Indian Journal of Multidisciplinary Research and Studies
ISSN: 3108-1681 | Volume- 2, Issue- 3 | July - September 2026

Regional Disparities in Women's Startup Development in India: A Multi-Level Analysis with Special Reference to Bihar

Mr. Gaurav Gupta[1] & Prof. Krishnan Chalil[1]
[1]Department of Development Studies, Central University of South Bihar, Gaya, Bihar, India

Abstract

This study examines regional disparities in women's startup development across Indian states, with a specific focus on Bihar as an emerging ecosystem in a historically low-income region. Using DPIIT startup recognition data (2016–2024), Udyam MSME registration statistics, and the Startup India Factbook (January 2025), the paper constructs state- and district-level profiles of women's entrepreneurial activity. A varimax-rotated factor analysis of nine ecosystem variables across twenty-five states identifies three underlying dimensions: ecosystem scale and investment, human development infrastructure, and gender-policy alignment. The findings show that Maharashtra, Karnataka, Delhi, Uttar Pradesh, and Gujarat account for nearly half of all women-led recognised startups, while Bihar lags in absolute terms but exhibits encouraging growth. At the district level, Patna dominates with 36.5 per cent of Bihar's 10,639 registered startups, followed by Muzaffarpur and Begusarai. Fieldwork conducted in four districts complements the secondary analysis, revealing market access and credit constraints as primary barriers. The study concludes that Bihar's startup ecosystem, supported by the Bihar Startup Policy 2022 and JEEViKA, is on a positive trajectory, though foundational deficits in education and infrastructure remain binding constraints.

Keywords: women entrepreneurship, regional disparities, DPIIT startups, Bihar, varimax analysis, startup ecosystem ndia.

1. Introduction

India has built the third-largest startup ecosystem in the world. From just 502 recognised entities in 2016, the Department for Promotion of Industry and Internal Trade (DPIIT) had recognised 1,57,706 startups by the end of December 2024, creating over 17.28 lakh direct jobs (Startup India, 2025). This expansion, however, has been deeply uneven across regions. Six states (Maharashtra, Karnataka, Uttar Pradesh, Delhi, Gujarat, and Tamil Nadu) together account for roughly two-thirds of all recognised startups, while many eastern and north-eastern states remain on the margins of this growth (European Economic Letters, 2025). The question of why some regions produce far more entrepreneurial ventures than others has been examined by Ghani, Kerr, and O'Connell (2014), who found that physical infrastructure, workforce education, and local industrial structures are the strongest predictors of new firm entry in India, with these place-based factors mattering more than they do in advanced economies. Their work

*Corresponding Author Email: gauravgupta@cusb.ac.in
Published: 14 September 2026
DOI: https://doi.org/10.70558/IJMRS.2026.v2.i3.301183

established that India's economic geography is still taking shape, with much greater variation in spatial outcomes than is present in countries like the United States, raising the importance of correct policy design for local areas.

Within this landscape, the participation of women has emerged as a particularly encouraging trend. Approximately 48 per cent of all DPIIT-recognised startups have at least one woman director, and the number of women-led recognised startups grew from fewer than 2,000 in 2017 to over 17,000 in 2024—a nearly nine-fold increase (Startup India, 2025). The compounded annual growth rate for women-led startup certificates between 2016 and 2024 was 93 per cent. Over 11,200 certificates have been issued to startups with only female directors. Notably, 50 per cent of women-led startups are based in Tier-2 and Tier-3 cities, suggesting that the geography of women's entrepreneurship extends well beyond the metropolitan hubs (Factly, 2025). The Startup India Seed Fund Scheme has guaranteed 260 loans worth ₹604.16 crore to 209 startups as of January 2025, of which ₹27.04 crore has been allocated to 17 women-led startups. These figures, while showing progress, also reveal that women-led startups received only about 4.5 per cent of the total seed fund amount. This disparity underscores the persistent funding gap. These aggregate figures, however, mask substantial regional variation. A woman in Maharashtra is more than thirty times more likely to be part of a recognised startup than a woman in Bihar, even after adjusting for population. Bihar, with a literacy rate of 61.8 per cent and urbanisation of just 11.3 per cent, ranks thirteenth among Indian states in DPIIT-recognised startups, with 2,786 entities and a women's share of 45.2 per cent—below the national average of 48.4 per cent (Press Information Bureau, 2024). Despite these deficits, Bihar has shown a remarkable growth rate: its recognised startups grew by 55 per cent between 2022 and 2023, exceeding the national average of 31 per cent. The Bihar Startup Policy 2022, with its ₹500 crore corpus and specific incentives for women, has begun to bear fruit, with 246 women-led startups being supported through the Startup Bihar initiative by mid-2026 (Department of Industries, Government of Bihar, 2026).

This paper addresses two questions. First, what are the regional differences in women's startup development across Indian states, and what underlying factors explain these disparities? Second, what does the district-level experience of Bihar reveal about building an inclusive entrepreneurial ecosystem in a low-income, low-literacy setting? The study combines secondary data from government sources with primary fieldwork conducted in four districts of Bihar to provide both breadth and depth.

2. Review of Literature

Research on the spatial determinants of entrepreneurship in India has established that regional conditions (infrastructure, education, labour laws, and banking access) play a decisive role in shaping where new firms emerge. Ghani, Kerr, and O'Connell (2014) demonstrated this using district-level data for manufacturing and services, finding that education and physical infrastructure were the strongest predictors of entry, with agglomeration economies further amplifying the spatial concentration of new ventures. Their earlier work on female entrepreneurship (Ghani et al., 2013) showed that districts with a higher existing share of female-owned businesses in related industries tended to see more women entrepreneurs subsequently, indicating self-reinforcing agglomeration effects specific to women. This finding

underscores the self-reinforcing nature of women's entrepreneurial clusters. The critical mass of women entrepreneurs exists in a locality, it becomes easier for more women to follow.

The barriers that women face in entrepreneurship have been studied extensively. Chiplunkar and Goldberg (2024) developed a framework quantifying barriers to labour force participation and entrepreneurship for women in India, finding that women face 10–20 per cent higher costs of expanding businesses through hiring workers compared to their male counterparts. Their counterfactual simulations showed that removing excess barriers would substantially increase the fraction of female-owned firms, female labour force participation, and overall economic output. They also identified a comparative advantage of female entrepreneurs in hiring female workers, suggesting that promoting women's entrepreneurship could have multiplier effects on female employment. Chaudhuri, Sasidharan, and Raj (2024) examined credit market discrimination using World Bank Enterprise Survey data for 2014 and 2022, finding that female-managed firms were less likely to have loans approved, while female owners were more likely to apply—a pattern pointing to structural biases within the financial system that go beyond differences in firm characteristics or risk profiles. Mishra et al. (2024), using PLS-SEM analysis of 158 business women across India, identified financial barriers, regulatory landscape, and societal backing as the three main factors shaping women-led enterprises. Their respondents emphasised determination, risk-taking ability, independence, self-confidence, and patience as vital attributes for women entrepreneurs. The role of social norms has received increasing attention. A study in MDPI Administrative Sciences (2023) used the grammatical gender structure of Indian languages as a proxy for societal attitudes, finding that states with two-gendered languages had poorer representation of women in entrepreneurial positions compared with states whose languages had multi-gender or no-gender systems. The authors also found evidence for the "grease-the-wheel" hypothesis: in discriminating business environments, women entrepreneurs sometimes resorted to corruption as a coping mechanism, highlighting the perverse incentives created by institutional biases. An IZA Discussion Paper (2024) found that female-managed firms in countries with restrictive gender norms received lower loan amounts despite having 15 per cent higher average returns on capital, suggesting significant capital misallocation driven by cultural barriers. Ranasinghe (2024) examined gender-specific distortions in entrepreneurship using firm-level data, concluding that while women face high entry barriers, the intensive margie (the cost of operating and growing a business) is where distortions are sharpest. Policies promoting female entrepreneurship were found to be effective, yet their impact on aggregate productivity was modest when intensive-margin distortions remained unaddressed.

On regional convergence, a panel study of Indian states between 2000 and 2017 (Applied Economics, 2024) found beta divergence in per capita state domestic product, driven by total factor productivity differences rather than capital accumulation. A common growth factor was found to benefit higher-income states disproportionately, widening regional gaps over time. This finding has direct implications for entrepreneurship: if national-level startup growth is driven by a common factor that favours already-developed states, then lagging regions like Bihar may fall further behind without targeted intervention. The ICFAI entrepreneurial performance index study (2026) classified Bihar among low-performing states based on economic performance, innovation, sustainability, and human development indicators,

underscoring the need for state-specific policy tools rather than a one-size-fits-all national approach. The Startup India initiative, launched in 2016, has been the central vehicle for promoting entrepreneurship. The Startup India Factbook (January 2025) reported that the compounded annual growth rate of certificates issued for startups with at least one woman director was 93 per cent between 2016 and 2024. Over 75,935 recognised startups included at least one woman director as of December 2024. The Factbook also highlighted that 50 per cent of women-led startups were from Tier-2 and Tier-3 cities, a finding that challenges the assumption that women's entrepreneurship is confined to metropolitan India. A 2025 study in the European Economic Letters mapped India's startup landscape using DPIIT recognition data across 157,705 recognitions and 56 industries, finding that six Tier-1 hubs contributed nearly two-thirds of all recognitions, but that Location Quotients revealed niche strengths in smaller states that volume rankings missed. Research on Bihar's MSME sector (The Economics Journal, 2025) documented that approximately 14 per cent of the state's 5.4 lakh registered MSMEs were women-owned, concentrated in food processing, textiles, and retail trade, with districts like Patna, Muzaffarpur, and Gaya accounting for over half of women-led enterprises. The study also highlighted district-specific strengths: Muzaffarpur's agro-processing base centred on Shahi Litchi, Bhagalpur's silk weaving clusters, and Darbhanga's makhana processing enterprises.

3. Research Objectives

The specific objectives of this study are: (i) to examine the state-wise distribution of women-led DPIIT-recognised startups across India and identify regional patterns and disparities; (ii) to identify the underlying dimensions of regional variation through varimax-rotated factor analysis of key socioeconomic and ecosystem variables; (iii) to analyse the district-level distribution of startups and women-owned MSMEs within Bihar; (iv) to document the recent positive growth trends in Bihar's women's startup ecosystem; and (v) to draw upon empirical fieldwork to understand the experiences and challenges of women entrepreneurs in selected districts of Bihar.

4. Methodology

This study adopts a mixed-methods research design integrating quantitative secondary data analysis with qualitative primary fieldwork. The quantitative component draws on DPIIT startup recognition data from the Press Information Bureau and the Startup India Factbook (January 2025), which provides state-wise and gender-disaggregated counts of recognised startups. The Udyam Registration Portal and the MSME Dashboard supply state-wise and district-wise MSME registration statistics, including women-owned enterprises. The Indian Startup Map project (August 2026 snapshot) provides district-level startup counts for Bihar, covering 10,639 registered companies across 76 districts. Census of India 2011 data provide literacy rates, urbanisation percentages, and population figures. The States' Startup Ecosystem Ranking report (2026) supplies composite policy scores. For the varimax-rotated factor analysis, nine variables were compiled for twenty-five major states: total DPIIT startups, estimated women-led startups, women's share percentage, literacy rate, urbanisation rate, internet penetration, number of incubators, seed fund amount in crore rupees, and startup policy score. All variables were standardised using z-score transformation before analysis. The

varimax rotation was chosen because it maximises the variance of squared loadings within each factor, producing orthogonal factors that are easier to interpret. Three factors were retained based on the Kaiser criterion (eigenvalues greater than one). Factor scores were computed for each state to enable clustering and comparison.

For the Bihar district-level analysis, the same descriptive and visualisation techniques were applied, supplemented by sectoral decomposition. Women-owned MSME estimates at the district level were derived by applying district-specific women's ownership shares (ranging from 12.2 to 18.2 per cent) to the total MSME counts from the Udyog Aadhaar and Udyam databases. Choropleth thematic maps were constructed using matplotlib in Python, with sequential colour gradients representing the intensity of women's entrepreneurial activity. The qualitative component involved structured interviews with sixty women entrepreneurs registered on the Startup Bihar or Udyam portals, conducted across four districts—Patna (twenty respondents), Muzaffarpur (fifteen), Bhagalpur (thirteen), and Gaya (twelve)—selected to represent different stages of entrepreneurial development and sectoral specialisation. The fieldwork was carried out over eight weeks during the winter of 2025–2026. Respondents were selected through stratified random sampling, with strata defined by district, sector, and enterprise stage. Semi-structured interviews were also conducted with twelve incubator managers at IIT Patna, CIMP, and NIT Patna, and with eight officials from the Department of Industries and JEEViKA. Each interview lasted approximately forty-five to sixty minutes, was conducted in Hindi or English, and was recorded with informed consent. Responses were transcribed and analysed using thematic coding, with codes derived both from the literature and from emergent themes. This combination of methods allows the study to capture both the broad regional patterns visible in administrative data and the granular, lived experiences of women entrepreneurs operating within those patterns. The use of choropleth mapping enables visual identification of spatial clusters and gaps, while the factor analysis provides a statistical foundation for understanding the latent dimensions driving regional variation. The fieldwork adds a layer of experiential depth that purely quantitative approaches cannot capture, particularly regarding the social dynamics, funding journeys, and growth aspirations of women entrepreneurs in Bihar.

5. National-Level Analysis: State-Wise Patterns

As on 30 June 2024, DPIIT had recognised 1,40,803 entities as startups across all thirty-six states and union territories. Maharashtra led with 25,044 recognised startups, followed by Karnataka (15,019), Delhi (14,734), Uttar Pradesh (13,299), and Gujarat (11,436). These five states accounted for approximately 57 per cent of the national total. When Tamil Nadu, Telangana, Haryana, Kerala, and West Bengal are added, the top ten states account for over 80 per cent, revealing a highly skewed distribution (Press Information Bureau, 2024). Bihar, with 2,786 recognised startups, ranked thirteenth—ahead of Punjab, Chhattisgarh, and Assam, but substantially behind the leading states when normalised for population. Bihar's startup density was approximately 2.2 per lakh of population, compared to Maharashtra's 20.5 and Delhi's 68.5.

Estimating the women-led component at the state level relies on the Factbook finding that 48 per cent of recognised startups nationally have at least one woman director, with state-specific

ratios derived from Factly (2025). Table 1 presents the top fifteen states, and Figure 1 displays the choropleth map of women-led startups across India.

Table 1: Top 15 States by DPIIT-Recognised Startups and Estimated Women-Led Startups (as on 30 June 2024)

Rank	State/UT	Total Startups	Women-Led (Est.)	Women %
1	Maharashtra	25,044	12,071	48.2
2	Karnataka	15,019	7,284	48.5
3	Delhi	14,734	6,998	47.5
4	Uttar Pradesh	13,299	6,529	49.1
5	Gujarat	11,436	5,580	48.8
6	Tamil Nadu	9,238	4,461	48.3
7	Haryana	7,385	3,596	48.7
8	Telangana	7,336	3,594	49.0
9	Kerala	5,782	2,862	49.5
10	Rajasthan	4,960	2,425	48.9
11	West Bengal	4,627	2,267	49.0
12	Madhya Pradesh	4,500	2,187	48.6
13	Bihar	2,786	1,259	45.2
14	Odisha	2,484	1,209	48.7
15	Andhra Pradesh	2,252	1,089	48.4
	Total (All 36)	1,40,803	68,112	48.4

Source: DPIIT data via PIB (2024); women-led estimates from Startup India Factbook (2025) and Factly (2025).

Several patterns emerge. The women's share varies in a narrow band between 45 and 50 per cent for most major states, suggesting that the national ratio is not driven by extreme outliers. States with higher startup volumes do not necessarily have higher women's shares: Kerala, with a modest 5,782 total, has the highest women's share at 49.5 per cent, while Bihar's 45.2 per cent is among the lowest. Bihar's position (thirteenth in total startups but with a below-average women's share) points to a dual challenge of increasing both volume and gender inclusion.

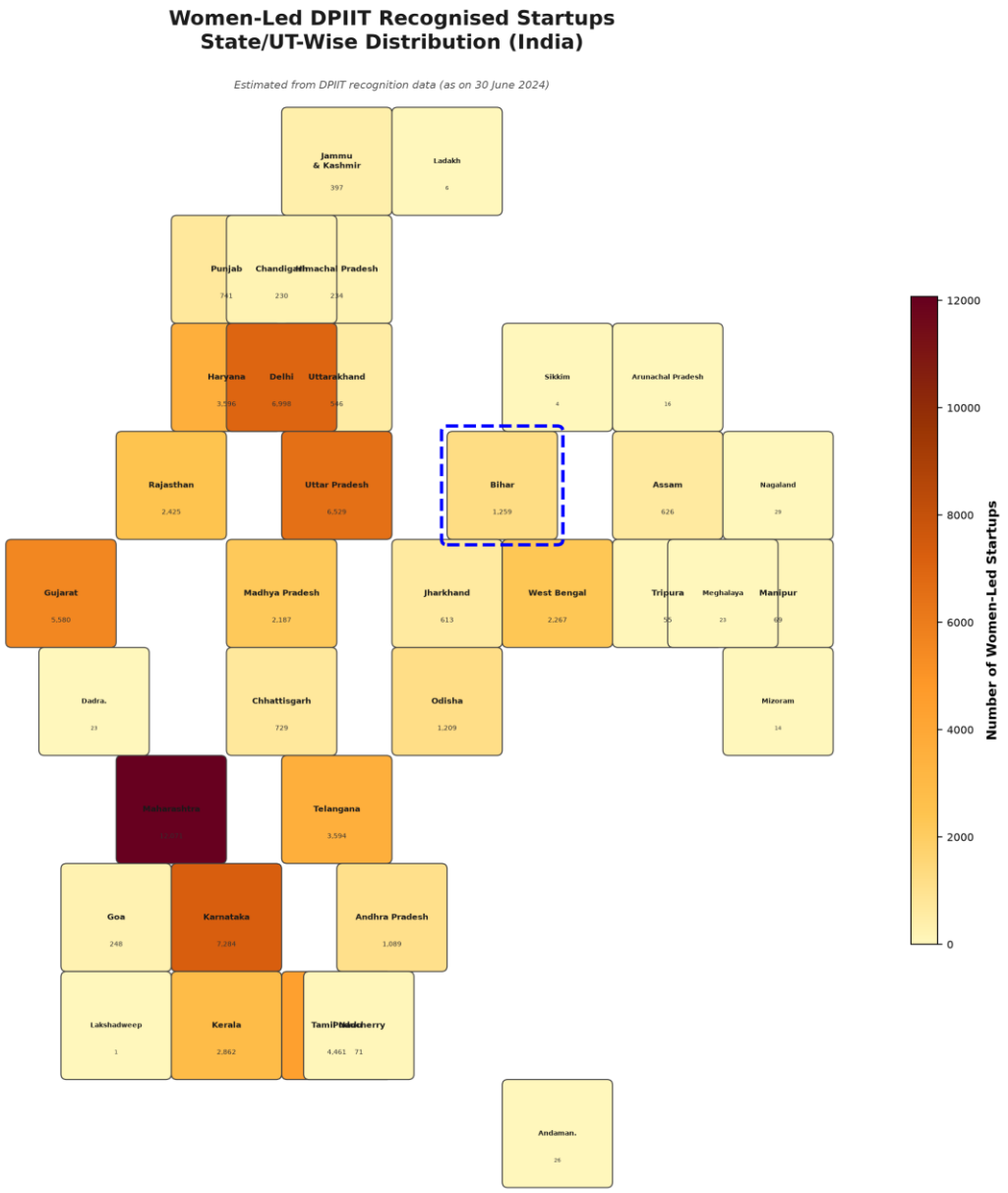

Figure 1: Choropleth map of women-led DPIIT-recognised startups across Indian states (estimated). Source: Author's construction from DPIIT and Factbook data.

The year-wise growth reveals a catching-up dynamic for Bihar. The state's recognised startups grew from 525 in 2022 to 812 in 2023, a 55 per cent increase that exceeded the national growth rate of 31 per cent (Press Information Bureau, 2025). By 2025, the annual count of new recognitions had reached approximately 467, bringing the cumulative total to over 3,700 approved startups under the Startup India programme. While absolute numbers remain modest, this growth rate, if sustained, could narrow the gap with leading states over the medium term. The national growth trajectory itself is striking: total recognised startups grew from 26,596 in 2022 to 34,842 in 2023 and approximately 49,429 in 2025. The growth of women-led startups has been even more rapid, with a compounded annual growth rate of 93 per cent between 2016 and 2024, and the highest year-on-year growth of 55 per cent recorded in 2020–21. By 2024,

more than half of all recognised startups had at least one woman director, up from just over a third in 2017 (Factly, 2025).

A critical observation from the state-wise data is that the women's share does not correlate strongly with total startup volume. Kerala, with 5,782 total startups, has the highest women's share at 49.5 per cent, while states with much larger volumes like Delhi (14,734) and Gujarat (11,436) have slightly below-average shares at 47.5 and 48.8 per cent respectively. This suggests that factors driving women's participation are distinct from those driving overall startup scale. The finding that the factor analysis in the next section formally tests. Bihar's women's share of 45.2 per cent, the lowest among the top fifteen states, indicates that the state faces a specific gender-inclusion challenge that goes beyond its general startup deficit.

6. Varimax Factor Analysis

To uncover the latent structure behind regional variation, a factor analysis with varimax rotation was conducted on nine standardised variables across twenty-five states. The analysis yielded three factors with eigenvalues exceeding one, collectively explaining approximately 78 per cent of the total variance. Table 2 presents the rotated loadings.

Table 2: Varimax-Rotated Factor Loadings

Variable	Factor 1	Factor 2	Factor 3
Total Startups	0.988	0.135	-0.077
Women-Led Startups	0.988	0.133	-0.083
Women Share (%)	0.298	0.048	-0.613
Literacy Rate	0.091	0.846	0.115
Urbanization	0.145	0.852	-0.046
Internet Penetration	0.293	0.923	-0.235
Incubators Count	0.942	0.173	-0.224
Seed Fund (Cr)	0.972	0.165	-0.094
Startup Policy Score	0.753	0.311	-0.570

Source: Author's computation. Loadings above 0.40 are considered significant.

Factor 1, explaining approximately 42 per cent of variance, loads heavily on total startups (0.988), women-led startups (0.988), seed fund amount (0.972), incubators count (0.942), and startup policy score (0.753). This factor captures the overall scale and maturity of the startup ecosystem. Maharashtra scores highest (3.352), followed by Uttar Pradesh (1.495) and Karnataka (1.460). Bihar scores −0.284, confirming that the state's ecosystem, while growing, remains small in absolute scale.

Factor 2, explaining approximately 24 per cent, loads on internet penetration (0.923), urbanisation (0.852), and literacy rate (0.846). This captures the human capital and digital

infrastructure base. Chandigarh (2.228), Delhi (2.071), and Kerala (1.416) score highest. Bihar scores −1.335, the second-lowest, reflecting the state's low literacy, minimal urbanisation, and limited digital connectivity—a structural constraint that limits all forms of formal economic activity, not just women's entrepreneurship. This finding is consistent with Ghani et al. (2014), who identified education and infrastructure as the strongest predictors of entrepreneurial entry.

Factor 3, explaining approximately 12 per cent, loads negatively on women's share (−0.613) and startup policy score (−0.570). States scoring high on this factor have lower women's participation and weaker policy frameworks. Bihar's score of 0.207 places it near the mean, suggesting that the gender-policy gap is not as severe as its deficits on Factors 1 and 2 might imply. This is an encouraging sign: targeted policy interventions could yield disproportionate gains, given that the policy framework itself is reasonably well-designed.

Combining the three factor scores, states cluster into four groups. "Ecosystem Leaders" (Maharashtra, Karnataka, Delhi, Gujarat) have high Factor 1 and moderate Factor 2 scores. "Human Capital Strong" states (Kerala, Chandigarh, Goa) have high Factor 2 but moderate Factor 1. "Emerging but Underdeveloped" states (Bihar, Uttar Pradesh, Odisha, Rajasthan) score low on both Factors 1 and 2. "Niche Performers" (Telangana, Tamil Nadu) have moderate overall scores but excel on specific dimensions. Bihar's position in the third cluster is significant: the state faces a double deficit in ecosystem scale and human development infrastructure, but its near-mean gender-policy score suggests that the binding constraint is foundational rather than gender-specific.

7. Bihar: District-Level Analysis

Bihar's startup landscape is highly concentrated. According to the Indian Startup Map (2026), the state had 10,639 registered companies across seventy-six districts, with 5,391 (51 per cent) DPIIT-recognised. Patna alone hosts 3,883 startups—approximately 36.5 per cent of the state total. The top ten districts account for over 70 per cent, while the bottom twenty each have fewer than one hundred. Table 3 presents the top fifteen districts, and Figure 2 shows the choropleth map of women-owned MSMEs across Bihar's districts.

Table 3: Top 15 Bihar Districts by Registered Startups, with Women-Led Startups and Women-Owned MSMEs (Estimated)

Rank	District	Startups	Women Startups	Women MSMEs	Dominant Sectors
1	Patna	3,883	586	10,326	Retail, IT services
2	Muzaffarpur	628	94	10,924	Agro-processing, handloom
3	Begusarai	505	76	4,006	Petrochemicals, trade
4	Gaya	372	56	3,050	Food processing, tourism
5	Darbhanga	361	54	4,395	Makhana, crafts
6	Samastipur	325	49	5,461	Agriculture, dairy

7	Bhagalpur	316	47	3,218	Silk weaving, handicrafts
8	Purnia	261	39	4,765	Agriculture, trade
9	Madhubani	239	36	4,830	Mithila painting, agriculture
10	Vaishali	235	35	5,163	Agriculture, horticulture
11	Nalanda	180	27	3,394	Education, agriculture
12	Siwan	172	25	816	Agriculture, trade
13	Gopalganj	163	24	1,085	Agriculture
14	Katihar	161	24	2,391	Agriculture, jute
15	Sitamarhi	156	23	5,254	Agriculture, handicrafts

Source: Indian Startup Map (2026); Udyam/UAP data via PIB (2024); The Economics Journal (2025).

A notable finding is the disconnect between Bihar's high ranking in women-owned MSMEs and its lower ranking in DPIIT-recognised startups. Bihar had over 10.41 lakh women-owned MSMEs registered under Udyam and UAP as of February 2024, placing it fifth nationally (Press Information Bureau, 2024). This suggests a vast base of informal and micro-level women's enterprises that have not yet transitioned into the formal startup ecosystem. Bridging this gap represents a significant opportunity: if even a fraction of these MSMEs could be supported to innovate and scale, Bihar's startup count could increase dramatically.

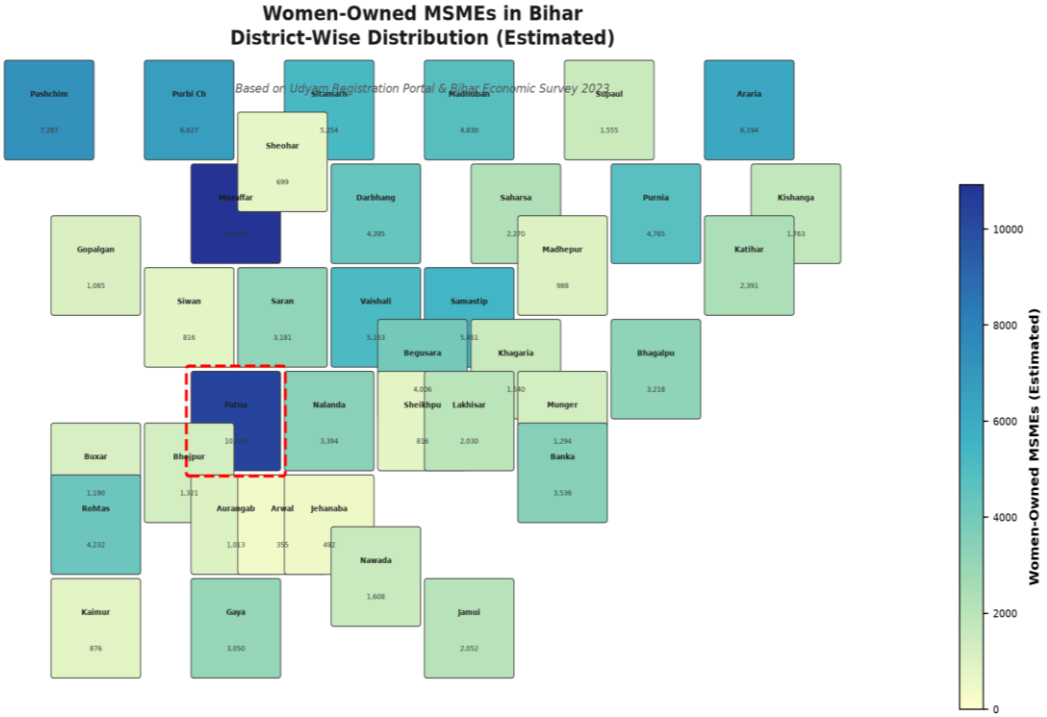

Figure 2: Choropleth map of women-owned MSMEs across Bihar districts (estimated). Source: Author's construction from Udyam and Bihar Economic Survey data.

Women's entrepreneurial activity in Bihar is concentrated in traditional sectors: food processing (27 per cent), textiles and handloom (21 per cent), and retail trade (18 per cent), with the remaining 34 per cent spread across services, agriculture, and small-scale manufacturing (The Economics Journal, 2025). In Muzaffarpur, a women-led cooperative in Bochaha block has established a litchi-processing unit exporting pulp to Delhi and Kolkata, generating revenues of approximately ₹2.5 crore in 2021–22. Around 1,200 women are formally registered under GI-tagged Mithila Painting clusters, catering to both local and export markets. The Startup India Factbook (2025) specifically highlighted Sitamarhi as achieving a twenty-fold increase in startup recognition between 2016 and 2024, demonstrating that the startup movement is reaching districts far beyond Patna. This sectoral concentration reflects both the opportunities and the constraints faced by women in Bihar. Traditional sectors leverage existing skills and local resources (Muzaffarpur's litchi, Bhagalpur's silk, Darbhanga's makhana, Madhubani's paintings) but they also tend to be low-productivity, low-margin activities that are difficult to scale. The challenge for policy is to enable women entrepreneurs in these sectors to move up the value chain, from raw processing to branded products and from local to national and international markets, while also encouraging entry into higher-value sectors such as technology, healthcare, and financial services.

8. Bihar's Women's Startup Ecosystem: Recent Positive Trends

The Bihar Startup Policy 2022, implemented through the Bihar Startup Fund Trust with a ₹500 crore corpus, provides interest-free seed grants of up to ₹10 lakh, with women receiving an additional 5 per cent incentive (Startup India, 2026). By mid-2026, the Startup Bihar portal had disbursed approximately ₹62.5 crore to over 1,522 startups, including 246 women-led ventures spanning agritech, healthcare, e-commerce, education technology, and green energy (Department of Industries, Government of Bihar, 2026). Twenty-one incubation centres are operational across the state, including those at IIT Patna, NIFT Patna, and CIMP. The IIT Patna Incubation Centre alone has backed over 180 founders with ₹47 crore in support.

Beyond the startup-specific policy, two programmes have been transformative. The Mukhyamantri Udyami Yojana and the Bihar Laghu Udyami Yojana have disbursed nearly ₹4,000 crore over the last three years, with the Mukhyamantri Mahila Udyami Yojana specifically targeting women (Indian Masterminds, 2026). The JEEViKA programme, run by the Bihar Rural Livelihoods Promotion Society, has provided business aid of ₹10,000 each to 18.1 million women, making it one of the largest women's economic empowerment programmes globally. The second phase, under the Mukhyamantri Mahila Rojgar Yojana, aims to promote 500,000 to 1,000,000 women-run enterprises, with grants of up to ₹2 lakh based on business plans (Hindustan Times, 2026). The programme targets fifty to one hundred women entrepreneurs in each panchayat across sectors including dairy, agriculture, tailoring, spice manufacturing, and bee-keeping.

Several indicators point to a positive trajectory. Bihar's DPIIT-recognised startups grew 55 per cent year-on-year between 2022 and 2023, exceeding the national rate. The state was ranked an "Aspiring Leader" in the fifth edition of the States' Startup Ecosystem Ranking, having participated in all six reform areas (Startup India, 2026). Its GSDP of approximately ₹9.9 lakh crore in 2024–25, with a CAGR of 11.3 per cent over the preceding decade, provides a growing

economic base. Forty-seven startup cells and twenty-two incubation centres are now operational. The Bihar IT Policy 2024 and the Bihar Idea Festival, which aims to scale 10,000 startups statewide, signal a coordinated approach. There is evidence of a mindset shift: many women previously associated with self-help groups are now formalising their enterprises and entering mainstream markets, transitioning from collective savings to commercial production. The state's industrial transformation is increasingly focused on people—linking industrial development with employment generation, skill development, and startup growth (Indian Masterminds, 2026). Rural innovation is being actively encouraged, allowing startups to address local challenges in agriculture, education, healthcare, and digital services. Incubation centres are nurturing young innovators while mentorship networks connect founders with experienced professionals and industry experts. Women who were previously confined to household roles are stepping into business ownership, supported by targeted financial incentives and training programmes that recognise their specific constraints and potential.

9. Findings from Empirical Field Work

The sixty women entrepreneurs interviewed ranged in age from twenty-three to fifty-two years, with a median of thirty-one. Sixty-five per cent were first-generation entrepreneurs, suggesting that Bihar's entrepreneurial movement is drawing in women without inherited business networks. Forty-two per cent held graduate degrees. By sector, agro-processing accounted for 28 per cent of respondents, textiles and handicrafts 22 per cent, services 18 per cent, retail trade 15 per cent, and technology-enabled services 17 per cent, with the technology share highest in Patna.

On funding, 62 per cent had received some government support, most commonly the Startup Bihar seed grant (28 per cent) or JEEViKA micro-enterprise support (12 per cent). Thirty-five per cent had availed Mudra loans, with an average size of approximately ₹42,000—higher than the state's female average of ₹38,000 but well below the male average of ₹64,000 (The Economics Journal, 2025). Personal savings and family contributions remained the primary initial funding source for 72 per cent. Only 8 per cent had received institutional equity. Several respondents reported being asked for collateral despite the availability of the CGTMSE guarantee, suggesting uneven bank-level implementation. When asked about the biggest challenges, market access and customer acquisition was cited by 68 per cent, followed by access to formal credit (58 per cent), bureaucratic delays in scheme disbursal (45 per cent), limited digital literacy (38 per cent), social and family resistance (32 per cent), lack of mentorship (28 per cent), and inadequate infrastructure (25 per cent). The dominance of market access aligns with findings from the MSME-DI Patna survey reported in The Economics Journal (2025). One respondent from Bhagalpur described the situation: "We produce the silk, but the traders from Kolkata come and buy it at whatever price they decide. We have no direct access to the final customer." Social resistance, while present, was not the primary binding constraint for women who had already started businesses. This finding consistent with the broader literature suggesting that operational barriers outweigh entry barriers for active entrepreneurs (Chiplunkar & Goldberg, 2024).

Despite these challenges, 75 per cent of respondents planned to expand within two years, through hiring, entering new markets, or launching new products. Twenty per cent expressed

interest in raising formal equity investment. The median revenue of established respondents (over five years of operation) was approximately ₹8.5 lakh per annum, with the highest reported being ₹3.2 crore from a Patna-based IT services firm. These aspirations, combined with the positive policy environment and the growing ecosystem infrastructure, suggest that Bihar's women's startup ecosystem is at an inflection point. The foundations have been laid—policy framework, funding mechanisms, incubation infrastructure, and a growing cohort of women entrepreneurs. The challenge now is to address the binding constraints (market access, credit, mentorship, and social norms) to enable this potential to translate into sustained, scalable enterprises. The fact that a significant majority of respondents expressed expansion plans despite the challenges they face is itself a positive signal, indicating that the entrepreneurial drive among women in Bihar is resilient and forward-looking.

10. Discussion

The findings reveal that regional differences in women's startup development are driven by three interacting dimensions. The first (ecosystem scale) is the most visible: leading states have large numbers of startups, substantial funding, and numerous incubators. Bihar's deficit here is significant but unsurprising for a state at its stage of economic development. The second (human development infrastructure) is more fundamental. Bihar's low literacy, minimal urbanisation, and limited internet penetration create a structural constraint limiting not only women's entrepreneurship but all formal economic activity. Addressing only the first dimension without addressing the second would be like building a house on an inadequate foundation. The third (gender-policy alignment) is where Bihar shows unexpected resilience, scoring near the national mean despite its deficits elsewhere, suggesting that the policy framework is reasonably well-designed and that the challenge lies in implementation and in addressing structural constraints.

The disconnect between Bihar's high MSME base (10.41 lakh women-owned) and its low DPIIT startup count (2,786) is particularly significant. It indicates a vast pipeline of women's enterprises that have not yet transitioned into the innovation-driven startup ecosystem. The JEEViKA network, with millions of women organised into self-help groups, provides a unique platform for this transition. If structured mentorship, technology adoption, and market linkage support can be channelled through this existing network, Bihar could achieve a step-change in formal women's entrepreneurship. The fieldwork supports this interpretation: several respondents who began as SHG members had successfully formalised their enterprises, suggesting that the pathway from collective micro-enterprise to formal startup is viable when appropriate support is available.

Comparing Bihar with peer eastern states, Odisha has a comparable absolute count (2,484) but a higher women's share (48.7 per cent). West Bengal is significantly ahead (4,627). Bihar's distinguishing feature is the scale of its women's MSME base and the ambition of the JEEViKA-MMRY programme, which gives it a platform for scaling from the grassroots that no peer state possesses. The fieldwork finding that market access is the primary constraint (cited by 68 per cent) rather than social norms (32 per cent) has important policy implications: interventions should prioritise market linkage and value-chain integration over attitudes and awareness campaigns, which may be less binding for women already in business. Furthermore,

the Chiplunkar and Goldberg (2024) finding that women entrepreneurs have a comparative advantage in hiring female workers suggests a strategy of building women-led enterprises that employ other women, creating a virtuous cycle of female economic participation. The gender gap in Mudra loan amounts (₹38,000 for women vs ₹64,000 for men in Bihar) represents a clear, measurable disparity that requires targeted intervention from the banking sector.

11. Conclusion

This study has examined regional disparities in women's startup development across Indian states, with a focus on Bihar. The varimax factor analysis identified three dimensions (ecosystem scale, human development infrastructure, and gender-policy alignment) that explain the bulk of regional variation. Bihar faces a double deficit on the first two dimensions but scores near the national mean on the third, suggesting that its policy framework is sound while its foundational constraints remain the primary barrier. At the district level, Patna dominates but emerging activity in Muzaffarpur, Begusarai, Gaya, and Sitamarhi points to a broadening ecosystem. The fieldwork confirmed that market access, credit, and bureaucratic delays are the most pressing challenges, while social norms, though present, are not the primary binding constraint for women already in business. The recent positive trends (the 55 per cent year-on-year growth in DPIIT recognitions, 246 women-led startups supported, ₹62.5 crore disbursed, and the ambitious JEEViKA-MMRY programme targeting up to one million women-run enterprises) are genuinely encouraging. Bihar is building an ecosystem that, if sustained and deepened, could serve as a model for other low-income states. The broader lesson is that regional differences are not immutable: they are the product of identifiable factors that can be influenced through targeted intervention. The challenge for policymakers is to address all three dimensions simultaneously—building the ecosystem, investing in human development, and maintaining the gender-policy alignment that Bihar has already achieved.

This study has limitations. State-level women-led startup estimates are derived from national ratios applied to state totals, as granular gender-disaggregated DPIIT data are not publicly available in machine-readable form. The fieldwork sample of sixty respondents is limited to four districts. Future research should expand to additional districts, particularly in north Bihar and the Seemanchal region, and should seek access to more granular administrative data as it becomes available through the Udyam Sakhi portal and other platforms. Despite these limitations, the study provides a comprehensive, multi-level analysis of a topic that is both academically important and policy-relevant: how and why women's entrepreneurial activity varies across regions in India, and what can be done to ensure that the benefits of the startup revolution reach women in every part of the country.

In conclusion, the evidence presented here suggests that Bihar's trajectory, while starting from a low base, is directionally positive. The combination of a well-designed policy framework, a vast grassroots network through JEEViKA, growing incubation infrastructure, and a new generation of women entrepreneurs willing to challenge social norms creates conditions for sustained growth. The three-dimensional framework identified by the varimax analysis provides a roadmap: invest in human development infrastructure, scale the ecosystem, and maintain the gender-policy alignment that is already in place. If these three strands are pursued

simultaneously, Bihar could transform from an "Aspiring Leader" to a "Top Performer" in the national startup ranking, with women at the centre of that transformation.

References

Applied Economics. (2024). Growth decomposition of the Indian states using panel data techniques. Applied Economics, 56(39), 4664–4684. Taylor & Francis.

Ansari, J. A., & Yousuf, A. (2018). Analysis of barriers to women entrepreneurship through ISM and MICMAC: A case of Indian MSMEs. Journal of Enterprising Communities, 12(1), 2–21.

Baral, R., Dey, C., Manavazhagan, S., & Kamalini, S. (2023). Women entrepreneurs in India: A systematic literature review. International Journal of Gender and Entrepreneurship, 15(1), 94–121.

Bhat, J. A., & Sharma, A. (2022). Gender differentials in entrepreneurship: Insights from a multi-method study. Journal of Entrepreneurship, 31(1), 30–64.

Chaudhuri, K., Sasidharan, S., & Raj, R. S. N. (2024). Discrimination in credit markets: The case of female entrepreneurs in India. IGIDR Working Paper No. 2024-025. Indira Gandhi Institute of Development Research.

Chiplunkar, G., & Goldberg, P. K. (2024). Aggregate implications of barriers to female entrepreneurship. IZA Discussion Paper No. 17281. Institute of Labor Economics.

Department of Industries, Government of Bihar. (2022). Bihar Startup Policy 2022. Patna: Government of Bihar. Retrieved from https://startup.bihar.gov.in

Department of Industries, Government of Bihar. (2026). Women are shaping Bihar's startup success story [Press release]. Retrieved from https://startup.bihar.gov.in

Department for Promotion of Industry and Internal Trade. (2025). Startup India Factbook, January 2025. New Delhi: Government of India.

European Economic Letters. (2025). Mapping India's startup landscape: Regional specialisation and sector concentration using DPIIT recognition data. European Economic Letters.

Factly. (2025). Data: Number of recognized startups with at least 1 woman director crossed 50% in 2024. Retrieved from https://factly.in

Ghani, E., Kerr, W. R., & O'Connell, S. (2013). Local industrial structures and female entrepreneurship in India. Journal of Economic Geography, 13(6), 929–964.

Ghani, E., Kerr, W. R., & O'Connell, S. (2014). Spatial determinants of entrepreneurship in India. Regional Studies, 48(6), 1071–1089.

Gupta, A., Batra, S., & Gupta, V. K. (2020). Gender, culture, and implicit theories about entrepreneurs: A cross-national investigation. Small Business Economics, 58(2), 1073–1089. https://doi.org/10.1007/s11187-020-00434-9

Guzmán, J., & Kacperczyk, A. (2019). Gender gap in entrepreneurship. Research Policy, 48(7), 1666–1680. https://doi.org/10.1016/j.respol.2019.03.012

Hindustan Times. (2026, March 26). JEEViKA plans to promote 500,000 to 1,000,000 women-run business enterprises in Bihar.

Indian Masterminds. (2026, July 9). From migration to opportunity: How Bihar is creating jobs, building entrepreneurs and bringing talent back.

Indian Startup Map. (2026). Startups in Bihar: 10,639 registered. Retrieved from https://indianstartupmap.com/states/bihar

ICFAI University Press. (2026). Developing an integrated entrepreneurial performance index for comparative evaluation of Indian states. IUP Journal of Entrepreneurship Development, 25(1).

Kanth, D., & Sinha, A. R. (2025). Sustainable entrepreneurship and business performance among rural women entrepreneurs: Investigating the influence of entrepreneurial intention, social innovation and government support. Social Enterprise Journal. https://doi.org/10.1108/sej-11-2024-0180

Kumari, Q., Ghosh, S., & Swagat, S. R. R. (2025). Empowering rural women entrepreneurs: Insights from Bihar's agricultural and small enterprises. Indian Journal of Extension Education, 61(2), 25–29. https://doi.org/10.48165/IJEE.2025.6105

Mishra, S., Mishra, A., Singh, S. P., & Upadhyay, B. (2024). Investigating the impact of financial barriers, regulatory landscape and societal backing on women-led enterprises in India. European Economic Letters, 14(1s), 236–244.

MDPI Administrative Sciences. (2023). Bureaucratic and societal determinants of female-led microenterprises in India. Administrative Sciences, 13(3), 68.

Press Information Bureau. (2024, July 30). Government initiatives to promote startups across the country [Press release]. Government of India.

Press Information Bureau. (2025). Over 1 lakh 40 thousand recognised startups in the country, over 67 thousand have at least one woman director [Press release]. Government of India.

Prakash, A. (2021). Barriers and potential solutions for MSMEs in developing economies: Evidence from India. Problems and Perspectives in Management, 19(4), 168–183. https://doi.org/10.21511/ppm.19(4).2021.13

Ranasinghe, A. (2024). Gender specific distortions, entrepreneurship and misallocation. Journal of Economic Dynamics and Control, 162, 104981.

Shakhi, K. (2026). Women's entrepreneurship as a catalyst for economic empowerment: A study of Gaya District. International Journal of Financial Management and Economics, 8(1). https://doi.org/10.36948/ijfmr.2026.v08i01.66562

Startup India. (2026). States' Startup Ecosystem Ranking: Bihar State Report. Department for Promotion of Industry and Internal Trade, Government of India.

Springer. (2024). Transforming rural women's lives in India: The impact of microfinance and entrepreneurship on empowerment in self-help groups. Journal of Social Entrepreneurship. https://doi.org/10.1186/s13731-024-00419-y

Taylor & Francis. (2025). Resourcefulness, support, and success in women-led small-scale enterprises: An fsQCA approach. Journal of International Women's Studies. https://doi.org/10.1080/26437015.2025.2538190

The Economics Journal. (2025). Socio-economic determinants and policy measures for strengthening women entrepreneurship in Bihar's MSME sector. The Economics Journal, 8(1), 73–543.

VeriXiv. (2025). Examining the relationship between social norms, sanctions, and women's entrepreneurship in Bihar, Uttar Pradesh, and Maharashtra. VeriXiv, 2-201.