

**The Textile Industry of the United Provinces: Technologies and Trends**

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**Abstract**

The textile industry of colonial India exemplifies the interplay of traditional craftsmanship, colonial policies, and technological changes. This study focuses on the United Provinces, highlighting their pivotal role in India's economic and cultural fabric. Indigenous technologies like the Charkha and pit loom supported widespread handloom production, while local resources enabled vibrant dyeing and printing practices. The 19th century marked the rise of mill industries, introducing industrialization alongside traditional methods. British interventions, aimed at improving cotton ginning and packing, primarily benefited their industries, often at the cost of local artisans. Despite disruptions, the resilience of handmade textiles and the region's contributions to global trade underline the enduring ingenuity and cultural significance of India's textile heritage.

**Keywords: Textile Industry, Colonial India, Handloom Weaving, Cotton Manufacturing, Technological Advancements, United Provinces**

The textile industry of colonial India vividly highlights England's monopoly over trade and the exploitation that ensued. The deindustrialization caused by England's Industrial Revolution, the steep decline in textile exports due to British policies and laws, and the hardships faced by Indian weavers are key themes of that era. Numerous studies, such as “Competition and Control in the Market for Textile: Indian Weavers and the East India Company in the Eighteenth Century” by Bishnu Priya Gupta, explore India's textile industry. Others, like “Communities of Skill in the Age of Capitalism: Handloom Weavers in Twentieth-Century United Provinces, India” by Santosh Kumar Rai, delve into the lives of handloom weavers. However, there has been no systematic study presenting an overview of the technologies and trends in textile manufacturing during the colonial period. This paper aims to fill that gap.

We focus on the textile industry of the United Provinces, a region that, as one of the largest and most populous provinces of British India, played a pivotal role in the Indian freedom struggle and significantly influenced India's economic development. Rich in agricultural and trade history, the region was home to a thriving textile industry. To understand the industry's role in

the economic life of the people, it is essential to analyze its three primary divisions: cotton, wool, and silk. This paper concentrates on the technologies used in manufacturing cotton textiles, the most developed and widely utilized sector.

The technological needs of the textile industry encompassed apparatuses for cleaning, pressing, spinning, and weaving cotton. These tools were simple, crude, and inexpensive, having been in use for centuries. Cotton cleaning apparatuses ranged from a basic wooden stick to the more sophisticated cotton carder's bow, or "Pinjana," described in Miftah-ul-Fuzala (c. 1530). Cotton beating for cleaning purposes is depicted in a Mughal painting from around 1590 (1). The pressing apparatus was a rudimentary wooden structure, as seen in Mughal paintings from around 1750 (2). Two devices were employed for spinning cotton: basic hand spinning tools and the spinning wheel (Charkha). The Charkha gained popularity during the Delhi Sultanate period and became widely used by the mid-14th century, first mentioned in Isami's *Futuh-us-Salatin*. Women often managed pressing and spinning tasks, as depicted in Mughal paintings (3), carrying cotton presses and spinning wheels on their heads. The pit loom with treadles, a significant technological advancement, also became widespread during the Sultanate era and is illustrated in several Mughal paintings, including one from around 1590 (4).

Bleaching and dyeing woven goods involved local ingredients such as indigo, dhak (*Butea frondosa*), tun (*Cedrela toona*), henna (*Lawsonia inermis*), safflower (*Carthamus tinctorius*), turmeric, lac, and madder (5). These agents, abundantly available in the region, were commonly used until the late 19th century (6). Subsequently, aniline and alizarin dyes began to replace traditional vegetable dyes, reducing the cost of dyeing. Block printing was the primary technique for cotton textiles, where patterns were stamped using wooden blocks after washing and bleaching. This craft thrived in towns like Farrukhabad, Lucknow, Jahangirabad (Bulandshahr), and Jafarganj (Fatehpur). Cotton fiber, essential for the textile industry, thrived in the volcanic and black soils of peninsular India, particularly in regions like Khandesh and Berar. However, some parts of the United Provinces, such as Agra, Allahabad, and Awadh, also produced cotton (7). Numerous villages across the region housed looms for manufacturing cloth, enabling India to produce an excess of cotton yarn, which was exported in large quantities. Renowned centers like Awadh, Allahabad, Agra, and Fatehpur Sikri specialized in carpets and fine fabrics, while Banaras was celebrated for its exquisite cotton and silk textiles (8).

The 19th century saw technological shifts with the establishment of mill industries, particularly for spinning and weaving (9). The first cotton mill, opened in Kanpur in 1869 (10), was

followed by additional mills in Agra, Mirzapur, and Hathras. Despite these developments, indigenous cotton manufacturing methods persisted, with traditional handlooms supporting a significant portion of the population. By the late 19th century, approximately 1.25 million individuals were engaged in spinning, weaving, and related activities. Regions such as Azamgarh, with around 13,000 looms, and districts like Faizabad, Aligarh, Etah, Muzaffarnagar, and Saharanpur, remained key centers of handloom production (11). While the handloom industry faced challenges from advanced machinery, the durability and distinct characteristics of handmade cloth sustained its demand against the more visually appealing machine-made fabrics. The Imperial Gazetteer highlights these attributes, emphasizing the resilience of traditional textiles (12).

During the East India Company's rule, India partially benefited from European textile manufacturing technologies. However, British interests primarily centered on improving cotton ginning, cleaning, and packing to support their industries. The American War of Independence disrupted the supply of high-quality cotton to Britain, prompting greater reliance on Indian cotton. Consequently, efforts to improve Indian cotton trade began in 1788 (13), leading to the establishment of screw presses for packing cotton in 1789 (14). Despite initial challenges, advancements like the geometrical screw press in 1818 significantly reduced time and labor (15). The introduction of Whitney's saw gin in America in 1793 marked a turning point, as U.S. cotton exports surged, surpassing India's output (16). British efforts to adapt the saw gin to Indian short-staple cotton proved unsuccessful. Efforts to enhance the indigenous Charkha were also met with limited success (17). Although I.H. Mather's modifications showed promise (18), they were deemed insufficient by British officials and planters (19). Consequently, cotton cleaning technology remained experimental during the Company's rule, with improvements driven by private initiatives rather than widespread governmental adoption (20).

The textile industry of colonial India serves as a lens to understand the intersection of traditional practices, colonial exploitation, and technological advancements. While the United Provinces maintained a rich tradition of cotton manufacturing through indigenous methods, the advent of European machinery and policies disrupted local industries, displacing artisans and altering economic structures. Despite the resilience of handloom textiles, the introduction of mills marked a shift toward industrialization. The region's contributions to the global cotton trade underscore its historical importance and the enduring ingenuity of its people. Ultimately, the textile industry reflects both the richness of India's heritage and the challenges of adapting to colonial modernity.

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