

Powerloom Industry and Urban Economic Transformation in Mau City: An Analysis of Employment, Income Generation, and Local Industrial Development

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Abstract—Mau is a well-known weaving centre in eastern Uttar Pradesh where household skills, powerloom production and small enterprise coexist with trading in textiles. This paper focuses on the powerloom economy and urban economic transformation in terms of employment, income and industrial policies as well as cluster growth. Due to the lack of reliable city-level production and wage data, the paper has chosen to use validated government sources and recent publications instead of developing fictitious firm data. In a 2024 Ministry of Textiles parliamentary reply, it was reported that during the year 2023-24, there were 230 weavers in the Mau region with 164 powerloom weavers and 66 handloom weavers with the first tranche of Rs 305.560 Lakhs. Of these beneficiaries, 71.3% were powerloom weavers, which approximates the Uttar Pradesh situation where over 5 lakh powerloom weavers are compared to 1.99 lakh handloom weavers. The paper argues that the transformation in Mau is more attributable to small scale dense production and weaving combined with market linkages and supporting enterprise and government sponsored modernisation, than large factory-based industrialization. The challenge is to support the flexible local networks structuring employment in order to maintain productivity and income.

Keywords: Powerloom; Mau; textile cluster; employment; income generation; MSME; urban economic transformation

I. INTRODUCTION

Mau's textile economy follows a unique type of small city industrialization. Production is dispersed through weaving households, powerloom sheds, traders, designers, dyers, yarn suppliers, and small manufacturers rather than being dominated by a few vertically integrated factories. The Uttar Pradesh Textile and Garmenting Policy 2022 recognizes the silk sarees of Varanasi and Mau as one of the state's textile strengths and treats weaving, processing and garmenting as an integrated value chain (Government of Uttar Pradesh, 2022). Similarly, the state's One District One Product program identifies textile products as Mau's major industrial activity.

This is important for the urban transformation of Mau because almost all powerlooms in the area are relatively small and dispersed. This means that nearly every powerloom is an economic unit for its owner, and it is also a link in a larger chain of commerce. The effects of the economy of Mau are felt most by the powerloom owners, but can ripple all the way to the retail

shops and finance. When orders for powerlooms decrease, the effects are felt by dye houses, transport, and the informal sector. The urban economy of Mau is the capacity to produce, as well as the supporting institutions.

The national powerloom sector is large, but there are large gaps in the data. In February 2024, the Ministry of Textiles stated that the latest baseline survey was conducted in 2013, when there were roughly 24 lakh powerlooms supporting about 44 lakh workers (Ministry of Textiles, 2024a). Mau needs this data because claims about the number of looms, production, and employees should not be treated as fact unless there is supporting data.

This paper will discuss how the establishment of powerlooms enables development of industry and employment at the local level. It will also address the hurdles that prevent these opportunities from creating strong and secure employment in the informal sector of the urban economy.

II. INDUSTRIAL AND POLICY CONTEXT

Due to its large market and labor supply, Uttar Pradesh is well placed within India's textile sector. The Invest UP report cites approximately 500,000 powerloom weavers, 199,000 handloom weavers, and 1 million workers in allied sectors. This Central state accounts for roughly 13% of the production of fabric in India (Invest UP, 2024). These statistics show Mau as a part of a major state production system and not as a disconnected local craft economics system.

Considering the policies that have been implemented since 2022, there has been an effort to integrate the traditional textile production clusters with the new generation of manufacturing. The Uttar Pradesh Textile and Garments Policy aims at achieving an investment of Rs. 10,000 Crore and generating employment for 5,00,000 people. This policy is also aimed at increasing the earnings of handloom and powerloom weavers and modernizing powerlooms along with the use of solar power. For qualifying textile units, the policy offers a 25% subsidy on the cost of powerlooms and textile machinery. Mau lies in the Bundelkhand and Poorvanchal regions, so this regional incentive is applicable to the area (Government of Uttar Pradesh, 2022).

Central programs also contribute to shaping clusters. According to a December 2024 parliamentary reply, PowerTex India released a cost of Rs 0.16 Crore to the Mau cluster, and Mau had a powerloom service center providing testing, training, technical consultancy, and troubleshooting under the Textile Cluster Development Scheme (Ministry of Textiles, 2024b). This reply stated that training was provided to 1,497 weavers in the Bhiwandi, Malegaon, Benaras and Mau clusters; however, it did not provide a Mau-only training count.

The policy architecture comprises supports for machinery, skills, infrastructure, credit and market. The question is whether these supports can reach an enterprise base that is fragmented and scattered to increase productivity and earnings of the household, beyond just increasing installed capacity.

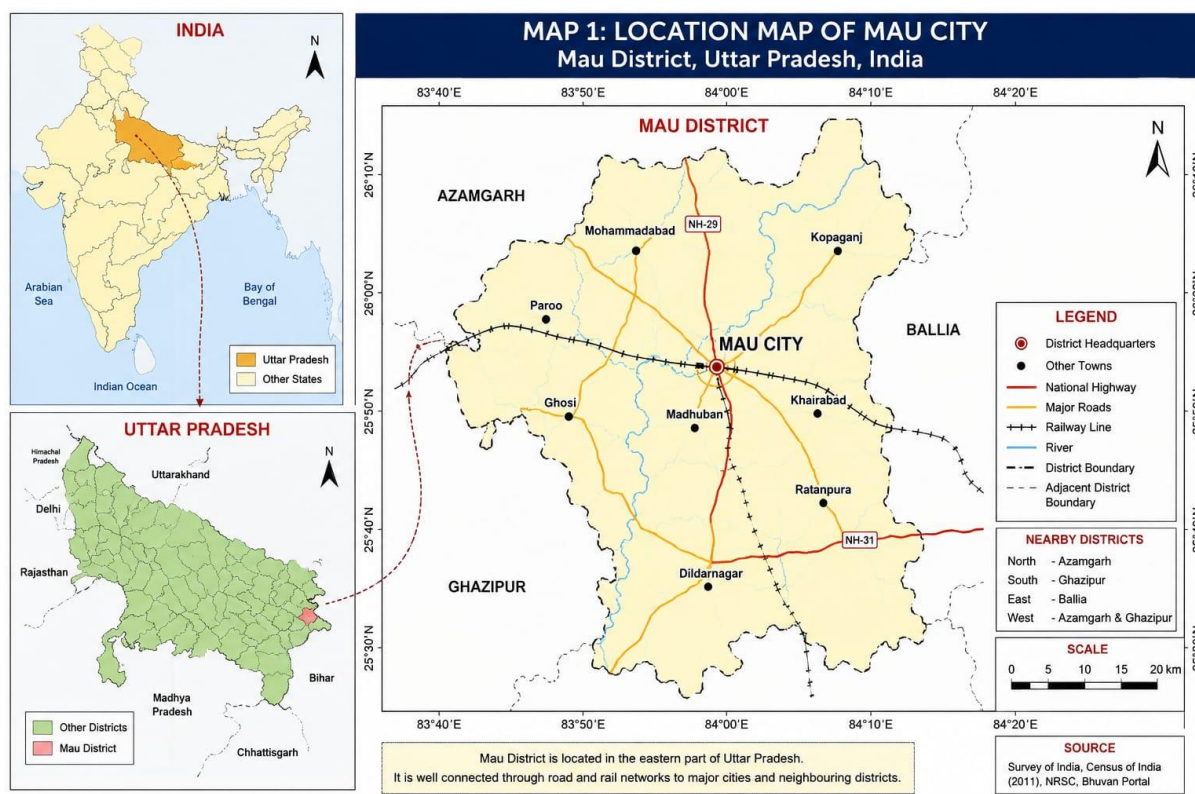
III. DATA AND METHODOLOGY

The study employs a quantitative, descriptive, and analytical design based on Secondary data. Observations specific to Mau are drawn from Ministry of Textiles parliamentary replies, Uttar Pradesh policy documents, and official ODOP material. State benchmarks are drawn from Invest UP and Ministry of Textiles. Recent scholarly studies are employed to frame the conditions of labor, migration, and constraints in the delivery of public services.

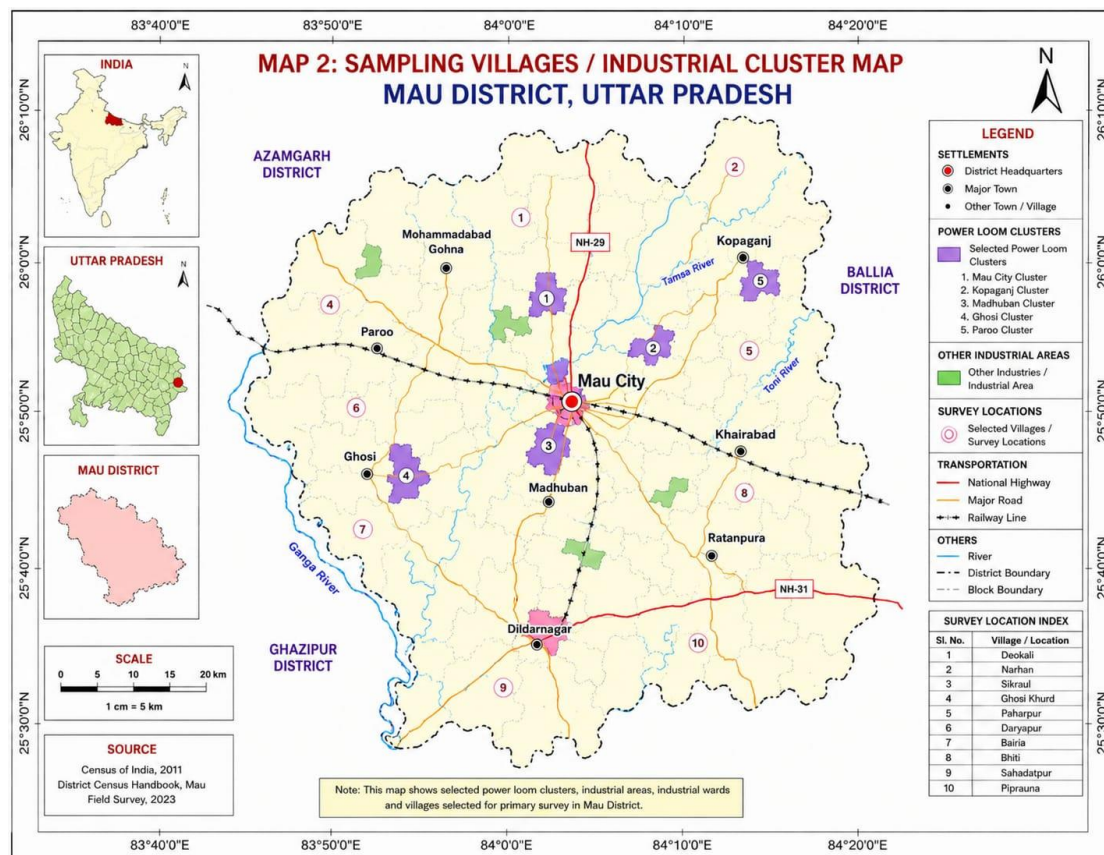
Four derived measures are constructed: Beneficiary composition, average first-installment support per beneficiary, state powerloom-to-handloom weaver ratio, and state policy employment target. It is shown how an arithmetic average of Rs 305.560 lakh first instalment, as support to 230 weavers in the Mau region, is pooled. This average is not meant to show an individual support, entitlement, or wage. State-level employment indicators are used as framework and not converted to Mau-level estimates.

No fabricated survey, regression, wage series, production volume or firm count is introduced. This is a deliberate limitation because the Ministry itself acknowledged in 2024 that a new baseline survey was still being prepared. The analysis therefore emphasises verified scale, policy reach and structural relationships rather than false precision.

Descriptive ratios are preferred because the available observations are heterogeneous in scale and purpose. The paper therefore separates programme reach, sector structure and policy targets instead of treating them as a time series.



Source: Survey of India, Census of India (2011), NRSC, Bhuvan Portal



Source: Census of India, 2011 District Census Handloom, Mau Field Survey, 2023

Table 1. Verified Mau-region support indicators, FY 2023-24

Indicator	Value	Derived interpretation
Supported weavers	230	Programme recipients
Powerloom weavers	164	71.3% of recipients
Handloom weavers	66	28.7% of recipients
First instalment	Rs 305.560 lakh	Total reported release
Pooled arithmetic average	Rs 1.33 lakh	305.560 / 230; not an individual entitlement

Source: Ministry of Textiles, Government of India (2024b); calculations by author.

Table 2. Uttar Pradesh textile-sector benchmark

Indicator	Official/approx. value	Derived statistic
Powerloom weavers	5.00 lakh	71.5% of combined weaving base
Handloom weavers	1.99 lakh	28.5% of combined weaving base
Combined powerloom + handloom	6.99 lakh	Powerloom/handloom ratio = 2.51
Broad apparel/textile employment	15 lakh	State sector context
Share of national fabric production	~13%	State-level benchmark

Source: Invest UP (2024); calculations by author.

Table 3. Selected Uttar Pradesh Textile and Garmenting Policy 2022 targets/incentives

Policy measure	Target / provision
Investment target	Rs 10,000 crore
Employment target	5 lakh new employment opportunities
Textile/apparel parks	5
Weaver earnings objective	50% increase
Capital subsidy	25% of eligible plant and machinery investment
Additional Poorvanchal/Bundelkhand support	10% additional capital subsidy, subject to eligibility and caps

Source: Government of Uttar Pradesh (2022).

IV. RESULTS AND STATISTICAL ANALYSIS

With regard to quantitative evidence pertaining to the Mau region, the most evident concerns support for the general public. In the period between 2023 and 2024, 230 weavers from the Mau region received the first installment of Rs. 305.560 lakhs from the Chief Minister's Handloom and Powerloom Industry Development Scheme. Among the beneficiaries, 164 were powerloom weavers and 66 were handloom weavers (Ministry of Textiles, 2024b). Of the beneficiaries, 71.3% were powerloom weavers and 28.7% were handloom weavers. This shows that the mechanized weaving system occupies a large part of the local intervention system. Handlooms, however, still occupy an economically and culturally important place.

The first installment of the support per beneficiary is Rs 1.33 lakhs. This should not be interpreted as a fixed support amount. Depending on the approved activity and beneficiary group, the support amount varies. The importance of this, however, is to demonstrate the order of amount of capital support in relation to a small scale business. This amount of support would influence the decision to purchase a loom, electrify or renovate the workspace, or even buy a new loom, in combination with credit.

The beneficiary structure of Mau is similar to the structure of the entire state. According to Invest UP, there are about 5 lakh powerloom weavers and 1.99 lakh handloom weavers in Uttar Pradesh. In both cases, powerloom weavers constitute 71.5% of the total, whereas in the 2023-24 scheme, they constitute 71.3% of the beneficiaries. The near sameness, however, should not be interpreted to mean that the scheme for Mau is out of line, since one is a stock estimate while the other is a recipient composition of the scheme. It shows, however, that the schemes, at least in their current form, for powerloom weaving and handloom weaving are in line with the broader weaving structure of the state.

These state statistics provide detailed knowledge of the powerloom labor pool. There are around 2.51 powerloom weavers for each handloom weaver. Since these weavers have a higher number combined with a higher perceived demand, it is easy to see the impact productivity and energy costs of powerlooms could have on weaver employment. Since the demand and energy costs for powerlooms are greater than for handlooms, if productivity is increased even further without a corresponding increase in orders, it is likely that the workers will have to find employment in activities of lower value, or even be unemployed.

The Uttar Pradesh Textile and Garment Policy also provides a concrete goal. It aims for 5 lakh new jobs, and Invest UP estimates that 1.5 million workers are in the state's apparel and textile industry. This is a goal that could increase employment by 33%. If these additional jobs are possible through many smaller production centers in addition to large-scale production centers, then it is possible to bring manufacturing and secondary cities closer together. However, it is unclear how many of the small firms will be able to get the subsidies, formal financing, training, and market access.

Although the direct reported cash amounts show that Central support to Mau has been low, the Parliamentary reply for 2024 shows that Rs. 0.16 crore was allocated to the Mau cluster under the PowerTex India program compared to Rs. 2.09 crore to Benaras, Rs. 8.27 crore to Malegaon and Rs. 57.97 crore to Bhiwandi. The funds allocated to Mau are only 7.7% of what was allocated to Benaras and 0.28% of what was allocated to Bhiwandi. These numbers are for one program only. They are more like estimates of the potential support available from the center. It is clear that so far, support for clusters has not been equitable.

Employment and income transformations cannot be evaluated based on subsidies. Bano and Ahmad (2023) indicate how occupational morbidity affects powerloom weavers in Mau, as an example, to illustrate how the industrial employment of weavers in poor work environments may have a negative impact on their welfare due to the presence of noise, dust, and/or poor ergonomics. Ahmad and Rahman (2024) show that for weaving communities, migration to Gulf countries is a livelihood strategy that was chosen by more than 60% of the weavers who migrated and worked in unskilled jobs. Further, more than half of the weaver migrants earned Rs 18,000 to Rs 23,000 per month. Clearly, migration reflects the diversification of the households and their dissatisfaction with the local opportunities.

The report of Hussain et al. (2024) in the Economic and Political Weekly presents more contradictions between government structures and ground realities in the Mau traditional weaving economy. These contradictions are important in terms of the powerloom-driven urban transformation in the region, because fragmented institutions may weaken the ability to access schemes, market and collective infrastructure. A cluster may be dense economically, but may be difficult to reach administratively, if enterprises are small, informal or poorly documented.

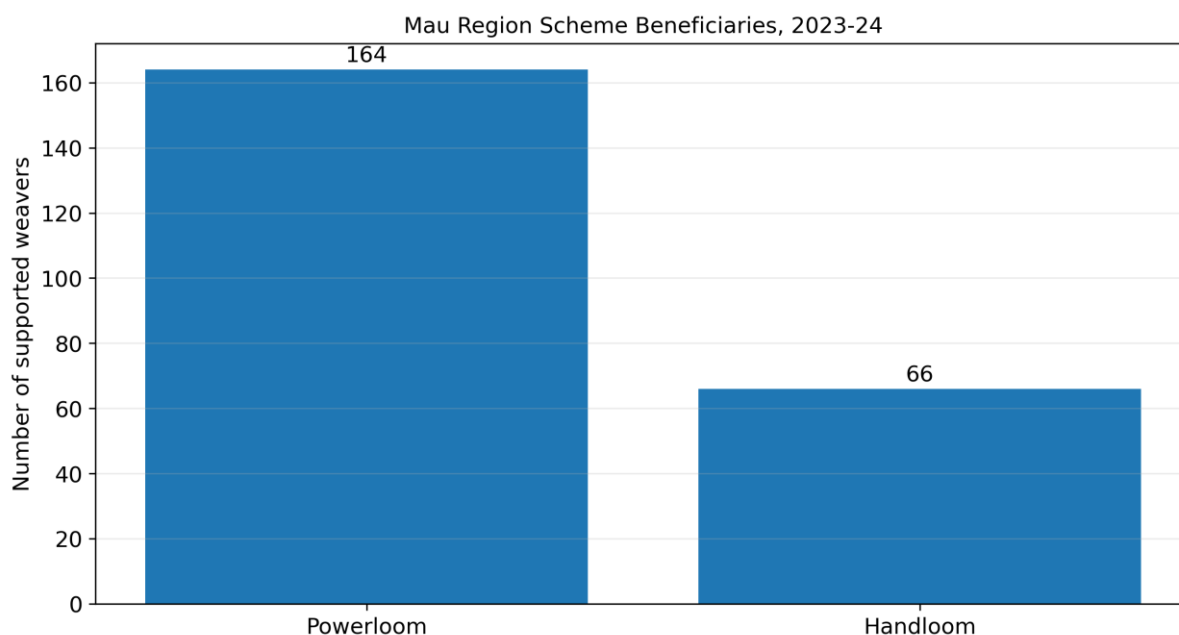


Figure 1. Mau-region supported weavers by loom category, FY 2023-24

Source: Ministry of Textiles (2024b).

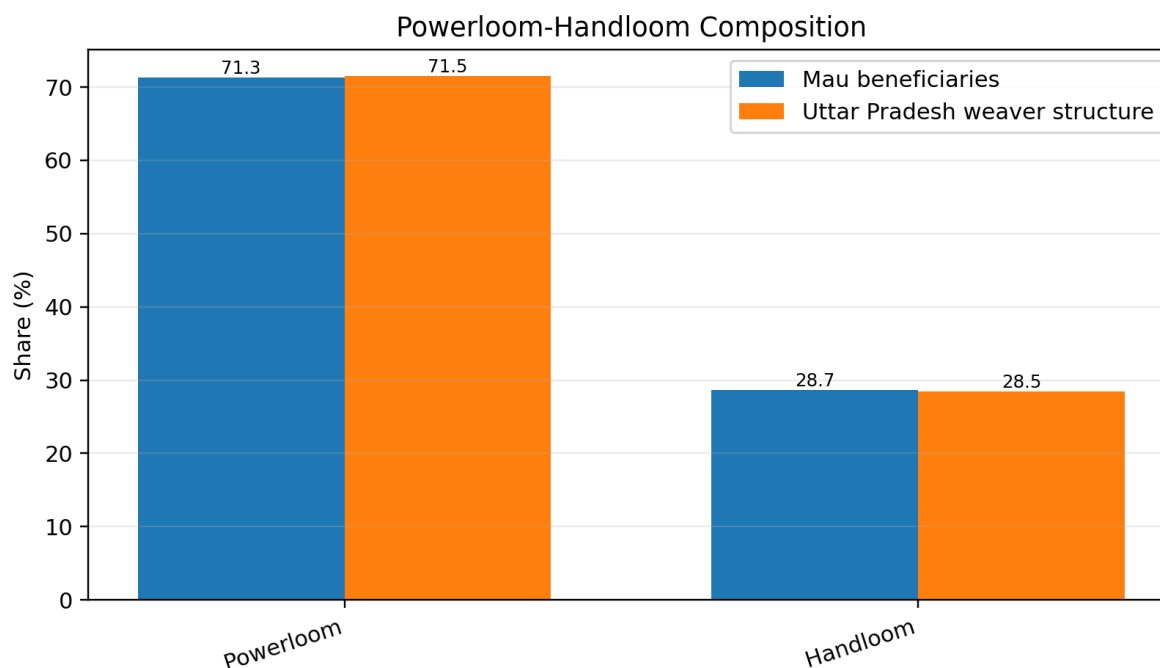


Figure 2. Powerloom-handloom composition: Mau beneficiaries vs Uttar Pradesh weaver structure

Source: Ministry of Textiles (2024b); Invest UP (2024); author calculations.

Table 4. Reported PowerTex India releases to selected clusters

Cluster	Release (Rs crore)	Mau relative to cluster (%)
Bhiwandi	57.97	0.28
Malegaon	8.27	1.93
Benaras	2.09	7.66
Mau	0.16	100.00

Source: Ministry of Textiles, Government of India (2024b); percentages calculated by author.

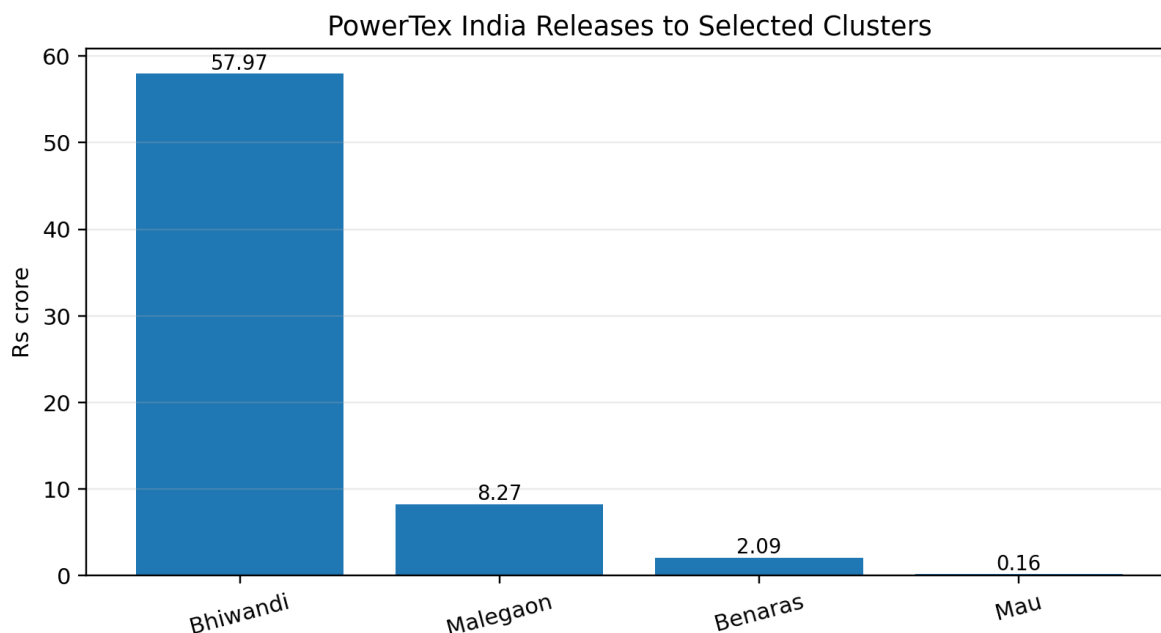


Figure 3. Reported PowerTex India releases to selected powerloom clusters

Source: Ministry of Textiles (2024b).

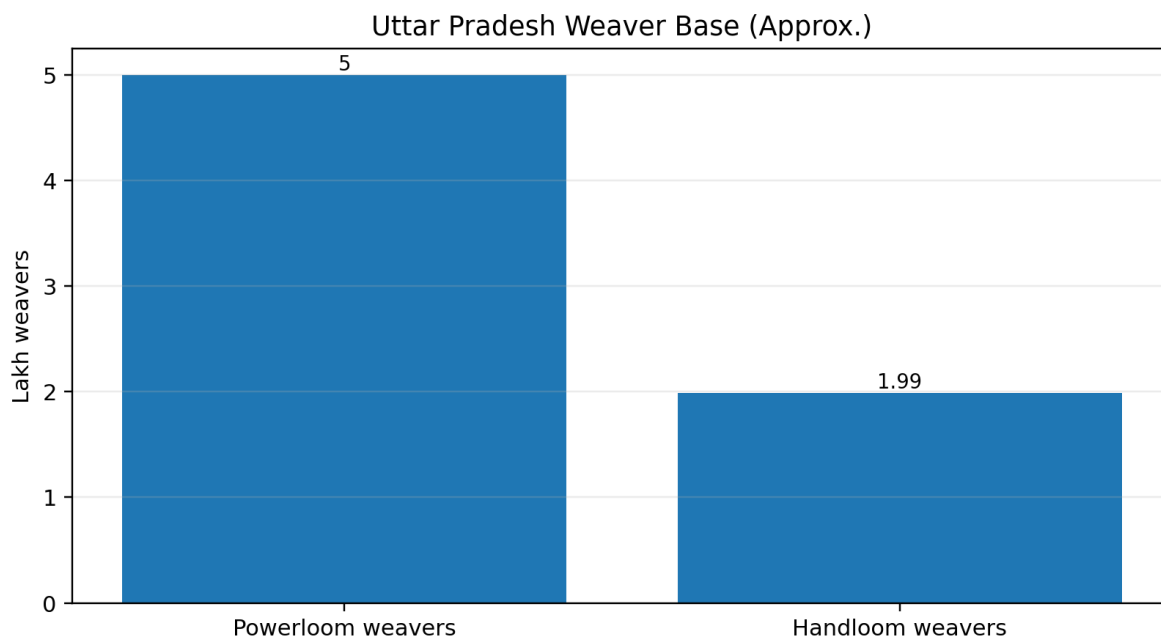


Figure 4. Approximate powerloom and handloom weaver base in Uttar Pradesh

Source: Invest UP (2024).

V. DISCUSSION

These findings show that Mau has a dispersed industrial district with widespread urban production and is not characterized by centralized urban production focused on factories. For local development, although the power loom has more prospects than hand weaving, the distribution of value to multiple components, such as the procurement of yarn, weaving, design, finishing, trading, and retail, negatively impacts local development. If local firms are only able to conduct low-margin job work, increasing physical production may not result in an increase in household income.

This problem has been identified in public policy. The 2022 state policy links capital subsidy to employment and focuses on Poorvanchal, while also promoting design studios, marketing enterprises, export houses and infrastructure. These initiatives are important because, in addition to machinery, a mature weaving cluster requires design, digital marketing, common facilities and reliable power.

The data also show a measurement problem. Current local data on stock of looms, weaving, wages, enterprise size, energy consumption, and the survival of enterprises are not available in the public domain. The Ministry of Textiles has stated that the last comprehensive survey of the power loom sector was in 2013 and this provides a good reason to be cautious before we speak of the current state of the power loom economy with confidence.

Better district-level data will allow analysis of productivity, wages, female work, job formalization, and the relationship between machinery and employment.

Another variable is migration. According to Ahmad and Rahman (2024), community members may migrate to take on unskilled, more profitable jobs. This suggests that local industrial policies must account for the opportunity cost of migration. When thinking about the profitability of a Powerloom job, one must consider the local job market as well as the national and international job markets. Hence, rather than being a welfare state, training, industrial safety, social protection, etc. could be used as industrial tools to enhance economic growth.

The hand loom and power loom also require a balance. The use of the power loom facilitates mass production. On the other hand, the hand loom has value and specialness. It is better to not use both in the same market segment. Mass production can be reserved for the power looms, while the hand looms can produce exclusive designs. In the case of unemployment in the hand loom sector, it is better to avoid using both in the same market segment.

The urban multiplier effect can be achieved by cluster development. Stable weaving income fosters the development of housing, retail, transport, education, and repairs as well as cafes. Credit and support for services are achieved. Shocks in the marketplace discourage all spending. This is why it is important to have market access, working capital, and fixed investment. The powerloom industry is not merely one sector among many. In a specialized production center it has an economic effect on many urban livelihoods.

VI. MAJOR FINDINGS, RECOMMENDATIONS AND LIMITATIONS

Five key findings are presented. The first identifies the confirmation that 2023-24 data show that beneficiaries of the Mau Program have a prominent subset of powerloom weavers. The second states that 71.3% of program beneficiaries that are powerloom weavers is similar to the proportion of all powerloom weavers (combined with handloom weavers) in the state of Uttar Pradesh. The third states that policy support is more in the direction of capital modernization, employment, and cluster services, while the comparatively smaller size of the Central Government PowerTex releases to the Mau Region in comparison to the larger clusters has been very small. The fourth focuses on new evidence that occupational health and out-migration are concerns, therefore it is unclear if an increase in the number of looms will result in an improvement in livelihoods. The fifth states that the lack of data makes it impossible to estimate the productivity and income impact of the Mau Region.

It is recommended that the policy directs the Mau Textile Census to be done more regularly. Looms, employment, wages, and the size of the production unit and the energy utilized to produce the output should be captured. The digital cluster registry should allow units to be registered to the Udyam, credit and subsidy systems. Grants for cluster modernization should be provided in conjunction with market development. Productivity should be improved through purchase orders. Improvement in government services should strengthen design, testing, and energy efficiency, offer maintenance, and improve social security and ergonomics. Worker health should include provision of hearing protection and improved ventilation.

Since the nature of weaving enterprises in the Mau zone is predominantly made up of small and medium enterprises, financial inclusion should be made the first priority. It is common for operations in small units to require working capital before requiring fixed capital. Many of the financing schemes in the market can be modified to require less credit.

The absence of recent public Mau-wide baselines for firms, looms, production, and earnings of the last ten years is the main constraint. Therefore, this paper does not make any causal estimates of income generation. The results presented are based on official data with a good level of detail. These results should be seen in the context of structural indicators and not as a full repetitive enumeration of the industry.

VII. CONCLUSION

The powerlooms in Mau create employment opportunities for households in a dispersed manner, and catalyze trade sustenance services in the urban economy. There are ample data to show the focus of powerlooms and policies has been significant. In 2023-24, the first installment of Rs 305.560 lakh to 230 weavers from the Mau region was awarded, with powerloom weavers accounting for 71.3% of the beneficiaries. Similar data at the state level influence the dominance of powerloom weaving. The 2022 Textile Policy aims to support a substantial increase in capital and employment of Modern Cluster based Weaving.

The primary issue is not whether powerloom activity is relevant. The important issue is producing for a secure source of income while improving the quality and local value of the employment. This will be achieved by providing support for the technological



infrastructure of production as well as protecting the workforce, and improving the social aspects of the work and the employment of the market. This will be further supported by a better public data system. If these are implemented, Mau will be able to direct some modern industrial focus on its powerloom sector. Employment and production systems will remain the same.

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