



**Cotton Value Chain:
"Local Innovations for Global Prosperity"**

STATEMENT OF THE 81st PLENARY MEETING

'Cotton Value Chain: Local Innovations for Global Prosperity'

1. The International Cotton Advisory Committee (ICAC) met in Mumbai, India between 2–5 December 2023 for its 81st Plenary Meeting since the establishment of the Committee in 1939. The meeting was the first to be held in-person since 2019 and was attended by 460 persons, including representatives from 15 Member governments, nine international organisations, and seven non-member countries.

ICAC Secretariat Reports

2. **Executive Director's Report:** The report reiterated the ICAC's commitment to its mission — to serve the cotton and textile community through promotion, knowledge sharing, innovation, partnerships, and providing a forum for discussion of cotton issues of international significance.

The report highlighted the ICAC's core competencies: data and publications; committees that focus on issues such as instrument testing and sustainability; and making contributions to initiatives such as the Research Associates Program and the World Cotton Research Conference. In the future, the ICAC will expand its focus to include agricultural development, sustainability, textiles, and global cotton promotion to address the multiple challenges cotton faces, including climate change, poverty in developing countries, and declining market share relative to synthetic fibres.

3. **Forecasting Global Textiles Demand and Supply: Trends and Insights:** Textiles connected to cotton are an area of emphasis at the International Cotton Advisory Committee. This report analysed global GDP, key economic regions, the international textiles trade, and domestic retail sectors, offering a comprehensive snapshot of the current and future textiles landscape. It addressed several emerging trends, including e-commerce and nanotechnology, and outlined the impacts they could have on future textiles development. The presentation concluded by addressing the opportunities and challenges facing the textile industry in 2024 and beyond.
4. **Global Economics of Cotton Production** discussed cotton's economic contribution. This includes employment for 23.9 million farmers and 125 million people throughout the value chain. The presentation also covered pesticide usage, water consumption, fertiliser usage, and cotton's environmental impact. The report concluded by saying that while cotton was often criticised for its negative impacts on the environment, it was a part of the solution for a sustainable future, particularly as the industry continues its long-term shift to regenerative agriculture techniques and processes.

5. A report on the **World Cotton Market** included a detailed review of the 2022/23 and 2023/24 seasons, highlighting issues including supply and demand, and the impacts of inflation on consumer demand. For both the current and previous season, the Secretariat offered an overview of trends regarding production and consumption; global yields and price trends; world cotton stocks both by season and by country. It concluded with a discussion about the influence of price on plantings.
6. **World Cotton Trade and Specialty Cotton** report provided data on world cotton trade dating back to the 2003/04 season. It also identified the world's cotton importers and exporters; discussed world production of specialty cottons from 2019/20 to 2021/22; highlighted trends in the global trade of long staple and extra-long staple cotton and specified the world's top producers and consumers in that market; and discussed the current trends in global cotton production under identity programmes.
7. A report on **Production and Trade Subsidies Affecting the Cotton Industry** analysed the support provided to cotton farmers globally. In periods of soaring cotton prices, subsidies have typically been reduced. Conversely, during times of depressed cotton prices, subsidies have typically increased. The Secretariat estimates that total assistance to the cotton sector reached \$8 billion in 2022/23, up by 66% from the \$4.8 billion provided in 2021/22.
8. **ICAC Researcher of the Year:** The 2023 ICAC Researcher of the Year was Dr Mike Bange, Commercial Research Manager of CSD in Australia. Dr Bange thanked the ICAC for the recognition, and all who have provided him with research support. Dr. Bange was recognized for his significant contributions to cotton physiology research and climate change impacts on cotton.

Country Reports

9. **ICAC implemented a new approach to Country Reports to encourage more interaction and discussion.** Members and international organisations were asked to submit comprehensive reports to the Secretariat that were posted on the ICAC web site in advance of the Plenary. These reports were provided to the ICAC by 12 countries, with Delegates from 10 countries delivering summaries of their reports during the session.

Boosting Productivity

10. **Cotton cultivation faces challenges**, including soil health, temperature changes, pests like pink bollworm and whiteflies, and diseases like the leaf curl virus. Potential solutions include developing new cotton varieties through breeding and gene editing, water and fertiliser management, pest monitoring tools, precision farming techniques like the use of drones for pesticide application. Specific interventions could include knowledge transfer of high-density planting systems (HDPS), mating disruption for pink bollworm management, along with innovative communication channels through social media, websites, radio, and public-private partnerships. Since access to genetic diversity is crucial for cotton farming success, germplasm exchange, long-term financial support for cotton breeding, storage guidelines, and multinational collaboration are essential. Precision

breeding is critical to developing cotton varieties with specific traits because it enables better phenotyping, larger breeding pipelines, and improved prediction models.

The Climate Opportunity

11. While cotton farming, like other crops, contributes to greenhouse gas emissions, recent studies reveal that **climate-smart technologies can reduce emissions**, enhance carbon sequestration, and improve productivity. These innovations not only bolster environmental sustainability, biodiversity conservation, and soil health, but also boost cotton productivity and profitability. For instance, a 2019 report (Cotton Leads) highlights that 'no-till cotton acreage stores 150 kg more atmospheric carbon per acre than it emits during cotton production, making cotton's carbon impact net-negative'. The Technical Seminar featured seven renowned experts who shared the latest developments in climate-smart innovations poised to transform cotton production.

Defining Sustainability

12. **Regulatory pressures and market demand for transparency and sustainability are growing.** One of the biggest challenges to achieving those goals is the fact that there is no agreed-upon definition of 'sustainability'. To advance this discussion, the Expert Panel on the Social, Environmental, and Economic Performance of cotton production (SEEP) reviewed 22 practices that have generally been accepted as regenerative. The next step is assessing how feasible it is to implement those practices across the 12 different farm types, which are grouped by factors such as size, access to water, and degree of mechanisation.

PSAC Recommendations on Building Traceability

13. The Private Sector Advisory Council (PSAC) examined **traceability regulations and potential solutions to challenges** connected to sustainability requirements, the prohibition of forced labour and of due diligence. The cotton and textile value chain recognises traceability, sustainability, and responsibility for its potential to create a positive impact for people and planet, where traceability and sustainability should go hand in hand. Improving traceability has become a priority for retailers in the move towards a more sustainable and ethical apparel industry, as incoming regulations and increased consumer demand make it a business-critical issue. However, achieving this in complex cotton supply chains is challenging.
14. **One concern is the lack of a level playing field for cotton.** At a minimum, governments should consider subjecting man-made fibres to the same levels of traceability and sustainability standards as natural fibres to create a level playing field. No single traceability standard is sufficient to provide complete credibility, and as a result, governments should encourage standardising the processes for rules systems, utilising validation tools to make the process as simple as possible. The goal is to make things easier for companies and customers to reduce costs and promote widescale adoption.
15. **Cotton is not just another fibre, but supports the livelihoods of millions** of farmers, traders, shipping and warehousing entities, factory workers, and retailers across the globe. It is often the only source of income for many poor households. Cotton is also vital in supporting the economies of many developing nations, so special consideration should be given to small-scale farmers, as well as

small and mid-sized textile and retail businesses. Governments should consider providing different — yet fair and firm — timelines for developing and underdeveloped countries to adopt and adapt to sustainability regulations.

- 16. Governments and international organisations should collaborate** by providing funding and resources to launch traceability and sustainability initiatives, and the supply chain must take the lead to implement, sustain, and further develop these initiatives, thereby ensuring that the costs are not borne only by producers. These interventions reduce ‘audit and reporting fatigue.’ Currently available traceability technologies are both expensive and technologically challenging for small holder farmers and smaller industrial units to implement and can eat into their already-tight margins.

Rethinking a Changing Textiles Sector

- 17. The challenges facing cotton and textiles include post-Covid supply and demand dynamics,** inventory management, pricing issues, and the competition between cotton and synthetic fibres. However, new product categories such as bio-medical applications could help cotton position itself as a significant player in the technical textile sector. There is a roadmap to an efficient recycling system, highlighted by projects focussing on circularity and the scaling of recycling technologies. Textiles have a significant impact on the environment, indicating the importance of standards and labels in promoting sustainability and resilience within the textile value chain. Digitisation and artificial intelligence hold potential for helping textiles become more sustainable.

- 18. Advances in technology are critical for the entire cotton value chain and are the key to overcoming many of cotton’s challenges.** Technological innovations can increase income for small holder farmers, who help to maintain and/or regenerate soil health for sustainable crop production; improve fibre properties by making the correct in-field, harvesting, and ginning decisions, which impact fibre quality and processing performance for spinners; and improve automation to increase speed, energy efficiency, waste reduction, flexibility, and scalability in textile manufacturing. The creation of integrated textile hubs that encompass the entire textile value chain can facilitate large-scale, sustainable textile manufacturing and benefit the broader manufacturing ecosystem.

World Café: Technological Innovations for Global Collaborations

- 19. A new format for the World Café debuted at the 81st Plenary Meeting.** After having all attendees answer the same set of questions, 11 different topics of international significance to cotton and textiles were selected; participants were invited to join in whichever discussion they found most interesting. The topics they addressed were: 1) Battling the Pink Bollworm: Cutting edge Eradication Technologies; 2) Revolutionizing Cotton Farming: Global High Density Planting Best Practices; 3) Cutting Edge Technology in Farming: Robotics and Machineries for Small Holder Cotton Farms; 4) Sustainability through Carbon Sequestration; 5) Empowering Smallholder Farmers: The Digital Revolution in Education and Support; 6) Fostering Entrepreneurship Support Services and Opportunities; 7) Setting Standards and Assurance: Traceability Technologies and Certifications; 8) Diversifying Cotton Economies: Innovations in By Products; 9) Greening the Textile Industry: Promoting Eco-friendly Factories; 10) Cotton and Sustainability Driven by Fashion Design and

Communication; and 11) Cotton Prospects in Technical Textiles.

20. Participants were asked not to have a purely academic discussion and to finish their discussions by listing specific outcomes by highlighting actionable steps that could be taken to benefit the global cotton and textile industry. Written summaries of those outcomes were delivered to the Secretariat. A detailed report summarising their findings will be produced by the Secretariat in January 2024 to ensure that the steps that can be acted upon immediately will be, and that discussions will continue on those topics that need further evaluation.

World Cotton Research Conference

21. The ICAC-International Cotton Researchers Association (ICRA) was created by the ICAC and works to promote interaction between cotton scientists around the world. ICRA will actively participate in the **8th World Cotton Research Conference, WCRC-8, to be held in Uzbekistan from 7-11 October 2024.**

2024 Technical Seminar Topic

22. The Steering Committee decided to hold the 2024 Technical Seminar on the topic of, “**Gene Editing in Cotton Farming**”.
23. **The Committee thanked the Government and private sector of India** for hosting the 81st Plenary Meeting. The Organizing Committee of India did an exceptional job providing for the needs of all delegates and facilitating productive discussions. The Committee thanked the Government of India and the Organizing Committee for their excellent efforts in support of the ICAC.