

PAKISTAN'S

ECONOMIC

REVIVAL

DIVERSIFICATION

COMPETITION

EXPANSION

TEXTILES & APPAREL

A POLICY ROADMAP

FOR THE INCOMING GOVERNMENT

DIVERSIFICATION – EXPANSION – COMPETITION

\$50 BILLION

TEXTILE & APPAREL
EXPORTS BY 2029

Foreword

By Aamir Fayyaz, Former Chairman & Industry Leader



At the forefront of Pakistan's effort to build a stable and prosperous economy, the textiles and apparel sector is poised for a quantum leap, ready to embrace the challenges and opportunities that lie ahead in our journey towards growth and innovation.

Our industry has always been a vibrant part of the economy, but recent years have highlighted critical shortcomings: the range and variety of products we have to offer is very limited and our manufacturing capacity is too low to be able to capture a major share of world trade. The international market is growing rapidly, with a marked shift towards man-made fibers. However, our exports remain predominantly cotton-based products, limiting our potential in the global marketplace and necessitating a strategic shift towards product diversification and expansion of manufacturing capacity.

Our ambitious initiative to establish 1000 new garment plants is a bold step in this direction. This project is not merely about scaling up production; it represents a strategic reorientation of our industry towards higher value-added original brand and design manufacturing. While boosting our manufacturing capacity to over \$50 billion annually, we aim to diversify our export portfolio and enhance our competitiveness. This expansion is a testament to our commitment to growth, innovation, and resilience in the face of global economic shifts.

The establishment of these garment plants is an investment in the very fabric of our nation—our workforce, our economy, and our future. By creating over 1.4 million direct and indirect jobs, we are not just bolstering the industry but also nurturing a future that promises prosperity and opportunity for the people of Pakistan.

However, achieving this vision requires more than just ambition. It demands an environment conducive to growth. One of the key challenges we face are economic distortions, particularly those that have stifled the growth of MMF-based exports. We must align our policies with the needs of a modern, diverse, and internationally competitive textiles and apparel sector.

In addition to policy reforms, developing physical infrastructure for the industry's growth is paramount. Establishment of specialized industrial and export processing zones with developed factory sites and plug and play facilities is a step towards creating an ecosystem conducive to growth and innovation. These zones will significantly lower entry barriers for new ventures and catalyze the expansion of exports by attracting domestic and foreign investment in export-oriented activities.

Drawing inspiration from successful international models, we aim to integrate global best practices into our strategy. Efficient logistics and transportation systems, advanced testing, and certification facilities, and robust supply chain management are essential components that will elevate our industry to meet international standards of excellence.

In conclusion, our policy agenda, driven by a vision to diversify and expand our manufacturing capabilities, is a call to action for the government, industry stakeholders, and our international partners. It's a blueprint for a future where the Pakistani textiles and apparel sector is not only a global leader in terms of volume but also a benchmark for innovation, sustainability, and excellence.

Message from the Chairman



In an era defined by both challenge and opportunity, Pakistan's textiles and apparel sector finds itself at a critical juncture. The last two years have been a profound test of our resilience, yet they have also unveiled the immense potential we possess. As the Chairman of the All Pakistan Textile Mills Association, I have witnessed firsthand the tribulations we have endured and the vast opportunities that now lie before us.

The textiles and apparel industry, a cornerstone of Pakistan's economy, bravely navigated through the tumultuous times of the COVID-19 pandemic. In the face of external and internal adversities, we achieved remarkable growth as our exports surged by over 54 percent, rising from \$12.5 billion in 2020 to \$19.3 billion in 2022. However, the economic crisis of 2022-23 brought to light the fragile nature of these gains, emphasizing the need for a sustainable and resilient way forward.

The policy agenda we have formulated, drawing upon the collective wisdom of industry leaders and experts, is not merely a plan for revival. It represents a steadfast commitment to our nation's future. Our goal is ambitious yet attainable: to achieve full utilization of our current export manufacturing capacity of \$25 billion per year and expand it to over \$50 billion within the next five years.

Achieving this vision demands a strategic, three-pronged approach. First, we must focus on export diversification, broadening our market reach and product offerings. Second, the expansion of our manufacturing capacity is crucial for scaling up our production capabilities. Third, and most importantly, we must create a competitive business environment for our firms. This involves providing the industry with energy at regionally competitive prices, resolving the liquidity crisis exacerbated by delayed tax refunds and high borrowing costs, and launching an aggressive international export marketing campaign. These steps are vital to ensure that the industry not just recovers but thrives.

Our sector, amid significant international and domestic challenges, holds the key to unlocking the future prosperity of Pakistan. As the economy continues to face substantial risks, with gross external financing requirements exceeding \$25 billion annually over the next five years, the textiles and apparel sector stands as a beacon of hope, uniquely poised to drive substantial and sustainable export growth and reduce reliance on unsustainable external borrowing.

Our vision is clear and ambitious: to transform Pakistan's textiles and apparel sector into a hub of innovation and sustainability, catalyzing economic growth and social progress. As we present this policy agenda to the government, we do so with a sense of urgency. Our industry is resilient, and our people are full of potential. Together, we will navigate the challenges ahead, unlock new opportunities, and build a brighter, more prosperous future for Pakistan. The textiles and apparel sector is not just an economic entity; it is a symbol of national strength and potential. Let us harness this potential and steer our nation towards a path of sustainable growth and development.

Asif Inam
Chairman

Message from the Vice Chairman



I am privileged to represent an industry that embodies resilience, potential, and the promise of growth. The textiles and apparel sector, amid a complex web of economic challenges, stands as a pillar of stability and a driver of progress for Pakistan. Our sector's journey in recent years has been marked by both adversity and remarkable adaptability. Yet, it is clear that to ensure long-term prosperity and relevance in the global market, strategic and sustainable approaches are essential.

Our vision for the textiles and apparel sector is to transform it into a global leader in innovation and sustainability, not just in scale but in the quality and diversity of our offerings. This vision is not merely aspirational; it is a roadmap to tangible progress and development. By harnessing our collective strengths, confronting our challenges, and embracing collaborative efforts, we can make this vision a reality. The decisions we make now will significantly influence the trajectory of our industry and the economic landscape of our nation.

The textiles and apparel sector, as a vital component of Pakistan's economy, has a significant role to play in this transformative journey. Our goal now is to double our current manufacturing export capacity, leveraging our position as the largest contributor to the nation's export earnings. This expansion goes beyond quantitative growth; it represents a paradigm shift towards enhancing the economic stability and prosperity of Pakistan.

To achieve this ambitious goal, we must navigate a series of challenges, including addressing uncompetitive energy costs, alleviating liquidity shortages, and resolving bureaucratic hurdles that impede growth. Our policy agenda, focused on diversification, expansion, and competition, is meticulously crafted to tackle these issues and unlock the full potential of our sector. This agenda symbolizes hope for Pakistan's economic revival and is a testament to the resilience and capabilities of our industry.

The implementation of this plan is not just an economic imperative but a national priority. It will require coordinated efforts, long-term commitment, and unwavering dedication from all stakeholders. We must work together to overcome the barriers that have historically hindered our growth and seize the opportunities that lie ahead.

Rehman Naseem
Vice Chairman

Policy Priorities

Export Diversification

1. **Rationalize import duties on purified terephthalic acid (PTA) and polyester staple fiber (PSF) and eliminate anti-dumping duties** that create opportunities for rent-seeking in the domestic market and an anti-export bias.
2. **Create incentive structures to incentivize investment in MMF manufacturing capacity** as well as Original Brand Manufacturing (OBM) and Original Design Manufacturing (ODM).

Expansion of Manufacturing Capacity

3. **Create Industrial and Export Processing Zones with plug and play facilities** and ancillary infrastructure and services for 1000 Garment Plants.
4. **Establish Free Commercial Zones with import warehousing facilities, offices for international buying houses, testing centers and other export-related services** to facilitate textiles and apparel exports through reduced trade, logistics and transaction costs.
5. **Encourage development of composite units** with full vertical integration.
6. **Improve customs procedures, cargo clearance mechanisms and increase freight and logistics efficiency** to reduce time on port and clearance and time-to-market.

Energy

7. **Allow B2B power contracts with a wheeling charge of 1-1.5 cents/kWh** by operationalizing the Competitive Trading Bilateral Contracts Market (CTBCM).
8. **Increase the cap on solar net-metering for industrial consumers from 1MW up to 5MW.**
9. **Establish a separate power tariff category for export-oriented firms** excluding cross subsidies and stranded costs that cannot be exported.
10. **Maintain RLNG/gas supply for captive power plants given the unreliability of the power sector** and ensure medium-term visibility pricing and availability.

Taxation

11. **Fix the FASTER sales tax refund system to ensure all sales tax refunds are issued within 72 hours** as per rule 39F of the Sales Tax Rules 2006.
12. **Rationalize tax rates** including sales, income, and corporate taxes.
13. **Reduce turnover tax on indirect exporters in upstream sectors** from 1.5% to 0.75% and make it adjustable against profits in future years.
14. **Eliminate multiplicative taxation at each stage of value addition** that disadvantages MSMEs and stand-alone units as compared to firms with full vertical integration.
15. **Extend the Export Facilitation Scheme to the entire value chain** of the textiles and apparel sector.
16. **Retract the positive lists of inputs eligible for tax refunds** given that they restrict innovation and experimentation and weigh down on ease of doing business.

Investment & Financing

17. **Bring inflation down to single digits to allow for a reduction in interest rates** to revive investment in the private sector.
18. **Operationalize the EXIM Bank for export sector financing** and increase financing limits to meet the industry's demands.

19. **Provide concessional financing to stimulate investment** in expansion of manufacturing capacity.
20. **Extend LTFF to the entire textiles and apparel value chain** to allow for modernization and upgradation of machinery, especially in downstream sectors like ginning.

Export Marketing

21. **Conduct international roadshows with delegations including the Minister for Commerce and industry leaders** to improve Pakistan's international image and woo C-level executives of international brands to source from Pakistan.
22. **Develop an incentives package to increase physical presence of international buying houses** to increase their sourcing from Pakistan.
23. **Introduce an online platform to facilitate matching between buyers and suppliers**, with an emphasis on promoting MSMEs.
24. **Relax regulations on remittance of export proceeds, storing export products abroad and making investment in setting up retail stores abroad** to support entry into non-traditional markets such as e-commerce and direct retailing.

Supply Chain Traceability

25. **Develop a legal regulatory framework to enforce traceability through the National Compliance Centre (NCC)** as the lead agency designing, regulating, and implementing comprehensive supply chain traceability requirements for export-oriented firms.
26. **Facilitate value chain integration of standalone manufacturing units** with an emphasis on a shift to value-added processes.

Environmental and Social Sustainability and Compliance

27. **Implement ILO's recommendations on labor rights**, including increasing the number of labor unions, strengthening health and safety protocols and grievance mechanisms, eliminating child and forced labor, and promoting gender equality and equal wages for equal work.
28. **Establish waste sorting hubs to divert used textiles for reuse and recycling, introduce Extended Producer Responsibility (EPR) protocols to hold manufacturers accountable**, and recognize the difference between used textiles and textile waste in customs frameworks to manage post-consumer textile waste and reduce environmental impact.
29. **Enforce environmental regulations to promote green manufacturing practices** such as water recycling, wastewater treatment, transition to renewable energy, and no use of chemicals of concern.
30. **Provide policy support for industry to decarbonize its value chain.**
31. **Establish a domestic Emissions Trading System (ETS) to impose carbon taxes and provide emission permits** for the manufacturers to emit only a certain percentage of GHGs.
32. **Devise a compliance and audit curriculum and landscape under the National Compliance Center** that is acceptable to firms, global buyers, and certification bodies.

Cotton

33. **Implement rigorous quality control measures throughout the seed chain**, from production to distribution, guaranteeing physical and genetic purity of seeds.
34. **Create a centralized platform for authorized sale of certified seeds** under the supervision of a dedicated cotton sector entity for transparent seed distribution.

35. **Invest in a high-performance seed laboratory** equipped with cutting edge DNA testing technology for verifying seed purity and traceability.
36. **Develop a comprehensive system encompassing seed production, processing, distribution, and testing**, optimizing efficiency and quality.
37. **Construct a state-of-the-art seed processing plant and an internationally accredited seed testing laboratory** adhering to ISTA standards.
38. **Develop an Agriculture Crop Advisory and Extension Service to encourage and support cotton farming** through easily accessible digital advisory services, capacity building and community engagement initiatives.
39. **Implement cluster farming models through public-private partnerships** to support backward integration in the textiles & apparel value chain.
40. **Support regenerative cotton initiatives** to reduce the environmental impact of industrial farming and facilitate the shift towards sustainability in the textiles and apparel sector.
41. **Facilitate investment in upgradation and modernization of ginning machinery** to reduce contamination during ginning and improve cotton quality.

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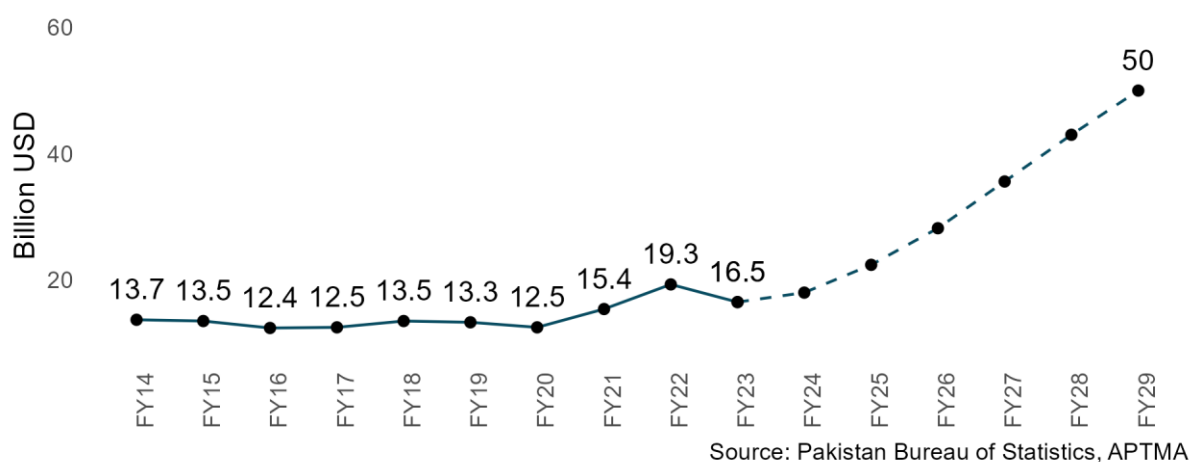
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1. Introduction

Following a prolonged period of unprecedented crisis since early 2022, Pakistan’s economy has reached relative stability. However, external sector risks continue to persist with gross external financing requirements projected at well over \$25 billion annually for the next five years. At the same time, options to meet these requirements remain limited. Economic deterioration over the past two years has caused various sources of external financing to dry up, and what little is available comes with generally unfavorable conditions including high interest rates. Moreover, given high levels of existing debt and the fiscal burden posed by debt servicing costs, additional external borrowing will only exacerbate external sector vulnerabilities. **To achieve a robust economic recovery while generating much needed employment and achieving sustainable growth, achieving a sizable and sustained increase in exports is the only way forward.**

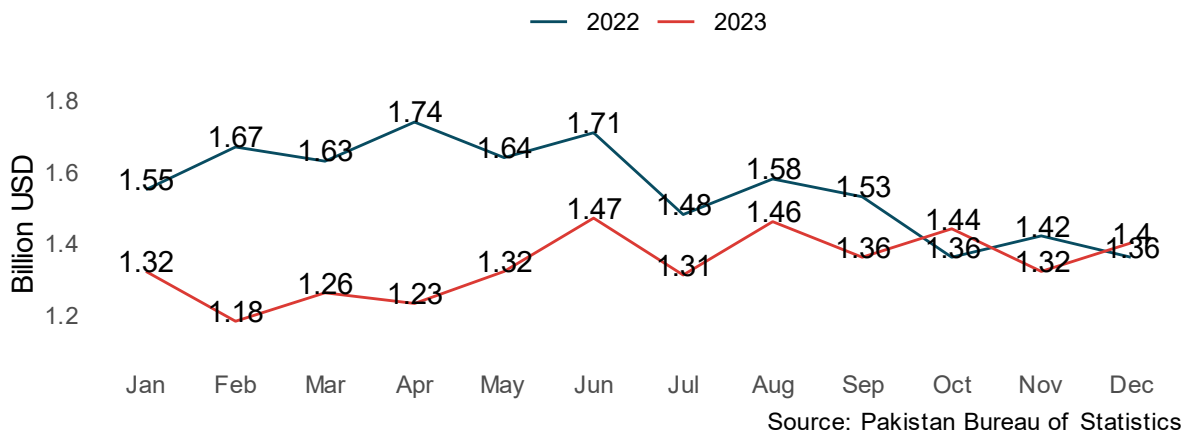
The textiles and apparel sector—the single largest contributor to the economy’s export earnings, accounting for 50 to 60 percent of total exports—is particularly well-positioned in this regard. The industry has an installed export capacity of approximately \$25 billion per year that can be realistically increased to around \$50 billion per year over the course of 5 years and only around \$5 billion worth of investment, conditional on a distortion-free business environment that allows firms to be competitive in international markets.

Figure 1. Given a conducive business environment, textiles and apparel exports can increase to \$50 billion over the next 5 years.



The past two years, however, have proven to be one of the most difficult for Pakistan’s textiles and apparel sector. Between 2020 and 2022, textiles and apparel exports increased by over 54 percent amidst favorable macroeconomic conditions as well as various export facilitation initiatives. However, with the onset of the 2022-23 economic crisis and withdrawal of export facilitation measures such as zero-rating for export-oriented industries (SRO 1125) and regionally competitive energy tariffs (RCET), the industry could not sustain this momentum and textiles and apparel exports declined to \$16.5 billion in FY23.

Figure 2. While textiles and apparel exports have recovered from a low of \$1.18 bn in Feb 2020, they remain around 300 million below their June 2022 peak.



As it stands, textiles and apparel exports are struggling to recover to pre-crisis levels due to various barriers to export growth, including but not limited to prohibitively uncompetitive energy prices, an industry-wide liquidity shortage caused by high borrowing costs and shortage of working capital finance and persistent delays in issuance of sales tax refunds. The sector’s overall export capacity is capped at around \$25 billion annually due to limited investment in upgradation and expansion of manufacturing capacity. Due to factors including distorted trade policy, there is also a long-standing cotton bias in the industry and the range and variety of exportable products is very limited.

In view of both the immediate- and medium-term challenges and risks to export growth in the textiles and apparel sector, the All-Pakistan Textile Mills Association, in collaboration with relevant stakeholders, business leaders and industry experts, has put forth this policy agenda as a roadmap for the incoming government to revive and revitalize the country’s largest and economically most important manufacturing sector.

It comprises of three main pillars: diversification, expansion, and competition. **If the industry is to realize its target of \$50 billion in textiles and apparel exports over the next 5 years, the government must incentivize product diversification to increase the range and variety of exportable products. It must also facilitate investment in upgradation and expansion of manufacturing capacity that is currently capped at around \$25 billion per annum. And finally, it must provide firms with a conducive business environment that is free of economic distortions that cannot be exported and enables firms to compete in international markets.**

It is also important to note that this document does not seek to reinvent the wheel. The Textiles and Apparel Policy 2020-25 that, like the two policies before it, was never fully implemented, still serves as a bedrock of what must be done to achieve export growth in the textiles and apparel sector. The purpose of this policy roadmap is to shed light on the most pressing challenges faced by the industry, and for the new government to update and implement the Textiles and Apparel Policy 2020-25 accordingly.

Table 1. Immediate- and medium-term risks for textiles and apparel firms.

Risk	Exposure	Description
High Input Energy Costs	High	<ul style="list-style-type: none"> • Since the removal of RCET in Mar'23, ~50% of production capacity has remained idle. • Power tariffs for industrial consumers currently sit at over 16 cents/kWh, up from ~9 cents/kWh in FY20-22. High electricity and gas prices serve to increase cost of production for each segment player. • W.e.f. Nov 1, 2023, gas prices were hiked to Rs. ~1200/MMBTU for export-oriented sectors of the economy including the textile sector.
Delays in Sales Tax Refunds	High	<ul style="list-style-type: none"> • In violation of Rule 39F of the Sales Tax Rules 2006, FBR only issues partial refunds once a month for sales tax refund claims in the FASTER system. • At any given time, the sector has approximately Rs. 370 billion worth of liquidity stuck in the FASTER refund regime.
Traceability Across the Value Chain	High	<ul style="list-style-type: none"> • Supply chain traceability is increasingly being demanded by both brands and final consumers of textiles and apparel products. • Progress on traceability in Pakistan's textiles and apparel sector remains poor and marked by fragmentation and unclear stakeholder roles.
Low Product Diversification	High	<ul style="list-style-type: none"> • 67% of Pakistan's textiles and apparel exports are cotton-based, increasing exposure to global demand shocks and climate-related risks.
Increasing Dependence on Domestic Cotton	Medium	<ul style="list-style-type: none"> • Imports comprised ~35% of total cotton supply in the country during FY23 (SPLY: ~31%). Imports have grown ~65% in the past five years, while local production has declined by ~50%. • Increasing imports expose the industry to exchange rate fluctuations.
Climate Change Impact	Medium	<ul style="list-style-type: none"> • ~40% of the cotton crop was wiped out during FY23, resulting in a decline in cotton yarn and cloth output.
High Interest Rates	Medium	<ul style="list-style-type: none"> • MPR increased by ~15bps to 22% as of Jun'23. Since then, it has remained stable at this rate. However, the discount window of 3%, available in the form of EFS/LTFF, with ~67% of the country's total discounted borrowing availed by the industry in FY23, high interest rates are likely to result in low net margins for industry players.
Int'l Labor and Environmental Standards	Medium	<ul style="list-style-type: none"> • Pakistan has ratified all compulsory international conventions on human and labor rights, environment and good governance to comply with the EU's GSP+ requirements. • However, continuation of GSP+ and whether Pakistan attains the status of a sustainable sourcing hub is subject to the robust consideration of gaps identified by independent bodies such as the EU and UN, and implementation of their respective recommendations.

Source: Pakistan Credit Rating Agency (PACRA), APTMA

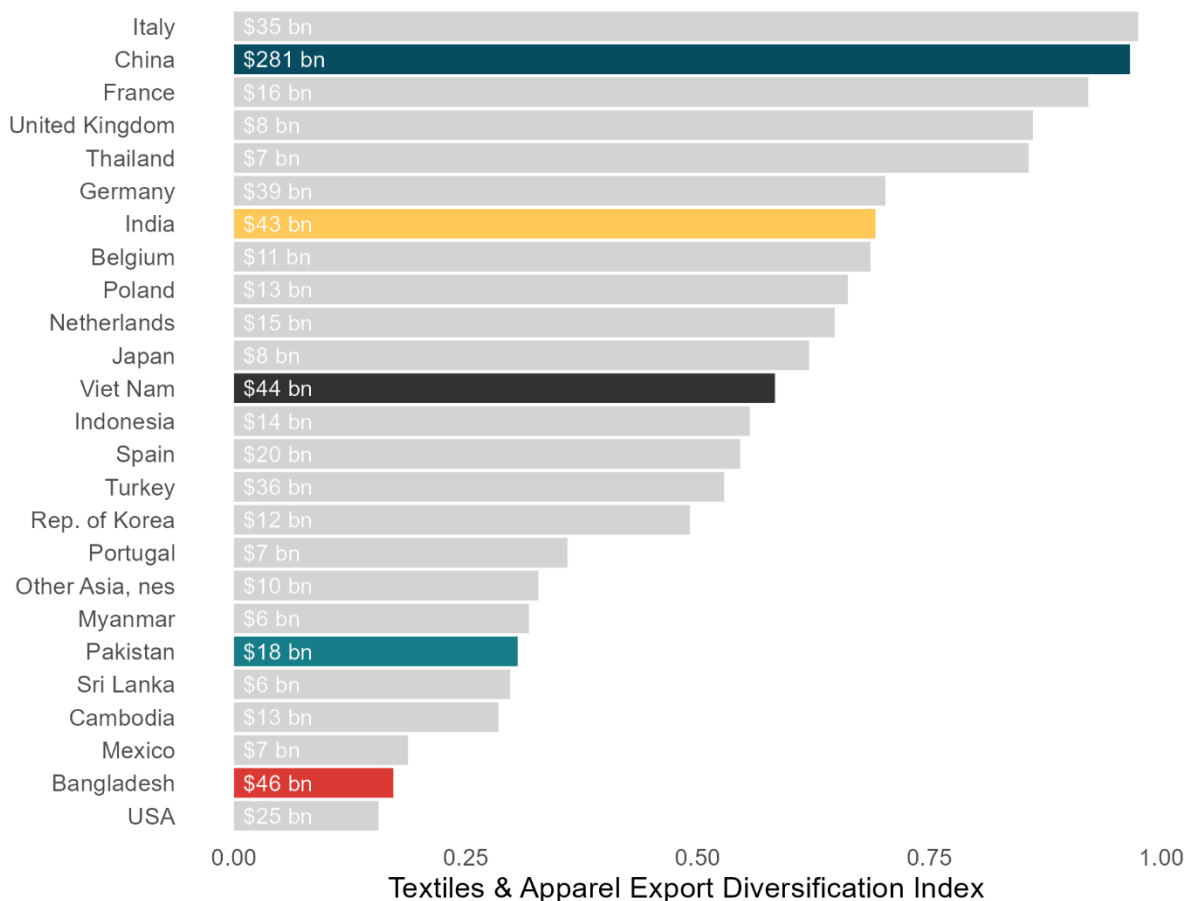
2. Export Diversification

Policy Priorities

1. Rationalize import duties on purified terephthalic acid (PTA) and polyester staple fiber (PSF) and eliminate anti-dumping duties that create opportunities for rent-seeking in the domestic market and an anti-export bias.
2. Create incentive structures to incentivize investment in MMF manufacturing capacity as well as Original Brand Manufacturing (OBM) and Original Design Manufacturing (ODM).

Among the top 25 exporters of textiles and apparel, Pakistan has one of the least diversified export baskets (Figure 3). Of 24,903 tariff lines under the textiles and apparel chapters of the Harmonized System, the top 87 tariff lines exported account for around 50 percent of exports compared to 838 tariff lines for China, 237 for India, and 99 for Viet Nam. **249 tariff lines, i.e., around 1 percent of the product space, account for around 65% of exports** that are largely limited to denim and non-denim fabrics and apparel, knitwear, socks, home textiles and towels.

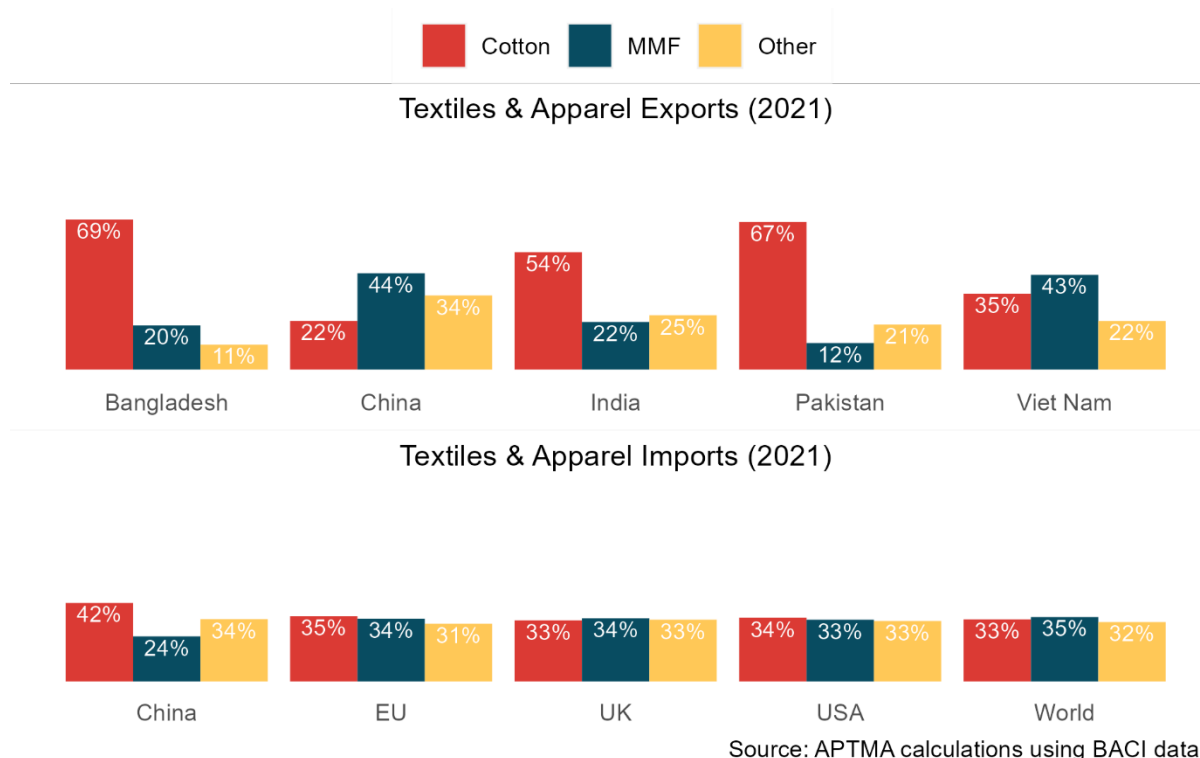
Figure 3. Of the 25 largest exporters of textiles and apparel Pakistan has one of the least diversified export baskets.



Source: APTMA calculations using BACI trade data

Moreover, the world market for textiles and apparel is broadly divided into cotton, man-made fibers, and various other materials such as silk, wool, animal hair, etc., based products. **In addition to the extremely limited range and variety of exportable products, Pakistan's textiles and apparel exports are highly concentrated in cotton-based products that account for over two-thirds of the industry's total exports but only about one-third of world imports (Figure 4).**

Figure 4. The world market for textiles and apparel is divided between cotton, MMF and other materials-based products, but Pakistan's exports are heavily biased towards cotton.¹



Between 2007 and 2021, the share of MMF-based textiles and apparel in world trade grew from 30 to 35 percent, while that of cotton-based products shrank from 40 to 33 percent. This was largely driven by an increase in demand for MMF-based products in major Western markets including the European Union, United States and United Kingdom, largely due to changing consumer preferences, including an increased focus on fitness and health and demand for performance-based apparel, advent of fast fashion and shrinking span of fashion cycles, consumer demand for higher quality at lower prices, increasing awareness about sustainability and environmental concerns, and demand for low-price-high-quality fabrics from various industries including automobiles.²

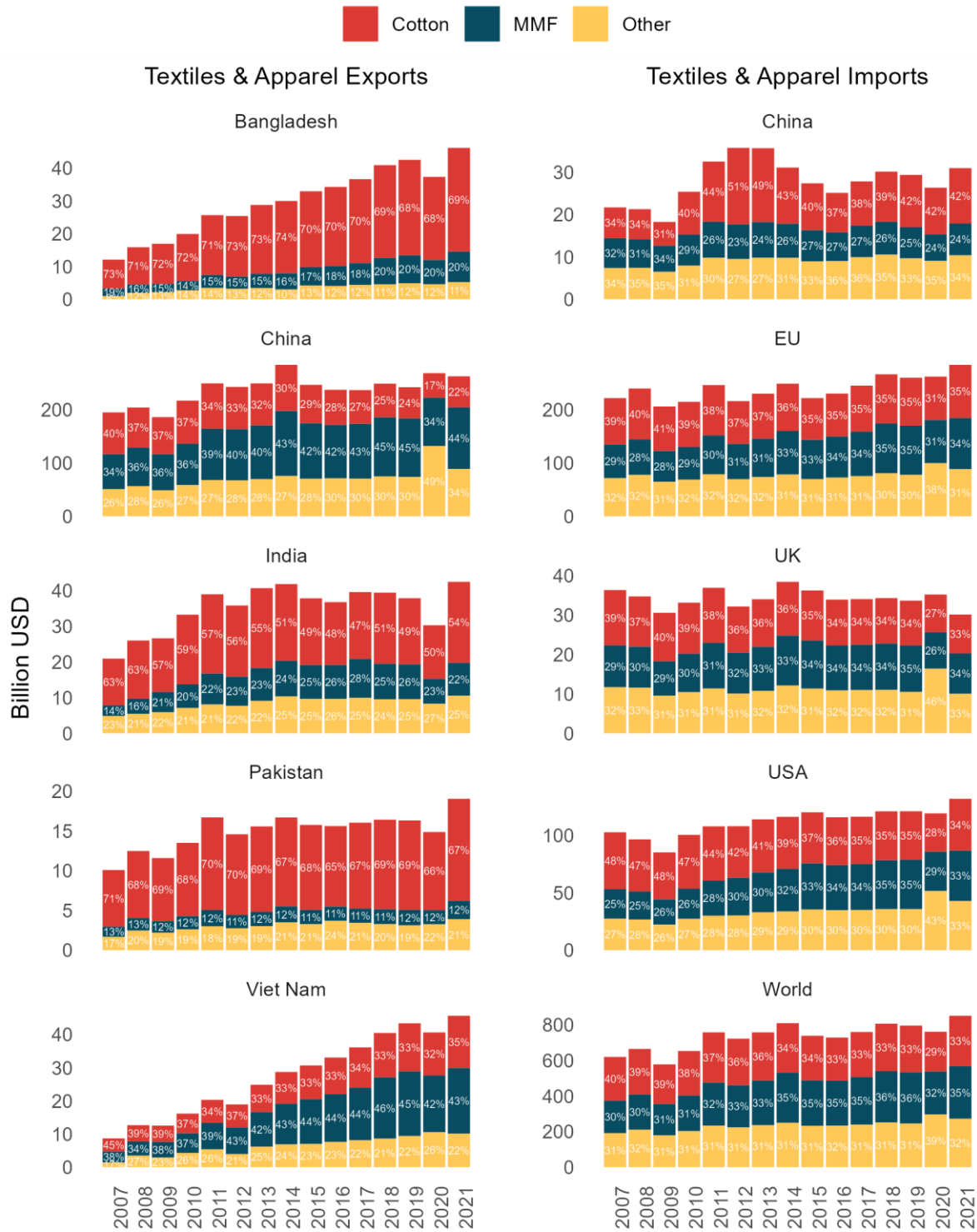
Effectively, this means that Pakistan's textiles and apparel sector is competing for a larger share of a shrinking pie. Since 2007, Bangladesh, China, India and Vietnam have experienced an increase in the share of MMF-based exports while the share of cotton-based

¹ Shares of world trade in textiles and apparel based on the underlying materials used have been calculated using BACI bilateral trade data at the HS 6 digit level for Chapters 50 through 63. Cotton-based textiles under Chapter 52 and all fabrics and apparel under Chapters 60 through 63 indicated as being made of cotton have been classified under cotton. Similarly, all MMF based textiles under 54 and 55 and all fabrics and apparel under chapters 60 through 63 indicated as being made of MMF, synthetic, artificial or PSF based materials have been classified under MMF. All other tariff lines have been classified as "Other".

² [The Edge: MMF Textile Investment in India.](#)

exports has declined. In Pakistan, however, there have been no growth in MMF-based exports (Figure 5).

Figure 5. Between 2007 and 2021 China, India, Vietnam and even Bangladesh to a lesser extent have diversified their textiles and apparel export basket towards MMF-based products while Pakistan continues to sit out on a lucrative market.



Source: APMTA, BACI

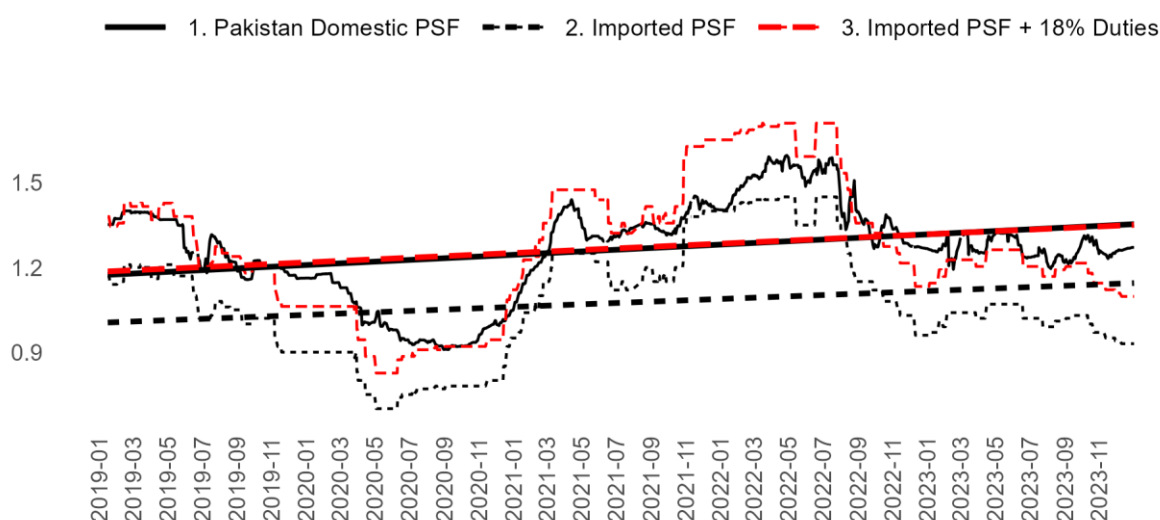
There are two main factors behind the lack of growth in MMF-based exports. First, the industry lacks the production capacity necessary to manufacture MMF-based products. Second, and more importantly, investment in MMF-based manufacturing capacity has been disincentivized by economic distortions, especially in the realm of trade policy.

Polyester staple fiber (PSF) is the basic raw material required for MMF production, and purified terephthalic acid (PTA) is the main input in manufacturing of PSF. As it stands, there is a 5 percent import duty on PTA and resultantly a cascading import duty of 7 percent as well as additional anti-dumping duties of up to 12 percent on PSF.

These duties were increased from 4 percent and 6 percent to 5 percent and 7 percent, respectively, in June 2016. However, there was only one PTA manufacturing plant in Pakistan that has been shut down as of 2023 and there is no indication that it will resume operations again. The plant was based on obsolete 30-year-old technology and plants using similar technology had already been shut down around the world. In fact, when the same PTA plant applied to increase the import duty on PTA from 4 to 5 percent in 2015, they themselves admitted that “new production capacities installed in China, India and other countries are based on the latest technology and have much lower cost of production.” Furthermore, even in their published balance sheet, the PTA plant has indicated that their weakness is “operating an old technology of PTA manufacturing.”

The plant had only been able to survive by importing paraxylene and converting it to PTA using cheap gas at below \$4/MMBtu under heavy protection, while the export sector has borne significant losses subsidizing it through high duties on imported PTA/PSF. After the recent gas pricing reform, it is clear that the plant will not be able to resume operations again as it will generate huge commercial losses. Thus, the 5 percent duty on PTA serves no purpose and should be reduced to zero.

Figure 6. Import and anti-dumping duties on PSF have created opportunities for rent-seeking in the domestic market leading to an anti-export bias.



Source: APTMA calculations using textilesbar.com data

Similarly, in the PSF domain there are only 3 major manufacturers that enjoy a protected monopoly due to the imposition of 7 percent import duties and up to 12 percent anti-dumping duties on imports of cheaper and higher quality PSF. Effectively, this has created opportunities for rent-seeking in the domestic PSF market that Pakistani PSF manufacturers have

capitalized on by keeping domestic PSF prices significantly above international prices (Figure 6). Higher PSF prices are further enabled by import LCs faced by the spinning industry.

Thus, domestic textiles and apparel firms have been averse to investing in MMF manufacturing because, given the high PSF prices in Pakistan, MMF-production is neither profitable in domestic markets nor competitive in international markets. At the same time, firms that are already in the PSF manufacturing business are averse to exporting because they have ample opportunities to extract rents from the domestic market.

Export diversification in the textiles and apparel basket to align with global market trends must be one of the top priorities of the government. A two-pronged approach must be taken in this regard. **The first step is to eliminate distortions and opportunities for rent-seeking by rationalizing the import duty on PTA and PSF and removing the anti-dumping duties.** This will allow the industry to import cheap and high quality PSF and focus on downstream value addition, without having to invest billions of dollars in setting up PSF manufacturing capacity and increasing global value chain integration at the same time. **Second, the government must facilitate investment in developing MMF-based manufacturing capacity that is discussed in greater detail in the following section.**

3. Expansion of Manufacturing Capacity

Policy Priorities

1. Create Industrial and Export Processing Zones with plug and play facilities and ancillary infrastructure and services for 1000 Garment Plants.
2. Establish Free Commercial Zones with import warehousing facilities, offices for international buying houses, testing centers and other export-related services to facilitate textiles and apparel exports through reduced trade, logistics and transaction costs.
3. Encourage development of composite units with full vertical integration.
4. Improve customs procedures, cargo clearance mechanisms and increase freight and logistics efficiency to reduce time on port and clearance and time-to-market.

Industrial Export Processing Zones for 1000 Garment Plants

At present, the textiles and apparel sector has approximately \$25 billion worth of annual export capacity. Setting up 1000 new garment plants, the appetite for which exists in the industry, can take this number up to around \$50 billion, while also providing direct and indirect employment for up to 1.4 million workers and numerous positive spillovers for other sectors of the economy, especially the external sector.

Based on FY2022 data, Pakistan has sufficient surplus production of yarn and cloth to generate an additional \$8 billion worth of higher value-added garment exports with only \$2 billion worth of investment in forward linkages, including weaving, processing, and garment production. This could take annual textiles and apparel exports up to \$33 billion. To fetch in an additional \$17 billion and achieve \$50 billion in annual textiles and apparel exports would require an investment of approximately \$11.3 billion across the value chain, from spinning to final garment production. Moreover, around \$12 billion worth of rolling working capital finance would be required to operationalize these production units. Essentially, \$25 billion worth of total investment, which includes \$10 billion worth of imported machinery, in expansion of manufacturing capacity can yield \$25 billion in textiles and apparel exports annually.

To facilitate investment in expansion of export production capacity, the government should set up industrial and export processing zones near all major textiles and apparel manufacturing hubs, namely Lahore, Sheikhpura, Faisalabad, Kasur, Multan, Sialkot, Rawalpindi, Karachi, and Peshawar. These will be designated areas where goods may be manufactured, imported, and exported with fewer bureaucratic barriers and more favorable economic regulations compared to the rest of the country. **Their role in attracting foreign direct investment, enhancing industrial activity, and promoting export-oriented growth is critical.**

One of the most important features the industrial zones must offer are developed factory sites and plug and play facilities. According to industry experts, around 40 percent of costs related to setting up a new factory are infrastructure-related and plug and play facilities within industrial zones can significantly offset this burden on investors while also generating income for the government. Initially the zones are set up through public-private partnerships and since developed factory sites are provided to firms on a rental basis, they end up paying for themselves while also creating a long-term revenue stream for the government.

Agglomeration economies offer additional benefits to firms that can save on various variable costs through shared ancillary infrastructure and services. These include roads,

power, water and waste-water infrastructure, combined effluent treatment plants, security, common processing houses, design centers, testing centers, logistics parks, warehousing, workers' hostels and housing, medical facilities, and training and skill development facilities.

This should start with a pilot of setting up 100 factory sites, 25 each near major textiles and apparel manufacturing hubs of Karachi, Lahore, Faisalabad, and Rawalpindi, and should be gradually expanded to 1000 sites across Sheikhpura, Faisalabad, Kasur, Multan, Sialkot, and Peshawar, that can bring in over \$20 billion in export earnings from the textiles and apparel sector. To attract investment, the government must also at least match the fiscal and other incentives being offered by regional economies for similar purposes (Table 2)

Table 2. Regional textiles and apparel exporting economies are offering significant incentives for investment in expansion of manufacturing capacity.

Bangladesh	Cambodia	India	Vietnam
<ul style="list-style-type: none"> • Preferential income tax rates at 10-12% for RMG factories • Duty free import of raw material for 100% export oriented RMG factories • Reduced withholding tax on export earnings at 0.5%. • Phased or partial tax exemption of 5 to 10 years for new firms. • 15% cash credit for pre-shipment expenses; packing credit for CIF expenses. • Post-shipment finance at 50-80% of L/C value • Long Term USD Financing at a max. rate of 8.5%. 	<ul style="list-style-type: none"> • Income tax exemptions of 3 to 9 years followed by declining partial income tax exemptions of 25-75% for subsequent years. • Deduction of capital expenditures through special depreciation of up to 40 percent. • Deduction of specific expenses at up to 200% • Garment and textile sectors can further benefit from extensions of prepayment on tax of income exemptions and custom duty exemptions. 	<ul style="list-style-type: none"> • Seven textile and apparel industrial zones with plug & play facilities and rebate up to 3% of turnover of new EOUs. • R&D finance up to 80% of project costs for EOUs. • Pre- and post-shipment and working capital finance through running account facility in FX. • Term loans for capital expenditures. • Loans/guarantees extended for expansion and upgradation. • Financing to acquire plant machinery and ancillary equipment. 	<ul style="list-style-type: none"> • Preferential corporate income tax at 10% for 15 years, with tax holiday for first 2 years and 50% reduction for next 9 years • Custom duty exemptions on fixed asset imports, imports for export processing contracts, imports for use in R&D. • Land rental fee exemptions of between 3 years up to entire operational period. • Exporter financing up to 85% of value of L/C.

Free Commercial Zone

In addition to industrial zones, establishing free commercial zones in proximity to international gateways including seaports and airports can further facilitate textiles and apparel exports by reducing costs and easing logistical barriers to export growth. Similar to an industrial or export processing zone, free commercial zones are designated areas where commercial activities are not subject to various regulations and taxes applicable in the rest of the country. Key features include tax benefits such as reduced or no import/export duties and corporate taxes, streamlined customs through simplified procedures for faster

clearance, and special regulations such as eased labor laws or more flexible foreign ownership rules. Table 3 provides an overview of key features of different free commercial zones from around the world.

The objective of a free commercial zone is to promote trade by reducing tariff and non-tariff barriers to trade, facilitating exports through reduced storage, transport and logistics, and information and transaction costs, and attracting investment by creating a favorable environment for both local and foreign direct investment.

The free commercial zone should offer bonded warehousing facilities for cotton and other imported inputs, office spaces for international buying houses and export-oriented firms, and fast-track testing, inspections, and custom clearance for export goods.

Import Warehousing Facility for Textiles & Apparel Sector Inputs

Key imported inputs for the textiles and apparel sector include cotton, polyester staple fiber, and various kinds of yarns and fabrics. **Establishing an FCZ for these goods would offer several strategic advantages by reducing the time and transport/logistics costs associated with imports of key inputs, especially cotton. It would also provide an economic buffer for the export sector to mitigate supply chain risks, especially from climate change and extreme weather events.**

Pakistan's imports of cotton have more than doubled over the past decade as domestic cotton supply has not kept up with increasing demand from the textiles sector, while unforeseen shocks such as floods and other extreme weather events have become an increasing source of disruption in domestic cotton production. Various other inputs are also imported throughout the year depending on domestic availability, buyer preferences, etc. A typical shipment takes between 2-3 months from order to delivery, while a typical textiles and apparel export order must be fulfilled within 4-6 months. Keeping sufficient inventory of cotton and other inputs as a buffer is unfeasible for firms due to high storage costs, space requirements and other associated costs. The increasing cost and time associated with the logistics of transport and storage are a barrier to export growth and a free commercial zone will reduce such costs through economies of scale in transport and logistics and ensure a consistent supply and availability of critical raw material and intermediate inputs.

Pakistan is also one of the most vulnerable countries to climate change and extreme weather events—particularly floods—that are becoming increasingly frequent and severe. EWEs have severely impacted cotton crops in previous years, and having stocks of imported cotton—ready for delivery—would buffer against unexpected shortfalls in domestic cotton supply due to shocks like EWEs or pest attacks, etc.

Table 3. Overview of Free Commercial Zones

<p>Malaysia Port Klang Free Zone aims to promote international trade, offering facilities for logistics, warehousing, and distribution.</p> <p>Malaysia Penang Free Commercial Zone focuses on high-tech manufacturing and is gradually evolving to handle commercial trading and logistics services.</p> <p>Malaysia Senai Airport Free Commercial Zone caters to air cargo and logistics services and aims to become a regional e-commerce hub.</p>	<p>Duty-Free Storage:</p> <ul style="list-style-type: none"> • Goods can be stored in the zone without incurring customs duties, excise tax, or Goods and Services Tax (GST). • Allowance for longer-term storage without financial penalties. <p>Specialized Warehousing:</p> <ul style="list-style-type: none"> • Temperature- and humidity-controlled warehouses, essential for perishable or sensitive goods. • Specialized secure storage areas for high-value items like precious metals, gemstones and luxury goods. <p>Advanced logistics support</p> <ul style="list-style-type: none"> • Free state-of-the-art inventory management systems, helping businesses maintain optimal stock levels and track goods in real-time. • Facilities equipped for cross-docking, reducing the need for long-term storage and expediting the shipping process. <p>Re-packaging and labelling:</p> <ul style="list-style-type: none"> • Light manufacturing activities including repackaging, sorting and labelling, allowing businesses to prepare goods for final delivery without exiting the duty-free zone. <p>Simplified customs procedures</p> <ul style="list-style-type: none"> • One-stop customs centers for quick processing of documents and goods, often available 24/7. • Some goods may receive expedited customs clearance as a result of international trade agreements or pre-qualification. <p>Integrated services:</p> <ul style="list-style-type: none"> • Customs clearance, warehousing and logistics services are often available within the same complex, greatly simplifying operations and administrative burdens. • Surveillance systems to offer enhanced security including CCTV, patrols and biometric access to ensure the safety of stored goods. • Multimodal transport through proximity to major ports, roads and airports, allowing for seamless transition from storage to shipping. • Business Ecosystem—clustering of various trade-related businesses in one zone results in partnerships and shared business services, providing a competitive advantage.
<p>Singapore FreePort is a high-security, state-of-the-art FCZ engaged in handling, storing and transshipment of valuable goods</p>	<p>High Security:</p> <ul style="list-style-type: none"> • Specialized facilities for storing valuables like art, gems and precious metals. <p>Tax exemptions:</p> <ul style="list-style-type: none"> • No Goods and Services Tax on items stored within the FreePort area.
<p>Panama Colon Free Zone is the second largest FCZ in the world, focusing on re-export activities, warehousing, and logistics.</p>	<p>Strategic Location:</p> <ul style="list-style-type: none"> • At the Atlantic gateway to the Panama Canal. <p>Duty-Free Imports:</p> <ul style="list-style-type: none"> • Items can be imported, stored and re-exported without any customs duties.
<p>Hong Kong Kwai Tsing Terminal, while not a traditional “Free Zone”, operates under very liberal economic regulations that make it comparable to an FCZ.</p>	<p>Ease of doing business:</p> <ul style="list-style-type: none"> • Minimal bureaucratic red tape and pro-business laws. <p>World-class Infrastructure:</p> <ul style="list-style-type: none"> • Highly developed port facilities.

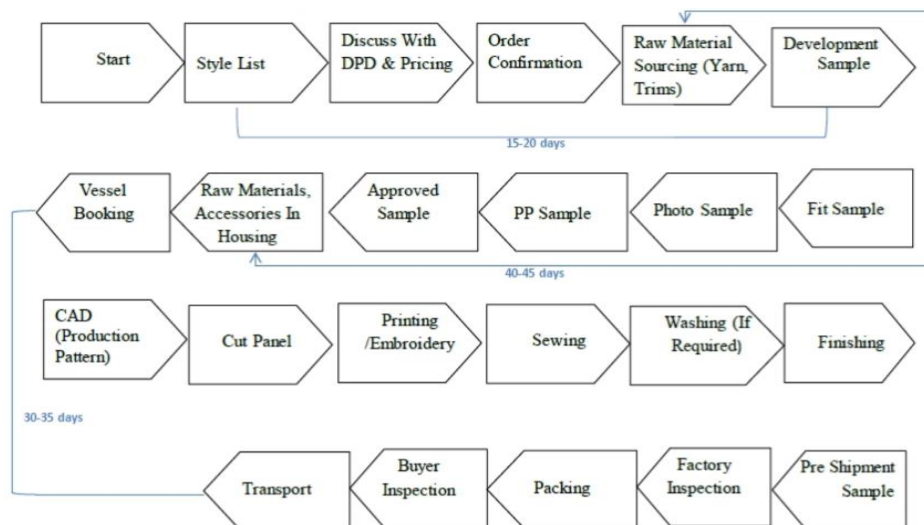
Testing Centers

Testing and certification requirements are one of the major export-related challenges faced by textiles and apparel manufacturers. Testing centers in Pakistan are either limited in capacity or unsuitable in nature and sending goods abroad for testing entails very high costs. Exporters of gloves and towels, for instance, must have certifications such as the OCO certificate, SA 1400 and BSCI to enter the EU market. However, only private labs with international accreditation (SGS or Bureau Veritas) issue these certifications with a validity of only one year. For testing required on blast, elongation, strength, puncture, resistance and cut level for fibers exporters must engage companies such as SDFI in the United States or Ricotest in the European Union that are extremely expensive. Some European buyers also require exporters to provide a GOTS certificate to ensure the production process complies with social, ethical and environmental norms. Exporters must get this certificate issued from the United States because Pakistan does not have any agencies that issue it.³

The government must engage international testing firms to facilitate domestic and foreign partnerships to increase the availability of testing facilities in Pakistan. These facilities may be offered inside free commercial and industrial zones to facilitate agglomeration economies and well as create incentives for foreign testing firms to enter Pakistan, ultimately leading to knowledge transfers to domestic testing firms.

Transport & Logistics

Figure 7. Order fulfillment times across the textiles and apparel supply chain.

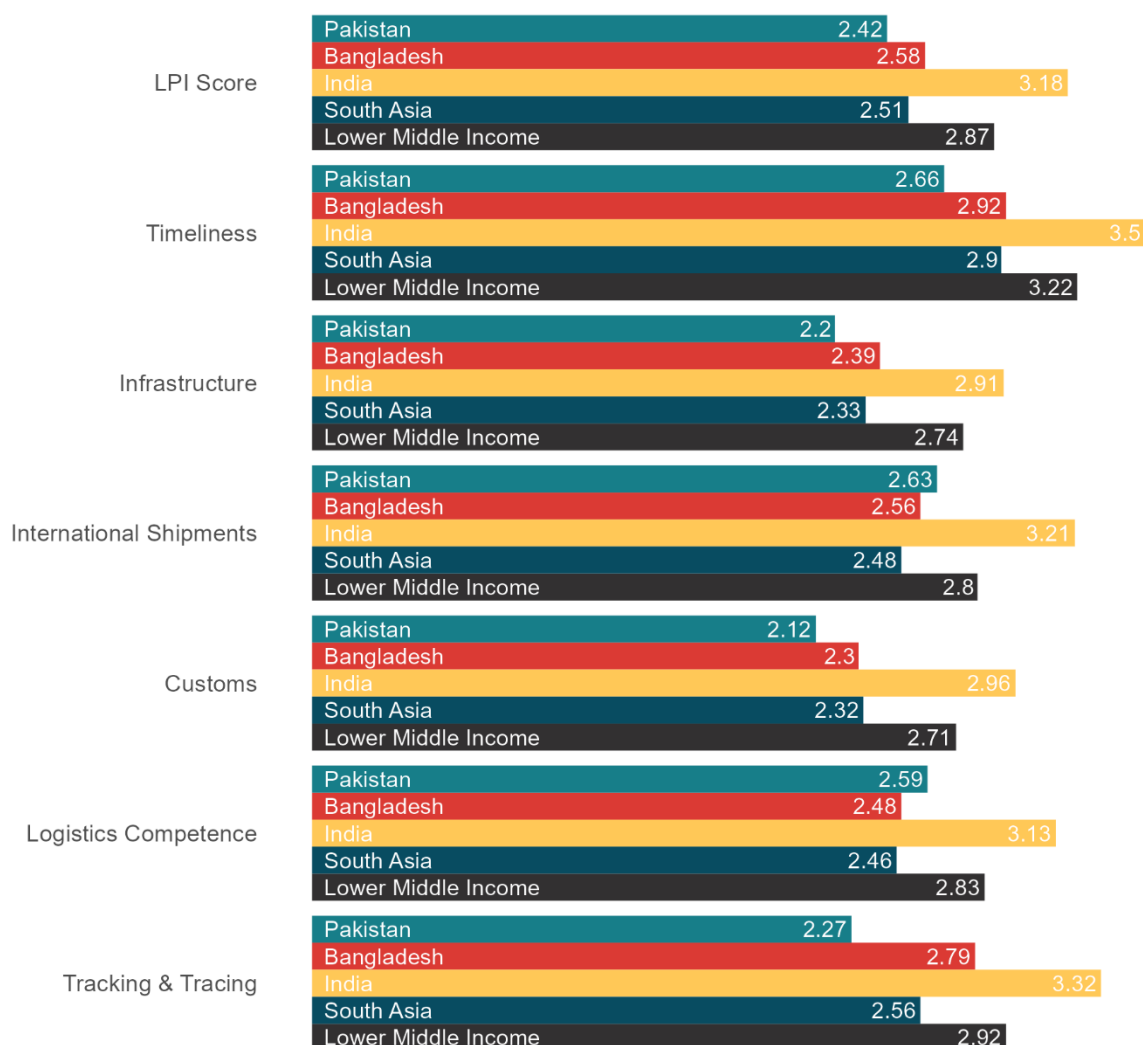


Source: APTMA

Pakistani firms have high and uncompetitive export order fulfillment times (Figure 7) because the country considerably lags regional competitors in terms of transport infrastructure and logistics performance (Figure 8). Export orders from major Western buyers follow tight timelines that increases their exposure to various sources of risks and often necessitate a “risk premium” in the form of discounts given to buyers to compensate for the higher uncertainty compared to competing firms.

³ [Invisible Barriers to Trade – Pakistan: Business Perspectives, International Trade Centre.](#)

Figure 8. Logistics Performance Indicators



Source: World Bank Logistics Performance Index

Globally, railways are one of the most efficient modes of freight transportation. However, **in Pakistan the railway infrastructure faces several challenges that impact its ability to support export-oriented industries. These include outdated and insufficient railway tracks, limited connectivity to major industrial hubs, and a lack of modern logistic facilities. This results in increased transit times, higher costs, and reduced reliability, impeding the competitiveness of Pakistani exports in the global market.** Furthermore, the existing railway fleet is in dire need of modernization with many locomotives and carriages being well past their optimal service life. These inefficiencies are compounded by a chronic lack of investment in railway infrastructure over several years, leading to a situation where the country's rail network is unable to meet the growing demand of trade and commerce, and exporters must rely excessively on road transportation that faces similar issues, including outdated and inefficient truck fleets and increasing congestion on roads and highways.

To reduce trade and transport costs, Pakistan's railway infrastructure requires considerable investment in upgrading tracks, particularly on key routes linking major industrial hubs to ports, modernizing the rolling stock with fuel-efficient and higher-capacity locomotives and carriages is essential to increase the volume and speed of freight transportation. There is also a need

for developing specialized freight terminals with advanced logistic facilities to streamline cargo handling, thereby reducing turnaround times. Investing in digital infrastructure for efficient tracking and scheduling can further optimize operations. Additionally, fostering public-private partnerships can mobilize resources and expertise for these upgrades. Not only will such improvements bolster the export capabilities of industrial sectors, but also contribute to broader economic growth by enhancing the overall efficiency of supply chains.

Another factor that adds to the challenges of transport and logistics is Pakistan's low integration in global value chains. Since Pakistan's share in international trade is low to begin with, this means that "mother ships" do not dock at Pakistani ports. Rather, smaller vessels take cargo from Pakistani ports to regional transshipment hubs where the same cargo is then unloaded and loaded onto "mother ships" for the onwards journey. The time and costs associated with the transshipment element adds to overall trade costs and order fulfillment times. **Improving the efficiency and procedures related to transport and logistics can significantly offset these costs, leading to improved export competitiveness.**

4. Energy

Policy Priorities

1. Operationalize the Competitive Trading Bilateral Contracts Market (CTBCM) to allow B2B power contracts with a wheeling charge of 1-1.5 cents/kWh.
2. Increase the cap on solar net-metering for industrial consumers from 1MW up to 5MW.
3. Establish a separate power tariff category for export-oriented firms excluding cross subsidies and stranded costs that cannot be exported.
4. Maintain gas supply for captive power plants given the unreliability of the power sector and ensure medium-term visibility on RLNG/gas pricing and availability.

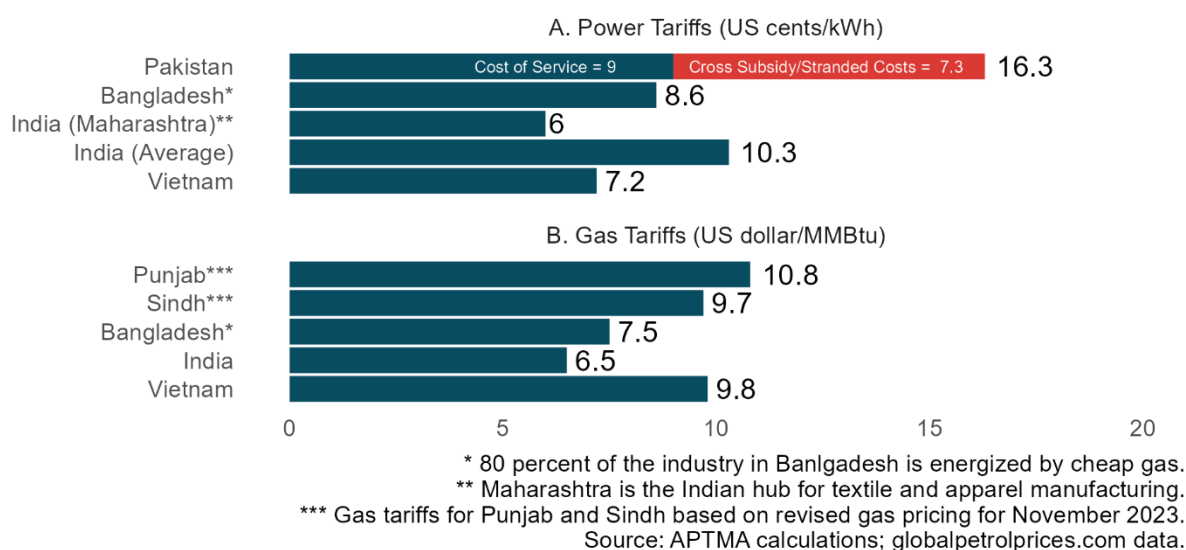
During 2020-2022 when zero-rated industries were provided with regionally competitive energy tariffs (RCET) of 9 cents/kWh, textiles and apparel exports witnessed record growth of 54%, from \$12.5 billion in FY20 to \$19.3 billion in FY22, in only 2 years. However, as RCET was withdrawn amid a larger macroeconomic crisis and power tariffs were rebased following the IMF 2023 SBA, power tariffs for export-oriented firms increased to over 14 cents/kWh and the industry could no longer sustain this momentum, causing textiles and apparel exports to plummet to \$16.5 billion in FY23.

Accordingly, textiles and apparel exports for M6FY24 remain down by 5% compared to the same period last year, while exports for CY23 have been recorded at 14% below CY22. **As it stands, current power tariffs for industrial consumers were approximately Rs. 46/kWh (16.3 cents/kWh) in December 2023 and likely to increase to Rs. 54/kWh (19.1 cents/kWh) from the January 2024 billing cycle following the inclusion of Rs. 4/kWh FPA and the new QTA for Q2FY24.**

One of the primary reasons for deterioration in the export sector is prohibitive power tariffs that are almost twice the average faced by competing firms in regional economies like Bangladesh, India, and Vietnam (Figure 9). Inclusion of economic inefficiencies like cross subsidies and stranded costs⁴ in power tariffs for export-oriented firms renders their exports uncompetitive in international markets because the cost of the government's social-welfare obligations and the power sector's inefficiencies cannot be passed on to international consumers. Besides the prohibitive power tariffs, following the recent changes in gas pricing, RLNG/gas tariffs for industrial export-oriented consumers are also well above the region (Figure 9).

⁴ Stranded costs refer to the investments in infrastructure, such as power plants and equipment, that may no longer be recoverable or economically viable due to changes in market conditions or regulatory environments. These are essentially sunk costs that have been incurred by a utility based on regulatory frameworks and market conditions that existed at the time the investments were made.

Figure 9. Energy tariffs for industrial consumers in Pakistan are well above the region.



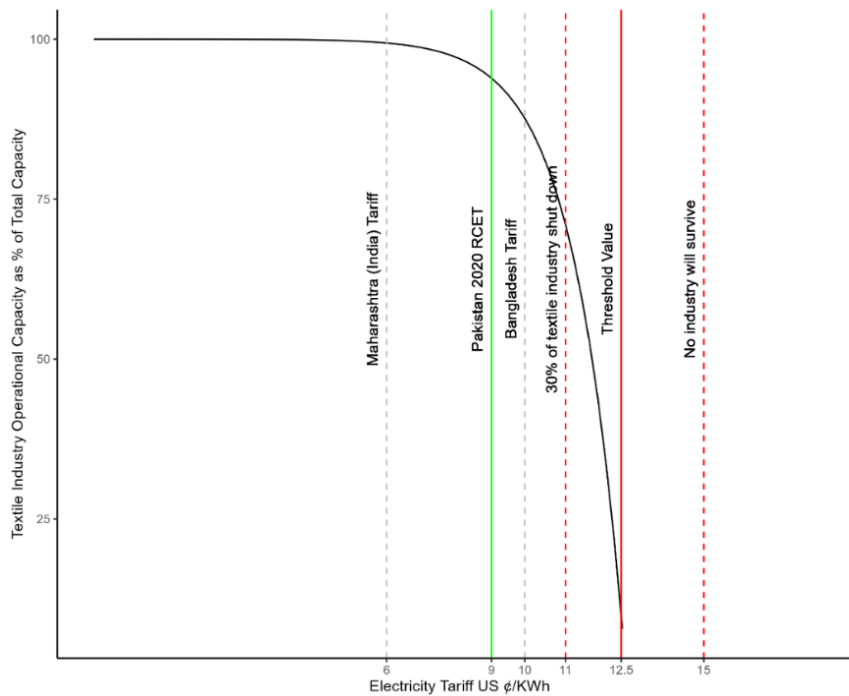
Economic Implications of Uncompetitive Power Tariffs

A firm's decision to export is based on a cost function, including costs of energy. The firm exports if and only if total cost of production is less than international prices. If the cost of an input increases beyond a threshold that pushes the total cost of production above international prices, the firm is unable to compete and exits the export sector. When multiple firms face the same dynamics, the export sector is crowded out with significant implications for the overall economy (Figure 10).

Based on an aggregate sector-level analysis, the threshold value of power tariffs above which there is a complete loss of competitiveness in the textiles and apparel exports is approximated at 12.5 cents/kWh. On the other hand, as tariffs increase above 9 cents/kWh, expansion of new units is halted, and existing production is exponentially reduced. When tariffs reach 1.5 times the regionally competitive tariff, firms are no longer competitive and begin to shut down.

Moreover, at 9 cents/kWh energy costs account for 12-18% of total input costs across the textiles and apparel value chain. Lower bound estimates based on data of publicly listed firms suggest that **increasing power tariffs to 14 cents/kWh decreases firm profitability from 8.61% to 1.00%, on average, while power tariffs of 16.3 cents/kWh result in losses.** The actual impact on a diverse set of exporters is likely to be heterogenous.

Figure 10. Power tariffs above 12.5 cents/kWh crowd out the export sector.



Source: APTMA, PIDE (2023), Reenergia (2022)

Given that the textile sector accounts for over half of total export earnings and approximately 40% of the industrial labor force, this has significant implications for the overall economy. If energy prices remain regionally uncompetitive, any recovery to pre-crisis levels of exports can be ruled out. As such, the economy will continue to face balance of payments and exchange rate pressures, especially given that gross external financing requirements over the next 5 years are projected at over \$25 billion annually. This will further add to debt servicing costs and other fiscal challenges, fuel inflation and rule out a decrease in interest rates for the foreseeable future and continue to further weigh down on industrial and economic growth. As the slowdown in industrial activity worsens, direct and indirect employment in upstream and downstream sectors will be reduced even more, affecting the livelihoods of millions of households. As it stands, textiles and apparel exports for CY23 remain down by 14% year-on-year.

Importantly, it is observed that contrary to the objection of increasing power sector revenue, higher power tariffs have inadvertently worked against the interests of the power sector by decreasing power consumption and power sector revenue contribution of export-oriented industrial consumers. The negative impact of higher power tariffs on volumetric consumption has more than offset any gains from the price effect such that the absolute impact of higher power tariffs on power sector revenue has been negative (Table 4, below). That this lower contribution by the export sector will necessarily lead to higher power tariffs for all consumers is a foregone conclusion.

Table 4. Effect of Uncompetitive Power Tariffs on APTMA Members' Power Consumption and Power Sector Revenue.

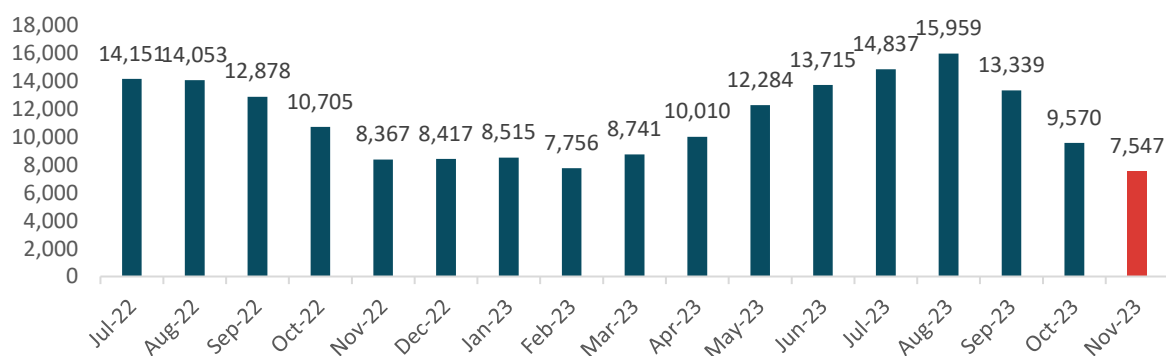
	LESCO	MEPCO
October 2022 Consumption (MWh)	224,783	95,525
October 2023 Consumption (MWh)	114,231	61,220
Delta Consumption (MWh)	-110,552	-34,305
Delta Consumption (%)	-49.18%	-35.91%
Revenue Oct 2022 (mil. USD)	20.23	8.60
Revenue Oct 2023 (mil. USD)	15.99	8.57
Delta Revenue (mil. USD)	-4.24	-0.03
Delta Revenue (mil. PKR)	-1,186.68	-7.41
Delta Revenue (%)	-20.95%	-0.31%
Price Effect (mil. PKR)	1,599.23	857.08
Volume Effect (mil. PKR)	-2,785.91	-864.49

Note: Exchange rate assumed at 1 USD = 280 PKR; Tariff Oct 22 = 9 cents/kWh & Oct 23 = 14 cents/kWh.
Source: APTMA.

Just on the LESCO network alone, power sector revenue from APTMA member-firms was over Rs. 1.1 billion less in October 2023, compared to the same month last year. Actual losses are likely to be much higher because, had power tariffs remained at 9 cents/kWh, power consumption would have increased as overall economic conditions showed an improvement starting FY24.

Similarly, power consumption for the first 20 days of December 2023 has declined by 25% year-on-year for industrial consumers on the LESCO network. These estimates are further corroborated by a recent analysis from JS Global that showed power generation in Pakistan was at a 33-month low in November 2023 (Figure 11).

Figure 11. Power generation (GWh) in Pakistan was at a 33-month low in November 2023.



Source: JS Global

These losses will necessitate a high Quarterly Tariff Adjustment (QTA) for Q2FY23, thereby further increasing already-high power tariffs, following which power consumption is likely to fall further, necessitating further hikes in power tariffs for all consumers. This will further accelerate the pace of economic deterioration and deindustrialization, leading to a drastic reduction in industrial activity and loss of millions of jobs.

Prohibitively high and regionally uncompetitive power tariffs have caused the economy to become stuck in a vicious cycle where ever-increasing power tariffs are causing power consumption to decline continuously to the point where Pakistan will have power companies but nearly no high-end consumers for them to cater to. The only way

to come out of this cycle is to rationalize power tariffs at levels that stimulate the economy and allow for sustained levels of higher power consumption and therefore higher power sector revenue. It is also seen that the current power tariff regime is no longer viable and requires a complete paradigm shift.

However, to add fuel to the fire, XWDISCOs have proposed entirely unrealistic UoSC/Wheeling Charges of around Rs. 27/kWh or 9.6 cents/kWh, on average, with the inclusion of cross subsidies and stranded costs (Table 5).

Table 5. Wheeling Charges for B3 Industrial Consumers Proposed by (select) DISCOs

	GEPSCO	LESCO	FESCO	HESCO	MEPCO	SEPCO
Generation Cost - Energy	-	-	-	-	0.71	1.01
Generation Cost - Capacity	14.46	11.21	12.50	19.50	8.86	15.74
Transmission Charges	1.16	0.90	1.01	1.56	0.71	1.27
Distribution Use of System	4.19	1.81	1.96	6.03	1.80	4.80
Impact of Allowed Losses		1.27	1.32	3.83	1.19	3.07
Cross Subsidy	5.60	11.74	6.74	10.37	15.56	7.39
Proposed UoSC (Rs./kWh)	25.41	26.93	23.53	41.29	28.83	33.28
Proposed UoSC (cents/kWh)	8.92	9.45	8.26	14.49	10.12	11.68

Note: Wheeling charges proposed by DISCOs as published on the NEPRA website; Proposed wheeling charges reproduced for select DISCOs with higher concentration of industrial consumers; Wheeling charges proposed by all XWDISCOs and other consumer categories enclosed with attachments.

These proposals have been made with the intention to undermine the entire CTBCM and bury any chance of competition or power sector reforms. This is evidenced by the fact that not only are the proposed wheeling charges higher than the full power tariffs in regional economies like Bangladesh, India, and Vietnam, but also that wheeling power at a wheeling charge of 9.6 cents/kWh would be more expensive than sourcing already over-priced and above-cost electricity from the grid. Moreover, NEPRA's capacity to independently determine judicious wheeling charges has been severely curtailed by the unilateral introduction of Rule 5 in *The Eligibility Criteria (Electric Power Supplier License) Rules, 2023 (SRO 1107(I)-2023)*. This approach of the present regulatory regime needs to be corrected at the earliest to ensure the independence of NEPRA.

Transition to Net-Zero Required under C-BAM

In addition to immediate challenges in the form of prohibitively high power tariffs, emerging regulations on carbon emissions in advanced economies are a major source of concern for export-oriented sectors. The EU's Carbon Border Adjustment Mechanism (C-BAM) will become functional in 2026, and other advanced economies that are key export destinations are expected to follow suit.

Under C-BAM and similar mechanisms in other economies, Pakistan's exports will face an effective import tariff based on carbon emissions generated during their production across the value chain (for a detailed discussion on C-BAM, see Section 9 on Environmental and Social Sustainability and Compliance). Thus, to continue exporting to key Western markets under such carbon tax mechanisms requires an immediate transition to green energy sources like geothermal, solar and wind energy⁵, especially considering that major competitors like

⁵ Electricity generated using hydel energy does has been excluded from the "green energy" category due to its negative impact on the environment.

Bangladesh and India are making significant progress on the same. It is important to understand that the proposed transition cannot be delayed any longer and correction through a priority change in the existing architecture is a must.

Way Forward

Given the high price elasticity of power consumption for industrial and high-end domestic consumers, maximizing power sector revenue entails setting power tariffs at levels that maximize the contribution of these consumers to fixed costs. In the case of the export sector, this level has been calculated at 9 cents/kWh.^{6 7} Furthermore, to facilitate export growth in the textiles and apparel sector in the immediate- as well as the medium-term, export-oriented firms must be provided with green electricity at competitive prices to enable them to compete in international markets. This can be achieved through the following measures:

- **First, allowing B2B power contracts with a Use of System Charge (UoSC)/Wheeling Charge of 1-1.5 cents/kWh** will enable export-oriented firms to source green electricity at competitive end-use prices, either through captive generation from geo-thermal plants in depleted oil fields and hybrid solar/wind plants, or from other such green power producers.
- **Second, increasing the cap on solar net-metering for industrial consumers from 1 MW up to 5 MW** will further facilitate the transition towards net-zero by adding over 3000 MW of clean energy at the point of usage, with no investment or guarantees from the government. This would additionally do away with any pressure on the government to attach solar power systems on the distribution network.
- **Third, to prevent a further decline in exports a separate power tariff category for export-oriented firms, excluding cross subsidies and stranded costs, may be established** until the measures discussed above have been fully implemented.

In addition to providing the export sector with energy at competitive prices, enabling it to compete in international markets, giving a significant boost to export earnings, and facilitating the transition towards net-zero and improving export competitiveness over the medium-term, these policies will also lead to positive spillovers for the power, gas and other sectors of the economy.

First, following the gas price reforms, pricing power at 9 cents/kWh will incentivize a shift of at least 1000 MW of power consumption in the textiles and apparel sector away from gas-based captive generation. This will save approximately 250 MMCFD of gas, which translates to around \$1 billion in savings from the LNG import bill.

Second, this additional power consumption will contribute around Rs. 183 billion to fixed costs of the power sector only on account of the shift away from gas, and at least an additional Rs. 50 billion on account of higher consumption while covering all variable costs in the power tariff. These fixed costs are essentially sunk costs in the form of capacity payments that will otherwise prompt a further increase in either power tariffs for all consumers or in the power sector circular debt.

The textiles and apparel sector has been a major proponent of the CTBCM as its importance for the export sector and the overall economy, as outlined above, cannot be understated. Thus,

⁶ It is important to note that commercial demand for power is highly inelastic to power tariffs while the same exercise needs to be conducted for domestic consumers.

⁷ *Energy Reforms for Export Oriented Units in Pakistan*, Pakistan Institute of Development Economics (2023).

it is important to reiterate the utmost criticality of allowing B2B power contracts with a UoSC/wheeling charge of 1-1.5 cents/kWh, increasing the cap on solar net-metering for industrial consumers from 1MW up to 5MW, and creating a separate power tariff category for export-oriented firms, excluding cross subsidies and stranded costs, till the CTBCM becomes fully functional.

These measures will address both immediate barriers to export growth in the form of prohibitive energy tariffs that render exports uncompetitive, as well as medium-term challenges such as the EU's C-BAM that will lead to a complete collapse of the export sector if a transition to green energy and net-zero emissions in export production is not facilitated immediately.

These efforts must also be accompanied by longer-term improvements in the efficiency of energy use and its conversion to GDP. Pakistan has one of the lowest energy to GDP conversion ratios in the region at only \$3.3 million/ktoe, compared to Bangladesh's \$6.13 million/ktoe. Structural changes in the allocative efficiency of energy tariffs must be made to direct more energy towards more productive uses.

5. Taxation

Policy Priorities

1. Fix the FASTER sales tax refund system to ensure all sales tax refunds are issued within 72 hours as per rule 39F of the Sales Tax Rules 2006.
2. Rationalize tax rates including sales, income, and corporate taxes.
3. Reduce turnover tax on indirect exporters in upstream sectors from 1.5% to 0.75% and make it adjustable against profits in future years.
4. Eliminate multiplicative taxation at each stage of value addition that disadvantages MSMEs and stand-alone units as compared to firms with full vertical integration.
5. Extend the Export Facilitation Scheme to the entire textiles and apparel value chain.
6. Retract the positive lists of inputs eligible for tax refunds given that they restrict innovation and experimentation and weigh down on ease of doing business.

One of the main contributors to an industry-wide liquidity crisis in the textiles and apparel sector is the dysfunctional taxation regime. In addition to a sales tax rate of 18 percent that is well above what prevails in regional economies, exporters of textiles and apparel face regular delays in issuance of sales tax refunds starving them of liquidity. Other challenges include tax imposed on firm turnover for indirect exporters in upstream sectors, the limited scope of the Export Facilitation Scheme (EFS), imposition of various duties and taxes on imports of machinery and raw material, and blocking of income tax refunds, provincial sales tax refunds and custom duty drawbacks.

Nonpayment of Sales Tax Refunds

Zero rating for the textiles and apparel sector was withdrawn with effect from 1st July 2019 when SRO 1125 was rescinded. To allay the fears of exporters regarding nonpayment of refunds, it was provided in Rule 39F of the Sales Tax Rules 2006 that all refunds would be issued under FASTER within 72 hours. However, **FASTER has failed to work smoothly since its inception. Only partial refunds are allowed under FASTER, and even those are paid with a delay of several months while the bulk of the claims are deferred for manual processing.** Deferred claims are neither processed nor paid despite the RPOs being issued after hectic persuasion by firms.

Blocking refunds for an indefinite period creates enormous liquidity issues for exporters in addition to adding to their financial woes. Estimates suggest that as much as \$1.3 billion or Rs. 370 billion worth of liquidity belonging to the textiles and apparel sector is stuck in the FASTER regime at any given time.

The government must fix the FASTER system to accelerate the pace of refunds. This may be achieved by linking refunds to purchases rather than consumption. 80 percent of the claimed amount may be paid to manufacturers cum exporters provisionally within 48 hours of filing of Sales Tax return against a revolving bond in consonance with the provisions of the erstwhile rule 39 A of Sales Tax Rules 2006. Added to this legal lacuna and snags like section 8B and additional tax may be removed, at least for exporters.

Reducing the Sales Tax Rate

Pakistan has a regressive taxation regime that inhibits private sector growth. The sales tax rate of 18 percent is well above the tax rate applicable in regional economies. Moreover, sales tax being imposed at each stage of production also poses a particular

disadvantage to micro, small and medium enterprises, and stand-alone production units. Compared to fully integrated composite units where the entire value chain is housed within a single firm and sales tax only has to be paid once, for products manufactured by non-composite units that are mostly MSMEs the same tax has to be paid at each stage of value addition leading to multiplicative taxation that causes prices of the same product produced by non-composite units to be well above that of composite units, leaving them inherently disadvantaged in international and domestic markets.

Rationalization of Turnover Tax

Pakistan imposes income taxes on a turnover basis even if the firm is making a loss. This is particularly disadvantageous for low-margin firms in upstream processes, loss-making firms and MSMEs. It is, therefore, proposed that the turnover tax be rationalized from 1.5% at present to 0.75% and made adjustable against profits realized in future years.

Export Facilitation Scheme (EFS)

The Export facilitation scheme launched vide SRO 957(I) 2021 dated 30th July 2021 must be liberalized and extended to the entire value-added chain of the textiles and apparel sector. Its present scope of only one step backwards deprives the multistage value-added chain to avail the scheme, and disadvantages MSMEs and non-composite units. Denial of EFS to whole chain results in levy of duties and taxes on all stages which exacerbates challenges for non-integrated units uplifting cost of their goods at the risks of hampering their innovations and limiting their ability to offer cost effective products.

Indirect exporters availing EFS are barred from claiming sales tax refunds under FASTER as it applies to only direct exporters as per row 11 of sales tax return read with Annexure “D”. This creates a huge financial crunch for indirect exporters using EFS. To facilitate exporters, EFS should be extended to the whole value-added chain and supplies of goods both by direct and indirect exporters must be allowed under FASTER.

Dwell Time at Ports

All custom administrations across the globe are making all out efforts to minimize dwell time at ports which have been reduced to only a few hours in the modern world. In Pakistan it still spreads to days and weeks adding to the cost of inputs and making exports uncompetitive in the international market. FBR must address these issues by eliminating unnecessary customs processes and procedures and computerizing all customs processes to save the industry from unnecessary financial costs incurred due to the existing longer dwell time.

Withdrawal of Duties and Taxes on Plant, Machinery and Raw Materials

Industrial consumers importing plant machinery, spare parts and raw materials are currently subjected to high customs duties, withholding income tax, sales tax @ 18 percent and anti-dumping duties on some raw materials. Such an excessive burden of import levies, especially in the scenario when the whole world has moved to eliminate import levies, makes our products uncompetitive. It costs them enormously and increases the cost of their products exorbitantly. There is an urgent need to remove all import tariffs and para tariffs on all goods of industrial use, especially plant machinery and raw materials to lower the financial cost of our manufactured products.

Blocking of Income Tax Refunds

Income tax refunds of trade and industry are hardly processed by the tax machinery and colossal amounts of income tax refunds remain pending for ages, incurring huge financial costs to the industry. The income tax refund process should be fully automated, and all income tax refunds must be disposed of within a month of filing of the claim.

Refund of Provincial Sales Tax

Refund claims against provincial sales tax invoices are being rejected or deferred due to non-availability of automated verification of the provincial invoices resulting in accumulation of refunds worth billions of rupees. To resolve this problem, a unified sales tax return of federal and provincial sales tax must be launched immediately with automated verifications and payment of refunds.

Payment of Custom Duty Drawbacks

Duty drawback is refund of duties and taxes paid on inputs and raw materials used in the manufacture of exported goods and services. Duty drawbacks are paid at a flat rate fixed by Input Output Coefficient Organization (IOCO) of the FBR. **Such rates on textile products were fixed in 2009 and have not been revised since, despite many tariff and valuation variations and repeated requests, depriving exporters of their legal entitlements.**

Added to this, admissible drawback amounts are kept pending for months, further aggravating the financial miseries of exports. The duty drawback rates should be upwardly revised as per existing import tariff and values. Payments of all duty drawback claims should be ensured in the meantime.

Positive List for Sales Tax Inputs

The FBR has devised “positive lists” of products against which eligible sectors may be able to claim input tax refunds. This is a regressive measure, an equivalent example of which cannot be found in any other economy around the world. Not only does it weigh down on ease of doing business but also restricts innovation, experimentation and research and development given that it effectively restricts export-oriented firms to a limited set of inputs they may use in their respective manufacturing processes.

The government must retract these lists and focus on increasing the efficiency of existing processes rather than introducing additional and even more cumbersome tax compliance requirements.

Smuggling of New Clothing

Imports of used clothing have increased considerably over the past two years, hampering the market share of domestically oriented firms. This is mainly because the recent episode of inflation has significantly curtailed peoples' purchasing power and increased the incidence of poverty, thus shifting domestic demand for new clothing towards worn imported apparel. However, there is also a significant amount of new clothing being smuggled into the country as worn apparel to avoid the payment of duties and taxes. The government must take all necessary steps to curtail imports of new clothing under the guise of used clothing, including by improving the efficiency and effectiveness of customs checks on imports of worn apparel.

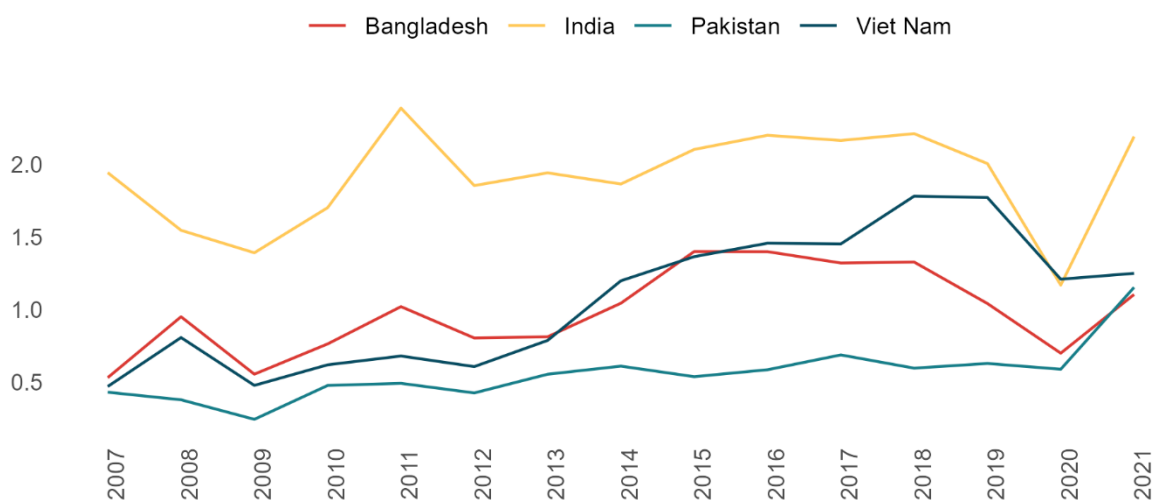
6. Investment & Financing

Policy Priorities

1. Bring inflation down to single digits to allow for a reduction in interest rates.
2. Operationalize the EXIM Bank to revive export financing schemes and increase financing limits to meet the industry's demands.
3. Provide concessional financing to stimulate investment in expansion of manufacturing capacity.
4. Extend LTFF to the entire textiles and apparel value chain to allow for modernization and upgradation of machinery, especially in downstream sectors like ginning.

Pakistan significantly lags major textiles and apparel manufacturing economies in terms of manufacturing capacity. Between 2007 and 2021, Pakistan imported only \$8.9 billion worth of textiles-related machinery compared to India's \$28.6 billion, Vietnam's \$15.9 billion, and Bangladesh's \$14.8 billion (Figure 12).

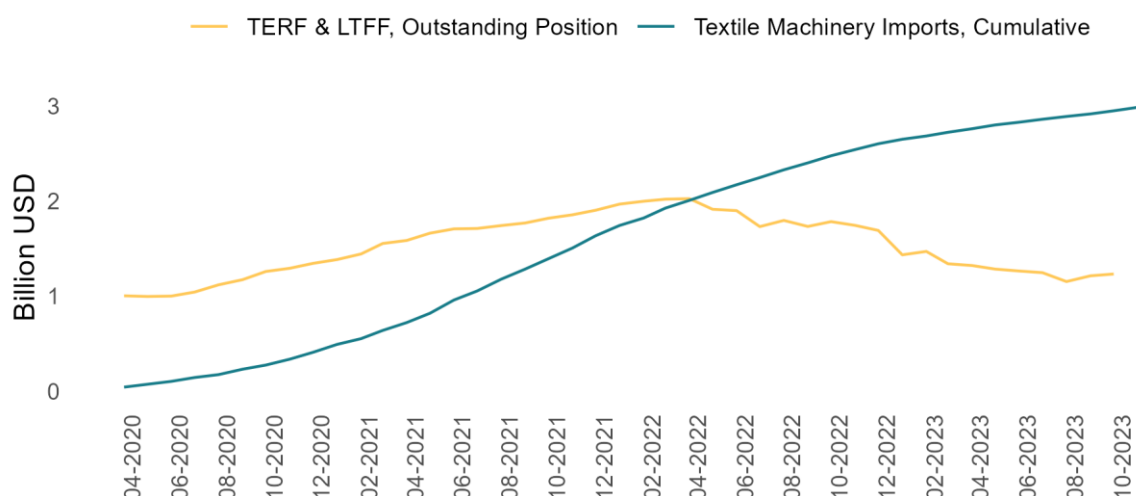
Figure 12. Imports of Textiles Manufacturing Machinery, Billion USD



Source: APMTA staff calculations using BACI trade data.

The introduction of the Temporary Economic Refinancing Scheme (TERF) in April 2020 stimulated around \$5 billion worth of fresh investment at a 60:40 equity ratio in upgradation and expansion of textiles and apparel manufacturing capacity, including imports of around \$3 billion worth of new machinery (Figure 13). This took the textiles and apparel sector's export manufacturing capacity to over \$2 billion per month. However, as economic conditions experienced rapid deterioration starting early- to mid-2022 and the government placed various import restrictions, several investment projects undertaken using TERF were left incomplete. Moreover, those projects that had been completed remained idle due to high energy and other operating costs.

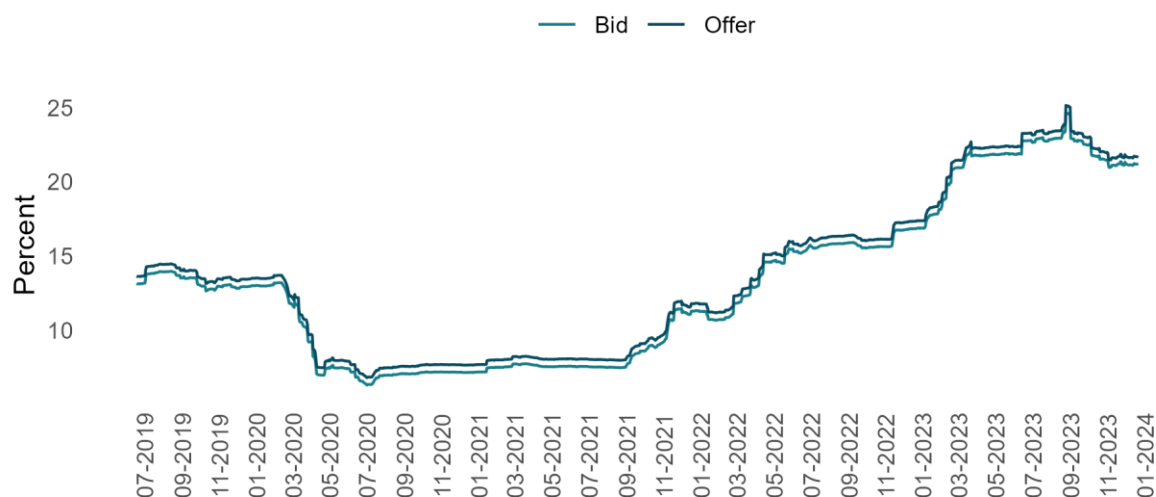
Figure 13. Pakistan Monthly Imports of Textiles Manufacturing Machinery, Billion USD



Source: APTMA, State Bank of Pakistan

Subsequently, interest rates saw a massive hike from around 7.5 percent in July 2021 to over 22 percent in July 2023 (Figure 14). Considering that profit margins for publicly listed textiles and apparel firms are around 7 to 8 percent on average, borrowing is not feasible at interest rates of over 22 percent. **Moreover, high interest rates being offered by banks have dried up non-bank supply chain finance that is prevalent across all sectors of the economy as investors are finding it more attractive to simply park their money in banks.**

Figure 14. Interest rates of over 22 percent are not at all conducive to private sector borrowing and investment.

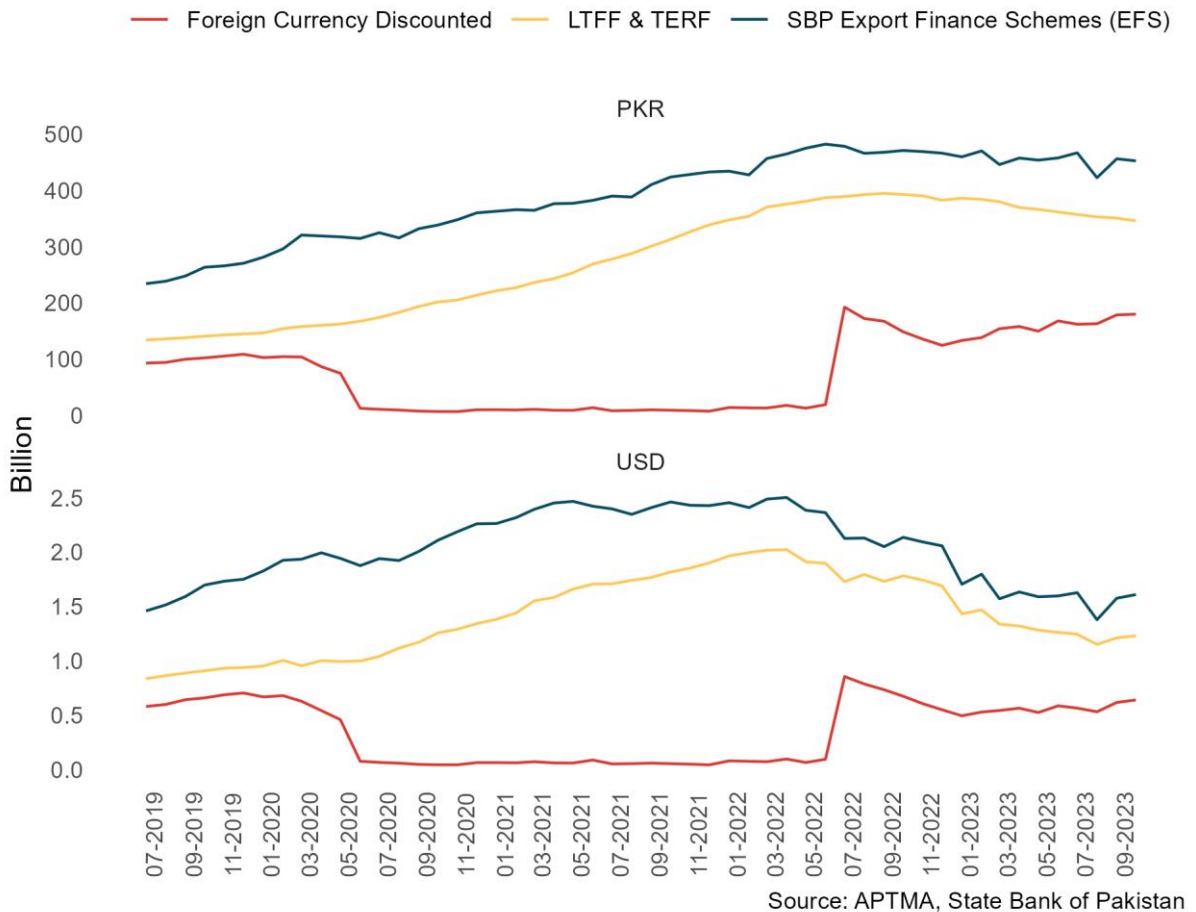


Source: Karandaaz

This has resulted in a precarious situation where the industry is facing a severe shortage of working capital finance, especially considering that because of rampant inflation and exchange rate depreciation the same dollar-denominated export order requires around 40 percent more rupees to process. **Limits on the SBP Export Financing Scheme are also proving insufficient to meet the industry’s financing requirements.** Lending under EFS in terms of PKR has remained relatively constant while it has declined by over 40 percent in USD terms since early 2022 (Figure 15). The State Bank of Pakistan has indicated that the

limits cannot be enhanced as financing schemes administered by the State Bank are being phased out under the commitments to the IMF, and all similar lending schemes will be moved to the new EXIM Bank.

Figure 15. Financing for textiles and apparel manufacturing, outstanding position at the end of month.



Bringing inflation down to single digits to allow for a significant reduction in interest rates must be the top priority of the government to facilitate private sector borrowing, investment, and growth. The EXIM Bank must be fully operationalized to revitalize and increase limits on export financing schemes. Concessional financing must be made available to simulate investment into expansion of export manufacturing capacity and these schemes must be extended across the value chain, especially considering that one of the limitations of TERF was that it channeled disproportionate investment into lower value-added upstream sectors.

7. Export Marketing

Policy Priorities

1. International roadshows with delegations including the Minister for Commerce and industry leaders to improve Pakistan's international image and woo C-level executives of international brands to source from Pakistan.
2. Incentives package for international buying houses to increase sourcing from Pakistan.
3. Online platform to facilitate matching between buyers and suppliers, with an emphasis on promoting MSMEs.
4. Relax regulations on remittance of export proceeds, storing export products abroad and making investment in setting up retail stores abroad to support entry into non-traditional markets such as e-commerce and direct retailing.

Economic and political instability over the past two years has caused Pakistan's international image to deteriorate severely. There have been numerous instances where buyers have decided to systematically reduce sourcing from Pakistan considering various associated risks and shift to other regional textiles and apparel producing hubs such as India. **Moreover, the textiles and apparel sector is currently almost exclusively focused on exporting to large customers including international manufacturers and retailers,** leaving out a large international market comprised of smaller customers like end-users on e-commerce platforms or relatively smaller retail stores that make purchases in smaller quantities. MSMEs (micro, small and medium enterprises) that usually cater to such buyers also face significant barriers to entry in the form of prohibitive regulations on remittance of export proceeds, and lack of suitable payment gateways and transport and logistics services.

International Roadshow

To address "international image" related concerns, the Government must undertake an aggressive and multi-faceted export marketing exercise that promotes Pakistan's textiles and apparel products in international markets. **This includes high-level delegations comprising of the Minister for Commerce and business leaders attending international textiles and apparel sourcing conferences, hosting networking events, and interacting with C-level executives from international apparel firms to woo them to increase sourcing from Pakistan.**

Offices for International Buying Houses

Pakistan is significantly lacking in terms of physical presence of international buying houses. Having local offices of international buying houses can reduce information and transaction costs and provide more efficient buyer-supplier matching. Moreover, the inherent incentive structure of buying houses will by itself increase the likelihood of brands sourcing from Pakistan for the local staff to meet their KPIs.

To promote Pakistan as a destination for international buying houses, the government should develop an incentive package for international brands and retailers that minimizes fixed costs of setting up offices by, for instance, providing free office spaces for the first 6 months.

Digital Platform for Supplier-Buyer Matching

To improve the matching process between suppliers and buyers, and to facilitate MSMEs, the government should develop an online “one stop shop” that provides open access to the Pakistani textiles and apparel market. In addition to an online marketplace, this should include space for virtual exhibitions, market intelligence and other tools to support innovation and entrepreneurship. A special focus should be put on promoting SMEs through B2B, B2C and B2B2C export models and training and capacity building programs. This platform can be supported through the export development fund to increase its ownership amongst the industry as well as to ensure its long-term viability.

Entry into Non-traditional Markets

In addition to large traditional brands and retailers, the advent of e-commerce giants like Amazon and Ali Baba has created an entirely new market for textiles and apparel with high export potential, especially for MSMEs that can sell their products directly on these platforms. However, **Pakistani firms face significant challenges in doing business on these platforms because, for instance, their payment gateways do not support payments to Pakistan and exporters face stringent requirements from the State Bank of Pakistan on storage of export products in warehouses abroad and remitting export proceeds within a certain period from when the goods leave Pakistan,** that are incompatible with e-commerce supply chains.

Over the past two decades, Pakistan has also witnessed the emergence of numerous domestic apparel brands with original brand and design manufacturing. These brands have a high export potential through direct retail abroad, especially amongst South Asian diasporas, but prohibitive regulations have prevented them from venturing into retail markets in foreign countries.

For instance, setting up a retail store abroad requires considerable fixed investment, working capital and maintenance of inventories. However, Pakistan enforces strict control on capital outflows and exporters are required to remit export proceeds within 120 days of shipment from Pakistan. While this is a tight but workable timeline for firms exporting bulk orders to large clients, for original brand and design firms in direct retail, they must maintain sufficient inventory and supply buffers for prolonged periods of time, especially when freight times are considered, and there is relatively greater uncertainty as to when the stock will be sold, and money would be remitted back to Pakistan. Moreover, such firms also must meet the expenses of maintaining a retail presence abroad and can therefore may not be able to remit the entirety of their export proceeds back to Pakistan.

Similarly, Pakistani firms face significant barriers in shipping of relatively smaller orders and packages. Extraordinarily cumbersome customs procedures and high costs are associated with such shipments, both in Pakistan and abroad, especially because parcels originating from Pakistan are viewed with general suspicion in foreign countries.

The government must work with the State Bank of Pakistan and other relevant stakeholders to amend these regulations and make them compatible with doing business on a smaller scale as well as on international e-commerce platforms, including by allowing exporters to store their products abroad for longer periods of time and providing greater flexibility in remitting export proceeds. Capital controls on export-oriented investment abroad and customs procedures for relatively smaller export orders must be similarly relaxed to facilitate entry into non-traditional markets.

8. Supply Chain Traceability

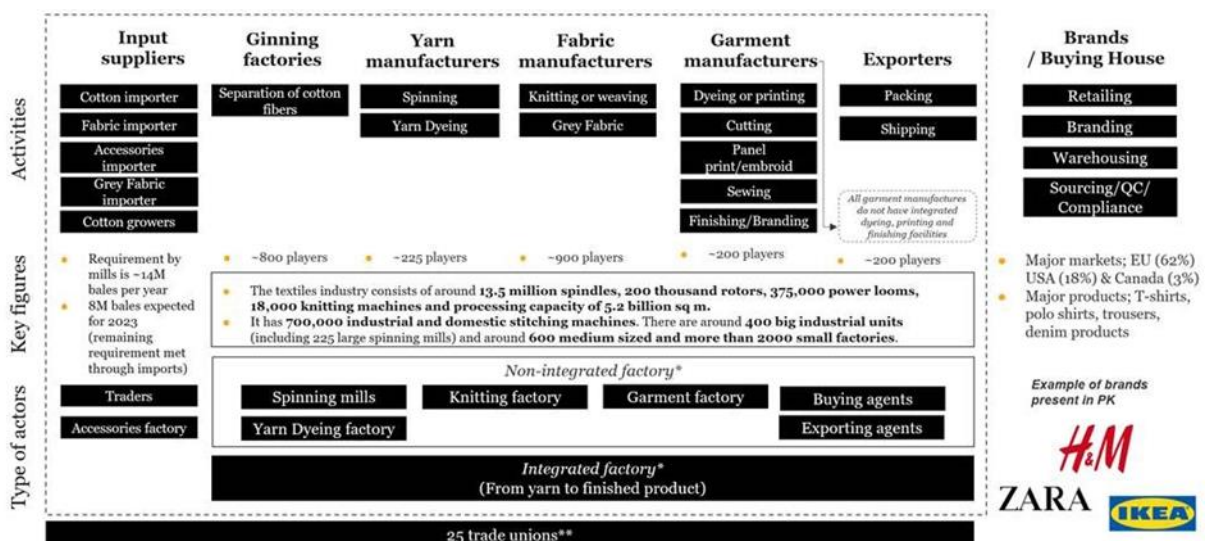
Policy Priorities

1. Develop a legal regulatory framework to enforce traceability through the National Compliance Centre (NCC) as the lead agency designing, regulating, and implementing comprehensive supply chain traceability requirements for export-oriented firms.
2. Facilitate value chain integration of standalone manufacturing units with an emphasis on a shift to value-added processes.

The global textiles and apparel industry is going through a period of ever-escalating supply chain scrutiny and a mounting demand for traceability. Traceability includes efficient mapping to track various modes in the supply chain, as it documents the journey of raw materials from their origin to the final apparel product, post-sale as well as recycling. As traceability ensures transparency, authenticity, and compliance with environmental and ethical standards, the demand for it is rising from both the brand and the consumer side. While brands want to know the origin of the products, the conditions where they are manufactured, and their environmental footprint, consumers are also prioritizing mindful purchasing, where they expect the products to not just meet style requirements but also principles of social and environmental sustainability.

Progress on traceability in Pakistan's textile sector is marked by both fragmentation and unclear stakeholder roles. Firms are developing their individual traceability systems, and integrated mandatory provisions that aim to obligate all textile firms to progress harmoniously toward achieving international standards of supply chain traceability are missing. The adoption of these provisions, however, is a near to impossible achievement, if the industry is not fully or partially integrated.

Figure 16. Only around 20% of textiles and apparel firms have full vertical integration, while 80% are stand-alone manufacturing units spread across the value chain.



Source: Business Sweden

While textiles have long been a major player in Pakistan's economy, approximately 80% of firms still operate in a non-integrated structure (Figure 16). Integration, on the other hand, provides better control over the supply chain, ensuring efficient and streamlined operations.

This leads to consistent quality throughout the production process, as integration allows for rigorous quality control measures. Additionally, the interconnected nature of integrated factories facilitates easier traceability, promoting accountability for each stage of production.

Pakistan's standalone spinning units are increasingly becoming incompatible with their competitors. Globally, textile industry enterprises are moving towards full or partial integration, emphasizing a shift to value-added processes as a vital survival strategy. To remain competitive and relevant in the evolving textile sector, Pakistan should align itself with this trend.

The current landscape, characterized by a significant yet limited number of integrated textile factories, emphasizes the necessity of integrating non-integrated facilities, particularly Small and Medium-sized Enterprises (SMEs). This strategic shift is paramount to fully unlocking the potential offered by the GSP+ status and expanding into untapped markets, such as the European sector for Man-Made Fibers (MMF).

Traceability through integrated factories is an inescapable component for Pakistan to gain credibility and expand its market to sustain exports. However, a traceability system can only properly function under a central agency that can monitor, through an authentic track and trace system, the entire supply chain and acquire data with an appropriate level of confidentiality and consideration to protect stakeholders' interests.

To fulfill this, the recently established National Compliance Centre (NCC) by the Ministry of Commerce is the only suitable agency to design, regulate, and implement comprehensive supply chain traceability requirements for export-oriented firms. Therefore, the sooner NCC becomes operational, the better it is for the industry to take pivotal steps for implementing improved traceability and adhere to the global environmental and social compliance standards.

National Compliance Centre (NCC)

In collaboration with the Ministry of Commerce, NCC is the first of its kind in Pakistan and has garnered support from political leaders, industry representatives, and international development partners, including the ILO (International Labour Organization). This initiative aims at enhancing stakeholder engagement, ethical responsibility, and environmental standards in the industry.

The mandate behind the establishment of the National Compliance Centre (NCC) is to launch a regulatory body that should ensure a fair transition to sustainable development in the industry by:

- Regulating external and internal certification bodies to avoid duplicated and conflicting compliance standards.
- Ensuring tripartite consultations (government, industry, and buyers/auditors) to resolve any grievances and concerns on both sides.
- Legislating and imposing mandatory guidelines on social and environmental compliance (i.e. Traceability) in the industry
- Providing necessary support to the SMEs for capacity building toward compliances

NCC, through a cluster approach, will address the concerns of the stakeholders, plan their addressal, and enhance compliance. These clusters include compliance facilitation, standards advisory and support, and stakeholder outreach and support. The compliance facilitation

cluster includes sub-clusters that are human and labor rights, sanitary and phytosanitary standards, sustainability (climate change), and quality assurance standards.

National Compliance Centre (NCC) and Traceability

Traceability is the key to sustaining exports. NCC's sustainability cluster must include traceability – an integrated track and trace system for the textile value chain – as a prerequisite of corporate environmental compliance to enhance exports as well as brand Pakistan's image as a global sustainable sourcing hub. The following functions should be led by the NCC to establish a national-level transparent traceability system in Pakistan:

Data Standardization and Regulatory Compliance

Standardized traceability requirements as well as data formats that align with the globally emerging traceability requirements should be defined. This requires a thorough understanding of some of the most robust traceability protocols worldwide. For instance, US traceability protocols are based on sophisticated data collection techniques backed by third-party verifications. These protocols aim to transparently visualize the raw materials journey in the supply chain.

In the US, the Permanent Bale Identification (PBI) system assigns a PBI tag to each ginned bale. Samples are taken from the bale and are assigned a PBI number that matches the number previously assigned to the bale. In the classing step raw material attributes and quality data from each sample is linked to the bale. Each bale with a unique identification number and barcode enters the warehouses for purchasing. This barcode helps the spinning mills and manufacturers trace the bale back to the actual ginners and access the fiber property data. The data quality is received electronically from the merchants as well as from the national database. Farm-level information on key sustainability metrics of land use, soil carbon, water management, soil loss, GHG emissions and energy efficiency as well as compliance data on government regulations in the areas of labor and farm management is also collected and verified.

The US traceability system can seamlessly serve as a foundation for the formulation of Pakistan's domestic traceability standards. To do this in a most structured manner, the Government of Pakistan should formulate a legal regulatory framework to enforce traceability through NCC and monitor regular data inputs from the firms in a centralized database.

Centralized Database

NCC, through thorough consultative sittings and stakeholder engagement, should maintain a cloud-based database to store all traceability data securely. The database should support real-time synchronization, data integrity, and scalability to accommodate large volumes of data.

Integration tools should be used to connect data from various sources, such as mobile apps, web portals, and automated systems in processing facilities. Algorithms should be developed to validate incoming data for accuracy, consistency, and compliance with defined data standards.

A user-friendly dashboard should be established to provide stakeholders with an overview of the traceability process via visualization and display of real-time data. A reporting module should be developed to generate customized reports on the supply chain track and trace.

Data Collection and Integration

Data concerning various stages of the supply chain (i.e. farming, ginning, manufacturing, and export) should be integrated from diverse sources such as farm managers, ginners and producers (manufacturers) and quality control measures should be implemented to ensure that the inputs in the central database are accurate and reliable.

The data for the following supply chain stages should be well-recorded and verified/validated:

- *Farming*: Seed source verification, land use documentation, chemical usage verification
- *Raw Material Harvesting*: Data regarding raw material harvest and storage should be recorded and verified.
- *Ginning and Spinning*: Record of machines used, chemicals used during manufacturing, and documentation of yarn quality.
- *Weaving and Knitting*: Verification of fabric batch numbers/codes
- *Dyeing and Finishing*: Verifying source and quality of dyes, chemicals, and water used, monitoring and tracking water and waste management practices/disposal practices.
- *Manufacturing*: Verifying machines and their maintenance records, quality assurance, and reviewing factory audit reports (working conditions, ethical compliances, and health and safety protocols)
- *Packaging and Distribution*: Verifying sustainability of packaging materials, and keeping track of warehouses, intermediaries, and transport methods.
- *Retail and Sales*: Verifying product tags and ensuring close collaboration with the consumers to provide verified traceability data of firms.
- *Post-Sale and Recycling*: Ensure integration of circular economy by recording and verifying recycling of unused/unwanted/unsold products at the firm level.

Collaboration and Partnership

Regular reviews should be conducted to improve traceability standards based on feedback, technological advancement, and the changing global regulatory landscape. Collaboration with industry associations, NGOs, and international organizations should be ensured to implement best practices.

Action Items

1. Integration of standalone manufacturing units with an emphasis on a shift to value-added processes
2. Government should develop a legal regulatory framework to enforce traceability through the National Compliance Centre (NCC).
 - a. Under this framework, the NCC should lead as the only suitable agency to design, regulate, and implement a national-level transparent traceability system consisting of standardized requirements as well as data formats that align with the globally emerging traceability principles..
 - b. These standards should follow the best traceability practices worldwide and the US traceability system can serve as a foundation for developing a domestic traceability system in Pakistan.
3. For the domestic traceability system to function successfully, NCC should:
 - a. Maintain a cloud-based database with integration tools and dashboards to validate and store all traceability data securely, through thorough stakeholder engagement.

- b. Conduct regular reviews to improve the traceability standards based on feedback, technological advancement, and the changing global regulatory landscape.
 - c. Function in close collaboration with the private sector, industry associations, and international organizations to implement best practices.
 - d. Monitor and verify regular data inputs of various stages of the supply chain (from farm to grave) and integrate this data from diverse stakeholders.
4. The timeline for the NCC should be defined as soon as possible along with a final and functional governance structure because the sooner the Center becomes operational, the better it is for the industry to align its value chains with global traceability requirements.

9. Environmental and Social Sustainability and Compliance

Policy Priorities

1. Implement ILO's recommendations on labor rights, including increasing the number of labor unions, strengthening health and safety protocols and grievance mechanisms, eliminating child and forced labor, and promoting gender equality and equal wages for equal work.
2. Establish waste sorting hubs to divert used textiles for reuse and recycling, introduce Extended Producer Responsibility (EPR) protocols to hold manufacturers accountable, and recognize the difference between used textiles and textile waste in customs frameworks to manage post-consumer textile waste and reduce environmental impact.
3. Enforce environmental regulations to promote green manufacturing practices such as water recycling, wastewater treatment, transition to renewable energy, and no use of chemicals of concern.
4. Provide policy support for industry to decarbonize its value chain.
5. Establish a domestic Emissions Trading System (ETS) to impose carbon taxes and provide emission permits for the manufacturers to emit only a certain percentage of GHGs.
6. Devise a compliance and audit curriculum and landscape under the National Compliance Center that is acceptable to firms, global buyers, and certification bodies.

Environmental and social sustainability and compliance are critical aspects of responsible and ethical business practices. These terms encompass a range of principles and actions aimed at minimizing negative impacts on the environment, promoting social well-being, and ensuring adherence to relevant laws and regulations.

The key elements of environmental sustainability are resource conservation, transitioning to renewable energy, and waste reduction, which requires corporate practices such as choosing a green supply chain, developing and promoting eco-friendly products, and carbon footprint reduction. The key elements of social sustainability include ensuring compliance with labor rights, supporting continuous stakeholder/community engagement, and diversity and inclusion that require firms to ensure employee welfare, invest in communities, and avoid human rights violations.

Pakistan has ratified all compulsory international conventions on human and labor rights, environment, and good governance to become eligible to enjoy one of most rewarding tariff-free trade agreements, the EU's GSP+. However, the continuation of this incentive and whether Pakistan gains a global image as a sustainable sourcing hub is subject to the robust consideration of the gaps identified by independent bodies such as the EU and UN and their respective recommendations.

The previous compliance progress reports by the EU express encouragement towards legislative reforms and national mechanisms set up to strengthen compliance with human and labor rights and environmental standards in the industry. Improved steps have been acknowledged that aim to address child and bonded labor, child abuse and, gender violence as well as climate resilience. However, the reports have identified 'problematic areas' with inadequate progress, that require major developments.

Pakistan requires critical efforts and improvement in fully complying with ILO labor rights in the industry. This entails immediate efforts to increase the number of labour unions, improve

working conditions by strengthening health and safety protocols and grievance mechanisms, eliminate child and forced labor, and promote gender equality and equal wages for equal work.

Regarding environmental sustainability, Pakistan currently has a broken textile waste management system. Unregulated and unsorted post-consumer textile waste is imported from developed countries and enters the resale markets and landfills/incineration points. The used textiles waste and unused/unwanted/unsold textiles generated in Pakistan are unmanageable, and ultimately enter landfills and incineration points once discarded. This is the consequence of the current inefficient regulatory landscape and linear textile export business models that focus only on resource extraction, manufacturing, use, and disposal.

Sustainable management of textile waste requires value chains to be circular. This involves the establishment of waste sorting hubs to divert used textiles for reuse and textile waste for recycling, thus reducing landfill/incineration of textile waste to the maximum. As the textile value chain is the backbone of Pakistan's economic growth, contributing approximately 60% to the country's total exports, it can play a prominent role in diverting the nation's current linear export models to those based on circularity. This, however, entails a policy landscape based on environmental necessities, investment, and government support. One such regulatory measure to support circularity could be to enforce EPR (Extended Producer Responsibility) protocols to hold manufacturers accountable for managing and recycling their waste with penalties for non-compliance.

Hazardous effluent discharge and water pollution, resource inefficiency (unsustainable use of water and chemicals), and rising carbon emissions are some other environmental concerns of textiles that may pose serious risks to wildlife and ecosystems. Overcoming these challenges requires consistent enforcement of environmental regulations to promote green manufacturing practices such as water recycling, wastewater treatment, transition to renewable energy, and no use of chemicals of concern.

Compliance to the social and environmental sustainability protocols is ineffectual if the devastating impacts of climate change are not addressed. Climate change has caused irreversible damage to the globe and Pakistan is one of the most vulnerable countries to these damages. To enhance climate resilience, the global community is supporting the race to net zero to decarbonize the supply chains and reduce emissions to the maximum, thus reaching net zero by 2050.

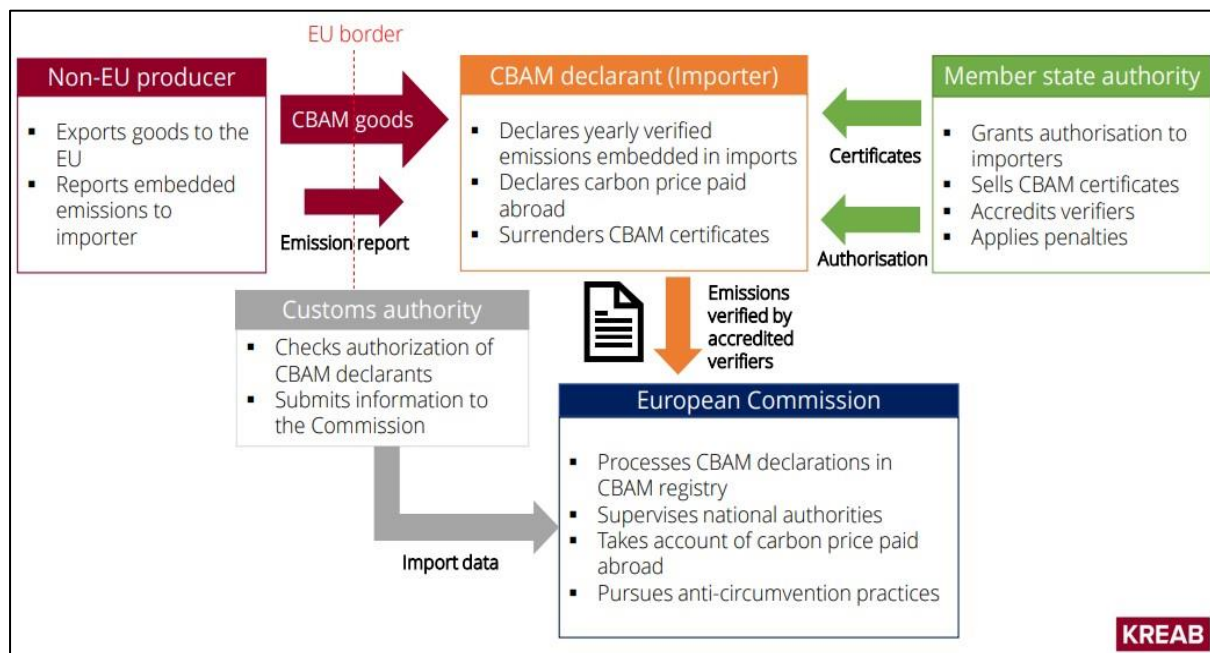
One form of such support is emerging in the shape of new regulations in the consumer market that hold manufacturers responsible for producing carbon-neutral products. One such new regulation coming from the EU is the Carbon Border Adjustment Mechanism (CBAM). EU's *Fit for 55 Package* aims to help the EU reduce at least 55% of its GHG emissions by 2030 compared to 1990, and ultimately, climate neutral economy by 2050. Therefore, autonomous measures such as CBAM are developed to support ambitious climate action and sustainable development.

Carbon Border Adjustment Mechanism (CBAM)

The key principle of CBAM states that importers will pay an individual carbon price for imported goods which is calculated taking into account: The actual carbon content of the imported goods or default carbon values, the average closing prices of EU ETS allowances on the auction platform, level of free allocations of EU ETS allowances in the EU and carbon price effectively paid in the country of origin.

The overall processes and actors involved in CBAM emissions reporting and approval can be seen in Figure 17, below. The initial phase of CBAM will cover six sectors most at risk of carbon leakage including cement, iron and steel, aluminium, fertilizers, electricity, and hydrogen. CBAM has entered its transition period that will end by 31st December 2025 and full implementation will start from January 2026. This will be ultimately followed by the addition of a much larger number of industries including textiles and apparel in the levy's list of high-impact sectors.

Figure 17. C-BAM processes and stakeholders.



Source: KREAB

Conversely, Pakistan is not even closer to aligning its export value chains with the requirements of CBAM. Other major and emerging economies such as India, Japan, Indonesia, and Vietnam have already launched carbon credit and emissions trading systems to align their manufacturing with the EU requirements. Bangladesh has now started preparations to adopt net-zero emissions by requiring new buildings with a rooftop area of over 92.2 square meters to have net-metered solar power to be eligible for a grid connection.

Based on CBAM's requirements for industrial decarbonization, the following key takeaways are crucial for Pakistani stakeholders including government to consider diligently:

- Are Pakistani stakeholders aware of CBAM's timeline and potential obligations during the implementation phase? Where does Pakistan stand in terms of being able to measure, report and verify emissions?
- The carbon price to be paid to the EU ultimately depends on the carbon content of the goods and the carbon price paid by in the country of origin. What could this mean for Pakistan? How carbon intense are Pakistan's products compared to the competitors? What role can carbon pricing play in Pakistan's domestic policies?
- CBAM will initially apply to six sectors and discussions on adding further sectors including textiles will pick up in 2025. Why is it important to take action already in sectors independent of CBAM now? How can Pakistan follow and prepare for a possible scope expansion of CBAM in the coming years?

The most logical transition for Pakistan is to support climate resilience and decarbonize its export sector by shifting to solar and geothermal energy sources. Industrial consumers in Pakistan are subject to a cap of 1MW on solar net-metering while a shift to clean geothermal energy requires B2B contracts with a wheeling charge of no more than 1 cent/kWh, all-inclusive. For Pakistan's economy to survive amidst the transforming international policy landscape and mounting compliance requirements demand a raise of cap on solar net metering for all industrial consumers from 1MW to 5MW and allow B2B contracts with a wheeling charge of 1 cent/kWh.

To comply with the emissions reduction targets, Pakistan is also required to launch a national Emissions Trading System (ETS). This system imposes carbon taxes and provides emission permits for the manufacturers to emit only a certain percentage of GHGs, ultimately providing an enabling environment to support carbon-neutral value chains. An ETS will provide an immense competitive advantage for Pakistan, as the global buyers will only source products with zero carbon emissions. A domestic ETS will also make Pakistan eligible to be exempt from the internationally imposed carbon prices.

Exporters in Pakistan are fully cognizant of the fact that compliance requirements are non-optional and crucial to developing ethical and environmentally friendly supply chains. However, an emerging concern has surfaced regarding just transition to sustainable development. Pakistan is currently experiencing a plethora of compliance and certification bodies, enforcing non-negotiable audits and compliance requirements. These requirements coming from different geographic origins are duplicated, which exhausts firms' resources to a level where the focus is shifted away from the universal goals to achieve sustainable development. Therefore, the debate for fair transition should be led by the NCC by regulating certification bodies to avoid duplicated and conflicting compliance requirements and ensure tripartite consultations with firms and brands/auditors.

Action Items

1. Robust consideration of ILO's recently published recommendations on labor rights. This entails critical improvements to increase the number of labor unions, strengthen health and safety protocols and grievance mechanisms, eliminate child and forced labor, and promote gender equality and equal wages for equal work.
2. Management of post-consumer textile waste and unwanted/unused/unsold textiles is critical to avoid environmental harm of textiles. This requires:
 - a) Establishment of waste sorting hubs to divert used textiles for reuse and textile waste for recycling, thus reducing landfill/incineration of textile waste to the maximum.
 - b) Introduction of EPR (Extended Producer Responsibility) protocols to hold manufacturers accountable for managing and recycling their waste with penalties for non-compliance.
 - c) Customs authorities to clearly recognize the difference between used textiles and textile waste and regulate imports of used textiles accordingly.
3. Consistent enforcement of environmental regulations to promote green manufacturing practices such as water recycling, wastewater treatment, transition to renewable energy, and no use of chemicals of concern.
4. Policy support for industry to decarbonize its export sector by raising the cap on solar net metering for all industrial consumers from 1MW to 5MW and allowing B2B contracts with a wheeling charge of 1 cent/kWh.
5. Establishment of a domestic/national Emissions Trading System (ETS) to impose carbon taxes and provide emission permits for the manufacturers to emit only a certain percentage of GHGs.

6. NCC should function as a market-responsive and nationally coherent regulatory body. To do so, it must:
 - a) Devise a compliance and audit curriculum and landscape acceptable to firms (i.e., producers and manufacturers), global buyers, and various certification agencies.
 - b) As part of its stakeholders' outreach and support cluster, partner with brands/buyers, document their requirements and ensure that these requirements are clearly and fully communicated to manufacturers and are integrated into the value chain.
 - c) Play a leading role in negotiating with certification bodies/auditors to avoid duplication of compliance requirements.
 - d) Make the industry fully compliant by dividing firms into tiers based on their current compliance progress and nature (integrated vs. non-integrated), incentivizing the already compliant firms, and regulating non-compliant producers while also building their capacity to match their compliance with that demanded globally.

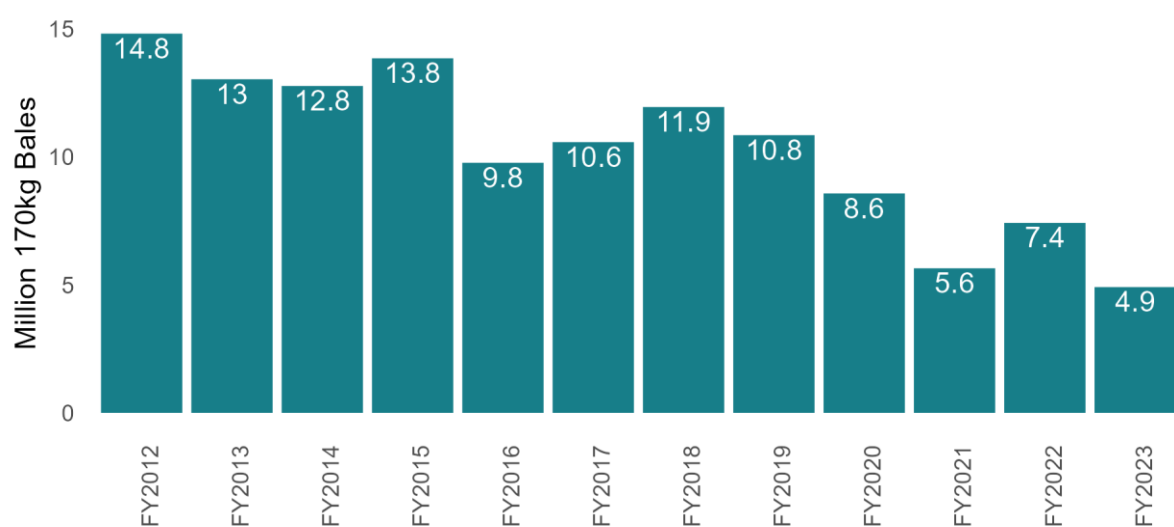
10. Cotton

Policy Priorities

1. Implement rigorous quality control measures throughout the seed chain, from production to distribution, guaranteeing physical and genetic purity of seeds.
2. Create a centralized platform for authorized sale of certified seeds under the supervision of a dedicated cotton sector entity for transparent seed distribution.
3. Invest in a high-performance seed laboratory equipped with cutting edge DNA testing technology for verifying seed purity and traceability.
4. Develop a comprehensive system encompassing seed production, processing, distribution, and testing, optimizing efficiency and quality.
5. Construct a state-of-the-art seed processing plant and an internationally accredited seed testing laboratory adhering to ISTA standards.
6. Develop an Agriculture Crop Advisory and Extension Service to encourage and support cotton farming through easily accessible digital advisory services, capacity building and community engagement initiatives.
7. Implement cluster farming models through public-private partnerships to support backward integration in the textiles & apparel value chain.
8. Support regenerative cotton initiatives to reduce the environmental impact of industrial farming and facilitate the shift towards sustainability in the textiles and apparel sector.
9. Facilitate investment in upgradation of ginning machinery to reduce contamination during ginning and improve cotton quality.

The current state of cotton production in Pakistan is dire. The country was once the fourth largest cotton producer in the world, with production peaking at 14.8 million bales in 2011-12, contributing to around 10 percent of GDP and providing gainful employment to millions. Over the past decade, however, cotton production in Pakistan has declined by over 50 percent (Figure 18) with direct economic losses in the textiles and apparel sector estimated at \$3 billion and an additional loss of up to \$10 billion in GDP.

Figure 18. Pakistan's cotton production has more than halved over the past decade.



Source: APTMA

The primary factors responsible for deterioration of the cotton sector include unfavorable changes in weather patterns and the escalation of pest pressures resulting from the

widespread practice of multi-cropping in core cotton cultivated areas. To address these issues and revitalize the cotton sector, there is an urgent need for a comprehensive revival plan developing a robust cotton supply chain capable of meeting the annual domestic demand of approximately 15 million bales. Not only is this pivotal for supporting the overall economy but also serves as a lifeline for the poorest segments of society whose livelihoods are heavily dependent on the cotton sector.

A key aspect of this revival plan is the adoption of modern, certified seeds and updated farming practices to improve cotton yield as well as quality. Additionally, the development and introduction of pest-resistant cotton cultivars are imperative to mitigate the impact of pest pressures and ensure stable production cycles.

A concerted effort from stakeholders including the government, farmers and industry is essential to implement and support initiatives that can reverse the current trend and restore Pakistan's status as a major player in the global cotton market. Failure to act urgently may exacerbate economic challenges, making it imperative for all concerned parties to unite for the revival of Pakistan's cotton industry.

Roadmap for Revival of Cotton Production

Considering the various challenges in the cotton value chain, especially the seed system, the following strategies and initiatives should be employed to improve the profitability of cotton farmers and the quality and yield of their output:

Centralized Seed System:

- Establish a centralized seed system with clear regulations to ensure the production, multiplication, and distribution of cotton seeds through both public and private entities.
- Implement a robust seed certification process to verify the maturity and authenticity of released varieties.

Seed Production and Distribution:

- Encourage the private sector, including seed companies and farmer cooperatives, to actively participate in seed production and distribution.
- Develop a transparent and accountable system to supply high-quality seeds to farmers.

Regulation and Quality Assurance:

- Strengthen the existing seed certification system to prevent the release of immature varieties and control the sale of fake seeds.
- Introduce DNA testing in high-performance seed laboratories to ensure the physical and genetic purity of cotton seeds.

Mechanization in Seed Production:

- Promote the use of modern agricultural technologies, including drones and mechanical picking machines, to enhance the efficiency of seed production.
- Invest in mechanized processes to reduce labor costs and increase overall productivity.

Hi-tech Seed Processing Plant:

- Establish state-of-the-art seed processing plants equipped with modern technology to ensure efficient cleaning, sorting, and packaging of seeds.

Internationally Accredited Seed Testing Lab:

- Develop and maintain internationally accredited seed testing laboratories to uphold global standards for seed quality. Regularly conduct tests to certify seeds and ensure their viability.

Adopt Best Available GMO Technology:

- Embrace the best available genetically modified organism (GMO) technology for cotton production to enhance crop resilience, yield, and pest resistance.

Advisory Services for Innovative Technology:

- Provide advisory services to farmers on innovative cotton production technologies, particularly focusing on advancements in seed production techniques.

Soil Testing and Fertilizer Recommendations:

- Establish soil testing facilities to analyze soil composition, providing farmers with tailored fertilizer recommendations based on lab results to optimize nutrient utilization.

Advanced Mechanization for Soil Preparation:

- Implement advanced mechanization for soil preparation to increase the efficient utilization of available nutrients, promoting better soil health.

Advanced Irrigation Systems:

- Introduce advanced irrigation systems to maximize the efficient use of limited water resources, ensuring optimal water management in cotton fields.

Supply of Certified Seeds:

- Ensure the supply of certified seeds with the best suitable varieties for cotton growers, promoting crop uniformity and high-quality cotton production.

Satellite/Drones for Crop Mapping and Pest Scouting:

- Utilize satellite and drones for crop mapping and pest scouting, enabling farmers to make informed decisions about crop health and pest management.

In-time Pest Scouting and Plant Protection:

- Implement in-time pest scouting and plant protection measures, including the timely supply of quality pesticides to control insect pests and minimize crop damage.

Training of Cotton Pickers:

- Provide training programs for cotton pickers to improve cotton quality during harvesting, emphasizing proper picking techniques.
- By integrating these additional points, the overall strategy aims to create a comprehensive and technologically advanced ecosystem for cotton farming in Pakistan, addressing various aspects from seed quality to crop management and harvesting techniques.

Agriculture Crop Advisory & Extension Services

The agriculture sector faces considerable challenges due to the limitations of the existing Agriculture Extension Department. These include limited outreach, outdated methodologies, and insufficient resources, leading to a lack of awareness among farmers about modern agricultural practices.

An Agriculture Crop Advisory and Extension Service should be established to overcome these challenges, leveraging digital technologies to provide farmers with timely and personalized information. This entails a collaborative effort involving stakeholders from the public and private sectors to enhance agricultural productivity and sustainability.

Objectives

- Digital Crop Advisory Services:
 - Develop a user-friendly mobile application and website.
 - Implement AI and ML algorithms for personalized recommendations.
 - Disseminate regular updates on best practices, pest and disease management, and market trends.
- Capacity Building:
 - Conduct workshops and training sessions for farmers.
 - Collaborate with agricultural experts and institutions for webinars and seminars.
- Community Engagement:
 - Establish a community-based approach for knowledge sharing.
 - Utilize social media platforms for awareness campaigns.
- Partnerships:
 - Collaborate with government agencies, research institutions, and private sector partners.
 - Explore opportunities for public-private partnerships.

Implementation

- Digital Infrastructure:
 - Develop a mobile application and website in both English & Urdu to ensure accessibility for all.
 - Implement AI and ML algorithms for personalized recommendations.
 - Use of satellite imagery to estimate crop acreage and crop health by **tracking changes in vegetation** over time. By comparing images from different dates, it is possible to identify areas where crops have been planted or where crop health has declined.
- Training Programs:
 - Design and conduct workshops and training sessions.
 - Collaborate with experts and institutions for webinars and seminars.
 - Community Engagement Initiatives:
 - Establish community forums for knowledge sharing.
 - Utilize social media platforms for awareness campaigns.
 - Provide the latest information on variety characteristics and production technology each variety/ area wise.
 - Provide awareness of certified seed of a particular variety for each area and brief them to how to away from fake or unapproved cotton seed varieties.
 - Ensure proper adaptation of production technology by cotton growers and step to step supervision messages through social media in Urdu (using text messages, WhatsApp messages, FM etc.)
 - Guide farmers in time about pest scouting, the proper use of fertilizers and pesticides.
 - Make farmers aware about the advanced chemistries or technology to increase per acre yield of cotton crop.

- Develop Data base of cotton growers from all over Pakistan will be collected to keep in contact directly to provide direct and timely information.
- Motivate farmers for cotton sowing, motivational campaigns to be launched before each sowing season.
- Partnership Development
 - Establish partnerships with international agencies, research institutions, and private sector partners.
 - Explore opportunities for public-private partnerships.

Cotton Cluster Farming: A Backwards Integration Model through Public Private Partnerships

Cluster farming cotton production models can help revitalize the textiles and apparel sector by enhancing efficiency, improving quality, and empowering farmers.

Challenges and Opportunities

The decline in domestic cotton production over the past decade can be attributed to factors like fragmented landholdings, outdated farming practices, and limited access to quality inputs and technology.

- **Fragmented Landholdings:** The majority of cotton farmers in Pakistan own small, fragmented landholdings, making it difficult to adopt economies of scale and implement modern farming techniques.
- **Outdated Practices:** Many farmers rely on traditional, inefficient farming practices, leading to lower yields and poorer quality cotton.
- **Limited Access to Inputs and Technology:** Farmers often lack access to quality seeds, fertilizers, pesticides, and modern machinery, further hindering their productivity.

The Cluster Model: A Path to Revitalization

The cluster model proposes to address these challenges by bringing together smallholder farmers into geographically concentrated groups. Each cluster will have access to shared resources, infrastructure, and expertise, enabling them to:

- **Improve Resource Utilization:** By pooling resources, farmers can purchase inputs in bulk at lower prices, access shared machinery and equipment, and leverage economies of scale.
- **Adopt Best Practices:** Clusters will facilitate knowledge sharing and training programs, allowing farmers to learn and adopt modern best practices in cotton cultivation, leading to higher yields and improved quality.
- **Enhance Market Access:** Collective bargaining power through the cluster model will give farmers greater leverage in negotiating fair prices for their produce.
- **Attract Investment:** The model's efficiency and potential for increased profitability can attract private sector investment in infrastructure, technology, and processing facilities.

Key Components of the Cluster Model:

- **Selection and Formation of Clusters:** Core cotton-producing regions will be identified, and progressive farmers with a strong track record will be invited to join the clusters.
- **Infrastructure Development:** Each cluster will be equipped with shared infrastructure like storage facilities, processing units, and marketing centers.

- **Input Supply and Technology Access:** The model will facilitate bulk procurement of quality seeds, fertilizers, and pesticides at discounted rates. Additionally, clusters will have access to modern machinery and technology like tractors, harvesters, and precision agriculture tools.
- **Training and Capacity Building:** Comprehensive training programs will be conducted on best practices in cotton cultivation, integrated pest management, financial management, and market access.
- **Credit and Insurance:** The model will provide access to affordable credit facilities and crop insurance schemes to mitigate risks and encourage investment.
- **Marketing and Branding:** Collective marketing efforts will be undertaken to promote cotton produced under the cluster model, leveraging its traceability and quality to fetch premium prices.

Expected Outcomes

The implementation of the cluster model is expected to yield the following outcomes:

- **Increased Cotton Production:** By addressing the key challenges faced by farmers, the model aims to increase cotton production by 20-30% within three years.
- **Improved Quality:** The focus on best practices and quality control will lead to significant improvement in the quality of cotton produced, enhancing its value in the global market.
- **Enhanced Farmer Income:** Increased yields, better quality, and improved market access will lead to higher incomes for farmers, improving their livelihoods and contributing to rural development.
- **Strengthened Textile Industry:** A revitalized cotton sector will provide a stable and reliable source of raw material for the textile industry, boosting its competitiveness and export potential.

The cluster model presents a promising solution to revive Pakistan's cotton production and textile sector. By empowering farmers, promoting best practices, and fostering collaboration, this model can unlock the immense potential of Pakistan's cotton industry and contribute significantly to the country's economic growth and development.

Cultivating the Future: Embracing Regenerative Sustainable Cotton for Pakistan's Textile Industry

Embracing regenerative cotton cultivation is a strategic initiative for the textiles and apparel sector, aligning with the global shift towards sustainable and environmentally friendly practices in cotton production. Regenerative agriculture is a system that seeks to rehabilitate and enhance the entire ecosystem of the farm by prioritizing soil health, biodiversity, and the socioeconomic well-being of farmers and their communities. It is a method that improves the resources it uses, promoting sustainable and holistic farming practices. This initiative is particularly crucial considering recent announcements by various European brands committing to exclusive use regenerative cotton in their products.

Background:

Many European textile brands have already declared their commitment to using regenerative cotton due to its positive impact on the environment. Backward integration into cotton cultivation, especially in untapped areas like Cholistan, Bahawalpur, presents an opportunity for the Pakistani textile industry to take a leading role in the production of regenerative cotton.

Opportunity:

The current scenario in India, where textile mills are actively engaged in the production of regenerative cotton, has resulted in increased prices per mound, providing farmers with a lucrative incentive. In India, the price per mound for regenerative cotton is already higher, above 2000 rupees on normal cotton. By investing in regenerative cotton cultivation, the textile industry can not only secure a sustainable and high-quality raw material but also contribute to the overall well-being of the agricultural ecosystem.

International Certification:

It is imperative for the Pakistani textile industry to seek certification from international firms such as the World Wildlife Fund (WWF) and the Better Cotton Initiative (BCI). These certifications will not only validate the industry's commitment to regenerative agriculture but also open doors to collaborations with global partners and brands.

Partnerships with WWF and BCI:

WWF and BCI have initiated pilot projects on regenerative cotton. Establishing partnerships with these organizations will help leverage their expertise, resources, and networks to support to Pakistan's textiles and apparel industry. Collaborating with them will not only facilitate the implementation of regenerative practices but also enhance the industry's credibility on the global stage.

Key Principles of Regenerative Cotton Farming:

- **Soil Health:** Implement practices such as cover cropping, crop rotation, and reduced tillage to enhance soil structure and nutrient levels.
- **Biodiversity:** Encourage diverse plant and animal species, avoid harmful pesticides, and maintain natural habitats.
- **Water Management:** Adopt water-efficient irrigation practices to conserve water resources.
- **Carbon Sequestration:** Focus on methods that capture and store carbon in the soil, contributing to climate change mitigation.
- **Community Engagement:** Involve local communities in decision-making, ensure fair labor practices, and support local economies.

Cotton and Regenerative Agriculture:

Cotton, being a widely used natural fiber, has a significant impact on the environment. Embracing regenerative agriculture practices in cotton cultivation can improve productivity, promote soil health, conserve water, and contribute to carbon sequestration.

The Way Forward:

- Conduct a feasibility study for regenerative cotton cultivation in potential areas such as Cholistan, Bahawalpur. In such areas there is already virgin land where regenerative cotton can be cultivated without wasting time on ordinary lands.
- Initiate discussions with WWF and BCI for partnership opportunities.
- Engage with local farmers and communities for collaborative efforts.
- Seek certification from international firms to validate the industry's commitment.

By taking a proactive approach towards regenerative cotton cultivation, the Pakistani Textile Industry can position itself as a leader in sustainable practices, meet the evolving demands of global markets, and contribute to the well-being of local communities and the environment.

Improvement in Ginning and Quality of Cotton

The ginning industry in Pakistan faces numerous problems and issues, including raw material availability and contamination, extremely low productivity, poorly manufactured local and outdated ginning machinery, and poor marketing and selling techniques. The lack of modern machinery and technology is the primary cause of lower productivity and quality.

One of the major factors influencing the quality and value of cotton supplied to the textiles industry is trash—including sand, dust, treads of nylon and leaves of the cotton plant—and moisture content introduced leading up to and during the ginning process. These contaminations should be examined prior to cotton ginning, and in circumstances where trash mixing occurs during ginning, it can be managed by using a set of new ginning machinery containing six imported saw gins, as well as pre-cleaning and lint-cleaning machines that can deliver high quality cotton with less than 4% of trash content and suitable levels of moisture.

Only ~10-20% of ginning factories currently have innovative equipment systems that can be enhanced with a defined premium. It is suggested that if the premium for good quality cotton is increased to Rs.500/mounds, this will boost ginners' capacity to produce good quality cotton by installing modern ginning machinery.

Moreover, textile industry-owned or affiliated ginners with state-of-the-art facilities not only produce high-quality cotton that meets international standards, but also pay a fair market price to farmers by removing middlemen that represent a market inefficiency and are responsible for lowering the quality of cotton by mixing low-quality cotton with high-quality cotton. In this regard, facilitating vertical integration within the textiles value chain is imperative.

For the direct supply of seed cotton (*phutti*) from farmers to the ginning industry, adoption of cluster farming can also significantly reduce the cost of production by supplying cotton production inputs directly from the manufacturer to the farmer at low cost (Table 6).

Table 6. Industry-affiliated ginning offers various advantages compared to ordinary ginning.

Particulars	Ordinary Ginning	Industry-Affiliated Ginning
Trash Content	8-10%	2-4%
Moisture	10-12%	6-9%
Superior Lint Trait Varieties	Mixed	Graded variety wide
Price	More middlemen/higher prices/lower farmer & ginner profitability	No middlemen, high farmer profitability
Electricity Cost	10-20 kWh/bale	7-10 kWh/bale
Factory Ginning Capacity/Day	200-300 170 kg bales	500-800 170 kg bales

Source: APTMA

11. Conclusion

The textiles and apparel sector, being the largest contributor to the country's export earnings, possesses immense potential to drive Pakistan's economic resurgence and to position itself as a global leader in textiles and apparel.

The policy agenda outlined in this report represents a comprehensive and strategic roadmap towards realizing this vision. By focusing on export diversification, expanding manufacturing capacity, and fostering a competitive environment, we aim to double our export manufacturing capacity from \$25 billion to over \$50 billion annually over the next five years. This goal, while ambitious, is grounded in the reality of our capabilities and the untapped potential of our sector.

This transformation is also critical, not just for the economic health of the sector, but for the overall stability and growth of Pakistan's economy. It is one that requires us to leverage our strengths, confront our challenges head-on, and collaborate effectively across all levels of government, industry, and international partnerships.

However, achieving this vision will require concerted efforts to address key challenges such as uncompetitive energy prices, liquidity shortages, high borrowing costs, and bureaucratic inefficiencies. The implementation of this policy agenda will demand unwavering commitment, innovative thinking, and collaborative action. It is a journey that we must embark on together – as an industry, as a nation, and as part of the global economy.

In essence, this report is not just a compilation of strategies and recommendations; it is a call to action. It is an invitation to all stakeholders – the government, industry leaders, international partners, and the workers who are the backbone of this sector – to join hands in transforming the vision into reality. Together, we have the power to shape the future of Pakistan's textiles and apparel sector, steering it towards a path of sustainable growth, innovation, and global competitiveness. Let us harness this potential and usher in a new era of prosperity for Pakistan.

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