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## GENDER DEVELOPMENT AND VOCATIONAL EDUCATION: EMPOWERING WOMEN THROUGH SKILL-BASED LEARNING

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### Abstract

Women's empowerment remains one of the most important goals of sustainable development, yet gender inequality continues to restrict the opportunities available to millions of women, particularly in developing societies. Vocational education and training (VET) has long been recognised as a powerful tool for economic inclusion, but women's access to and participation in vocational programmes have historically been unequal, shaped by deep-rooted social norms, domestic responsibilities, and structural barriers. This paper examines the relationship between gender development and vocational education, with a specific focus on how skill-based learning can serve as an instrument for women's social and economic empowerment. Drawing on secondary data, policy documents, and existing literature from the Indian context, the study explores how vocational training programmes address or fail to address the specific needs of women from marginalised and rural backgrounds. The paper argues that vocational education, when designed with a gender-sensitive lens, not only builds practical and marketable skills but also enhances women's confidence, decision-making capacity, and social agency. Key challenges identified include the persistence of gender-segregated course offerings that confine women to traditionally 'feminine' trades such as tailoring and beautician services, thereby limiting their economic mobility. The paper further highlights how integrating digital literacy and entrepreneurship components within women-focused VET programmes holds significant promise in the context of emerging AI-driven economies. Policy recommendations are offered for making vocational education more inclusive, flexible, and responsive to women's lived realities. The study concludes that true gender development requires not merely access to education, but a transformation of the social environment in which women learn, work, and lead. Vocational education, reimagined through a gender and community lens, can serve as a meaningful catalyst for lifelong learning and sustainable social transformation.

**Keywords:** Gender Development, Vocational Education and Training (VET), Women Empowerment, Skill-Based Learning, Digital Literacy, Policy Analysis, Social Transformation, India

### 1. Introduction

Across the spectrum of challenges that define the contemporary development agenda, few are as far-reaching in their consequences as the persistence of gender-based inequality. In spite of sustained international advocacy, expansive legislative reform, and evolving policy commitments at both national and sub-national levels, structural disadvantages tied to gender remain deeply embedded in social institutions across South Asia and beyond. In India, the intersection of caste-based stratification, the rural-urban development divide, and patriarchal household arrangements creates a compounded pattern of exclusion that circumscribes women's educational pathways, economic agency, and public participation in particularly acute ways.

It is within this context that Vocational Education and Training (VET) has attracted growing attention as a mechanism for widening economic access for women. Unlike conventional academic education, which frequently remains out of reach owing to prohibitive costs, distant institutional locations, or cultural prohibitions on female study, vocational programmes offer skill sets that are practically oriented, comparatively short in duration, and potentially more compatible with the constraints that many women face in their daily lives. For women from socially marginalised or economically precarious households, participation in vocational training can represent not merely an educational experience but a foundational step toward financial self-reliance and the renegotiation of social roles.



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Nevertheless, a careful examination of how VET systems actually function reveals a more complicated picture. While skill development has been articulated as a vehicle for inclusion in major national policy documents, including the National Education Policy 2020 and the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), the operational realities of these programmes frequently reproduce the very hierarchies they profess to dismantle. Women are systematically steered toward occupational tracks, such as garment stitching, beauty therapy, and domestic service support, that command low wages, offer limited upward mobility, and mirror the gendered division of labour in the informal economy. Meanwhile, technical, construction, electronics, and information technology trades remain overwhelmingly male in their trainee composition.

This paper undertakes a systematic policy analysis of the linkages between gender development and vocational education within the Indian setting. Drawing upon secondary data sets, national and state-level policy documents, and a synthesised body of academic scholarship, it investigates the design, implementation, and outcomes of VET programmes as they pertain to women's empowerment. The overarching argument of this paper is that realising the transformative potential of vocational education for gender development demands considerably more than incremental improvements in women's enrolment figures. What is required is a fundamental re-examination of the institutional, pedagogical, and societal conditions that shape how, where, and under what terms women engage with skill-based learning. Absent such a comprehensive reorientation, VET risks functioning not as a pathway to empowerment but as an instrument that legitimises and entrenches prevailing gendered hierarchies under the language of development.

## 2. Review of Literature

Scholarly engagement with gender development draws upon a rich and interdisciplinary intellectual tradition. A foundational contribution is Amartya Sen's capability approach, which shifts the evaluative lens of development away from aggregate economic indicators toward the substantive freedoms that individuals are able to exercise in practice (Sen, 1999). Within this framework, development is meaningful only insofar as it extends what people are genuinely able to be and to do, and gender development specifically involves enlarging the real freedoms available to women across domains, including education, livelihood, mobility, and civic participation.

Martha Nussbaum extends and concretises this framework by specifying a set of central human capabilities, among them bodily health and integrity, emotional development, practical reasoning, and control over one's material and political environment, whose realisation is essential to a life of human dignity (Nussbaum, 2000). Critically, Nussbaum situates the systematic denial of these capabilities not in individual failings but in the socially organised structures of domination and subordination that characterise patriarchal societies. In the Indian context, the analysis of Jean Drèze and Amartya Sen (2013) has illustrated with considerable empirical depth how gendered deprivation in nutrition, healthcare, and schooling compounds across generations, producing patterns of disadvantage that are both persistent and mutually reinforcing.

The international normative consensus framing these scholarly debates is reflected in landmark instruments such as the 1995 Beijing Platform for Action and, more recently, the 2030 Agenda for Sustainable Development, which situates quality education (SDG 4) and gender equality (SDG 5) as foundational conditions for broader sustainable progress. Naila Kabear (2012) provides a particularly useful elaboration of women's economic empowerment, distinguishing between access to resources, the agency to deploy those resources toward chosen ends, and the achievement of improved well-being outcomes, a tripartite framework that highlights the limitations of narrowly resource-focused empowerment interventions.

## The Historical Development of VET and Its Gender Dimensions in India

The institutional history of vocational education in India reflects the priorities of successive development eras. The Industrial Training Institutes established during the 1950s and 1960s were conceived primarily to supply a male industrial workforce, an orientation that left an enduring imprint on the institutional culture, physical infrastructure, and trade offerings of these institutions (Ministry of Skill Development and Entrepreneurship, 2020). Women's representation in formal ITI programmes has remained consistently and significantly below their demographic share, and the trades designated as suitable for women have changed only marginally over the decades.



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The establishment of the National Skill Development Mission in 2015 and the concurrent launch of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) signalled a pronounced policy shift toward a market-responsive, large-scale approach to skill development, with explicit targets for expanding women's training participation. Research analysing the outcomes of these initiatives has, however, documented a recurring pattern in which women's enrolment growth has not been accompanied by equivalent improvements in training quality, sectoral diversification, or post-training labour market integration (Mehrotra & Kumra, 2018; International Labour Organisation (ILO), 2019).

Feminist scholarship has subjected mainstream VET policy to sustained critical scrutiny. Sharma (2016) identifies the conceptual flattening of 'women' as a homogeneous beneficiary category as a fundamental weakness of Indian skill development policy, one that systematically obscures the intersecting axes of caste, religion, geographic location, and household configuration that shape women's differential experiences of and outcomes from training. This critique resonates with Kabeer's (2012) broader argument that economic empowerment programmes risk producing limited and fragile gains when they target income generation without simultaneously attending to the power structures within households, communities, and labour markets that determine the conditions under which women can actually utilise newly acquired skills.

### **Structural and Sociocultural Barriers to Women's VET Participation**

A robust body of research has mapped the overlapping barriers that constrain women's effective participation in vocational training. At the structural level, these include the weight of unpaid domestic and care responsibilities that impose severe time constraints; inadequate transportation infrastructure and safety conditions that restrict women's ability to travel to training centres; the financial opportunity costs of withdrawing from agricultural or informal labour to attend training; and the absence of gender-sensitive facilities particularly sanitation and childcare within VET institutions (World Bank, 2018).

Sociocultural dimensions are equally significant. In conservative rural and semi-urban communities, the decision to pursue vocational training outside the home involves complex negotiations within the family, often requiring the consent of male household members and the endorsement of community moral frameworks that circumscribe permissible female activities. Research conducted by Nair and Raghunathan (2019) across field sites in Maharashtra and Odisha documents how even women who successfully completed government-supported vocational programmes subsequently encountered family resistance, employer scepticism, and the absence of occupational networks when attempting to translate their training into employment.

Community-embedded delivery models have emerged as one of the most practically effective responses to these intersecting barriers. Organisations such as the Self-Employed Women's Association (SEWA) in Gujarat have demonstrated that situating training within established community institutions, delivered by women trainers with social credibility in the local context, substantially improves both programme completion and subsequent livelihood outcomes. These models shift the burden of adaptation from individual women who must navigate hostile external environments alone to the programme itself, which is designed from the outset to fit the social geography of women's lives (Kabeer, 2012).

### **Digital Transformation, AI, and the Emerging Skills Imperative**

The accelerating digitisation of economic activity, made dramatically visible by the COVID-19 pandemic, has introduced both new opportunities and new vulnerabilities for women's economic participation. Digital and platform-based work modalities hold the theoretical potential to reduce mobility and safety constraints for women, enabling market participation from within or near the home. The practical realisation of this potential, however, is conditional on women's access to digital devices, internet connectivity, and the foundational digital competencies required to navigate online platform access that remains deeply unequal along gender, geographic, and socioeconomic lines (UNESCO, 2023).

Rao and Pradhan (2021) present evidence from Indian pilot programmes showing that the combination of conventional vocational training with digital marketing skills, basic financial technology literacy, and e-commerce platform orientation yields significantly higher income and employment outcomes for women compared to either component in isolation. The mechanism is straightforward: digital competency enables women producers and service providers to access markets



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directly, circumventing intermediary chains that typically appropriate a disproportionate share of economic value from women's labour.

The expanding role of artificial intelligence in automating routine cognitive and manual tasks introduces additional urgency into this discussion. Sectors that currently absorb large numbers of women workers, including garment manufacturing, certain food-processing operations, and basic data processing, are among those most exposed to AI-driven task displacement in the near to medium term. Women without foundational digital skills face compounded risk: displacement from current occupations combined with exclusion from emerging ones. Conversely, targeted investment in AI literacy and digital adaptation skills within women's VET has the potential to convert technological disruption from a source of vulnerability into a pathway for occupational upgrading (UNESCO, 2023).

### 3. Methodology

This study employs a qualitative policy analysis design grounded in documentary research. Policy analysis, as a scholarly methodology, is oriented toward critically examining the intentions, design, implementation mechanisms, and outcomes of public policies against a specified normative standard (Parsons, 1995). In the present study, the evaluative standard is provided by the normative goals of gender development as articulated through the capabilities framework (Sen, 1999; Nussbaum, 2000) and the international gender equality commitments embedded in the SDGs and the Beijing Platform for Action.

India is selected as the focal context for two complementary reasons. First, it operates one of the world's most expansive state-sponsored skill development systems, providing sufficient institutional scope for meaningful policy analysis. Second, it presents sharp and well-documented contradictions between the scale of VET investment and the persistence of gender gaps in labour force participation and economic outcomes, making it an analytically productive site for examining the conditions under which vocational education does and does not function as a vehicle for gender development. The insights derived from this analysis are expected to carry relevance for comparable developing country contexts characterised by large-scale VET systems and persistent gender inequality.

### Data Sources

The analysis integrates three categories of secondary evidence. The first comprises official policy and programme documents: the National Education Policy 2020; the National Policy for Skill Development and Entrepreneurship 2015; PMKVY scheme guidelines and progress reports; Annual Reports of the Ministry of Skill Development and Entrepreneurship (MSDE) for the periods 2019-20 through 2022-23; and relevant state-level skill mission frameworks from Maharashtra, Gujarat, and Rajasthan. These documents are subjected to content analysis with attention to how gender considerations are framed, operationalised, and monitored within programme design.

The second data category consists of quantitative data on women's VET participation and outcomes, drawn from the Periodic Labour Force Survey (PLFS), the National Sample Survey (NSS) rounds addressing education and employment, and the All-India Survey on Higher Education (AISHE). These datasets provide the empirical foundation for assessing the gap between policy commitments and measurable reality in terms of women's enrolment, sectoral distribution, and post-training labour market integration.

The third category comprises peer-reviewed academic literature, institutional research reports from the ILO, World Bank, and Centre for Policy Research, and published evaluations of gender-focused VET programmes. Together, these sources enable a contextualised interpretation of the statistical patterns identified and an assessment of programme-level innovations that have shown evidence of effectiveness.

The analytical framework applied in this study adapts Kabeer's (2012) tripartite model of economic empowerment resources, agency, and achievements, to the VET policy context. Operationalised for this study, the three dimensions are reframed as: access (the degree to which women are able to enter and complete vocational training); quality and relevance (the extent to which training content, delivery modalities, and institutional environment are substantively appropriate to women's diverse



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circumstances and aspirations); and outcomes (the translation of training into improved economic and social results for women participants). This framework enables an evaluation that moves beyond enrolment metrics to probe the substantive processes through which vocational education does or does not contribute to women's empowerment.

#### 4. Discussion and Analysis

A reading of India's foundational VET policy instruments reveals a stated orientation toward gender inclusion that is, in its ambition, substantively meaningful. The National Policy for Skill Development and Entrepreneurship (2015) designates women alongside persons with disabilities, minorities, and scheduled communities as priority groups for targeted programme outreach, and directs implementing agencies to develop gender-sensitive infrastructure, curricula, and training methodologies. The National Education Policy 2020 reinforces this commitment by advocating for the mainstreaming of vocational education into school and higher education curricula, with explicit attention to removing access barriers for girls from disadvantaged backgrounds.

When these stated commitments are measured against programme data, however, a significant divergence becomes apparent. Official MSDE reporting indicates that women constitute a consistent minority of enrolments in formal Industrial Training Institute programmes, hovering around 28 per cent of the total against their roughly 49 per cent population share (MSDE, 2023). Within the shorter-duration PMKVY framework, women's participation is comparatively higher, approaching 40 per cent of total trained candidates in recent cohorts; however, disaggregated employment outcome data reveal that far fewer trained women enter remunerated work than their male counterparts, with a large proportion returning to unpaid household activities following course completion (ILO, 2019).

This persistent gap between policy aspiration and ground-level outcome is not simply an implementation failure amenable to better monitoring and management. It reflects a more foundational issue: the implicit subject of Indian VET policy design is a mobile, financially independent, socially unconstrained individual, characteristics that align far more closely with the normative male worker than with the situation of the majority of women who are the ostensible targets of inclusion efforts. Restructuring VET systems to genuinely accommodate women's participation requires engaging with the structural conditions of domestic labour, mobility constraints, safety risks, and family authority that shape women's relationship to training, not merely adding women as a category to existing programme targets.

#### The Persistence of Gendered Trade Concentration

Among the most consequential dimensions of gender inequality within India's VET system is the concentration of women's enrolments in a narrow range of occupational categories that reflect and reinforce prevailing assumptions about appropriate female labour. Analysis of PMKVY sector-wise data consistently shows that sewing, stitching, and garment assembly, beauty and wellness services, domestic work support, and food preparation and processing collectively account for the overwhelming majority of women's short-term vocational training. These sectors share several characteristics: they are feminised extensions of domestic reproductive labour; they command below-average wages in formal markets and are frequently absorbed into the informal economy; and they offer limited prospects for wage growth or occupational advancement.

Sharma (2016) has characterised this pattern as a structural 'pink-collar trap', a system in which programmes nominally designed to advance women's economic participation in practice consolidate the gendered segmentation of the labour market by preparing women exclusively for its lowest-value segments. The economic logic of this trap is self-reinforcing: because these trades are already feminised and undervalued, training more women for them does not challenge their low status but rather augments the supply of cheap female labour in already overcrowded informal markets.

The counterfactual is equally instructive. High-growth, higher-wage occupational sectors, including civil construction, advanced manufacturing, electronics assembly and repair, software development and testing, and logistics, remain overwhelmingly male in their VET trainee composition. Barriers here operate at multiple levels simultaneously: physical training environments not designed with women in mind; trainer attitudes that reflect assumptions about women's technical aptitude; employer preferences shaped by gender stereotyping; and the absence of peer networks and role models that might



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otherwise normalise women's presence in these fields. Transforming this situation demands active policy intervention that targets each of these dimensions rather than assuming that aspirational target-setting will produce change on its own.

### **Social Norms, Community Contexts, and the Negotiation of Training Access**

No analytically adequate account of women's VET participation can remain at the institutional level; the social and community contexts in which individual women are embedded are equally determinative of training access and outcomes. In large parts of rural and semi-urban India, a woman's decision to pursue vocational training, particularly at a location outside her immediate residential area, is not an autonomous individual choice but a household and community negotiation shaped by norms governing female respectability, mobility, and the appropriate allocation of women's time and labour.

Field-based research by Nair and Raghunathan (2019) documents the complexity of these negotiations with ethnographic specificity. Women in their study reported that gaining family permission to attend training was frequently conditional on factors extraneous to the training itself, including the gender composition of the trainer, the presence of other women from the same community in the programme, the proximity of the training venue, and the anticipated economic returns being shared with household decision-makers rather than retained by the woman trainee. These conditions are not universal, and they vary significantly by caste, religion, and geographic setting; but their prevalence is sufficient to constitute a systemic rather than exceptional constraint on women's VET access.

Safety infrastructure represents an underappreciated dimension of these constraints. Survey evidence cited by the World Bank (2018) identifies safety-related concerns, harassment risk in transit, inadequate sanitation at training venues, absence of lighting and security at early morning or evening sessions, as among the most frequently cited deterrents to women's VET participation in rural Indian settings, outweighing even financial barriers in their perceived significance. This finding has direct implications for programme design: gender-responsive VET cannot be achieved through curriculum adjustments alone but requires physical and organisational transformation of the training environment.

### **Digital Literacy and Entrepreneurship Integration: Emerging Evidence and Opportunities**

Notwithstanding the structural challenges catalogued above, a number of programmatic innovations have demonstrated the potential for VET to function as a genuinely transformative instrument for women's economic empowerment when designed with contextual sensitivity and a broader conception of the skills required for sustainable livelihoods. Among the most promising of these innovations is the integration of digital literacy and entrepreneurial competency development into sector-specific vocational training programmes.

Evidence assembled by Rao and Pradhan (2021) from pilot initiatives across several Indian states indicates that women who received combined vocational-plus-digital training demonstrated meaningfully better income outcomes, greater market diversification, and higher levels of sustained business operation one year post-training compared to women who received conventional vocational training without digital components. The pathway from training to improved outcomes operated through several mechanisms: the ability to access online sales platforms enabled women to reach geographically dispersed customer bases; digital financial services literacy reduced dependence on male household members for banking transactions; and basic entrepreneurship content equipped women with rudimentary tools for managing costs, pricing, and simple record-keeping.

The relevance of these findings extends beyond their immediate economic implications. Digital competency appears to function as a metacapability, a skill whose acquisition enables the more effective utilisation of other skills and opportunities. Women with digital literacy are better positioned to access government scheme information, health and education services, and peer networks relevant to their livelihoods. This multiplier function makes digital literacy integration not merely a useful addition to VET programmes but potentially a transformative element that alters the overall empowerment trajectory of training participants (UNESCO, 2023).



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## **Trainer Capacities, Programme Quality, and the Gender Composition of the VET Workforce**

The quality of instruction received by women trainees constitutes a dimension of VET policy that has attracted comparatively less systematic attention than access or participation metrics, yet its significance for empowerment outcomes is substantial. Research consistently documents shortcomings in the technical currency of VET curricula content that does not reflect contemporary industry practice, combined with inadequate practical training infrastructure and instructors whose pedagogical skills are limited (Mehrotra & Kumra, 2018). These quality deficits affect all trainees; their effects are, however, disproportionately severe for women, who typically have fewer informal learning channels, apprenticeship networks, trade associations, and informal mentoring by male family members through which knowledge gaps from formal training might otherwise be compensated.

The gender composition of the VET trainer workforce is a related and equally significant concern. Women trainers are underrepresented across the majority of vocational sectors in India, and their scarcity has concrete consequences for women's training participation: in communities where gender norms restrict women's interaction with male strangers, the availability of women trainers can be a determining factor in whether women enrol in a programme at all. Building a larger, more professionally developed female trainer workforce requires deliberate recruitment strategies, competitive remuneration, and professional development pathways that enable female trainers to build sector expertise and advance into leadership roles within training institutions.

## **5. Policy Recommendations**

The analysis presented in this paper supports a set of specific, actionable policy recommendations directed at the Ministry of Skill Development and Entrepreneurship, state skill development missions, VET institutions, and civil society organisations operating in this domain. These recommendations are structured around the three analytical dimensions of access, quality and relevance, and outcomes.

### **Institutionalise Mandatory Gender Audits Across All Publicly Funded VET Programmes**

All VET programmes receiving public funding should be required to conduct and publicly disclose periodic gender audits covering: the gender distribution of enrolees, trainers, and institutional leadership; the sectoral spread of women's training across occupational categories; the adequacy and utilisation of gender-sensitive facilities including sanitation, childcare, and safety provisions; and disaggregated post-training outcomes including employment rates, sector of work, wages, and sustained livelihood activity. Audit results should be linked to funding decisions, with underperforming programmes required to submit and implement gender-responsive improvement plans as a condition of continued support.

### **Actively Diversify Women's Occupational Training Beyond Conventional Feminine Trades**

A deliberate and sustained policy effort is required to disrupt the pink-collar concentration of women's VET. Specifically: financial incentives in the form of enhanced stipends, transportation support, and post-training placement assistance should be targeted at women enrolling in non-traditional trades; trainer sensitisation programmes should address gender stereotyping in technical training contexts; industry partnerships should be developed to secure pre-committed employment pathways for women completing training in male-dominated sectors; and quantitative targets for example, 30 per cent female enrolment in electronics, construction, and IT-linked trades within five years should be established with public accountability mechanisms.

### **Mandate Digital Literacy and AI Readiness Components in All Women-Focused VET**

Every VET programme enrolling women should incorporate a mandatory foundational digital literacy module covering smartphone literacy, internet navigation, digital financial services, online market access, and e-government platforms. In sectors with significant AI-automation exposure, additional content on AI literacy, understanding AI tools, working alongside automation, and identifying opportunities created by AI adoption should be developed and delivered in vernacular languages using applied, locally grounded pedagogy. Device access and internet connectivity support should be provided as components of programme delivery rather than assumed as prerequisites.



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## **Scale Community-Based and Flexible Delivery Models**

Policy and funding frameworks should incentivise the expansion of community-based VET delivery that brings training to women's localities rather than requiring women to come to institutional centres. Flexible scheduling, including modular delivery, evening and weekend options, and asynchronous digital components, should be normalised within programme design standards. Mobile training units, block-level resource centres, and partnerships with panchayati raj institutions and women's self-help group federations should be explored as infrastructural solutions to the geographic and mobility constraints that currently limit women's training access.

## **Make Childcare Provision a Structural Requirement of VET Programme Design**

The absence of childcare during training hours constitutes a concrete and remediable access barrier for a significant proportion of women who are simultaneously primary caregivers. VET programmes above a threshold enrolment size should be required to provide or facilitate access to supervised childcare throughout training hours. Implementation models should be developed in partnership with Integrated Child Development Services (ICDS) anganwadi centres, local government bodies, and SHG-managed childcare cooperatives, with dedicated budget lines within programme financial structures rather than reliance on informal or in-kind arrangements.

## **Establish a National Programme for Female VET Trainer Development**

A targeted national initiative should be established to expand the pool of professionally qualified female vocational trainers across all sectors, including those currently dominated by male trainers. This initiative should include: recruitment campaigns in communities with concentrations of vocationally skilled women; compensatory measures that make trainer careers financially competitive with alternative livelihood options; professional development frameworks that enable female trainers to build specialised sector competency; mentoring and peer learning networks connecting new and experienced female trainers across institutions; and formal recognition of female trainer leadership through institutional governance mechanisms.

## **Create Formal Convergence Frameworks Between VET Systems and Women's SHG Networks**

India's extensive infrastructure of women's Self-Help Groups, convened through the National Rural Livelihoods Mission (NRLM) and state-level rural livelihood agencies, represents a substantially underutilised asset for VET delivery and post-training support. Formal convergence frameworks should be established between MSDE, NRLM, and state skill missions to leverage SHG networks for: participatory training needs assessment at the community level; facilitation of community-based VET delivery through SHG-linked resource persons; linkage of trained women to SHG-administered credit for enterprise establishment; and peer accountability and mutual support networks that help women sustain livelihoods after training completion.

## **6. Conclusion**

This paper has examined the multidimensional and often contradictory relationship between vocational education and gender development in India, deploying a policy analysis methodology that interrogates the gap between the stated ambitions of VET policy and its measurable consequences for women's lives. The analysis reveals that while India's skill development system has expanded substantially in scale, this expansion has not been accompanied by the depth of gender-responsive redesign necessary to produce the empowerment outcomes that policy documents envisage.

The structural barriers to women's meaningful VET participation, occupational segregation, mobility and safety constraints, domestic responsibility burdens, inadequate facilities, and the underrepresentation of female trainers constitute a coherent and mutually reinforcing system of exclusion that cannot be dismantled through any single policy intervention. What is required is a coordinated and multi-level response that simultaneously addresses institutional design, programme content, delivery modalities, community engagement, and the broader social environment in which women's training decisions are made, and their post-training aspirations are either enabled or constrained.

The integration of digital literacy and entrepreneurial competency into women-focused VET stands out as a particularly high-leverage intervention in the current conjuncture. As digitisation and AI-driven automation reshape the occupational



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landscape, the risk that women will be displaced from existing livelihoods without acquiring the competencies required to access emerging ones is both real and urgent. Proactive policy investment in digital and AI literacy within VET, designed with the same contextual sensitivity applied to the recommendations in this paper, represents a strategic response to this challenge that can simultaneously advance women's immediate economic prospects and their longer-term resilience in a rapidly evolving economy.

The recommendations advanced in this paper are not offered as a comprehensive blueprint but as a framework for the kind of substantive policy engagement that the scale and urgency of the challenge demands. Their realisation will require not only technical programme adjustments but sustained political commitment, adequate resource allocation, and genuine accountability to the women whose empowerment these programmes profess to advance.

Future research directions include primary longitudinal studies tracking the long-term livelihood and empowerment trajectories of women VET graduates across different sectors, states, and programme designs; comparative analysis of gender-responsive VET models from analogous developing country contexts; and rigorous evaluation of digital and AI literacy integration models to establish which design features are most effective under which conditions. The scholarly conversation on gender development and vocational education must keep pace with the rapidly transforming economic context it seeks to address.

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