United States Department of Agriculture
Foreign Agricultural Service

GAIN
Global Agricultural Information Network

Voluntary Report – Voluntary - Public Distribution **Date:** November 05, 2026

Report Number: KE2026-0021

Report Name: Slow Technology Adoption Weakens Kenyan Cotton Industry

Country: Kenya

Post: Nairobi

Report Category: Agricultural Situation, Cotton and Products

Prepared By: Kennedy Gitonga

Approved By: Damian Ferrese

Report Highlights:

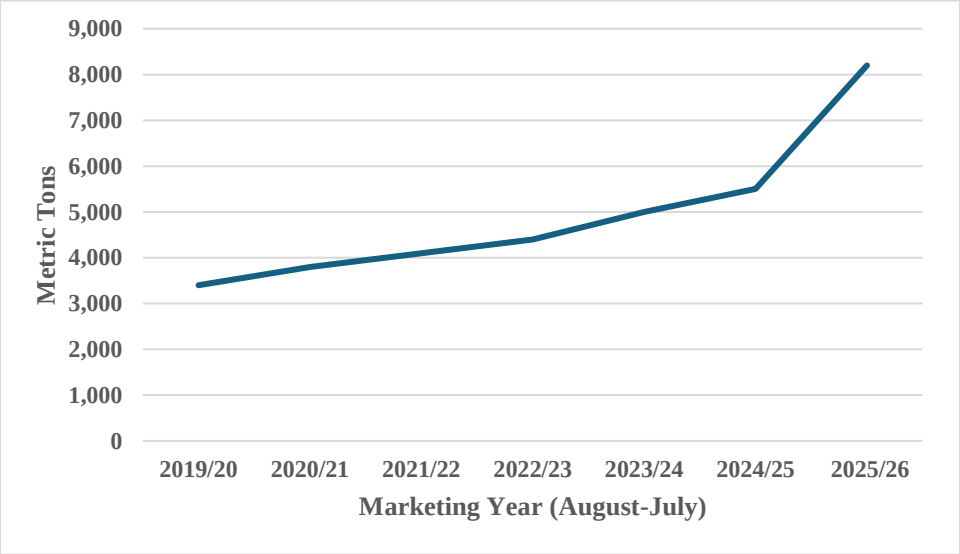
Kenya's cotton production reached 8,200 metric tonnes (MT) in the Marketing Year (MY) 2025/26, boosted by increased adoption of the pest-resistant Bt cotton. However, this growth falls short of meeting local demand, forcing the country to rely heavily on imports. The persistent supply deficit - combined with systemic sector bottlenecks - continues to leave domestic gins and textile mills operating far below capacity.

Production

Kenya's cotton sector has in the recent past experienced significant growth, culminating in a record domestic production of 8,200 MT in MY 2025/26. This surge marks a departure from historical trends, driven primarily by the adoption and scaling of Bt cotton, specifically the Bollgard II variety. Historically, production was severely constrained by several vulnerabilities, including continuous exposure to severe pest pressures from the African bollworm and reliance on low-yielding conventional varieties.

The commercialization of Bt cotton triggered a steady, though modest, scaling. Between MY 2019/20 and MY 2024/25, the harvested area expanded incrementally from 22,500 hectares to 33,500 hectares, driving a parallel increase in production from 3,400 MT to 5,500 MT. The gradual upward trajectory shifted significantly in holdings, as the total area harvested increased by 37 percent to reach 46,000 hectares and production of 8,200 MT. Cultivation remains heavily concentrated on very small holdings of between 0.5 and 2 hectares.

Figure 1: Kenya's Cotton Production Trend (MY 2019/20 – 2025/26)



Source: Kenya Agriculture and Food Authority

Growing Regions

Cotton production in Kenya is concentrated in arid and semi-arid regions where alternative options for cash crops are limited. The country's cultivation is organized into three primary geographical clusters: Western and Nyanza, Eastern and Central, and the Coastal region. Throughout these areas, production is predominantly driven by smallholder farmers who manage small farms that range from 0.5 to 2 hectares.

The Western and Nyanza cluster, situated within the Lake Victoria Basin, is characterized by heavy black soils with excellent water retention capabilities. Production in this zone is almost entirely rain-fed, relying on regional bi-modal rainfall patterns. The cluster has demonstrated strong interest in biotechnology. According to sources at Kenya's Fiber Crops Directorate, pilot trials indicate that when planting cycles are precisely matched to the onset of the long rains, Bt hybrids significantly outperform legacy conventional varieties.

The Eastern and Central cluster, which encompasses Lower Embu, Kitui, Machakos, and Kirinyaga, features varied soil profiles ranging from well-drained sandy loams to red clay soils. Cotton performance in this region is highly responsive to the short rains cycle. The primary bottleneck for local growers is extreme seasonal weather variability and recurring droughts, which historically cap regional yield ceilings under rain-fed regimes. Despite the risks, this cluster represents the largest geographic expansion zone for Bt cotton in Kenya.

The Coastal cluster, spanning Tana River, Kwale, Kilifi, and Lamu, possesses dual production architecture featuring both rain-fed coastal strips and large-scale public irrigation infrastructure. The region hosts critical water-managed systems, most notably the Bura and Tana River irrigation networks. The primary constraints here are operational, driven by the historical mismanagement of local cooperative structures and high logistics overhead when transporting raw seed cotton to functional upcountry ginning facilities.

Commercialization of Bt Cotton

In December 2019, Kenya approved the commercialization of Bt cotton, leading to open cultivation starting in 2020, despite the nation's long-running ban on genetically modified products. The National Biosafety Authority strictly monitors all environmental releases for biosafety compliance.

To incentivize local production and counter supply chain vulnerabilities, the Government of Kenya has established guaranteed minimum farm-gate price for cotton through county governments and cooperative societies. In MY 2025/26, the price for Grade A seed cotton was maintained at Ksh 52 ($0.40) per kilogram. This guaranteed price stability has encouraged a re-entry of farmers who had previously abandoned cotton for more alternative crops like tobacco or sugarcane. Adoption rates for Bt cotton remain constrained by the high cost of imported seeds and slow regulatory procedures for registering varieties bred in other countries.

Table 1: Comparison Between Conventional and Bt Cotton Varieties

Feature	Conventional Cotton	Bt Cotton
Pest Resistance	Highly vulnerable to pests, particularly the African bollworm.	Genetically engineered to produce a natural protein that is toxic to bollworms, providing built-in pest defense.
Pesticide Dependency	Requires heavy, frequent applications of chemical pesticides to protect crops.	Dramatically reduces pesticide use, lowering chemical costs and environmental impact.
Input Costs	Seeds are cheap and readily available locally, but chemical spray costs are high.	Higher upfront seed costs due to technology fees and reliance on imported hybrid genetics.
Yield	Yields are unpredictable and often low due to heavy pest damage.	Yields significantly higher, more stable.

Source: Kenya Agriculture and Food Authority and FAS/Nairobi

Marketing

The marketing system for cotton in Kenya operates through a network of independent local buyers, cooperative societies, and gin-financed farmer groups. Currently, the country has 24 registered cotton

gins, though fewer than half remain operational, with most running well below capacity due to persistent raw material shortages. The operational gins also sell cottonseed byproducts to enhance their viability The secondary products consist of cottonseed meal - a highly demanded, high-protein ingredient for livestock feed – and crude cottonseed oil, which is refined locally into edible cooking oil or utilized in the manufacturing of industrial soaps and paints.

Table 2: Key Players in Kenya's Cotton Supply Chain

Supply Chain Node	Role
Smallholder Farmers	Cultivates and harvests seed cotton
Cotton Cooperative Societies	Aggregates and manages primary farmer outputs
Local Gins	Processes raw cotton utilizing saw or roller gin technology
Domestic Spinners	Handles yarn production from local ginned lint

Source: FAS/Nairobi

A core constraint within the domestic market is the delay in payments to farmers. While international lint prices change daily, Kenyan farmers operate on fixed prices determined before the planting season by the Kenya's Agriculture and Food Authority. When gins face liquidity issues, payments to cooperatives are delayed, causing farmers to reduce their cotton acreage in subsequent planting cycles. Furthermore, there is a mismatch between the long-staple cotton fibers demanded by high-end spinners and the medium-staple cotton typically harvested from domestic fields. Market development efforts are focusing on introducing extra-long staple varieties, suitable for irrigation schemes such as the Bura and Tana River.

Utilization

Kenya possesses a dualistic textile sector - a highly advanced export-oriented apparel sector operating within Kenya's Export Processing Zones, and a struggling domestic textile mill sector targeting local and regional markets. Domestic lint consumption for MY 2025/26 is estimated at 37,500 MT.

Kenya's domestic textile manufacturing is heavily constrained by a lack of operational capacity, with production concentrated in just a few mills such as Rivatex East Africa, Thika Cloth Mills, and Sunflag. Outdated machinery in legacy domestic mills drives up maintenance costs and degrades yarn quality scores. Compounding this, a shortage of local lint paired with steep input expenses forces spinning mills to operate at just 45 to 55 percent of their total capacity.

Table 3: Challenges Facing Cotton Mills in Kenya

Issue	Key Metrics / Details	Remarks
Energy Cost	$0.15 to 0.18 per kWh	Highest in East Africa; significantly higher than in Tanzania ($0.08/kWh)

Technology Deficits	Obsolete machinery in older domestic mills	Results in high maintenance overheads and lower yarn quality standard scores.
Capacity Utilization	45% to 55% of installed capacity	Low utilization is driven by scarcity of local lint and high input costs.

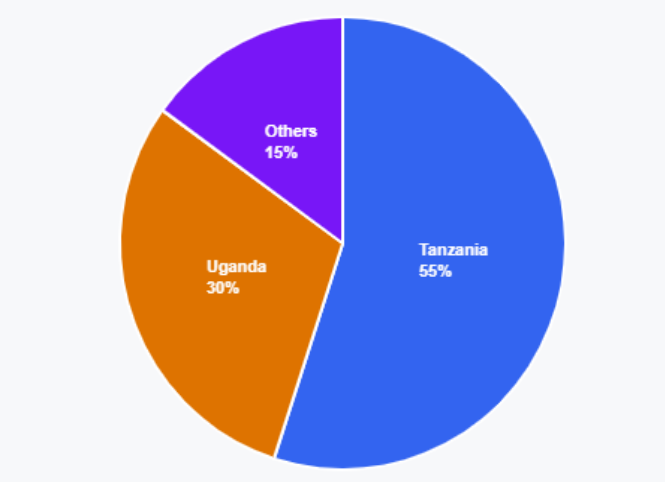
Source: Fiber Crops Directorate & FAS Nairobi

Kenya's garment manufacturers in the Export Processing Zones (EPZs) - located mostly in Nairobi, Athi River, and Mombasa - operate with minimal reliance on the domestic supply chain. While these facilities produce high-volume apparel for major global brands, domestic textile mills are currently unable to meet the strict quality specifications, volume demands, and consistency required for knitted and woven fabrics. As a result, EPZ firms import over 90 percent of their yarn and fabric primarily from China, India, Pakistan, and Taiwan.

Trade

Kenya is a net importer of raw cotton lint. In MY 2025/26, lint imports are estimated at 30,000 MT, accounting for most of the local mill utilization. Tanzania remains the primary cross-border supplier, leveraging geographic proximity, lower production costs, and preferential duty-free terms under the East African Community's common market. In contrast, imports from Uganda fluctuate heavily based on shifting political dynamics and recurring non-tariff logistical barriers at the Malaba border post. Beyond these immediate neighbors, regional sourcing has increasingly diversified to include Ethiopia and Rwanda.

Figure 2: Kenya's Cotton Lint Imports



Source: Kenya's Agriculture and Food Authority

Apparel Exports

Kenya is a major exporter of apparel, with exports from the country's EPZs totaling approximately Ksh 58.1 billion ($450 million) in 2025. The United States is the destination for over 90 percent of these exports, facilitated entirely by the duty-free market access provisions of the African Growth and Opportunity Act (AGOA). To sustain this trade, Kenyan factories focus on high-volume, standard-

assembly apparel to maximize speed and cost efficiency rather than complex luxury fashion, production lines that are optimized for repetitive, large-scale output of mass-market garments. Core products include basic knit shirts, denim jeans, trousers, undergarments, and institutional uniforms like medical scrubs.

Stocks
Kenya has no state-backed strategic reserve mechanism for cotton lint. Stocks are managed entirely on commercial terms by private enterprise components. In MY 2025/26 stocks are projected to reach 4,100 MT. Local gins rarely carry substantial carry-over stocks into a new marketing year because they face highly constrained working capital cycles alongside immediate demand from domestic mills. To mitigate the supply volatility, major textile mills maintain a rolling safety stock representing 60 to 90 days of total consumption.

Attachments:

No Attachments.