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The Pakistan cotton supply chain mapping report: labor rights traceability in context

The Global Trace Protocol project, FOA-ILAB-20-04
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GlobalTrace PROTOCOL

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ACRONYMS AND ABBREVIATIONS

Name	Description
APTMA	All Pakistan Textile Mills Association
BCI	Better Cotton Initiative
BLSA	Bonded Labor System (Abolition) Act
CPUs	Child Protection Units
CSO	Civil Society Organization
DAE	Department of Agriculture Extension
ECA	Employment of Children Act
ERP	Enterprise Resource Planning
ESG	Environmental, Social and Governance
EU & USDA-NOP	European and United States Department of Agriculture National Organic Program Standards
FIR	First Investigative Reports
FY	Fiscal Year
GE	Genetic Engineering
GTP	Global Trade Protocol project
HS Code	Harmonized Commodity Description and Coding System
ILAB	Bureau of International Labor Affairs
ILO	International Labor Organization
KPK	Khyber Pakhtunkhwa
LHRD	Punjab Labour and Human Resource Department
MOA	Ministry of Agriculture
MY	Market Year
MHA	Million-hectare Liters
NTP	National Textile Policy
OECD	The Organisation for Economic Co-operation and Development
OHS	Occupational Safety and Health
PCGA	Pakistan Cotton Ginners Association
PCSI	Pakistan Cotton Standards Institute
PRECA	Punjab Restriction on Employment of Children Act 2016
PRGMEA	Pakistan Readymade Garments, Manufacturers & Exporters Association
PTEA	Pakistan Textile Exporters Association
SAQ	Supplier Self-Assessment Questionnaire
SKU	Stock Keeping Unit
SME	Small-Medium Enterprise
TCP	Trading Corporation of Pakistan
WFCL	Worst Forms of Child Labor
WWF	World Wildlife Fund
YESS	Yarn Ethically and Sustainably Sourced

OVERVIEW: THE GLOBAL TRACE PROTOCOL PROJECT

The Global Trace Protocol project (GTP) is funded by the U.S. Department of Labor to help reduce child and forced labor in global supply chains through traceability. It is implemented by LRQA, a leading global assurance partner,[1] with subaward partner Diginex helping to develop the software. The Project objective is to develop a tool and methodology that enables brands, suppliers and other stakeholders to trace products through the entire journey from production to final purchaser, with data on compliance regarding child and forced labor and other exploitative practices at each tier. The Project developed a trace tool and methodology that it is testing through pilots conducted in Pakistan's cotton sector and the Democratic Republic of Congo's cobalt sector. Using lessons from those pilots, the Project is refining and publicly sharing a commodity agnostic traceability methodology and tool.

The Project aims to ensure that the tool is:

- User-friendly and publicly available free as open-source software;
- Effective in applying labor rights *and* due diligence principles; and
- Sustainable by being cost-effective, interoperable, and usable by various stakeholders.

Supporting research, guidance, and Project background may be found at Global Trace - Addressing barriers in supply chain traceability | LRQA. After the first run of the Pakistan pilot, the Project produced The Pakistan Cotton Pilot: Results, Lessons Learned, and Next Steps for Sustainability Report (June 2024), which informed the second, improved test run in 2024-25. The Project also produced other supporting material, including the Traceability Glossary (January 2024). The commodity agnostic tool with user guidance is available on the U.S. Department of Labor GitHub website.

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[1]The Cooperative Agreement was originally signed by ELEVATE Ltd., which was subsequently acquired by LRQA.

EXECUTIVE SUMMARY

The aim of this report, ***The Pakistan Cotton Supply Chain Mapping Report: Labor Rights Traceability in Context***, is to help stakeholders identify and reduce child labor, forced labor and other exploitative practices in global cotton supply chains through traceability in coordination with other due diligence approaches. The goal is not to simply *declare* there is no child or forced labor in the supply chain; rather, it is to help *demonstrate* compliance through a trustworthy process with valid and reliable data. Where it is not possible to show no child or forced labor, it is important to identify where and why it is occurring and implement rigorous efforts to reduce and help eliminate those and other exploitative practices. By doing so, Pakistan's suppliers will gain a competitive advantage over non-compliant suppliers and brands and regulators will receive the assurance they are requiring.

The first step in conducting a commodity trace mapping report is to analyze the source country's laws and policies and the commodity's role in production and trade. To that end, ***Section 1*** on **Pakistan's Cotton Sector** summarizes the government of Pakistan's policy goals and highlights the country's long reliance on cotton and textile products in tension with countervailing external and internal pressures that dampen production. Indeed, cotton production dates to the Indus River Valley about 3,000 years ago, with cotton becoming "white gold" and the "silver fiber." Currently, the government seeks to greatly expand cotton production and textile manufacturing, which combined make up about 60% of total export value, employing about 1.5 million farmers and 8.5 million textile and apparel workers. International Monetary Fund (IMF) loan requirements, however, constrain the government from providing energy subsidies and requires it to increase cotton and textile related taxes. Environment and market challenges are even greater constraints.

Section 1.2 analyzes cotton production and factors related to its quantity and quality. It explains how intense environmental events, including floods and droughts, have devasted cotton crops and cut yearly production by as much as 40% (in Market Year (MY) 2022-23), yet cotton has shown resilience with periodic rebounds. This section also addresses conventional cotton production, concentrated in the Punjab and Sindh provinces, with very limited (at 1%) but promising production in organic cotton, mainly in Baluchistan province. Section 1.3 summarizes the role of ginning, spinning, knitting and weaving in production and trade.

Section 1.4 analyzes the complex dynamic between cotton imports and exports, noting that Pakistan imports cotton when a higher quality is needed for product lines (particularly U.S. cotton) or a higher quantity because of reduced domestic production; foreign mills purchase Pakistan's cotton when it is cheaper than other market cotton. In 2023, Pakistan was the world's fourth largest exporter of cotton (6.08%) compared to China (18.4%), the U.S., (13.9%) and India (12.7%). Regarding textile exports in Section 1.5, the Report notes that Pakistan's textile exports have generally fluctuated less than domestic cotton production. In 2023, the U.S. was Pakistan's top export destination for textiles at 21.9% ($4.03 billion).

Section 2 analyzes Pakistan's cotton **supply chain tiers**, including key processes and actors at each tier, in which some enterprises are vertically integrated. The Report describes cotton farming processes, the growing and harvest seasons, farming models and the role of storage, transport and trade. It notes that most farms are less than five hectares (12.4 acres) operating without access to modern machinery. The cotton growing and harvest seasons differ slightly by region; planting typically begins in mid-February to early May, with three or four crop harvests per year, beginning as early as June and ending by October. Where cotton prices are low, farmers tend to invest less in plant protection and management.

Section 2.3 addresses the **ginning tier**, which encompasses the first processing events in the cotton value chain. Most ginning facilities are run by small to medium sized enterprises that are family owned or sole proprietorships. Cotton is tested for quality, which is required to determine price and suitability for certain product lines, with tracking of these characteristics being critical. Testing evaluates fiber length and strength as well as percentage of waste, with cotton containing 6-9% requiring extensive cleaning. Batches are also examined for contamination from polybags used in transportation, which may render the cotton unsuitable for some products. The ginning industry generally hires low-skilled seasonal workers for low pay, mainly using old equipment with only a few larger ginners using sophisticated technology.

Section 2.4 addresses **spinning and manufacturing**, which involves knitting (interlocking needles producing yarn), weaving (loom produced) and assembly. Spinning is the process that transforms cotton bales into yarn, which can be marked and tracked. Section 2.5 briefly summarizes the **traceability landscape** in Pakistan for conventional and certified cotton, which may include bale IDs assigned at the ginner tier. Leading efforts include the Better Cotton Initiative (BCI) with evolving chain of custody models that include product segregation and "controlled blending" of traced and conventional cotton. Key trace partners also include CottonConnect and WWF-Pakistan.

Section 3 addresses **Labor Rights in Pakistan** including the country's ILO commitments and other labor rights efforts focused on the textile and garment sectors. Pakistan has ratified eight of the ILO's fundamental Conventions, including on forced labor (C. 29 and 105),

child labor and the worst forms of child labor (C. 138 and 182), and freedom of association (C. 87 and 98). Section 3.2 summarizes **Pakistan's Labor Rights and Legal System,** including key Constitutional provisions, federal law and provincial law, including in the Punjab and Sindh. Per the 2010 Constitutional amendment, power largely devolved to the provinces, which have adopted their own legislation related to labor, employment and child welfare that covered most of the same topics but varies in the details.

As further noted in Section 3.2.2, effective enforcement is limited because labor inspections are not conducted for child and forced labor at the farm level and the provincial bodies lack sufficient resources to fully administer the laws. Enforcement data collection is limited with very little publicly released. According to the U.S. Department of Labor, Pakistan made "moderate advancement" to eliminate the worst forms of child labor in 2023. In sum, Pakistan has extensive formal commitments to promoting labor rights, implementing legislation largely at the provincial level, very limited enforcement capacity particularly at the farm tier, and little to no current data publicly available on enforcement.

In Section 3.4, the Report summarizes the most recent data on the prevalence of child labor. It is estimated that about 2.26 million children aged 10 to 14 work in Pakistan, with about 70% of them in the agricultural sector. Pakistan has one of the youngest populations in the world with about 40% of the population under age 15. The government of Punjab recently released the full results of its child labor survey from 2019-20, which shows a total of about 13.4% of children working, with wide variations at the district level ranging from 5.10% to 35.50% in the largely agricultural districts. Children are most commonly found at the farm tier often working with their families, exposed to pesticides and, in some cases, working under hazardous conditions and with hazardous implements.

Section 3.5 addresses **Forced Labor**, with the prohibition found in the constitution, the federal Prevention of Trafficking in Persons Act, federal criminal statutes and the Bonded Labor System (Abolition) Act, which defines and proscribes the form of bonded labor most often found in Pakistan, including debt bondage for farm labor, which may extend to their families. The Punjab and Sindh provinces have similar laws, also establishing Vigilance Committees to promote compliance. Section 3.6 addresses the limited data available, including the Global Slavery Indexes estimate of more than 2.3 million in modern slavery in Pakistan in 2023. Section 3.7 identifies key **worker and business stakeholders** in the cotton and textile sectors.

Section Four on **Traceability Limitations and Capacity** briefly identifies resource and technology constraints related to capacity for traceability implementation. It also identifies capacity building and technical support needs at the cotton farming, ginning, and spinning levels.

Section Five provides a brief conclusion, noting that the report describes a dynamic environment in which the facts and trends need to be periodically analyzed and updated to better inform the implementation of traceability in conjunction with other efforts.

1. PAKISTAN'S COTTON SECTOR

The cotton sector has long played a central role in Pakistan's history, culture, and economy. Cotton Production began in the Indus River Valley about 3,000 years ago; its importance resulted in the commodity being viewed as "white gold" and the "silver fiber."[2] This section summarizes Pakistan's cotton economy, law, and policy. It then describes the country's cotton production infrastructure, systems, and trends. It further describes the role of ginning, spinning, knitting, and weaving in cotton production and explains cotton and its relationship with textile production and exports.

1.1 PAKISTAN'S COTTON AND TEXTILE POLICY

The government of Pakistan has a long-standing commitment to increase cotton yields and expand textile and apparel exports in total volume and global market share, despite production challenges. Textile and apparel is the largest economic sector in Pakistan, accounting for approximately 40% of the labor force[3] and employing about 10 million people, including 1.5 million farmers, with numbers fluctuating based on production levels.[4] Combined cotton and textile products make up about 60% of Pakistan's total export value.[5] In 2023, Pakistan was the fourth largest exporter of cotton in the world at 6.08% of global production, compared to China (18.4%), the U.S., (13.9%) and India (12.7%).[6] In 2023, Pakistan was the eighth largest exporter of textiles at 2.28%.[7]

In December 2021, the government approved the National Textile Policy 2020-2025 (NTP) to support its goal of "strategic, sustainable, and responsible economic growth." The policy seeks to achieve this in part by "conforming to regulatory and compliance standards," improving integration into global value chains, and implementing an E-commerce strategy.[8] The NTP established an ambitious initial target to increase its total cotton export revenue from $20 billion for the FY 2021-22 growing season to $40 billion for the FY 2024-25 season. In 2024, the government revisited its targets, announcing a goal of doubling textile exports within three years from that year. Analysts from the U.S. Department of Agriculture (USDA) believe, however, this goal will be difficult to achieve "given the many significant challenges facing the textile industry's competitiveness."[9]

Pakistan's government delayed implementation of the NTP for about a year to devise a plan to meet International Monetary Fund (IMF) loan conditions. After ongoing engagement, the IMF's Executive Board approved a $3 billion Stand-By Arrangement to support Pakistan's national budget and reduce debt and inflation in July 2023. The Board identified "spillovers from the severe impacts of floods" and stated that the aid package aimed to "stabilize the economy and guard against shocks while creating the space for social and development spending to help the people of Pakistan."[10]

By agreeing to widen the tax base, reduce tax evasion, increase tax revenue, and reduce energy subsidies, Pakistan narrowly avoided default.[11] In June 2024, to meet its commitments to the IMF, Pakistan's government imposed an 18% sales tax on the previously exempted cotton, cottonseed, and cottonseed oil; a 17% tax on textile companies; and a 10% sales tax on cottonseed cake. At the same time, it also raised electricity charges for ginning factories.

However, with the costs of essential goods and energy soaring, protests against these taxes were led by various organizations including the Chamber of Small Traders and Small Industries. For 15 days, the Pakistan Cotton Ginners Association (PCGA) suspended the procurement of raw cotton and the delivery of ginned lint to spinning units across the country and urged the government to withdraw

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[2] See National Cotton Council of America, The Story of Cotton, 2022.
[3] See for example, Samavia Batool, Fahad Saeed, Sustainable Development Policy Institute, Mapping the Cotton Value Chain in Pakistan: A Preliminary Assessment for Identification of Climate Vulnerabilities & Pathways to Adaptation, 2017, p 19.
[4] Pakistan Bureau of Statistics, Annual Analytical Report on External Trade Statistics of Pakistan FY2023. For employment estimate see USDA's Foreign Agriculture Service, Cotton and Products Annual Report – Pakistan, April 2, 2021.
[5] Pakistan Ministry of Commerce, National Textile Policy 2020-2025, p 2.
[6] The Observatory of Economic Complexity (OEC), Cotton Trade Profile 2023.
[7] OEC, Textiles Trade Profile 2023. See also Pakistan Ministry of Commerce, National Textile Policy 2020-2025, p 5.
[8] Pakistan Ministry of Commerce, National Textile Policy 2020-2025, pp 2, 10.
[9] USDA, Foreign Agriculture Service (FAS), Cotton and Products Annual Report - Pakistan, August 20, 2024, p 4.
[10] IMF, Press Release: Pakistan IMF Board Approves Pakistan Aid Package, July 12, 2023.
[11] DW, Will Pakistan's New Budget Help The Country's Poorest? June 13, 2024. A large part of Pakistan's economic activity is informal and unregistered and only about 38% of tax revenue makes it to the government with the remaining 62% divided among taxpayers, tax collectors, and tax practitioners.

the taxes. The government, however, did not do so.[12]

In September 2024, the IMF approved a 37-month Extended Arrangement under the Extended Fund Facility (EFF) for Pakistan for about $7 billion, with the IMF noting that, while Pakistan had taken key steps to restore "economic stability with consistent policy implementation," it needed to continue widening the tax base "to ensure tax fairness, fiscal sustainability and meet Pakistan's large social and development spending needs."[13]

1.2 COTTON PRODUCTION: QUANTITY, QUALITY, AND ENVIRONMENTAL INFLUENCES

Pakistan's cotton production has fluctuated greatly due to environmental challenges including the impact of pests and the high costs of financing, energy, pesticides, and fertilizer. International and domestic demand have also influenced production quantities. Yet cotton production has shown resilience with periodic rebounds between 2019 and 2024. After experiencing high levels of production in market years (MY) 2017-19, cotton production dropped significantly between 2020- and 2021 due to flooding and damage by pests[14] and recovered modestly in 2021-22. (see Figure 1).

In the spring of 2023, Pakistan experienced "record-breaking, drought-intensifying heat" followed by a summer of torrential rainfall that "ripped away mountainsides, swept buildings off their foundations and roared through the countryside, turning whole districts into inland seas."[15] As a result, cotton production plummeted from six million bales (480 lbs.)[16] in MY 2021-22[17] to 3.9 million bales in MY 2022-23.[18] Environmental conditions also influence planting, germination, and harvesting. For example, unseasonably low temperatures in March 2024 negatively impacted germination and plant development. Accordingly, farmers waited for temperatures to increase before planting.[19]

Farmers reported that the cost of growing cotton can be higher and profitability lower than other crops.[20] While the entire cotton industry suffers in bad years, small and marginal cotton farmers tend to face the most devastating impacts of adverse growing conditions.[21] As a result, some farmers in Pakistan have shifted to other crops such as sugarcane, maize, and rice, which have had higher profit margins and experienced less volatility in recent years. The area planted for cotton dropped from 2.95-million-hectare liters (MHA) (volume of water one meter deep covering one hectare) to an estimated 2.2 MHA in Pakistan in 2021, a decrease of 25% over seven years.[22] Other factors attributed to decreased output include the narrow genetic base of cotton germplasm and limited access to the latest genetically engineered (GE) cottonseed.[23]

In 2023-24, the industry rebounded by nearly doubling production to an estimated 7.32 million bales. The U.S. Department of Agriculture (USDA) revised its estimate upwards from 6.7 million bales based on the estimate of cotton collected and processed through unreported channels amounting to approximately 20% of the total cotton delivered to ginners.[24] Production is, however, expected to dip to an estimated 5.55 million bales in MY 2024-25 due to a decrease in cultivation in Punjab and Sindh. The USDA predicts that, with the new

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[12] See Customs Today Newspaper, Nationwide Strike & Cotton Procurement Boycott to Continue: PCGA Chairman, June 28, 2024. See also Business Record, Weekly Cotton Review: Punjab Witnesses Decline in Production - Markets - Business Recorder, July 1, 2024 ("This is the first time in the country's history that the ginning factories have organized a strike").

[13] IMF, IMF Press Release: IMF Concludes 2024 AIV Consultation for Pakistan and Approves 37-mo Extended Arrangement, September 14, 2024.

[14] See The News International, Rare Rains Likely to Suppress Cotton Output this Year, August 8, 2020.

[15] New York Times, Deadly Floods Devastate an Already Fragile Pakistan, August 29, 2022.

[16] Official bale sizes of raw cotton differ between country. While officially stated to be 170kg for statistical purposes, Pakistan cotton bale weights range from 155 Kg to 170 Kg.

[17] USDA, Foreign Agriculture Service (FAS) Cotton Report - Pakistan, March 9, 2022.

[18] USDA, FAS, Cotton and Products Annual Report - Pakistan, March 21, 2023, p 3.

[19] USDA, FAS, Cotton and Products Annual Report - Pakistan, March 26, 2024, p 4.

[20] See A. Saleem, et al., A phenomenological inquiry into farmers' experiences growing cotton in Punjab, Pakistan, June 2024.

[21] Caesar B. Cororaton, David Orden, International Food Policy Research Institute, Pakistan's, 2008. "Marginal farmer" refers to a farmer cultivating (as owner, tenant, or sharecropper) agricultural land up to 1 hectare (2.5 acres); 'small farmer' refers to a farmer cultivating (as owner, tenant, or sharecropper) agricultural land of more than 1 hectare. See Wictionary, Marginal Farmer webpage.

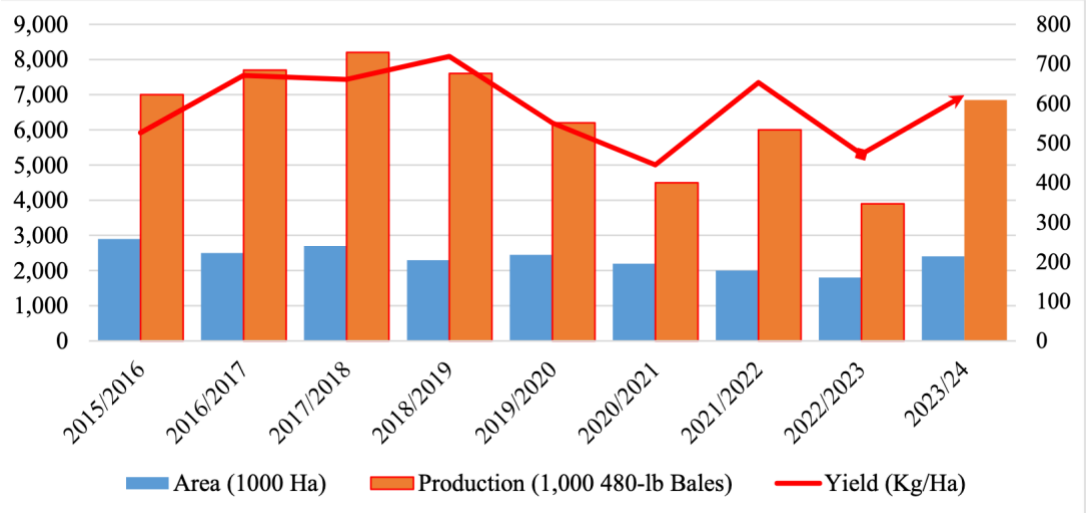
[22] USDA, FAS, Cotton and Products Annual Report - Pakistan, April 2, 2021, p 2.

[23] USDA, FAS, Cotton and Products Annual Report - Pakistan, April 2, 2021, p 2.

[24] USDA, FAS, Cotton and Products Annual Report - Pakistan, August 20, 2024, p. 2.

taxes and loss of tax abatement on cotton exports, the quantity of unreported cotton is likely to rise during the 2024-25 season and may contribute to this lower estimate.[25] In short, Pakistan's cotton harvests have been marked by both high sensitivity to environmental events and resilient rebounds tempered by cost and tax increases.

Figure 1: Cotton Area and Production Trends [26]



The USDA revised its cotton production forecast for the 2024-25 season to 5.55 million (480 lbs.) bales, a 24% decrease compared to 2023-24. This reduction is due to both a significant decrease in harvested area and a decline in yield, with the decline in Punjab largely due to farmers shifting from cotton to sesame and rice.[27]

1.2.1 CONVENTIONAL COTTON PRODUCTION

Conventional cotton is largely produced in Punjab and Sindh provinces without on-the-ground eco-label or sustainability certification programs. While Punjab has historically accounted for about 66% and Sindh for about 33% of national cotton production, percentages have recently shifted towards Sindh, with a nearly 50% split. Baluchistan accounts for about 1% of conventional cotton production in Pakistan. Compared to MY 2022-23, the amount of cotton collected in Punjab was 43% higher and in Sindh about 50% higher in 2023-24.[28]

Cotton farming and its associated land-use covers approximately 14% of the total cropped area of Pakistan. The major cotton producing districts are clustered around Punjab's southern region with Rahim Yar Khan, Bahawalpur, Vehari, and Multan Districts accounting for much of the Punjab cotton.[29] Beyond cotton used for textiles, cottonseed is a valuable co-product of raw cotton, which is processed into seed oil ("banola oil") and seedcake for animal feed and fertilizer.[30] Pesticides are widely applied and at times overused in Pakistan's conventional cotton sector.[31]

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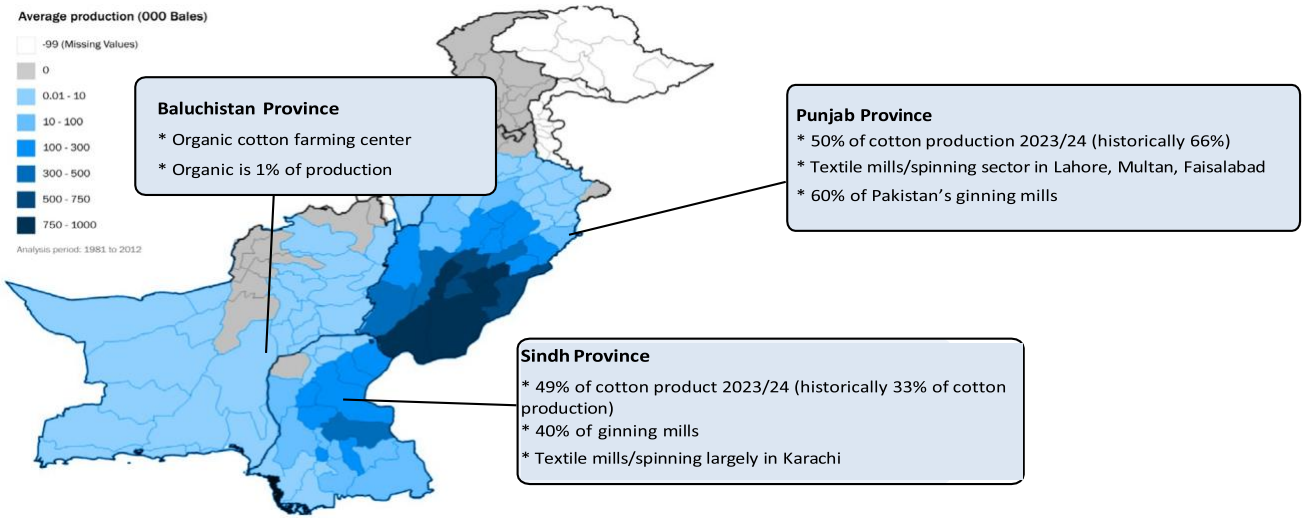
[25] Ibid.
[26] USDA, FAS, Cotton and Products Annual Report - Pakistan, March 26, 2024, p. 4.
[27] USDA, FAS, Cotton and Products Annual Report - Pakistan, August 20, 2024, p. 2.
[28] USDA, FAS, Cotton and Products Annual Report - Pakistan, March 26, 2024, p 4.
[29] Samavia Batool, Fahad Saeed, Sustainable Development Policy Institute, Mapping the Cotton Value Chain in Pakistan: A Preliminary Assessment for Identification of Climate Vulnerabilities & Pathways to Adaptation, 2017.
[30] Ibid.
[31] Babar Latif Baloch, Ashfaque Ahmed Nahiyoon, Abdul Rehman, Mohsin Zulqarnain Hussain, CABI, Pakistan National Organic Cotton Policy GAP Analysis, 2021. According to CABI, of the total pesticides sprayed in Pakistan 80% are used on cotton crops. Cotton growers often apply too much due to the belief that high doses increase crop production.

Figure 2: Key Cotton Growing Provinces



1.2.2 ORGANIC COTTON PRODUCTION

Pakistan has seen a large increase in the demand for organic and "in-conversion" cotton over the past few years, resulting in several new organic certification projects, some implemented with direct support from brands and retailers, although production levels remain relatively low. According to the Textile Exchange, in MY 2020-21, Pakistan grew an estimated 1,925 "tonnes" (metric tons) of organic cotton of medium fiber length on 3,098 hectares of certified organic land, and 3,617 tonnes of in-conversion fiber on 5,824 hectares of in-conversion land, with about 883 farmers involved in production. Pakistan accounted for an estimated 0.6% of global organic cotton production in MY 2020-21 with 0.2% of the country's overall cotton production estimated to be certified organic.[32] The vast majority of organic cotton is grown in Baluchistan.[33] (See Figure 2).

Certified organic cotton in Pakistan is a relatively new phenomenon. The first certified organic bales were exported in 2019, supported by a partnership between the World Wildlife Foundation (WWF) Pakistan, the Directorate of Agriculture Extension of Baluchistan, and the C&A Foundation.[34] Baluchistan's provincial government has sought to make the province a hub for organic agriculture, focusing on cotton, with substantial tillable land not tainted with pesticides. The Ministry of National Food Security and Research has released funding to promote sustainable agriculture growth with the intention of enhancing the per-acre output of major crops and oil seeds as well as natural resource conservation.

In 2022, the government allocated PKRs 200 million for "horizontal development of cotton in Khyber Pakhtunkhwa and Baluchistan through capacity building, technology transfer and ginning facilitation."[35] But, challenges such as a lack of access to non-GMO seed and land untainted with pesticides has so far limited growth to about 1% of total production. Recommendations have been made to create a seed quality assurance and multiplication system to ensure that non-GMO seed is available; establish a national certification and laboratory testing system; expand private sector support with a credit facility for organic cotton farmers; and foster capacity building for integrated pest management systems.[36]

[32] Textile Exchange, Organic Cotton Market Report 2022, p 53.
[33] Babar Latif Baloch, Ashfaque Ahmed Nahiyoon, Abdul Rehman, Mohsin Zulqarnain Hussain, CABI, Pakistan National Organic Cotton Policy GAP Analysis, 2021.
[34] Textile World, Pakistan's First Certified Organic Cotton Bale: A Major Breakthrough in Pakistan's Cotton Sector, February 6, 2019. The Project aims to meet EU & USDA-NOP organic standards.
[35] The Nation, Govt Releases Rs7.76b for Agri Sector Development Projects, May 18, 2022.
[36] CABI, Pakistan National Organic Cotton Policy GAP Analysis, March 2021.

1.3 GINNING, SPINNING, KNITTING, AND WEAVING IN PRODUCTION AND TRADE

Ginning, the process to convert seed cotton into lint cotton bales and cottonseed oil, is almost exclusively performed in Punjab and Sindh Provinces. The total number of in-country ginning units is between 1,100 and 1,400, depending on whether informal/unregistered units are tallied. There are approximately 1,000 registered and 300 informal/unregistered ginners in Pakistan, with over 99% of the country's registered ginners located in Punjab or Sindh. The ginning industry is separated into a North Zone in Punjab, which has 640 registered ginning units and members, and a South Zone largely in Sindh Province, which has 159 registered ginning units and members.[37]

In 2020, only 442 of these units were fully or partially functioning, according to the Pakistan Cotton Ginners Association (PCGA), partly due to that season's decreased yields. In addition, many ginners that are not functioning remain registered to ensure that they are eligible to participate in elections for seats in PGCA's Central Election Committee, which plays an important role in representing the sector.[38] In 2021, approximately 550 ginning units were operational, responding to demands for increased production.[39] These ginning units convert an estimated 8 million bales of cotton per year.[40]

The yarn spinning, knitting, and weaving industries have largely been dominated by small to medium enterprises (SMEs[41]), mostly located in Faisalabad, Karachi, and Lahore.[42] Cotton lint is twisted together to make yarn in the spinning process. Weaving and knitting mills interlace sets of yarn to create continuous pieces of fabric.[43] As of June 2022, Pakistan's textile industry was comprised of 517 textile units (40 composite units and 477 spinning units).[44] See Figure 3 for the Pakistan cotton supply chain.

Figure 3: Pakistan Cotton Supply Chain

1.4 COTTON EXPORTS AND IMPORTS

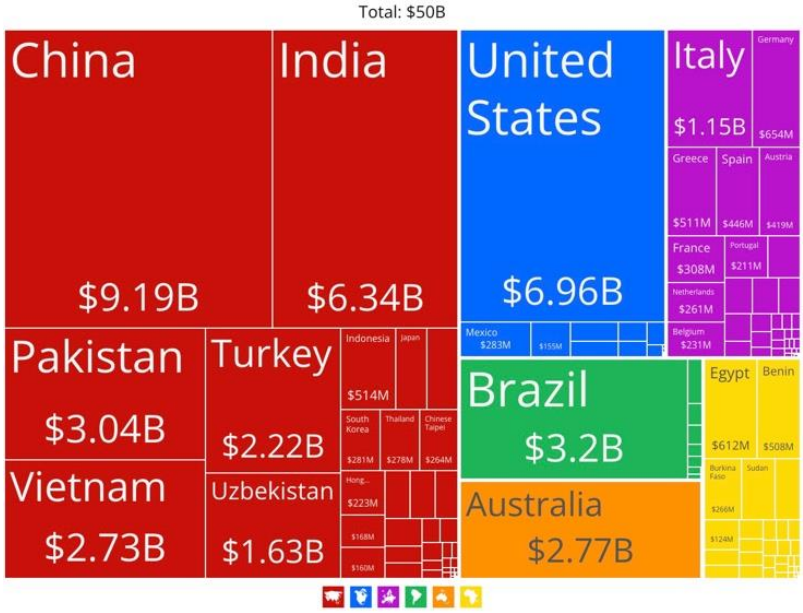
Pakistan exports cotton as well as garments and textiles made with cotton. There has long been a complex interplay between cotton imports and exports. For example, Pakistan's textile mills increase cotton imports when a higher quantity or quality is needed, while foreign mills purchase more Pakistan cotton when it is cheaper than cotton from other countries.

In 2022, Pakistan became the fourth largest producer of cotton in the world with 5.83% of global production (increasing revenue by $209

[37] Pakistan Cotton Ginners Association (PCGA), Home Page, See Member List 2019-20.
[38] PCGA, PGCA Elections (Board and officers), 2023-24.
[39] PCGA, Home Page.
[40] Yasir Nawab, WWF-Pakistan and European Union, Production and Export of Technical Textiles: Harnessing the Potential in Pakistan, June 23, 2021, p 22.
[41] Small enterprises employ 50 or fewer workers; medium enterprises employ 51-250 workers; and large enterprises employ 251 or more workers.
[4242] Samavia Batool, Fahad Saeed, Sustainable Development Policy Institute, Mapping the cotton value chain in Pakistan: A preliminary assessment for identification of climate vulnerabilities & pathways to adaptation, 2017.
[43] Textile SL, The key differences between textile fabrics and nonwoven materials.
[44] Textile Commissioner's Organization, Ministry of Commerce, Government of Pakistan. Textile Commissioner's Organization, p 7.

million from 2021), just edging out Vietnam (revenue declined by $484 million since 2021).[45] In 2023, Pakistan remained the fourth largest cotton exporter of cotton with an increase to 6.08% of global production, compared to China (18.4%), the U.S., (13.9%) and India (12.7%).[46]

Figure 4: Country Cotton Exports 2023



In 2023, the value of Pakistan's cotton exports totaled $3.05 billion, which was a $318 million (9.43%) decrease from 2022. In 2023, the top export destinations of Pakistan's cotton included China (26% share at $800 million), Bangladesh (15.8% share at $484 million), Italy (5.75% share at $175 million), the United States (5.41% share at $165 million), and Turkey (5.01% share at $153 million).[47] Cotton yarn exports decreased by 30.04% to $844.24 million, while Bedwear exports declined by 18.26% to nearly $2.7 billion during this period.[48]

Pakistan exports a range of cotton commodities to other countries. In 2022:

- Heavy pure woven cotton: with Bangladesh the largest recipient (37.3%);
- Non-retail pure cotton yarn: with China the largest recipient (42.9%); and
- Light pure woven cotton: with the US the largest recipient (13.7%)[49]

Pakistan imported by far the greatest amount of cotton from the United States (due to its high quality) at 426 million tons in MY 2022-23 (August-July) and 273 million in 2020-24 (August-June). The next closest was Brazil at 187 million tons in MY 2022-23 (August-July) and 164 million in 2023-24 (August-June).[50] The 2024-25 import forecast has been reduced to 3.6 million bales due to stagnant domestic cotton usage.[51]

The price of raw cotton in Pakistan hinges on a variety of factors including global commodity prices, futures markets, and demand for Pakistani cotton from international buyers. Global cotton prices have fluctuated between 101 cents per pound in January 2012 and 82.5 cents per pound in September 2024, with a brief drop to the lowest point of 65.5 cents per pound in May 2020. The market experienced

[45] OEC, Cotton Trade Profile and Textiles Trade Profile. See also Pakistan Ministry of Commerce, National Textile Policy 2020-2025, p 5.
[46] OEC, Cotton Trade Profile 2023.
[47] Trend Economy, Annual International Trade Statistics for Pakistan 2012 – 2023.

[48] Fibre2fashion, Pakistan's Textile Apparel Exports Down 14.63 to 16.5 bn in 22-23, July 20, 2023.
[49] See The Observatory of Economic Complexity (OEC).
[50] USDA, Foreign Agriculture Service, Cotton and Products Annual Report - Pakistan, August 20, 2024, p 5.
[51] Ibid, p 1.

very brief but steep spikes in prices in May 2022 (164 cents/lb.) and March 2011 (230 cents/lb.).[52]

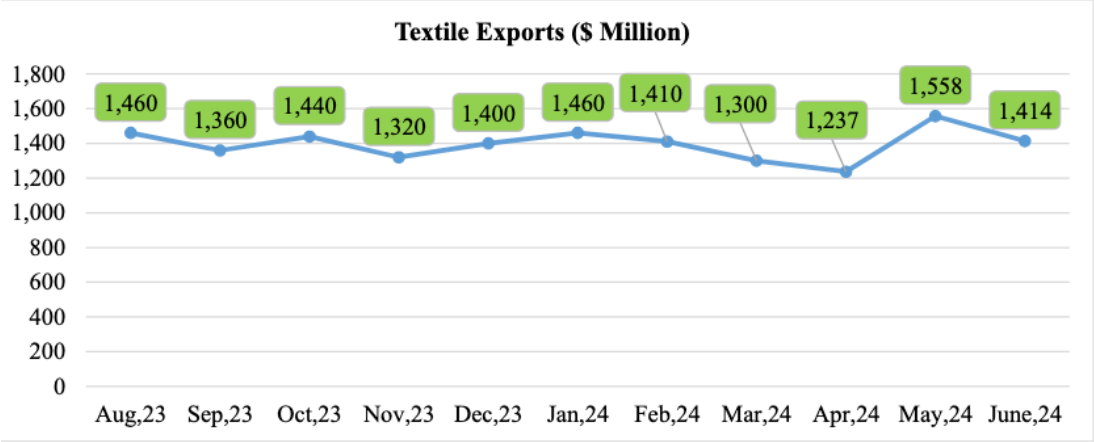
The Pakistan Cotton Ginners Association (PCGA) sets the local market price for ginners based on the international raw cotton price, the Karachi Cotton Association's spot price, and the domestic price of cottonseed oil.[53] Large farms may influence prices when selling to ginners, typically falling near the Pakistan Cotton Ginners Association price. Small farmers, however, have less control over price, which is often set by middlemen (artis) or by the gins, who pay less than the market price.[54]

The Ministry of Commerce directs the Trading Corporation of Pakistan (TCP)[55] to procure a certain amount of cotton from farmers (typically around 1 million bales) at an intervention price, which is kept higher than the prevailing market price. According to some cotton experts, this is not an effective strategy for supporting cotton prices because it benefits only a small proportion of cotton growers, particularly large and influential farmers.[56] After ginning, cotton bales are sold to spinners directly or through trading companies at a price based on fiber quality including grade, staple, and character in addition to market conditions.[57]

1.5 TEXTILE EXPORTS

Pakistan's textile exports have fluctuated far less than domestic cotton production. The USDA reports that during MY 2023-24 Pakistan's monthly textile exports were relatively consistent, ranging from $1.46 billion in August 2023 to $1.41 billion in June 2024 (see Figure 5). Pakistan's textile exports saw a slight increase of 0.93% during FY 2023-24, reaching $16.655 billion compared to $16.501 billion in the previous FY according to data from the Pakistan Bureau of Statistics (PBS).[58] The PBS report for FY 2023-24 indicated that the country's total exports amounted to $30.677 billion. While textile exports dropped 3.91% in June 2023 from June 2024, cotton yarn exports showed a robust 13.17% growth over the same period, reaching $955.51 million, reflecting "the resilience of specific segments within the textile sector."[59]

Figure 5: Textile Exports ($ Millions)[60]



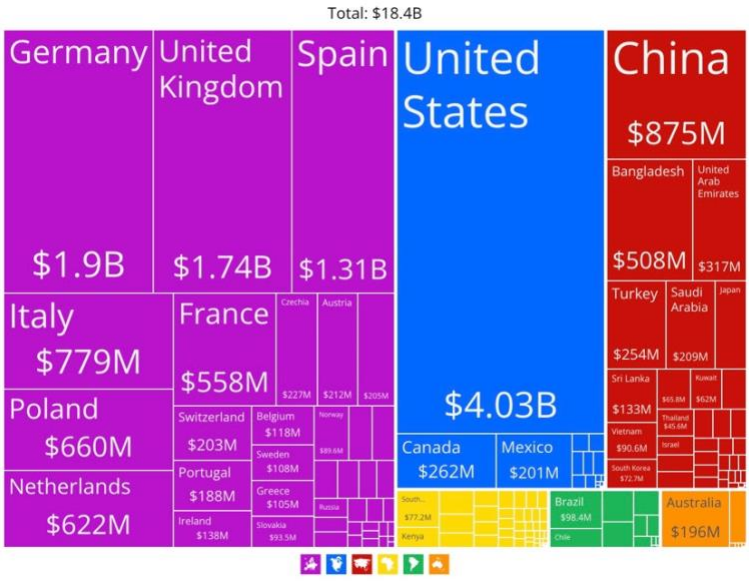
[52] Federal Reserve Bank of St. Louis, Global Cotton Prices 1990-2024. The global surge in cotton prices in 2011 was due to the combination of a sharp drop in global production with a sharp increase in demand, particularly in China. See Bureau of Labor Statistics, The Impact of Soaring Cotton Prices on Consumer Apparel Prices, August 2011.
[53] Samavia Batool, Fahad Saeed, Sustainable Development Policy Institute, Mapping the cotton value chain in Pakistan: A preliminary assessment for identification of climate vulnerabilities & pathways to adaptation, 2017.
[54] Ibid.
[55] In 1967, TCP was set up as a private company owned by the Ministry of Commerce.
[56] U.S. Bureau of Labor Statistics, Import and Export Prices: Second Quarter 2011, August 2011.
[57] Grade refers to color, brightness, and amount of foreign matter. Character refers to diameter, strength, body, maturity and smoothness of fiber. Staple refers to fiber length.
[58] Pakistan experienced a significant increase in textile export revenue for 2022 alone at $22.1 billion, with revenue at $19.4 billion in 2021 and $15 billion in 2020. OEC, Pakistan Textile Exports 2022.
[59] Pakistan Revenue, Pakistan's Textile Exports Inch Up by 0.93% in FY24, July 19, 2024.
[60] USDA, FAS, Cotton and Products Annual Report - Pakistan, August 20, 2024, p 4.

Export demand for Pakistan textile products is expected to increase modestly in MY 2024-25 with cotton likely increasing to 9.8 million bales, which will still be well below the previous 10-year average and the peak of 10.9 million bales in MY 2020-21.[61] With an expected decrease in domestic production, imports in MY 2024-25 are forecast to be 3.6 million bales, slightly higher than in 2023-24.[62] While the textile sector struggled due to sluggish export demand and high finance and energy costs in the first six months of 2023-24, textile exports rebounded during the first two months of 2024.

In contrast, the Pakistan Bureau of Statistics reports that textile exports experienced a reduction of 14.6% to $16.5 billion in FY 2023 compared to $19.3 billion in FY 2022. PBS further reports that during FY 2023 knitwear had the highest percentage share (26.89%) of exports, followed by readymade garments (21.2%), bed wear (16.3%), and cotton cloth (12.3%).[63]

Pakistan's apparel industry is bifurcated between a set of large firms that generate 90% of its exports, and the rest of the supply chain characterized by thousands of smaller, local SMEs that access international markets in lesser volumes or provide support to larger firms.[64] Pakistan's textile export product range is narrow, with 97% of the textile exports in four product groups with their assigned Harmonized System (HS) 65 Code: cotton yarn and fabric (52), knitted apparel (61), apparel, not knitted (62) and bedding/linens (63).[66] House linens is Pakistan's largest category of textile exports, which in 2022, stood at 12.6% of total exports and the largest share going to the US (23.7%).[67] In short, the major exports of the sectors include household items (sheets, towels) knitwear, fabrics, and woven apparel.[68] In 2023, the United States was Pakistan's top destination for textiles at 21.9%, followed by Germany at 10.3% and the United Kingdom at 8.73% of exports.[69]

Figure 6: Textile Export Destinations 2023



[61] USDA, FAS, Cotton and Products Annual Report - Pakistan, March 26, 2024, p 2.
[62] USDA, FAS, Cotton and Products Annual Report - Pakistan, August 20, 2024, p 1.
[63] Pakistan Bureau of Statistics, Annual Analytical Report on External Trade Statistics of Pakistan FY2023, p 17.
[64] Stacey Frederic, World Bank, Pakistan in the Apparel Global Value Chain, 2019.
[65] International Trade Administration, Understanding the HS Codes and Schedule B. The Harmonized Commodity Description and Coding System (HS Code) is a method to standardize the identification of product types and used by customs authorities globally.
[66] Yasir Nawab, WWF-Pakistan and European Union, Production and Export of Technical Textiles: Harnessing the Potential in Pakistan, June 23, 2021, p 43.
[67] See The Observatory of Economic Complexity (OEC).
[68] USDA, FAS, Cotton and Products Annual Report - Pakistan, March 21, 2023, p 8.
[69] OEC, Pakistan Textile Exports 2023.

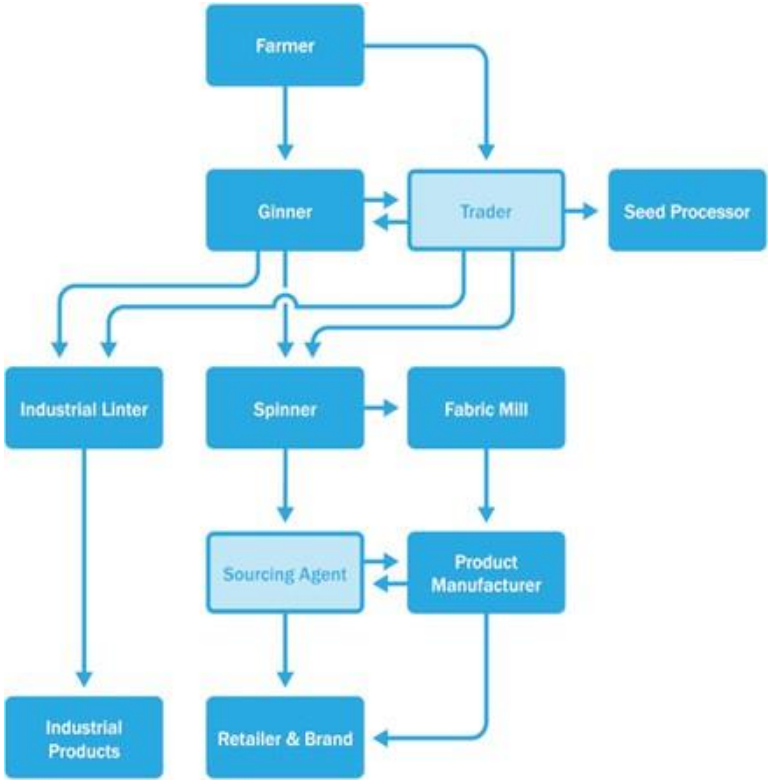
In addition, the EU extended its Generalized System of Preferences-Plus (GSP+) program to Pakistan to stimulate higher cotton consumption. Pakistan was awarded GSP+ status in 2014 after the country had ratified 27 international conventions and committed to implement them. The EU GSP+ promotes good governance and sustainable development, granting Pakistan zero-rated or preferential tariffs on nearly 66% of tariff lines, including textiles, bed linens and towels. In the period 2014-22, Pakistan's exports to the EU increased by 108%.70 Pakistan is in the process of reapplying for the next round of GSP+, which will require expanded ratifications and implementation of ILO international labor standards.[71]

[70] Delegation of the European Union to Pakistan, The EU Releases the Fourth GSP Report, November 21, 2023.
[71] Better Work Pakistan Webpage.

2. SUPPLY CHAIN TIERS

This section analyzes the characteristics of Pakistan's cotton supply chain including key processes and actors at each tier. While variation exists, in general, a tier-1 supplier is a directly contracted upstream supplier of product inputs and a tier-2 supplier supplies inputs to a tier-1 supplier, which extends upstream for the remaining tiers to the point of primary raw material production. Two or more tiers may be vertically integrated, consolidating supply chain points. In cotton supply chains, the tiers may include any or all of the following: farms, ginners, spinners, fabric mills, cut and dye units, product/finished-goods manufacturers, and retailers. Intermediaries play important roles throughout the supply chain, though they are generally not identified as tiers. In the figure below, per the Project definition of "supply chain tier," only those stages where a process occurs is considered a tier, found in blue, whereas the stages without a process are identified in light blue.

Figure 7: Cotton Supply Chain Tiers



2.1 FARMING

Cotton is the third most widely cultivated crop in Pakistan by area, after wheat, and rice. Pakistan has an estimated 1.5 million cotton farmers,[72] although the number fluctuates widely on an annual basis. Farmers typically do not exclusively grow cotton and will decide which crops to grow based on a variety of conditions throughout the year.

2.1.1 GROWING AND HARVEST SEASONS

The cotton growing and harvest seasons in Pakistan differ slightly by region. Planting in Upper Sindh district typically begins in Mid-February to March while planting in Punjab and Lower Sindh begins as late as Mid-April to May.[73] Both provinces have three or four crop

[72] USDA, Foreign Agriculture Service, Cotton and Products Annual Report - Pakistan, April 2, 2021.
[73] Punjab officials prohibit planting prior to April 1 each season to counter the timing of pink bollworm activity in cotton producing areas.

harvests a year, with the first harvest beginning as early as June and later harvests beginning in September or October.

Research has found a correlation between cotton prices at the first harvest and production in later harvests. When prices are low, farmers tend to invest less in plant protection and management for later harvests because they anticipate lower returns; in some cases, they switch to other crops.[74]

2.1.2 FARMING MODELS

Most farms in Pakistan are small-scale operations on less than five hectares (12.4 acres) of land,[75] yet they produce more than 90% of Pakistan's total raw cotton annually. Most small-scale farmers do not have access to modern machinery and use manual labor during land preparation, sowing, weeding, and harvesting. Cotton is typically cleaned manually prior to sale which reduces its quality. Large landlords, as defined by Pakistan's government, hold more than 50 acres of land in Punjab and Khyber Pakhtunkhwa (KPK) and over 64 acres of land in Sindh and Baluchistan. Small farmers hold up to 12.5 acres in Punjab and KPK, up to 16 acres in Sindh, and up to 32 acres in Baluchistan.[76]

Both farmer-owned and tenancy arrangements are common for small-scale cotton farmers. Tenancy is divided into sharecropping and wage laborer models. In the sharecropping model, harvests are shared between landlords and their tenants. In the wage laborer tenancy model, a farm worker's wage is dependent on the daily quantity of cotton picked at the landowner's farm. In Sindh and Baluchistan, the general term for landlord is *zamindar* and the tenant is *hari*.[77] Provincial governments support agricultural extension services to help farmers, including those in family holdings; improve agricultural production and farm management; increase income and productivity; and elevate standards of living as well as social and educational standards. In Punjab, the Agriculture Department provides extension services to farmers, including village-level farmer training programs.[78]

The virtues of cooperative farming have been promoted, though the number of cooperative farms remains relatively small. There are about 130 cooperative farming "societies"[79] – or producer organizations – in Punjab, with 11,117 members covering 147,000 acres.[80] The Government of Punjab has a Cooperative Department that supports cooperative societies through capacity building. There have been recent calls to expand cooperative farming because of its economic benefits,[81] though studies have noted the need to overcome conflicts and management challenges in cooperatives.[82]

Although large-scale farms account for only about 10% of cotton production, they have some notable advantages, including economies of scale and more ample resources for managing crops. Small farms, with limited financial resources and greater reliance on debt from middlemen, known as *beopari*, are vulnerable to variations in climate, such as flooding and water scarcity, as well as periodic difficulties in obtaining fertilizer due to frequent shortages and high costs.

2.1.3 FARM LEVEL STEPS - STORAGE, TRANSPORT, AND TRADE

After harvest, products can be traced during storage, transport, and trade. Cotton seed cannot be stored for long periods of time due to high oil content.[83] Large-scale farmers typically sell cotton seed directly to ginners while small and medium scale farmers sell to ginners through a marketplace or middlemen. Middlemen purchase cotton from farmers locally and transport it to ginners, often using a tractor trolly fitted with frames wrapped with polypropylene sheet or motorcycle rickshaw. Polypropylene sheets are made from fertilizer packing bags stitched together. Cotton is transported to trading centers run by businesses with connections to ginning factories. This

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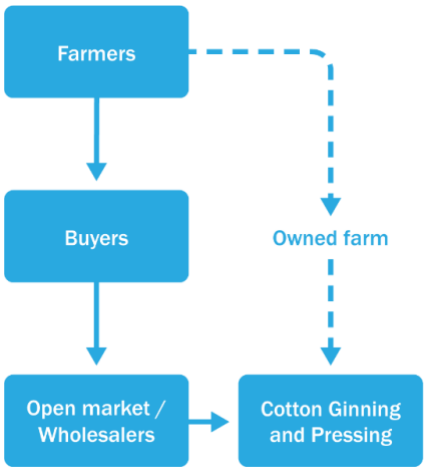
[74] USDA, Foreign Agriculture Service, Cotton and Products Annual Report - Pakistan, August 20, 2024, p 2. For an analysis of trade flow impact on cotton farmers, see Caesar B. Cororaton and David Orden, International Food Policy Research Institute, Pakistan's Cotton and Textile Economy: Intersectoral Linkages and Effects on Rural and Urban Poverty, 2008.
[75] USDA, Foreign Agriculture Service, Cotton and Products Annual Report - Pakistan, April 2, 2021.
[76] Mohiuddin Aazim, The Plight of the Small Farmer, 2018.
[77] M.H. Hussein, et al., ILO, Bonded labour in agriculture: a rapid assessment in Sindh and Balochistan (March 2004), pp 3, 10-13. See page 5 for advances.
[78] Agricultural extension and training programs are highlighted on the Agriculture Department of the Punjab.
[79] "Societies" in Pakistan typically refer to non-governmental organizations.
[80] Cooperatives Department, Government of the Punjab, Farming Societies webpage.
[81] Muhammad Ali Ilah, Profit, The Need for Farmer Cooperatives in Pakistan, Oct. 17 2021.
[82] H. M. Sabir, S. H. Tahir, Salman Arshad Salman Arshad, Saad Nasir Saad Nasir, CABI, Future of Cooperative Farming in Pakistan, 2012.
[83] Samavia Batool, Fahad Saeed, Sustainable Development Policy Institute, Mapping the cotton value chain in Pakistan: A preliminary assessment for identification of climate vulnerabilities & pathways to adaptation, 2017, p 39.

trade is largely informal, with small-scale farmers often depending on loans provided by middlemen. Seed cotton may be mixed by the middlemen, and is commonly exposed to sun, heat, dust, dew, and other contaminates during trade.[84]

Figure 8: Material Flows from Farm to Gin

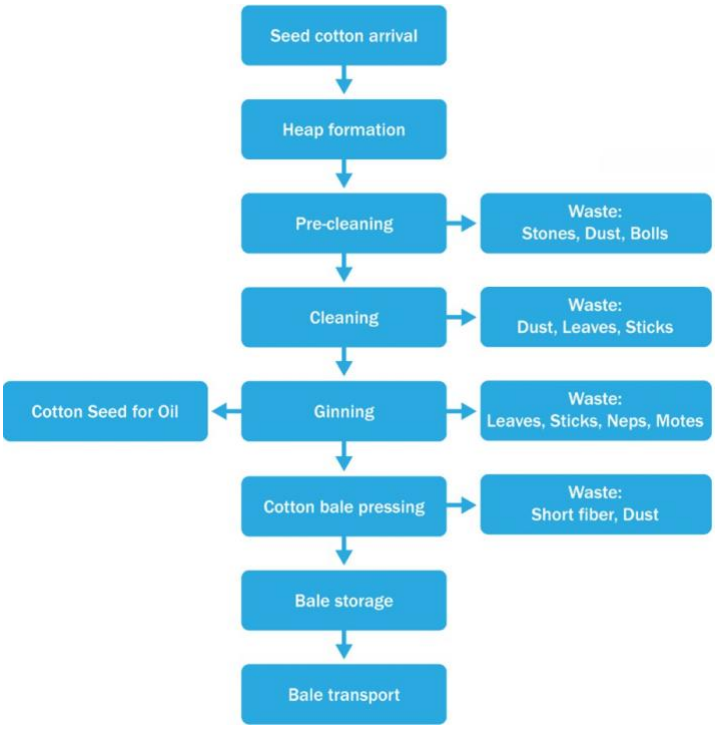


2.2 GINNING

Ginning is the first processing event in the cotton value chain. Ginners are major clients of cotton growers that provide pressed cotton bales and cottonseed oil to downstream spinners, often through traders.[85] In Pakistan, the highest quality cotton is rated "supergrade." All other cotton is rated on a 1-5 scale with 5 being of the lowest quality. Cotton containing 3-6% waste is deemed high quality, while cotton containing 6-9% waste requires additional cleaning. Threads or pieces from plastic bags ("polybags"), sometimes used in markets and in transport, may contaminate a cotton batch, potentially rendering it unsuitable for certain products, such as white dress shirts.[86] Most ginning facilities are family owned or sole proprietorship, small-to-medium sized enterprises.[87]

[84] CABI South Asia, Cotton Value Chain: Skill Gap Analysis in Ginning Sub-sector, 2008, pp 10-16.
[85] Ibid. p. 10-11.
[86] See for example, Dawn, Contamination of Cotton: Sources, Remedies, December 24, 2001.
[87] Samavia Batool, Fahad Saeed, Sustainable Development Policy Institute, Mapping the cotton value chain in Pakistan: A preliminary assessment for identification of climate vulnerabilities & pathways to adaptation, 2017.

Figure 9: Material Flow in Ginning Unit



Ginners usually rely on multiple suppliers to meet their raw material production needs. A weighbridge – typically digital – is used to calculate prices for seed cotton fiber upon arrival at a ginner. Some ginning units employ local testing and calibration laboratories to test cotton fiber length and strength[88] and select ginners use software to record purchase and sales data. Most have a manual register system to maintain sales records, which is preferred by some farmers.

At the ginner, the quality of cotton is determined through a visual inspection of its color and trash content, including amounts of leaves, stones, and sticks present in the cotton. Once the trash is removed, the cotton is grouped into heaps mixing lower quality and higher quality cotton to homogenize quality and moisture content prior to ginning. The ginning process then removes seed producing cotton lint for textile and clothing products, seed for oil and seed cake, and waste cotton.

After ginning, cotton is pressed into bales, which are typically marked either by manually writing a number on tags on the bale face or applying stickers on each bale. In limited cases, digital technology is used to assign bale IDs. Bale lots made up of 100 bales are purchased by spinners,[89] loaded into trucks, and sent to spinning mills.

The ginning industry hires mostly low-skilled, seasonal laborers who receive low pay, the majority of whom are drawn from rural areas. University graduates are often hired for management positions.[90] Ginners do not commonly invest in employee training, regular machinery upgrades, or new technology for production and operation.[91] There is limited standardization or mandates around the use of modern ginning machinery. This allows for the continued use of older and poorly calibrated "saw gins," which are simple, manually fed machines that can only process a few hundred pounds of fiber per day and reduce cotton quality. Only a few large enterprises use sophisticated ginning technology or pre-cleaning technology. Power

[88] See for example, Yasir Nawab, ILO, WWF-Pakistan and European Union, Production and Export of Technical Textiles: Harnessing the Potential in Pakistan, June 23, 2021, pp 62-64.
[89] Based on GTP site visits.
[90] Asif Sajjad, Asad Imran, Saeed Akbar, Arif Hamid Makhdum, Journal of Environmental & Agricultural Sciences, Current Trends of Decent Work in Cotton Ginning Small and Medium Enterprises of Pakistan, January 2015.
[91] Ibid.

outages are common in the sector. [92]

2.3 SPINNING AND MANUFACTURING (KNITTING, WEAVING, ASSEMBLY)

Textile manufacturing – comprised of spinning units (mills) that weave, knit, and produce garments – occurs in the formal and informal textile sectors. Spinning – the process that transforms cotton bales into yarn – is performed in stand-alone spinning facilities and composite textile mills that do yarn spinning and fabric manufacturing. Spinning facilities may receive raw cotton lint, cotton by-products from combing or carding, and/or recycled cotton yarn. Weaving and knitting mills interlace sets of yarn to create fabric.[93]

A 2017 survey found that the Pakistan's informal sector included more than 13 million spindles, 700,000 industrial and domestic stitching machines, 400,000 automatic looms, 3,000 small knitting units, and 175 large knitting units; as well as about 650 printing and dyeing units in Pakistan's textile sector.[94] Spinning mills are considered a key choke point for implementing due diligence because cotton from multiple sources and origins can be mixed to produce yarn. Spinners are typically the point at which imported cotton bales are integrated into the supply chain.

Larger spinning mills may have modern information management and enterprise resource planning (ERP) systems that record, control, and monitor material received, stored, processed, or otherwise handled by the spinner. Based on LRQA supply chain mapping self-assessment questionnaires administered by the GTP project, many spinning facilities use RFIDs (radio-frequency identification) or other devices to track data regarding cotton in their facility. Smaller spinning facilities lack modern spinning technology and produce lower quality yarn.

2.4 TRACEABILITY LANDSCAPE

The cotton sector globally can be split into "conventional" cotton and "certified" cotton. In both the conventional and certified cotton trade in Pakistan, cotton bale IDs are commonly assigned at ginning units. IDs written or affixed to bales are used to support the sale and trade of cotton bales between ginners. traders, and spinners. To ensure bale identification, ginners often segregate heaps of cotton seed into specified lots to distinguish between certified cotton and conventional cotton processing at the same facilities. Similarly, cotton seed and bales of cotton lint are identified and segregated in storage. Pakistan, however, does not have a government managed database for bale IDs that can be used to support traceability, as is found in some other countries.[95]

Certification programs control the movement of material or products and associated sustainability data from approved or certified businesses through each stage of the supply chain. Traceability can be a mandated requirement or an optional add-on to support the sustainability claims that each program makes. Some programs require product segregation from farm to mill, which does not allow the mixing of certified and non-certified cotton. Other programs allow the mixing of certified and non-certified cotton using the mass balance chain of custody model at specific tiers of the supply chain, commonly at spinners. Certified cotton represents a substantial and growing percentage of all cotton grown in Pakistan. In 2020, about half of Pakistan-grown cotton was certified, with the vast majority certified by the world's largest sustainable cotton program, Better Cotton Initiative (BCI).

Better Cotton Initiative (BCI)

The Better Cotton Initiative (BCI) is the largest certification program in Pakistan, involving 460,000 farmers who produce 906,000 tons of cotton,[96] more than all other traceability or certification programs combined. BCI works with international and local NGOs to implement projects at the farm and ginner levels.

BCI's "Global Forced Labour Risk Assessment Methodology" uses external and internal sources to assign country risk rankings. Pakistan is ranked as High Risk for forced labor, related to contextual factors such as pervasive poverty and weak governance institutions,

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[92] Ibid.

[93] For a description of the processes, see National Cotton Council of America, Manufacturing Fabric. See also Samavia Batool, Fahad Saeed, Sustainable Development Policy Institute, Mapping the cotton value chain in Pakistan: A preliminary assessment for identification of climate vulnerabilities & pathways to adaptation, 2017.

[94] Pakistan Readymade Garments Manufacturers & Exporters Association; APTMA. Pakistan Economic Survey (undated), p 14 Table 1.2.

[95] In the United States the USDA Agricultural Marketing Service used a Permanent Bale Identification system. In India, the TraceNet service is offered by the Agricultural & Processed Food Products Export Development Authority (APEDA).

particularly in the agricultural sector.[97] In 2020, BCI's Task Force on Forced Labour and Decent Work reviewed BCI's approach and developed recommendations for "identifying, preventing, mitigating, and remediating" forced labor risks.[98] BCI will phase recommendations from the Task Force into their labor management systems by 2027.[99]

Certified cotton under BCI is initially segregated from conventional cotton at the farm and gin levels. BCI-certified farmers are required to harvest, store, transport, and gin their cotton separately to avoid mixing with non-certified cotton. However, once the cotton reaches the spinning stage, BCI has historically offered the use of a mass balance system, which allows for mixing of certified and conventional cotton while maintaining administrative traceability through credits called *Better Cotton Credit Units* (BCCUs). To track certified cotton volumes, BCI collaborates with software provider ChainPoint to host the Better Cotton Platform (BCP), an online system where cotton is monitored from ginners to yarn spinners. This system ensures that the number of credits corresponds to the facility's volume of certified production at a facility.

In 2022, BCI announced plans to develop mechanisms to ensure "full traceability" across supply chains allowing BCI to identify regions where seed cotton is produced and the businesses involved in transforming cotton into finished goods. In 2023 and 2024, BCI expanded its management system requirements to include the documentation of purchasing, material receipt, and sales processes in a new Chain of Custody V 1.0 Standard. Implementation guidance, BCP platform requirements, and claims-related responsibilities were moved to separate documents. In this update to the CoC Standard, BCI introduced three new physical chain of custody models:

1. **Segregation (Single Country):** Physical Better Cotton from a single country is kept separate from all other cotton, including Better Cotton from other regions, throughout the supply chain.
2. **Segregation (Multi-Country):** Physical Better Cotton from multiple countries remains separate from conventional cotton ensuring no mixing or substitution occurs.
3. **Controlled Blending:** Physical Better Cotton can be blended with conventional cotton within a production batch, allowing a percentage-based claim about the proportion of Better Cotton used. This model helps supply chains transition to fully traceable sourcing while accommodating demand fluctuations.

BCI's approach has received criticism over the past few years. The BCI 2021 task force report identified gaps and challenges in decent work coverage and made recommendations for improvement.[100] BCI has been criticized for other practices related to the environment and potential conflicts of interests, including in a 2024 NGO report.[101] Two of BCI's publicly listed implementing partners, CottonConnect Pakistan and WWF-Pakistan, have separate initiatives that do not connect to the Better Cotton Platform and maintain different traceability standards.

CottonConnect

CottonConnect, based in London with field offices in Pakistan, India, Peru, Egypt, and China, offers services for responsible cotton sourcing. In addition to their support of BCI, they have their own distinct "Sustainable Agricultural Programs," with their own Codes of Conduct: The REEL Cotton and the REEL Regenerative Programmes. According to CottonConnect, the REEL Regenerative Code was created to supplement the REEL Cotton Code to "meet increasing desire from brands to introduce regenerative agriculture practices into raw material production."[102] CottonConnect has worked closely with the multinational fashion retailer Primark, who has supported CottonConnect since 2013. The NGO REEDS Pakistan helps implement their work on the ground, including supporting farmer training.

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[97] BCI, Global Forced Labour Risk Assessment Methodology, 2021.
[98] BCI, Task Force on Forced Labour and Decent Work, 2020.
[99] BCI, Decent Work Strategy, 2022.
[100] BCI, Task-force-on-forced-labour-and-decent-work-finalises-key-findings-and-recommendations, January 2021. The task force concluded that BCI showed "organizational blindness" to forced labor. Just Style, Better cotton accused of blindness to forced labour, October 29, 2020.
[101] Earthsight asserted that BCI certified cotton originated from contested deforested land in Brazil and that the model had a fundamental conflict of interest in its collaboration with cotton growers. Fashion Crimes, April 11, 2024. See also COSH!, Is BCI Cotton Really Better? April 11, 2024.
[102] CottonConnect, Development of REEL Codes.

CottonConnect offers traceability services to clients through a sister organization, TraceBale, which is a web-based application that allows suppliers to enter transactional information and upload supporting documents. TraceBale follows the product segregation chain of custody model and generates unique product IDs with QR codes for final products. The QR code can be scanned to provide visibility on labor rights back to the farm group level.

The REEL Cotton Code of Conduct 3.0 holds participating organizations to a "verifiable, private standard" for meeting employment conditions using an appropriate and effective management system, including establishing a Decent Work Policy in accordance with ILO guidance[103]. The Code includes protections for freedom of association (ILO 87), collective bargaining (ILO 89), forced labor (ILO 29 & 105), child labor (ILO 138), the worst forms of child labor (ILO 182), and discrimination in the workplace (ILO 111).[104]

The World Wildlife Fund (WWF-Pakistan)

In 2004, WWF-Pakistan launched its Pakistan Food and Markets Programme (formerly the Sustainable Agriculture and Food Programme), which has grown into one of its largest programs with 17 field offices in four provinces and about 1,000 field staff that are facilitating a transition towards sustainable agriculture.[105] This effort includes its Better Cotton Farmers Support Programme in Punjab and Sindh provinces, which has been supported by the BCI Growth and Innovation Fund.

It also includes an organic cotton certification initiative that WWF-Pakistan initiated in 2016 with the Laudes Foundation in collaboration with the Department of Agriculture Extension of Baluchistan. The program supports farmers who have, or are in the process of, converting to certified organic practices under EU & USDA-NOP organic standards. The denim mill Artistic Milliners and German software company ReTraced are collaborating with WWF on a pilot project to trace organic cotton using a product segregation approach and ReTraced's platform. The WWF program follows organic standards and its own safeguarding policies.[106]

Due Diligence in the Textile Sector

The OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector (2018) presents a risk-based process to help companies respect human rights through purchasing decisions and practices.

The Yarn Ethically and Sustainability Sourced Standards (YESS) supports scaling the OECD due diligence management approach at choke points in the cotton and textile industry through implementation of industry-wide due diligence for spinners and mills. The standard focuses on management and material control systems to ensure cotton inputs in a facility are free of child and forced labor, tracking the source of cotton.

[103] See ILO, Decent Work webpage.
[104] CottonConnect, REEL Cotton - Code of Conduct 3.0, 2020.
[105] WWF Pakistan, https://www.wwfpak.org/our_work_/markets/.
[106] WWF, Child Safeguarding and Protection Policies, June 2018.

3. LABOR RIGHTS IN PAKISTAN

Pakistan's ILO obligations and efforts, its labor law system, key child labor laws and prevalence, key forced (bonded) labor laws and prevalence, and key labor and business stakeholders are discussed below.

3.1 RATIFIED ILO CONVENTIONS, DECENT WORK, BETTER WORK, AND ACCORD

Pakistan has ratified eight of the ILO's fundamental conventions, including the Forced Labor Convention (No. 29), the Abolition of Forced Labor Convention (No. 105), the Minimum Age Convention (C. 138), the Worst Forms of Child Labor Convention (No. 182), the Conventions on Freedom of Association, the Right to Organize, and Collective Bargaining (No. 89 & 98), the Discrimination (Employment and Occupation) Convention (No. 111) and The Equal Remuneration Convention (No. 100). These conventions are elements of the ILO Declaration on Fundamental Principles and Rights at Work.[107] Pakistan has also ratified the Labor Inspection Convention (No. 81) and the Freedom of Association (Agriculture) Convention (No. 11).[108] In June 2022, the International Labour Conference adopted the Resolution on the Inclusion of a Safe and Healthy Working Environment in the ILO's Framework of Fundamentals and Principles; Pakistan has not ratified the related Operational Safety and Health Conventions (C. 155 and C. 187).[109]

In support of its ILO commitments, Pakistan, along with its tripartite labor-management partners, periodically develop a Decent Work Country Programme (DWCP), with its fourth iteration covering 2023-27. The DWCP IV prioritizes: 1) promoting decent work at the core of Pakistan's economic recovery and response to climate change, natural disasters and crises; 2) promoting social protection coverage for all; 3) strengthening the application of international labor standards and social dialogue; and 4) promoting safe and healthy workplaces.[110] It notes that the National Strategic Framework to Eliminate Child and Bonded Labour of 2017 "lies at the heart of Pakistan's efforts" to eliminate child and forced labor, with recommendations for strengthening legislation, rules, and regulations; enforcing laws; and implementing policies and action plans. Results are reported to the Ministry of Overseas Pakistanis and Human Resource Development.[111]

The DWCP IV noted that Pakistan's stakeholders considered ratifying the Protocol of 2014 to the Forced Labor Convention (No. 29) (supports victim protection and provides appropriate and effective remedies and sanctions), but, as of early 2025, Pakistan had not ratified the Protocol. Indeed, the ILO concluded that Pakistan "is currently off-track to achieve SDG target 8.7" to eradicate forced labor and human trafficking and eliminate the worst forms of child labor.[112] The prior DWCP III (2016-2020) found an "absence of reliable and comprehensive data to accurately assess" the prevalence of hazardous child labor, the worst forms of child labor, and forced labor.[113]

Regarding compliance assistance, the ILO, in collaboration with the International Finance Corporation (IFC), launched a three-year Better Work pilot program through the Export Development Fund (EDF) in 2022 to improve compliance with ILO Core Labor Standards and national legislation on compensation, contracts, occupational safety and health, and working time.[114] This program operates at the garment factory level and not directly on the supplier, ginner, or farm levels. However, with its labor-management cooperative model, the Better Work program may have positive effects further upstream as well as for Pakistan's economy. Indeed, in 2022, the Walt Disney Company reinstated Pakistan as a permitted textile/clothing source for its consumer product licensees, subject to Better Work engagement, although their sourcing teams proceeded with implementation slowly.[115]

The International Accord for Health and Safety in the Textile and Garment Industry is a legally binding agreement between global trade unions and brands that protects worker rights and safety. It was originally established in Bangladesh in 2013 and was launched in

[107] ILO, Fundamental Principles and Rights at Work, 1998.
[108] ILO, Ratifications by Pakistan webpage.
[109] ILO, Resolution on the Inclusion of a Safe and Healthy Working Environment in the ILO's Framework of Fundamental Principles and Rights at Work, June 10, 2022.
[110] ILO, Decent Work Country Programme Pakistan, 2023-27 IV.
[111] Ibid p 28.
[112] Ibid p 42.
[113] ILO, Pakistan Decent Work Program website, This Program also concluded that child and bonded labor "remain pervasive in both the informal and the formal economies."
[114] Better Work, Pakistan webpage.
[115] Jasmin Malik Chua, Sourcing Journal, Disney Reinstates Pakistan to 'Permitted Sourcing' List, May 23, 2022.

Pakistan in January 2023. As of October 2024, the Accord included over 125 participating brands in over 500 factories covering more than a half million workers.[116] Brands include Asos, Gap, Inditex, H&M Group and, most recently, Levi Strauss & Co, which joined in October 2024. The Accord does not include cotton farms or ginners.

3.2 PAKISTAN'S LABOR RIGHTS AND LEGAL SYSTEM

3.2.1 LABOR RIGHTS IN LAW

Pakistan's Constitution prohibits all forms of slavery, forced labor, and child labor (Art. 11) and protects freedom of association and the right to form unions (Art. 17).[117] After independence in 1947, Pakistan inherited the British Common Law system and four basic laws on trade unions, employment, industrial disputes, and labor and employment that served as its foundation for labor and employment law and policy.[118] Between 2000 and 2002, Pakistan's National Assembly consolidated a myriad of laws protecting labor rights and regulating employment into six laws, including ordinances on industrial relations, conditions of employment, payment of wages, occupational safety and health, labor welfare and social security, and human resources development and control of employment.[119]

Pakistan's Eighteenth Constitutional Amendment (Act No. X of 2010) devolved important powers from the federal to provincial governments, many of which adopted legislation related to labor, employment, and child welfare and created new provincial enforcement bodies. Although federal law has served as a starting point for provincial law, provincial law takes precedent over federal law except where provincial laws are absent.[120] This division of power has led to a patchwork of laws across the country, with some in and others out of compliance with international child labor standards.[121] For some provisions, most notably those involving definitions of labor rights, provincial law generally copies federal law.

The government of the Punjab produced the draft Labour Bill of 2024, which would consolidate and revise the labor laws to be more in line with the ILO Conventions addressing child and forced labor, freedom of association and collective bargaining, and employment.[122] The prospects are uncertain for this legislation. The recently released Punjab Child Labour Survey (2019-2020), sets forth a series of recommended changes on child labor that include the following:

- Appoint a Child Protection Advisor in the Punjab Cabinet to advocate for child protection in law and policy;
- Create a comprehensive legal framework;
- Raise the minimum employment age to 16 in relevant acts and extend the scope to cover all sectors;
- Strengthen the role of labor inspectors and increase penalties;
- Create a robust and effective case management and referral system; and
- Review and revise the hazardous occupation list.[123]

3.2.2 LABOR RIGHTS ENFORCEMENT

Given the extent of devolution, the Federal government's authority is limited primarily to the Ministry of Overseas Pakistanis and the Human Resource Development Administration, which remains responsible for implementation of certain emigration, employment, pension, and welfare benefits laws.[124] As a result, the provincial departments of labor and labor courts are

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[116] International Accord, The International Accord Pakistan webpage.
[117] National Assembly of Pakistan, The Constitution of Pakistan, 1973, last amended 2015.
[118] As noted in the Punjab Labour Policy citing the Trade Union Act of 1926, Pakistan inherited from Great Britain "a number of laws and enactments which were adopted and modified, improved and supplemented by new enactments over the years." Labour and Human Resource Department of Punjab, Punjab Labour Policy, 2015, p 15 n 9. See also Ghayur, Sabur, Evolution of the Industrial Relations System in Pakistan, 2010, p 10 table 7 (listing the inherited British legislation), published by the ILO.
[119] See RIAA Barker Gillette (Pakistan), Labour Law in Pakistan.
[120] Constitution of the Islamic Republic of Pakistan (Eighteenth Amendment) Act, 2010 (Act X).
[121] Stacey Frederic, World Bank, Pakistan in the Apparel Global Value Chain, 2019. This amendment also redesignated the Ministry of Labour and Manpower as the Ministry of Overseas Pakistanis & Human Resource Development.
[122] Labour and Human Resources Department of the Punjab, Punjab Draft Labour Bill 2024.
[123] The recommendations are summarized in: State of Children: Situation Analysis of Child-labour in Punjab, p 8.
[124] These laws include the Emigration Ordinance, 1979; the Control of Employment Ordinance, 1965 (XXXII of 1965); the Workers Welfare Fund Ordinance, 1971; the Companies Profits/Workers participation Act, 1968; and the Employees' Old-Age Benefits Act, 1976. See Ministry of Overseas Pakistanis and Human Resource Development.

Pakistan's central authorities for labor administration, inspection, and enforcement.[125] These departments include the Labour and Human Resource Departments (LHRD) in Punjab and Sindh. Punjab's LHRD maintains a website with labor legislation, policies, frameworks, and studies.[126] It also establishes the Punjab Labour Policy (the most recent posted in 2018), which summarizes the law, identifies strategies, and lists the policy objectives, including:

- Eliminating child labor "through disengagement, education, social protection, societal collaboration, improvement in law enforcement, integration of the efforts of institutional and stakeholder efforts and direct action"; and
- Addressing bonded labor "in a systematic way; through improvement in enforcement of law, coordination, strengthening District Vigilance Committees (DVCs), awareness and education of the stakeholders and direct action."[127]

Punjab's provincial assembly passed the Punjab Home-Based Workers Act of 2023, which prohibits the employment of children under 15 years old in home-based work.[128]

In its 2023 Report, USDOL stated that it is unknown how many labor inspectors conducted worksite inspections or whether child labor violations were found at the federal level or in Sindh Province. It further stated that it is unknown how many investigations into suspected child labor crimes were conducted, how many prosecutions were initiated, or how many perpetrators were convicted either at the national or provincial levels. In contrast, it noted that Punjab inspectors conducted 85,188 child labor inspections and 8,580 inspections under the Punjab Prohibition of Child Labor at Brick Kiln Act of 2016, finding 1,585 violations, filing 1,562 First Investigation Reports, making 121 arrests, and initiating 47 prosecutions.[129]

In Punjab, in 2020, the Labor Welfare Department registered 1,441 first investigative reports (FIRs) into child labor violations, all of which were reported in industry and commercial establishments – none at farms. In Sindh Province, inspectors stopped conducting unannounced inspections due to harassment complaints filed against inspectors by employers.[130] The ILO Decent Work Country Programme (2023-2027) (DCWCP IV) noted that, while Punjab and Sindh provinces constituted District Vigilance Committees (DVCs) to address child and forced labor, they have largely been ineffective.[131]

Labor inspectors in Punjab also conducted over 85,000 child labor inspections, yielding 87 arrests, and carried out 8,580 inspections in brick kilns, finding 771 child labor violations, resulting in 34 arrests. Further, Child Protection and Welfare Bureaus across Pakistan rescued around 10,000 children from child labor and reunited them with families or placed them in shelters.

Broadly speaking, effective labor law enforcement in Pakistan is limited or hampered in two aspects:

1. The limited scope of labor administration means that labor inspections are not conducted for child labor or forced (bonded) labor at the farm level; and
2. The provincial governmental bodies lack sufficient resources to fully administer the laws that they are charged with implementing.

For example, the Punjab's LHRD is charged with enforcing labor welfare laws in factories, municipal transportation facilities, shops, and commercial and industrial establishments. Although it does not conduct child or bonded labor inspections at farms, the LHRD's Directorate General of Labour Welfare is charged with implementing government policies and programs for "the gradual elimination" of child labor and coordinating government efforts to combat child labor and bonded labor.[132] The LHRDs do not publicly share data on labor violations, limiting their ability to coordinate on traceability efforts. Similarly, the Punjab Child Protection and Welfare Bureau, like in other provinces, provides shelter, education, counseling, and protection to destitute, neglected, abused, and run-away children to help them become productive members of society; however, they do not conduct investigations into employers' use of child labor.[133]

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[125] Pakistan Institute of Labour Education & Research, Status of Labour Rights in Pakistan 2015.
[126] Labor & Human Resource Department of Punjab, Punjab Labor Policy 2018.
[127] Ibid p 7.
[128] Punjab Government, Home-Based Workers Act of 2023, Sec. 3.
[129] See ILAB, Findings on the Worst Forms of Child Labor (2023).
[130] USDOL, Worst Forms of Child Labor (2021), pp. 1001-1009.
[131] ILO, Decent Work Country Programme Pakistan, 2023-27 IV.
[132] Directorate General of Labour Welfare, Punjab Portal.
[133] Child Protection & Welfare Bureau, About Us.

Additionally, provincial labor inspectorates lack sufficient resources to train staff and arrange travel for inspections.[134]

Based on the ILO's recommendation to establish a ratio of one inspector for every 15,000 workers in developing economies, Pakistan would need to employ roughly 4,259 labor inspectors for its workforce of more than 64 million workers,[135] According to the ILO, in 2017-18, there were 247 labor inspectors in Punjab, 187 in Sindh, and 636 nationwide.[136] Based on an interview with the U.S. Embassy in Pakistan, the number of labor inspectors dropped in both provinces to 102 in Punjab and 120 in Sindh in 2020.[137] In 2022, authorities informed the GTP project that the number of officials conducting labor inspections had risen to 247 in Punjab,[138] 187 in Sindh, and three to four at the federal level. At any of these levels, however, the numbers are insufficient to effectively cover Pakistan's workforce.

Figure 10: Key Labor Rights Actors in Pakistan

Actor	Purpose
Provincial and Regional Police	Enforce violations of federal and provincial laws concerning the worst forms of child labor - including the Pakistan Penal Code, Prevention of Trafficking in Persons Act, and the Bonded Labor System (Abolition) Act (BLSA) - and refer children to be taken into custody by Child Protection Officers.
Provincial Labor Inspectors	Inspect industrial areas and markets to identify child labor violations, enforce provincial labor laws, and pursue legal action against employers.
Labor Courts	Assess penalties for labor violations. Located in each province and the Islamabad Capital Territory.
District Vigilance Committees	Assist in rehabilitating bonded laborers via monitoring bodies of members of the public, civil society groups, lawyers, members of the media, and local government officials and reports to the District Magistrate.
Child Protection Units (CPUs)	Take into custody at-risk children, including those rescued from exploitative labor situations.

3.3 CHILD LABOR LAWS

Under Pakistan's federal law, and it's now more limited jurisdiction, the minimum age of work is 14, per Section 50 of The Factories Act,[139] which is consistent with the Shops and Establishments Ordinance (sec. 20), and the Employment of Children Act (ECA) (sec. 2) (1991, as amended).[140] The ECA identifies work that children are prohibited from performing including cloth weaving, printing, dyeing, and finishing as well as mixing pesticides and insecticides (ECA Schedule Part I and II). This set of "prohibited" tasks is similar to the ILO's definition of "hazardous" work in the Worst Forms of Child Labour Convention (No. 182, Art. 3), although it does not explicitly reference it. The ILO summarized the historical development of child labor legislation and policy in Pakistan's Journey Towards the Elimination of Child Labour: A Timeline (2021).[141]

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[134] Maliha H. Hussein, Abdul Razzaq Saleemi, Saira Malik, Shazreh Hussain, ILO, Bonded Labor in Agriculture: a rapid assessment in Sindh and Balochistan, Pakistan, January 2004, pp 10-11.
[135] Ibid.
[136] ILO, Pakistan Decent Work Country Profile 2019, p 169.
[137] USDOL, 2020 Findings on the Worst Forms of Child Labor, 2020.
[138] For reporting purposes, the provincial authorities include officials who do not have the title "labor inspector" provided that they conduct labor inspections in addition to other duties. They include labor officers, deputy directors, directors, a chief inspector, and assistant directors (GTP staff discussions with authorities).
[139] Pakistan Code, Government of Pakistan, The Factories Act.
[140] Section 50 of Chapter V on the Special Provisions for Adolescents and Children of The Factories Act of 1934 provides that "no child who has not completed his fourteenth year shall be allowed to work in any factory," although Section 2(c) of that Act defines a child as a "person who has not completed in his fifteenth year." See also The West Pakistan Shops and Establishments Ordinance 1969, and The Employment of Children Act, 1991, as amended.
[141] ILO, Pakistan's Journey Towards the Elimination of Child Labour: A Timeline, 2021. Pakistan has not established a child protection case management and referral system aligned with international standards to respond to reported cases of child exploitation.

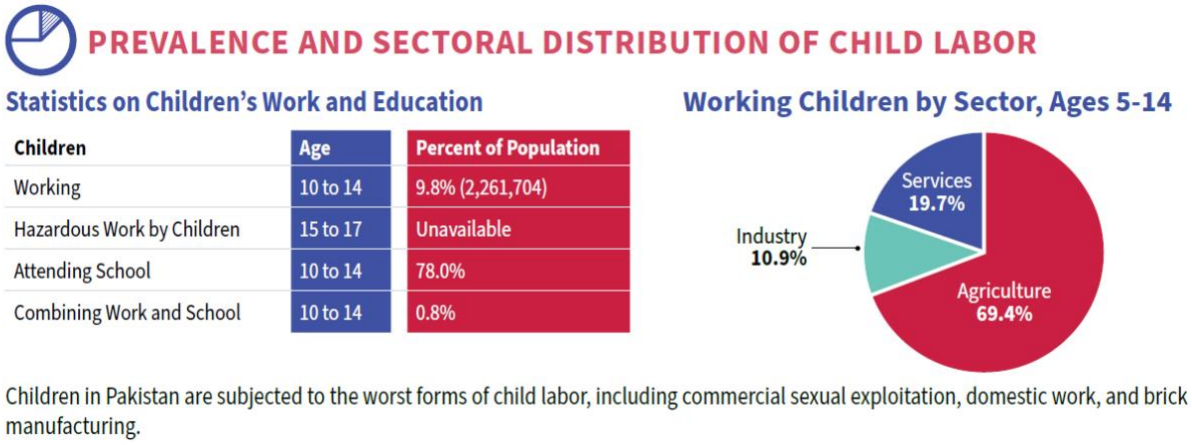
In Punjab, an "adolescent" is a person aged 15 to 18 and the minimum age for employment is 15, per the Punjab Restriction on Employment of Children Act, 2016 (PRECA).[142] The PRECA prohibits children (age 14 and below) and adolescents from engaging in "hazardous" work, including work that "by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of adolescents" (identical to ILO C. 182), including many of the same tasks identified in federal law, such as weaving, printing, dyeing, finishing, and mixing pesticides and insecticides. In Sindh, an "adolescent" is a person aged 15 to 18 and the minimum age for employment is 14 ("child" means a person who has not completed his fourteenth year of age) and an "adolescent" is aged 15 who is not yet 18, per the Sindh Prohibition of Employment of Children Act, 2017 (sec. 2).[143]

3.4 CHILD LABOR PREVALENCE AND HAZARDOUS WORK IN COTTON

Child labor is widely found across the agriculture sector globally, with approximately 112 million children working in that sector, representing about 70% of child laborers across all economic sectors. Indeed, more than three quarters of all working children aged 5 to 11 work in agriculture,[144] which is one of the most dangerous sectors in terms of work-related fatalities, non-fatal accidents and occupational diseases. About 59% of all children aged 5–17 are engaged in hazardous work.[145]

In its 2023 Findings on the Worst Forms of Child Labor, the U.S. Department of Labor estimated that about 2.26 million children aged 10 to 14 (9.8%) work in Pakistan, with about 70% of them in the agricultural sector (see Figure 11).[146] These rates were likely exacerbated during COVID-19, with studies suggesting links between child labor rates, school closures, and loss of employment by primary breadwinners.[147] In 2022, an estimated 22.8 million children in Pakistan were out of school, with no access to formal learning.[148] The U.S. Department of Labor, concluded in its 2023 Report that Pakistan had made "moderate advancement" in efforts to eliminate the worst forms of child labor.

Figure 11: Child Labor in Pakistan (2023 Report)[149]



In 2019 and 2020, the Pakistan Bureau of Statistics (PBS), with assistance from UNICEF (with UKAid funding) and the ILO (assistance on methodology), conducted a child labor survey in select provinces. Each participating provincial government managed,

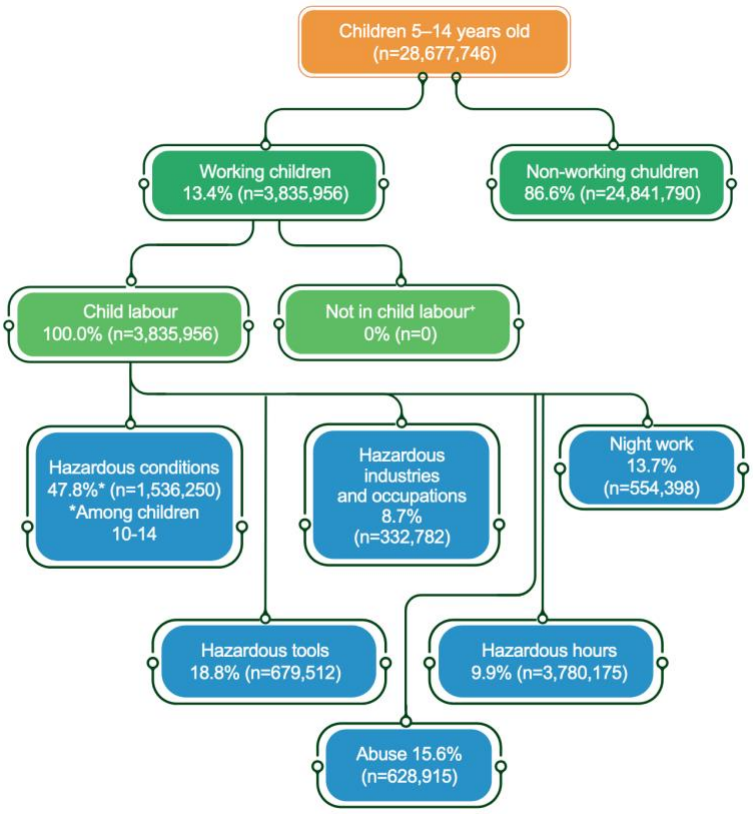
[142] See The Punjab Restriction on Employment of Children Act, 2016, (a "child" is a person who has not attained the age of 15 years).
[143] See The Sindh Prohibition of Employment of Children Act, 2017. The Draft Punjab Labour Code Bill 2024 (Chap. 2.3), would more closely align the law with the ILO Conventions.
[144] ILO and UNICEF, Global Child Labour Estimates 2020: Trends and the Road Forward, 2021, pp 9, 12, 37, 38.
[145] ILO, Child Labour in Agriculture.
[146] ILAB, Findings on the Worst Forms of Child Labor (2023), pp 563-568.
[147] Iffat Idris, University of Birmingham, GSDR, Impact of COVID-19 on Child Labour in South Asia, June 8, 2020.
[148] ILAB, Findings on the Worst Forms of Child Labor (2023), p 565. See also ILAB website, Findings on the Worst Forms of Child Labor: Pakistan.
[149] Ibid.

reviewed and reported on the results in their province,[150] while the PBS tracked each province's progress.[151]

The Punjab provincial government's Child Labour Survey 2019-2020, started in 2022, was delayed partly by the onset of the COVID-19 pandemic and the lockdown response.[152] The Punjab Labour & Human Resources Department issued its Key Findings Report in October 2024 and the full final published report by early 2025. The authors identified the characteristics of the survey population, the circumstances and causes of child labor and adolescent hazardous work (CLAHW), and their impact on children's health and schooling. The Report estimated that a total of 35,818,724 children and adolescents aged 5 to 17 lived in the province and that 28,677,746 were between ages 5 and 14.[153] Of those numbers, it estimated that:

- 13.4% (3,835,956) of children aged 5-14 were working in the prior seven days and 15.5% in the prior week;
- 47.8% (1,536,250) of children aged 5-14 were working in hazardous conditions; and that
- 18.8% (679,512) were using hazardous tools (see Figure 12).[154]

Figure 12: Punjab Summary of Results for Children 5-14 Year Olds

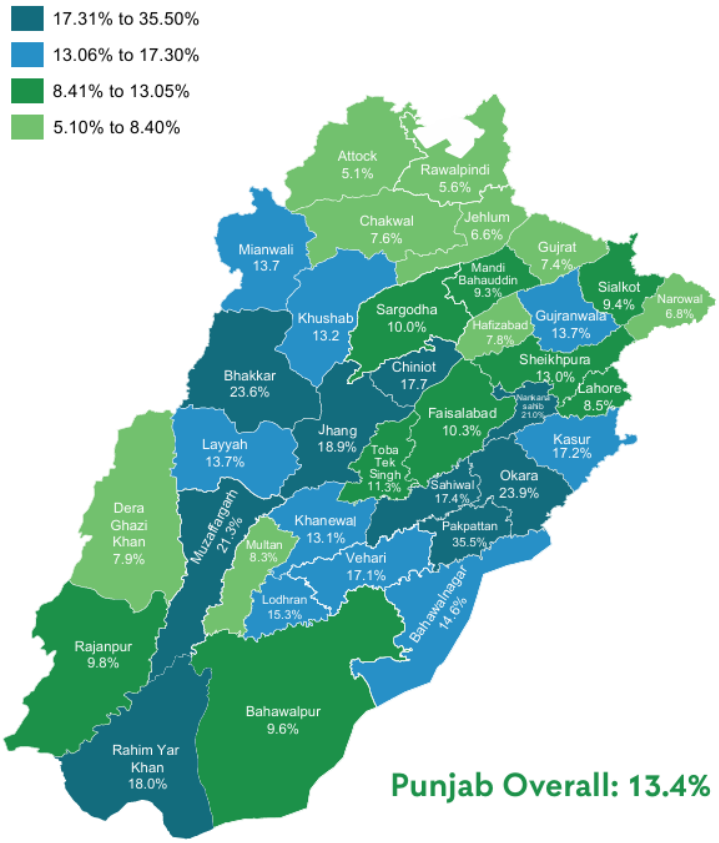


Note: The components of child labour do not sum to 100 per cent since children may fall into multiple categories.
*All working children aged 5–14 are classified as being in child labour according to the Punjab Restriction on Employment of Children Act 2016.

[150] The survey was funded by UKAid and conducted in partnership with UNICEF and the ILO.
[151] Pakistan Bureau of Statistics, Child Labour Survey in Pakistan Progress website. The provinces of Gilgit/Baltistan and Khyber Pakhtunkhwa have also completed their child labor surveys. The Sindh report has not been published, though DOL estimated in 2022 that report estimated that 21% of children ages 5 to 14 work in Sindh province (data with 2023 Report on the Worst Forms of Child Labor, formerly on webpage).
[152] Government of the Punjab, et al., Punjab Child Labour Survey 2019-2020, p iv. The survey included 71,584 households sampled and 62,177 responded.
[153] Ibid, pp 1-6, 23-47, 71-79.
[154] Ibid, p 106.

While there was wide variation in the district level rates of child labor, ranging from 5.10% to 35.50%, the rates were higher in more rural agricultural districts. There were also significant variations in the largest cotton producing districts, with 18% in Rahim Yar Khan; 15.3% in Lodhran; 14.6% in Bahawalnagar; 9.6% in Bahawalpur, and 8.3% in Multan, though a large urban population may account for the lower levels in Multan and perhaps Bahawalpur (see Figure 12).

Figure 13: Punjab Child Labor Incidence (age 5-14)[155]



The Pakistan Labor Force Survey of 2017-18 reported that 13.7% of children aged 10 to 17 were engaged in child labor, with about 5.4% involved in hazardous child labor.[156] It also reported that 8.23% of children aged 10 to 14 were working and that 10.64% of those were from rural areas.[157] In contrast, the Labor Force Survey of 2020-21 reported that 4.9% of children aged 10 to 14 were working and 6.74% of those were from rural areas.[158]

In 1996, Pakistan's government conducted its first national child labor survey with the assistance of the ILO.[159] While cautioning that information on child labor in Pakistan was "sketchy," the survey found that about 8.25% of children (or about 3.3 million) aged 5 to 14 were economically active. Among economically active children, about 73% were boys and 27% were girls, with older children being more likely to be economically active. The survey found that about 67% of economically active children were working in agriculture, forestry, hunting, and fishing and that the highest proportion of economically active children were in

[155] Ibid p 107.
[156] ILO, The Asia Regional Child Labour ARC Project webpage.
[157] Pakistan Bureau of Statistics, Pakistan Labour Force Survey 2017-18.
[158] Pakistan Bureau of Statistics, Pakistan Labour Force Survey 2020-21.
[159] ILO, Summary Results of Child Labour Survey in Pakistan, 1996.

Baluchistan (58%), Sindh (31%), and Punjab (18%).[160]

Pakistan has one of the world's youngest populations, attributed to a high fertility rate estimated at 3.5% in 2022, with about 40.3% of the population estimated to be under the age of 15 and a median age estimated at 19 in 2017.[161] In 2019, it was estimated that Pakistan had 92,543,258 persons below the age of 18.[162]

At the farm level in Pakistan, children are found picking cotton along with their families who receive piece rate payment for their total family output in contrast to individual worker payments. Where this arrangement exists, it is difficult to accurately quantify the number of children engaged in work and the extent to which it interferes with their education. Studies show that children are more likely to be employed during the weeding, rigging and picking processes, which coincides with the periods in which a large percentage of the workers are women,[163] even though farmers report that children are not desirable as pickers because they are more likely to damage the cotton.[164] Cotton farming presents particularly hazardous working conditions for children including the use and application of pesticides and other hazardous chemicals and carrying heavy amounts of water and cotton,[165] and the risk of bonded labor, physical abuse, and sexual abuse.[166]

In ginning factories, children handle cotton received by ginning units, clean and prepare it for the ginning process, and handle the cotton bales produced at the end of the process.[167] Children may work without protective clothing or in areas where white cotton dust contamination is found.[168] In textile manufacturing, children may work in large formal factories, small informal factories, subcontracted workshops, and their own homes.[169] Smaller factories have been found to employ children to avoid paying minimum wage and overtime.[170]

While few studies focus on child labor in Pakistan's spinning process, studies in neighboring India have found child laborers to be involved in virtually all processes related to yarn production, frequently acting as helpers for adult workers. These children are typically employed informally and paid on a daily or piece rate basis. There are also concerns over the health and safety of children working in these industries as there are reports of poor health and safety standards in Pakistan's textile factories. Workers report an increase in incidences of chronic respiratory problems because of the presence of cotton dust in the air. Cotton dust is a byproduct of the process that converts raw cotton into yarn or fabric.[171]

3.5 FORCED AND BONDED LABOR LAWS

At the federal level, the constitutional prohibition of forced labor is incorporated into the Prevention of Trafficking in Persons Act (sec. 3 and 7) (2018) ("compelled" labor is prohibited, including forced and debt bondage); the Bonded Labor System (Abolition) Act (BLSA) (sec. 4) (1992);[172] and the Penal Code (secs. 367 (kidnapping for slavery), 370 (buying slaves), 371A-371B (buying/selling for prostitution), and 374 (compulsory labor).[173]

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[160] ILO, Summary Results of Child Labour Survey in Pakistan, 1996, pp 4, 20.
[161] Wikipedia, Demographics of Pakistan.
[162] UNICEF, Child Labor Data (web-based tool).
[163] National Rural Support Programme and Social & Human Protection Programme, Child Labor in Cotton Seed Farming, pp 27-28 (undated).
[164] GTP conversations with farmers and agricultural extension officers, August 2022.
[165] ILO and UNICEF, Global Child Labour Estimates 2020: Trends and the Road Forward, 2021, p 22. Out of an estimated 160 child laborers, 79 million engage in hazardous work, with most in agricultural work globally. For a detailed list of potential cotton farm hazards, see National Farm Data Injury Centre (Australia), Health Safety Risks Associated with Cotton Production on- Farm, 2001.
[166] See for example, Zubaida Zafar, Isra Sarwar, and Syed Imran Haider, Global Political View, Socio-Economic and Political Causes of Child Labor: The Case of Pakistan, Vol. I, No. I. 2016. See also, UNICEF, Mapping Child Labour in Global Supply Chains, January 2020 (detailing forms of and hazards in child labor in agriculture, including India's cotton sector).
[167] Environmental Justice Foundation, The Children Behind our Cotton, 2007.
[168] Fair Labor Association, Child Labor in Cotton Supply Chains, June 2017.
[169] Ibid.
[170] Human Rights Watch, No Room to Bargain: unfair and abusive labor practices in Pakistan, 2019.
[171] Ghulam Dustgeer, The Express Tribune, Struggling to Breathe: The Plight of Textile Workers in Faisalabad. March 2, 2019.
[172] ILO Natlex, Bonded Labor System (Abolition) Act (1992).
[173] Pakistan's Ministry of Law and Justice, Pakistan Penal Code.

The BLSA prohibits labor in a "bonded labour system," which means:

1. the system of forced, or partly forced, labor under which a debtor enters, or has, or is presumed to have, entered into an agreement with the creditor to the effect that—
2. in consideration of an advance (*peshgi*) obtained by him or by any of the members of his family [whether or not such advance (*peshgi*) is evidenced by any document] and in consideration of the interest, if any, due on such advance (*peshgi*), or
3. in pursuance of any customary or social obligation, or for any economic consideration received by him or by any of the members of his family –

he would—

1. render, by himself or through any member of his family, or any person dependent on him, labor, or service to the creditor, or for
2. the benefit of the creditor, for a specified period or for an unspecified period, either without wages or for nominal wages, or
3. forfeit the freedom of employment or adopting other means of livelihood for a specified period or for an unspecified period, or
4. forfeit the right to move freely from place to place, or (4) forfeit the right to appropriate or sell at market value any of his property or product of his labor or the labor of a member of his family or any person dependent on him.

In Punjab, bonded labor is prohibited by the Punjab Bonded Labour System (Abolition) Act (1992), which has the same definition for a "bonded labour system" and authorizes Provincial Vigilance Committees at the district level to monitor for its occurrence.[174] Similarly, in Sindh, bonded labor is prohibited by the Sindh Bonded Labour System (Abolition) Act, 2016, with the same definition and creation of Vigilance Committees.[175]

3.6 FORCED AND BONDED LABOR PREVALENCE

Far less recent data is available for forced and bonded labor prevalence than child labor prevalence. According to the Global Slavery Index, 2,349,000 people were estimated to be in modern slavery in Pakistan in 2023.[176] Forced labor, primarily in the form of debt bondage, exists among agriculture workers in Sindh and Punjab and to a lesser extent in Baluchistan.[177] The prevalence of tenancy and sharecropping models increases risks of bonded labor, as farmers take out loans, sometimes from landlords, to meet their financial needs such as in instances of sickness, death, marriages, etc. While there are significant variations in tenancy arrangements across the country, the most common practice that risks bonded labor occurs when the landlord takes half the cotton yield while the tenant bears most input costs (the "50:50" basis).[178]

Debt can extend to whole families including children, forcing them into bondage or trafficking.[179] It is important to note however that loans are usually adjusted at the time of cotton harvesting, so not all cases of debt strictly constitute bondage. A lack of alternative employment options and failure to pay rural workers a minimum wage also contribute to the debt bondage. Poor record-keeping complicates transparency. Bonded laborers often represent socially excluded groups, including minorities and migrants who suffer additionally from discrimination and political disenfranchisement, without recourse to social or political protections.[180]

Isolation is also a common forced labor indicator: sharecroppers may not be allowed to move freely, make decisions independently, send their children to school, and meet their relatives. Labor contractors known as *jamedars*, who arrange

[174] The Punjab Bonded Labour System (Abolition) Act, 1992. Sec. 15A of this act directs the government to constitute and appoint a Provincial Vigilance Committee to review implementation of the BLSA and its action plan for abolition of bonded/forced labor and rehabilitation of workers; monitor the District Vigilance Committees; and address the concerns of national and international bodies related to bonded or forced labor.
[175] Provincial Assembly of Sindh, Sindh Act No. XX of 2016.
[176] Walk Free Global Slavery Index, Global Slavery Index 2023: Pakistan. The Index includes forced labor, as defined in the ILO Conventions, and debt bondage as well as human trafficking under UN Trafficking in Persons Protocol.
[177] Maliha H. Hussein, Abdul Razzaq Saleemi, Saira Malik, Shazreh Hussain, ILO, Bonded Labor in Agriculture: a Rapid Assessment in Sindh and Balochistan, Pakistan, January 3, 2004.
[178] Ibid, pp 12-15.
[179] Ibid, pp 10-11.
[180] Ibid, pp 8-9.

labor for landlords for a commission, have been connected to forced and bonded labor in Pakistan. Landlords may extend advances to *jamedars* or to workers for labor.[181] This series of debt relationships leads to situations in which workers labor under duress until debts are repaid.

Labor rights violations have been found in the textile manufacturing sector, some suggesting potential indicators of forced labor. Human Rights Watch states that in the garment sector "a combination of lack of job security that makes it easier to dismiss and control workers, poor government labor inspection and enforcement, and aggressive tactics against independent unions, make it difficult for workers to assert their rights."[182]

Figure 14: Assessing Labor Risks in the Cotton Supply Chain

ASSESSING LABOR RISKS IN THE COTTON SUPPLY CHAIN		
	Upstream Labor Risks	**Midstream/Downstream Labor Risks**
		
Child Labor	Child labor common on family farms - Hazardous work includes: • Heavy lifting, carrying water for irrigation, loading trucks with cotton. • Working without protective clothing or masks to prevent cotton dust inhalation. • Pesticides application without appropriate protective equipment.	• Young children may support textile manufacturing, particularly in the informal sector. • Labor inspections may cover child and bonded labor, though limited by personnel and resources.
Forced Labor	• Wage laborers held bonded debt labor. • Landlords extending advances to *jamedars* (labor contractors) and to laborers, binding both. • Seasonal ginning unit jobs with limited labor protections and/or safety equipment.	• Limited labor and OSH inspections. • Migrant workers and daily-wage situations may lead to bonded labor lacking labor protections. • Hazardous working conditions, lack of union representation.

3.7 WORKER AND BUSINESS STAKEHOLDERS

The Federal Ministry of Overseas Pakistanis and Human Resource Development (MOPHRD) established the Federal Tripartite Consultative Committee (FTCC) to bring together all tripartite partners, including representatives of all provincial labor departments, workers' and employers' organizations, as well as the ILO Country Office, to discuss labor issues and bring labor laws in the country in conformity with international obligations.[183] Other tripartite structures include the Governing Body of the Workers Welfare Fund, the Steering Committee on Bonded Labor, Provincial Occupational Safety and Health Councils, Provincial Minimum Wage Boards, and Occupational Safety and Health Councils, among others.

In Karachi, industrial zone committees have facilitated tripartite dialogue to improve workers' rights and working conditions with representatives from the labor department, employers, and workers.[184] The Workers Employers Bilateral Council of Pakistan (WEBCOP) has operated at the national and provincial levels (particularly in Karachi) to promote positive bilateral dialogue, promote cooperation, address common challenges, and make policy and legal recommendations.[185] (See Annex III for a list of stakeholders.)

On the business side, the Employers' Federation of Pakistan (EFP) provides collective representation to employers, serving as a member

[181] Ibid, p 11.
[182] Human Rights Watch, "No Room to Bargain": Unfair and Abusive Labor Practices in Pakistan, 2019.
[183] MOPHRD, Year Book 2021-22, pp 6-8. See also Frederick Ebert Stiftung (FES), Mapping Labour Unions in Pakistan, December 2021, p 10.
[184] (FES), Mapping Labour Unions in Pakistan, December 2021 p 11.
[185] See for example, Tribune Wired, Workers employers must- find solution to resolve labour issues via bilateralism, October 21, 2021.

of the International Organization of Employers (IOE).[186] The Pakistan Cotton Ginners Association (PCGA);[187] the Pakistan Readymade Garments, Manufacturers & Exporters Association (PRGMEA);[188] and the Pakistan Textile Exporters Association (PTEA) are all key cotton sector actors. The All Pakistan Textile Mills Association represents more than 223 textile companies.[189] In theory, farms are to be represented by cooperatives,[190] but in practice, most are without an effective voice, particularly small and medium farm owners. Farmers lack sustained provincial or national labor organizations that effectively advocate for their interests, including demanding higher prices for improved cotton quality. Province level laws and regulations make it very difficult for farmers to form basic formal organizations. Supply chain due diligence efforts have largely focused on the manufacturing and ginner levels, given the difficulties in reaching the vast number of farms and the farmers' lack of common voice.

On the workers side, labor organizations, including unions and their federations, represent a limited number of workers in select industries, though not at the farm level. Pakistan has low union density but a relatively large number of labor organizations. For decades, workers have had a difficult time organizing due to employer opposition, a lack of government support, weak legislation, and internal challenges and disunity. The result: unions in Pakistan "stand disenfranchised, fragmented, and under-represented."[191] While there is little recent information on the number of registered unions, a 2018 ILO study estimated that Pakistan showed a union density of about 3% including 7,096 trade unions with 1,414,160 members (in 2016) out of a workforce of about 61 million. Union leaders, however, have asserted the actual number is lower, estimating that less than 1% of workers are in unions.[192] Over 72% of the workforce is in the informal economy; thus, nearly all organized workers are in the formal sector, with the largest share in the public sector. Very few women are union members.[193]

The largest and most active federations include the All Pakistan Labor Federation (about 138 unions with 30,400 members from textiles, minerals, gas, power, etc.), which represents workers before the ILO and is a member of the International Trade Union Confederation (ITUC). The Pakistan Textile Garment and Leather Workers Federation (PTGLWF),[194] affiliated with the international IndustriALL confederation, has about 10,000 members and 24 affiliate unions in the textile, garment, shoe, and leather sectors, and supports the Pakistan Accord.[195] A female PTGLWF leader has helped provide support to women needing childcare at the farm level (albeit not collective representation). Other federations have included the National Labour Federations (400 unions in industrial, public, textiles, mines, and municipal), and the National Trade Union Federation (62 affiliates with about 80,000 workers in the public sector, services, textile chemicals, garments, etc.). Other reported federations include the Punjab Federation of Labour Unions, the Sindh Labour Federation, and the Textile and Powerlooms and Garment Worker Federation.[196]

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[186] Employers' Federation of Pakistan website.
[187] See PCGA – Pakistan Cotton Ginner's Association.
[188] Pakistan Readymade Garments Manufacturers and Exporters Association (PRGMEA). Homepage.
[189] All Pakistan Textile Mills Association website.
[190] Muhammad Ali Ilahi. Profit, The Need for Farmer Cooperatives in Pakistan, October 17, 2022.
[191] Z.K. Khalil, ILO, A Profile of Trade Unionism and Industrial Relations in Pakistan, p 8.
[192] Ibid, pp 5-8.
[193] Ibid, pp 5, 7, 24.
[194] Pakistan Workers Federation, Pakistan Workers Federation (PWF) Background and History: — Pakistan Workers Federation. See also, Just Style, Pakistan Garment Unions Form United Federation, September 26, 2018.
[195] Fair Labor Association (FLA), Pakistan Textile Garments and Leather Workers Federation.
[196] Z.K. Khalil, ILO, pp 39-55.

4. TRACEABILITY LIMITATIONS AND CAPACITY

To effectively design a Pakistan cotton sector traceability system, developers must consider sector wide constraints in terms of resources, technology and capacity. Barriers to scalable and effective traceability include:

- **The resources and commitment required for effective due diligence**. Implementing robust supply chain due diligence takes management commitment and resources across all supply chain tiers. Company management and control systems, including sourcing policies, would need to confirm that all cotton inputs come from traceable and verified sources. While certification programs cover some of Pakistan's cotton trade, most cotton is still not certified when it enters the market. Many spinners and mills do not conduct due diligence on the origin or production conditions of material inputs at key supply chain choke points.
- **Internet access is limited in rural areas**. According to the Pakistan Telecommunications Authority, cellular service is available to 90% of Pakistan's population with 3, 4, and 5G signals available to over 80% of the population.[197] While this makes it possible to conduct due diligence and traceability on mobile devices in most areas, the remaining gaps in coverage in rural areas make it necessary to complete some audits on paper to be entered into traceability databases later.
- **Subcontractors and traders complicate transparency efforts**. While such data in Pakistan is limited, research suggests that subcontracting is prevalent in the textile value chains of developing countries. Manufacturers often subcontract production processes to factories in the second and third tiers of the value chain to perform spinning, dyeing, and other functions, mostly operating in the informal sector.[198]
- **Stakeholder participation, resources, and buy-in remain limited.** Governments, organized labor, and businesses can help ensure the success of a sustainable cotton traceability system. An effective strategy for sustaining traceability systems includes educating key stakeholders on the purpose and value of traceability, consulting with them on implementation, sharing system findings and results with them, and collaborating with them to develop sustainability plans. To play an effective role in a traceability system, governments must have an appropriate mandate; must participate in strategic planning; must have resources and training to support education, enforcement, and tripartite cooperation; and must have access to data and public reporting on traceability results. Unions require enabling legislation consistent with freedom of association principles, the ability to organize and collectively and individually advocate for workers' interests in key sectors, and opportunities to engage in strategic planning. At their best, unions help ensure compliance with the law and basic rights through daily diligence at the workplace. NGOs may effectively advocate for worker interests, though they may not collectively bargain on behalf of workers. Pakistan has no known union representation at the farm level, though unions represent some workers at the garment factory level. Unions advocate for worker rights and interests at the national level and NGO's advocate for worker rights at different levels of the supply chain.

[197] Pakistan Telecommunications Authority, Annual Report 2023.
[198] Zhou, M., ILO, Pakistan's Hidden Workers: Wages and Conditions of Home-based Workers and the Informal Economy. May 20, 2017, pp 7-22.

5. CONCLUSION

This Report informs efforts to eliminate child labor and forced labor and other exploitative practices in Pakistan's cotton supply chain through traceability. To effectively design and implement traceability tools, it is essential to map the Pakistan cotton supply chain and understand all its tiers and its traceability landscape, as well as the cotton sector's labor related risks particularly for child and forced labor. It is also essential to understand Pakistan's cotton economy, labor laws, and government policies particularly regarding the recent devolution of power to provincial authorities. Moreover, it is key to understand the prevalence of child and forced labor and the role of stakeholders in government, worker and employer organizations, and NGOs.

The Report describes a dynamic environment; the facts and circumstances will need to be periodically reevaluated to ensure that due diligence, including traceability, is meaningful and effective. The pilot of the Project's traceability tool provided more information and a foundation for improving efforts to track and measurably reduce child labor and forced labor and other exploitative practices in global supply chains. Engaging a wide range of stakeholders in business, finance, government, international organizations, and civil society, including unions and NGOs, is essential to ensuring that such efforts are sustainable in agriculture as well as other industries.

The Pakistan Cotton Sector partners proved to be excellent partners in helping to implement the Global Trace pilot. The results and recommendations of the first pilot are detailed in The Pakistan Cotton Pilot: Results, Lessons Learned, and Next Steps for Sustainability Report (June 2024), which informed the second, improved test run in 2024-25. KnowTex, affiliated with the National Textile University, will host a cotton version of the Global Trace tool and will provide information on traceability, labor rights and due diligence in support of the cotton industry's efforts to gain a competitive edge through demonstrated compliance.

ANNEX I: LIST OF TABLES

ANNEX II: EXAMPLES OF COTTON TRACEABILITY AND VERIFICATION DATA POINTS

Tier	Critical Events	Illustrative Key Data Elements for Consideration in System	
Farm	User onboarding Baseline community and site level risk assessment Sale Farm monitor alerts	Transportation method Farm group Farming methods	Location geocode Date of shipping Weight at point of sale
Gin	User onboarding Purchase Transformation Sale Transport Audit Grievance reports	Date and time Location geo-coordinates Ginner id Weight (weighbridge)	Bale id shipment/batch id Processing event details Audit details Quantity Grievance report details
Spinner	User onboarding Purchase Transformation Sale Transport Audit Grievance reports	Transportation details Spinner id Batch id SKU Processing event details	Location geo-coordinates Date and time of collection/shipping Transactions certificates Quality quantity weight audit details
Mills	User onboarding Purchase Transformation Sale Transport	Transportation details Batch id SKU Processing event details	Location geo-coordinates Date and time of collection/shipping quality Quantity Weight

ANNEX III: KEY STAKEHOLDERS

Name	Classification	Description
Ministry of National Food Security and Research (Ministry of Agriculture)	Government Agency	Cabinet-level ministerial department developing and implementing, agriculture policy. The Pakistan Central Cotton Committee (PCCC) and Central Cotton Research Institute (CCRI) under the MOA.
Ministry of Commerce - Textiles Department	Government Agency	Department in Ministry of Commerce focused on bolstering textile sector competitiveness and Pakistani textile market access in foreign markets.
Department of Agriculture Extension (DAE) Services	Government Support Service	DAE provides extension services directly to farmers implementing agriculture development projects through numerous field staff offices across provinces.
All Pakistan Textile Mills Association (APTMA)	Industry Association	The largest trade association representing textile spinning, weaving, and composite mills. Membership from across the textiles sector.
Karachi Cotton Association	Industry Association	Cotton association that maintains the code of trading practices with rules, regulations, and bylaws including the standards for the classification of cotton.
Pakistan Cotton Ginners Association	Industry Association	Key industry association for cotton ginners representing almost 1,000 members/ginning SMEs.
Pakistan Cotton Standards Institute (PCSI)	Industry Association	PCSI establishes and promotes cotton standardization based on internationally accepted grading and classification systems.
Cooperatives and/or Pakistan Farmers Association or a new group	Producer Associations	Represent cotton farmers in the cotton value chain with knowledge of labor conditions at farms.
Pakistan Textile Garment and Leather Workers Federation	Worker Organization	Federation of unions with about 1 million workers in irrigation, textiles, garments, leather, transport, gas, engineering, banking, insurance, sports goods, fertilizer and automobile manufacturing, sugar, cement, chemicals, pharmaceuticals, hotels, etc.
Pakistan Readymade Garments, Manufacturers & Exporters Association (PRGMEA)	Industry Association	Aids textile mills, garment manufacturers, and exporters in promoting and advancing the trade environment.
Pakistan Textile Exporters Association (PTEA)	Industry Association	Advocates for textile exporters and manages communications with government on behalf of exporters.
WWF-Pakistan, Cotton Connect Pakistan, Better Cotton Initiative Pakistan, Lok Samujh Foundation, REEDS, Rahim Yar Khan Sangtani Women Rural Development Organization, Smart Agriculture	CSO and NGO Partners	Implementers of upstream on-the-ground traceability initiatives. Consult with these experienced stakeholders to understand and analyze on the ground conditions and common practices at farm level.
University of Agriculture Faisalabad UAF & National Textile University NTU	Academia	Public sector universities with strong academic interests and programming in cotton and textiles sector.

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