



The Cotton-4 (C-4) countries in the context of the global cotton market:

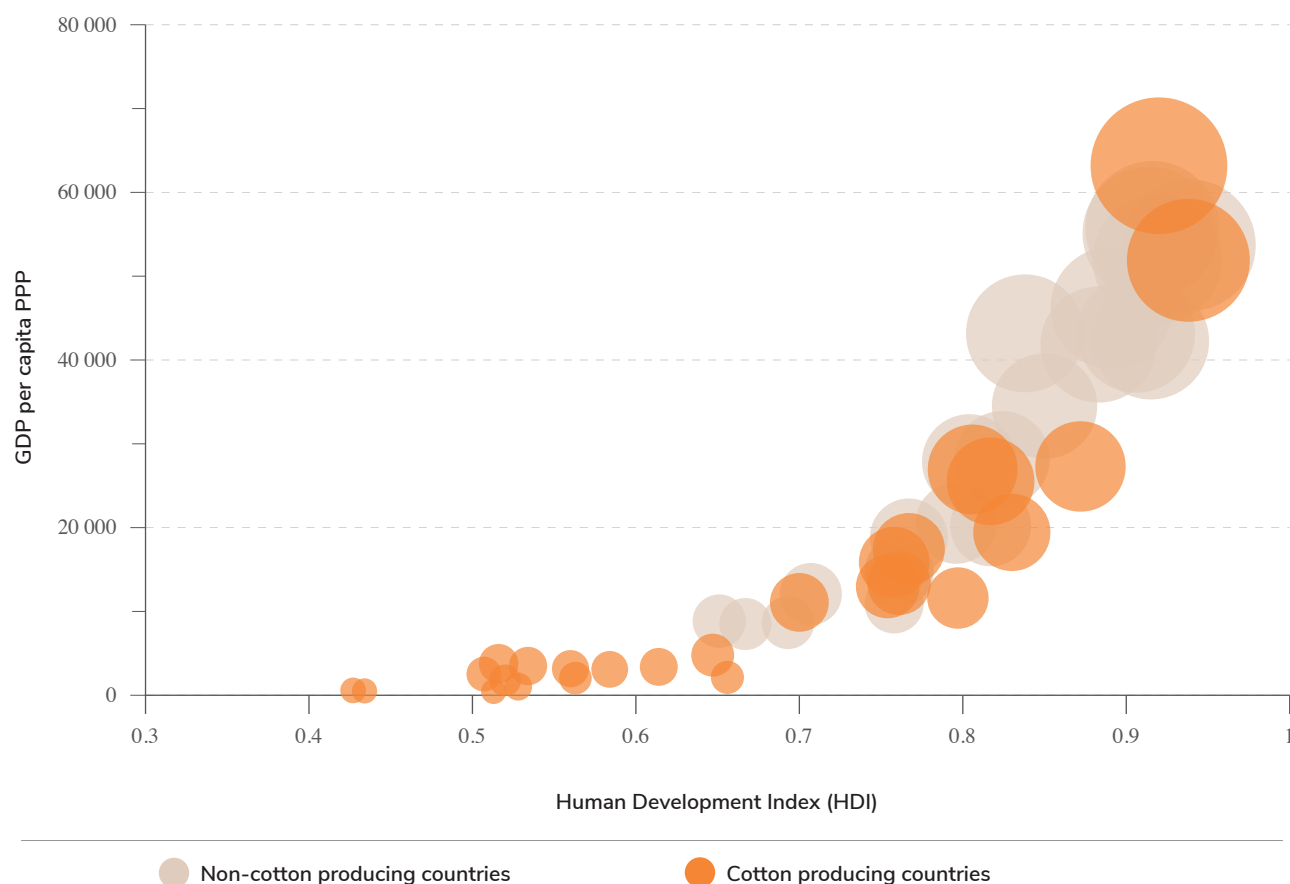
Situation and short- and medium-term outlook

Characterizing the cotton market in the C-4 countries

World cotton production is concentrated in low- and middle-income countries (Figure 1) and is a key driver of economic growth, providing employment and livelihoods and representing a major source of export earnings, with most of the domestic produce intended for export. **Benin, Burkina Faso, Chad and Mali** - the so-called **Cotton-4** (or **C-4**) countries - are the leading cotton producers and exporters of the African continent and together account for 3 percent of the total world cotton production and around 8 percent of world cotton trade. In these countries, the contribution of cotton output to total gross domestic product (GDP) and the share of cotton exports in total agricultural export revenues rank among the highest globally. For example, in Benin and Burkina Faso, cotton exports accounted, respectively, for 69 percent and 47 percent of total agricultural export revenues in 2020¹.

¹ FAOSTAT. Accessed on 3 June 2022. Available at <https://www.fao.org/faostat/en/#data/TCL>

Figure 1. Cotton production and HDI (2020)



Source: FAO/EST (2022).

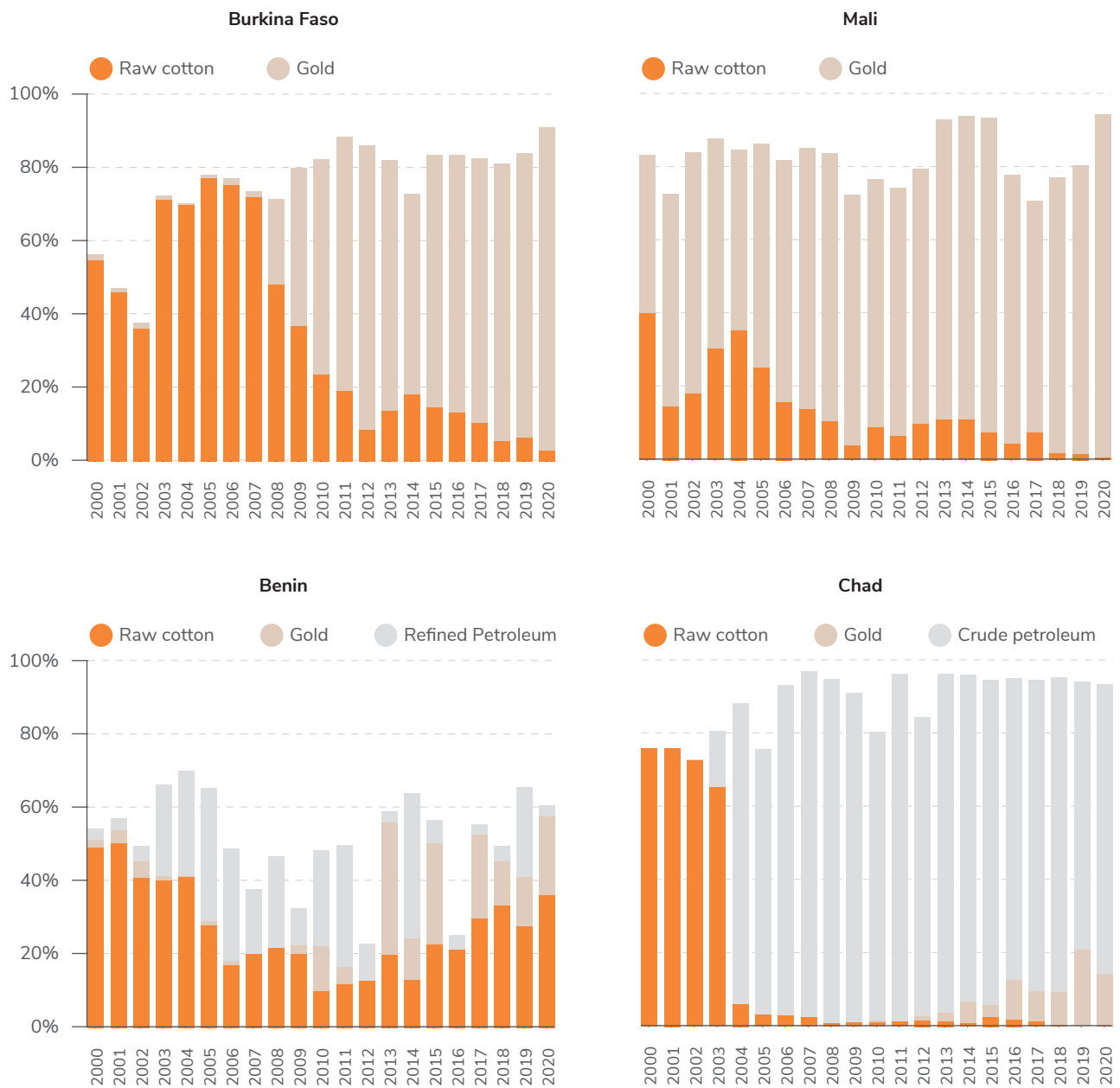
With respect to total export earnings, however, the contribution of cotton exports has declined markedly in the past 20 years. In 2000, cotton exports in Burkina Faso represented 55 percent of the country’s total export revenues but fell to 3 percent in 2020, while in Mali cotton export’s contribution fell from 40 percent in 2000 to just 1 percent in 2020². In general, declining real cotton prices and relatively greater returns in other sectors strengthened the export of other products, namely gold and petroleum (Figure 2). Trade data for the C-4s shows that between 2000 and 2020, export shares for precious metals, mostly gold, and mineral products (e.g. petroleum) increased significantly at the expense of agricultural exports. This is also reflected in the share of employment in agriculture, which has generally declined over the past few decades.

In the C-4 countries, however, cotton growing still represents a key livelihood activity for rural households, sustaining access to basic needs such as food and healthcare, and constituting a source of income for individuals employed in the cotton-related industries, including ginning factories, textile mills and cotton oil extracting factories.

² The Observatory of Economic Complexity (OEC). Accessed on 4 August 2022. Available at <https://oec.world/>

Overall, it is estimated that around 20 percent of the population earns a living from the cotton sector in each of the C-4 countries, with the number of cotton farmers estimated to range between 4 and 17 percent of the people employed in agriculture³. Given the importance of the sector, the C-4 governments have put in place a set of policy support measures that cover both the output and input markets, which affect farmers’ planting decisions. Most of the cotton produced is exported, with domestic utilization averaging 2 percent of production, making these countries highly vulnerable to fluctuations in export markets.

Figure 2. Contribution of cotton to total export revenues against other sectors in the C-4s

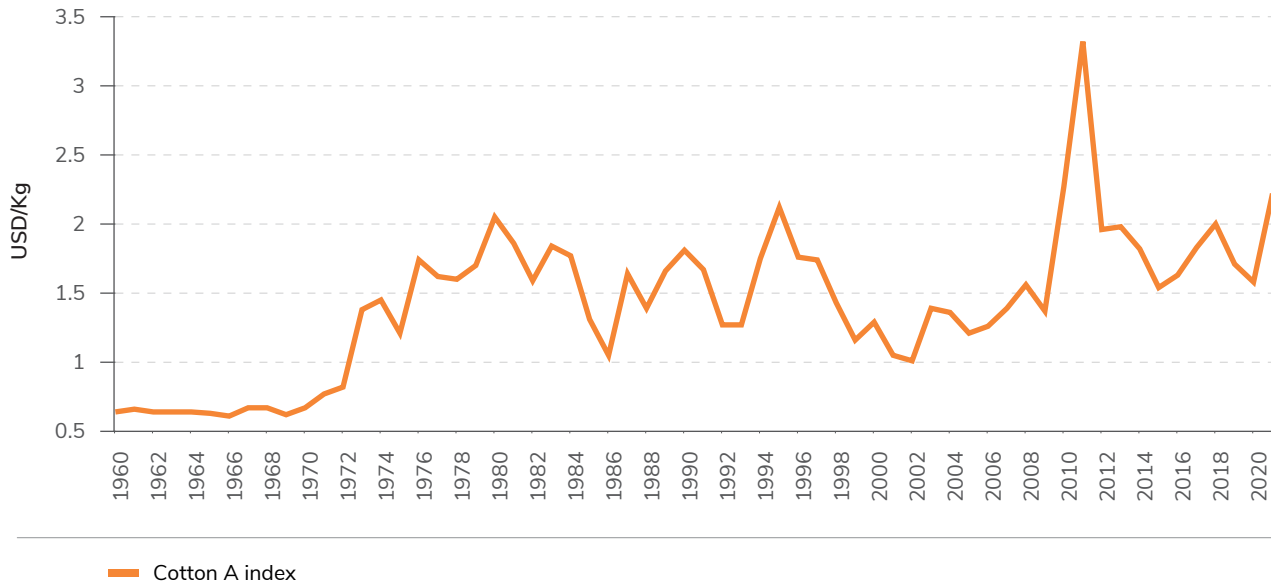


Source: The Observatory of Economic Complexity (OEC) (2022).

³ International Cotton Advisory Committee (ICAC) Cotton Data book, June 2021, ILO (2022), FAO calculations.

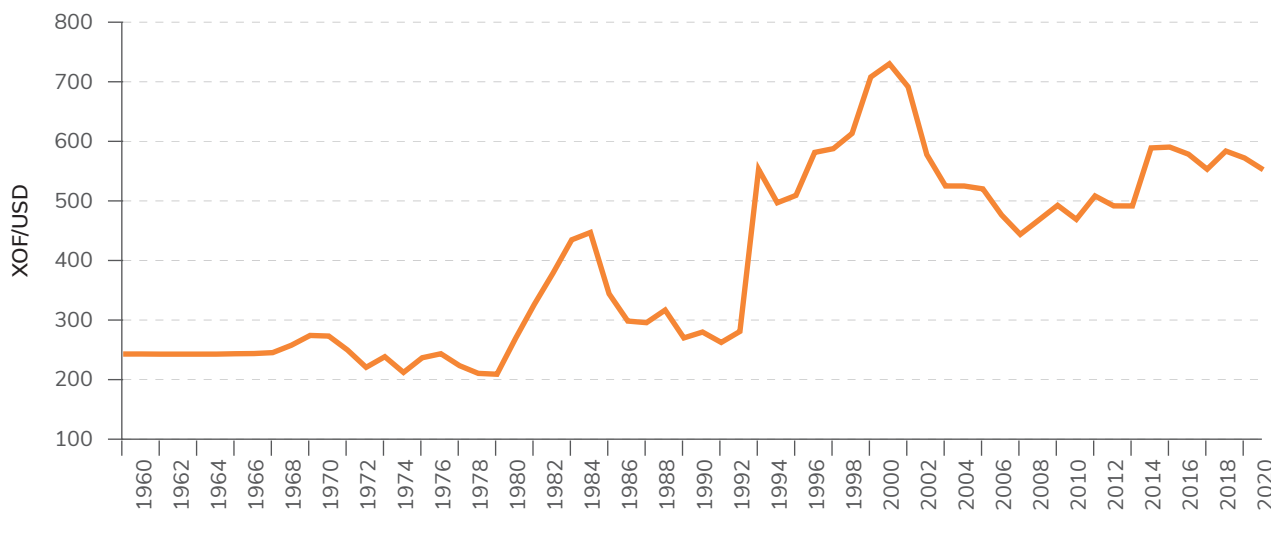
Low international cotton prices coupled with a stronger West African CFA franc - the common currency of the 14 African countries belonging to the Franc Zone (Figures 3 and 4), and inefficiencies in the sector, led to an overall decline in production between 2000 and 2010. The subsequent recovery in world cotton prices and the efforts of governments to revitalize the sector were influential in shaping the production rebound recorded in the following years.

Figure 3. International prices of cotton, 1960-2021



Source: World Bank (2022).

Figure 4. Exchange rate of the West African CFA franc to the United States of America dollar, 1960-2021



Source: IMF (2022).

Overview of the price dynamics in the global cotton market

The level and volatility of international cotton prices influence the decisions of cotton producers and buyers. Since 1960, world cotton prices expressed in real terms have declined by 1.7 percent per year, although the decline has been less pronounced since 2000 at 0.84 percent annually. This decline has many causes, but, essentially, it reflects the rise of man-made fibres such as polyester, which have gained significant market shares at the expense of cotton. Today, cotton represents about 25-27 percent of world fibre use, after accounting for more than 60 percent in the 1960s. In addition, the decreases in the cost of production underpinned by gains in productivity have contributed to the decline in prices over time. The transmission of world cotton prices to domestic prices depends on the level of integration of the economy with the international markets, which is influenced, *inter alia*, by the prevailing macroeconomic policies such as the exchange rate regime, the specific trade policies to the cotton sector and the country's infrastructure.

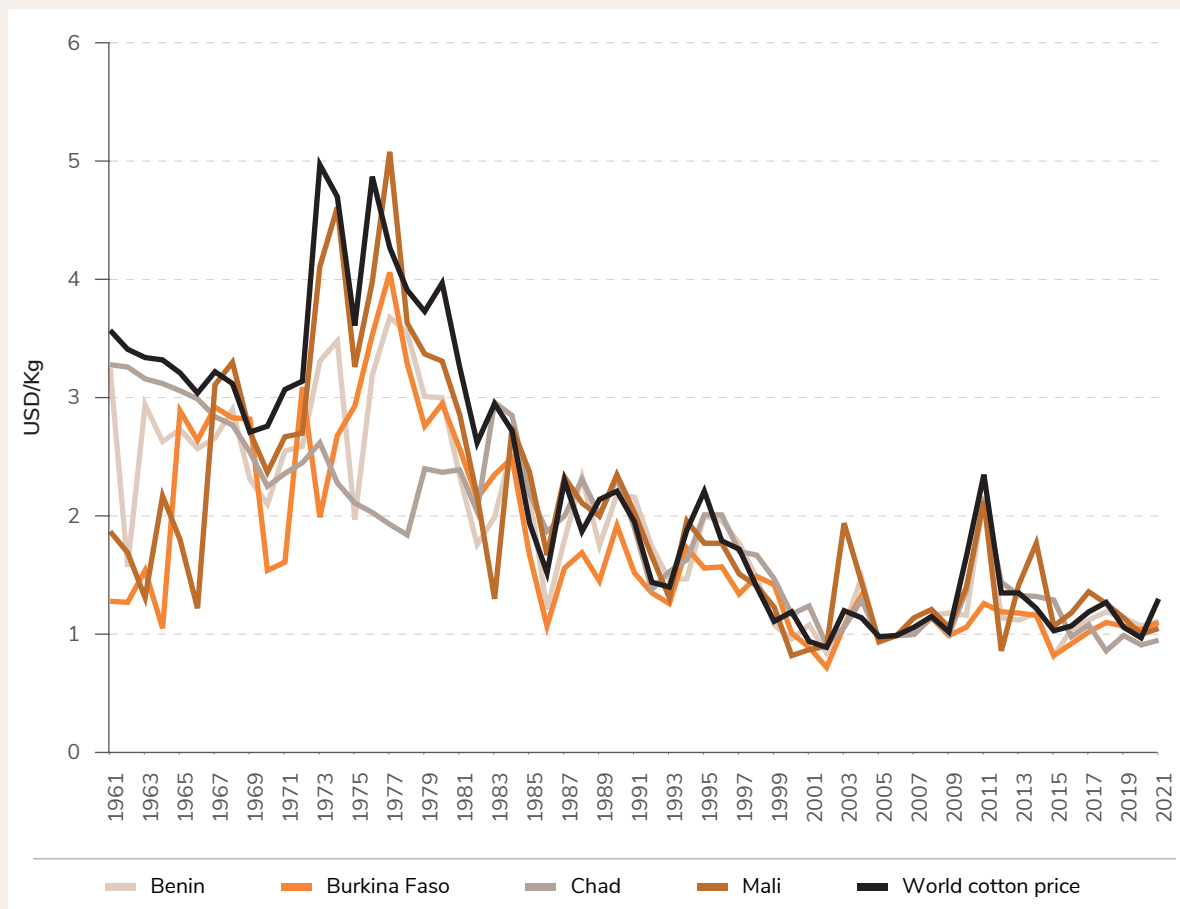
Our analysis based on the estimation of a price transmission model shows that domestic cotton prices in the C-4 countries display a long-term relationship with movements in international cotton prices (Figure 5). That relationship is found, however, to be weak in the case of Chad. Results show that price shocks in the world market have a direct effect on the decision of economic agents in the cotton value chain over time. In addition, the analysis reveals that about 80 percent of the deviations from the long-run equilibrium are corrected in the subsequent year, suggesting that variations are relatively quickly adjusted. The estimated model indicates that, in general, short-term shocks in the world market are not fully transmitted to the domestic cotton market in the C-4s. This can be due to a number of factors, which include existing border measures, prevailing contractual price arrangements between producers and buyers, storage and inventory holding, delays in processing and the structure of the market.

In order to remain competitive, cotton producers have to constantly invest in technologies, processes and innovations to reduce per unit cost of production. Higher productivity, leveraging internal and external economies of scale are some of the strategies that can be implemented. However, these options require financing and commitments in the long run that only a limited number of economic agents can afford. Another strategic option is to diversify into higher value-added products, by investing in ginning capacities as well as yarn and apparels operations. Diversifying away from cotton production and export remains a valuable choice where the socio-

economic returns are higher in alternative sectors. To mitigate price volatility in the cotton markets, relevant public and private entities can make use of financial tools such as futures and options. For instance, options contracts can be used to hedge against short term declines, and at the same time, enable investors to reap the benefits from any potential market upsurge. Futures markets can also safeguard producers from price swings by securing fixed prices. Other strategies to tackle market volatility include the use of commodity-indexed bonds and pegging the currency with commodity prices.

From a global policy perspective, market transparency and policy dialogue should be strengthened, given their fundamental role particularly in times of market uncertainty, and when disruptions need to be minimised to ensure that international cotton markets continue to function properly. Furthermore, price distortions must be reduced or eliminated to ensure an efficient allocation of resources in the sector.

Figure 5. Cotton export prices in the C-4 countries and the world market



Source: FAO/EST (2022).

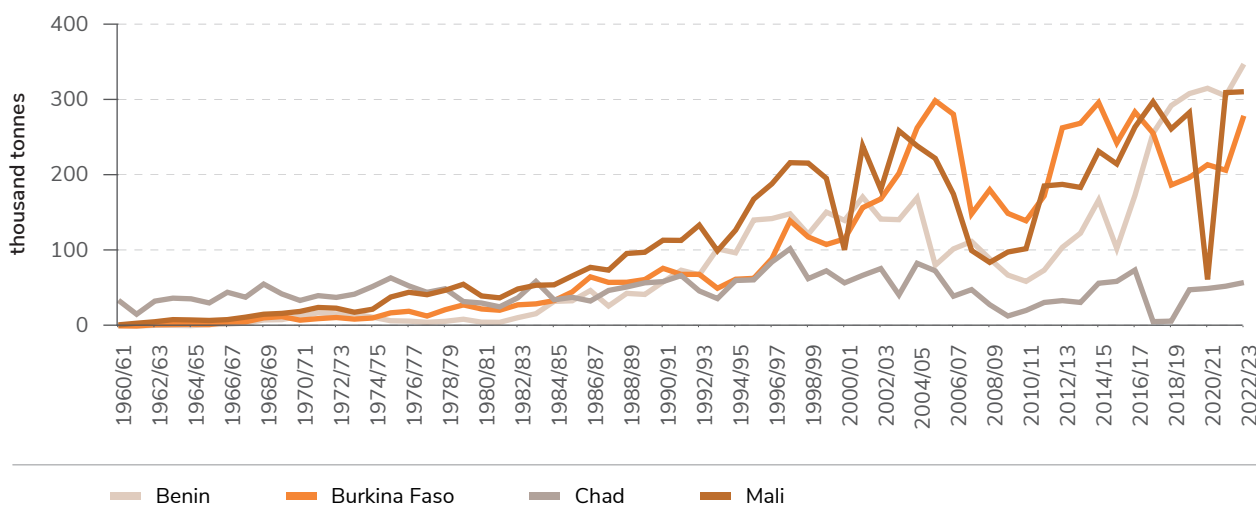
Current market situation and prospects

The C-4 countries are the leading cotton producers and exporters of the African continent. Together, they account for 3 percent of the total world cotton production and around 8 percent of world cotton trade. On average, over 90 percent of the domestically-produced cotton is traded, with Asian countries as key export destinations. Domestic utilization of cotton is mostly limited to the processing of yarns and artisanal fabrics. Cotton seeds are also processed into oil and cakes for human and animal consumption. Over the past two decades, Burkina Faso held the position of the leading cotton producer from the early 2000s through the 2016/17 (August/July) season, before yields declined due to pest infestation combined with the discontinuation of the use of biotech cotton. Mali surpassed Burkina Faso in 2017/18, and since 2018/19 Benin has led the group as the largest cotton producer, with the only exception of the 2021/22 season (Figure 6).

Short-term market outlook

Production of cotton in 2022/23 in the C-4 countries is forecast to increase significantly compared to 2021/22 and reach nearly 1 million tonnes. The growth stems from both increased area and improved yields across countries, particularly in Burkina Faso and Benin. While higher international cotton prices are anticipated to be conducive to larger plantings, the increase in yields rests on expectations of normal weather conditions, less pest pressure and appropriate fertilizer use.

Figure 6. Cotton production in the C-4s

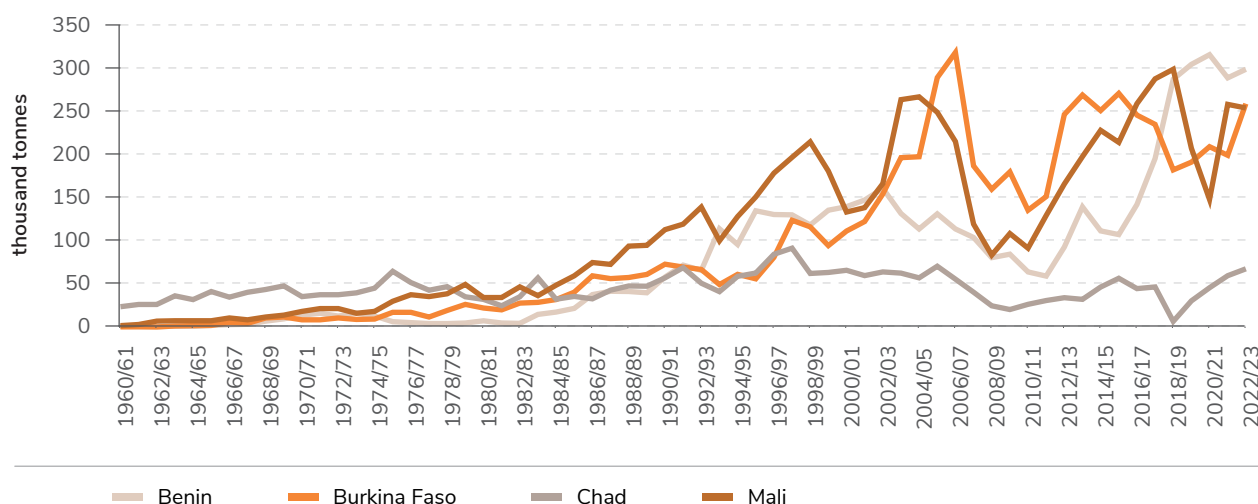


Source: International Cotton Advisory Committee (ICAC) (2022).

In Benin, cotton production in 2022/23 is forecast to increase by 14 percent from the slightly-reduced level of 2021/22 and reach nearly 350 000 tonnes. The rebound rests mostly on expectations of a recovery in yields, with planted area anticipated to grow for the second consecutive year. After Mali overtook Benin last year as the leading cotton producer among the C-4s, the current forecast would again make Benin the largest C-4 producing country. In Burkina Faso, cotton production is also anticipated to increase markedly in 2022/23 and reach 280 000 tonnes, more than one-third above its level in the previous season. Planted area is expected to increase for the second consecutive year, while yields are anticipated to sharply recover from the pest related decline in 2021/22. In Mali, cotton production in 2022/23 is forecast to remain broadly stable on a yearly basis at around 310 000 tonnes. Despite an increase in the planted area, based on on expectations of good farm gate prices and input subsidies, a return to normal of crop yields compared to the exceptionally high level in 2021/22 are anticipated to prevent an increase in output. In Chad, cotton production in 2022/23 is anticipated to increase and reach nearly 60 000 tonnes on account of both higher yields and larger plantings.

Overall, cotton exports from the C-4 countries in 2022/23 are forecast to increase by nearly 10 percent year over year and hover around 880 000 tonnes, based on increased domestic availabilities and sustained global import demand. While Benin is forecast to be the leading exporter among the C-4 countries with an export volume of 300 000 tonnes, the sharpest yearly increase is expected to occur in Burkina Faso, which represents a recovery from the downturn in 2021/22 (Figure 7). Based on the countries' limited capacity to process cotton, domestic utilization is forecast to remain virtually unchanged on a yearly basis at 10 000 tonnes.

Figure 7. Cotton exports by the C-4 countries



Source: International Cotton Advisory Committee (ICAC) (2022).

Medium-term outlook

The medium-term outlook projections for the next decade are based on the results of the OECD-FAO Aglink-Cosimo model of global agricultural markets for Least Developed Countries in Sub-Saharan Africa, which include Benin, Burkina Faso, Chad and Mali⁴. Aglink-Cosimo is a partial equilibrium model and price determination is based on the global market-clearing framework, where the equilibrium price ensures total global import demand is matched to total cotton export supplies.

Production

In the C-4 countries, cotton production increased by 3.1 percent over the last decade, mainly reflecting the strong growth in Benin on account of a significant expansion in area and improved yields. Government's continuous efforts to strengthen the agriculture sector, which accounts for the majority of export earnings, contributed to boost production of cotton. In particular, large public investments were made in recent years to modernise agriculture and they concentrated on six priority areas, including cotton. Not only the government but also the private sector have invested in the sector, contributing to the increase in cotton output. Over the next decade, 2022-2031, cotton production in the C-4 countries, as a group, is projected to increase annually by 1.7 percent, mostly as a result of higher yields, while area is expected to rise only slightly (Figure 8).

In general, cotton production in the region is expected to improve on the back of government support measures and foreign direct investments. In Benin, the government's plans to continue investing to modernise agriculture, with the financial contribution of multilateral cooperation, are projected to further boost production of cotton. Similarly, in Burkina Faso, the Government is likely to continue supporting cotton producers by subsidizing cotton prices, fertilizers, and seeds, which are key factors determining farmers' decisions on planting and crop productivity. The Second National Economic and Social Development Plan for the period 2021-2025, adopted last year, includes investments in the cotton-textile sector. The Government of Mali sustains the sector with subsidized cotton prices, fertilizers and farm equipment. Support to the agriculture sector is also provided through international financing. Overall, government initiatives aimed at boosting production, larger adoption of good agriculture practices, such as the use of organic fertilizer combined with chemical fertilizer to address soil degradation or improved pest management practices, are expected to raise yields and production.

⁴ OECD & FAO. 2022. *OECD-FAO Agricultural Outlook 2022-2031*. Paris/Rome, OECD Publishing. Available at <https://www.fao.org/publications/oecd-fao-agricultural-outlook/2022-2031/en/>.

Trade

Exports of raw cotton by the C-4 countries grew annually by 3.6 percent over the last decade, mainly reflecting rising exports from Benin, which became the leading C-4 exporting country in 2019/20. A slight increase also occurred in Mali, while exports from Burkina Faso recorded a negative growth. Over the next decade, exports from C-4 countries are projected to increase by 1.9 percent annually, in line with an expected increase in global demand for cotton, particularly from Southern and South-eastern Asia, and hover around 1 million tonnes in 2031.

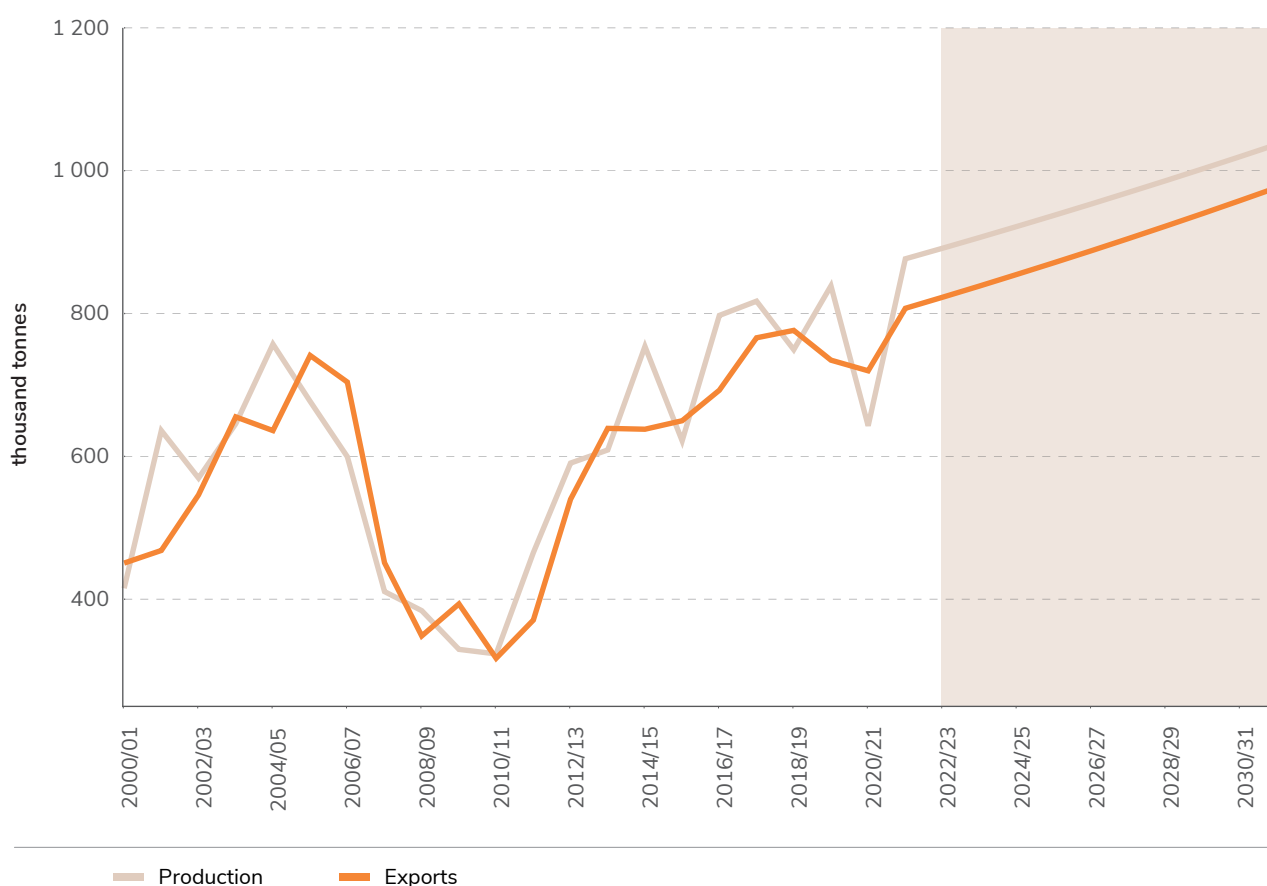
Although Benin, Burkina Faso and Mali benefit from regional trade agreements, including the West African Economic and Monetary Union (WAEMU) and the Economic Community of West African States (ECOWAS), intra-regional agricultural trade remains generally limited in Africa. However, the African Continental Free Trade Area (AfCFTA), which entered into force in 2021, aims to eliminate trade barriers across the continent and create a single liberalized market. The agreement represents an opportunity to boost regional value chain development and create new opportunities for cotton trade. The C-4 countries are also granted preferential treatment by the European Union via the Economic Partnership Agreements (EPAs) and the United States of America, through the African Growth and Opportunity Act (AGOA).

Utilization

Cotton utilization refers to the use of cotton fibres by mills for the production of yarn. This mill use depends on several drivers, which include global economic activity and demand for textiles and competition from substitutes such as polyester. Over the past decade, the growth in population and income in C-4 countries triggered an increase in demand for textiles, which was mainly satisfied by imports, while domestic utilization has not increased due to high operating costs amid strong international competition.

With a relatively small textile industry currently in place, spinning mill is projected to remain limited over the next decade, although efforts from governments, the private sector and the international community are being made, and this is expected to stimulate a slight increase in cotton processing capacities across countries. In Benin, for example, a public-private partnership has been implemented to develop an industrial area dedicated to the transformation of domestically-produced agricultural products, including cotton. In Mali, a number of measures have been implemented to encourage and promote investments, including in the textile sector, such as tax exemptions on imports of processing equipment and facilitation in the creation or expansion of cotton processing units. The AfCFTA also represents an opportunity for developing more cotton value-added products.

Figure 8. Evolution of cotton production and exports in the C-4 countries



Source: FAO/EST based on OECD-FAO Agricultural Outlook, 2022.

Main issues and uncertainties

The projections discussed in the previous section are subject to a number of uncertainties ranging from the macroeconomic environment and trade policies to weather conditions and the occurrence of pests and diseases affecting cotton production. In this respect, improvements in genetics and better pest management play a critical role in building a resilient production system. The various measures implemented by the governments to support the development of the cotton sector through, for example, yield improvement programmes, can play an important role in sustaining the performance of the sector.

Given the importance of cotton exports for the C-4 countries' economies, price developments in the international cotton market become relevant given their implications on production decisions (see box on price dynamics). Returns from the projection exercise show that international cotton prices are expected to decrease in real terms throughout the outlook period; as a result, it is crucial to invest in technology and innovation not only to boost productivity but also to develop value added products, including by-products, as a complementary source of revenues. In addition, not only cotton prices but also availability and affordability of fertilizers affect production volumes. In the C-4 countries, farm

gate prices, input subsidies and financial support provided by governments influence farmers' decisions on plantings. These measures make it possible for farmers to access some of the resources they need also to adapt to the effects of climate change, such as fertilizers to enrich soil and drought-resistant seeds. In Mali, low farm gate prices and high fertilizer prices caused a sharp drop in the harvested area and production in 2020/21, with farmers switching to other crops such as millet and sorghum. The same happened in Burkina Faso in 2018/19, when farmers reduced cotton plantings on account of low output prices and subsidies. More recently, the war in Ukraine caused a decline in global availabilities of fertilizers and increased their costs, raising concerns over the impact that a lack and high prices of inputs could have on cotton area and yields.

As cotton is traded on the world market in the United States of America dollar (US dollar), the value of the CFA franc against the US dollar is a very important factor of competitiveness and determinant of the sector's profitability. While the devaluation of the CFA franc in 1994 boosted cotton production, its strengthening in the early 2000s, after the pegging of the currency to the euro in 1999, contributed to lowering the profitability of cotton production, which generally declined from 2005 to 2010.

Other risks also need to be taken into account, as insecurity may hamper agricultural activities. In 2021/22, Burkina Faso did not reach its target cotton area because of security challenges, which prevented farmers from accessing their fields⁵. Security disruptions may also reduce trade flows, disrupt the movement of people and goods and the regular functioning of agricultural activities and markets.

In the C-4 countries, spinning mill, and in general the apparel industry, faces significant competition from large Asian suppliers in the international market as well as domestically from imports of used clothing. However, the industry has a large growth potential, given the comparative advantage in labour costs, but also the direct access to the raw material, which represents a competitive advantage for these countries, reducing the costs associated with transport. In addition, the geographical proximity with the European Union and the United States of America, is another significant advantage. As discussed earlier, inter- and intra-regional trade agreements in place along with the more recent AfCFTA, offer important opportunities of growth for the sector and the economic development of the region in general.

⁵ USDA, *Attaché Report (GAIN), Senegal: Cotton and Products Annual, 2021*. Available at <https://www.fas.usda.gov/data/senegal-cotton-and-products-annual-9>.

The way forward

Cotton remains one of the most important industries in the C-4 countries, supporting livelihoods, and providing revenues and job opportunities that contribute to socio-economic development. Cotton connects producers in remote areas to world markets and contributes to enhancing food security. The contribution of cotton to GDP in the C-4 countries has declined in recent years in favour of other sectors, most notably precious metals and mineral products. To compete in the world market, the cotton sector in the C-4 countries needs to change and adapt to new challenges. It is generally recognised that cotton yields must increase, agronomic limits be overcome in a sustainable manner, resource use must decrease and fibre characteristics need to be improved to reach a level of performance that meets the demands of consumers.

Greater investments are needed to expand the sector beyond raw cotton production and harness the existing economic opportunities at the higher end of the value chain. Addressing climate change, empowering women and youth and livelihood improvements should remain at the top of the cotton development agenda. In addition, the sector must seek for greater coordination among the various value chain segments and actors to enhance transparency, improve efficiency and raise productivity. These outcomes would contribute to the long-term viability of the cotton industry in the C-4 countries.

In order for the sector to overcome the challenges it faces and achieve the sustainable development objectives, actions are required on five fronts:

- Invest in the transformation of the sector to promote compliance with sustainability standards at all levels of the value chain and strengthen resilience to risks.
- Achieve sustainable productivity gains along the various stages of the value chain through innovation, technology adoption and resource mobilization.
- Empower women and youth so they become fully part of the cotton value chain and contribute to the sustainable development of the sector.
- Overcome the price-cost squeeze that the textiles and manufacturers face to ensure the long-term viability of cotton as an industry and as a provider of livelihoods.
- Ensure that trade reforms address market distorting measures and provide increased market access to the Least Developed Countries (LDCs).

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