organization found that only 21 per cent of factories in India have separate toilets for men and women.[13] There is a need to provide restrooms, sanitation facilities and other supporting infrastructure that is specifically designed to support the female workforce. At a larger scale, future industrial clusters must prioritise gender-inclusive planning. Upcoming industrial zones, particularly those under the Prime Minister Mega Integrated Textile Region and Apparel (PM MITRA) scheme, must ensure that gender inclusive supporting infrastructure is created.[14]

Women's 'time poverty', due to greater care burden and other household responsibilities, is a major barrier affecting their participation in the workforce. Cultural norms play a critical role in driving the participation of women in the workforce, and the stark cultural differences across states in India are a significant factor explaining the variation in participation of women in the workforce. For instance, Kerala and certain North-eastern states, which are characterised by matrilineal communities, exhibit a significantly more balanced gender distribution within the manufacturing sector compared to the national average. Traditionally

[11] https://www.deccanherald.com/india/tamil-nadu/tamil-nadu-inaugurates-china-like-hostel-facility-worth-rs-700-cr-for-foxconn-workforce-3154435#google_vignette

[12] https://economictimes.indiatimes.com/jobs/fresher/dorm-facilities-close-to-factories-may-see-more-women-join-workforce/articleshow/112024132.cms?from=mdr

[13] Toilet trouble: how India's female workers face inadequate sanitation at work | British Safety Council India

[14] The PM Mega Integrated Textile Region and Apparel (MITRA) scheme is inspired by the 5F vision of Hon'ble Prime Minister – farm to fibre to factory to fashion to foreign. It aspires to fulfil the vision of building an Aatmanirbhar Bharat and to position India strongly on the global textiles map. The Ministry of Textiles plans to open 7 PM-MITRA parks with a total outlay of Rs. 4,445 crore.

patriarchal societies in India have a negative effect on employment opportunities for women. At a disaggregated level, it was found that states with a higher social progress index also had a higher level of female employment.

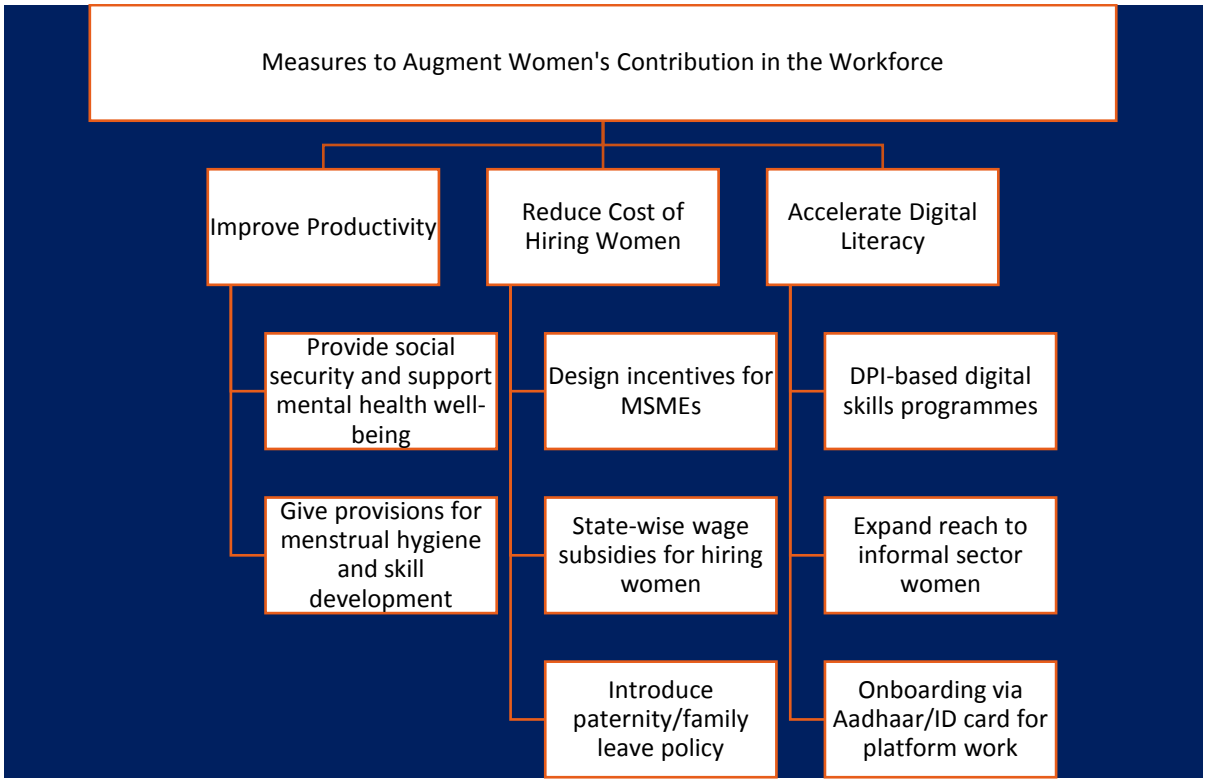
The absence of care facilities such as on-site crèches, maternity leave and flexible work arrangements also exacerbates the cultural challenges that prevent women from participating in manufacturing. Most firms are small and informal and fall outside the purview of Maternity Benefit Act (applicable to organisations with 50 individuals), which mandates 26 weeks of maternity leave, and the Factories Act, 1948 (Section 48), which require employers to provide crèche facilities, either separately or through a common facility within a prescribed distance if they employ more than 30 women.

The implementation of these provisions has also been uneven across the country, especially in the informal belts, where compliance and infrastructure gaps remain significant. Owing to high-cost commitments and space constraints, employers often default on complying with the law or depend upon shared/external crèche facilities that may not be at a convenient distance for the mothers. It, therefore, will be important to expand affordable crèche networks in industrial and informal work clusters as well as promote common/shared crèche facilities within industrial parks and Special Economic Zones, especially for micro, small and medium enterprises (MSMEs).

Some states have taken proactive measures, especially in the formal and informal sector. The State Industries Promotion Corporation of Tamil Nadu (SIPCOT) has established crèches at several of its industrial parks.[15] Karnataka was the first Indian state to implement rules for crèche facilities to be provided to female employees as per the Maternity Benefit Act, under the Karnataka Crèche Rules, which succeeded in settling confusion amongst employers.[16] Under the Kudumbashree Mission,[17] Kerala successfully piloted community-based crèches for working mothers in informal trades and self-help group enterprises. Many states also develop creche facilities in partnership with and with support from Non-Government Organizations (NGOs) and non-profit childcare providers. The Delhi government, in partnership with NGOs like Mobile Crèches, runs childcare facilities at construction sites, urban slums and industrial clusters.[18] In Telangana, Aveksha Day Care Centres, a free creche facility for industrial workers, is an initiative of the Confederation of Women Entrepreneurs of India (COWE) and SIDBI (Small Industries Development Bank of India).[19] Self-Employed Women's Association (SEWA) Sangini Co-operative Childcare centres provide affordable care for informal women workers in Ahmedabad.[20]

[15] Government of Tamil Nadu
[16] https://www.nishithdesai.com/SectionCategory/33/HR-Law-Hotline/12/65/HRLawHotline/4480/3.html
[17] https://www.kudumbashree.org/pages/465
[18] https://dlwb.delhi.gov.in/dlwb/projects#:~:text=Mobile%20creches%20will%20be%20opened,(based%20on%20ICDS%20norms).
[19] https://medicircle.in/aveksha-fourday-care-centres-for-the-kids-of-industrial-workers-inaugurated
[20] https://www.wiego.org/wp-content/uploads/2022/07/Sewa_ShortReport_en.pdf

Figure 6: Measures to Augment Women's Contribution in the Workforce



Source: Compiled by authors from consultation and field visits

Discussions held during the field survey across both large- and small-scale textile firms indicate that women are generally more productive than men and initiatives targeted towards female workers' well-being have long-term benefits.[21] In larger enterprises with sophisticated mechanism this is also being tracked. Worker well-being initiatives, especially for women, including infrastructural support, social security benefits, mental well-being initiatives, provision of menstrual hygiene products and overall skill development (including soft skills) have a long-term impact in promoting workforce retention and efficiency gains. A recent research study on MSME found that women are generally more productive than men as they tend to prioritise during regular work shifts rather than overtime (Goyal et al., 2025) In general, the overtime pay in India is more generous than internationally accepted.[22] Moreover, it was reported that men often tend to stretch their tasks to claim overtime, while women, due to their dual responsibilities (both at home and work), tend to finish their tasks during their regular work time. With technology deployment, productive efficiency can be measured on the factory floor. Such technologies can help assess and compare efficiency across gender and take a data-driven approach towards hiring, promotions and creating welfare packages.

Additionally, there is also need for proactive measures to reduce the cost of employment for enterprises by designing policies that encourage firms to hire more women. The

[21] These are based on multiple visits across multiple small and medium scale enterprises and a large-scale enterprise.
[22] Box VIII.2, Chapter 8 in the Economic Survey of India, 2023-24; accessible at https://www.indiabudget.gov.in/budget2024-25/economicsurvey/doc/eschapter/echap08.pdf

provision of care facilities; paid maternity leave or transportation for female employees adds to employers' costs and discourages their demand for female workers. For large formal enterprises, wages contribute close to 30 per cent of the total cost.[23] As the firm size grows, firms can avail government programmes such as the Employee's State Insurance (ESI) Scheme. However, it only applies to full-time staff and firms with more than 10 or more workers (in some states, it is 20 workers), and for employees whose monthly wage is less than INR 21,000. This benefit cannot be availed by most firms as the manufacturing sector in India is dominated by MSMEs with fewer employees and more contractual workers. There is a need to design programmes that can be availed by MSMEs and that encourage firms to hire more women. Some states for instance, provide a higher wage subsidy to the manufacturing sector if they hire women.[24] The need for policy mandated paternity leave or family leave, in line with the growing global trend, has become more pronounced, not only to ease women's care burden but also to remove the cost-to-employer bias against women.

There is need for a gradual shift towards formalisation of the manufacturing workforce. With over 70 per cent of the manufacturing workforce working in the informal sector, there needs to be a mechanism to have a gradual transition of the workforce from the informal to the formal sector. Formalising the workforce will be beneficial especially for women as they get covered and protected under labour laws and become beneficiaries of social security schemes and maternity benefits. Only one in 10 women working in manufacturing are in the formal sector. Mostly females work in factories with less than 10 workers, which often fall short in providing infrastructure conducive to women's participation.

Skilling, technical training, and Industrial Training Institutes (ITIs) are essential to support this transition and improve the quality of jobs for women. According to the Periodic Labour Force Survey (PLFS), about 6 per cent of women in the sector have either formal vocational training or training on the job. Hence, upskilling women is imperative to improve both, participation and productivity. Importantly, it will enable diversification into new sectors and a transition to the formal sector. The percentage of women taking up skilling and apprenticeship programmes has increased over time, especially in some non-traditional sector. Partnership with industry is helpful to create apprenticeship programmes in non-traditional sectors like automobiles and electronics manufacturing. Staffing firm TeamLease, reported a remarkable five-fold increase in demand for young women as apprentices, for those who have completed Class 10 or 12. The demand came mainly from the automobile and electronics manufacturing sectors. MSMEs often struggle with obtaining a skilled workforce. Centrally sponsored skilling programmes have a great impact, especially if they are in collaboration with industry. Collaboration between skilling institutions and industry is essential to bridge the skilling gap. While India has apprenticeship programmes in collaboration with industry; however, there is a need to expand and strengthen these initiatives.

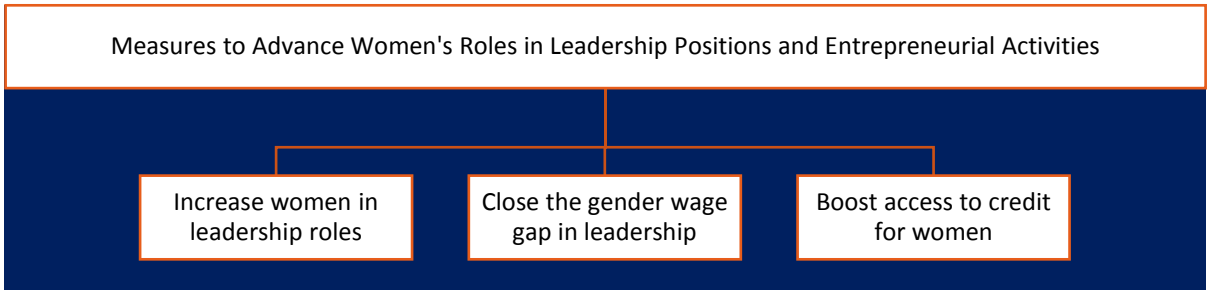
[23] Based on a discussion with a large manufacturing enterprise.

[24] In the Odisha MSME Development Policy, 2022, new and existing manufacturing units are eligible for a wage subsidy. The subsidy is a reimbursement of the employers' contributions towards ESI and EPF, with different percentages for male and female workers. Specifically, 75 per cent reimbursement is provided for male workers, while 100 per cent reimbursement is provided for female workers.

The role of civil society organisations is significant and needs to be accelerated. Many NGOs and civil society organisations, working in partnership with the Corporate Social Responsibility (CSR) initiatives of large firms, play a crucial role in bridging the employability skill gap, including in the manufacturing sector. For example, Etasha Society provides vocational training, employability skills development (including crucial soft skills) and career guidance to equip underprivileged youth for entry-level roles in various industries, including manufacturing. IKEA Foundation's Disha programme includes various skilling initiatives to economically empower women. Industree Foundation focuses on building collectives and providing skills, design and market access.[25] LabourNet is a social enterprise that aims to bridge the gap between the demand for and supply of skilled labour and offers a wide array of vocational training programmes and focus on last-mile connectivity for employment.[26]

While the long-term goal is to formalise the workforce, the short-term target should be to improve the productivity of the workers and firms within the informal sector. Currently, it has been found that the proportion of women workers declines as production becomes more technologically advanced. For example, in the national capital region (NCR) of India, only 10-25% of women are advanced machine operators, which are usually better paid roles than other roles that were traditionally taken up by women, such as sewing (RISE, 2025). However, this calls for better access to technology and upskilling of female workers. For this, there is a need for digital literacy programmes that range from skills that imparted across different intensity levels.[27] These programmes can be carried out by platforms or public sector enterprises that are operating digital public infrastructure (DPI). Technology adoption is an organic move towards formalisation since to onboard on tech-platforms and DPIs, identification or registration is the first step. Improved digital literacy can enhance women's access to financial services and empower them with greater control over their funds and how they are used. Moreover, India needs to scale up skilling programmes to ensure that they have a wider reach, particularly to cover the informal sector.

Figure 7: Measures to Advance Women's Roles in Leadership Positions and Entrepreneurial Activities



Source: Compiled by authors from consultation and field visits

Lack of women in leadership positions often results in a lack of infusion of diverse perspectives in the decision-making process. Specifically in factory floors of manufacturing

[25] https://www.industree.co.in/
[26] Labournet – Enabling Livelihood of the Informal Sector
[27] Skill intensity levels are usually defined as basic, intermediate, and advanced.

companies, it has been found that women make up just 1% of top management and 3-5% of mid-management, even though they form 80% of the workforce in operational roles. Even within the managerial roles, women are often concentrated in non-decision-making or less strategic roles, such as human resources or marketing (RISE, 2025). Research points to the fact that the presence of women in leadership positions leads to higher gender diversity in organisations due to the implementation women centric policies. Women leaders contribute distinct strengths, including strong communication, empathy and organisational capabilities, and they serve as role models, encouraging greater participation of women in the sector.

There is a vast disparity both in the representation of women in leadership positions and a wage-gap in the remuneration of female and male leaders in India. Data from the PLFS survey of 2023-24 record that while men holding senior leadership positions earn on an average about INR 40,000 as the nominal monthly wage, it is only INR 20,000 for women. This showcases the wide gender wage gap, even in senior positions. Thus, reducing gender gaps in top management positions can mitigate the gender wage gap too.

Access to credit and employment are inextricably linked, they boost women's agency and entrepreneurship. A study was conducted by NITI Aayog and Microsave Consulting that focused on how credit uptake by women has increased over the years. At a disaggregated level, it was found that the southern states like Tamil Nadu, Andhra Pradesh, and Karnataka recorded a higher level of credit uptake by women, which often comprised personal loans. These are also the states with better female workforce participation, indicating some correlation between the two (NITI Aayog, 2025). The number of women borrowers availing retail credit in India has increased at a compound annual growth rate (CAGR) of 22 per cent between 2019 and 2024. Past studies have shown that access to credit, whether micro finance or large loans, improves women's employability, decision making power, entrepreneurship and asset ownership (Kochar et al., 2023; Pandhare et al., 2023).

Box 2: A Case Study of Shahi Exports *Pioneering Women-Centric Practices in India's Manufacturing Sector*

Shahi Exports, founded in 1974 by Mrs. Sarla Ahuja, is India's largest garment manufacturers and exporter, with over 50 factories across eights Indian and 100,000+ employees – of whom over 70 per cent are women. Shahi is well integrated into global value chains and supplies to leading global brands.

Shahi has become a model for how manufacturing companies can integrate gender-inclusive employment practices while maintaining competitiveness. It has demonstrated the benefits of strategically using government schemes and policies, embedding gender as a core business strategy and making intentional investments in building an inclusive and enabling workplace. Several interventions and innovations implemented by Shahi can serve as scalable models for the industry.

Women-Friendly Recruitment and Retention Policies

- Shahi actively recruits women from rural and underserved backgrounds and invests in long-term retention.
- It not only offers full maternity leave benefits under the ESI scheme but also provides on-site childcare facilities and return-to-work programmes, due to which their maternity attrition rates are very low.
- It provides women's hostels and safe transport, which are critical for the sustained employment of a largely migrant population.

Upskilling and Career Progression

- **Professional Skill Development Programme (PSDP) –** trains women in technical and soft skills
- **Personal Advancement and Career Enhancement (P.A.C.E)** – an initiative of Gap Inc, is a holistic life-skills training programme for female garment workers, designed to empower them with communication, problem-solving and financial literacy skills. A key part of the programme, which has shown a high rate of success, is gender sensitisation not only of workers but also of family members.
- **The STITCH (Supervisors Transformation into Change Holders) programme** – is a soft-skills programme for supervisors, developed in partnership with the Good Business Lab (GBL). It encompasses training on problem-solving, gender sensitivity, improving workplace culture etc. Shahi has already trained around 1400 supervisors in STITCH. The programme has helped increase productivity, reduce retention rates and increase the wages of workers. With intentional action, several women workers have risen to supervisory and managerial positions. Shahi currently has around 18 per cent women at the leadership level, which is high compared to Indian manufacturing industry standards.

Application of tech-based solutions for measuring worker productivity and enabling data-driven efficiency comparisons across gender

- Shahi has implemented a 'INA Hanger System', a technological infrastructure that displays the work efficiency of each operator during production in real-time. The 'Hanger' technology, also known as overhead conveyor systems, measures productivity by automating the movement of work-in-progress garments between workstations.
- This enables managers to check the status quo of current production and performance reports of workers. Apart from reducing manual handling, it also generates task-level data on each worker.
- This technology not only improves worker and production efficiency but also mitigates any gender biases that may come in the way of performance management. Shahi has analysed this data to assess productivity trends broken down by gender and frequently found that women tend to be more efficient than men. Observing these patterns over time, they have proactively modified their workplace environments to recruit and retain more women employees.
- Shahi shows that investing in women is not just a good-to-have but a key business strategy, as empowered women are more productive, have a lower attrition rate, and improve quality. Policymakers can learn from Shahi's experience and incentivise industries to adopt women-friendly infrastructure and labour practices and use large employers as levers to formalise informal workers by building backward linkages.

Source: Field Visit and interaction with Shahi's Senior Management

4. The Policy-Implementation Matrix

Policies must be customised to suit India's unique context. To truly harness the potential of its entire workforce and achieve developed economy status, India must build a strong, inclusive ecosystem involving all key stakeholders. The above recommendations call for co-ordinated efforts from the central and state governments, the private sector and civil society organizations to close the gender gap in a sustainable and impactful way.

Targeted interventions are needed across key stakeholders to enhance women's participation, contribution, and leadership in the manufacturing sector. Table 1 provides a policy-implementation matrix that lists the key stakeholders and the possible interventions that each of these stakeholders can initiate. Following from the recommendations, the policies are categorised into (a) improving access or participation of women in the manufacturing sector (b) augmenting the contribution of the female workforce and (c) advancing women's role to leadership positions and improving entrepreneurial abilities. For each of these policies, we have indicated the key stakeholders who would be responsible for designing the policy instrument and implementing the policy at scale. The four key stakeholders mentioned are (1) firms (2) central government (3) state government and (4) civil society members like NGOs. The intensity of intervention varies for each of the stakeholders – in some cases, the state government has a greater role to play, while in others, the central government or the private sector. In most cases, the role of civil society is moderate-to-low, largely limited to ex-ante policy design and formulation, and ex-post evaluation of implementation.

Various stakeholders need to take the lead in addressing the gap, based on their respective strengths. For instance, providing safer mobility options rests largely in the hands of the private sector, especially large enterprises can intervene by providing chartered vehicles, and the state government. The role of the central government is largely limited to budgetary allocations. Likewise, the private sector has a key role in developing residential facilities for women, while the state and central governments can support by providing essential infrastructure within industrial parks. At the factory floor again, it is largely the role of the private sector, while the central and the state governments can intervene by introducing gender-inclusive policies to be followed by enterprises. For most social-sector initiatives, civil society actors have a moderate role to play. Similarly, under augment, the state government should take proactive measures to reduce the cost of hiring and setting up for the firm while central government can initiate schemes to facilitate these. For skilling, all stakeholders have an important role to play. Finally, improving women participation in top managerial positions rests entirely within the firm's domain, while the central and the state governments can be enablers by enacting relevant policies to support this. Access to credit can be channelled by both firms and the government. There should be careful integration across all key stakeholders to ensure that these policies are well designed and carefully implemented.

Table 1: Policy Matrix to boost female employment in the manufacturing sector

Scope	Policy Instruments	Private Sector	Central Government	State Government	Civil Society
Improve their access to the workforce	Enhancing and providing safer mobility options for women	⭘	○	●	○
	Building residential facilities for women near factories or within industrial parks.	⭘	⭘	⭘	○
	Enhancing gender-inclusive infrastructure within the factory floor	●	○	○	⭘
	Improving care infrastructure through crèches, and providing maternity and paternity leaves	●	⭘	⭘	○
Augment their Contributions	Reduce the enterprise cost of hiring women	X	●	⭘	X
	Enhance skilling, training and improve the ITI infrastructure	●	●	●	⭘
Advance their role within the organization	Reduce the gender gap in top managerial positions	●	⭘	○	○
	Enhance access to credit for women	⭘	●	⭘	⭘

Source: Author's own

Note: ● reflects high intensity or greater role; ⭘ reflects some role: ○ reflects low intensity or limited role and X means no major role.

5. Concluding Thoughts: Shaping a women-led future for India's manufacturing sector

A comprehensive, ecosystem-wide approach is essential to enhance women's participation in the manufacturing sector. Building a women-led future for India's manufacturing sector – where women serve as key drivers of innovation, productivity, and inclusive growth – requires collective effort from all stakeholders, with women themselves playing the most pivotal role in this ecosystem. This requires dismantling structural barriers, investing in skilling and safety, ensuring access to credit and infrastructure, and creating enabling workplace policies. A gender-balanced manufacturing sector is essential not only for equity and to promote the growth of the manufacturing sector, but also to achieve India's broader economic ambitions, including those outlined in the Viksit Bharat vision.

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Annex 1

List of Participants at the Roundtable on "A Manufactured Gender Bias: The State of Women in the Indian Manufacturing Sector"

Date: April 9th, 2025, **Venue:** India Habitat Centre, New Delhi

Name of Participants	Affiliation
Akshi Chawla	Independent Consultant
Angad Bagai	The Udaiti Foundation
Ayesha Datta	NITI Aayog
Biswanath Goldar	Institute of Economic Growth
Gowri Kapre	The Udaiti Foundation
Meenakshi Nayar	ETASHA Society
Sonal Jaitley	Microsave Consulting
Sonal Shah	Urban Catalysts
Pallavi Choudhuri	National Council of Applied Economic Research
Anjhana Ramesh	ICRIER
Cledwyn Fernandez	ICRIER
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