



WORLD COTTON DAY 2026

7 October

REPUBLIC OF
UZBEKISTAN



INTERNATIONAL
COTTON
ADVISORY
COMMITTEE



COTTON
FOR GOOD™

Cotton for Good: Building Prosperity Through
Trade, Transformation and Partnership

IN PARTNERSHIP WITH



Food and Agriculture
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International
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WORLD COTTON DAY 2026 | OPENING ADDRESS

From science to shared prosperity

Uzbekistan's cotton transformation and a partnership agenda for the Global South

Ibrokhim Y. Abdurakhmonov

Minister of Agriculture, Republic of Uzbekistan

Cotton for Good: Building Prosperity Through Trade, Transformation and Partnership



Tashkent | 7 October 2026

Global cotton in 2026

26.2 Mt

projected global lint production

25.9 Mt

projected global mill use

9.6 Mt

approximately traded across borders

32 million

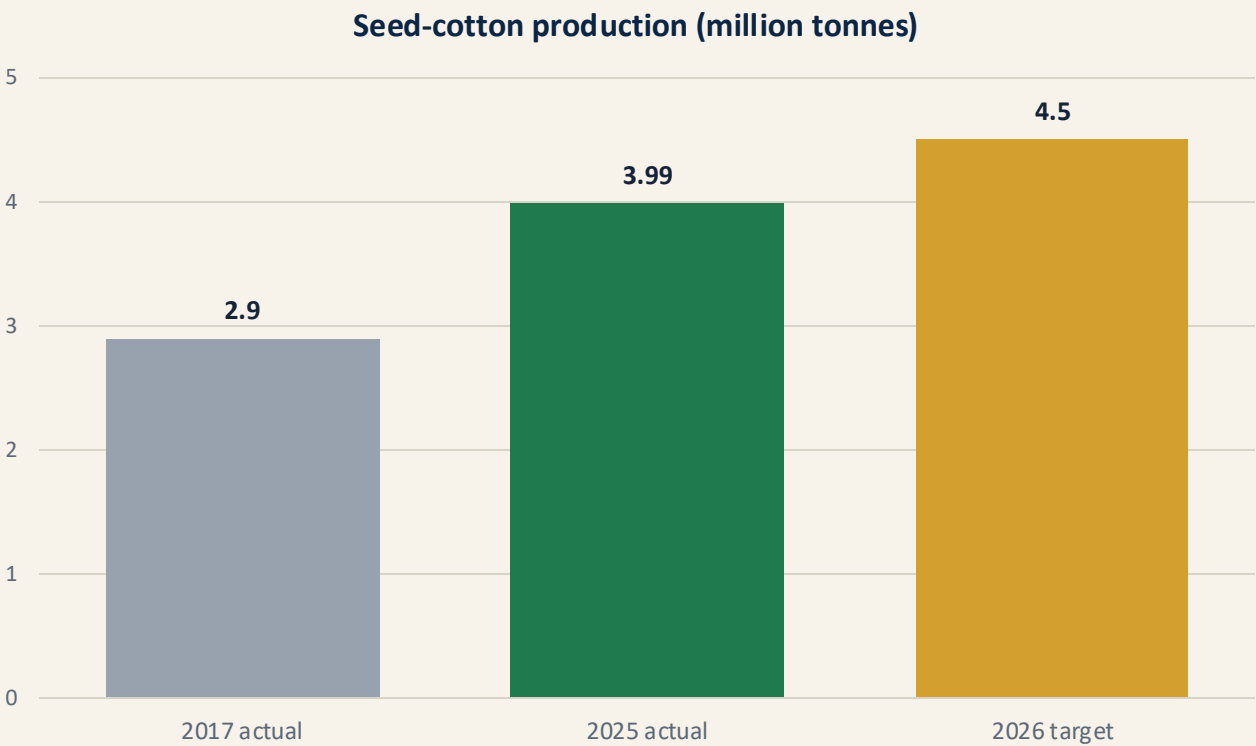
growers, supporting more than 100 million families

A nearly balanced market makes resilience, fibre quality and reliable trade more valuable.



Cotton is grown in about 80 countries across five continents.

Uzbekistan’s decade shift



2026 values are targets, not final harvest results.



2025 versus 2017

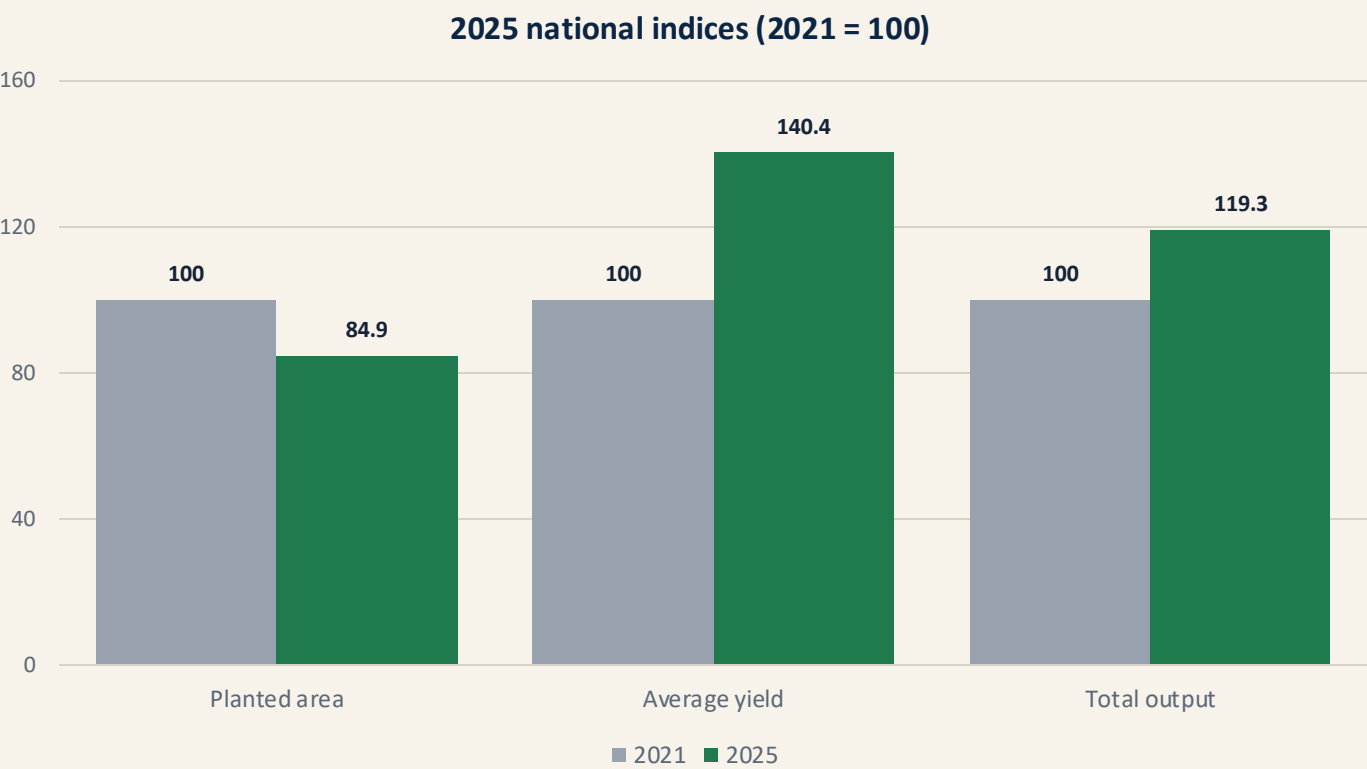
+38% output
from 27% less land

2017 | 1.20m ha | ~2.42 t/ha

2025 | 0.876m ha | 4.55 t/ha

2026 target | 0.890m ha | ~5.1 t/ha

Five years of national transformation



Advanced technology share



The evidence is observational. The 2025 jump followed a weak 2024 season, so the data support association, not a single-cause claim.

The 2026 production plan

Targets and in-season indicators

889,500 ha

planted nationally

>300,000 ha

planned under Xinjiang-style high-density drip systems

4.5 Mt

seed-cotton target at about 5.1 t/ha

70% mechanised-harvest target



Final national harvest results were not yet available on 4 October 2026.

Eight rules, one production system

EIGHT RULES — ONE INTEGRATED PRODUCTION SYSTEM



If one link is weak, water, fertilizer, products, machinery, and labor cannot be converted fully into yield. All rules must be implemented in sequence and as one connected system.

Genetics sets the potential. The eight-rule programme converts it into harvestable yield.

Three thresholds convert potential into harvest



200,000+

healthy plants per hectare

90–95 cm

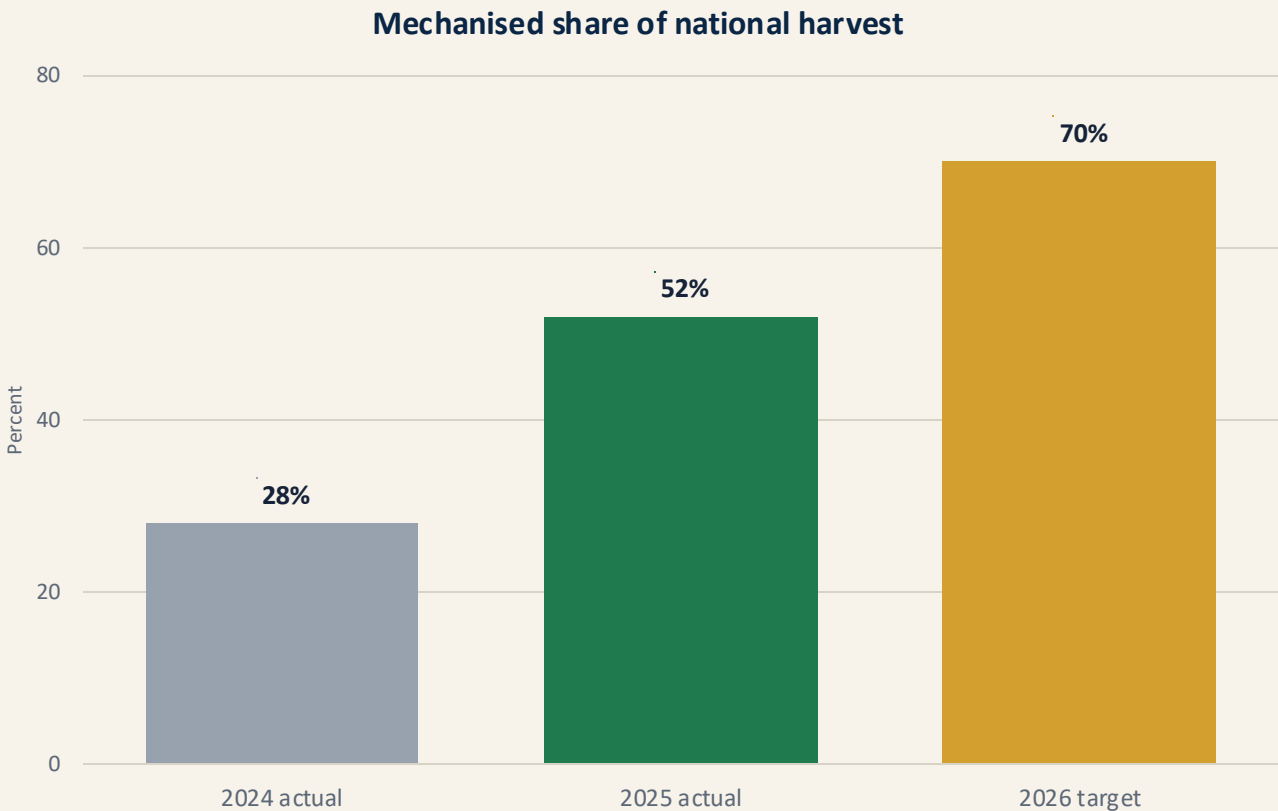
plant height with 10–12 fruiting branches

8–10

well-developed bolls per plant

Assess maturity, apply the signal, defoliate gently twice, then harvest when ready.

Mechanisation shortens the harvest window



1,756

harvesters in the national fleet
entering 2026

2.1 Mt

machine-harvested in the
previous season

800 additional harvesters planned for 2026

Thirteen seasons of PHYA1 RNAi cultivation

13

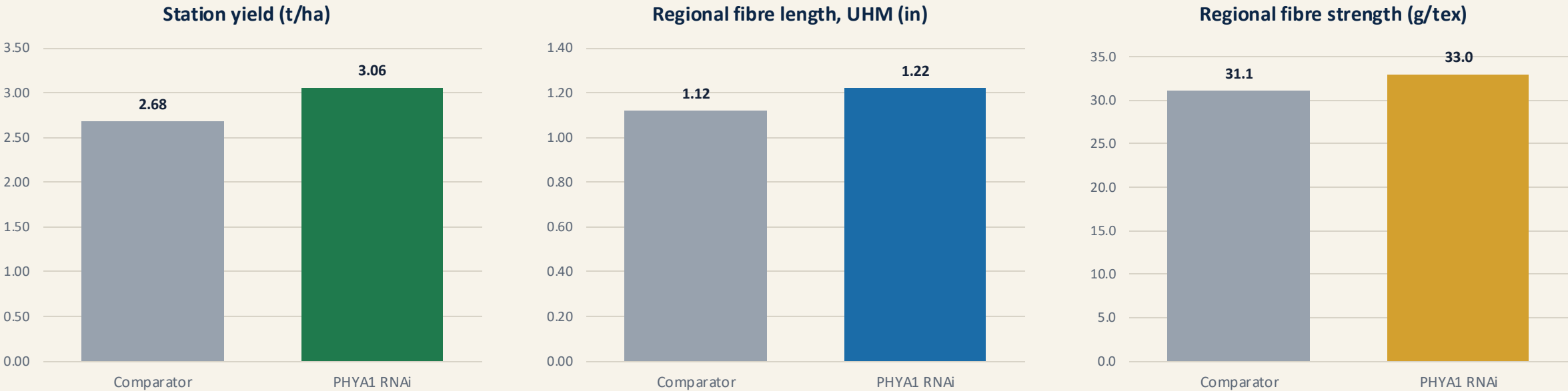
commercial seasons
through 2025



BC5 introgression into four Uzbek genetic backgrounds created Porloq 1–4.

Long-term RNAi evidence

Station yield improved significantly. Across regions, the most durable advantages were fibre length and strength



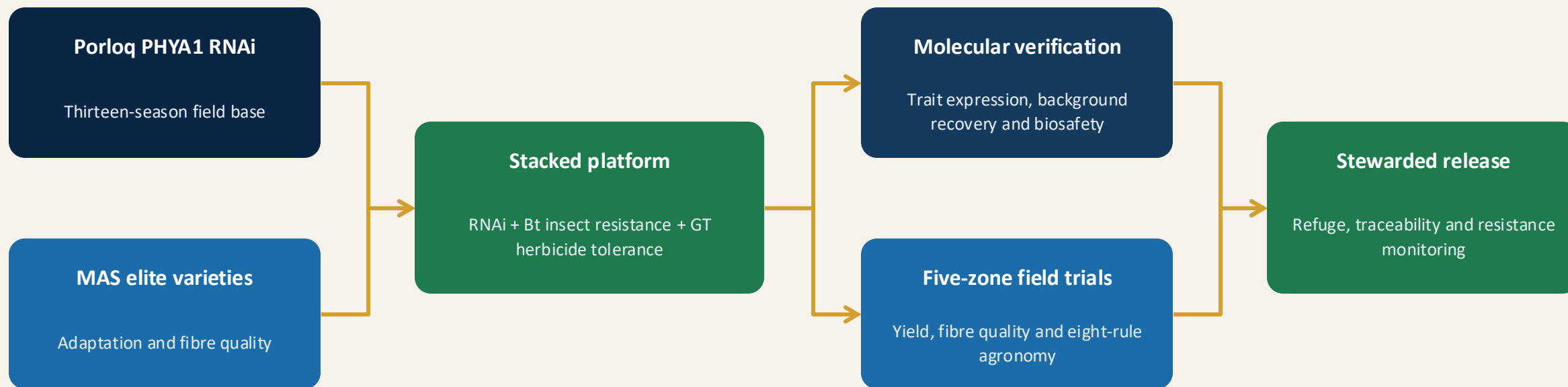
+14%

pooled station yield advantage
P < 0.001

Yield response was more environment-dependent. Fibre-length advantage remained significant across all five agro-climatic zones.

The proposed next breeding platform

A proposed R&D pathway for locally adapted, multi-trait cotton



2027 national milestone: planned multiplication of 56 new local Bt/GT varieties.

An adaptable model for the Global South

- | | | |
|----|--|--|
| 01 | Local genetics first | Start with adapted backgrounds, farmer needs and fibre markets. |
| 02 | Agronomy as a system | Pair genetics with density, water, nutrition and crop protection. |
| 03 | Mechanisation designed in | Align crop architecture, maturity and machine compatibility. |
| 04 | Transparent multi-year evidence | Measure yield, fibre, water, pests, economics and farmer outcomes. |
| 05 | Country-owned stewardship | Build local seed systems, biosafety, refuge and resistance monitoring. |

The architecture is transferable. Each component must be tested under local conditions.



Cotton stalk biochar

Pilot launched in October 2025

Implemented with ICAC, AKIS and Bizpando

782 farmers engaged **706 m³** biochar produced

2,500 ha received biochar application

UZS 307 million paid to 163 farmers in September 2026

Some individual payments exceeded UZS 34 million.

Planned national expansion
up to 60,000 ha

Alcon Development, Green Carbon and Bizpando



Investment invitation: expand biochar production and verification so field residues support soil health, carbon finance and a greener cotton value chain.

Uzbekistan's proposals for partnership

1 Tashkent Cotton Innovation Exchange

An annual demonstration season with germplasm, protocols and expert exchange.

2 Global South Cotton Living Labs

Joint testing of RNAi, MAS, Bt and GT stacks under arid and saline conditions.

3 Common evidence standard

At least five years of comparable yield, fibre, water, pest, economic and farmer data.

4 Mechanisation and stewardship partnership

Maturity protocols, machine compatibility, refuge compliance and resistance monitoring.

5 Circular cotton investment platform

Private investment in biochar production, verification and carbon-market access.



Uzbekistan is open to research, technology and investment partnerships.



A shared agenda for cotton

Let us test together,
measure honestly and
share what works.

Uzbekistan offers its fields, data and institutions as a platform for partnership.

Our standard is simple: more value from every hectare, with less pressure on land, water and people.

Thank you



Cotton: Vision-Execution-Impact The ICAC Action Plan

Eric B. Trachtenberg

Executive Director
International Cotton
Advisory Committee (ICAC)



What is ICAC?



- The “United Nations” of cotton & products.
- Founded in Washington, DC, in 1939, ICAC is the only intergovernmental body for cotton producing, consuming, trading & investing countries.
- Intergovernmental Commodity Body: One of only seven ICBs recognized by the United Nations & the only one responsible for the entire cotton value chain, from seed to end consumer.
- Report directly to our 20+ Member governments, almost half of which are in Africa: Benin, Cameroon, Côte d'Ivoire, Egypt, Kenya, Mozambique, South Africa, Tanzania & Uganda.





Cotton's Challenges & Opportunities

Advantages

- Natural fiber (biodegradable with less waste).
- Potential to reduce poverty & conflict, esp. in Africa.
- Women's empowerment (43% of cotton farmers are women).
- Climate change (cotton sequesters carbon!).
- Semi-xerophyte (adapted to dry conditions - grows where other crops can't).

Challenges

- Cotton costs more than synthetics (labor intensive/complex supply chain).
- Trend to fast fashion & athleisure - casual dress & working from home advantage synthetics.
- Natural product, so supply can vary due to adverse weather, adding to volatility.
- Cotton has multiple, variable quality characteristics that make it more complicated to use.
- Lack of competitiveness in some engineered/functional uses.
- Competes with other crops for land area.
- Misconceptions about cotton.
- Regulatory issues



The ICAC Response



Data & Publications

- Providing essential data products to support trade.
- Publications on statistics, sustainability, textile demand, government measures & items of specific interest:
 - Cotton production, consumption, export, import, stocks & mill use.
 - Information on varieties & specialty cotton fiber grown globally.
 - Water use, fertilizer use, cost of production & production methods.
 - World cotton & non cotton textile fiber consumption.
 - Prices of textile fibers.
 - World consumption, imports & exports of cotton yarn and fabric.
 - Textile Observer covers textile markets.



Agricultural Transformation

- Developing new projects to improve yields & farm incomes based on ICAC regenerative agriculture methods to promote agricultural development & sustainability.
 - Goals: improve soil health, improve water retention, reduce input costs – while boosting yields & sustainability.
 - Methods: Biochar (charcoal), bokashi (composting) & jeevamrit (microorganisms).
 - Can significantly increase yields and reduce the production versus nature conflict.
 - Biochar lays the base for carbon payments that can add more than \$200/ha to farm income.
- **Vision: Higher Yields & Carbon Payments can potentially triple smallholder farm income & make production net carbon negative.**
- **Vision (II): Transform smallholder cotton production economics.**



Agricultural Transformation

- Transformation is underway now in Cameroon & Uzbekistan...
- ...soon to come to India, Tanzania, and elsewhere.
- **Long-Term Vision: World Cotton Center.**



Textiles Policy & Investment

- **Textiles Investment**

- Preparing first-ever Global Cotton-Textile Investment Summit (GCTIS) to support investment in ICAC member cotton/textile value chains.
- GCTIS 2027 will be a global meeting point for governments, investors, financial institutions, manufacturers, technology providers & development partners.
- It will include three days of investment, technology, partnerships & sustainability.
- It is more than a conference — It is an investment facilitation platform: GCTIS is designed to move beyond dialogue to generate measurable investment & partnership outcomes.
- **Vision: Facilitate Industrial Revolution in Africa & accelerated sectoral growth elsewhere.**
- **Planned for September 2027.**



Textiles Policy & Investment

Value Addition in the Textiles Value Chain \$/Kg



Cotton
\$ 1.80/kgs



Spinning
\$3.80/Kgs



Weaving/Knitting
\$5.20/Kgs



Processing
\$9.40/Kg



Garments
\$20/Kgs

Cotton be a catalyst for
industrialization & downstream
economic transformation



Textiles Policy & Investment

- Textiles Policy & Support
 - New publication: Textile Observer.
 - Textile policy support in Africa and elsewhere to:
 - Boost cotton demand & farm incomes.
 - Reduce risk to farmers & price volatility via long-term relationships.
 - **Vision: Enable countries to get more value-added from cotton production.**
- Launched textile portal to provide information to stakeholders.
- Launched the Cotton Innovation Platform (CIP) to disseminate new technology to boost cotton competitiveness (such as in technical textiles).
- **Vision: Enable cotton to compete with synthetics in technical uses by facilitating the spread of technologies to improve its performance.**



Textiles Policy & Investment

- Cotton Innovation Platform (CIP) Home Page.



[Home Page](#) [About](#) [Country Profiles](#) [CIP](#) [Investment Summit](#) [Textiles Observer](#) [Contact](#)

CIP Technologies



RESTech COTTON™ Technology

RESTech COTTON™ technology is a sustainable, comfortable, and durable new cotton sheeting technology from Cotton Incorporated.

Performance
Technology



STORM COTTON™ Technology

STORM COTTON™ technology is a durable water repellent (DWR) finish for any cotton garment that can outlast other standard finishes.

Performance
Technology



TransDRY® Technology

The TransDRY® technology is a patented, high-performing, moisture management technology for cotton.

Performance
Technology



WICKING WINDOWS™ Technology

A moisture management finish that works as hard as you do—without showing it.

Performance
Technology



Key Major Events: ICAC Plenary

- ICAC Plenary is the only meeting in the world focused on discussing issues of international significance along the entire value chain from farm to fashion.
- Plenary gives access to ICAC member governments, the ICAC Secretariat & other subject matter experts.
- Sample content includes:
 - ICAC Secretariat Reports.
 - Investment in the textile sector.
 - Carbon credits for cotton production.
 - The jassid, a serious pest issue.
 - Private Sector Advisory Committee.
- Locations: Germany/2026 & Egypt/2027.



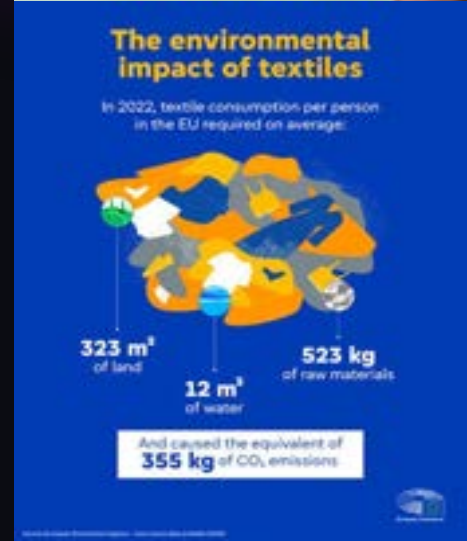
Key Major Events

- ICAC-Led Events
 - Global Cotton-Textiles Investment Summit (Uzbekistan/2027).
 - World Cotton Day (Benin/2024, Italy/2025 & Uzbekistan/2026).
 - World Cotton Research Conference (India/2028).
- International Cotton Researchers Association (ICRA)
 - ICRA has 2,600 cotton researchers as members.
 - ICRA publishes a monthly newsletter.
 - ICRA actively participates in the 5 ICAC-Regional network meetings and the World Cotton Research Conference.
- Regional Research Networks
 - There are 4 ICAC regional networks; Asia (ACRDN); Africa (SEACF & PR-PICA); Mediterranean (ICRNCMM) & South America (ALIDA).
 - The Regional Network meetings are held once every 2 years.



Policy Engagement & Support

- Policy Engagement & Support
 - ICAC strongly supports goals to boost circularity & reduce waste.
 - Provide key information to ICAC member stakeholders.
 - Member of Product Environmental Footprint Technical Advisory Board.
 - Participates in EU consultations on regulations.
 - Provides information to member countries on trade & other issues.
 - Track textile & related policies that greatly affect markets.
 - Participate in other policy engagements such as Make the Label Count in the EU.
 - Work on agriculture policy & institutional reforms by request that can include trade policy, access to finance, seed regulations & other issues.
 - **Vision: Make the case for cotton as a Global Public Good through advocacy to change demand.**



Global Cotton Advocacy

- Themes & Activities
 - Importance of addressing microplastics.
 - Tell story of cotton/livelihoods & possibly bring in farmers.
 - Coordination with US-led initiative, “Plants Not Plastic”.
 - Addressing the “circular firing squad” of certifications.
- ICAC Roles
 - Leading global advocacy discussion.
 - Create repository of research information & data to inform debate.
 - Global Public Good messaging.
 - Engage Civil Society/NGOs in health & environment.
 - Work with other IOs, especially FAO, UN Trade & WTO.
 - Connection to ICAC member governments (esp. on textile policy).
 - Brands & private sector outreach.
 - New Home Page: www.worldcottonday.org
 - Tell truth about cotton.



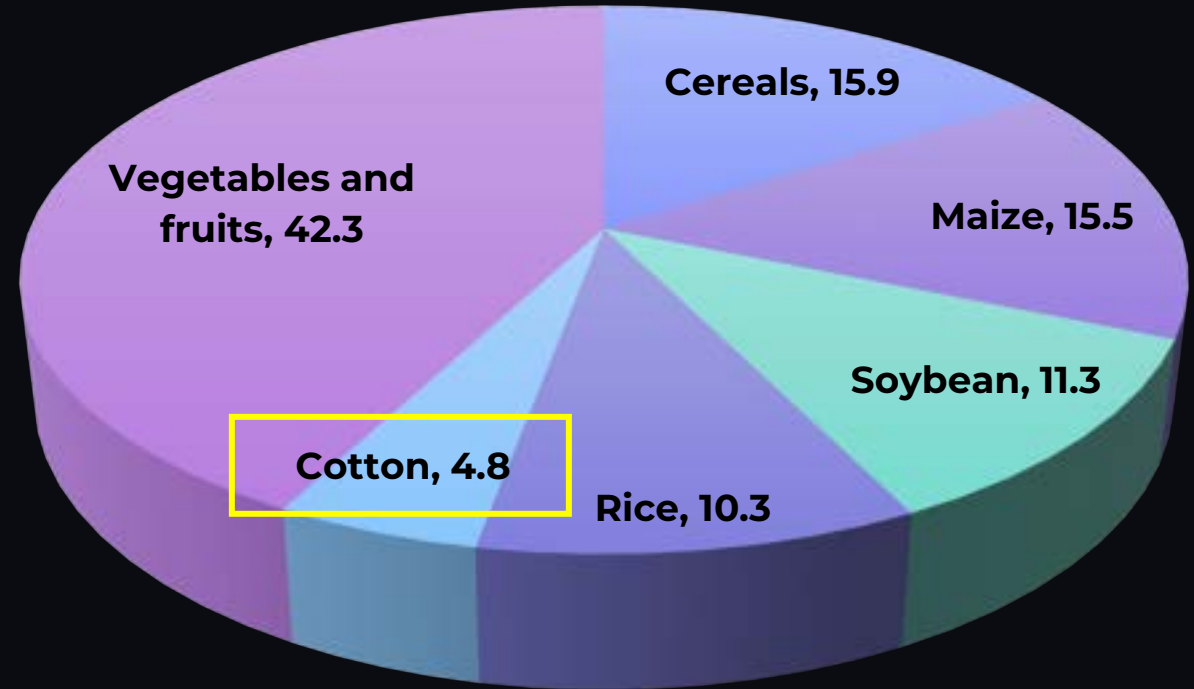
The Environment & Cotton



Compared with other crops, cotton:

- Occupies 2.5% of global crop land.
- Uses 1.7% of global irrigation water.
- Uses 4.8% of pesticide by value.
- Uses 4.3% of pesticide by volume.
- Uses only 2.8% of fertilizers.

Pesticide Use, by Value, Percent



■ Cereals ■ Maize ■ Soybean ■ Rice ■ Cotton ■ Vegetables and fruits



Source: ICAC Cotton Databook, 2022

The Environment & Cotton

Cotton Emits Low CO₂ Kg of GHGs per Kg fiber



Cotton: A Global Public Good

Livelihoods

- Cash crop for 24 million farmers.
- Potential for jobs downstream in textiles.
- Potential to reduce poverty & conflict.

Nature Positive

- Biodegradable with less persistent waste.
- Semi-xerophyte - adapted to dry conditions.
- Carbon sequestration & carbon payments.

Women's Empowerment

- 43% of cotton farmers are women.
- Cotton can reduce poverty & improve social outcomes.



Cotton: A Global Public Good

The Faces of Cotton

These & others along the value chain are our constituents.

Action & Next Steps

There may be a willingness to pay a premium for sustainability claims that are trusted.

Make the case for cotton to brands & consumers.

Deepen coalition of farmers, cotton traders/allies, environmental civil society, quality brands, governments & others.



A Unified Fabric is Unbreakable

The initiatives exist. The science is on our side.
It is time to align our efforts, close the gap,
and reclaim the future of fiber.



World Cotton Day 2026

Building Prosperity through Trade, Transformation and Partnership

Hotel Hyatt Regency, Tashkent, Uzbekistan

7 October 2026

IN PARTNERSHIP WITH

Food and Agriculture Organization of the United Nations

WORLD TRADE ORGANIZATION

International Trade Centre

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UN trade & development

IAEA International Atomic Energy Agency

Participant Registration

Scan the QR code to register

Draft Agenda

To view the draft agenda

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Food and Agriculture Organization
of the United Nations

WORLD COTTON DAY 2026

How cotton builds prosperity

Trade, transformation and partnerships



TASHKENT, UZBEKISTAN
7 October 2026

Máximo Torero Cullen

Chief Economist, Food and Agriculture Organization of the United Nations (FAO)

Cotton sustains rural livelihoods

~150M

people employed across the cotton industry in 75 countries

\$46bn

value of world cotton production (2019)

\$15bn

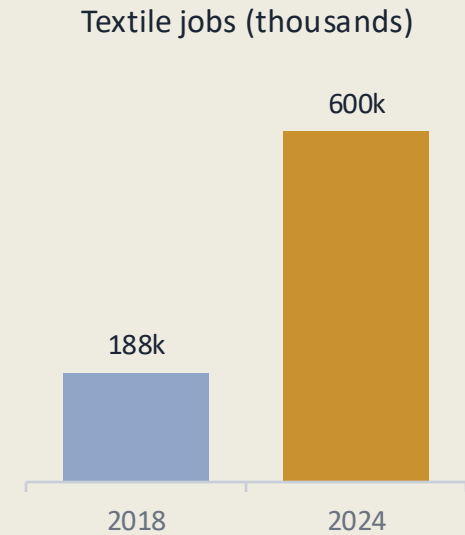
international cotton trade (2019)

80%

of cotton goes into clothing; 15% into home furnishings

Not just a commodity — one of the world's most important rural-industrial value chains, linking farmers, ginners, spinners, garment workers and traders.

Uzbekistan: jobs moved up the value chain



- ~1 million tonnes a year — a top-10 producer
- Systemic child and forced labour ended (ILO, 2022)
- Higher picker wages; many new jobs for women and youth

Sources: FAO estimates (speaking points); World Bank, “Weaving a New Future in Uzbekistan's Cotton Sector” (May 2025).

Prosperity depends on the whole value chain

TRADE

Connect producers to demand

TRANSFORMATION

Raise productivity and value addition

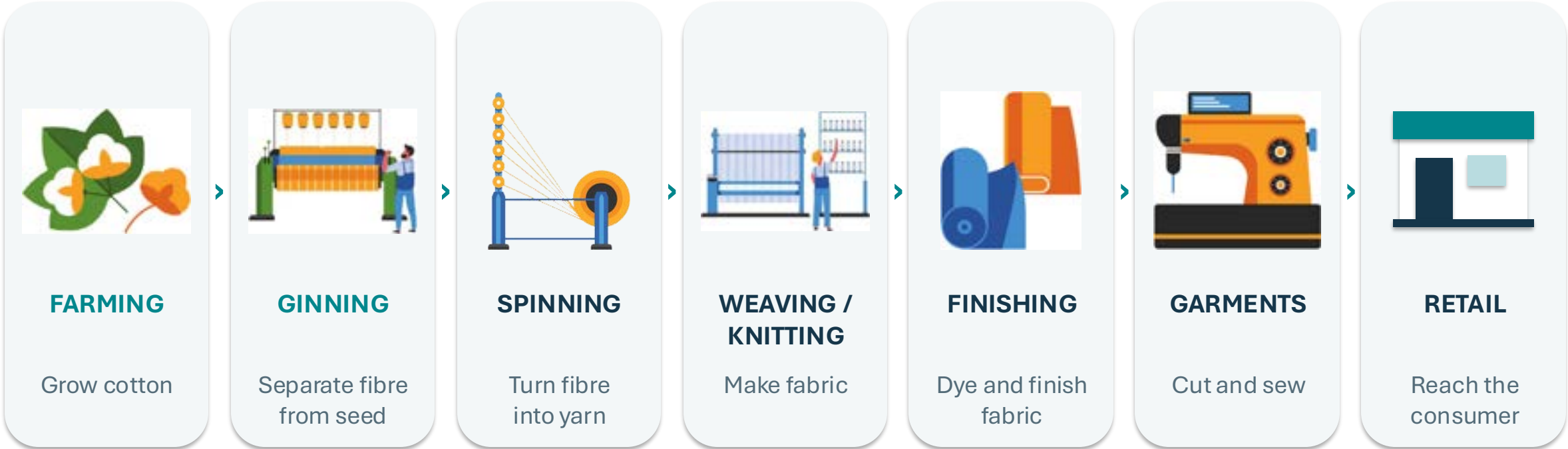
PARTNERSHIP

Coordinate investment, policies and sustainability efforts

Investment, innovation and coherent policies for a sustainable cotton sector

The cotton value chain

From cotton farming to the consumer

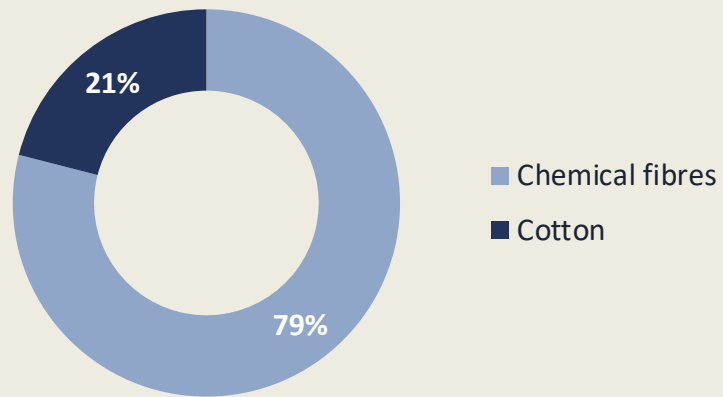


Source: FAO, 2021

COTTON → TEXTILES → APPAREL

More, better cotton from the same land

Global textile end-use, 2025



Cotton cannot win on price and volume against synthetics. It must compete on quality and credible environmental and social performance — while consumption still grows ~1.6% a year.



Productivity

Yields projected +15% over the next decade vs only +1% in harvested area. Brazil ~45% of extra output, India 25%, United States 14%.



Resilience

Locally adapted varieties tolerant to drought, heat and salinity, plus finance and extension to turn genetic potential into income.



Water

Agriculture uses ~90% of Uzbekistan's water. Modern irrigation and drainage, scheduling and soil-moisture sensing — measure value per m³.



Climate

Emissions range 0.3–1.4 t CO₂e per tonne of seed cotton (>5×): room to cut with better fertilizer use, renewable pumping, soil health.

Sources: OECD-FAO Agricultural Outlook 2026–2035; FAO speaking points for World Cotton Day 2026.

Capturing value beyond the farm gate



More jobs and value per tonne at each step → ginning, spinning, weaving, apparel, logistics, design, quality control, digital traceability



Uzbekistan's shift

- From raw-cotton exports to 100% of raw cotton processed into yarn since 2023
- Regional textile clusters link farming, processing and manufacturing
- Strategy prioritizes value addition over expanding acreage



Making it inclusive

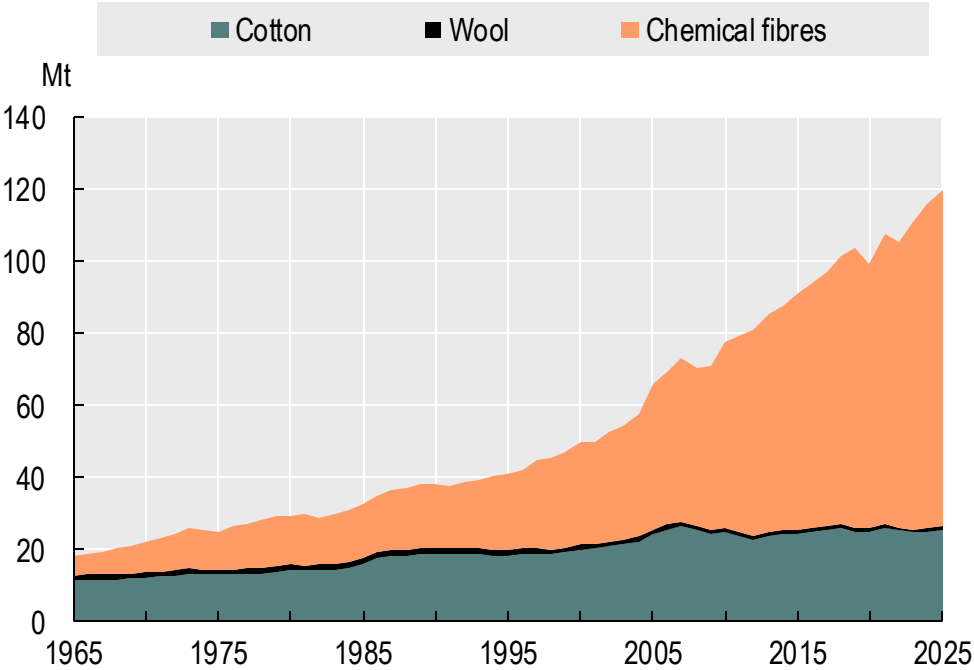
- Closer, more balanced farmer–processor relationships and fair pricing
- Diversify into by-products, technical textiles and circular production
- Processing demand is growing in Bangladesh, Viet Nam and Central Asia

Sources: World Bank, “Weaving a New Future in Uzbekistan's Cotton Sector” (May 2025); OECD-FAO Agricultural Outlook 2026–2035.

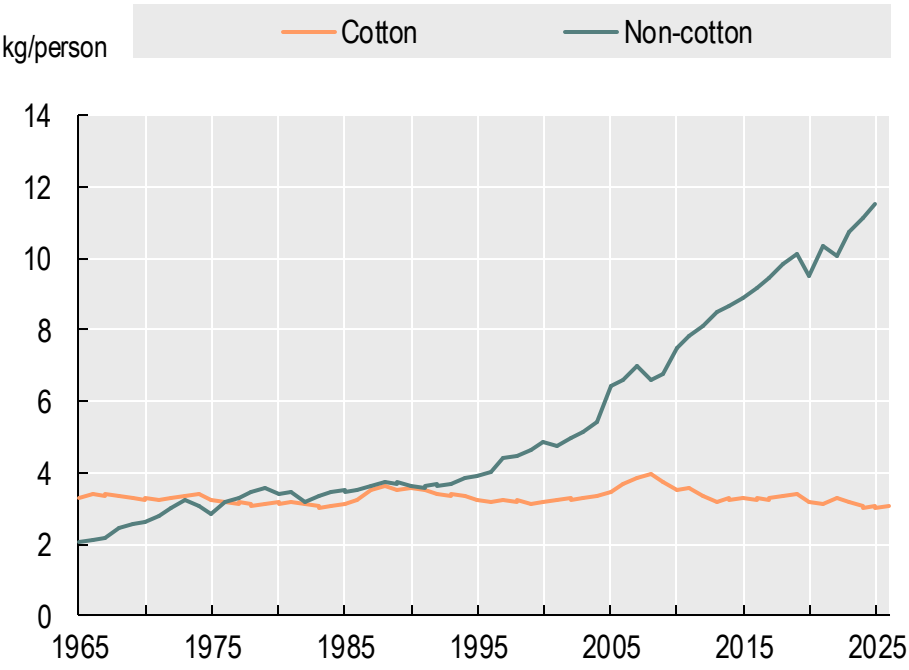
Global end-use market share for cotton is only 21% in 2025

Growing demand for textile fibres largely supplied by chemical fibres

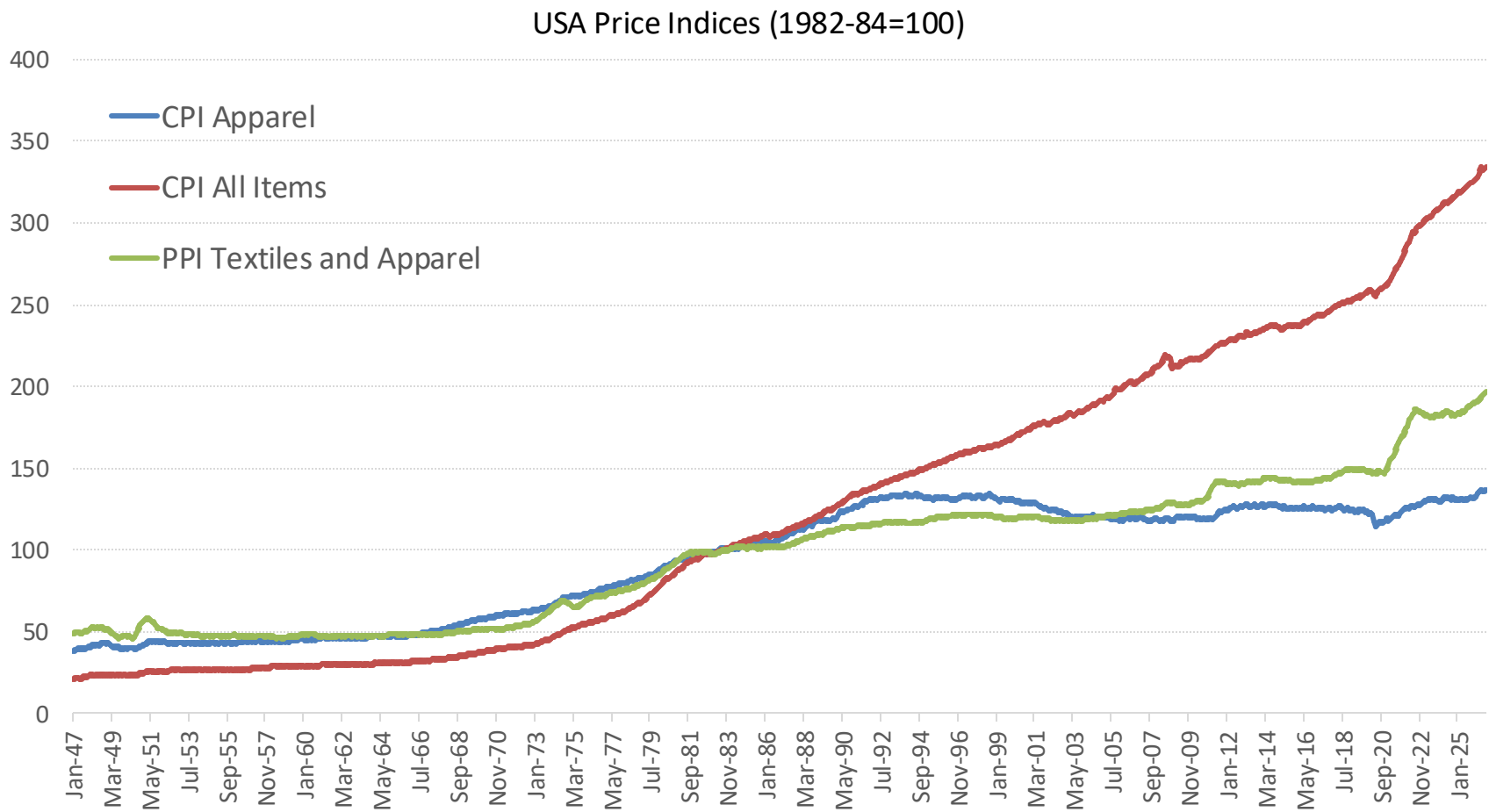
In per capita terms, global cotton demand has been flat for decades and trended downward recently



Source: ICAC, 2026



Manufactures face financial pressure



- Apparel **retail prices** have risen only modestly over the past three decades.
- The **cost of producing** apparels on the rise.
- Consequence: **consolidation** of the sector.

Source: FRED, 2026

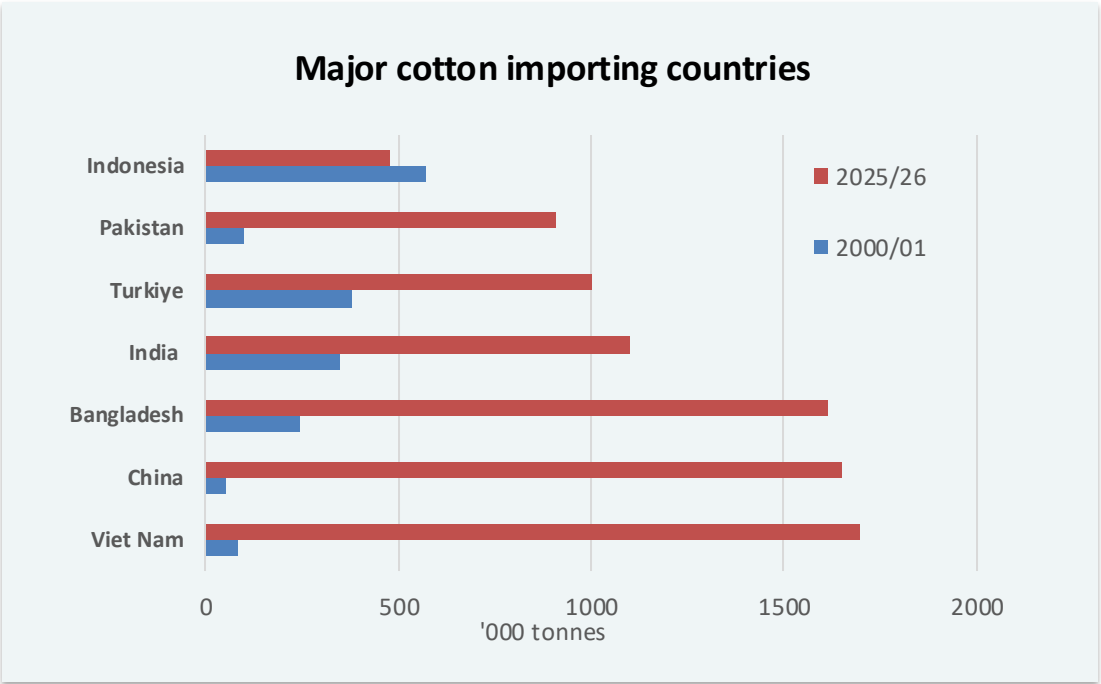
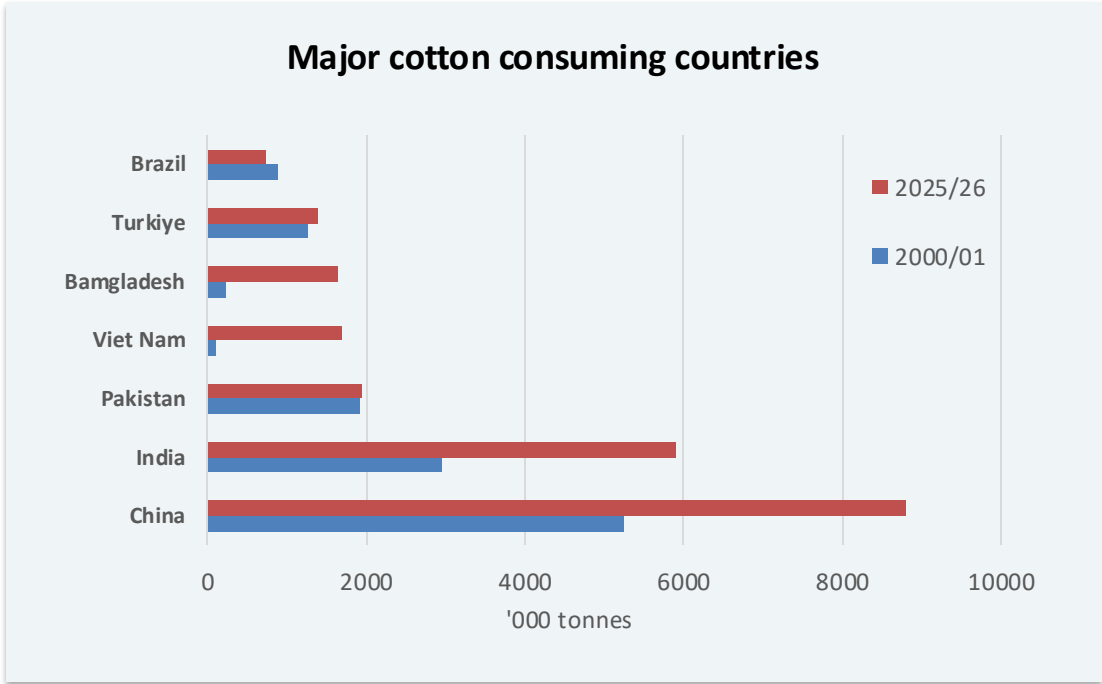
Margins in the USA Apparel value Chain

	Increment	Cumulative	Proportion of
	\$/Kg.	\$/Kg.	Retail Price
Average Price Received by USA Farmers 2015/16	1.35	1.35	1.9%
Merchants/Insurance/Freight/Finance 2015/16	0.19	1.54	0.3%
Export Unit Value of one kilogram of Yarn (Spinning Margin) 2016	0.97	2.51	1.4%
Export Unit Value of one kilogram of Fabric (Weaving Margin) 2016	4.98	7.50	7%
Dye & Finishing			
Cut & Sew			
Retailer's Cost, one kilogram equivalent of Woven Cotton Shirts	8.50	16.00	12%
Average Retail Price of one kilogram equivalent of Woven Cotton Shirts	55.00	71.00	77.5%
<i>Data from the United States during 2015/16</i>			
<i>Farm price data from USDA, Agricultural Marketing Service</i>			
<i>Merchants/Insurance/ Freight/Finance calculated by subtraction from the 2015/16 Season Average Cotlook A Index</i>			
<i>Retailer's cost of one kilogram of woven men's cotton shirts from surveys conducted by Cotton Incorporated.</i>			
<i>Average Consumer Price of one kilogram of woven men's cotton shirt from surveys conducted by Cotton Incorporated.</i>			

Source: FAO, 2021

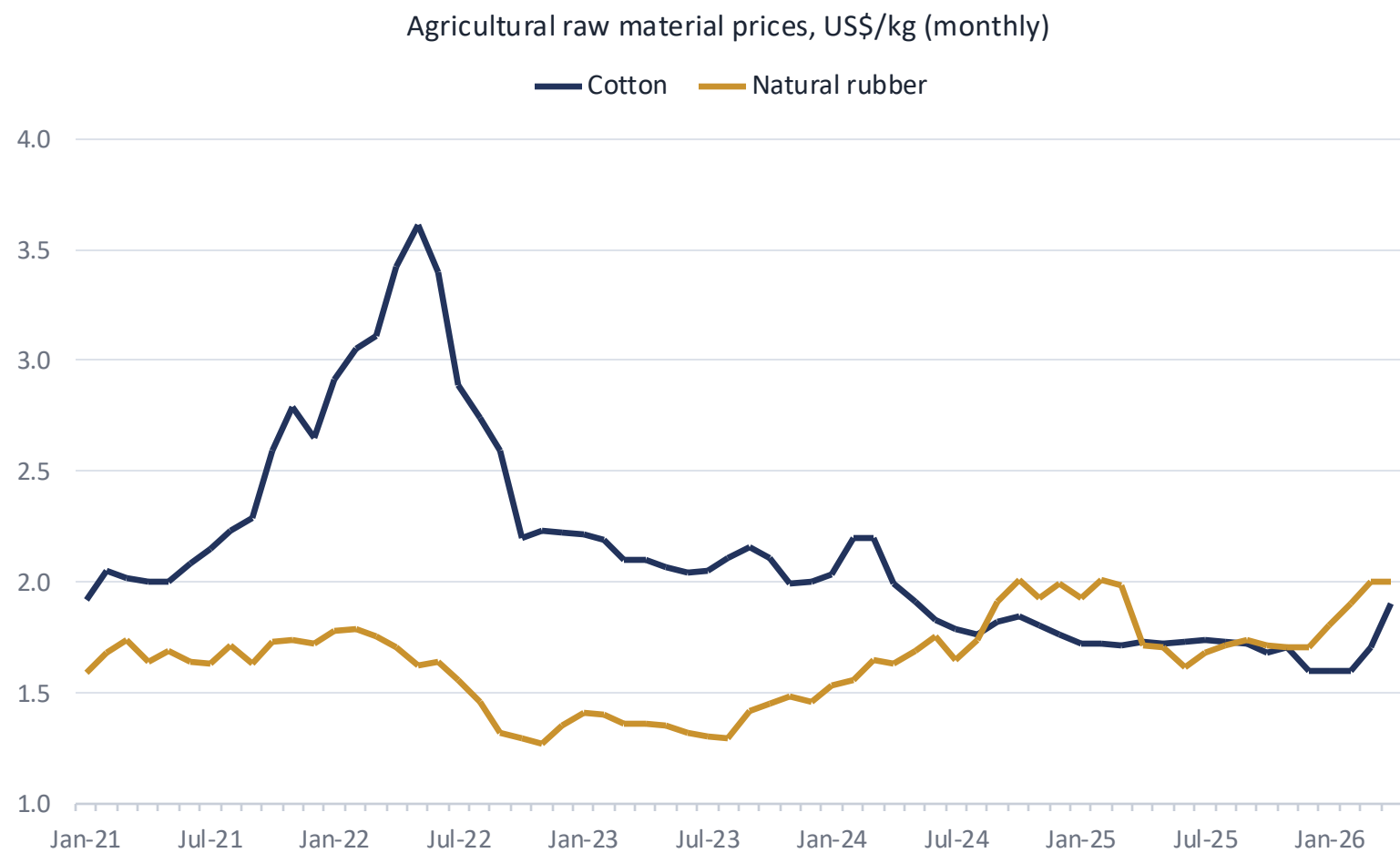
- **Market power** lies on the **retail** side.
- **Financial pressure** likely to persist on the production side of the cotton sector.

Evidence of consolidation in the cotton market



Source: ICAC, 2026

Cotton rebounded sharply in April



\$3.61/kg

Cotton peak, May 2022

\$1.60/kg

Cotton low, Dec 2025 – Feb 2026

\$1.90/kg

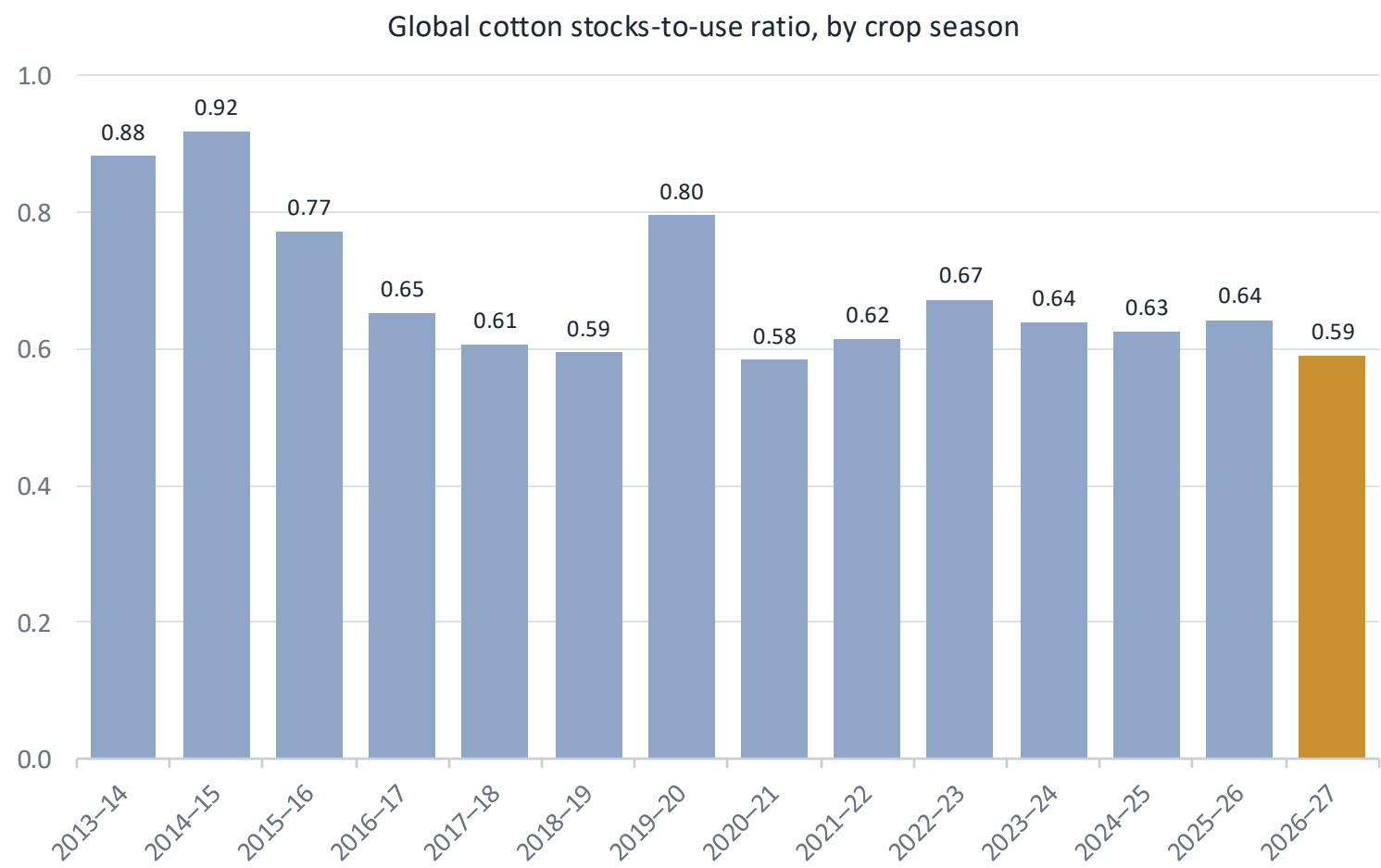
Cotton, April 2026 (+12% m/m)

≈\$2.0/kg

Rubber, Mar–Apr 2026 — +5.2% in April

Source: World Bank (Commodity Markets / Pink Sheet), via World Bank Data Blog, May 2026. Monthly data; last observation April 2026.

Cotton stocks are tightening



Ratio falls to 0.59

From 0.64 at end-2025–26 to 0.59 by end-2026–27, as consumption holds steady while output drops.



Price path

Cotton prices expected to ease slightly in 2026, then recover in 2027.

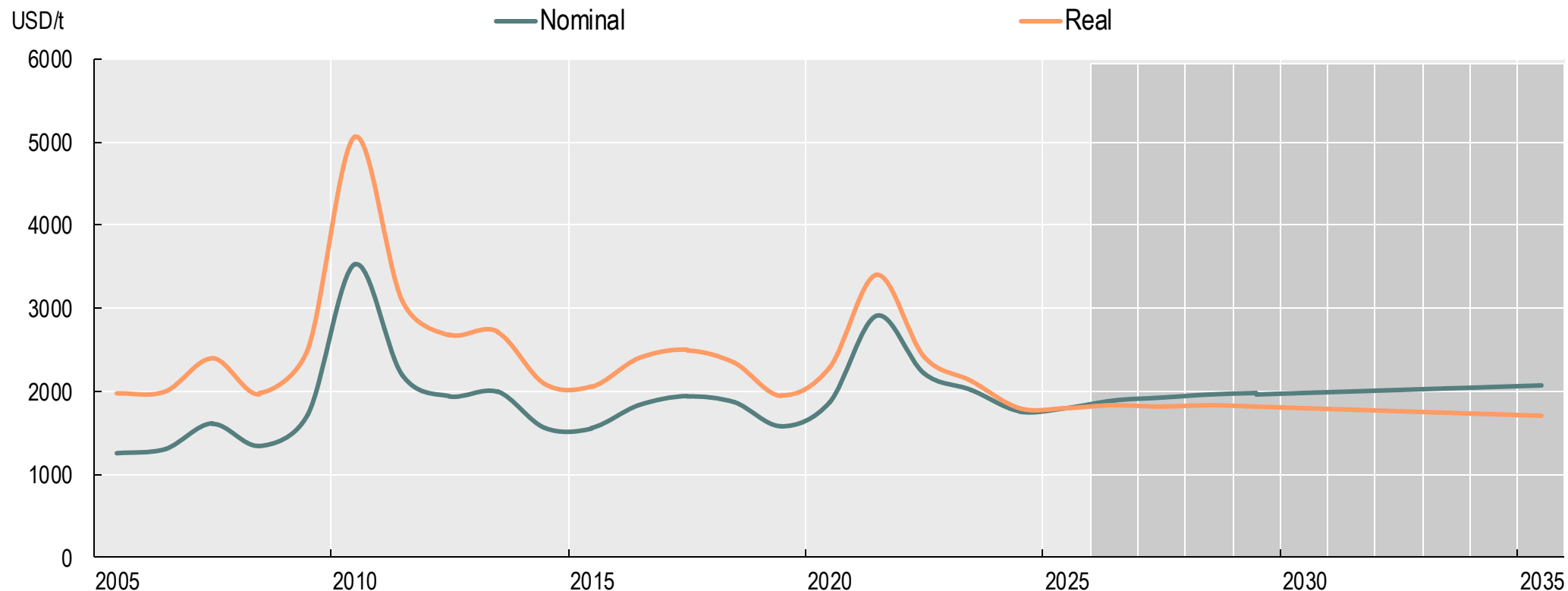


Risks

Upside: higher input costs. Downside: weaker demand if global growth disappoints.

Source: U.S. Department of Agriculture (data refreshed May 18, 2026); World Bank Data Blog, May 2026.

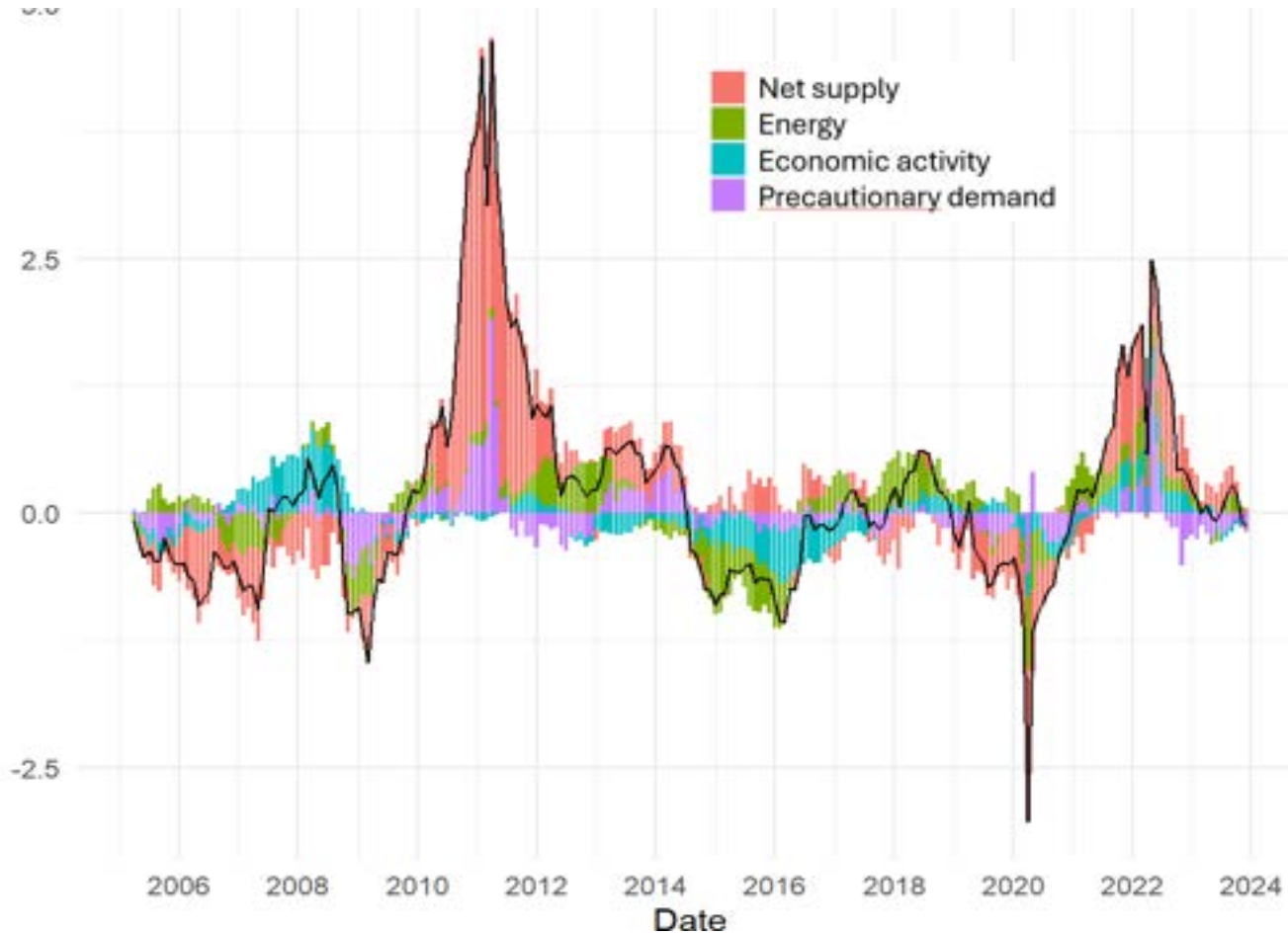
International cotton prices



Source: OECD-FAO Agricultural Outlook, 2026

- **International cotton prices** in real terms are projected to trend slightly downward over the next decade, driven, on the demand side, by competition from man-made fibres along with changes in consumers preferences, and on the supply side, by productivity gains.

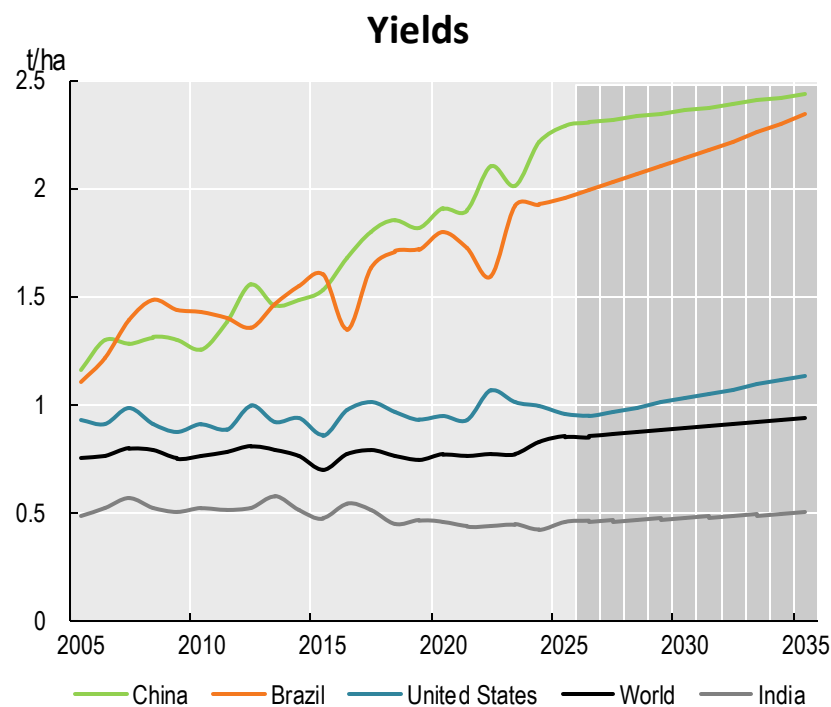
Decomposition of the Cotton A Price (in real terms)



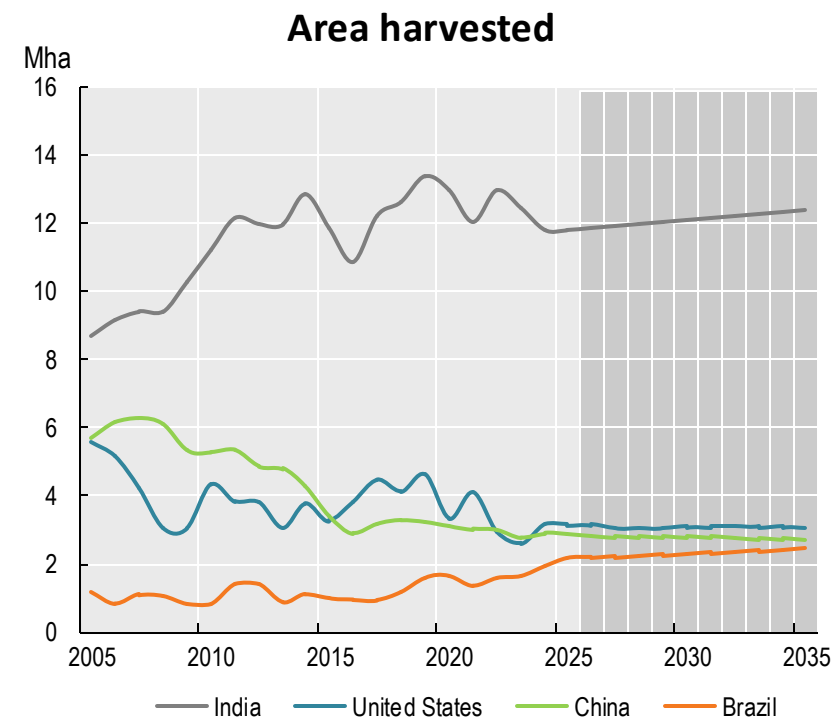
- **Supply** and **demand shocks** are the main drivers of international cotton prices.
- Over the last 20 years, major spikes have been driven by negative shocks to net supply (e.g. 2011 and 2022).
- Yet, energy costs and economic activity play an important role. In specific periods, they pushed the cotton price away from their long-term trend.
- Also, precautionary demand driven by market uncertainty and expectations can contribute to further exacerbate the price spikes.

Source: FAO, 2025

Cotton market Outlook



Source: OECD-FAO Agricultural Outlook, 2026



- **Production:** Growth in global cotton production is expected to be driven mainly by yield improvements, with only a limited expansion in harvested area.
- **Trade:** Rising import demand in Bangladesh and Viet Nam is expected to drive global cotton trade, with Brazil and the United States remaining the leading exporters.
- **Consumption:** Growth in cotton use is expected to be driven by increasing textile demand in developing countries and the continued expansion of processing in Asia.

Cotton market Outlook - Uncertainties

Climate and Macroeconomic Risks

- Global economic developments affecting demand for textiles
- Exposure to extreme weather events, water stress, and pest outbreaks, as well as supply chain disruptions

Strong competition from synthetic fibers

- Cotton continues to face stiff competition from cheaper man-made fibers (MMFs)

Sustainability and regulatory pressure

- Consumer preferences and evolving regulations around traceability and environmental impact influencing the sector

Impact of the circular economy

- Recycling and second-hand markets may reduce demand for cotton

Investing in competitive value chains and policy coherence



Varieties & seed systems

Higher, more stable yields; tolerance to drought, heat and salinity; better fibre quality.



Precision water

Irrigation and drainage modernization, scheduling, soil-moisture sensing and efficient pumping.



Modern agronomy

Integrated pest management, nutrient management and responsible mechanization.



Finance & capacity

Access to credit and effective extension so farmers can adopt and benefit from new technology.



Data & traceability

Quality, traceability and independent verification that buyers' sustainability requirements demand.



Credible carbon finance

Robust baselines, monitoring and verification, with transparent benefit-sharing for farmers.

Source: FAO speaking points for World Cotton Day 2026.

Thank you!

World Cotton Day 2026



Food and Agriculture Organization
of the United Nations



AGENCY FOR THE DEVELOPMENT OF LIGHT INDUSTRY
under the Cabinet of Ministers of the Republic of Uzbekistan

The Potential of Uzbekistan's Textile Industry

From cotton field to global brands: how processing, investment and partnerships turn cotton into jobs and exports

Fayzullo Ismonaliyev

Deputy Head, Department of Strategic Planning, Analytics and International Cooperation

Tashkent, 7 October 2026





Uzbekistan's textile sector at a glance

Cotton is no longer exported as a raw commodity: it is processed at home into yarn, fabric and garments



4 mln t

raw cotton harvest, 2025



≈100%

of cotton fibre processed domestically



7,000+

textile enterprises across all regions



650,000

people employed in the textile sector



\$2.6 bn

textile exports, 2025



55%

share of finished goods in textile exports

A decade of transformation

Market reforms and labour-rights progress came first; industrial growth and market access followed

2017

2020

2021

2022

2026

2030

Starting point

Textile exports of \$0.9 bn; most cotton exported as raw fibre. Cluster model launched to link farms and factories.

Market reform

State procurement quotas for cotton abolished; prices and contracts agreed between farmers and clusters.

EU GSP+

Duty-free access to the European Union for yarn, fabrics and garments.

Trust restored

International cotton boycott lifted after systemic forced labour was eliminated.

New action plan

Presidential Decree PF-4 sets a path of multi-fold export growth with high value added.

Target

Textile exports of \$7 bn; finished goods above 65% of exports.



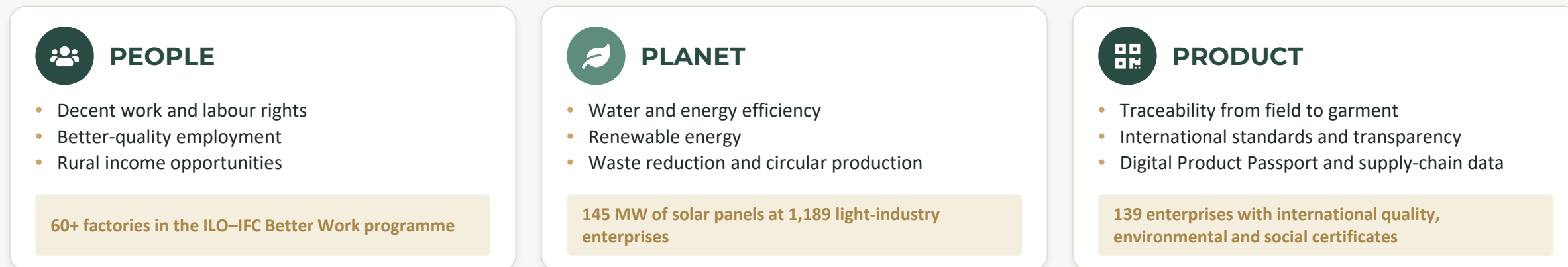
From production-led to market-led transformation

The next stage starts with the customer, not the factory



Transformation must also mean responsible cotton

Responsible production is no longer only a social obligation; increasingly, it is a condition for accessing international markets





Government support along the export journey

The Light Industry Support Fund helps enterprises at every step, from financing to their own brand



Finance

- Pre-export financing via commercial banks: raw materials, production, delivery
- Loans of up to \$2 mln secured by cotton or fibre
- Partial compensation of export insurance premiums



Technology

- ERP and CRM implementation
- Automation of production and management
- Transition to IFRS financial reporting



Market access

- International exhibitions: booth rental, preparation and fees
- Listing and marketing on Amazon, Shein and Etsy
- Trade houses and warehouses abroad



Quality & value

- OEKO-TEX, GOTS and ISO certification
- Laboratory testing
- Consulting and technical documentation



Brands & skills

- Trademark registration and international protection
- Brand development and promotion
- Foreign consultants, designers, technologists and engineers

Targeted measures for deeper cotton processing (2026)

3 mln soum

per-hectare subsidy for cotton-textile clusters that grew cotton in 2025 (Presidential Resolution PP-246)

10%

of equipment cost, up to \$500,000, for dyed fabric, blended fabric and dyed textile projects

Faster VAT refunds

for clusters and enterprises rated “A” and above, until 1 July 2027



Investment momentum in 2026

Foreign direct investment and IFI finance are expanding capacity in fabrics, dyeing and garments

\$2.5 bn

invested in January–July 2026

197 projects worth \$4.9 bn

263

projects launched

\$267 mln · 19,000 new jobs

\$876 mln

146 projects due by year-end

+\$235 mln export capacity

\$5.6 bn

2027 project pipeline

255 projects identified

Projects coming on stream

Enterprise (region)	Capacity	Investment
Art-Men Tekes (Namangan)	10,000 t fabric and towels	\$81 mln
Sulton Tex Group (Kashkadarya)	20,000 t knitted fabric, dyeing	\$35 mln
Bunyodkor (Kashkadarya)	Dyeing, printing, finishing	\$35 mln
Olot Asaka Tekstil (Bukhara)	10 mln m ² woven fabric	\$18 mln

Partners and finance

- 419 foreign and joint-venture enterprises modernising and expanding
- \$617 mln of direct financing from international financial institutions for 77 projects
- 102 modernisation projects worth \$1.1 bn in the pipeline for direct financing by KfW and IPEX-Bank
- Leading companies adopting IFRS to attract foreign capital directly



A full support package for textile companies

The Agency acts as a single window from site selection to the first export order



Tax and customs

0% import duty on equipment and components; profit-tax holidays in free economic zones



Industrial land

Ready sites with utilities in government-backed industrial zones



Working capital

Light Industry Support Fund: \$181 mln of working capital allocated to exporters in 2026



Certification

Costs of social, safety and organic certification audits reimbursed in full



Brand matchmaking

Up to \$30,000 per enterprise to work with global brands and sourcing agents



Logistics and relocation

Support for relocation of production and part of logistics costs



Presence abroad

25,200 m² of warehouses and trade houses abroad



Skills

Co-financing of foreign specialists; training at the Uzbek-Korean Textile Technopark



Responsible sourcing has reopened global markets

Standards and transparency are now a competitive advantage for Uzbek cotton



Standards and labour rights

60+

factories in the ILO–IFC Better Work programme

139

enterprises with environmental, quality and social certificates

16

enterprises implementing Better Cotton (BCI)

100%

of certification costs reimbursed by the state (up to \$20,000 per certificate)



Global brands are returning

60

brands currently sourcing from Uzbek factories

20

new brands in 2026

80

brands targeted by the end of 2026, with about \$350 mln of finished-goods exports

Sourcing restrictions on Uzbek cotton lifted in 2026 by Nike, Gap, Uniqlo, Theory, PLST, Prix Garantie and the Amazon platform



Strategic targets and priority directions for light industry

What the sector is set to achieve, and where policy will focus

TARGETS

5.7%

share of light industry in GDP

×1.5

growth in output, investment and exports

+20%

growth in budget revenues from the sector

+20%

growth in labour productivity

+25%

more output per 1 kWh of electricity through higher efficiency

PRIORITY DIRECTIONS

1



Value chains

Developing value-added chains and diversifying production

2



Technology

Technological renewal and greater resource efficiency

3



Exports

Diversifying export markets and expanding e-commerce

4



Brand and human capital

Design, a national brand, product quality and market trust

5



Governance

Management and monitoring system; financial sustainability of the sector



AGENCY FOR THE DEVELOPMENT OF LIGHT INDUSTRY

under the Cabinet of Ministers of the Republic of Uzbekistan

From Cotton to Prosperity



For farmers

Stronger and more stable value chains



For industry

Productivity, technology and investment



For workers

Better jobs and skills



For exporters

Diversified markets and higher-value products



For consumers

Quality, transparency and responsible products



For countries

Industrial diversification and sustainable growth

“The future of cotton is not only about producing more cotton. It is about transforming cotton into more value, more opportunity, better jobs and stronger partnerships.”

Cotton

Transformation

Value

Prosperity

Thank you

WORLD COTTON DAY 2026 · TASHKENT, UZBEKISTAN · 7 OCTOBER

Building Prosperity Across the Cotton Value Chain

From fibre to enterprise — lessons from Africa's cotton transformation

Ramakrishnan Janarthanan

Co-founder & Director, LXMI Global Advisory LLC FZ · Dubai, UAE

LXMI

THE GLOBAL PICTURE

Cotton Is at a Crossroads

Demand for garments keeps growing — cotton's share of it does not, unless competitiveness improves.



68.3% → 21.1%

Cotton's share of global fibre demand, 1960 → 2025



\$560B → \$914B

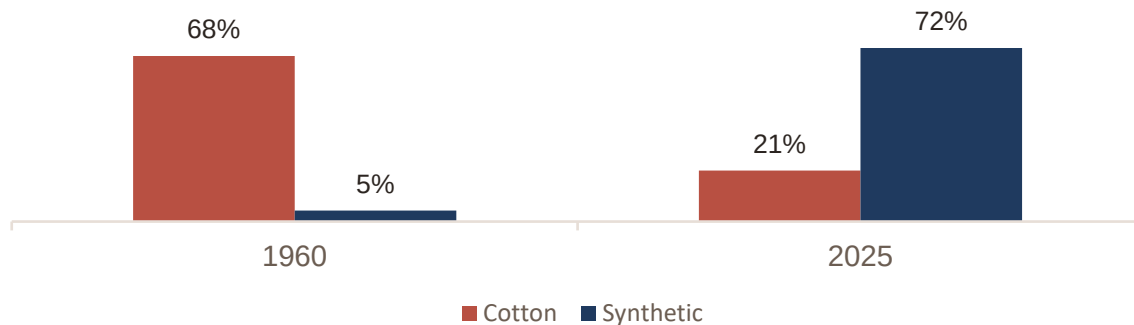
World textile exports, 2006 → 2025



71.7%

Synthetic fibres' share of demand today — up from 4.6% in 1960

Fibre share of global demand



Cotton isn't losing demand — it's losing relative ground.

Cotton consumption more than doubled in absolute terms since 1960. The issue is competitiveness against fast-expanding synthetics — and who captures the value downstream.

PRODUCERS & NEW FORCES

A Bigger Map of Cotton Producers

Traditional leaders remain central — but new forces are reshaping where cotton is grown and sold.



Established leaders

China, India and the United States remain central to world cotton growing, mill use and trade.



Emerging forces

Brazil, Australia and Azerbaijan are growing fast and rewriting global trade flows.



The next frontier

Africa holds cotton's largest untapped value-creation opportunity — the focus of the rest of this talk.



Brazil: #1 exporter

World's largest cotton exporter, with a record ~3.9M tonnes harvested in 2025

Australia

A high-yield, export-driven grower with a reputation for quality and consistency.

Azerbaijan

Reviving a Silk-Road-era cotton tradition as part of its agricultural diversification.

PROOF IT CAN BE DONE

Two Very Different Paths to the Same Result



Uzbekistan

Reform-led transformation

800K t → 0

Raw cotton exported per year, 2010s → today
(100% now processed domestically since 2022)

188K → 600K

Textile-sector jobs, 2018 → 2024

- Dismantled the state cotton-order system from 2020, ending decades of mandatory state procurement.
- Addressed forced-labour concerns to the point of a lifted international boycott — recognised by the ILO and World Bank.
- Textile & clothing exports reached \$2.9 Bn in 2024 (yarn + finished goods) — and today, proud host of World Cotton Day 2026.



Brazil

Scale-and-technology transformation

1.6M t → 3.9M t

Cotton production, ~2014 → record 2024/25
harvest

\$5.05 Bn

Cotton export value, 2025 (UN Comtrade)

- Production nearly doubled in a decade — from ~7.5M bales (~2014) to a record 14.6M bales in 2023/24.
- Overtook the United States to become the world's largest cotton exporter — ~12.4M bales (~2.7M tonnes) shipped in 2023/24.
- Built on two decades of sustained investment in precision agriculture, scale and export logistics.

Different levers — policy reform, technological scale — but the same lesson: deliberate, sustained investment in the value chain captures disproportionate national reward.

THE COMMON THREAD

The Policy Playbook Behind Every Success Story

Different countries, different starting points — the same six levers, deployed deliberately.



Fiscal Policy

Tax holidays & reduced rates — Vietnam: 10% CIT for 15 years; Uzbekistan: up to a 10-year holiday; GDIZ/Benin: 100% income-tax relief.

VIETNAM · UZBEKISTAN · BENIN



EPZs & Special Zones

Bangladesh's EPZs: 10-year tax holiday, 100% foreign ownership, full profit repatriation. GDIZ is this model built in West Africa.

BANGLADESH · BENIN



Concessional Utilities

Turkey funds energy & infrastructure cost directly. GDIZ built dedicated on-site power (143MW planned) and water treatment.

TURKEY · BENIN



Customs Policy

Duty-free machinery, raw materials & bonded warehousing — Bangladesh EPZs, Uzbekistan FEZs, and GDIZ's 100% customs relief + ECOWAS access.

BANGLADESH · UZBEKISTAN · BENIN



Training & Development

Turkey funds workforce training through its public employment agency (İŞKUR). GDIZ built two training centres directly into the Textile Park.

TURKEY · BENIN



Capital Subsidy

India's TUFS: a 15% one-time capital subsidy on eligible garment machinery. Turkey: capital contribution support up to 49% of investment.

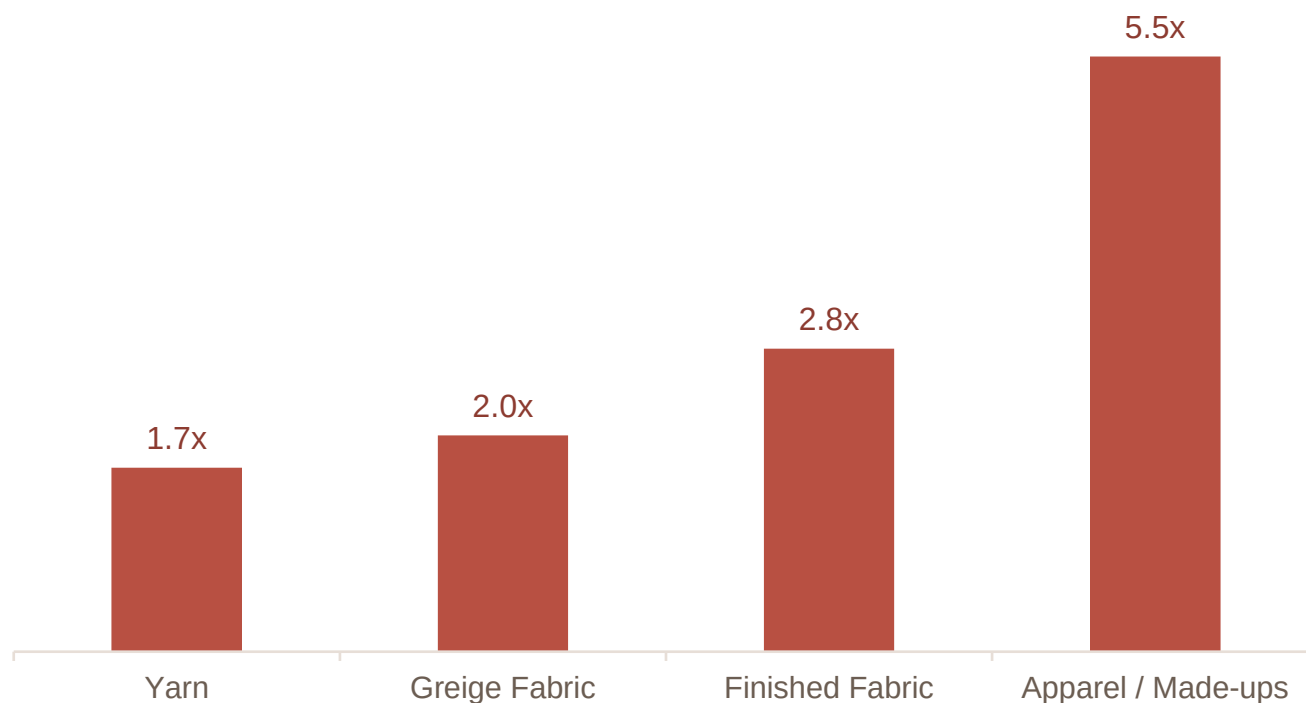
INDIA · TURKEY

Note: GDIZ's utility pricing is cost-recovery, not subsidised — its advantage is dedicated on-site infrastructure, not discounted tariffs.

THE VALUE-CHAIN LOGIC

Why Value Creation Beats Volume

Moving one tonne of cotton from field to finished garment multiplies its value many times over.



Value multiple vs. raw cotton lint (=1x) · Basis: LXMI/ATMS analysis of ICAC & ITC Trade Map data



~98%

of cotton grown in West & Central Africa is still exported as raw fibre

Source: ICAC / The Textiles Observer, Aug 2026

The opportunity is not to grow more cotton — it's to keep more of the value that already exists in the chain.

THE AFRICAN OPPORTUNITY

Africa's Cotton Paradox

A continent that grows cotton at scale but captures little of the value it enables.



1.48 Bn

Africa's population — and its domestic apparel market



\$15.0 Bn

Africa's current apparel exports



5.5 Mn t

Africa's total fibre requirement — domestic + export



4.4 Mn t

Estimated domestic fibre requirement alone

Investment potential to close the gap · LXMI/ATMS analysis, ICAC & ITC Trade Map data



\$150 Mn

50 ginneries — 1.5M t/yr lint capacity



\$1.6 Bn

4 polyester plants — 2.15M t/yr



\$68.0 Bn

550 plants — full T&A value chain, 5.5M t/yr



6.0 Mn

Farming-sector jobs potential



2.75 Mn

Textile & apparel jobs potential



\$19.6 Bn

Potential annual import substitution



\$68 Bn

Potential annual revenue, full build-out

A WORKING MODEL

Benin: From Red Soil to Industrial Zone

One country's answer to Africa's cotton paradox

THE PLATFORM

GDIZ: A Public-Private Platform

The Glo-Djigbé Industrial Zone — the foundation that makes Benin's textile transformation possible.



A genuine public-private partnership

Structured between the Republic of Benin and ARISE IIP, aligning government policy with private execution discipline.



Built for trade, not just production

Located roughly 45 km from the Port of Cotonou, giving direct, low-friction access to export markets.



Vertically integrated by design

One zone covering the full chain — spinning through to garmenting — rather than isolated, disconnected factories.



1,640 ha

Total zone size across three development phases



3 Phases

400 ha · 400 ha (600 ha revised) · 640 ha (840 ha revised)



45 km

Distance from the Port of Cotonou



40+

Industries operating within the zone (2023)

INSIDE THE ZONE

Four Building Blocks of the Textile Park

BTEX

Home Textiles

- 48,768 ring spindles + 2,000 rotors
- 17,500 t combed/carded yarn per year
- 16M towels + 3.6M bedlinen sets p.a.

BTC

Knitted Apparel

- 33,000 spindles · 7,000 t yarn/yr
- 6.3M round-neck + 6.3M polo tees p.a.
- Plus intimate wear & nightwear lines



STB

Knitted Apparel

- 33,000 spindles · 7,000 t yarn/yr
- 10.5M round-neck + 10.5M polo tees p.a.
- Newest of the three integrated units

GTC

Training Centers

- 2 centres · ~1,500 trainees
- 350 sewing machines per centre
- 7.5M pieces/yr combined capacity



TWO YEARS IN

From Blueprint to Results

What we projected in 2024, next to what independent public reporting shows in 2026.

Metric	2024 plan (LXMI/ATMS, Textile Park)	2026 reality (public reporting, GDIZ-wide)
Investment mobilised	€575 M	€1.3 Bn
Direct jobs	25,000 targeted	16,000 direct textile + 25,000+ total
Local cotton processed	~14% (park estimate)	12.7% of national output
Seed cotton harvest	n/a in 2024 plan	533,590 t (2025/26) — CFA-zone leader



An aerial photograph of a large industrial textile factory complex. The facility consists of several large, interconnected buildings with white roofs, surrounded by parking lots and some greenery. A road with a roundabout is visible in the foreground. The background shows a dense forest under a hazy sky.

2025

BUILT TO LAST

Sustainability Is Underwritten, Not Bolted On

Every unit in the park carries independent environmental, social and traceability review.

**ESIA & ESDD completed**

Environmental & social impact assessments received for BTEX, BTC and STB.

**Independent traceability**

Fiber Trace pilot completed for BTEX spinning operations.

**Life-cycle assessment**

3rd-party verified by WeLoop France, for towels and round-neck / polo tees.

**CmiA & BCI certified**

Certification complete for BTEX; in progress for BTC.

**Zero Liquid Discharge**

ETP/ZLD systems treat process water before any discharge.

**LEED Gold in progress**

Green-building certification underway for BTEX, with energy modelling by Quad Energy.

BEYOND BENIN

From One Zone to a Continental Signal

Delegations from across Africa have visited the park to study the model — and are starting their own chapters.

**Kenya****Tanzania****Uganda****Cameroon****Ghana****Côte d'Ivoire****Mali****Angola**

LXMI is already active on this signal

Two of LXMI's three current mandates are in Côte d'Ivoire and Tanzania — new chapters written directly from the Benin experience.

LXMI: Building & Transforming Textile Enterprises

A Dubai-based platform partnering with investors, governments and financial institutions to develop, design, build, operate and transform textile and apparel enterprises.



Shape the Enterprise

Market fit, value-chain design, investment thesis



Make It Bankable

Techno-economics, financing, lender coordination



Design & Build

Engineering, procurement, project delivery



Build the Market

Compliance, buyer onboarding, offtake support



Operate & Scale

Production, quality, working capital, MIS



Transform Performance

Turnaround, productivity, restructuring

LXMI is a newly founded platform (2026). The Benin projects shown in this talk reflect the track record of its principals through Africa Textile Management Services (ATMS) — not LXMI corporate history.

WHERE WE STAND

Where LXMI Is Active Today

Status as of September 2026.



3 mandates

Active engagements across Africa



20,000 Jobs

Additional jobs to be created



40+ years

Combined principal experience — Founder and Co-founder, each

Pipeline values represent planned project investment and should not be interpreted as LXMI revenue or completed corporate credentials.

“A great company, built by a talented, accountable and humble team.”

The LXMI Standard — clarity of thinking, accountability, transparency, sharing in success, respect for talent.

THE INVITATION

An Invitation to Build, Together

The opportunity in this room is not to grow more cotton — it is to keep more of the value it already creates, at home.

**Governments & investment authorities**

Industrial-zone design, investor promotion and bankable project pipelines.

**Investors, DFIs & banks**

De-risked, professionally delivered enterprises with transparent governance.

**Existing textile enterprises**

Turnaround, modernization and performance recovery.

Thank You

Building Prosperity Across the Cotton Value Chain

Ramakrishnan Janarthanan

Co-founder & Director, LXMI Global Advisory LLC FZ

Dubai, UAE · www.lxminet.com

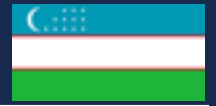
WORLD COTTON DAY 2026 · TASHKENT

2024 07 12 12:45

LXMI



Cotton for Good: Building prosperity through Trade, Transformation and Partnership



Building prosperity across the Textile Value Chain

Plenary Session 1

Tashkent, 07 October, 2026

Navdeep Sodhi, Partner



Agenda

1. Mega trends and investment drivers
2. Investment policy eco system
3. Central Asia Textile Vision



/ The global textile industry is characterized by 5 mega trends and key investment drivers(1/5)

Global textile demand shows **long-term growth** (2 % pa)

1



Accelerated **shifts in sourcing patterns**

2



Sustainability – a policy imperative

3



Digitalization across the textile value chain

4



Leading to **integrated business models**

5



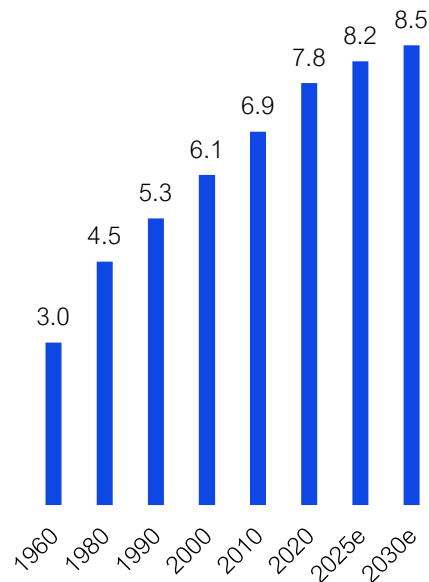
The global textile industry is characterized by 5 mega trends and key investment drivers (2/5)

Textile DEMAND

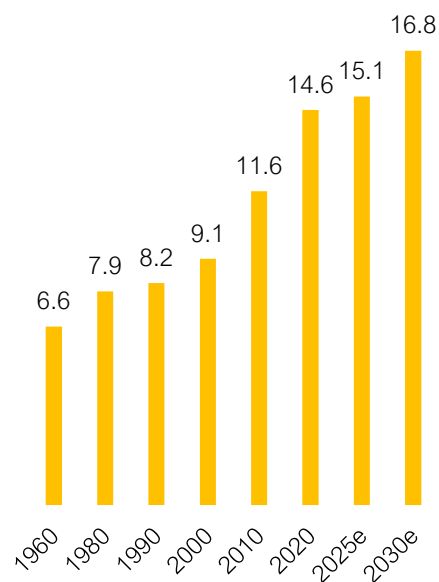
World textile consumption per capita (Kgs)

World

World Population
billion

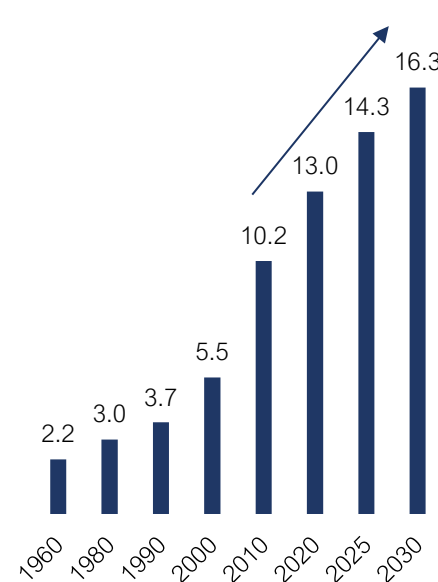


Per capita consumption
kilogramme

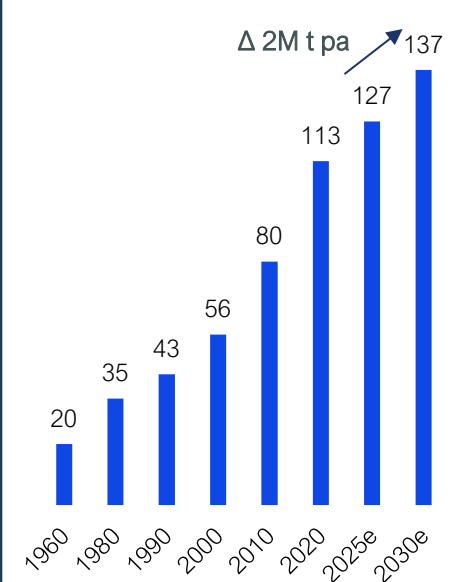


Asia

Per capita consumption
kilogramme



World fibre consumption
million tonnes



The global textile industry is characterized by 5 mega trends and key investment drivers (3/5)

Sourcing SHIFTS

Top suppliers to US,EU

USA: Top suppliers of Textile and Apparel (US\$ Bn) 2015-25



Percentage share of T&A imports to USA			
Countries	2015	2025	
China	37%	18%	↓
Vietnam	9%	16%	↑
India	7%	10%	↑
CAFTA_DR	8%	7%	↓
Bangladesh	5%	7%	↑
USMCA	7%	6%	↓
Indonesia	5%	4%	↓
Pakistan	3%	4%	↑
ROW	26%	29%	↑

Trends

- China's share in US Imports of T&A declined to 18% in 2025 from 37% in 2015
- Most other Asian countries with the exception of Indonesia, gained market share

EU: Top suppliers of Textile and Apparel (US\$ Bn) 2015-25



Percentage share of T&A imports to EU			
Countries	2015	2025	
China	36%	31%	↓
Bangladesh	12%	17%	↑
Türkiye	12%	10%	↓
India	6%	6%	—
Pakistan	4%	5%	↑
Viet Nam	3%	5%	↑
Cambodia	2%	4%	↑
Indonesia	2%	1%	↓
RoW	23%	21%	↓

Trends

- China, Türkiye's and Indonesia experienced contraction in EU imports of T&A

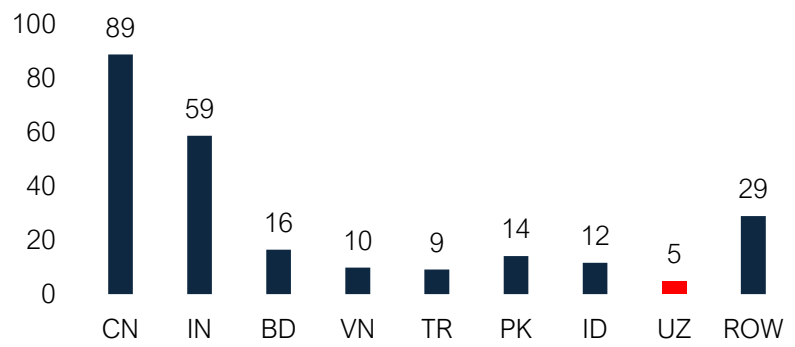
The global textile industry is characterized by 5 mega trends and key investment drivers (4/5)

Textile INVESTMENT

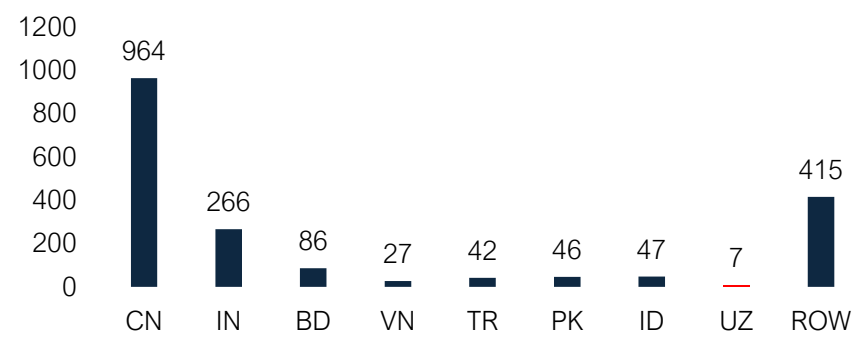
Textile machinery investments (Top 10)

Figures denote installed machinery capacity (2025)

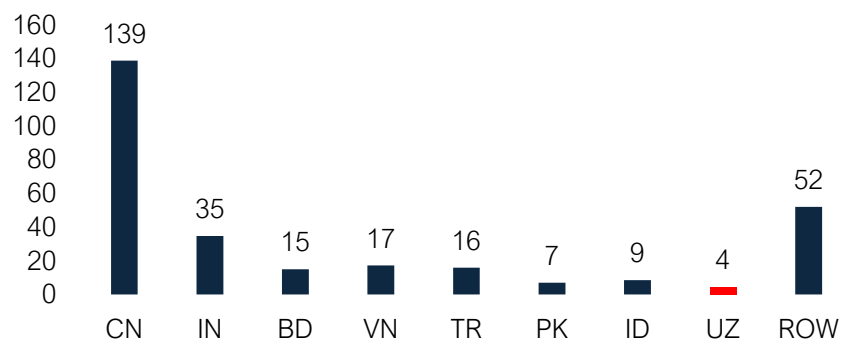
Ring spindles installed (mn)



Shuttle-less weaving mcs installed ('000)



Circular knitting mc's cumulative shipment ('000)



The global textile industry is characterized by 5 mega trends and key investment drivers (5/5)

Emerging REGULATION

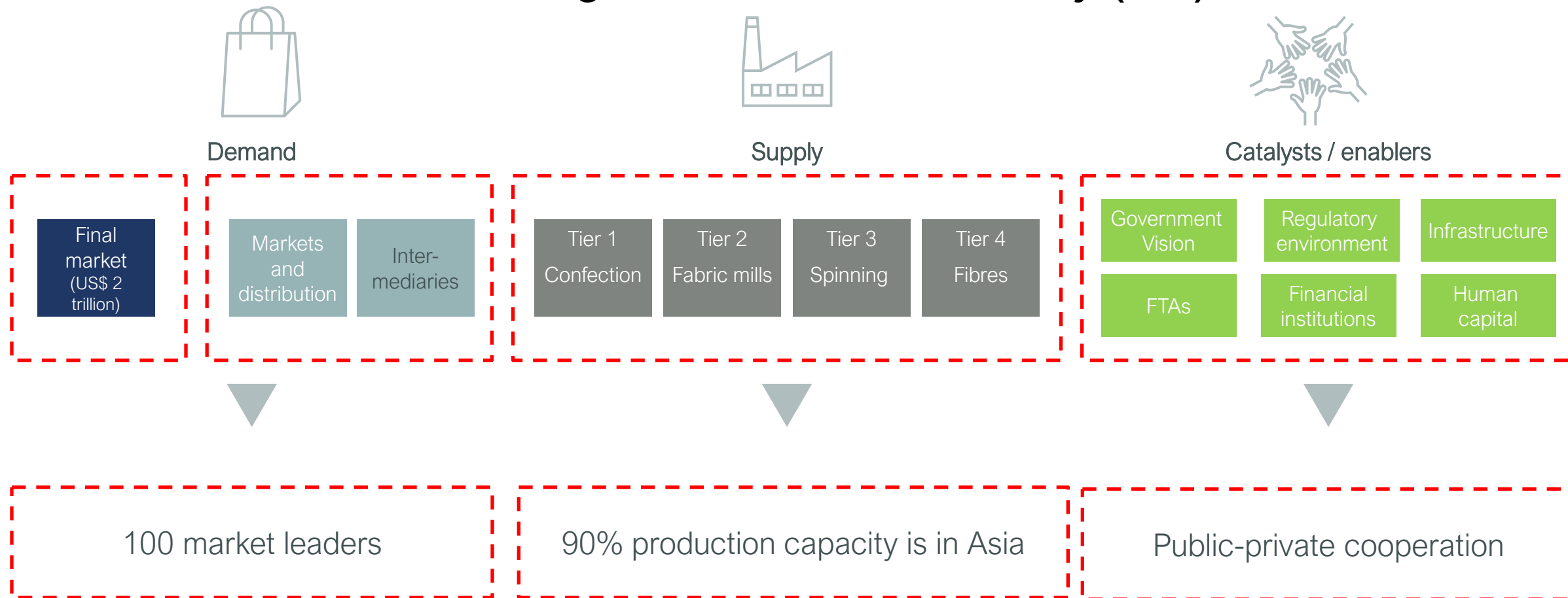


Agenda

1. Mega trends and investment drivers
2. Investment policy eco-system
3. Central Asia Textile Vision



2 Investment is driven by the textile value chain dynamics and collaboration between government and industry (1/3)



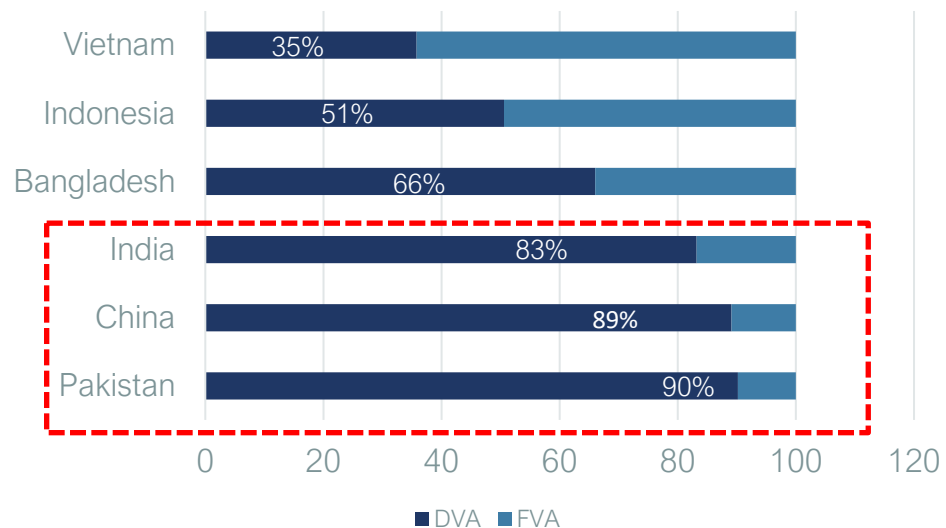
2 Investment is driven by the textile value chain dynamics and collaboration between government and industry (2/3)



2 Investment is driven by the textile value chain dynamics and collaboration between government and industry (3/3)

Cotton-textile countries have invested significantly and enjoy higher local value added

Domestic value added in T&C exports (% share) 2022



Investment in the primary textile industry(2016-25) US\$ Bn

	UoM	Machines(No's)		USD Million*
		2007-15	2016-25	
Spinning	Spindle equivalent	128 Million	110 Million	84'000
Weaving	Sets	500 Thousand^	660 Thousand	99'000
Knitting	Sets	300 Thousand	300 Thousand	22'000
Total				\$205 Bn

*Investment (CAPEX) based on a combination of complete greenfield and partial greenfield projects and includes the cost of equipment and buildings, excluding land

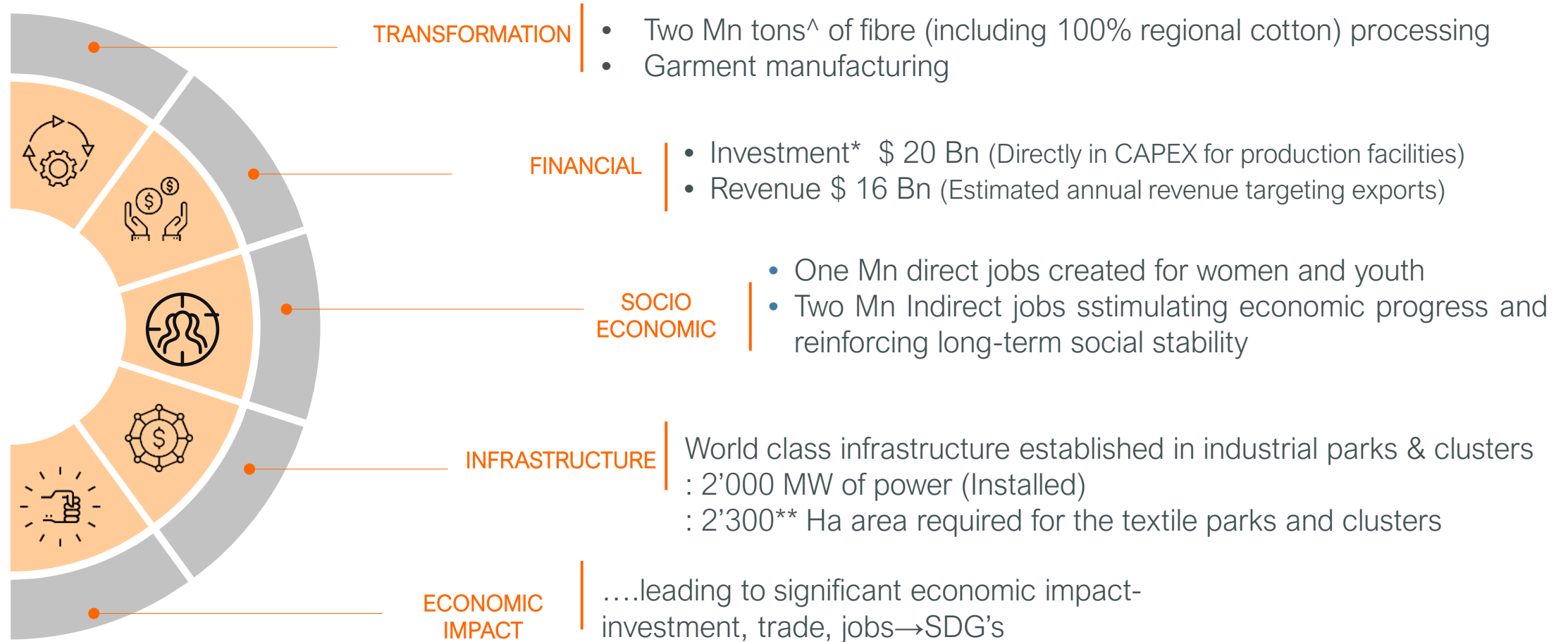
^ Excluding waterjet weaving mc's

Agenda

1. Mega trends and investment drivers
2. Investment policy eco-system
3. Central Asia Textile Vision



3 Central Asia has the potential to become a major hub for textiles



[^]Existing cotton consumption in the CIS region is estimated at 1.3M tons (ICAC)

* Includes plant & machinery, civil constructions and utilities for 120 to 150 textile and garment factories with an installed capacity of 20-30 tons/day

** 10 to 15 Industrial parks of 150 to 200 ha each to be established

Gherzi :Dedicated to the textile industry since 1929

MANAGEMENT & OPERATIONS

Strategy and Operational Improvement
Sustainability
Innovation (incl. digital)
Supply Chain (incl. traceability and legislation)
Product Development
Restructuring

CORPORATE FINANCE



ENGINEERING & LOGISTICS

Master planning
Detailed architecture + engineering
Project controlling + construction management
Clean technologies



Mergers & Acquisitions
Due diligence
Feasibility Studies



We are an independent, global firm of consultants, technical specialists, engineers, architects and planners working across all areas of industrial and infrastructure projects.

Being independent for the last 90 years, we have always been putting the interest of our clients first.

Founded in Switzerland, we continue to bring our hallmark «Swissness» into services offered to our customers worldwide.

For further information, please visit www.gherzi.com

Contact

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n.sodhi@gherzi.com



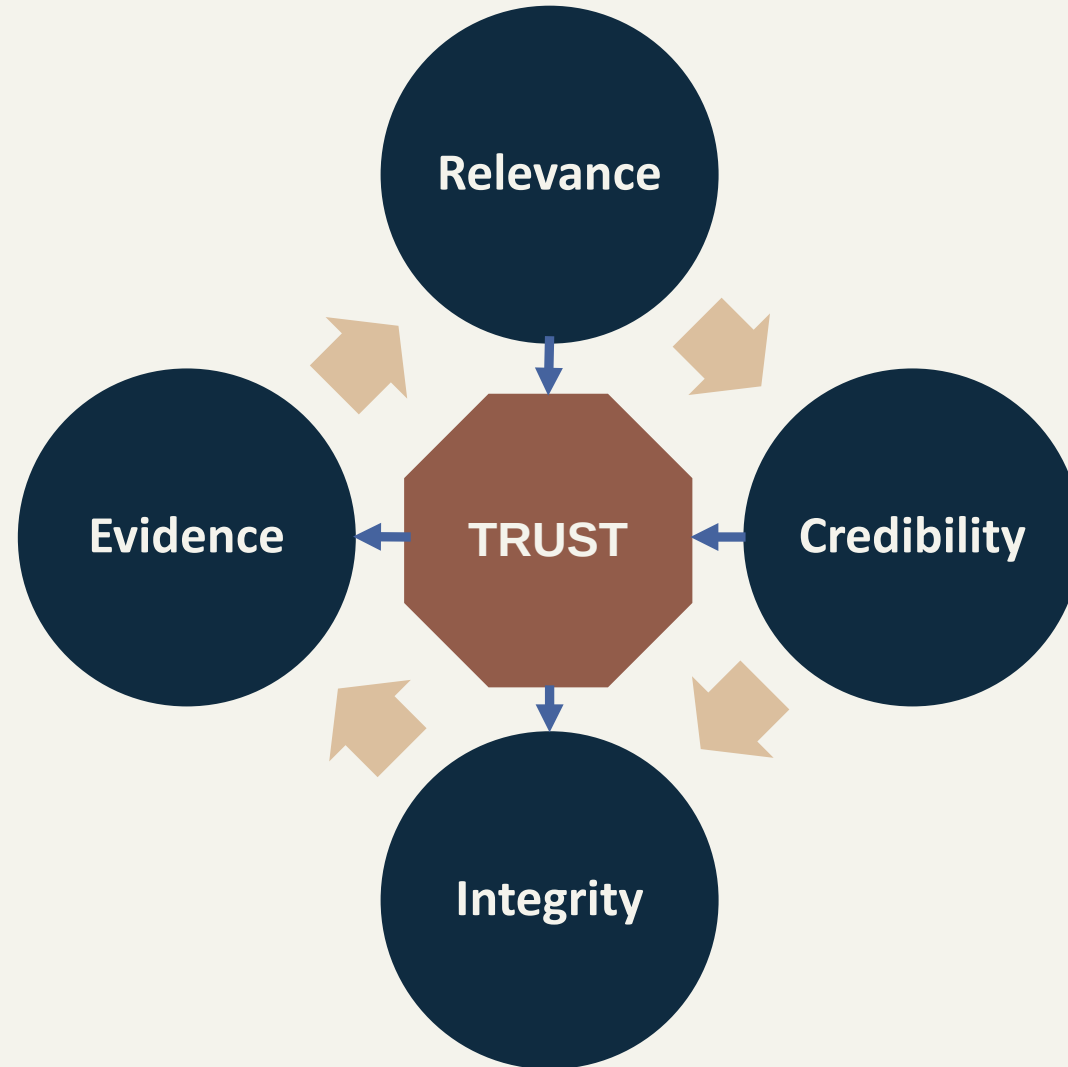
Passing the Trust Exam

Ben Maitland

Better Cotton Initiative



Trust - the currency of sustainability



Relevance

Making a case that works for all our stakeholders



Environment

Healthier soil that stores carbon, retains water, and reduces erosion.

Cuts synthetic inputs, supports biodiversity, and strengthens resilience to extreme weather.



Growers

Recognising work growers are already doing, not asking you to start again.

Looking at new ways to get investment to the farm.



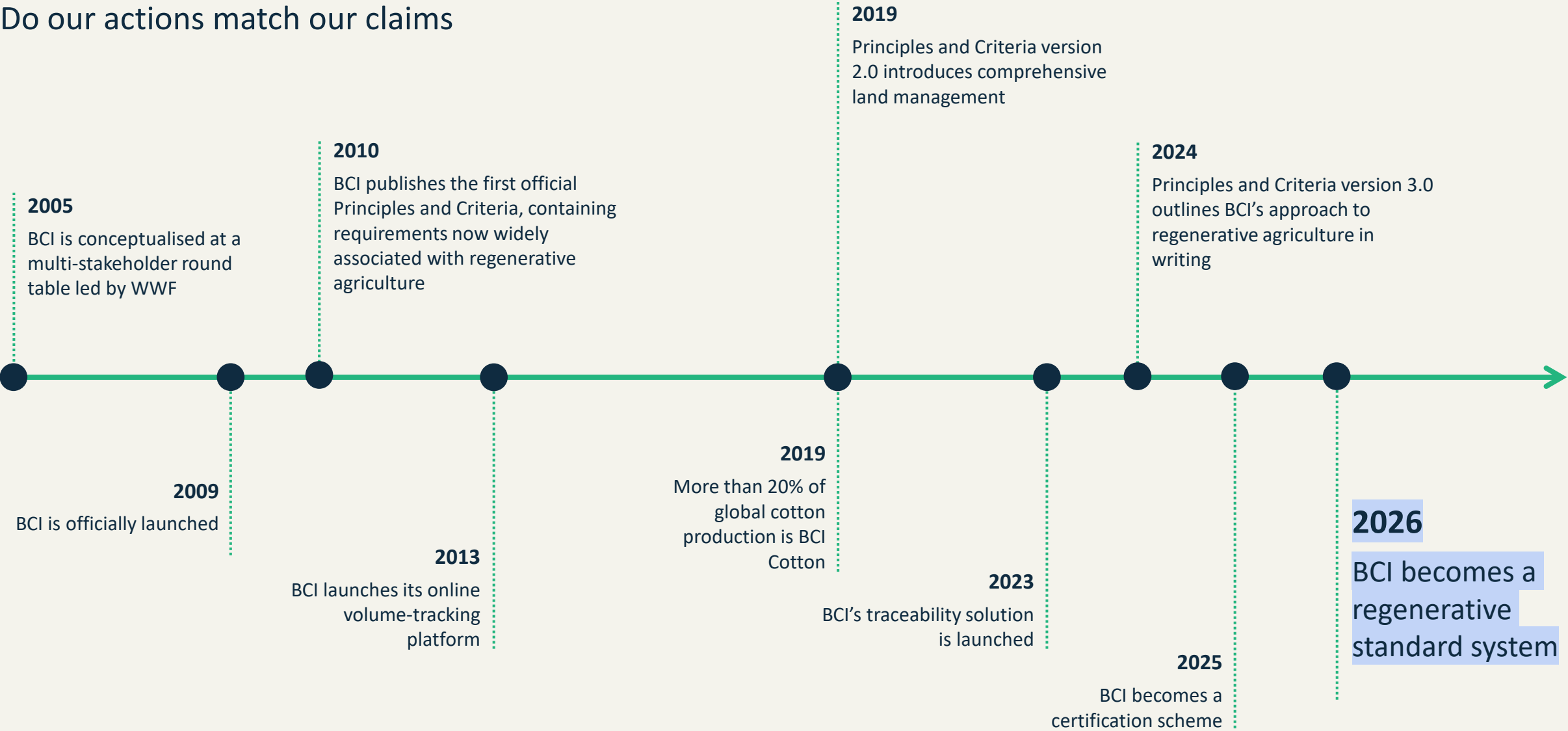
Market

Stronger Evidence Framework to support continued sourcing, deeper investment, and claims.



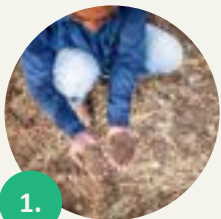
Credibility

Do our actions match our claims

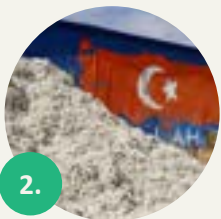


Integrity

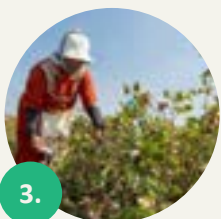
Making progress on Traceability and Certification



Consumers want sustainably sourced products



Investors want to de-risk their supply chains



New legislation demands supply-chain transparency

Changes made to deliver **BCI Traceability**

New Chain of Custody Standard
Launched May 2023



Enhanced digital platform for data collection
Launched MVP Nov 2023



Updated supply chain assurance processes
Launched June 2023



New Claims Framework & product label
Launched January 2025



What's next?

Traceability back to Farm from 2028



Data + traceability: Large farm growers' portal from 2026



Evidence

Improving our data and reporting

- *Impact measurement and reporting underpins BCI's 2030 Strategy*
- *Data is BCI's foundational asset, the medium to represent, analyze, and communicate performance and accountability, facilitating learning and improvement*
- *BCI generates large quantities of data, gathered from multiple sources in each of the target countries*
- *BCI value proposition hinges heavily upon the quality and effective management of collected data across multiple institutions and locations*
- *Governance of impact data is through the **Evidence Framework***



'Without data, you're just another person with an opinion' – W. Edwards Deming



Impact Report 2026

Accelerating pathways to a regenerative future

Impact | findings

Working incrementally with communities for the past 15 years – being present, engaging and continuing to up our expectations on continuous improvement have meant meaningful changes as scale.



Impact area	Desired outcome	Trend since joining BCI	Key result since joining BCI
 Soil health	Healthier soil, reflected in improvements to soil structure, soil chemistry, organic matter, soil biology and water infiltration.	↑	69% of BCI Licensed Farmers reduced synthetic nitrogen use per kilogram of cotton.
 Crop protection	Reduced pesticide quantities and risk.	↔	An estimated 805,000 BCI Licensed Farmers reduced synthetic pesticide active ingredient use per hectare, with an average reduction of 25%.
 Water stewardship	Protected water bodies and efficient water management.	↔	An estimated 421,000 BCI Licensed Farmers reduced the amount of irrigation water applied per kilogram of cotton, with an average reduction of 29%.
 Climate change mitigation	Reduced greenhouse gas emissions per kilogram of cotton produced.	↑	54% of BCI Licensed Farmers lowered their carbon footprint, with an average reduction of 25%.
 Smallholder livelihoods	Improved net income, cost management and income resilience.	↑	An estimated 721,000, or 59%, of BCI smallholder farmers improved their net income from cotton (with an average increase of 26% when keeping prices fixed over time).
 Decent work	Safer, fairer and more dignified working conditions, with stronger rights awareness, channels for workers to be heard and access to grievance mechanisms	Comparable trend data is not yet available for statistical analysis.	
 Women's empowerment	Increased women's representation in programme delivery and leadership roles, alongside better access to training, resources and decision-making.	↑	Women made up 17% of Field Facilitators and 17% of Producer Unit management roles, up from 9% in both areas in the 2019–20 cotton season.

Impact Report | Key results since joining BCI



17%

of Field Facilitators and Producer Unit management roles **are now women globally**



65%

of BCI Farmers have **reduced synthetic pesticide** use per hectare



52%

of fully irrigated BCI Farmers have **reduced irrigation water** applied per kilogram of cotton



54%

of BCI farmers have **lowered their carbon footprint**



59%

of smallholder farmers have **improved their net income** from cotton

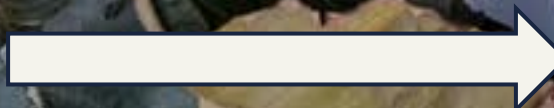


69%

of farmers have **reduced synthetic nitrogen use** per kilogram of cotton

Better Cotton Initiative 2026 Global Impact Report

Access Here



Connecting Farmers to Markets: Responsible Sourcing & Collaboration Across Cotton Value Chain

Building trust, quality and regulatory
compliance in global supply chains

Ms. Alison Ward, CEO, CottonConnect

7th October 2026





CottonConnect Overview

Founded in **2009**

Mission: Powering Resilient Supply Chains

25+ brands

800,000+ farmers trained

REEL Standards: Certified Cotton

TraceBale: Approx. 3 billion t-shirts mapped

COUNTRIES OF OPERATION

PROGRAMMES



FOCUS AREAS



Environment



Climate



Livelihoods



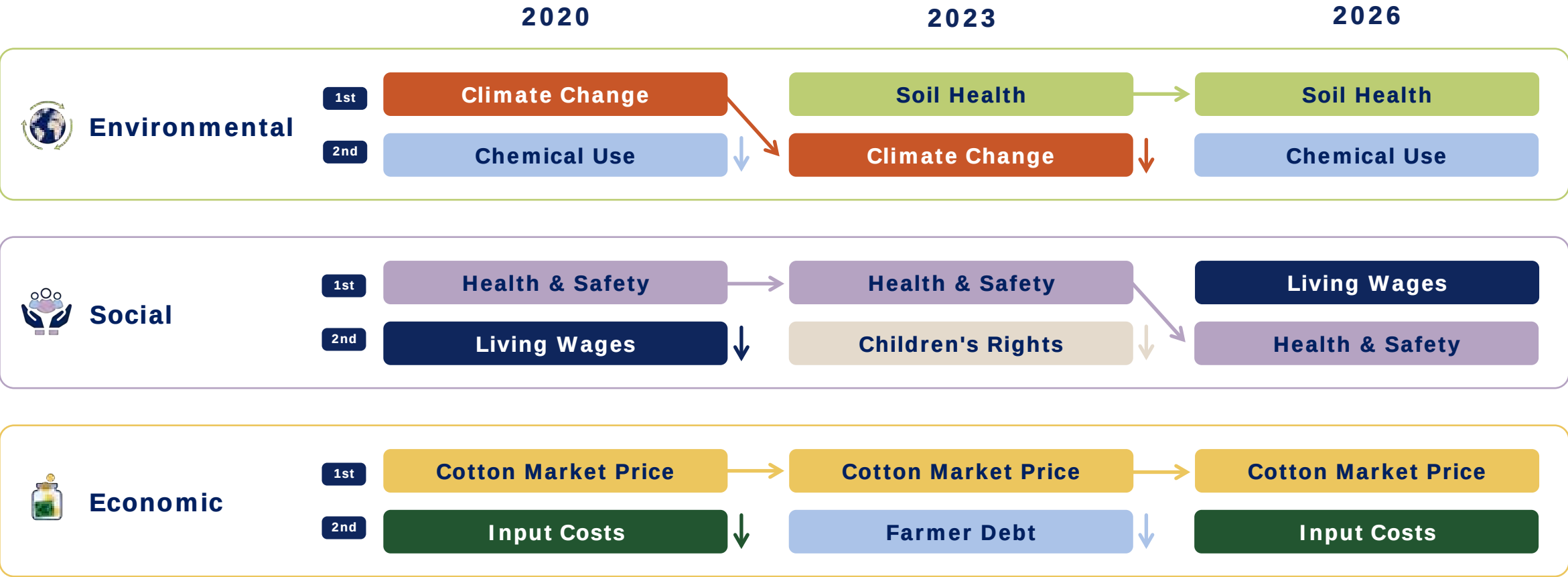
Traceability



HRDD



REEL Stakeholders Materiality Survey Insights





From Policy to Action

Compliance and market confidence require an integrated approach.



QUALITY

PHYSICAL EXCELLENCE

Maintaining physical product standards alongside comprehensive sustainability data.



Supports raw material purity, craftsmanship standards, and eco-friendly physical attributes.

Relevant standards / programmes:

- ✓ OEKO-TEX® Standard 100
- ✓ GOTS
- ✓ REEL
- ✓ USDA
- ✓ KASTURI



TRUST

VERIFIABLE PROOF

Replacing self-reported metrics with audited digital data.



Draws on digital product passports, blockchain verification, and automated audit trails.

Relevant legislations and policies:

- ✓ EmpCo. Directive
- ✓ Green Claims Directive
- ✓ DPP etc.



RISK

DUE DILIGENCE

Proactively managing human rights and environmental risk across supply tiers.



Helps brands meet ESG compliance, strengthen labour governance, and extend accountability to deeper supplier tiers.

Relevant legislations and policies:

- ✓ EU CSDDD
- ✓ EU FLR
- ✓ German Supply Chain Due Diligence
- ✓ EPR etc.



Standardizing Quality at Source



Clean Harvest Practices

Training smallholder farmers in contamination-free picking using 100% cotton bags, removing foreign matter before storage.

Storage & Transport

Promoting clean storage yards and non-synthetic covers to eliminate polypropylene particle exposure during transit.

Ginning Quality Audits

Partnering with ginners to standardize pre-cleaning machinery maintenance, moisture control, and bale inspection. Quality testing to meet buyer specifications.

Quality Parameter	Standard Indian Cotton	Kasturi Cotton Bharat Benchmark	Impact on Value Chain
Staple Length	24 mm – 28 mm	28 mm+ to 35 mm+ (ELS)	Superior yarn strength & fabric softness
Micronaire Value	Variable (3.2 – 5.2)	3.8 – 4.2 Premium Range	Optimal spinnability & dye absorption
Trash Content	Up to 4.5% – 6.0%	< 1.5% to 2.0% Strict Limit	Reduced mill waste & processing costs
Testing & Verification	Typically mill-level testing	NABL Accredited Labs (5% Bales)	Builds international buyer confidence

CottonConnect has supplied around **1200 bales** of Kasturi cotton



REEL Cotton – Bangladesh

Parameters	Original Values	After CottonConnect REEL Programme
Micronaire	4.5 to 5.7	3.8 to 5.0
Staple Length	26-28 mm	28 to 32 mm
Strength	26-27 gpt	28 -29 gpt (gram per tex)
Reflectance (Rd)	70-72	70 to 80
Trash	10-12%	7-8%
Moisture	12-13%	9-10%

Through our REEL cotton programme, training farmers and ginnerers on best practices since 2018, we have been able to improve the quality parameters of cotton working with the Cotton Development Board.

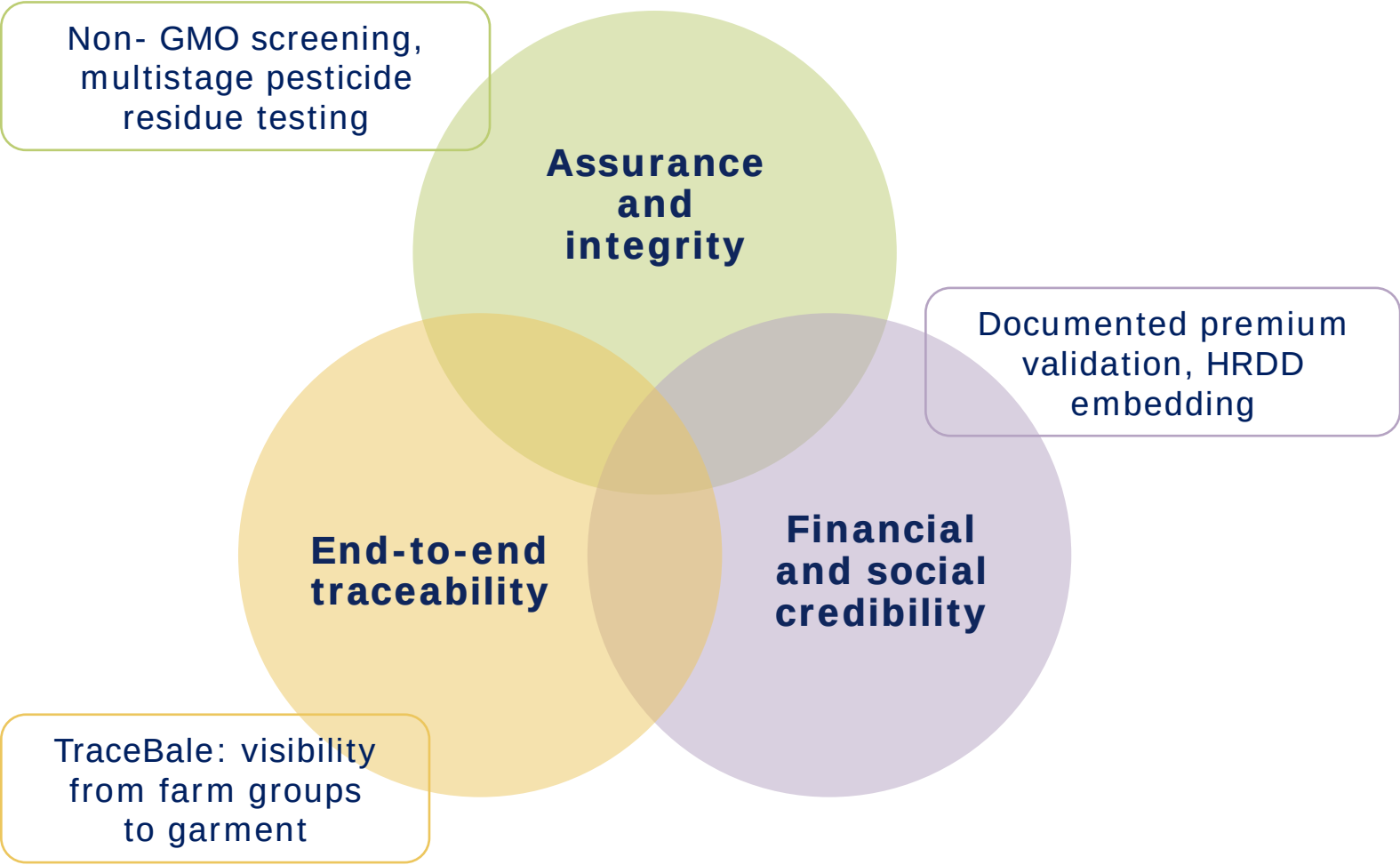


Building Trust and Managing Risk





Trust - Strengthening Organic Integrity



Scale Metrics

Active since 2010

75,000+ farmers trained

180+ Internal Control Systems

31,000 MT of organic cotton linked annually

99.7 % Organic Integrity Score (2024-25)



Digital Traceability via TraceBale

Decade of field insights in building bottom-up digital Chain of Custody.

Bottom-up digitization

- ❖ Real-time transaction and invoice tracking at farm origin.

Dual verification

- ❖ Digital batch mapping paired with advanced testing and markers.

Automated reconciliation

- ❖ Real-time volume and loss calculations across supply chain tiers.

Strategic sourcing

- ❖ Move from transactional buying to resilient, transparent partnerships.

TraceBale in numbers



Registered Farmers:
671,000 registered till date on TraceBale



Garment Equivalent Mapped:
Approx. 3 billion t-shirts mapped till date



Retailers Onboarded:
18 retailers on board till date



Supply Chain Actors:
680+ supply chain actors in the system till date



Processed Volume:
963,000 MT of lint cotton processed
as of 24th July 2026



Verification Architecture

Connecting physical origin with digital records to strengthen regulatory readiness and help detect supply chain fraud.





Responsible Supply Chains – Human Rights Due Diligence (HRDD)

150,000+ farmers & 100+ cotton gins covered by CottonConnect's HRDD training and framework



**RISK IDENTIFICATION
AND ASSESSMENT**

**STAKEHOLDER
ENGAGEMENT**

**CAPACITY BUILDING
AND AWARENESS**

**MONITORING AND
VERIFICATION**

**REMEDATION AND
CONTINUOUS IMPROVEMENT**

Human Rights Due Diligence (HRDD)

- ❖ Systematic field-level risk assessment to identify, prevent, and mitigate human rights risks.
- ❖ In accordance with CSDDD and EU Forced Labour Regulation.
- ❖ Integration of comprehensive Grievance Mechanisms at ground level.

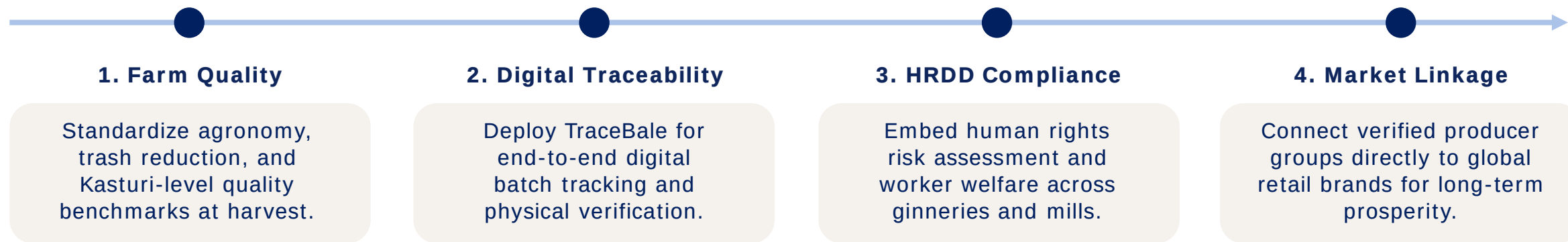
Inclusive & Equitable Growth

- ❖ Empowerment programmes creating awareness around fair wages.
- ❖ Health and safety standards and gender equality.
- ❖ Working towards more sustainable livelihoods for cotton pickers and rural farming communities.



Value Chain Roadmap: Connecting Farmers to Markets

Creating market access by linking smallholder producers to global brand commitments.



Stakeholder Action Plan:

Producers & Exporters: Adopt standardized quality controls (e.g., Kasturi benchmarks) and digital tracking.

Brands & Retailers: Invest in long-term farm-level partnerships, transparent supply chains, and fair sourcing model.



“Prior to partnering with CottonConnect, limited transparency within our cotton supply chain had become a challenge, but through our work with them we have moved beyond simply purchasing a fibre to gain a much clearer picture of the people, processes and partnerships that sit behind it.

This visibility helps us identify potential risks, better understand supply chain dynamics and make more informed sourcing decisions, all of which gives us greater confidence in the long-term resilience of our cotton supply chain.

CottonConnect has helped us transform what was once a largely transactional sourcing relationship into one built on greater transparency, traceability and engagement.”

CUSTOMER TESTIMONIAL: CATHERINE LEE | HEAD OF ETHICS AND SUSTAINABILITY | THE WHITE COMPANY







From Seed to Sustainable Supply Chain

Transforming Cotton for People & Planet



FOOD & AGRICULTURE PROGRAMME

Vision 2030; an enabling environment for **Nature-positive Agriculture** for key commodities supporting socio-economic & environmental resilience

Programme Footprint



HECTARES

603,547



FARMERS

128,276

DELIVERY PLATFORM



19

PROJECTS



607

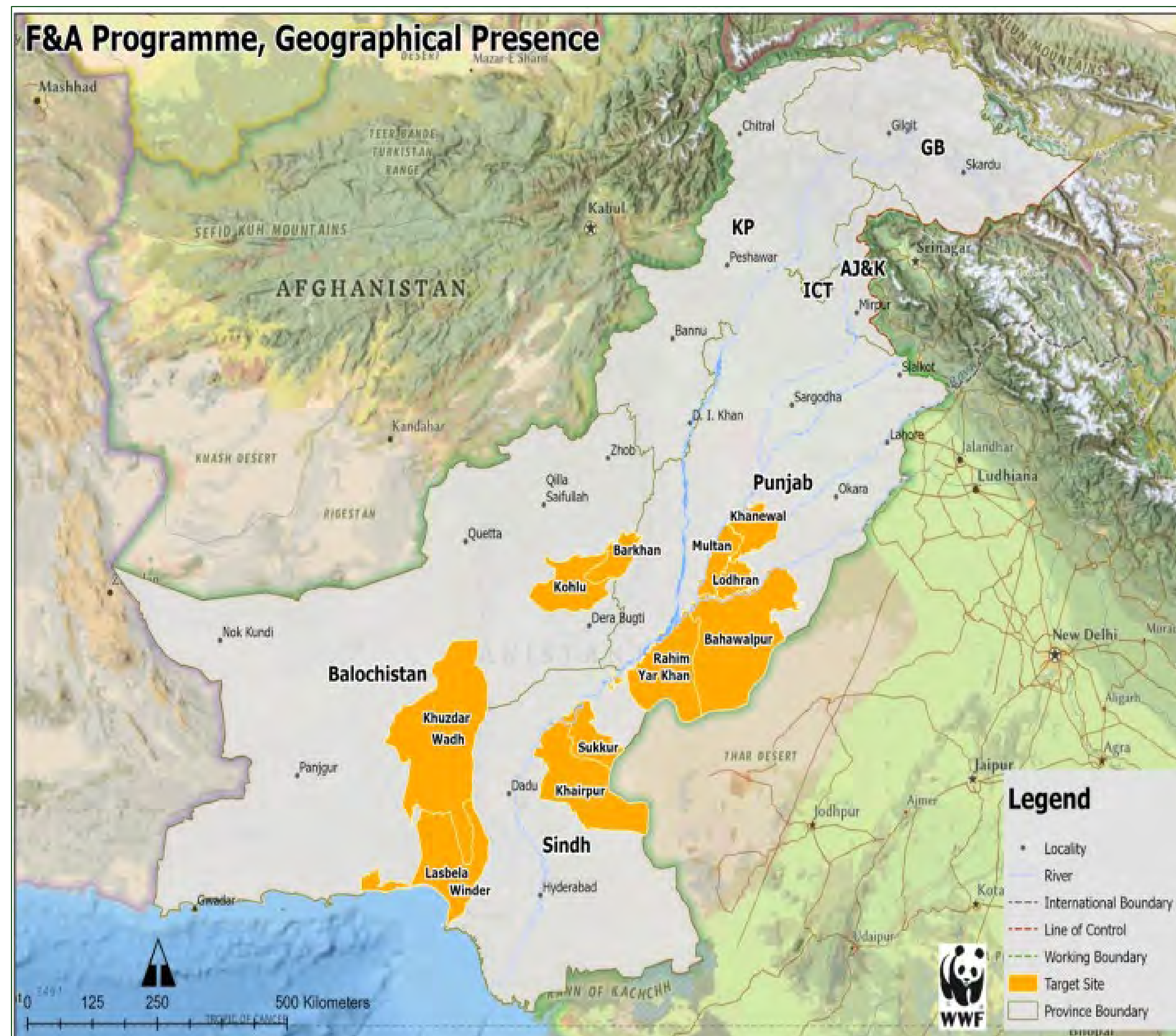
FIELD STAFF



15

OFFICES

Field capacity converts geographic reach into implementation at scale.



Target districts across Sindh, Balochistan and Punjab



Key Milestones

2009

Launched Better Cotton Initiative (BCI) programme in Pakistan



2010

Produced World's 1st Better Cotton Bale



2016

Initiated Organic Cotton Cultivation in Pakistan



2019

Produced Pakistan's 1st Organic Certified Cotton Bale



2023

Produced Pakistan's 1st Regenagri Certified Cotton Bale



2026

Expecting Pakistan's 1st ROC Cotton Bale





Cotton for Better Tomorrow

Programme's Vision

A sustainable and resilient cotton ecosystem to thrive farmers, restore landscapes, and connect ethical supply chains with responsible markets

- Farmer capacity & innovation
- Improve soil health, water stewardship, and biodiversity
- Data integrity and End-to-end traceability
- Connect producers with Brands and long-term partnerships





2016, a year of starting our journey to organic cotton cultivation

Laudes —
— Foundation



Engaged 2,797 farmers
and **22,466 acres of
cotton crop** in
Balochistan

Developed **partnership with
AED Balochistan** and
onboarded key stakeholders to
strengthen field activities and
compliance

Produced
**Pakistan's 1st
Organic Certified
Cotton Bale** (2019)



When The Synergies Developed.....

2020, a year of sustainability & partnerships

Pakistan's leading globally recognized, vertically integrated textile companies developed partnerships with WWF-P to fund and source organic cotton in Pakistan

Textile Industries



End-to-end traceability reaches the farmer, bringing greater transparency and trust to the supply chain.

Sustainable Cotton to Global Markets
Locally produced sustainable cotton is now part of international supply chains with recognized sustainability labels

Stronger Farmer and Community Linkages

Brands/Industries are increasingly engaging directly with farmers and local communities.

Stronger and More Resilient Farm Economies

Better market access, fair premiums and sustainable practices are creating more resilient and prosperous farming communities.

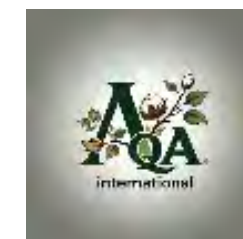




Industry -Led Sustainable Partnerships



Partnered industries are vertically integrated, with strong supply chains from field to fashion



12,852

Farmer

107,299

Acres under Cotton

14

Project

10

Textile companies

USD 5M

Industry investment

Certified Production:

43,732

MT certified seed cotton
(USDA/NOP+EU Organic Standards)

25,585

MT certified seed cotton
EU Organic Standard)

7,261

MT certified seed cotton
Regenagri Standard)



From Partnership to Sustainable Supply Chain





Strategic Partnerships Across the Cotton Value Chain

Public & Private Institutions:

Agriculture
Department,
Govt of
Balochistan

Agriculture
Department,
Govt. of
Sindh

Balochistan
Rural
Support
Programme

National
Institute for
Biotechnology
and Genetic
Engineering
(NIBGE)

Nuclear
Institute for
Agriculture
and Biology
(NIAB)

MNS
University of
Agriculture,
Multan

Central
Cotton
Research
Institute,
Multan

Pakistan
Cotton
Ginners
Association
(PCGA)

All Pakistan
Textile Mills
Association
(APTMA)

Critical Engagements



Input Suppliers



Farmer



Ginners



Textile Industry
& Brands



SGS Lab (Pakistan
& Bulgaria)



FairTSA
(USA & Peru)



Beyond Cotton

Creating Shared Values

CSR Activities:

- **Women's Livelihoods strengthened** by developing different skills including traditional embroidery and stitching.
- **Digital Education enhanced** through the establishment of computer labs in schools located within the project areas.
- **Access to safe drinking water improved** through the installation of RO (Reverse Osmosis) plants in the project areas.
- **Community Resilience strengthened during natural disasters** through relief activities including provision of **heifers and ration packages** for affected farming communities
- **Community Health:** Established medical camps at various project sites and provided essential medicines and healthcare support to rural health units

Our Role





Farm Level Engagement

- Farmer Identification & Mobilization
- Farm Registration & Profiling
- Farmer Capacity Building
- Linkage with input suppliers



Monitoring & Internal Assessment

- Field Monitoring
- Baseline & Risk Assessment
- Farmer Record Verification
- Internal Assessment of Farmers (100%)
- Cross-Verification & Data Integrity
- Corrective Actions



Audit & Certification

- Onboard the Certification Body
- Audit Application & Documents Submission
- Auditors' Visits, Physical Farm Inspection
- Sample Collection & Preparation for Lab
- Laboratory Testing



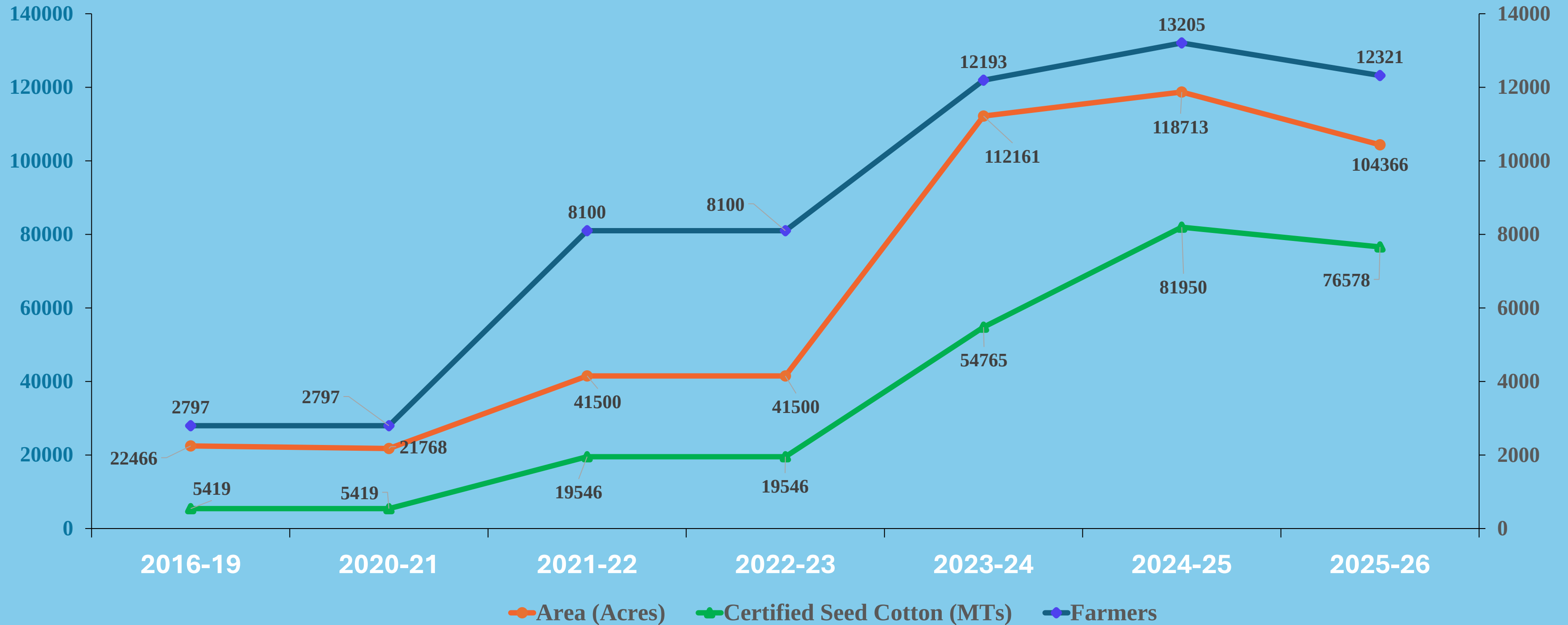
Traceability & Supply Chain

- Data Monitoring & Record Keeping
- Farm-Level Post-Harvest Handling
- Storage & Segregations
- Traceable Transportation
- Data Recording & Traceability
(Harvest, Storage, Segregation, & Transportation)





Certification Journey (2019-25) Organic + Regenerative Cotton





Impacts

Environmental, Social & Economic





CARBON EMISSION

73,703 tCO₂eq.
reduction



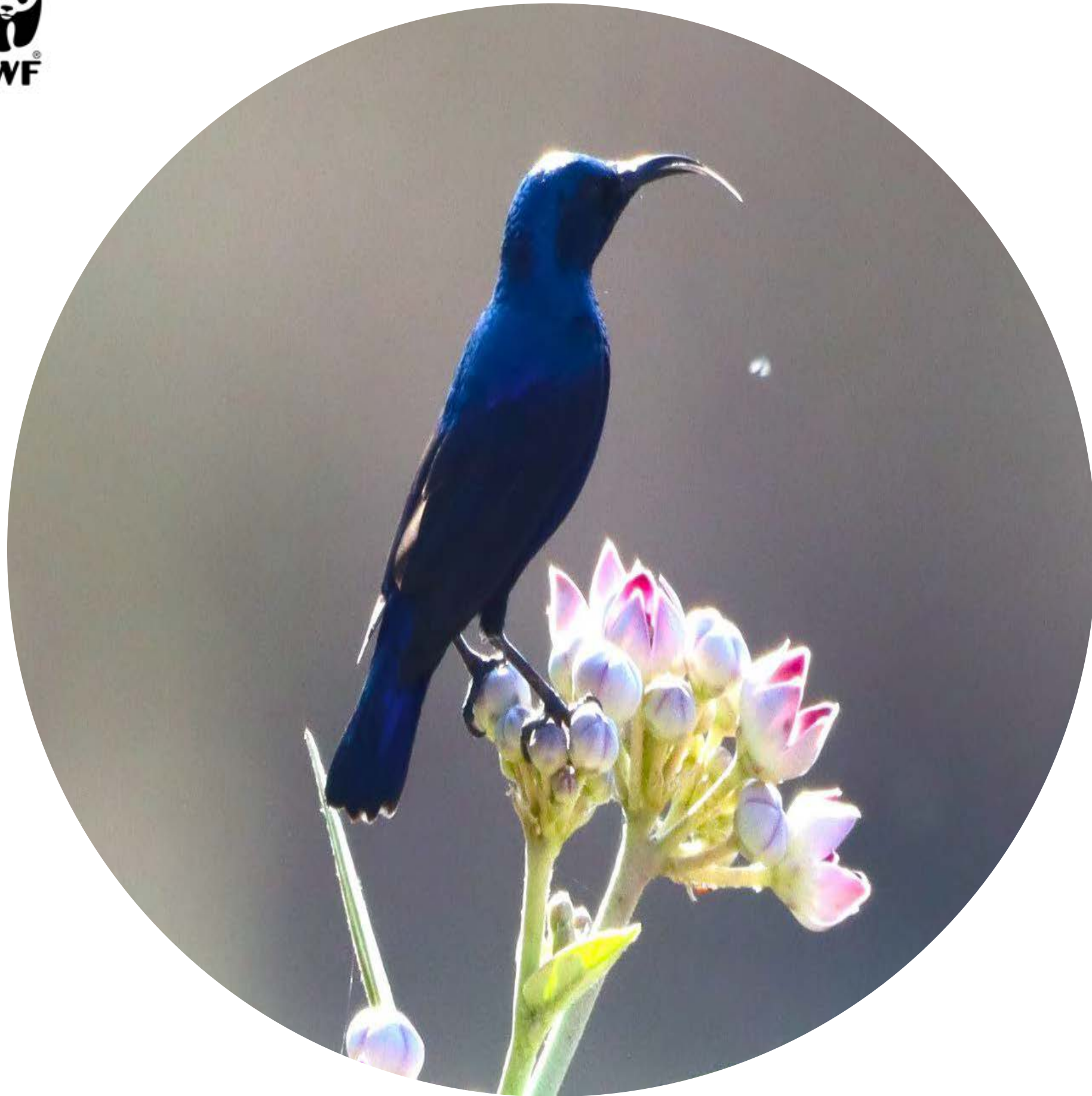
IRRIGATION WATER

198 million cubic meters
water saved through water management & soil
health



SOIL HEALTH

- Improved Soil Organic matter,
- Enhanced microbial activities,
- Appropriate soil PH level



BIO-DIVERSITY

Biodiversity Intactness Index (BII) higher **(88.96%)** in organic cotton farms as compared to conventional farms **(66.6%)**.

Organic PREMIUM

1.7 billion PKR premium
(cash + inkind) paid to the project farmers





FOREIGN EXCHANGE SAVING

Total of **100,026 MTs** lint has been produced since 2019 under the all OCPs. @2,100 USD per Mt, this production translates a foreign exchange saving of around **210 million USD**



VALUE ADDITION

approximately **117.68 million** pair of jeans,
generating an estimated revenue of **706 million**
USD. (@ 6 USD per pair of jeans).



HIGHER INCOME

Organic farming resulted in **20%** higher net profit per acre including premium price on their certified produce



COMMUNITY HEALTH

Disease Symptoms (**Allergies, Skin rashes & Respiratory issues**) Frequency: lower in organic cotton farming (**1.12%**) than conventional farming (**2.8%**)



Call to Action



TRANSFORM: Scale from individual farms, mills, brands and government to landscape-level action for soil, water, biodiversity and climate resilience.

EMPOWER: Put farmers and communities at the centre through knowledge, innovation, resilient livelihoods and incentives.

VERIFY: Build trust through traceability, transparency, data integrity and evidence-based impact.

SHIFT MARKETS: Drive demand, investment and policy change through partnerships and collective action.



Thank You

Cotton endowment is not competitive advantage

What actually determines where textile capital goes

Varun Vaid
Executive Director, Wazir Advisors

Plenary Session 3: Investment, Innovation and
Competitiveness in Cotton Economies

Contents

- 01** | Global cotton landscape
- 02** | What drives investment decisions
- 03** | Enablers for value chain growth
- 04** | Way forward

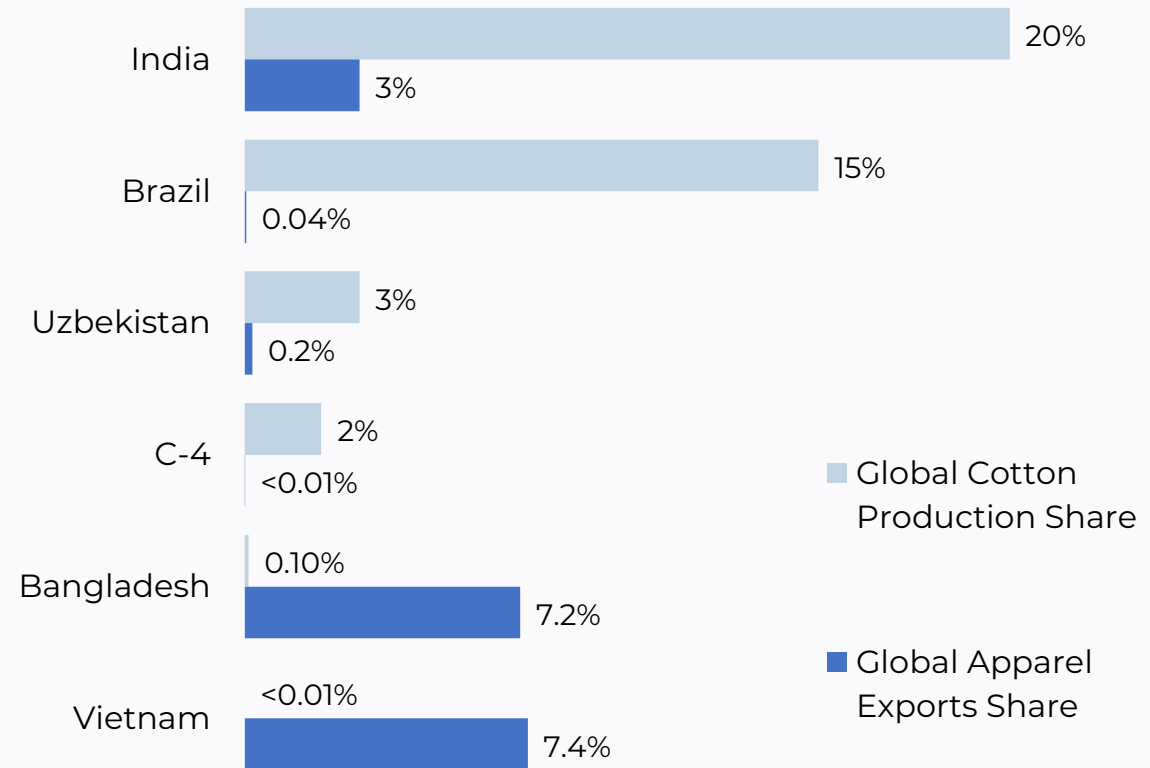
The countries that grow cotton are not necessarily the ones that capture the value

01 Bangladesh and Vietnam grow negligible cotton, yet rank among the world's largest apparel exporters

02 Uzbekistan, India, Brazil and the C-4 hold the fibre; only one of them convert it at scale

03 Fibre proximity is a **third-order variable** in an investment decision, and in landlocked geographies it is fully offset by logistics

Share of Global Cotton Production vs Global Apparel Exports

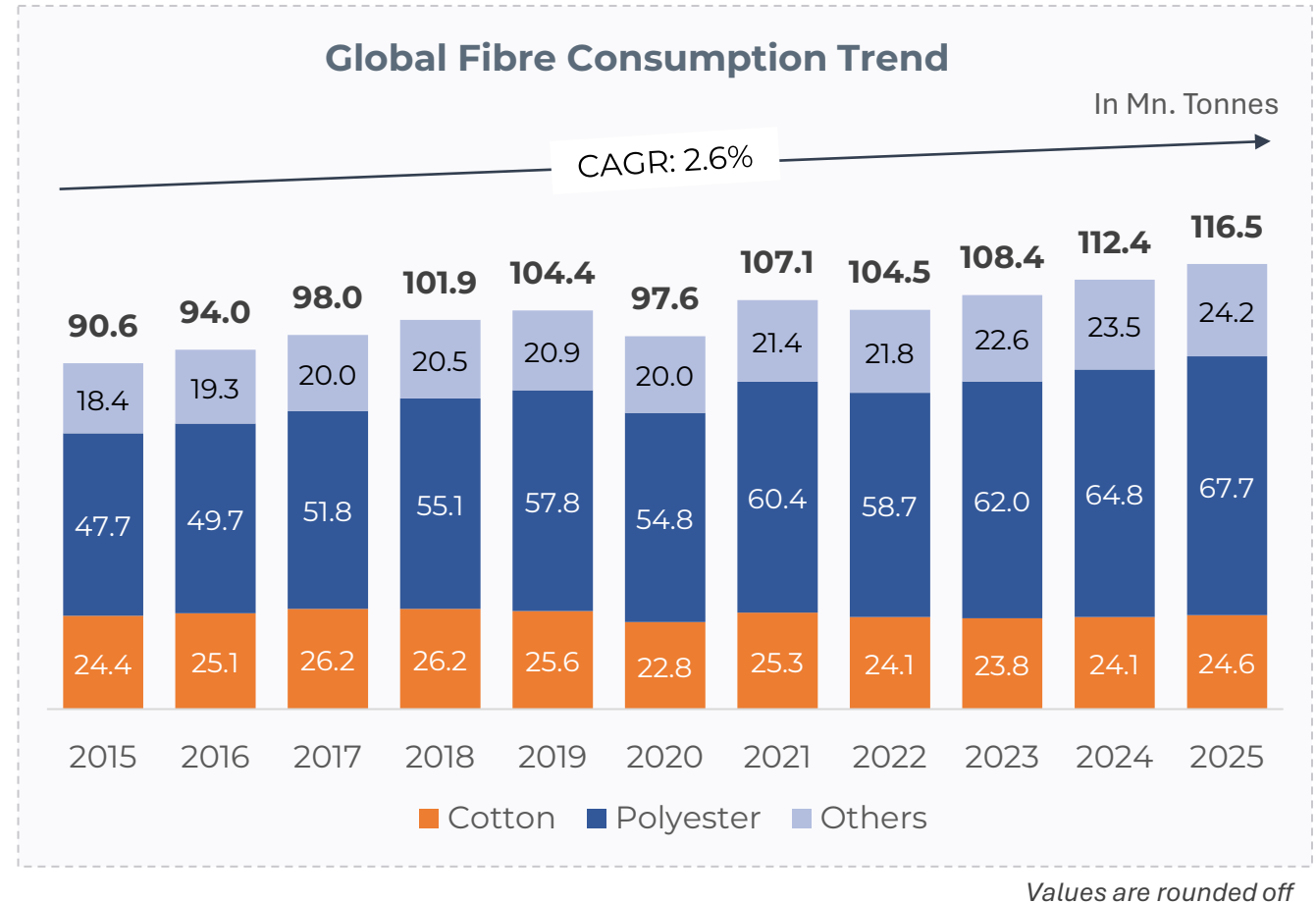


The pie is not growing, so the only investable strategy hinges on overall competitiveness

01 Cotton's volume today is where it was a decade ago with intervening peaks and troughs driven largely by weather and price cycles

02 Polyester accounted for ~77% of fibre volume added over the decade, while cotton's share of the mix declined by ~6 percentage points

03 With the fibre demand growing only modestly, any **new capacity must win share from others** through cost and supply reliability



No investment in this sector can be underwritten on fibre demand growth. It has to be underwritten on conversion.

The investment case is shaped by five fundamental considerations



A strong cotton base creates an opportunity, but investment depends on the competitiveness and predictability of the entire value chain

Cotton abundance alone does not translate into investment readiness

Relative Attractiveness of Select Countries on Competitiveness Parameters

Country	Cost	Access	Logistics	Compliance	Exit	Verdict
 Brazil	L	L	M	H	H	Strong fibre base, but costly conversion
 C-4 Africa	L	M	L	L	L	Lint out, garments in
 India	M	H	M	M	H	Convertor at scale
 Uzbekistan	H	M	L	M	M	Low-cost production, but logistics constrained
 Bangladesh	H	H	H	M	M	Low-cost converter, no fibre base
 Vietnam	M	H	H	M	H	Imports the fibre, exports the value

 Major Cotton Producers

 Limited / No Cotton Production

 High

 Medium

 Low

Six enablers that matter more than subsidies

01 Predictability over incentives

A credible ten-year tariff and tax regime beats an uncertain zero duty market access and plethora of incentives

02 Plug-and-play infrastructure

Ready land, reliable power, effluent treatment, testing & logistics reduce execution risk and improve project economics

03 Skilled workforce

Most failed projects fail on worker, supervisor and manager level skilling, not machinery

04 Duty-free inputs

Garment competitiveness also depends on inputs (trims, accessories) which may have to be imported

05 Prompt approvals

Single-window environmental, labour, and factory clearances matters. A 12-18 months approval delay erodes project IRR more than any tariff differential

06 Ecosystem depth

Proximity to fabric, trims, and buying-house/testing infrastructure that shortens sourcing lead times and reduces working capital lock-up

Three commitments to attract large scale capital in textiles leading to employment, exports and broader economic growth



From Governments

Guarantee the regime, not the subsidy. Ten years of predictability, published and legislated



From Development Finance institutions

Fund the **shared infrastructure** no company can carry alone - effluent treatment, testing labs, skilling centres



From Brands

Pay for the traceability you require. A compliance demand without a funding mechanism is a barrier to entry, not a standard

Having cotton doesn't guarantee capital in value addition. That conversion is engineered through skills, infrastructure and policy.

Varun Vaid

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TEXTILE EXPORT COUNCIL
المجلس التصديري
للغزل والمنسوجات



Egypt Textile Industry

From Cotton to Textiles: Egypt's Story and Future Outlook

Rasha Fahim – Executive Director.

WORLD COTTON DAY | UZBEKISTAN | 2026

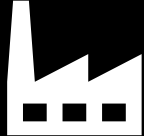
www.textile-Egypt.org

Egypt's Textile Value Chain

from Fiber to Finished ...

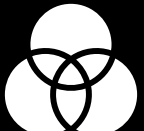


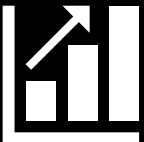
 2nd Largest Industrial Sector

 +9,000 Establishments

 34% of Industrial Output

 \$5.2 Billion Exports (FVC, 2025)

 12% of Total Exports₍₂₀₂₅₎

 9% Growth_{2024/25}

 +2.5 Mn Workforce Size

**WORLD'S
FINEST
COTTON,
AND BEYOND**



**TEXTILE FDI SURGED
BY \$3.5B+ IN 2 YEARS**
(2024/2026)

**\$1.B+ (EGP56 B)
NATIONAL OVERHAUL**
23 state companies consolidated
into 9 industrial giants, aiming to
triple output and cut material
waste from 20% to under 4%.

**WORLD'S LARGEST
SPINNING MILL**
~250,000 spindles -
+30 tons/day - 62,000 m².

::: Key Industry Foundations.



1

Duty-Free Access

Backed by multiple trade agreements, Egypt benefits from **DUTY-FREE ACCESS TO OVER 80 GLOBAL MARKETS**, including EU, USA, Africa, and Latin America — enhancing its competitiveness as a global export hub.

2

Nearshoring/Proximity

As a nearshoring hub, Egypt offers fast Mediterranean access to Europe, Turkey, and Agadir Agreement markets, with **SEA SHIPMENTS IN 6–8 DAYS AND AIR FREIGHT IN APPROXIMATELY 1 DAY**.

3

Integrated Value Chain

EGYPT'S FULLY INTEGRATED TEXTILE VALUE CHAIN — powered by “white gold” (cotton), skilled and cost-competitive labor, and attractive energy pricing—positions the country as a leading, cost-efficient sourcing hub.

4

Sustainable, Compliant, & Nominated Suppliers

Egypt's suppliers hold international certifications, ensuring quality, sustainability, and ethical compliance, and **PROVIDING BUYERS A TRUSTED, TRANSPARENT, AND COMPETITIVE SUPPLY CHAIN**.

::: Production Cost Advantage.



- **Industrial sectors** (textiles, steel, fertilizers, general industry) \$6.75 / MMBtu
- **Other sectors** (power generation, cement, specific contracts) \$6.00 – \$14.00/ MMBtu

- Gasoline:

80-octane: \$0.40/L

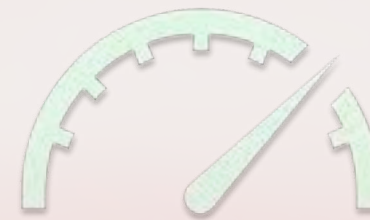
92-octane: \$0.43/L

95-octane: \$0.46/L

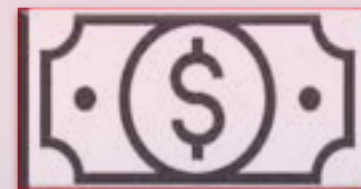
- **Diesel & Kerosene:** \$0.39/L



Fuel



Gas



Electricity

For Industrial Use (in voltage):

- 132 to 220 kV (Ultra): \$0.031

- 33 to 66 kV (High): \$0.033

- 11 to 22 kV (Medium): \$0.037

- 380 V (Low): \$0.045



Water

Water prices in CBM

- For Industrial Use: \$0.09 - \$0.13

- For Other Usage: \$0.07 - \$0.11

- National Minimum Wage:

EGP8,000 equivalent to ~\$155



Wages

**Reliable Energy
Skilled Workforce**

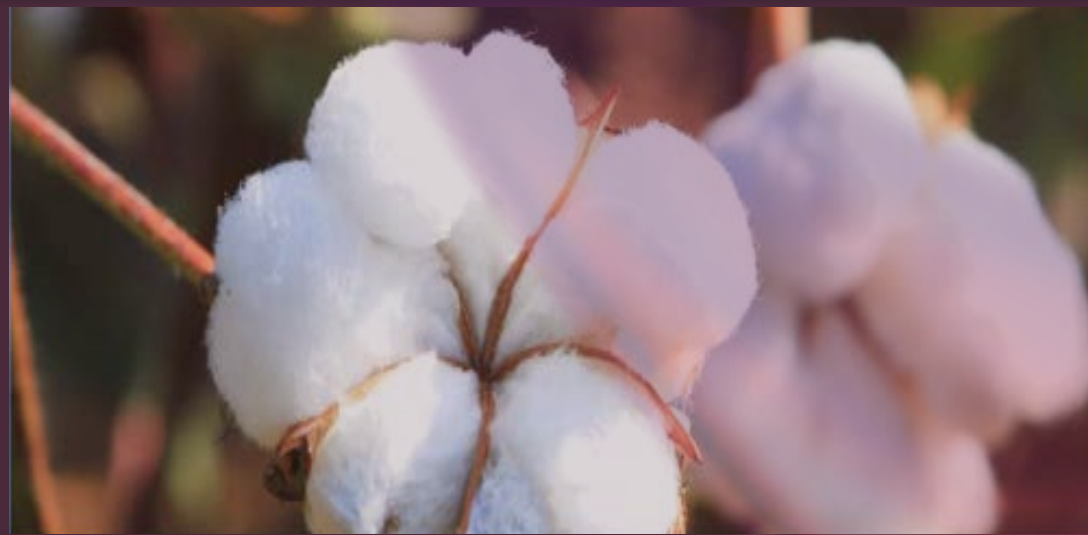
- Egypt is the 4th highest solar potential globally, 2nd highest in the region.
- 2010-2021, solar energy generation capacity achieved a CAGR of 53%, while wind energy grew at 10%.

- Egypt's targets for 2035 electricity mix:
 - 25% by solar energy
 - 14% by wind energy
- Long-term vision to reach 55% by 2050

::: Egypt's Cotton Value Chain: Key Strengths



THE WHITE GOLD



Egypt ranked 11th globally in raw cotton exports in 2025, producing around 300,000 bales annually, with a strong domestic textile manufacturing base supporting demand for Egyptian cotton, particularly Giza varieties

YARNS, DENIM & MORE



Egypt ranked 5th globally among denim fabric suppliers and 11th in cotton yarns in 2025 with major FDI projects and expanding production capacities supporting further growth and a greater contribution from both segments

APPAREL & HOME TEXTILE



Flagship luxury brand – “nit” named after neith, the ancient egyptian goddess of weaving offers premium 100% Egyptian cotton linens, towels, and apparel, adding to Egypt’s private-sector success across shirting, ropes, and woven products.

Global Investments Strengthens Egypt's Textile Hub.



TOTAL SECTOR FDI \$3.51 B

66 Industrial Projects |
5.27M m² Land
Allocated in 2024/26

EAST ASIA

\$2.27B
FDI

4.5 MILLION M²
PORT SAID
MEGA-PROJECT

For 100%
sustainable,
carbon -neutral
textile processing

UP & MEDSTREAM \$1.61B

33 spinning & weaving
Projects | 2.44M m²
Industrial Area

TÜRKIYE

\$1.03B
FDI

TARGETING
INVESTMENTS IN
RECYCLED &
SUSTAINABLE

PET, Denim,
microfiber printing,
and technical
textiles.

APPAREL & HOME TEXTILES \$1.90 B

33 Downstream
Apparel & Home
Textile Plants | 2.83M
m² Industrial Area

GLOBAL FDI's \$113M

Canada, Pakistan,
India, Thailand,
Germany,
Greece & Italy



::: Sustainable Textile, Reliable Supply



FIBERS

Egypt, long celebrated for its “White Gold” cotton, is also emerging as a reliable source of eco-friendly fibers—ranging from premium natural fibers to recycled man-made alternatives.

Egyptian fiber suppliers hold leading global sustainability certifications, including:

BCI Cotton – GOTS – GRS – OCS



YARNS

Egypt offers a wide range of sustainable and regenerated yarns—Available in diverse counts and blends, they come in pure, mixed, gray, and dyed options.

Egypt’s yarn suppliers are certified for sustainability, holding credentials such as:

Oeko Tex STeP – BCI Cotton – GOTS – GRS – OCS – ZDHC – FairTrade – Made in Africa



FABRICS

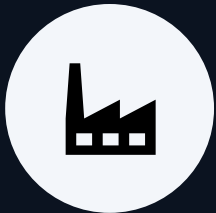
Egypt supplies woven, denim, and knitted fabrics from recycled and organic fibers—for diverse uses in apparel and home textiles, reinforcing its commitment to global sustainability standards.

Egypt’s fabric suppliers comply with:

Oeko Tex STeP – BCI Cotton – GOTS – GRS – OCS – ZDHC – Higg Index

🇪🇬 The Future of Egypt Cotton Value Chain: Key Priorities

“ Efficient Energy, Decarbonization, Recycling, Innovation & Traceability: The New Global Essentials ”



Expanding Higher -Value Manufacturing Capacities

Despite Egypt’s success in exporting cotton fibers, yarns, and fabrics, limited capacity in higher-value finished products, such as apparel and luxury textiles, remains a constraint on the further development of the cotton value chain



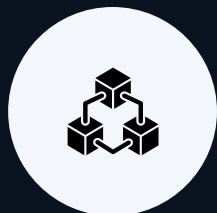
Building Egypt ’s Recycling Ecosystem: Unlocking Local & FDI Potentials

Mechanical recycling of post-industrial cotton waste offers a high-potential, low-barrier pathway to circularity and sustainability production adaptation. Egypt needs an enabling ecosystem to attract local and foreign investment and unlock its 12,000-ton annual waste potential.



Driving Energy Efficiency & Sustainable Production

Spinning, dyeing and printing are among the most energy-intensive processes. Scaling lean manufacturing, enabling solar and wind solutions, and supporting machinery upgrades are vital to achieving more efficient, competitive and sustainable production.



Encouraging End -to-End Traceability & ESG Compliance

Deploying digital verification and science-based monitoring aligned with EU DPP future requirements and global standards (BCI, GOTS, OEKO-TEX, Higg) to ensure end-to-end supply-chain transparency.

Thank You!

Get in Touch



Website
[www.textile -egypt.org](http://www.textile-egypt.org)



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Email
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Ministry of Higher Education, Science and
Innovation of the Republic of Uzbekistan
Tashkent Institute of Textile and Light Industry

DEVELOPMENT OF NEW TEXTILE PRODUCTS TECHNOLOGY AND PREPARING OF SPECIALISTS IN THE TEXTILE INDUSTRY OF UZBEKISTAN

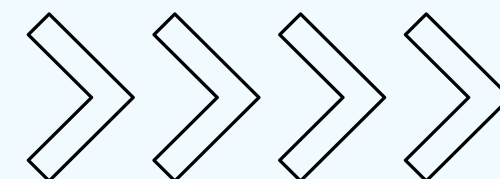
DSc, Professor Nilufar Khankhadjaeva

nilufarkhankhadjaeva@gmail.com



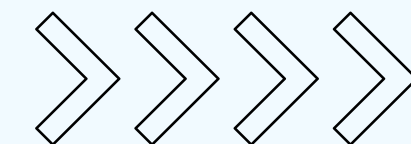
Textile Industry of Uzbekistan

- Strategic sector of the national economy with rapid industrial growth
- 100% local processing of raw cotton into high-value textile products
- One of the world's top producers and global exporters of cotton yarn, fabrics and products
- Full cycle clusters covering spinning, weaving, knitting, dyeing, and finishing
- Transition from exporting raw materials to high-quality finished garments
- Dynamic expansion into European and global export-oriented markets



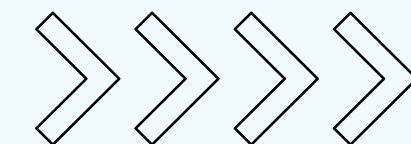
Current Trends in Textile Product Development

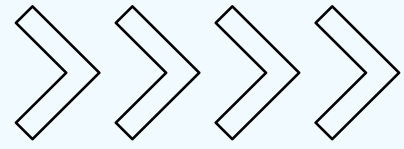
- **Functional and smart textiles:** Integration of sensors and adaptive materials that respond to environmental changes and control body temperature.
- **Medical and healthcare textiles:** Development of antibacterial, hygienic, and biocompatible materials for wound care and hospital use.
- **Compression knitted products:** Specialized fabrics providing graduated pressure for vascular health, sports recovery, and rehabilitation.
- **Technical textiles:** High-strength and protective materials designed for automotive, aerospace, agricultural, and construction industries.
- **Eco-friendly and sustainable materials:** Focus on biodegradable fibers, organic cotton, recycled polyester, and water-saving dyeing technologies.
- **Digital technologies and automated production:** Implementation of AI-driven manufacturing, automated quality control, and smart factory management.



Development of New Knitted Products

- **Design of new knitted structures** : Development of innovative stitch patterns and multilayer fabrics to improve mechanical and physical performance.
- **Selection and combination of natural and synthetic fibres** : Blending breathable organic cotton with high-performance synthetic yarns for optimal durability.
- **Use of elastomeric yarns** : Integration of premium stretch components to ensure maximum flexibility and precise anatomical fit .
- **Optimization of technological parameters** : Tuning loop length, fabric density, and machine settings to achieve flawless manufacturing quality.
- **Improvement of elasticity, dimensional stability and comfort** : Enhancing shape retention and softness so garments maintain their form after washing
- **Development of products for specific consumer needs**: Customizing textile properties for specialized target groups including athletes and medical patients.





Medical and Compression Knitted Products

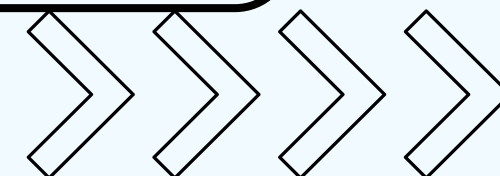
- **Compression hosiery**: Specialized socks and stockings designed to improve blood circulation and prevent varicose veins.
- **Postoperative compression products**: Medical garments that reduce swelling, support tissues, and accelerate healing after surgery.
- **Cosmetological compression masks and bandages**: Adaptive face and body wraps used for aesthetic recovery and skin tightening.
- **Pediatric postoperative products**: Gentle, size-specific compression wear to the sensitive needs of children after medical procedures.
- **Hygienic and skin-friendly knitted materials**: Hypoallergenic, breathable fabrics that prevent irritation and maintain optimal skin climate.
- **Controlled pressure and shape retention**: Advanced knitting techniques that ensure precise, graduated pressure and long-lasting durability.

Research and Innovation

- Investigation of knitted structure and raw-material composition
- Determination of physical-mechanical and hygienic properties
- Air permeability and moisture management
- Thickness and surface density
- Elasticity and recovery
- Application of experimental and digital methods

Modern Technologies in Textile Production

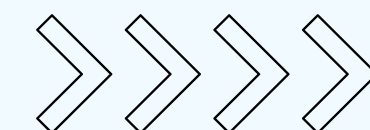
- Computer-aided design
- 3D body scanning and anthropometric data
- Automated knitting machines
- Digital modelling of textile structures
- Data-based optimization of production parameters
- Industry 4.0 technologies



Preparing Specialists for the Textile Industry Tashkent Institute of Textile and Light Industry

at the

- Textile engineers and technologists
- Bachelor's and Master's education
- Doctoral and research training
- Combination of theoretical and practical education
- Laboratory-based learning
- Cooperation between universities and textile enterprises



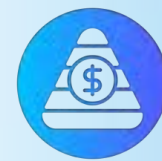
TASHKENT INSTITUTE OF TEXTILE AND LIGHT INDUSTRY



Contracts executed by order
601 mln. so'm



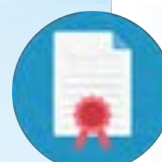
International projects
1.729 mlrd so'm



Funds received from republican
scientific projects and grants
3.484 mlrd so'm



Installed educational laboratory
equipment
4.160 mlrd so'm



Patents (last three years)
213 ta



Bachelors – 9185



Masters – 194



Post Doc – 116



Scientific potential
63,7%



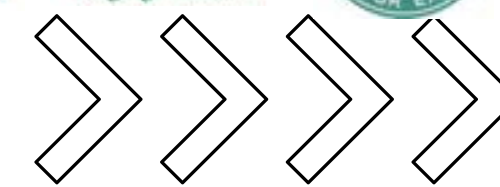
Scopus, Web of Science
293 Scientific articles



Leader scientists
(h-index more than 5) 65

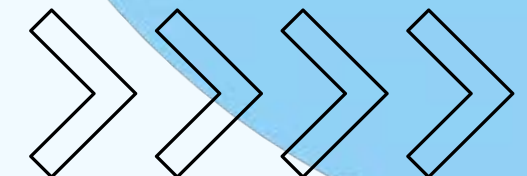


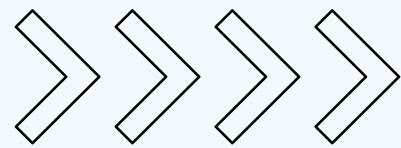
IPAKCHILIK VA JUN
SANOATINI
RIVOJLANTIRISH QO'MITASI



Challenges and Future Opportunities

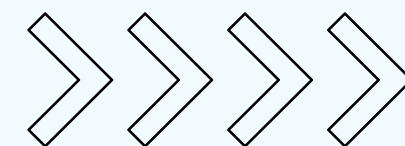
- Need for highly qualified specialists
- Updating educational programs
- Modern laboratory equipment
- Stronger university–industry cooperation
- Development of domestic innovative products
- Import substitution and export competitiveness

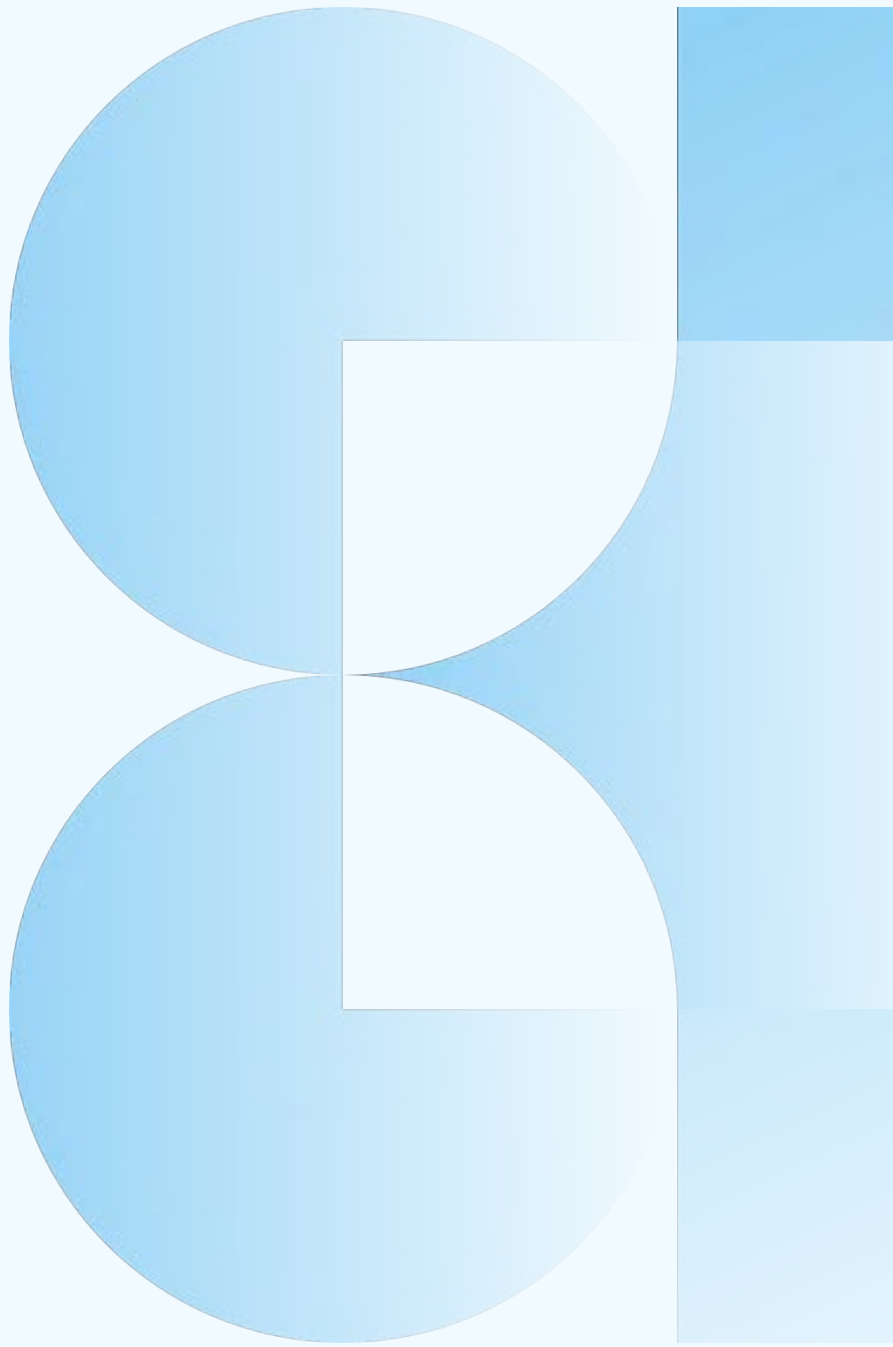




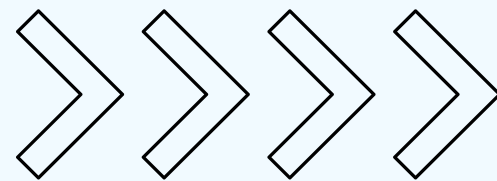
Conclusions

- Textile development requires technology + research + qualified specialists
- Uzbekistan has significant potential for innovative textile products
- Functional, medical and technical textiles are promising areas
- Modern education should be closely connected with industry
- “Innovation in textiles begins with knowledge, research and skilled specialists .”





**THANK YOU
FOR YOUR
ATTENTION!**





Uzbekistan:

Efforts being implemented in Uzbekistan to enter international carbon markets

Current developments and reforms



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Uzbekistan's Accession to the Paris Agreement & Climate Commitments

Ratification Milestones and Evolution of Nationally Determined Contributions (NDCs)

Accession & Ratification Timeline



Accession & Ratification Timeline



April 19, 2017 — Uzbekistan officially signed the Paris Agreement at the UN Headquarters in New York.



Official Ratification



October 2, 2018 — Enacted Law No. O'RQ-491 "On Ratification of the Paris Agreement".



Strategic Objective

- Formally joined global climate efforts under the UNFCCC to limit global warming (1.5–2°C) and drive the national transition toward a low-carbon green economy.

Net-Zero (Long-term Decarbonization Strategy) envisages the carbon-neutral development by 2055

Evolution of Uzbekistan's NDC Targets

NDC 1.0

2017

10%

target was set to reduce GHG intensity relative to GDP by 10% compared to 2010 levels by 2030.

NDC 2.0

2021

35%

reductions of GHG intensity relative to GDP as a new strengthened climate targets by 2030.

NDC 3.0

2025

50%

more ambitious target was announced in COP'30 in Belem, Brazil – to reduce emissions intensity by 50% by 2035.



Active Carbon Trade Legislation in Uzbekistan

No. 117



Resolution of the Cabinet of Ministers of the Republic of Uzbekistan on Approval of the Regulation on the Implementation of Projects in the Field of Greenhouse Gas Emissions Reduction and Carbon Units Trading



March 7, 2024

Resolution No. 117 of the Cabinet of Ministers of the Republic of Uzbekistan was adopted to establish temporary rules and procedures for implementing projects aimed at reducing greenhouse gas emissions and for conducting transactions with carbon units in VCM. The resolution defines the requirements for project developers, validation and verification, issuance and registration of carbon units, accounting and trading mechanisms. **It is worth noting that the Government is in process of adoption of permanent legislation.**



Rules and procedures established



Supports GHG emissions reduction



Enables carbon units trading



Promotes green economy and investments

No. DP-110



Decree of the President of the Republic of Uzbekistan on Measures for Participation in the International Carbon Credit Market



July 7, 2025

DP-110 was developed to integrate Uzbekistan into the international carbon credit market and create a legal framework for trading carbon units. It aims to support the country's obligations under the Paris Agreement by reducing greenhouse gas emissions and improving energy efficiency. The decree also encourages the development of green technologies and renewable energy, attracts foreign investment into low-carbon projects.

Under DP-110: Regulation on the Procedure for Participating in International Carbon Credit Markets has been developed to ensure implementation of this Decree and is under review for approval through the established process.

LRU-1073



Law of the Republic of Uzbekistan On the limitation of greenhouse gas emissions



July 7, 2025

LRU-1073 was adopted to regulate reductions of greenhouse gas emissions and limit the negative impacts of climate change. It also supports Uzbekistan's NDC (Nationally Determined Contribution) targets, through establishment of strong institutional arrangements both in climate change adaptation and mitigation. It also helps fulfill the country's commitments under the Paris Agreement and establishes an overall framework for carbon accounting and carbon credits trading.

Institutional Framework and Governance



Interagency Council

Prime Minister-led council and state agencies responsible for the national GHG inventory.

- Defines key principles and priority areas for the national carbon units market.
- Approves annual carbon unit trading volumes, considering GDP growth and Paris Agreement commitments.
- Oversees green economy strategy and carbon market policy.
- Ensures public disclosure of annual trading volumes through the Center.



Ministry of Economy and Finance

Coordinates and regulates carbon market activities, including authorization and approval processes.

- Coordinates all matters related to the establishment and operation of the carbon market.
- Approves carbon crediting mechanisms and methodologies based on Working Group recommendations
- Authorizes market activities, participants, cooperative approaches and international transfers of mitigation outcomes.
- Approves carbon market guidelines, templates and instruments.



Center for Green Economy Projects (CGEP)

Provides operational support, manages the National Carbon Units Registry.

- Develops standardized templates and forms in line with international standards.
- Operates the National Carbon Units Registry.
- Coordinates cooperation with international financial institutions and donors.
- Raises awareness of carbon market rules and requirements among public and private stakeholders.
- Reviews technical specifications for selecting service providers in government projects.



Pursuant to Presidential Decree No. PF-110 of 7 July 2025, the interagency council established a dedicated Working Group tasked with appraising proposed mitigation activities, assessing their consistency with Uzbekistan's Nationally Determined Contribution and recommending decisions on authorisation.

Developing Uzbekistan's National Carbon Market Regulation

A national procedure for participation in the international carbon units market under Article 6 of the Paris Agreement

Why the regulation matters

-  **One national gateway**
A single, transparent procedure for every carbon project seeking access to international markets.
-  **Environmental integrity**
Verified results, a national registry and safeguards against double counting.
-  **Climate finance**
A legal basis that unlocks green investment and additional revenue for the economy.

International trade

20% retained for Uzbekistan's climate target

80% available for international sale

Compliance market — state-to-state transfers under Articles 6.2 and 6.4.
Voluntary market — offsetting through independent standards such as Verra and Gold Standard.

Why the regulation matters

-  **Clear national rules**
Predictable procedures for investors and project developers.
-  **Credible accounting**
MRV, a national registry and protection of the climate target.
-  **Green investment**
Access to climate finance and new sources of project funding.

Four permissions along the life of a project

Letter of No Objection

An optional first signal of state support. Not an authorisation.

1



Letter of Approval

Approves the activity and its methodology for implementation in the country.

2



Cooperative approach authorisation

Opens the Article 6.2 pathway and sets the maximum volume and conditions.

3



Mitigation outcome authorisation

Final permission for verified units, with the corresponding adjustment applied.

4

Procedure of authorizing the carbon units under the PA Article 6

Paris Agreement Article 6 — Key Process Steps:



Currently, the Ministry of Economy and Finance with the active support of the Center of Green Economy Projects, the World Bank, GIZ and UNDP has designed and submitted the **draft Resolution** on establishing the formal procedures of authorization of mitigation outcomes towards international transfer. The scheme above illustrates major steps to follow to obtain necessary approvals / authorizations to transact the ITMOs abroad.

Priority Sectors: High NDC Impact through Carbon Trading



Energy Generation

Targeting **25 GW** of renewable capacity to secure a 40-54% RES mix by 2030.

Modernizing TPPs with efficient CCGTs and reducing transmission losses to 2.35% .



Industrial Processes

Mandating a **20% energy efficiency gain** by 2026. Transitioning to "dry" cement production and pioneering green hydrogen for low-carbon ammonia synthesis .



Transportation

Accelerating the electrification of public transit systems. The strategic goal sets the **electrification of 65%** of the national **railroad network** by 2030 .



Water & Agriculture

Introducing water-saving technologies across 50% of irrigated lands. Slashing pumping station electricity use from 8.0B kWh to **6.0B kWh** via motor modernization.



Waste Management

Establishing a **>65% recycling rate** for household waste. Targeting a 50% reduction in municipal solid waste landfilling, paired with landfill gas (LFG) capture frameworks .



Forestry (LULUCF)

Executing the **"Yashil Makon"** initiative (200M trees annually) to reach 30% urban green cover. Mass afforestation of the dried Aral Sea bed to build carbon sink assets .

Monitoring, Reporting and Verification (MRV)

Under the Paris Agreement, the MRV system — short for Measurement, Reporting, and Verification — is a framework established to track and assess the implementation of climate actions by countries, primarily in relation to their Nationally Determined Contributions (NDCs). It forms a key part of the Enhanced Transparency Framework (ETF) described in Article 13 of the Agreement.

Measurement:

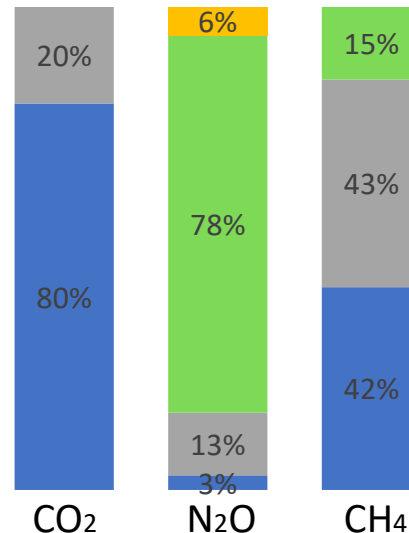
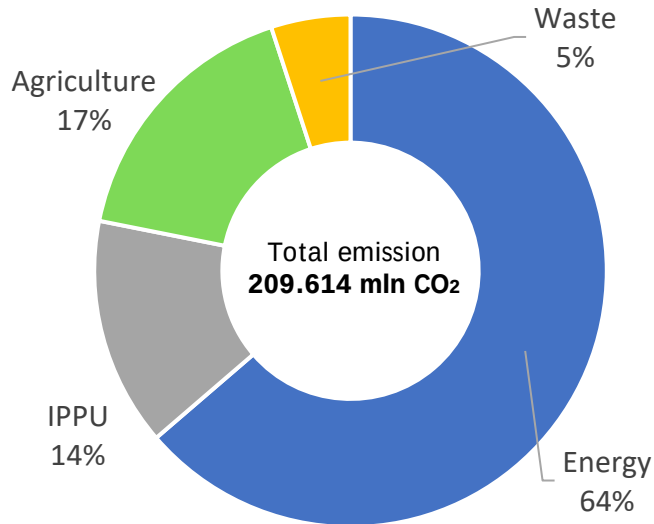
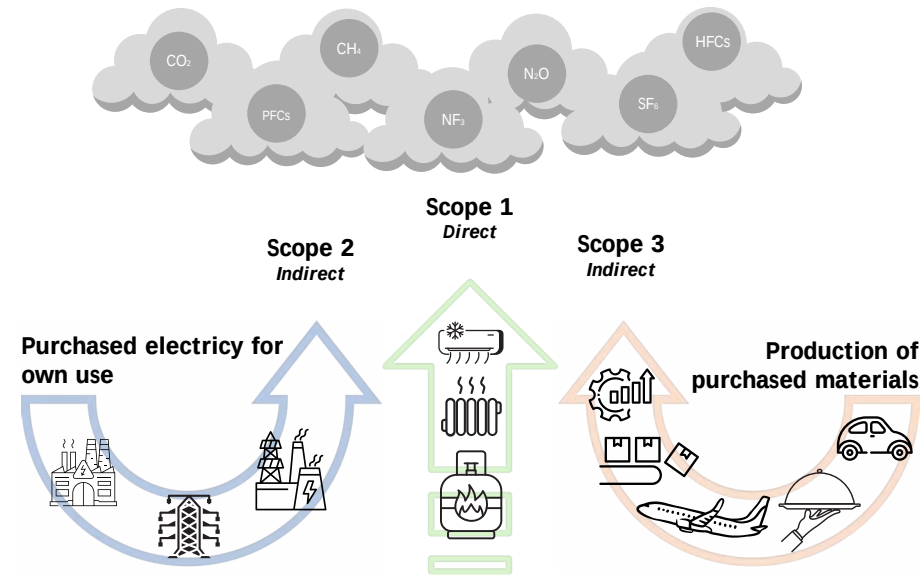
Countries measure their GHG emissions and progress toward climate goals using internationally agreed methodologies (e.g., IPCC Guidelines).

Reporting:

Countries submit Biennial Transparency Reports (BTRs), which include: GHG inventories, Information on progress toward NDCs, Climate adaptation actions, Support received and provided.

Verification:

Technical Expert Review (TER) for accuracy and completeness, Facilitative Multilateral Consideration of Progress (FMCP) to ensure accountability and build mutual trust.



Energy Agriculture IPPU Waste

The Energy sector is by far the largest contributor to CO₂ emissions, accounting for nearly 80%.

For CH₄ emissions, sources are more diversified: the Energy sector and Agriculture sector contribute almost equally (around 42% each), followed by the Waste sector (16.1%).

N₂O emissions are predominantly from the Agriculture sector, making up 77.9% of the total. The IPPU sector and Waste sector also contribute, but to a lesser extent.

HFCs emissions are exclusively linked to the IPPU sector, specifically from refrigerants used in air conditioning and refrigeration systems.

UZBEKISTAN RENEWABLE ENERGY PROGRAM

Purpose of the program

Clean energy production through 17 renewable energy facilities, modernization of power grids, and monetization of carbon units in the international market.

LEGAL BASIS

«Uzbekistan-2030» strategy
• NDC 3.0

Increasing the share of renewable sources in electricity generation to 54 percent by 2030.

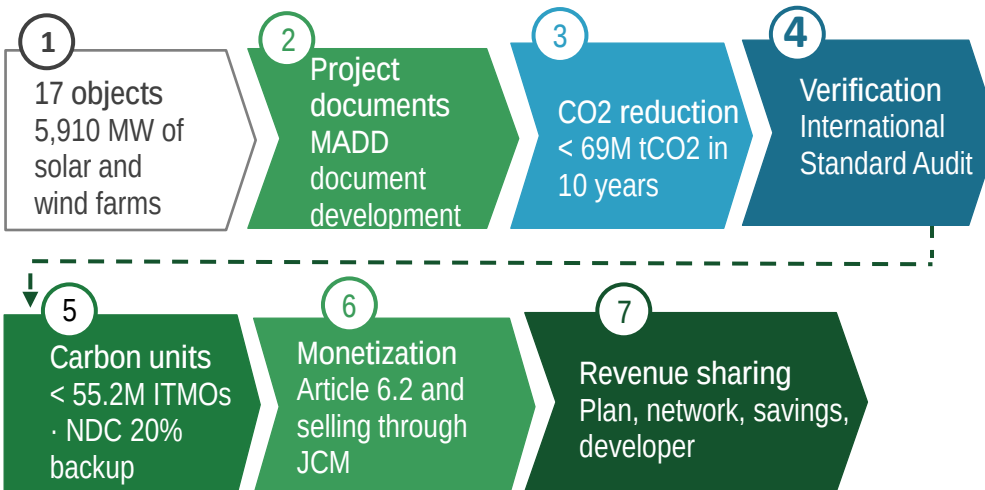
Cabinet of Ministers
RESOLUTION NO. 790



The essence of the program and the stages of its implementation

The achieved GHG emission reductions will be monetized in international markets (Article 6.2, JCM) in the form of carbon units (ITMO).

Funds received from the implementation of the program will be directed toward the modernization of power grids and the reduction of losses, as well as support for institutional reforms.



Expected results

5 910 MWt

17 items of RES: 15 solar (4 910 MWt) + 2 wind (1 000 MWt)

≈ 69 million tCO₂

Expected emissions reduction in 10 years

< 55,2 million carbon units for sale



PROGRAM BENEFITS



Investment volume

> \$4.5 billion project cost; private investors and state-guaranteed electricity procurement;



Growth in demand

Electric vehicles in 2025 +136%; electrification is rapidly increasing demand



Major investors

Masdar, ACWA Power, China Gezhouba, Total Energies and other major international companies



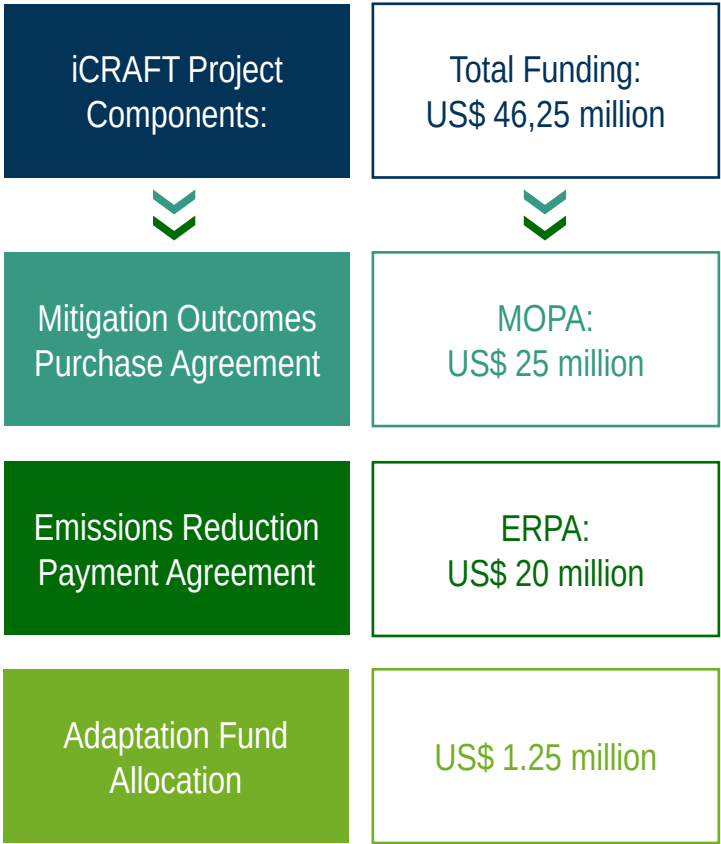
Japan - JCM

JCM mechanism, supply of Japanese equipment and strategic climate partnership

iCRAFT Project with the World Bank (I)

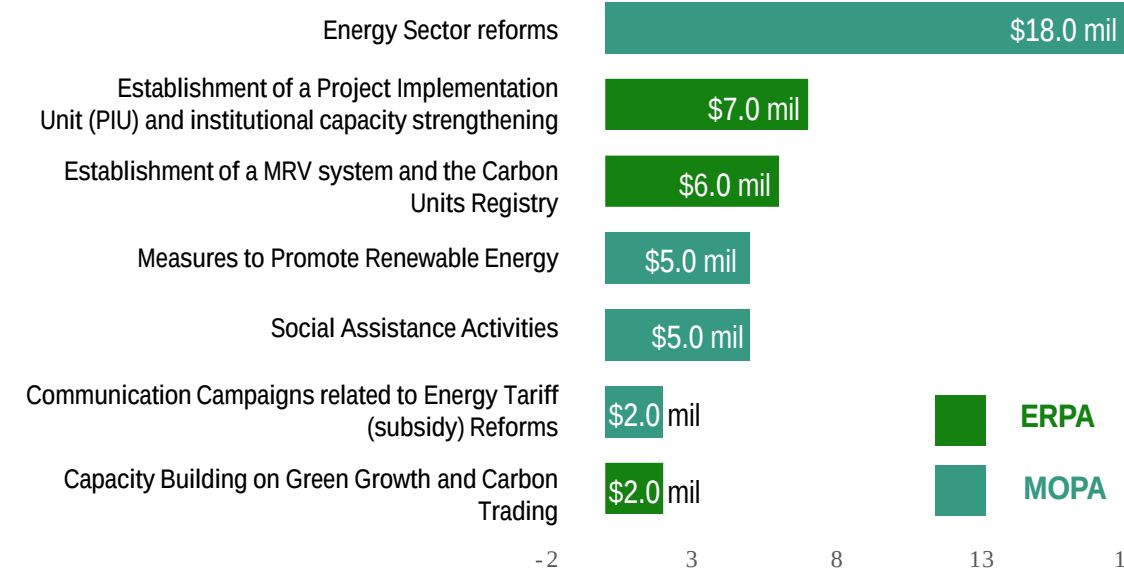


WORLD BANK GROUP



Innovative Carbon Resource Application for Energy Transition (iCRAFT) is the World Bank's first of its kind global policy crediting initiative. iCRAFT focuses policy measures to implement comprehensive energy sector reforms. Based on the iCRAFT Project, **23.6 million tCO₂eq** of GHG emissions have been **reduced** and **verified** following the first wave of energy tariff reforms in Uzbekistan. To date, **\$20 million** has been transacted across three tranches under the Emission Reductions Purchase Agreement (ERPA) with the World Bank's Transformative Carbon Assets Facility (TCAF). Other three transactions totaling **\$25 million** are expected in 2026-2028 under the Mitigation Outcomes Purchase Agreement (MOPA).

iCRAFT Funds Allocation by Components, in US\$ million



International Cooperation



WORLD BANK GROUP

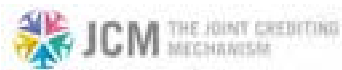
The iCRAFT Project's two tranches at **\$15 million** transacted under ERPA from the **Transformative Carbon Assets Facility** of the World Bank. Overall **23.6 million tCO₂eq.** of GHG emissions reduced after the first wave of energy tariffs reform in Uzbekistan.



Based on the GHG Protocol, a **methodological guide** was developed to determine the volume of GHG indirectly generated from consumption of energy resources (**Scope 2**), as well as to calculate the volume of Scope 2 emissions by business entities.



The “**RISQ**” online platform was launched to enhance the **Measurement, Reporting and Verification** (MRV) system in cooperation with the Agence Française de Développement (AFD) and Citepa.



Joint Crediting Mechanism (JCM) is being launched in bilateral cooperation with the Government of Japan. Under the JCM up to **50% of project costs** could be compensated when GHG Emissions reduced.



Within the framework of a joint initiative between UNDP and the Government of Uzbekistan, the project “**Promoting Innovative Decarbonization Solutions through Support to the Implementation of the Joint Crediting Mechanism and Demonstration of Decarbonization Potential in Public Buildings and Public Transport in Uzbekistan**” has been completed.



The draft of **Terms of Reference** of the web-based “**Green Economy Platform**” was developed in cooperation with the GIZ.



4 hydro-power plants (total capacity: **962 MW**) of the JSC “UzHydroEnergy” registered in the Evident platform & more than **485 894 I-RECs** were issued in 2024-2026.

Thank you!



**MINISTRY OF ECONOMY AND
FINANCE OF THE
REPUBLIC OF UZBEKISTAN**



**CENTER OF GREEN
ECONOMY PROJECTS**
UNDER THE MINISTRY ECONOMY AND FINANCE

WORLD COTTON DAY 2026 · TASHKENT

From crop residue to carbon income

How cotton farmers can produce biochar and leverage its benefits

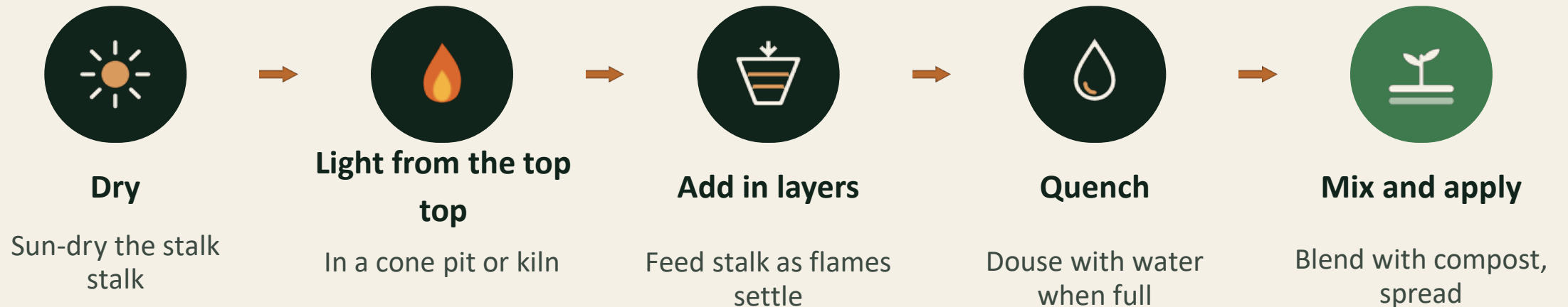
Merago · Geoclara

Merago Inc., California, USA

MAKING BIOCHAR

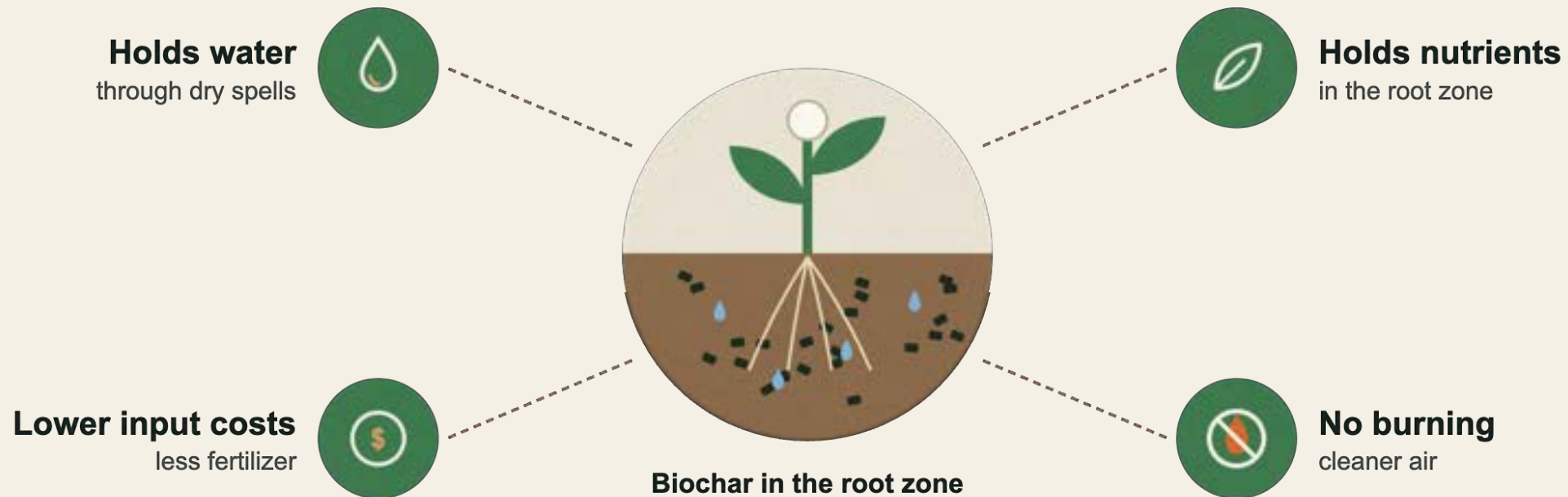
How a farmer makes biochar

A cone pit dug in the field is enough. The flame burns the smoke, so the char beneath is protected from air.



FOR THE FARMER

Why biochar is good for the farmer's field



NOTE: Results vary with soil, crop and how biochar is applied; benefits build over several seasons.

CARBON CREDITS

What is a carbon credit?



Verified

independent check



Issued

unique serial in a registry



Bought

by a company



Retired

used once, never resold

WHAT IT MEANS FOR A FARMER

Paid for practices on their land

A new income beside the crop

Training and support come with it

THE CATCH

Making biochar is easy. Making credit-grade biochar is not.



Biochar

Stalk, a pit and a match



A credit needs the following:



Proven quantity

The exact tonnes, not an estimate



Permanence

Carbon that stays out of the air



Counted once

One tonne, one credit, one owner



Net of emissions

Smoke and methane, 75% 75% permanence share



Independent proof

Checked by someone with no stake



Fair to farmers

Informed consent, payment transparency

THE PATHWAY

From biochar to carbon credits: the journey

ON THE FARM →



1

Register

farmer, plot, consent



2

Produce

each burn recorded



3

Measure

volume, sample, bag code



4

Apply

blended, spread, traced

← TO MARKET



8

Share

revenue distributed



7

Sell

to companies



6

Issue

credits in a registry



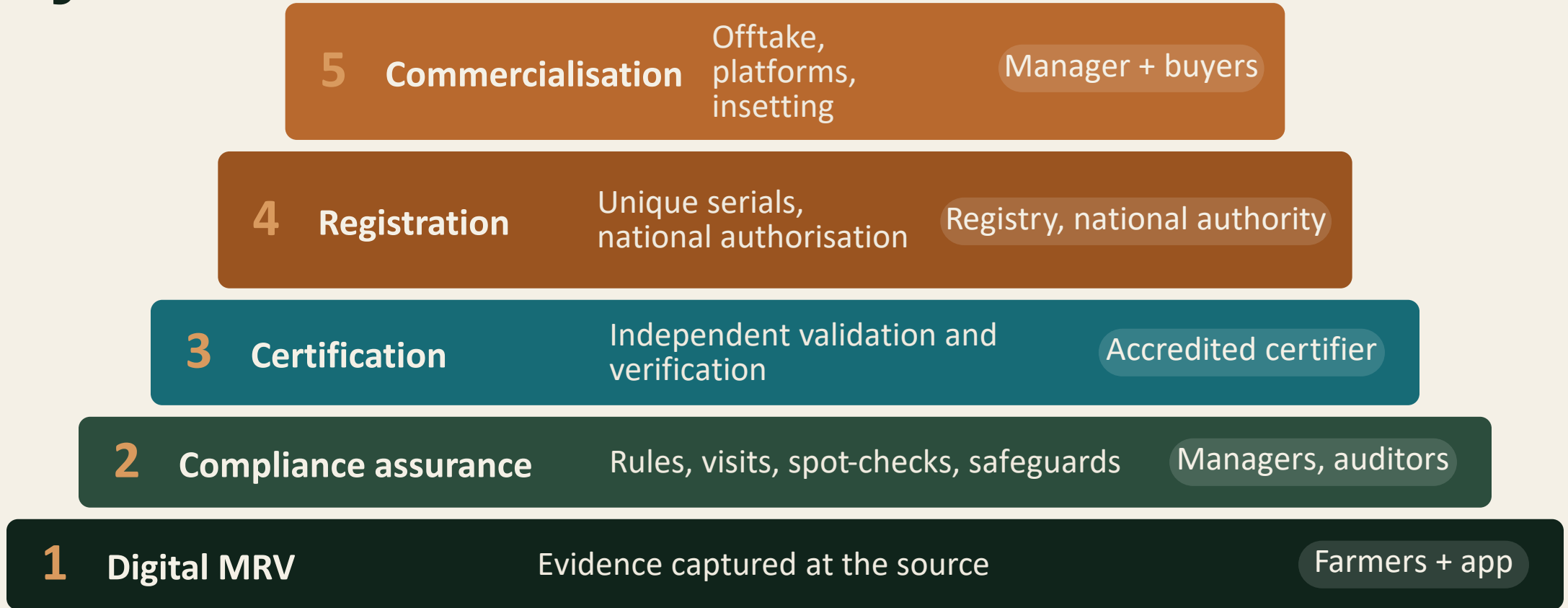
5

Verify

visits and audit

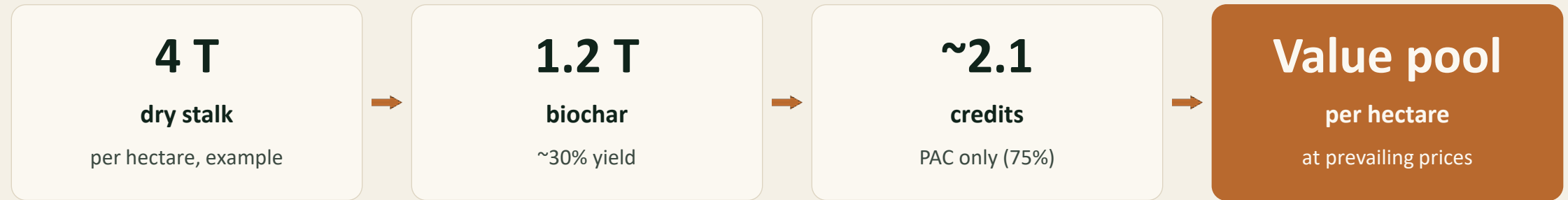
END TO END

Building a credible carbon asset, layer by layer



THE ECONOMICS

From a hectare of stalk to a pool of value



THE VALUE POOL IS SHARED ACROSS THE CHAIN



**Verification and
registry**



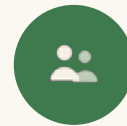
**MRV and field
operations**



**National levies and
benefit-sharing**



**Operators and network
management**



**Farmers and
communities**

NOTE: Indicative physical yields; actual values depend on feedstock, kiln and methodology.

THE MARKET

What one credit of biochar sells for

~€105

Indian artisanal biochar, per tonne
CO₂

€125–145

Puro.earth biochar price index, 2025

\$164

Global average biochar credit, 2025

PRICES VARY WITH

Method and
permanence

Data quality

Project scale

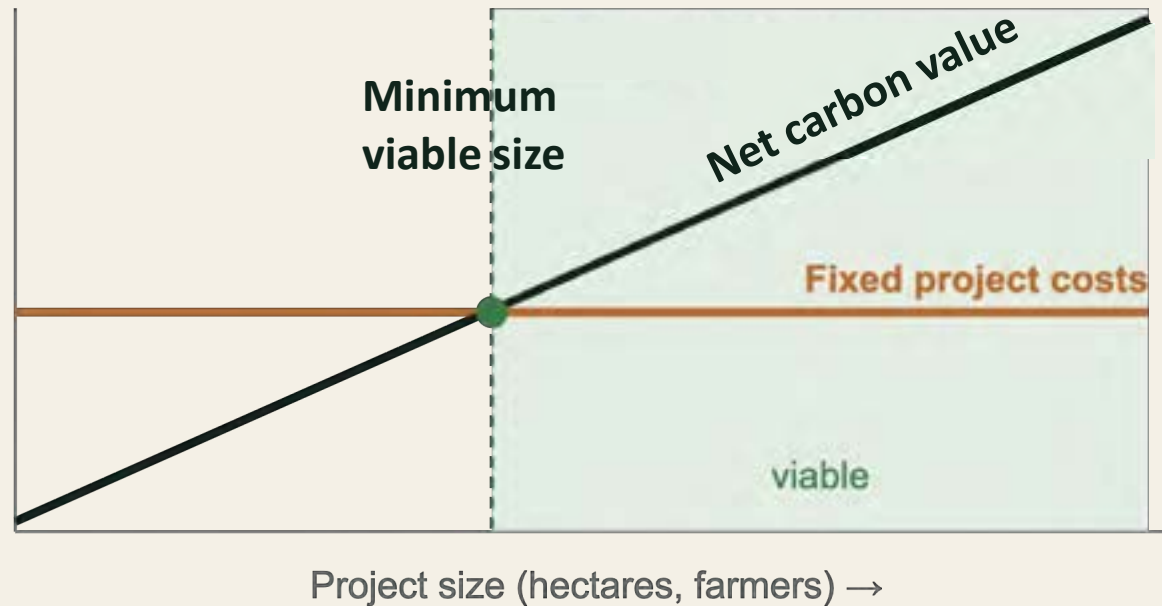
Co-benefits

Buyer and
contract type

NOTE: Published reference prices per tonne CO₂e; sources as shown. Not a price forecast.
price forecast.

COSTS AND SCALE

Every project has a minimum viable size



Conceptual illustration; thresholds differ by country and project.

WHAT MOVES THE THRESHOLD

Credit price

higher price, lower threshold

Verification fees

vary by registry and country

Labour and travel

farm density matters

National fees

levies and benefit-sharing rules

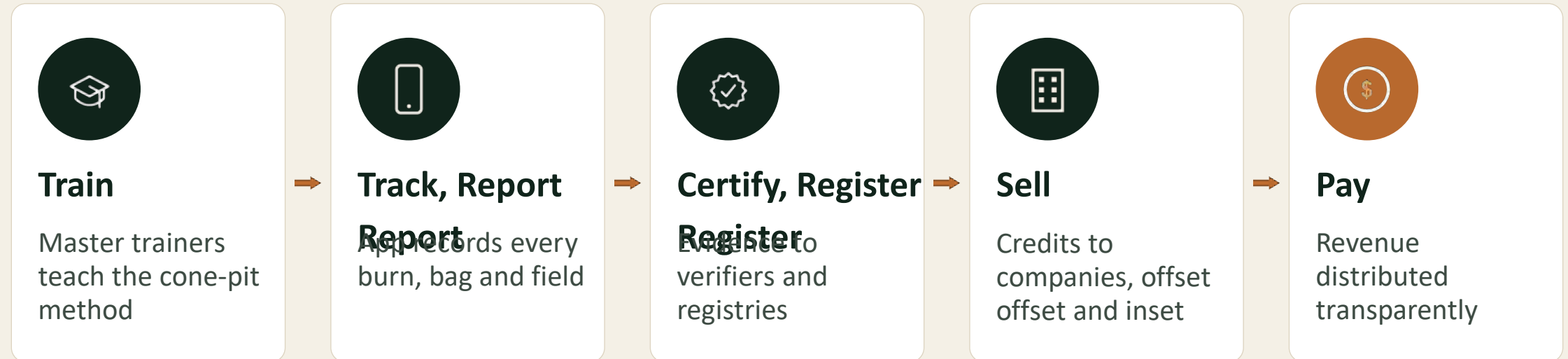
Logistics

collection, compost, transport

OUR ROLE

Geoclara Carbon Management Technologies

An Initiative of Merago Inc, a California company



Geoclara technology and program management to scale across India, Tanzania, and Uzbekistan.

Cotton residue into soil carbon, and soil carbon
into farmer income.

Thank you.

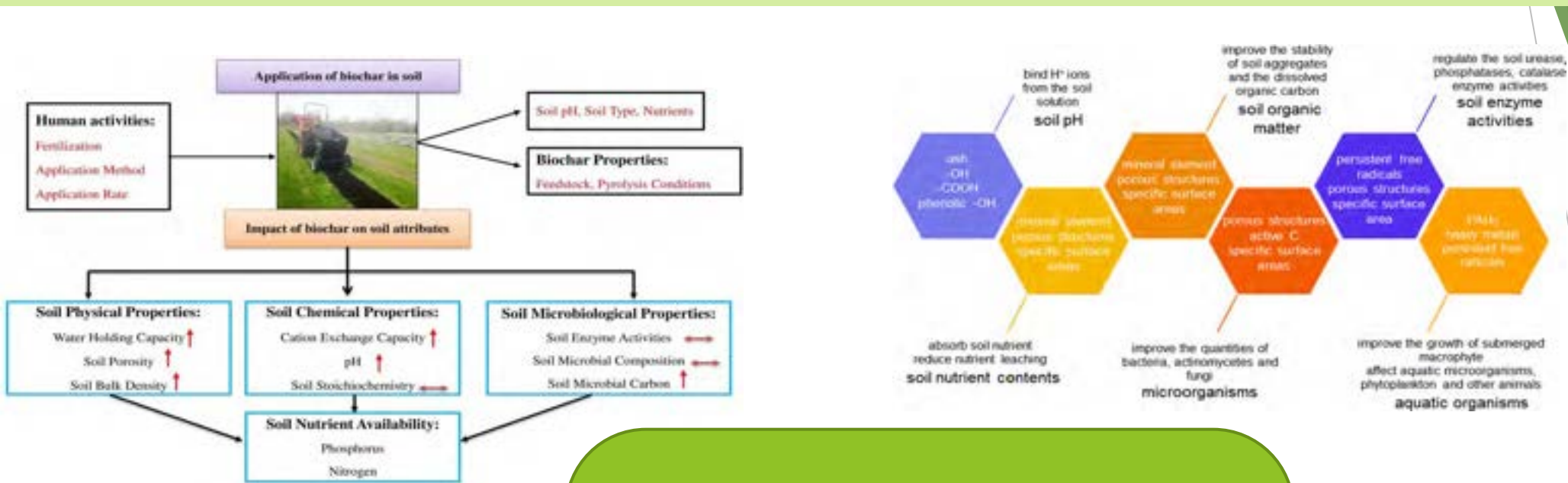
THE ROLE OF BIOCHAR IN ORGANIC FARMING



**MINISTRY OF AGRICULTURE OF THE
REPUBLIC OF UZBEKISTAN**

Current Situation

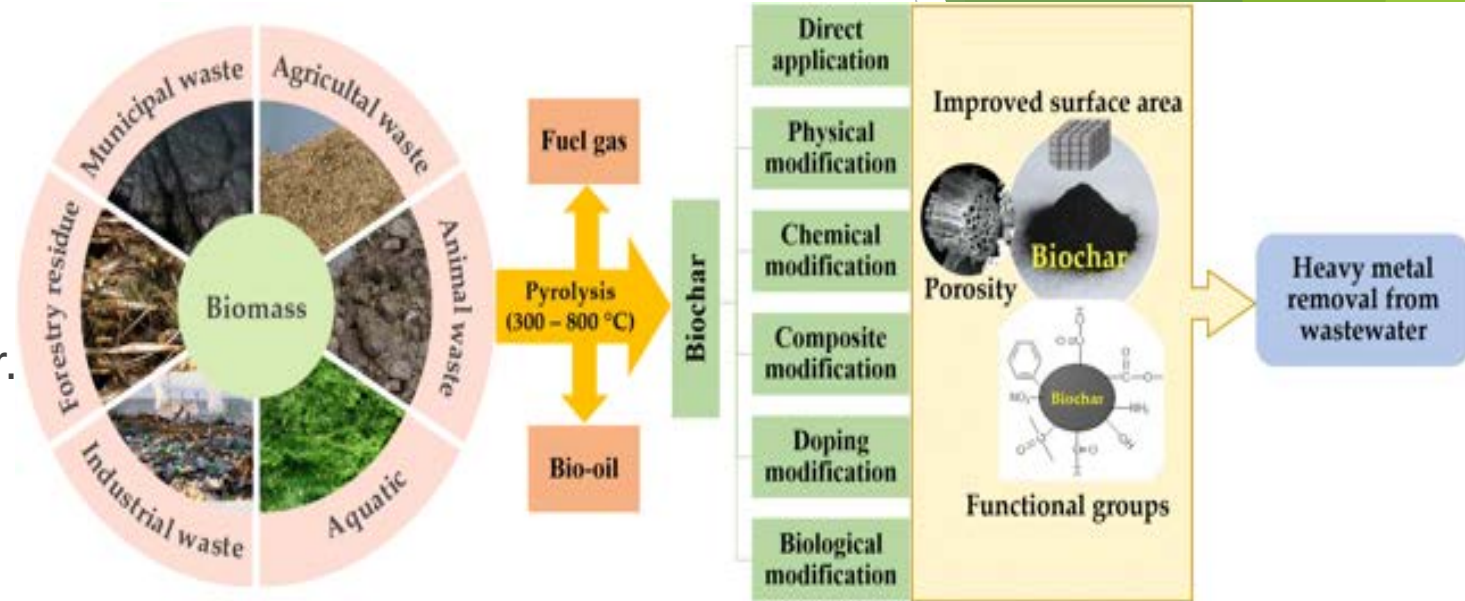
What is the Biochar?



- **Biochar** is a carbon-rich soil amendment produced from **organic waste** through pyrolysis, improving soil health, increasing crop productivity, and supporting sustainable agriculture.
- **Key benefits** of Biochar.
 - Improves **soil structure**.
 - Increases **water retention**.
 - Enhances **nutrient retention** and **availability**.
 - Supports **microbial life**.

THE PROCESS OF PRODUCING BIOCHAR

- ▶ **Step 1: Select biomass**
Choose a feedstock like wood scraps, plant trimmings, or agricultural waste. Cut it into small pieces (under **3 cm**) for efficient heating.
- ▶ **Step 2: Heat biomass using pyrolysis**
Place the biomass in a low-oxygen container. Heat it to temperatures between **350-700°C** to thermally decompose it.
- ▶ **Step 3: Cool the biochar**
Stop the heating process by quenching the hot material with water. This cools and solidifies the biochar.
- ▶ **Step 4: Charge the biochar**
Add nutrients to the porous biochar. Mix it with compost, or quench it with a diluted liquid like animal urine or a manure slurry.
- ▶ **Step 5: Apply to soil**
Add the nutrient-charged biochar to the soil to improve water retention and soil structure over the long term.



THE PROCESS OF PRODUCING BIOCHAR

NEEDED COMPONENTS:



Shovel



Conical shape



Cotton stalks



Matches



Long stick



Water

THE PROCESS OF PRODUCING BIOCHAR

DIGGING THE PIT

Dig a round, cone-shaped pit with a diameter of **2.0 m** and a depth of **1.5 m**.

Ensure there are **no flammable materials** near the outer edge of the pit. To prevent **fire spread**, it is recommended **to place stones** around the pit.

Store the pile of **cotton stalks 2 meters** away from the pit **to prevent accidental ignition**



What is a Carbon Credit?

Reduction or removal of one metric ton of CO₂ (or its equivalent in other greenhouse gases) from the atmosphere.

This credits can be sold to companies or individuals looking to offset their emissions.

Types of Carbon Credits:

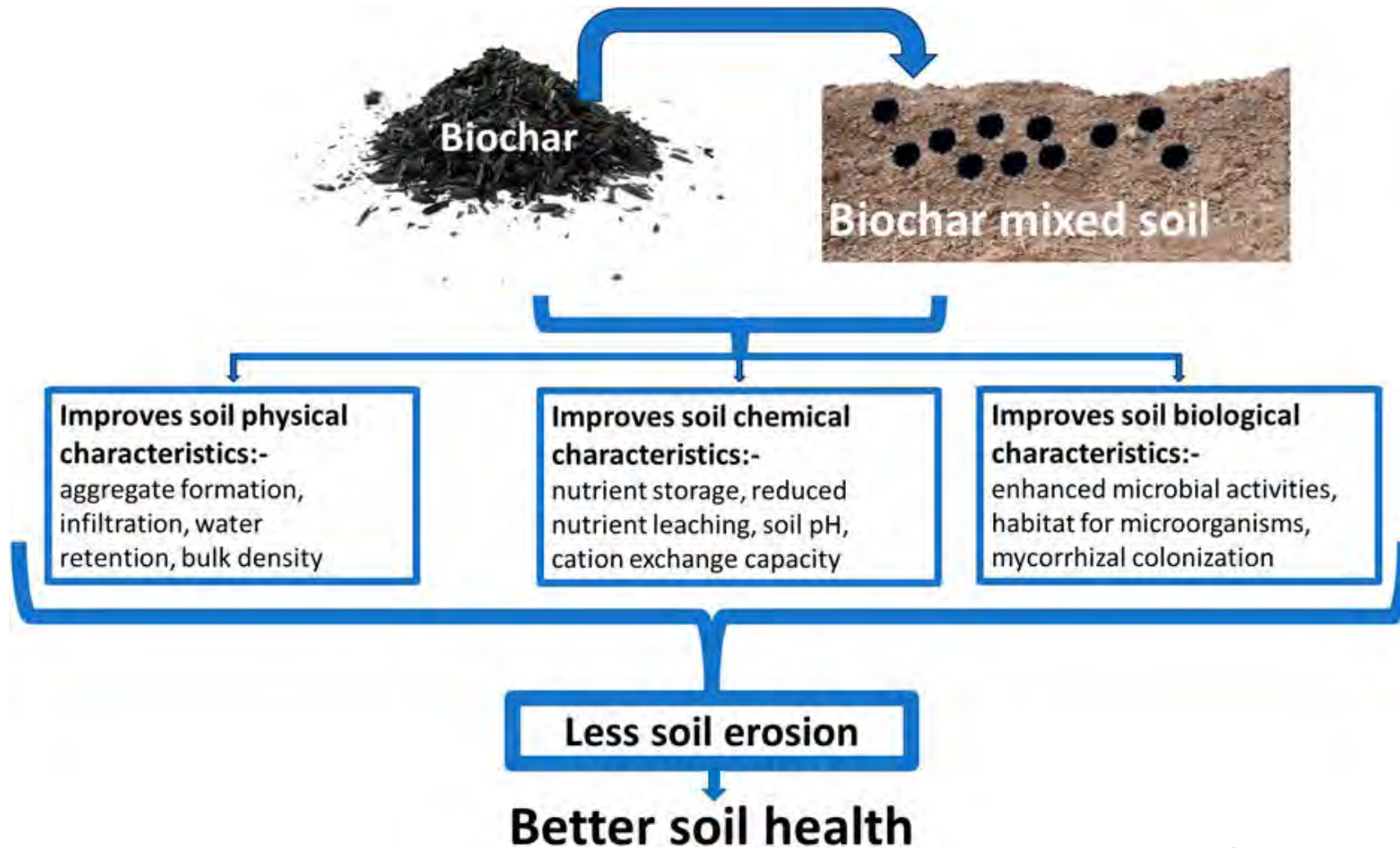
Avoidance Credits: Reducing emissions (e.g., using renewable energy or improving energy efficiency).

Removal Credits: Sequestering carbon (e.g., through soil carbon sequestration, agroforestry, or biochar).

THE PROCESS OF PRODUCING BIOCHAR



NEXT STEP: UTILIZATION OF BIOCHAR

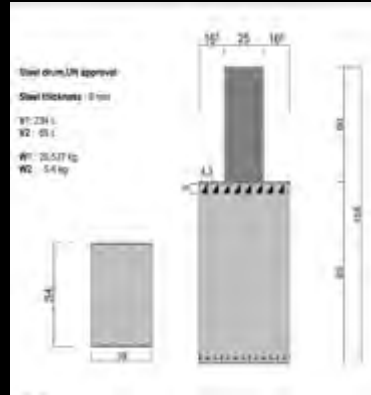


THE TYPES OF BIOCHAR PRODUCTION

Pyrolysis: is the thermal decomposition of organic matter in an oxygen-poor environment

Every ton of biochar produced, removes **2 tons of CO₂**

Local Pyrolysis design



ICRAF Pyrolysis design



Kon-tiki (open pit) Pyrolysis design



Pyrolyser	Furnace volume (m ³)	Cotton stalk type	Quantity feedstock (Kg)	Process duration (minutes)	Biochar produced (Kg)	Outturn (%)	Per day production capacity (kg)	To produce 1ton biochar (Days)	Furnace Cost (in \$)
Local (SECO)	0.2	Shredded	20	60	6	30%	48	21	63
	0.2	Whole	15	30	2.7	18%	43	23	
ICRAF (MITSUBISHI)	4	Shredded	192	570	44	23%	37	27	3,005
	4	Whole	66	480	8.5	13%	9	118	
Kon-tiki (ICAC)	1	Whole	210	33	66	31%	960	1	20

Jivamrit and Bokashi

OPTIMIZING BIOCHAR PROPERTIES FOR AGRICULTURAL USE

► **Jivamrit** is a traditional Indian biological fertilizer. This natural mixture stimulates the growth of beneficial soil microorganisms. It is produced by fermenting a mixture containing cow dung, cow urine, legume flour, sugar or beet molasses, and soil rich in microorganisms.



Legume flour: **200 g**



Forest soil / fertile soil: **100 g**



Water: **20 liters**



Beet molasses (**200 g**) or **1** bowl of sugar



Cow urine: **500 ml**



Cow dung: **1-2 kg**

Bullet Points:

- **Alkalinity Mitigation:** Addressing the critical increase in pH levels during the biochar production process.
- **Target :** Implementing corrective measures to stabilize and lower the pH value to a neutral target of **7.0**.
- **Biotechnology Integration:** Utilizing a dual-component treatment framework consisting of Jivamrit and Bokashi technologies.
- **Soil Health Optimization:** Enhancing substrate quality through targeted biological neutralization.

► **Bokashi** refers to a method where small quantities of microorganism-rich biofertilizer are added into a container containing water, soil, and sugar. This promotes rapid multiplication of beneficial microbes and reduces fertilizer costs.

Carbon Credits

What is a Carbon Credit?

1 carbon credit = 1 metric ton of CO₂e reduced, avoided, or removed from the atmosphere.

Credits can be sold or purchased to compensate for greenhouse gas emissions.

Types:

- **Avoidance Credits** — preventing emissions through renewable energy, energy efficiency, etc.
- **Removal Credits** — removing and storing carbon through soil sequestration, agroforestry, biochar.

Once certified, you can sell your carbon credits on voluntary or compliance carbon markets.

Voluntary Carbon Markets (VCM):

- Companies and individuals buy credits to offset emissions.
- Prices vary widely (e.g., **\$10-\$40 per ton**).

Compliance Carbon Markets (CCM):

- Prices are often higher (About **\$100-200 per ton**) in the voluntary market.

You can sell credits through:

- Carbon exchanges (e.g., *Verra Registry, Gold Standard Marketplace*).



COTTON-STALK BIOCHAR PROJECT



**MINISTRY OF AGRICULTURE OF
THE REPUBLIC OF UZBEKISTAN**

From Cotton Stalks to Value:

New Opportunities for Farmers:

Partnership launched In **2025**, the biochar project was launched in partnership with **ICAC**, **AKIS** and **Bizpando**.

Scaling up: The project is now set to expand to **60,000 hectares** together with **Merago**, **Alcon Development**, **Smart Carbon** and **Bizpando**.

JOIN US, FARMERS!

Create value from cotton stalks — improve **soil** fertility while gaining additional income through **carbon credits**.

Demonstration of Biochar in Jizzah, Uzbekistan



Demonstration of Biochar in Tashkent, Uzbekistan



Bizpando Carbon Credits App

Project Implementation in Partnership with Bizpando

Launch the application

- 1 Press the 'Start' button to enable offline use and full access



Cotton stalks → biochar
→ soil application →
carbon storage →
verification → carbon
credit → additional
farmer income.

706 m³ of biochar
produced and applied
across **2,500 hectares**
163 farmers received
26 000 USD in
September 2026 some
individual farmers
received more than
3 000 USD.

The **platform** serves as an
integrated digital solution
connecting farms and
farmers, facilitating
effective communication,
knowledge **exchange**, and
collaboration between **key**
stakeholders.



Adding a Field

- optional: edit
geo-points
- 1 Drag the item to
reorder it
 - 2 Select your
current location
 - 3 Move the point
on the map
 - 4 Delete the point
 - 5 Press Back
(auto-saves)



Guinness World Records Attempt — “The largest simultaneous agricultural training session”

EVENT VENUE



▶ “EKO CITY” AMPHITHEATER



▶ “EKO CITY” AMPHITHEATER

VENUE OF THE CULTURAL PROGRAM



▶ “EKO CITY” AMPHITHEATER



“The largest simultaneous agricultural training session” on biochar production with **5,000** farmers simultaneously in **FERGANA** (“Eco City” amphitheater)
5th of December 2026.

“AGROLAB” laboratory and Carbon Credits

The first challenge

The **“AgroLab”** Laboratory is assessing **biochar** quality in Uzbekistan, but it can not get the international certificate regarding the quality of **biochar**.

The second challenge

Currently, farmers are facing various challenges in the production and application of **biochar**. As a result, they are also experiencing difficulties in obtaining **Carbon Credit certification**.



Dear, guests ladies and gentlemen!

We cordially invite **you** to contribute your practical **expertise** and **experience** to the development of effective solutions to these **challenges**.



**MINISTRY OF AGRICULTURE OF THE REPUBLIC OF
UZBEKISTAN**

*We invite you to join us in
building a sustainable future*



World Cotton Day 2026

PARTNERS CONFERENCE

*Building Prosperity through
Trade, Transformation and Partnership*



Hyatt Regency,
Tashkent, Uzbekistan



7 October 2026



In partnership with FAO, WTO, ITC, UNIDO, UN Trade and Development, and IAEA