Textile sector value chain in Pakistan (cotton dynamics)

Circular Plastic Institute
Mariam Sohail, Manaal Safiya, Mutaher Khan, Shiza Aslam
July 2025

Contents

Introduction

Pakistan's textile sector stands as the bedrock of its economy, accounting for 8.5 % of GDP, 60 % of total exports, and providing employment to roughly 40 % of the industrial workforce some 15 million people.[1–3] Internationally, Pakistan ranks as the 5th-largest exporter of raw cotton and the 12th-largest exporter of both woven and knitted apparel as per data reported on UN Comtrade.[1]

Despite accounting for a substantial share of the national economy, textile exports have not experienced commensurate growth (Figure 1). Textile shipments rose from USD 12 billion in 2020 to USD 18.3 billion in 2022, before dipping to USD 15.8 billion in 2023 and recovering to USD 16.5 billion in 2024.

The textile sector's share of Pakistan's total exports peaked at 60% in 2022, but declined to 55% in 2023 and further to 53% in 2024. In parallel, Pakistan emerged in 2024 as the world's largest importer of used textiles, handling nearly one million metric tonnes.[1] Although most of these garments are re-exported to African and South American markets, a nascent domestic appetite for branded second-hand apparel has grown, shifting retail channels from traditional Lunda bazaars to e-commerce platforms like Swag Kicks, Khazanay, and Secret Stash. This segment, however, remains largely informal, with little data on material flows or its carbon footprint, and many small retailers reluctant to formalize operations.

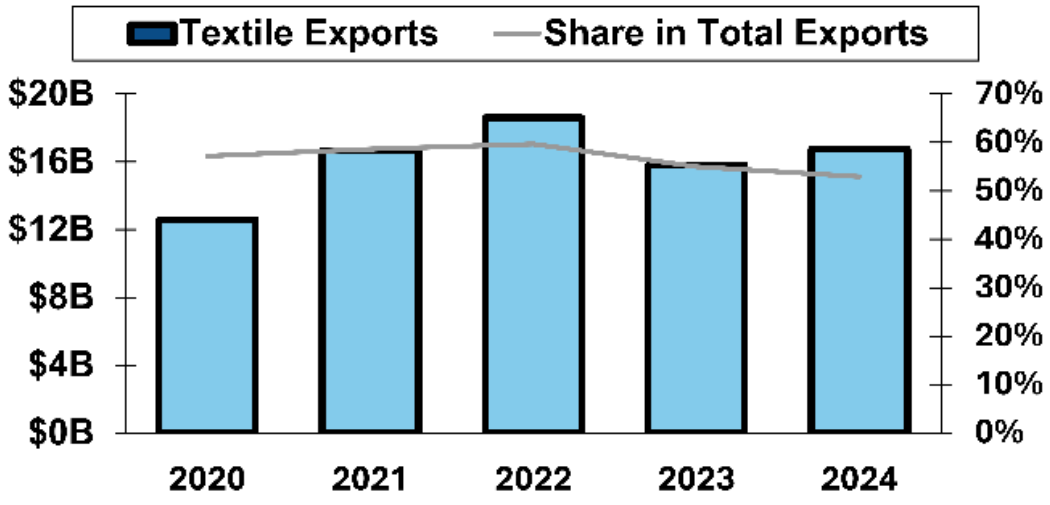

Figure 1. Contribution of the textile sector to Pakistan's total exports and % share of the total export. Data extracted from the Pakistan Bureau of Statistics.[4]

Stages of textile production

To understand the progress of the textile sector, it's essential to grasp the key stages of textile processing. The supply chain (Figure 2a) begins with raw material procurement, which includes both natural fibers (primarily cotton) and man-made fibers such as polyester, viscose, and rayon.

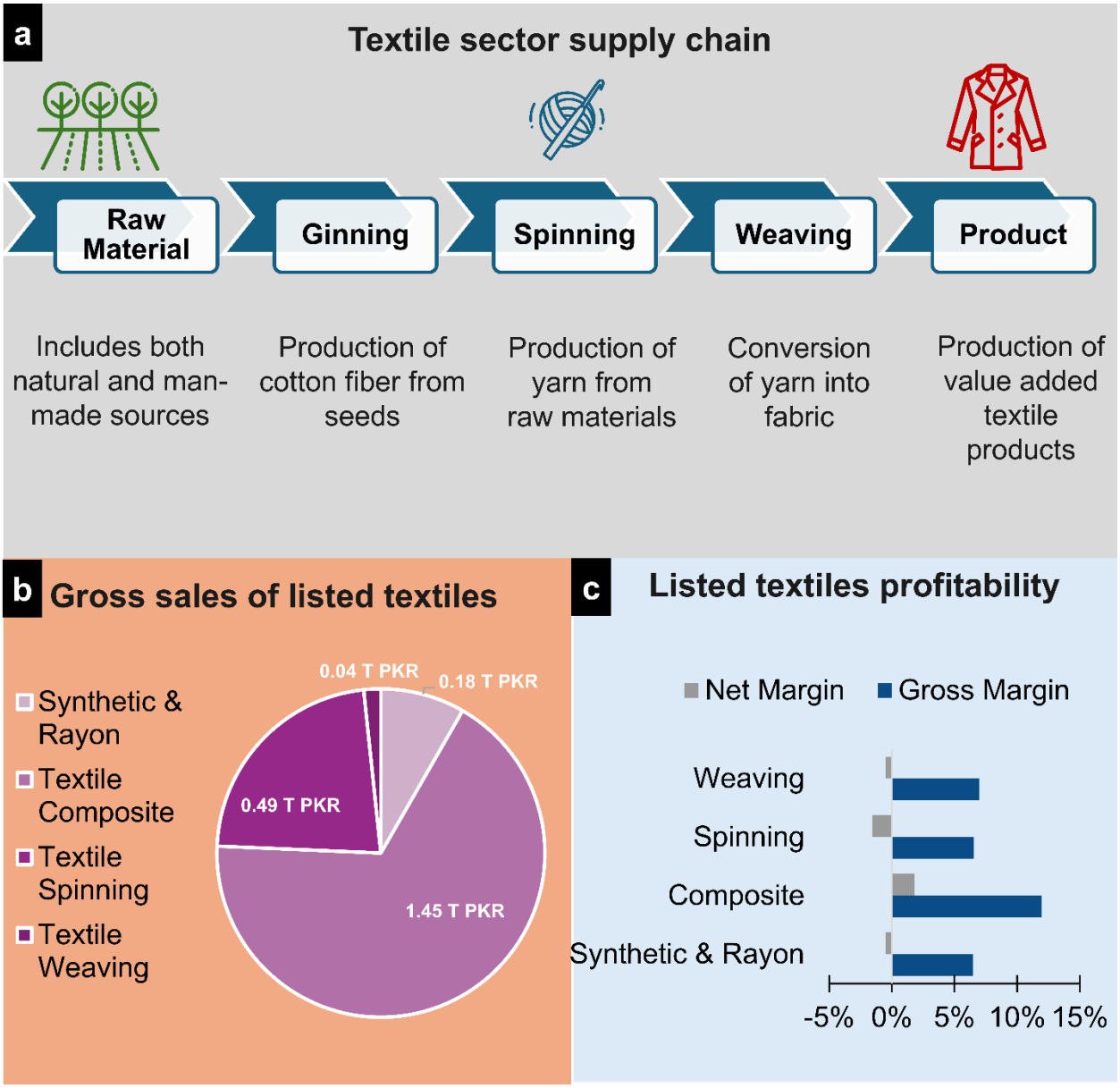

Figure 2.(a) Stages involved in the textile manufacturing process. (b) Gross sales (trillion PKR) and (c) profit margins of listed textiles companies on Pakistan Stock Exchange (data on Trailing 12 Month Basis). Accessed from Capital Stake.[5]

Cotton, the dominant natural fiber in Pakistan is harvested from cotton fields and then sent to ginning units, where the lint (fiber) is separated from the seed. After ginning, cotton lint may be blended with synthetic fibers like polyester and then spun into yarn. The spun yarn is then either woven or knitted into fabric. This fabric undergoes dyeing, printing, and finishing processes before being converted into final textile products such as garments or home textiles. Each of these stages from ginning to spinning, weaving, processing, and garmenting can be viewed as a standalone industry with its own scale, value addition, employment dynamics, and sustainability challenges. Figure 2b and c show gross sales and profit margins (2024) of the listed textiles companies on the Pakistan Stock Exchange. On the domestic market, the composite segment overwhelmingly dominates listed revenues making up roughly 70 % of gross sales, while spinning contributes about 22 %, synthetic & rayon 8 %, and weaving under 2 % and it also enjoys the healthiest profitability (a 14 % gross margin and 3 % net margin), even as spinning has slipped into a –1 % net margin.

Core challenges being faced by the textile sector in Pakistan

Despite its economic strengths, the industry grapples with profound challenges both in terms of declining local cotton production and the high environmental footprints associated with the textile sector. Let's look at both these challenges in greater detail:

1. Declining local cotton production

Historically, Pakistan's domestic cotton production was sufficient to meet the demand of its spinning industry. Back in the 1970s and 80s, cotton was a success story. Strong government support, irrigation, and global demand helped it thrive.

The 1990s saw Pakistan's textile sector rise, fueled by local cotton. By 2005, the area under cotton peaked at 3.2 million hectares, and in 2008,[6] we hit a high in production of 8.54 million 480-lb statistical bales of cotton as per USDA stats.[6] But then the cracks began to show. In 2009, unregulated adoption of Bt cotton (genetically modified variety of cotton that can combat bollworm) triggered a wave of pest resistance. By 2015, pink bollworm infestations were devastating yields.[5] At the same time, climate shocks hit starting with the 2010 floods, followed by repeated episodes of drought and erratic rainfall.[7] These factors have combined to decline output approximately 40% from its peak in the early 2000s[6] while demand from mills has remained constant or increased. This growing supply-demand gap has led to a sharp rise in cotton imports. In 2024 alone, Pakistan imported an estimated $1.7 billion[1] worth of raw cotton, placing substantial pressure on the country's foreign exchange reserves. While cotton and cotton-based products continue to be exported, the overall value chain is

increasingly under strain. Key challenges include vulnerability to pests, high water requirements, and price volatility. These are worsened by policy neglect, as non-food crops like cotton are often sidelined in agricultural planning. Misuse of GM seeds after 2004 has fueled pesticide resistance[8] and contributed to declining yields, while extreme weather events, notably the 2010 floods, further depressed production. With domestic demand steady or rising, reliance on imports continues to grow.

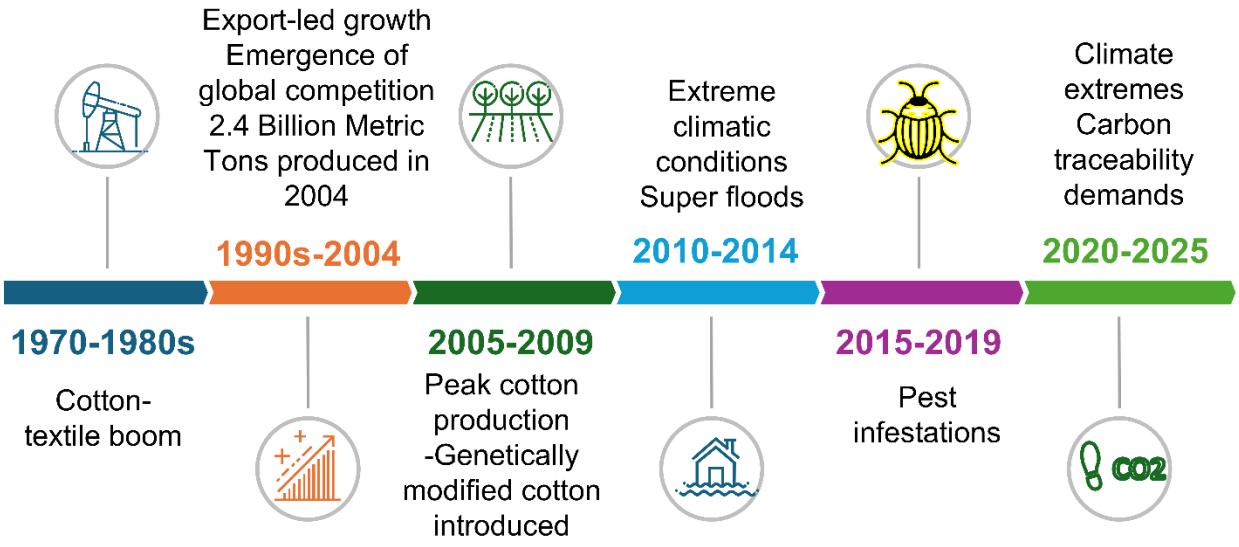

Figure 3. Timeline of cotton's rise and fall in Pakistan

2. Textile sustainability

The growing global emphasis on environmental sustainability has led to a significant policy shift, especially among major textile-producing countries. Pakistan is the only textile producer that has included the textile sector in its Nationally Determined Contributions (NDCs) under the Paris Agreement, with plans for emissions reduction driven by the private sector.[9] As such, the industry is under increasing pressure to lower its carbon emissions and embed carbon traceability across the textile supply chain.

Here a crucial differentiator is the use of local versus imported cotton. A key emerging challenge is the lack of traceable environmental data associated with domestically grown cotton. In contrast, imported cotton often meets international sustainability requirements, including traceability standards. However, import of raw cotton is a short term solution as transportation related emissions will be a contributor to carbon emissions. While the exact

carbon footprint of imported cotton and locally cotton requires an in-depth life cycle analysis of both cases, there is an opportunity to both decrease Pakistan's reliance on imported cotton and the emissions of the textile sector through revitalizing local cotton.[10] There is more so important from an agro-environmental perspective since Pakistan has been identified as amongst the ten most vulnerable country to climate change.[11]

Way Forward

Experts convened by KSBL's Circular Plastics Institute identified interconnected barriers. Farmers receive scant technical support or risk-sharing mechanisms and face an 18 % duty on key inputs versus duty-free imports in competitor markets such as Brazil. This has prompted many to abandon cotton for less risky crops. There is no comprehensive chain-of-custody system to meet global traceability demands, no local laboratories for organic or GMO/non-GMO certification, and no coordinated public-private seed trials to develop resilient varieties. On the second-hand front, the absence of formal accreditation and data-sharing undermines regulatory oversight and efforts to map environmental impacts.

A path forward involves incentivizing farmers through duty waivers, minimum guaranteed prices, and dedicated cultivation zones, fostering seed-variety development via public-private partnerships and a formal seed registry. Establishment of a National Compliance Center to deploy a digital traceability platform from seed to finished textile can also play a crucial role in enhancing attractiveness of locally grown cotton. Additional complimentary measures can include development of regional testing labs to streamline organic/GMO certification. This can help enable a balanced promotion of organic cotton, enabling premium pricing and lower carbon intensity, alongside scaled man-made fiber clusters to meet volume-driven export markets. If realized, these reforms would stabilize fiber supplies and farmer incomes, unlock premium markets under emerging carbon-border adjustment regimes. Overall and integration of the formal and informal segments of Pakistan's textile ecosystem can potentially lay the groundwork for a more competitive and sustainable industry.

STAKEHOLDER LIST

We are grateful to our guests for their invaluable inputs and contributions:

Mr. M. Ashraf from Artistic Milliners
Mr. Akbar Ali from Artistic Milliners
Ms. Sumayya Azmat from Gadoon Textiles
Ms. Haiqa Tabassum from Gadoon Textiles
Mr. Muhammed Zaheer Khan from Alkaram Textiles
Mr. Javed Baig from Alkaram Textiles
Mr. Arbaz Adil from Utopia Industries
Mr. Adil Mansoor from National Credit Guarantee Company Limited (NCGCL)
Mr. Abdul Rehman Iqbal from Sindh Environmental Protection Agency (SEPA)

REFERENCES

(1) UN Comtrade. https://comtradeplus.un.org/TradeFlow.
(2) *Textile (Value Addition) Sector Profile Pakistan*; International Finance Corporation, World Bank Group. https://invest.gov.pk/sites/default/files/inline-files/Profile%20-%20Textile%20Sector_new.pdf.
(3) Tauseef, S.; Wajih, A.; Mirza, S. *SECTOR STUDY . AUGUST 2024. The Pakistan Credit Rating Agency Limited*; The Pakistan Credit Rating Agency Limited. https://www.pacra.com/view/storage/app/Weaving%20-%20PACRA%20Research%20-%20Aug%2724_1724157028.pdf.
(4) Pakistan Bureau of Statistics. https://www.pbs.gov.pk/.
(5) Capital Stake. https://www.capitalstake.com/.
(6) United States Department of Agriculture Foreign Agricultural Service, 2025. https://apps.fas.usda.gov/psdonline/app/index.html#/app/advQuery (accessed 2025-06-19).
(7) Waseem, H. B.; Rana, I. A. Floods in Pakistan: A State-of-the-Art Review. *Nat. Hazards Res.* **2023**, *3* (3), 359–373. https://doi.org/10.1016/j.nhres.2023.06.005.
(8) Ahmad, S.; Cheema, H. M. N.; Khan, A. A.; Khan, R. S. A.; Ahmad, J. N. Resistance Status of Helicoverpa Armigera against Bt Cotton in Pakistan. *Transgenic Res.* **2019**, *28* (2), 199–212. https://doi.org/10.1007/s11248-019-00114-9.
(9) Schröder, P. *Textiles and Garments Trade and Climate Scenarios on the Road to 2050: Scenarios and Implications for Developing Countries and Climate-Resilient Development*; Chatham House. file:///C:/Users/Mariam%20Sohail/Downloads/TESS%20Briefing%20Note%20-%20Textiles%20-%20Net%20Zero.pdf (accessed 2025-06-19).
(10) Peter Ton. *Cotton & Climate Change: Impacts and Options to Mitigate and Adapt.*; Ton Consultancy. https://staging.icac.org/meetings/wcrc/wcrc5/Proceeding_PDF/WCRC-5_CottonClimate_change_Ton_111205.pdf.
(11) GERMANWATCH. *Climate Risk Index 2025*. https://www.germanwatch.org/en/cri.