

# Growth Opportunities for Cotton



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**M**ember states of the United Nations are committed to implementing the Sustainability Development Agenda by 2030. As part of the plan eradication of poverty is the priority, which requires sustainable growth in all forms. Cotton and other agricultural crops fit well in the sustainability agenda as they impact lives of farmers, manufacturers, exporters, retailers and consumers.

## **Impact on Lives and Economy**

Cotton is a drought resistant crop requiring less water compared to some food crops and hence vital for farmers in arid and semiarid zones of the world. Although not a food crop it offers livelihood for small farmers in rainfed areas. Even in developed nations such as the United States and Australia farmers use sustainable practices as stewards of the environment. In West Texas, cotton farming is split between dryland and irrigation, and in irrigated lands, it is supplemental emphasising the importance of saving resources and energy for future generations. The consumption of cotton is related to economy, which influences the demand. This is the situation we are currently experiencing adding stress to the entire cotton ecosystem. Global cotton industry must use adverse situations such as the current one to plan solutions for such scenarios in future and create new opportunities. It is important for the cotton sector to chart mid and long-term strategies for: 1) increasing the demand for cotton and cotton goods; 2) increasing the yield in low productivity countries like India; 3) increasing the profitability across the supply chain; 4) enhancing the awareness on cotton and the industry to broad consumers; and 5) collaboration with government, brands and retailers.

## **Increasing the Demand**

Recent discussions in local and national cotton meetings clearly highlight the lack of demand for cotton and the need to boost the consumption of cotton. Macro economy, affordability and competition from other fibres are factors influencing the demand. While the industry has little control over economy, efforts must be made to penetrate markets, beyond fiber to fashion supply chain such as advanced textiles, where there are opportunities. Cotton has been a preferred next-to-skin friendly apparel as it is presold based on comfort. Cotton is penetrating beyond the commodity markets and concerted efforts by the industry are needed to enhance the penetration into non-commodity markets. Engaging with R&D organisations, brands and retailers to take cotton into functional, advanced and activewear products is the need of the hour.

A classic example of cotton industry working with brands to enable the penetration of cotton into activewear is the effort by the United States' Cotton Incorporated with Under Armour. The cotton industry has invested heavily in understanding microplastic issues as a way of advocating the positive aspects of non-microplastic fibre such as cotton. Efforts should be made to engage more with consumers on the health issues of microplastics and promote cotton as a viable candidate. The medical industry has shifted away from using cotton drapes and overalls due to the cost competitiveness of spunbond-meltblown-spunbond products. Environmental issues and the comfort aspects of multi-use cotton surgical drapes must be relayed to the medical community. There are opportunities for single-use cotton products in the medical and health care sector. Opportunities are there

in industrial sectors where sustainability values are gaining popularity. Major brands and private labels are incorporating cotton and other natural fibres in their products. Costco Wholesale Corporation was one of the early entrants to release Kirkland wipes made with cotton. Stakeholders in the industry must go on high gear to find new and value-added markets.

### **Productivity Improvement**

India and cotton growing African countries have productivity issue. In India, farmers, spinners and textile exporters are striving hard to improve the productivity. Government is urged to continue and enhance the support for cotton missions aimed at increasing yield per hectare, quality enhancement and contamination elimination. Good breeding programs by national agricultural organisations like ICAR-CICR, Nagpur and state agricultural universities and extension stations such as the Tamil Nadu Agricultural University and Navsari University need to be supported with funding boost. The stakeholders particularly cotton farmers should engage regularly with extension specialists and with researchers during the growing season about treating pests, handling weeds, irrigation practices as these depend on weather and environmental conditions.

In Lubbock, which is the epicenter for cotton production in the United States, such engagement efforts are well organized throughout the year by the cotton producers' organisation, Plains Cotton Growers. In India grassroot level producer spearheaded activities are needed to boost the yield and quality. Information exchanged among farmers, seed and chemical companies, and marketers will prove beneficial in terms of handling issues that affect the yield and quality. More importantly in India and Africa where land holding by individual farmer is far less than those by producers in the United States, Brazil, and Australia, uncertainties and variabilities are pronounced, which necessitates the need for timely knowledge dissemination. Technology and marketing information need to be shared in timely fashion so that they can be implemented in the growing season. The textile sector for its own benefit should enable grassroot level efforts at farm levels. High yielding and stress tolerant varieties should be developed based on soil and environmental conditions. Governments have a role to play in boosting funding support to seed

companies and breeders so that quality seeds can be developed at competitive cost.

### **Outreach and Engagement**

Sustainability is the way forward in the textiles and manufacturing sectors. Outreach and educating the consumers and brands are strategies that will help with enhancing the consumption of natural fibers. Also, as natural fibres have not penetrated technical textiles as much as synthetics, given the need for sustainable products, efforts must be made towards research, dissemination of results, and outreach. It may not be possible to find use in all sectors of advanced textiles, but areas such as environmental protection, insulation, and health offer immediate possibilities.

Opportunities for cotton in advanced textiles must be disseminated to young leaders and consumers to boost its consumption.

Our laboratory has been engaging with wide spectrum of population such as Gen Z, to highlight the usefulness and advantages of cotton. On July 12, 2024, two young leaders from Africa visited the Cotton and Advanced Materials Laboratory at Texas Tech University (TTU). In their first visit to the United States as Mandela Washington fellows funded by the United States' government, they are spending 6 weeks at TTU.



Rakobe (left) and Dr. Mihindi (right) visiting Advanced Materials Laboratory

Dr. Idda Mihindi is a medical doctor from Tanzania who has founded Fursa Foundation, which manufactures and distributes washable cotton-based sanitary pads for rural women and secondary school girls, who cannot afford hygiene products. Greg Gregory Rakobe is from Botswana and has interest in using native plants to develop skin and health care products. As these two young leaders work in the sustainability

area, they expressed interest in visiting the Advanced Materials Laboratory to learn about industrial applications of cotton.

Mihindi and Rakobe conducted experiments using waste cotton based nonwoven pads and understood the oil sorption capabilities of cotton. “The sustainable role of cotton used is eye-opening to me,” stated Idda Mihindi. The visitors interacted with graduate students in the laboratory who work in cotton and sustainability projects enabling advanced applications for cotton.

Timely disseminating information on new applications of cotton and natural materials will advance the sustainability goals of textiles and manufacturing sectors. As the African continent has large population and is advancing in its economy, engaging with next generation leaders will boost the consumption of natural fibres. The industry should look for opportunities for natural fibres and recycled

natural products in the advanced textiles industry.

### Four-Legged Table Approach

While cotton and textile sectors are aware of the persistent problems facing the sectors, it is imperative that a win-win development plan is formulated. Governments must play a supporting role in reducing the risks. In the United States the five-year Farm Bill has been a successful mechanism in mitigating risks. Current Farm Bill expires this September, and we are witnessing the campaigns across the country to get this bill reenacted in a timely fashion.

Imagining the strategy as a four-legged table, to have a balanced table, all four legs are needed. The four pillars are: 1) technology enhancement; 2) market development; 3) new product development and 4) outreach and engagement.



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