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IMPACT OF THE COVID-19 PANDEMIC ON COTTON AND ITS VALUE CHAINS: THE CASE OF THE C-4 AND OTHER LDCS

STUDY BY THE SECRETARIAT[1,2]

[1] Study requested at the Cotton Dedicated Discussions of 28 May 2021 (as reflected in TN/AG/49 - TN/AG/SCC/17).

[2] This document has been prepared under the Secretariat's own responsibility and is without prejudice to the positions of Members or to their rights and obligations under the WTO. It has been prepared for information only and is not intended to provide any authoritative or official legal interpretation of the provisions of the WTO Agreements in general or in relation to any specific entity or measure listed in this document.

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DISCLAIMER

FOREWORD BY THE DIRECTOR-GENERAL

Around the world, the COVID-19 pandemic has cost people their lives and their livelihoods. People living in the world's poorest countries have faced particularly severe challenges, especially in those where a single product - such as cotton - is key to trade, inclusive prosperity, and sustainable growth.

Fortunately, in many Least Developed Countries (LDCs), cotton trade has mirrored the rebound we see in other goods and commodities, as exporters respond to demand growth abroad, and begin to lay the foundations for the recovery.

The WTO is today actively addressing the challenge of vaccine equity, which is a precondition for rebuilding sustainable economic activity across the organisation's membership.

At the same time, we are working to ensure that trade contributes to the full and equitable integration of LDCs in the global trading system of the future, including through our work on cotton.

The United Nations General Assembly recognised the critical role that cotton plays in economic development, international trade, and poverty alleviation in the resolution they adopted this year, proclaiming 7 October as World Cotton Day.

At the WTO, our work on cotton takes place under two tracks: development assistance and trade negotiations.

Under the development assistance track, the WTO has brought together development partners and developing countries to help with the funding of projects in support of the cotton sector.

And under the negotiating track, WTO Members continue to seek to reduce significantly the trade-distorting subsidies to cotton that undermine the competitiveness of producers in LDCs and other countries, especially the most vulnerable low-income and resource-poor farmers. While negotiations on trade-distorting domestic support have so far progressed only slowly, WTO Members have taken some steps forward in other areas – notably by agreeing in December 2015 to eliminate cotton export subsidies and by committing to grant, to the extent possible, duty-free and quota-free market access for LDC exports of cotton and cotton-related products.

Action on both the trade and development tracks is therefore essential if markets for cotton and cotton by-products are to become more competitive, equitable and sustainable.

This study is part of our broader efforts at the WTO to ensure trade helps countries respond effectively to COVID-19; supports the economic development of LDCs, especially the C-4 and other cotton-producing countries in Africa; and builds resilience to future shocks, including those associated with climate change.

It aims to shed light on how COVID-19 affected 10 cotton-producing African LDCs by providing a preliminary review of the impact of the pandemic on production and trade in cotton and its value chains. The analysis looks specifically at those countries that have identified cotton as a key development priority, building on available data at the time of drafting.

The study responds directly to a request made by the C-4 at the WTO's Cotton Dedicated Discussions on 28 May 2021 - and seeks to inform discussions at the upcoming second Partners' Conference planned in the margins of the WTO 12th Ministerial Conference.

The study shows that, in 2020, when the pandemic first hit, GDP per person fell by 2.1% on average in the ten African LDCs that are the focus of the analysis. It also finds that, although these countries' experiences varied considerably, the value of cotton exports dropped by 34% on average. While cotton output in the group fell on average by 18% from 2019 to 2020, in some countries it fell precipitously by 79%.

The study also shows how the cotton sector has been central to efforts to rebuild from the pandemic and galvanise economic activity in the wake of its shock. As such, it will help policy makers and development partners to learn lessons from those countries that have managed to maintain or even slightly increase their productivity during the pandemic.

For cotton producing LDCs, the path to recovery is not a straight one, nor is it particularly easy. However, our hope is that this study will contribute to their efforts to travel along it, and those of their development partners, by shining a light on the road we have come down so far, and by directing its beam into the future.

Trade in cotton can and must play a role in rebuilding viable, vibrant, and sustainable economies, so that the millions of people whose livelihoods depend on the sector can envisage a better life for themselves and their families.

Ngozi Okonjo-Iweala
Director-General

EXECUTIVE SUMMARY

1.1. This study focuses on ten Least Developed Countries (LDCs) that indicated cotton was a key priority area for their development strategies at the WTO's 2019 "Partners' Conference to Support Cotton Development in LDCs"[3]. These countries are Benin, Burkina Faso, Chad, Malawi, Mali, Mozambique, the United Republic of Tanzania (hereinafter "Tanzania"), Togo, Uganda, and Zambia (hereinafter "the reference LDCs").

1.2. In 2020, the first year of the COVID-19 pandemic, GDP *per capita* decreased by 2.1% on average in the reference group of LDCs, while food security indicators also worsened in several of these countries. Their agriculture and cotton sectors were already suffering from the impacts of climate change, with average mean temperature increasing for almost all reference LDCs over the last 30 years, and significant variations in mean rainfall, entailing aggravated difficulties for agricultural planning in countries where cultivation is almost entirely rainfed, as well as worsened conditions for those who work in the fields.

1.3. While cotton remains critical for livelihoods and rural development especially in Africa, the COVID-19 crisis highlighted the need for governments to ensure the cotton sector is resilient to future shocks, including climate-related extreme weather events and changing temperature and precipitation patterns.

1.4. On average, the area planted with cotton in reference LDCs decreased by 16% and cotton production decreased by 18% from 2019 to 2020, with drops reaching -79% in some countries. Other countries in the same reference group nonetheless managed to increase their production and yields slightly in the same period.

1.5. These mixed agronomic performances are mirrored in trade: while six countries experienced a sharp decline in their cotton exports from 2019 to 2020, others appear to have maintained previous export levels or even show improvements on those levels. In net terms, however, the reference group's cotton export value decreased by 34%. In terms of export revenues, this represents a loss of over USD 500 million in value (from 1,5 USD billion of export revenues in 2019 to 997 USD million in 2020).

1.6. Explanations for the positive performance of some LDCs can be found in shifts in some trade patterns with subsequent creation or reinforcement of trading relationships, allowing the sector to respond to the challenges posed by the pandemic, the associated fall in demand and international prices, and the impact of COVID-19 response measures. On the other hand, the negative performance of other countries in the group may be attributed, *inter alia*, to the way such countries adapted to perceived changes in international prices as well the broader scenario for cotton trade in the wake of the first wave of the pandemic, i.e., in the summer of 2020.

1.7. World cotton prices started declining in June 2018, falling from USD 2.15 per kg to USD 1.56 per kg in mid-2019. They then fell further to USD 1.40 per kg in April 2020 (with a sharp decline as of March 2020, when the pandemic was declared). ICAC data indicates that cotton prices fell particularly sharply from March 2020, before beginning to rise again in September 2020. However, while experts expected international cotton prices to rebound in 2021 to over USD 2.00 per kg, seed prices in 2020/21 were projected to decline in certain countries. For instance, prices of seed cotton in 2019/20 were USD 0.45 per kg in Mali and USD 0.42 per kg in Cameroon but were expected to fall by 30% and 12% respectively in the next season.

1.8. In some reference countries, the fall of seed cotton prices caused a decrease in cotton sowing. Poor access to market price information and uncertainty over future cotton demand and prices affected farmers' production decisions.

1.9. In addition, and as signalled by many national stakeholders in reference LDCs, both input and logistics costs associated with cotton production and export have increased drastically in connection with the pandemic and the disruptions it caused to maritime transport. For example, container vessel calls decreased by close to 4% in total in African ports from 2019 to 2020. The ports that recorded the most significant decreases in container vessel calls from 2019 to 2020 were those of

[3] See: https://www.wto.org/english/tratop_e/agric_e/prog_partnerconf_wcd2019_e.htm.

Mozambique (-28%), Mauritius (-14%), Kenya (-11%), Senegal (-10%), South Africa (-9%), Nigeria (-9%) and Egypt (-8%). In addition, overall freight rates more than doubled for the route Shanghai-West Africa in the course of 2020.

1.10. The following **recommendations from public and private stakeholders** to support recovery and resilience are extracted from the survey conducted by the WTO and the International Cotton Advisory Committee (ICAC) in the reference LDCs [4]:

- **Digitalization**: survey responses showed that, during the pandemic, it was essential for LDCs to digitalize their input and supply systems, due to human resource shortages resulting from COVID-19 containment measures. Respondents also called for the introduction of virtual training platforms for extension staff and farmers, the establishment of e-payment services to farmers to enable them to avoid handling cash, and the development of technologies to boost cotton productivity, as well as the development of e-commerce platforms.

- **Agricultural Inputs**: survey responses underscored the importance of timely and affordable access to agricultural inputs such as quality seeds, the extension of input support programs to cotton farmers, and the provision of a formal certified seed supply system. Respondents indicated that the COVID-19 pandemic has also meant cotton producers are now in greater need of support to help them afford agricultural tools and machinery, as the prices of these goods have risen due to an increase in steel prices[5].

- **Funding**: LDC respondents requested economic recovery programs, including in relation to access to inputs, stimulus support and subsidies to farmers for agricultural inputs. Some respondents also suggested the creation of credit lines with subsidized interest rates to encourage access to inputs such as seeds, fertilizers, machinery, and various equipment, in order to enhance cotton productivity and promote economic well-being in rural areas.

- Some respondents suggested **increasing warehousing capacity of cotton ginning companies** to improve their competitiveness and create incentives to improve cotton productivity in smallholder farmer cooperatives. This would also ensure that cotton quality is not impacted in case of transport delays.

- **Price stabilization**: among the survey respondents, some producers suggested maintaining or increasing the current purchase price of seed cotton, while some buyers favoured a subsidy on the price of seed cotton.

- **Improved soil fertility and agricultural practices**: survey respondents emphasised the value of improved soil fertility management, adoption of supplemental irrigation systems, modernization, and mechanization. They also highlighted the implementation of climate change adaptation programmes and continuous training on good agronomic practices.

- **Policies for trade, exports, and imports**: the respondents called for streamlined regulatory import and export procedures; exemptions or reduction from export and import taxes for agricultural products (including cotton); an easing of trade in farm inputs, machinery, and equipment, including through tariff reductions; and relaxation of cross border restrictions, including international flight restrictions.

- **Textiles**: survey respondents suggested policies including cutting energy costs and subsidies to encourage local processing and consumption. Survey responses also highlighted the importance of promoting and strengthening the processing capacities of textile units and infrastructure to support textile processing while also promoting artisanal weaving by smallholder farmers in rural areas. Some respondents suggested that specific tax incentive packages could be created to attract domestic and foreign direct investment in the textile and clothing industry, and to remove taxes on textile equipment imports. Many survey replies

[4] See Annex 1 for detailed information on survey respondents.
[5] Steel prices reportedly doubled in 2020 and 2021, see e.g., https://fortune.com/2021/07/08/steel-prices-2021-going-up-bubble/.

proposed that second-hand clothing imports be banned, and that governments also facilitate access to finance and investment funds.

Policy options and way forward for national stakeholders and development partners

1.11. The COVID-19 crisis highlighted the importance of ensuring the cotton sector is resilient to future shocks, including climate-related extreme weather events and changing temperature and precipitation patterns. An important part of doing so will involve ensuring that policy responses help boost productivity sustainably and improve competitiveness in cotton and the agricultural sector.

1.12. Policy makers also need to consider how policy interventions will affect cotton value chains in their entirety, including the impact on the textile industry and other industries using cotton and cotton by-products. This includes ensuring that the competitiveness of the cotton sector creates synergies with other vibrant parts of these countries' economies, including the services sector.

1.13. More broadly, a critical policy challenge for policy makers will be to situate the cotton sector within a broad vision of economic development for both rural and urban areas. Doing so should be complementary to global efforts at the WTO to reduce trade distortions, including those associated with trade distorting domestic support to cotton, and to eliminate various barriers to trade that hamper development in African cotton producing LDCs.

1.14. C-4 countries are among those that have most effectively weathered the COVID-19 storm. This should send important signals of confidence to international investors and donors. However, even within the C-4 there have been different experiences, policy responses, and trade and market trajectories. This heterogeneity across LDCs means there are plenty of opportunities to learn lessons from success stories as governments and development partners lay the foundations for the recovery.

MAIN TAKEWAYS

1. Cotton trade is key to the economic development, rural livelihoods, and food security of millions of people in Africa and has been hit hard by the pandemic.

- Cotton export revenues contribute up to 10% of total agricultural value addition in some LDCs.
- Agriculture is critical to livelihoods and rural development in the countries studied, employing more than 50% of their total labour force.
- Furthermore, among the millions of cotton farmers in the C-4 and other LDCs, an estimated 450,000 are women. Women also add value to cotton, for example by producing soap from cotton ginning waste.
- However, when the COVID-19 pandemic broke out in 2020, export revenues decreased by 34% in the group of 10 cotton producing LDCs that are the focus of this study, while both input and maritime freight costs increased in the first year of the pandemic and remained inflated in 2021.
- Constraints on container availability and other service interruptions further undermined competitiveness in the ten cotton-producing LDCs studied, six of which are landlocked.6

2. In African LDCs, cotton should be situated within a broader vision of competitiveness, productivity, in the context of the COVID-19 recovery plans.

- In many cotton producing LDCs, the services and agricultural sectors are the main sources of GDP value addition, with agriculture being more significant than the industrial sector in Benin, Chad, Mali, Malawi, and Mozambique.
- Improved synergies between the cotton and services sectors could help boost local value addition and trade in higher value products and put people and small enterprises at the centre of value chain development.
- The C-4 countries are among those that have most effectively weathered the COVID-19 storm. This should strengthen the confidence of international investors and donors. However, even within the C-4 there have been different experiences, policy responses, and trade and market trajectories.
- This heterogeneity, which is reflected across all the LDCs analysed in this study, means there are many opportunities to learn lessons from success stories as national stakeholders, governments and development partners lay the foundations for the recovery.

3. Cotton has a key role to play in building resilience to future shocks, including as part of a broader climate action strategy.

- Farmers and other economic actors in African LDCs are already being affected by changing temperature and precipitation patterns, and by the increasing frequency and intensity of extreme weather events.
- Mean temperatures have increased over the last 30 years in the countries studied, making it harder for farmers to plan, and exacerbating their working conditions.
- Furthermore, among the 10 cotton-producing LDCs studied, Benin, Chad, Togo, and Uganda experienced significant temperature variability, and Malawi, Mozambique, Tanzania, Togo and Uganda experienced significant variability in total annual rainfall.
- In addition, African cotton and textile sectors can contribute to climate change mitigation, as their lower use of irrigation and chemical inputs means they produce cotton more sustainably than in other regions.

[6] These countries are Burkina Faso, Chad, Malawi, Mali, Uganda, and Zambia.

ACRONYMS

ACF	African Cotton Foundation
ASI	Agricultural Stress Index
C-4	Cotton-4 (Benin, Burkina Faso, Chad, Mali)
FAO	The Food and Agriculture Organization of the United Nations
GFSI	Global Food Security Index
GDP	Gross Domestic Product
ICAC	International Cotton Advisory Committee
IGC	International Grains Council
ILO	International Labour Organization
IMF	International Monetary Fund
LDCs	Least Developed Countries
PR-PICA	Programme Régional de Production Intégrée du Coton en Afrique
SDGs	Sustainable Development Goals
STDF	Standards and Trade Development Facility
WEO	World Economic Outlook
WTO	World Trade Organization

INTRODUCTION

Much of the world's cotton production crosses international borders to be processed into final end-use products. Cotton is second only to soybeans in terms of the percentage of production that is exported annually, ahead of wheat, maize, and rice. Indeed, over 150 countries are involved in exports or imports of cotton every year. The global cotton area accounts for only 2.5% of the world's arable land, yet the annual value of world cotton production in 2021 is estimated to be USD 50.6 billion when looking only at cotton fibre.[7]

Although in a typical year Africa produces only about 6% of the world's cotton lint, it exports more than 90% of its annual production, making cotton a vital cash crop in reportedly more than 30 African countries. Most of these are classified by the United Nations as Least Developed Countries (LDCs), with some featuring among the top ten world exporters of raw cotton lint. In the Cotton-4 countries alone (Benin, Burkina Faso, Chad and Mali, hereafter "the C-4"), cotton represents between 3% and 10% of Gross Domestic Product (GDP).[8]

Limited capacities for local value addition help to explain why, for these countries, most benefits are derived from raw cotton exports. In addition, Africa's cotton production as a share of global production has remained far behind its potential compared to other main cotton producers in the world, due to low productivity levels. Lint yields in 10 large African cotton-producing LDCs averaged 300 kg/hectare in 2018/2019, compared to a world average lint yield estimated at 755 kg/hectare in the crop season 2020/2021.[9]

International cotton-to-textile value chains have suffered significantly from a series of impacts due to the COVID-19 pandemic. These have included a fall in demand for textile and apparel products, which led to sharp decreases in international prices for cotton, entailing order cancellations as well as a net deterioration of the terms of trade for African LDCs and other countries. These countries also rely on imported inputs and face significant logistical hurdles and high trade costs when moving cotton from farms to export hubs. However, the pandemic has had quite different impacts on cotton-producing LDCs and their trading partners, due in part to the different nature of measures taken by countries to contain the spread of the disease. Some countries were also affected more than others as a result of pre-existing fragilities and major persistent impacts of exogenous factors, including agronomic issues, difficulties in integrating further into international value chains, and – as mentioned above - limited capacity for adding value locally.

While the number of reported COVID-19 infections was comparatively low on the African continent, the economic consequences of the COVID-19 crisis worsened the challenges that numerous African countries were facing before the pandemic. For instance, the UNDP estimated that 10 million people

[7] See ICAC presentation at the May 2021 WTO Dedicated Discussion on Cotton, as reflected in WTO document TN/AG/49 - TN/AG/SCC/17.

[8] UCC-Fact-Sheet-Aug-2016.pdf (usaid.gov).

[9] (Recent trends and prospects in the world cotton market and policy developments (fao.org)).

would be pushed into extreme poverty in 2020, representing a 4% increase in the number of people living with less than USD 1.90 per day in a group of 10 African countries.[10] The COVID-19 crisis was furthermore responsible for an overall 2% growth contraction in Sub-Saharan Africa in 2020, making it the region's first recession in 25 years.[11] These impacts have slowed down progress towards the 2030 Sustainable Development Goals.

Specifically, Africa's cotton sector has been affected by measures taken to contain the spread of the virus: these have further limited countries' ability to produce, process and trade cotton, leading to negative economic, social and environmental impacts, but have also spurred efforts by individual LDCs to adapt to these new challenges.

This study, prepared by the WTO Secretariat in response to a request by the C-4[12], therefore reviews the impacts of the COVID-19 pandemic on cotton and its value chains in 10 reference African LDCs, by looking holistically at economic, social and environmental indicators, and illustrates examples of recovery and resilience measures identified by national and international actors.

The study is divided in two parts. Part I presents the impacts of the pandemic in light of the economic and social importance of cotton, as well as environmental challenges of the cotton sector. Part II elaborates on national, regional and international measures taken to counter the negative effects of the pandemic and increase the resilience of the sector. Part II then presents the results of a WTO-ICAC survey that draws on primary data from different countries to assess the impacts of the COVID-19 pandemic. The findings of the study are based both on results from this survey and on desk research by the WTO Secretariat from June to September 2021. The analysis updates and expands on information shared by experts and C-4 stakeholders at the July 2020 information session on cotton and COVID-19.[13]

METHODOLOGY AND LIMITATIONS

Primary and secondary data sources: this study is based on secondary data from official sources, including ICAC reports; the International Trade Centre (ITC) Trade Map; the World Bank's data bank; data sets from the United Nations Food and Agriculture Organization (FAO), the International Monetary Fund (IMF), the World Food Programme, and the Better Cotton Initiative (BCI); and WTO Members' statements. It also includes primary data from the results of a WTO-ICAC survey assessing the impact of the COVID-19 pandemic in different countries (see Part II and Annex 1). Importantly, it should be noted that certain data discrepancies across different sources arose when collecting data, e.g., for quantities of cotton produced or exported; in these cases, and for the sake of data consistency, the study authors opted for the choice of a single data source.

Reference group of Least-Developed Countries (LDCs): more than half of the 46 countries classified as LDCs by the United Nations[14] are countries where cotton plays an important role for the livelihoods of millions of people. At the WTO's 2019 Partners' Conference, ten of these LDCs identified cotton as a priority area in their development strategies: in this study, we refer to these countries as the "reference group of LDCs". The ten countries are: Benin, Burkina Faso, Chad, Mali, Mozambique, Malawi, Tanzania, Togo, Uganda, and Zambia. The analysis in this study focuses on these ten countries.

[10] These countries are Angola, Cabo Verde, Chad, Democratic Republic of Congo, Ethiopia, Kenya, Mali, Mauritius, Nigeria and South Africa. See: Long-Term Socio-Economic Impacts of COVID-19 in African Contexts | UNDP in Africa.

[11] (9781464817144.pdf (worldbank.org)).

[12] See Report of the 15th Dedicated Discussion of the Relevant Trade-Related Developments for Cotton, held on 28 May 2021, WTO document TN/AG/49 - TN/AG/SCC/17.

[13] WTO, Report Information Session on COVID-19 and Cotton "from facts to solutions", 2020.

[14] https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/ldc_list.pdf. Cotton-producing LDCs are classified by the World Bank as either "low income economies" or "lower middle-income economies. For the 2021 fiscal year, low-income economies are defined as those with a *per capita* GNI (calculated using the World Bank Atlas method) of USD 1,035 or less in 2019. Lower middle-income economies are those with a *per capita* GNI between USD 1,036 and USD 4,045. Upper middle-income economies are those with a *per capita* GNI between USD 4,046 and USD 12,535 and high-income economies are those with a *per capita* GNI of USD 12,536 or more. Source: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

Comparative group of LDCs: where relevant, the study also uses a comparative group of LDCs which do not produce cotton: these countries are instead large exporters of cereals, products which farmers in LDCs often plant in rotation with cotton.

Tariffs and non-tariff measures (NTMs): the study does not cover cotton tariffs and NTMs because this information is published biannually by the Secretariat in document series TN/AG/GEN/34 - TN/AG/SCC/GEN/13 (the "Background Paper"). Section 3.1 and 3.4 of the background paper contain, for the 33 Members[15] identified as markets of interests to LDCs, bound and applied duties and NTMs applicable to cotton respectively.[16] In addition, the WTO-ITC Cotton Portal provides interactive access to the information contained in this document, along with other key resources.

Crop/Marketing Year: as with other agricultural commodities, cotton production, consumption, and prices are commonly discussed in terms of crop years. The term crop/marketing year reflects the planting and harvesting patterns for crops. For cotton, the crop year runs from 1 August to 31 July. The current 2021/2022 crop year began on 1 August 2021. This study makes an approximate conversion of crop years into marketing years: e.g., crop year 2019/2020 is reported as marketing year 2020. This is done to enhance accessibility to relevant information for non-specialized readers.

Limitations on data availability and relevance: information on cotton trade data in reference LDCs is sometimes missing (both direct and mirror data), while it also keeps on being constantly updated by relevant sources. In relevant instances, and where possible and available, missing data was replaced by mirror data. In some cases, only mirror data was available. The study mostly uses HS5201 (cotton, not carded or combed) and HS5203 (cotton, carded or combed) combined to analyse trade quantities and values. The main source for these data was ITC Trade Map accessed through the WTO-ITC Cotton Portal. Additional sources to fill data gaps have been Trade Data Monitor, the UN Comtrade Database, and the ICAC Cotton Databook 2021.

1 ECONOMIC, SOCIAL AND ENVIRONMENTAL INDICATORS AND COVID-19 IMPACTS

1.1 Economy-wide impacts in reference LDCs

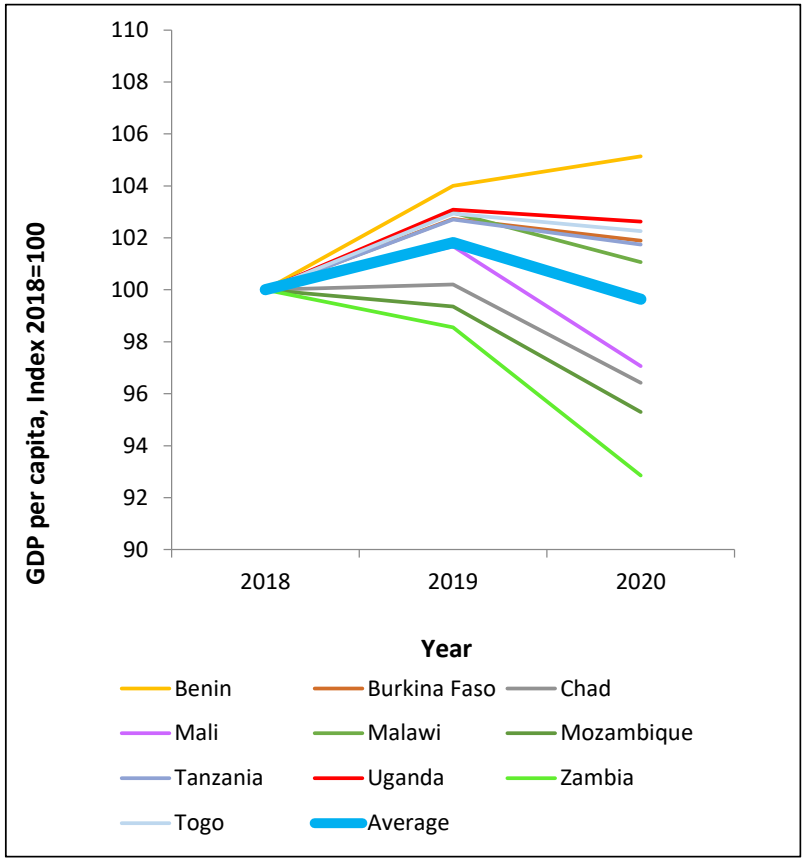
1.1.1 GDP *per capita* decreased in 2020 and growth rates were projected to slow

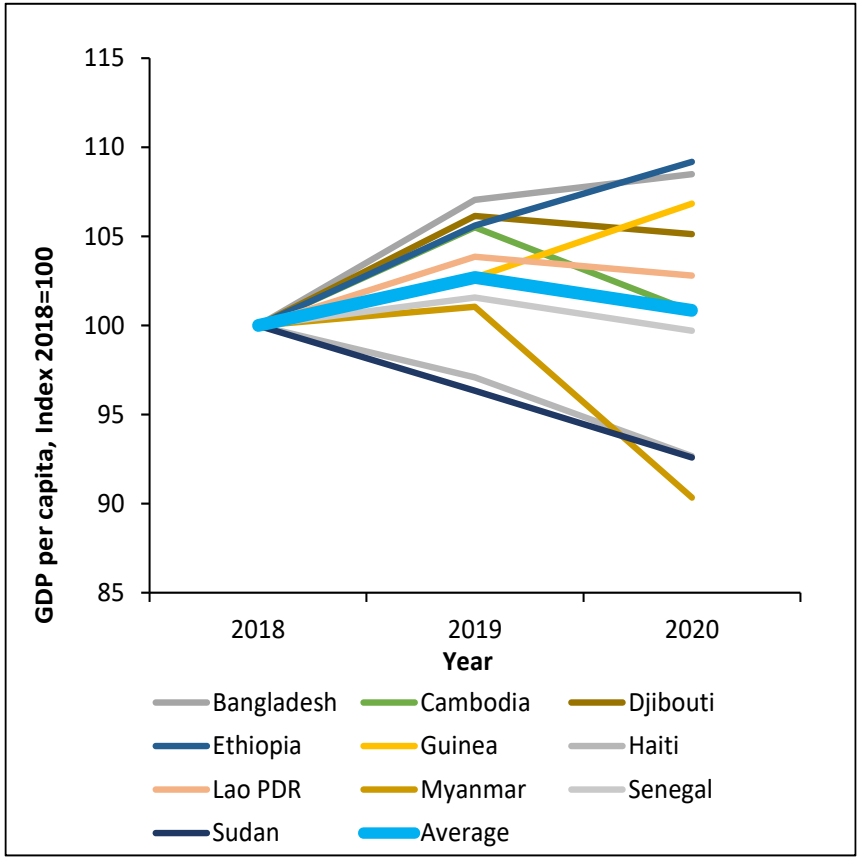
1.1. GDP *per capita* fell between 2019 and 2020 in reference LDCs, except in Benin, with Chad and Mali performing the worst from among the C-4. The average percentage change in the reference group of LDCs was minus 2,1% down to the 2018 level, whereas in the comparative group of LDCs it was 1,8% (Figure 1). Figures for the period 2018-2020 also show significant differences between countries within the reference and comparative groups.

[15] Please refer to paragraph 12 and 13 of the background paper for further information.

[16] The term "cotton" in the background paper refers to the products covered by the Harmonized System nomenclature (HS) headings 52.01, 52.02 and 52.03. Further to the Nairobi Ministerial Decision on cotton (document WT/MIN(15)/46 and WT/L/981), Addendum 2 to the background paper includes bound and applied duties and NTMs for relevant cotton-related products as listed in the annex to the Nairobi Decision.

Figure 1: GDP *per capita* evolution 2018-2020 in reference group of cotton-producing LDCs (left) and in the comparative group of LDCs (right) in constant 2017 international USD, PPP





Notes:
* Data for 2020 are estimates.

Source: World Bank: World Development Indicators.
https://databank.worldbank.org/source/world-development-indicators/Type/TABLE/preview/on#.

Authors' calculations.

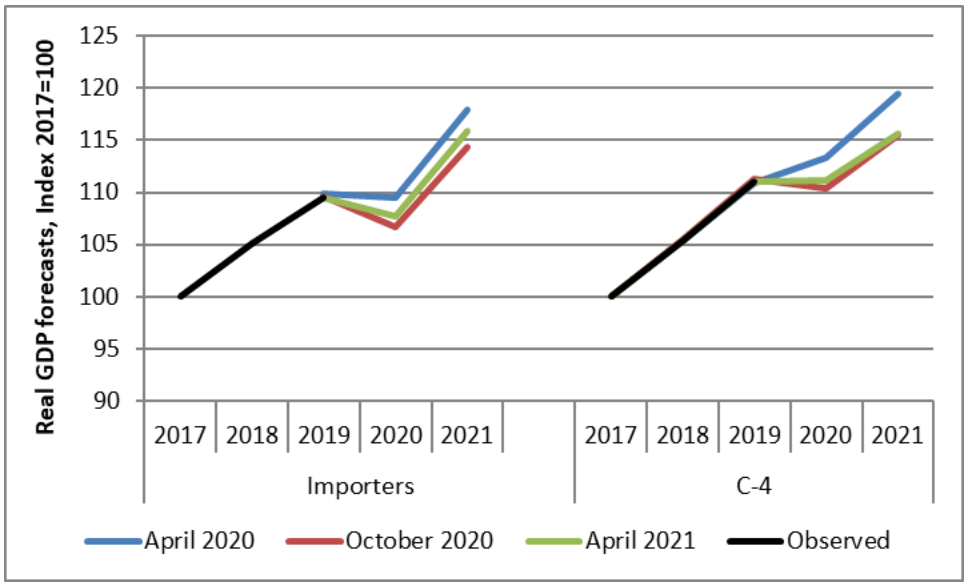
Table 1: Change between 2019 and 2020 - GDP *per capita* in reference group of cotton-producing LDCs (left) and in the comparative group of LDCs (right) in constant 2017 international USD, PPP

Reference group	% change GDP 2019/2020	Comparative group	% change GDP 2019/2020
Benin	1.1	Bangladesh	1.4
Burkina Faso	-0.8	Cambodia	-4.5
Chad	-3.8	Djibouti	-1.0
Mali	-4.5	Ethiopia	3.4
Malawi	-1.8	Guinea	4.0
Mozambique	-4.1	Haiti	-4.6
Tanzania	-0.9	Lao People's Democratic Rep.	-1.0
Uganda	-0.5	Myanmar	-10.6
Zambia	-5.8	Senegal	-1.8
Togo	-0.7	Sudan	-3.9
Average	**-2.2**	**Average**	**-1.8**

1.2. The C-4 countries are the main cotton exporters in the reference group of LDCs. Figure 2 shows how the recovery outlooks have evolved since the first quarter of 2020. It shows that the GDP outlook for C-4 countries has closely followed the GDP outlook for a group of countries representing the main cotton importers from the C-4, with a deterioration in October 2020 before a slight upward revision in April 2021 (Figure 2, right and left-hand curve).

1.3. It can also be noted that forecasts for C-4 importers in the April 2021 report also showed a slightly lower recovery in 2021 compared to 2017 than for its main importing partners, contrary to the initial April 2020 reports for which C-4 growth forecasts exceeded those of the group of importing countries.

Figure 2: Real GDP forecasts for the C-4 and their main cotton trading partners



Notes:
* Index 2017 = 100, weighted averages by GDP PPP aggregated.
** Importers: Bangladesh, China, Egypt, France, Germany, India, Indonesia, Malaysia, Netherlands, Portugal, Singapore, Switzerland, Thailand, Turkey, United Kingdom, and Viet Nam (source: main importers by value, HS5201, ITC trade map data for 2020).

Source: IMF, World Economic Outlook Database, April 2020, October 2020, April 2021.

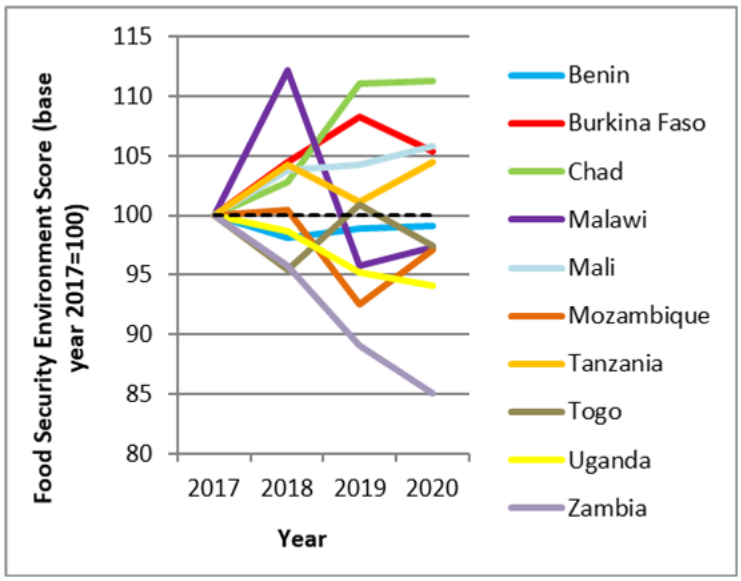
Authors' calculations.

1.1.2 Key food security indicators worsened in 2020 for some reference LDCs

1.4. The Global Food Security Index (GFSI)[17] is a composite index constructed using data on food affordability, availability, quality and safety, taken mostly from official UN sources. As Figure 11 shows, the evolution of the GFSI scores between 2019 and 2020 shows a degradation in several countries such as Burkina Faso and Zambia, but not all. The GFSI index also shows GFSI indexes remained below 2017 levels in most reference LDCs other than C-4 countries (except Benin with a quasi-identical score).

1.5. The C-4's agricultural water risk indicator was at zero, the lowest possible score, reflecting the significance of flood, drought or contamination risks, indicating that the importance of these risks as a source of food supply volatility. As **Error! Reference source not found.** shows, the prevalence of undernourishment among the total population was also higher in the C-4 countries, Malawi, and in Mozambique in the 3-year 2018-2020 period when compared with average undernourishment levels during the previous two such periods, confirming the higher vulnerability of these countries during the COVID-19 pandemic period.

Figure 3: GFSI scores worsened in 2020 and remained below 2017 levels in several reference LDCs

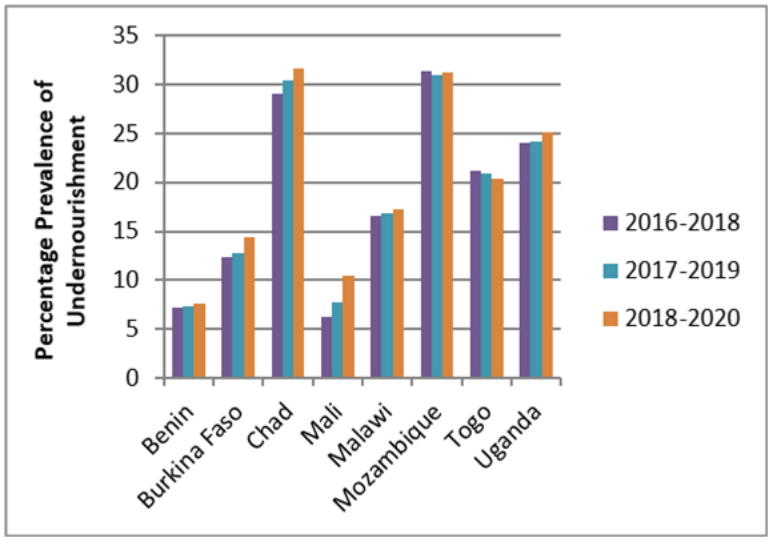


Source: Global Food Security Index.
The Economist Intelligence Unit:
https://foodsecurityindex.eiu.com/.

Authors' calculations.

[17] "The Global Food Security Index (GFSI) considers the issues of food affordability, availability, quality and safety, and natural resources and resilience across a set of 113 countries. The index is a dynamic quantitative and qualitative benchmarking model constructed from 59 unique indicators that measure the drivers of food security across both developing and developed countries", see: https://foodsecurityindex.eiu.com/. Primary data sources are mostly provided by international governmental organizations such as the UN, the FAO, the WTO and the World Bank.

Figure 4: Undernourishment was higher in the C-4 countries, Malawi, and in Mozambique over the 3-year period 2018-2020



Source: FAO: Suite of Food Security Indicators. http://www.fao.org/faostat/en/#data/FS

Notes: Data not available for Tanzania and Zambia.

1.6. As a complement to these considerations, Box 1 provides an overview of information and data collected by the African Cotton Foundation (ACF) and Olam International from cotton value chain operators across two African countries, one of which is an LDC from the study's reference group.

Box 1: Impacts on social indicators in Africa: study by the African Cotton Foundation (ACF) and Olam International

The COVID-19 pandemic has undermined food security (access to and availability of food), nutrition, and children's rights. Indeed, restrictive containment measures (restriction of people's mobility, closure of classrooms, closure of public spaces) have led to lower incomes and higher prices for some food items, making food unaffordable for many people, undermining the right to food, and slowing progress towards the second Sustainable Development Goal (SDG), in which world leaders committed to eliminate hunger and malnutrition by 2030.

The study reveals that in Olam's cotton supply chain, involving two African countries, the decline in income was more pronounced among women than men: 63% of women (but only 52% of men) reported having less income in the last six months than they had had before COVID-19. Paradoxically, the survey seemed to suggest that men had been most affected by food insecurity, with 82% of men having declared they had eaten less in the last 30 days than usual, compared to 75% of women. 78% of respondents (all sexes and countries) said they had eaten less nutritious food (meaning lower quality, less diversified or less nutritious food) over the previous 30 days, compared to the usual situation. This was because: i) in 65,5% of cases, food was stored in insufficient quantity at least once in the last 30 days; ii) in 53,5% of cases, stored food was spoiled at least once in the last 30 days; and iii) in 54,5% of cases, food was not available on the local market at least once in the last 30 days.

Source: Olam International and ACF response to data request, July 2021.

1.7. The negative impact of the COVID-19 pandemic on food security is also confirmed by recent data from the World Food Programme (WFP), which estimates that 270 million people will face or will be at risk of food insecurity in 2021, compared to 135 million people before the pandemic.[18]

[18] See: https://docs.wfp.org/api/documents/56313869c89d4fec935bc41629c8ff5f/download/ and WFP chief calls for urgent funds to avert famine | World Food Programme + references to latest WFP submissions to CoA.

1.2 The cotton sector in African LDCs is negatively affected by climate change while having low environmental impacts

1.8. At the global level and similarly to other large crops, the cotton sector contributes to GHG emissions that exacerbate risks associated with climate change ((including increased mean temperatures, extreme weather events, etc.), but is also exposed to such risks.[19] The ICAC notes that the major factors of climate change that relate to cotton are the production of greenhouse gases such as Co2, Methane and Nitrous Oxide leading to temperature increase and changes in rainfall patterns.[20]

1.9. It appears, however, that both the contribution to climate change and the exposure to relevant risks vary across cotton producing countries and regions of the world.

1.10. For example, Cotton 2040 notes that "…*around half of cotton growing regions will be exposed to increased risk of meteorological drought by 2040. Water scarcity is set to be one of the most significant climate risks for the world's most productive cotton growing regions, adding extra pressure to a fibre already under scrutiny for its water footprint. Many cotton growing regions are set to experience insufficient rainfall, while others will experience extreme and more intense rainfall leading to flooding and crop failures.* ***The highest climate risk overall is projected for two regions of the world; north western Africa, including northern Sudan and Egypt, and western and southern Asia.*** *These pressures present enormous difficulties for farmers and other actors across the value chain. Coping with them will require a response that goes beyond incremental solutions to fundamental changes*[21]. (*emphasis added*)"

1.11. Against this background, **Error! Reference source not found.** illustrates how climate change may impact agricultural planning and worsen the working conditions of farmers in these countries, where average mean temperature has increased over the last 30 years. Besides constant increases in temperature, countries such Benin, Chad, Togo and Uganda also experienced significant temperature variation, whereas Malawi, Mozambique, Tanzania, Togo and Uganda experienced significant variation in total annual rainfall.

1.12. Overall, **Error! Reference source not found.** shows a trend of increasing mean temperature that may be associated with increased variation in total annual rainfall throughout the year over the last 30 years. Amongst the countries observed, there are clear cases of variability that complicate agricultural planning. However, it should also be noted that the C-4 countries show some resilience to droughts despite these changes: their score on the FAO's Agricultural Stress Index (ASI), which represents the percentage of agricultural land affected by droughts, has decreased since 1984.[22]

1.13. On the other hand, as reported by the ICAC, in Africa cotton is a net sequester of CO2. Cotton is a "C3 plant", along with 80% of the plants on the globe, which means that it is efficient in utilizing CO2. These plants absorb CO2 and converts sunlight into sugar through photosynthesis. In addition, the cotton and textile sectors in African countries have the lowest environmental footprint from cotton-related operations amongst all cotton-producing countries. Cotton farms in African LDCs are rainfed, and energy consumption for irrigation, agrochemical usage and textile-related activities is negligible[23]. Cotton production in African countries should therefore have a role to play in the global climate change mitigation strategies.

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[19] https://www.wri.org/insights/4-charts-explain-greenhouse-gas-emissions-countries-and-sectors.

[20] See e.g., https://www.wto.org/english/tratop_e/agric_e/item_3_icac_climate_change__cotton_final.pdf.

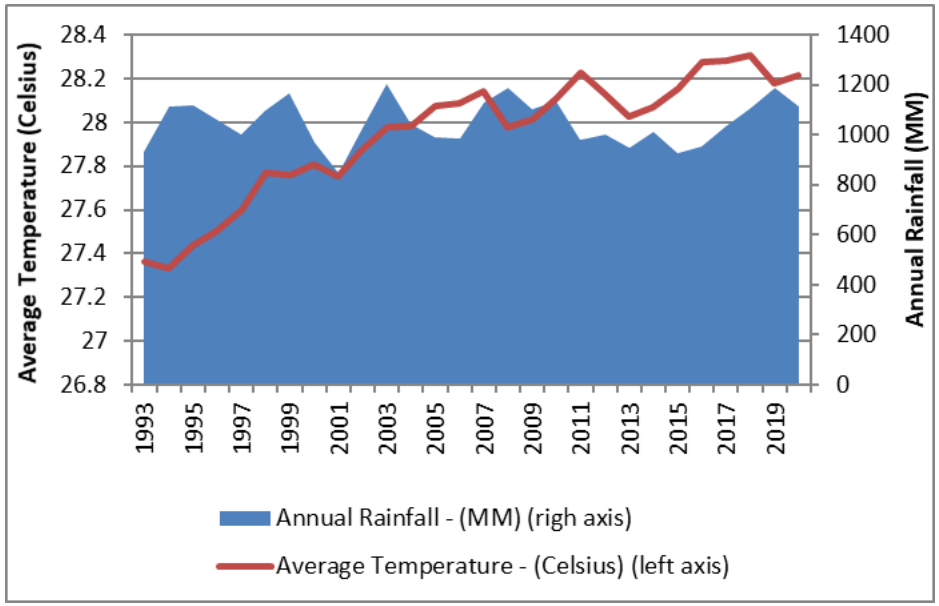
[21] http://www.acclimatise.uk.com/wp-content/uploads/2021/07/WTW_9650_Cotton-2040_May21_ExecSummary_GA_v9.pdf.

[22] Source for ASI: http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=BEN# https://www.ais.unwater.org/ais/pluginfile.php/548/mod_page/content/75/Session%203-%20Thematic%20presentation_%20Part2.pdf.

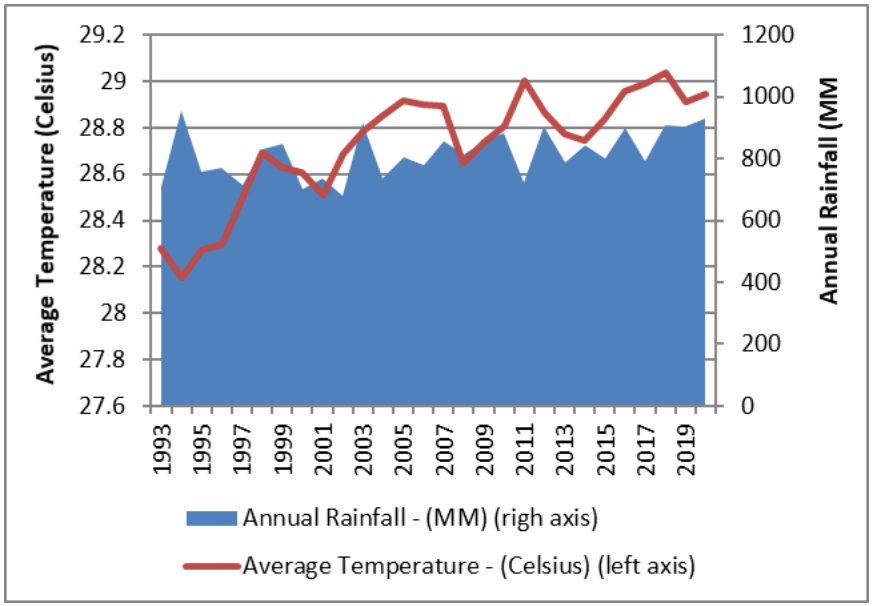
[23] See e.g., https://www.wto.org/english/tratop_e/agric_e/item_3_icac_climate_change__cotton_final.pdf.

Figure 5: 3-Year moving average of temperature and total annual rainfall in the reference group of LDCs[24]

Benin

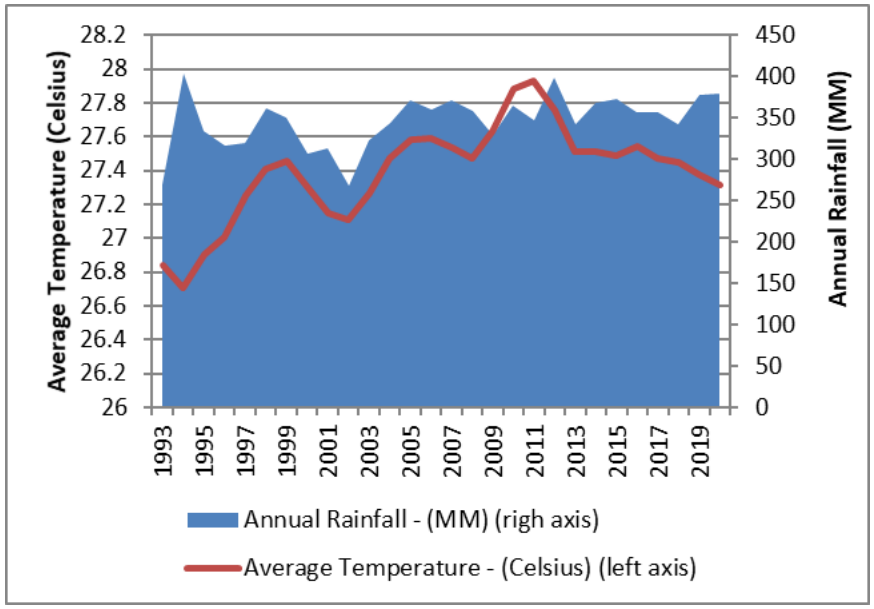


Burkina Faso

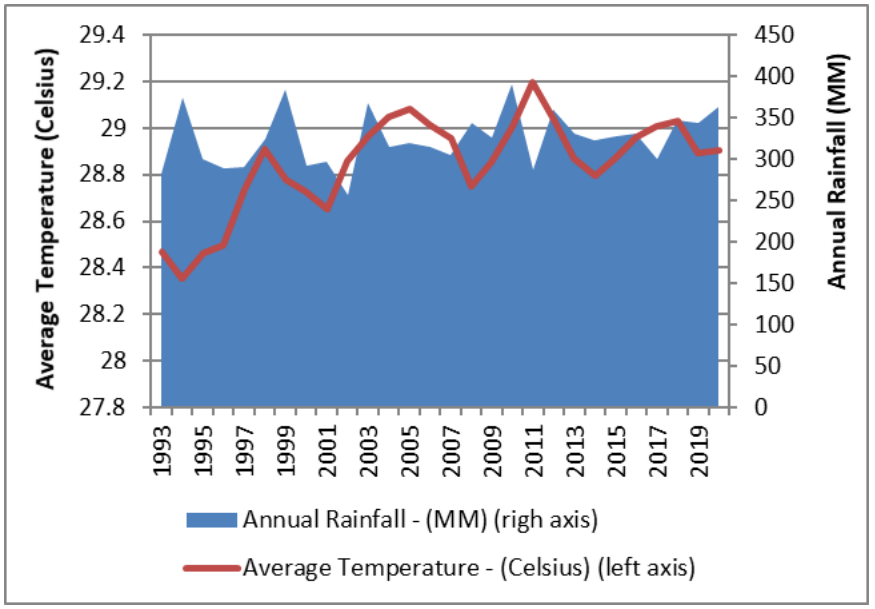


[24] It should be noted that increased rainfall does not translate into increased water availability: " By shifting the wind patterns and ocean currents that drive the world's climate system, climate change will also cause some areas to experience decreased precipitation. In addition, higher temperatures lead to more evaporation, so increased precipitation will not necessarily increase the amount of water available for drinking, irrigation, and industry". Source: https://www.epa.gov/climate-indicators/climate-change-indicators-us-and-global-precipitation.

Chad


Average Temperature (Celsius)
28.2
28
27.8
27.6
27.4
27.2
27
26.8
26.6
26.4
26.2
26
Annual Rainfall (MM)
450
400
350
300
250
200
150
100
50
0
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
Annual Rainfall - (MM) (righ axis)
Average Temperature - (Celsius) (left axis)

Mali


Average Temperature (Celsius)
29.4
29.2
29
28.8
28.6
28.4
28.2
28
27.8
Annual Rainfall (MM)
450
400
350
300
250
200
150
100
50
0
1993
1995
1997
1999
2001
2003
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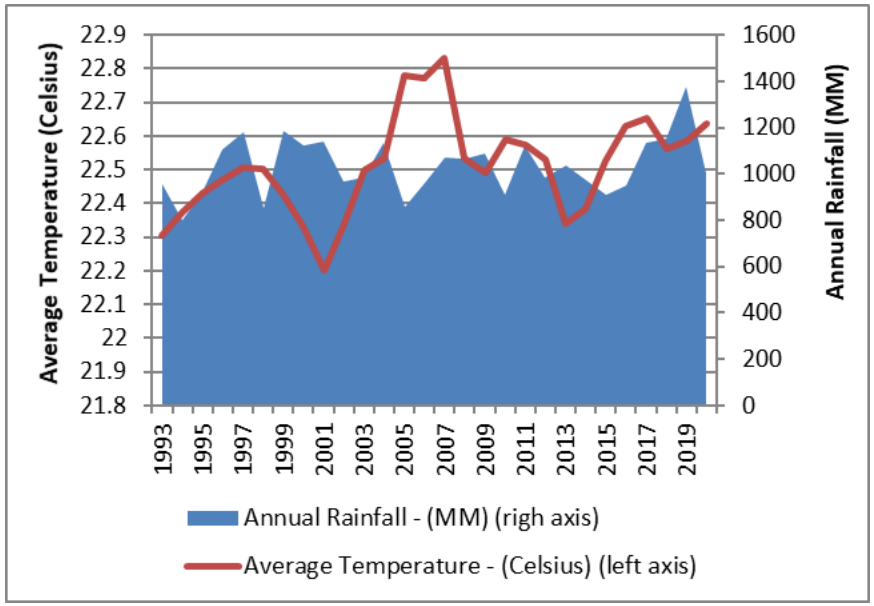
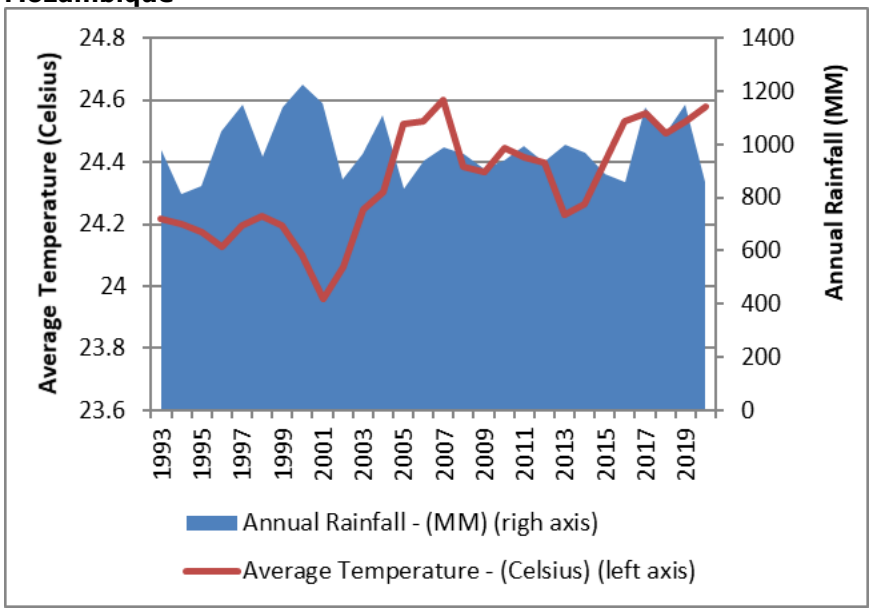
2017
2019
Annual Rainfall - (MM) (righ axis)
Average Temperature - (Celsius) (left axis)

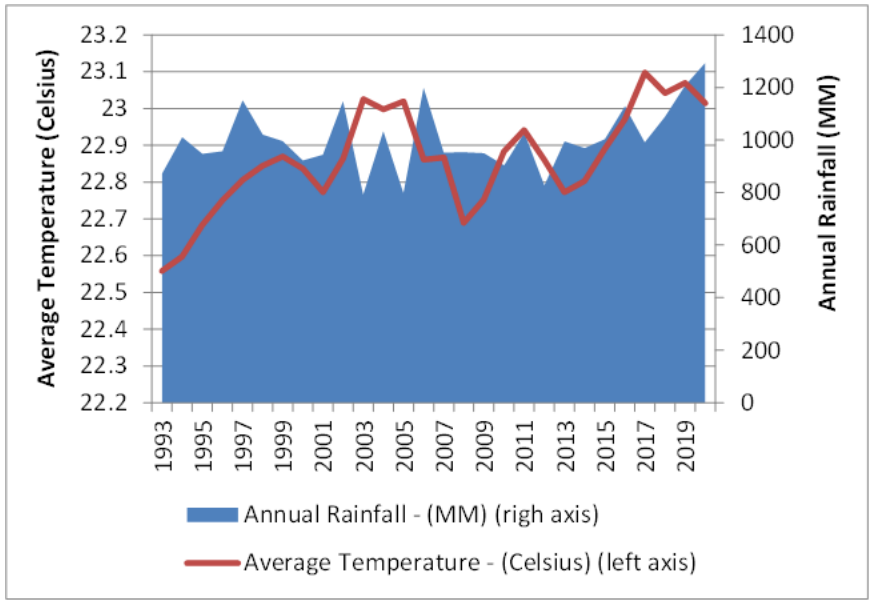
Malawi



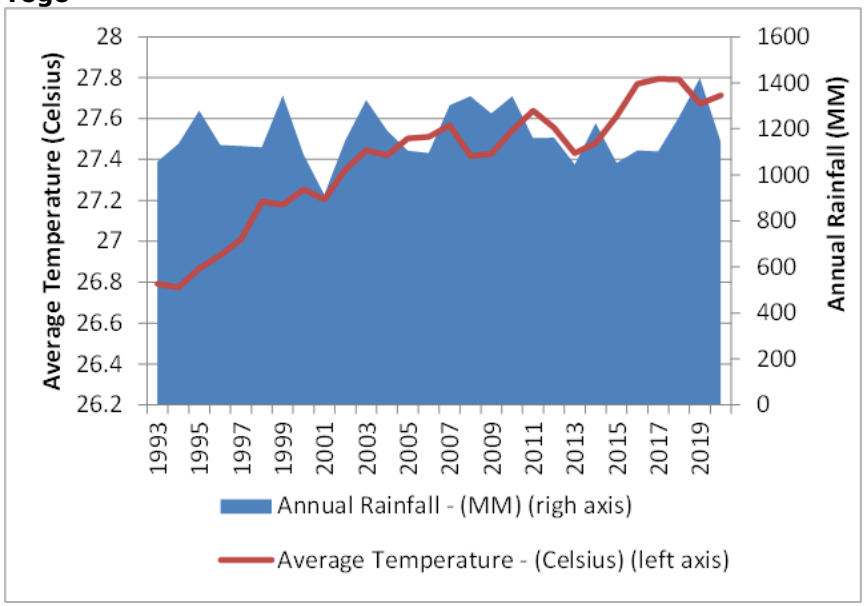
Mozambique



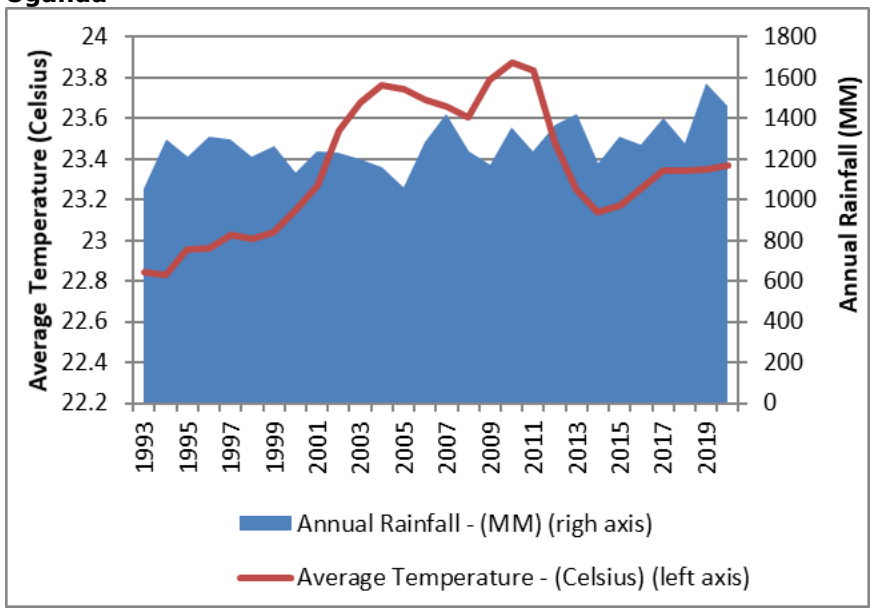
Tanzania



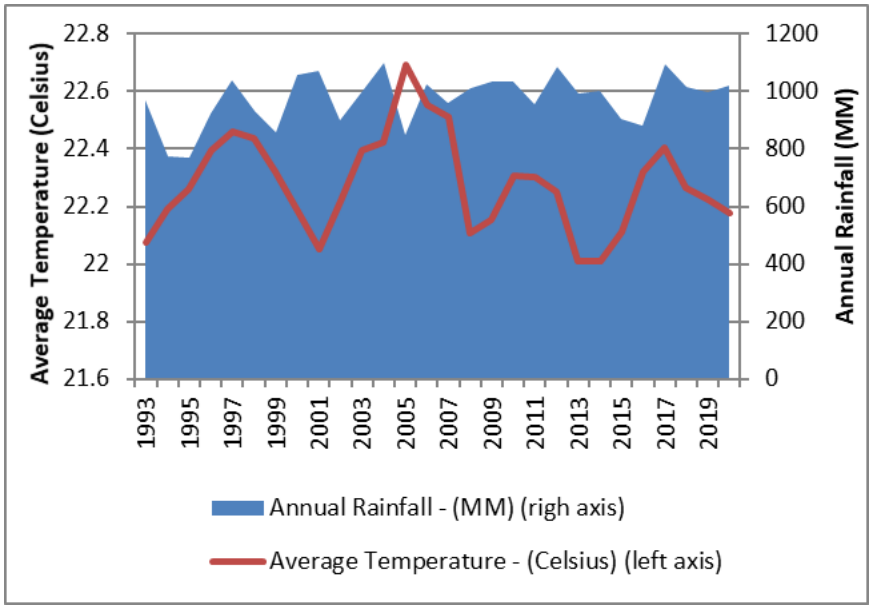
Togo



Uganda



Zambia



Notes: Total mm, average temperature (Celsius) per year.
Data cover until December 2020.

Source: World Bank: Climate Change Knowledge Portal: https://climateknowledgeportal.worldbank.org/download-data.

Authors' calculations.

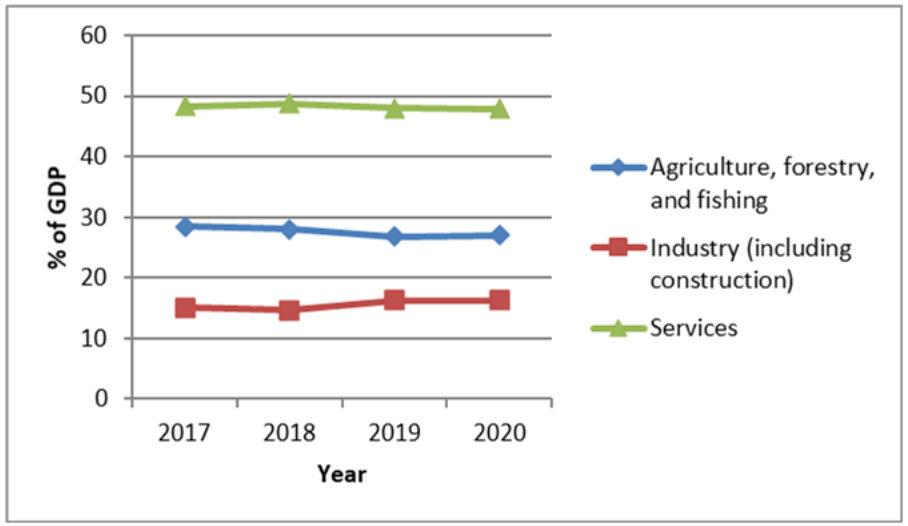
1.3 The agriculture and cotton sectors in reference LDCs

1.3.1 Value addition in agriculture is especially important

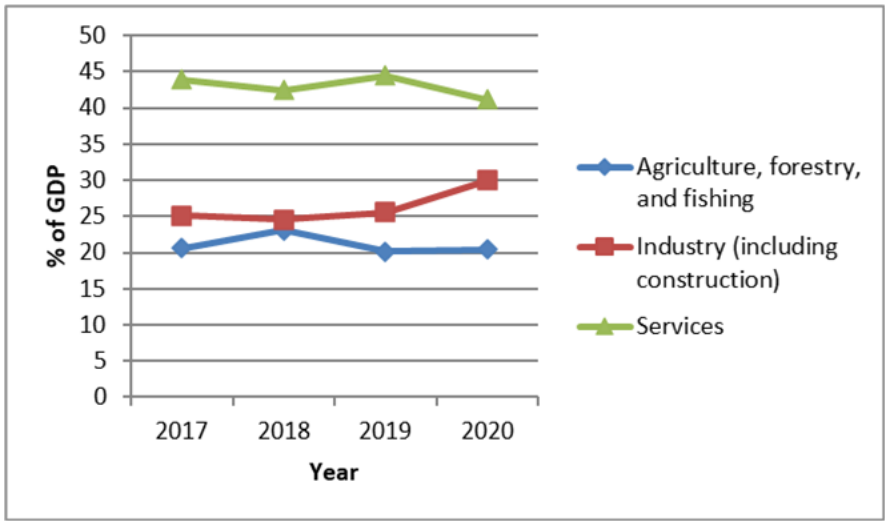
1.14. In reference countries, value addition in agriculture, including forestry and fishing represents on average 25% of total GDP value added. **Error! Reference source not found.** shows relevant trends for each country in the group. Whereas the services sector is clearly the main source of GDP value added in these countries, agriculture appears above the industry sector (which includes manufacturing and construction) in half of the sample. In the C-4 countries, agricultural value added was lower in 2020 than in 2018 (except in Chad), but the decrease was only marginal.

Figure 6: Value addition in agriculture and other sectors in the reference group of LDCs (percentage of GDP)

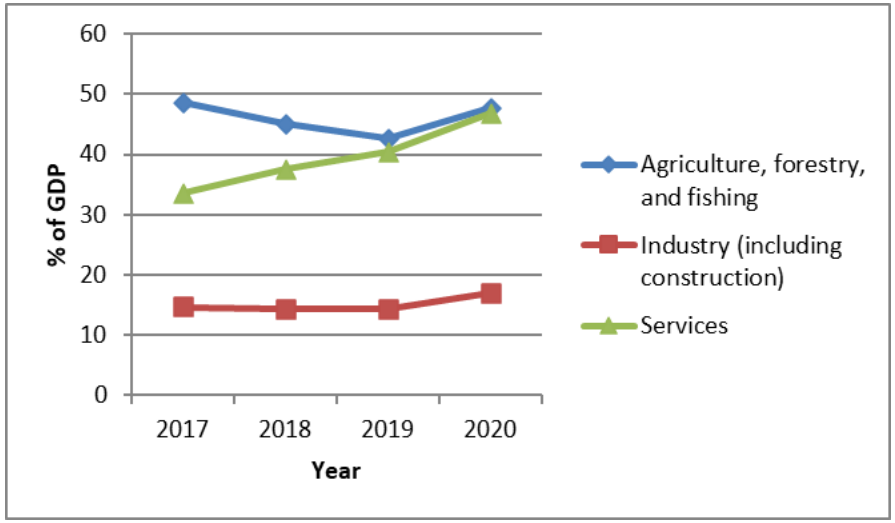
Benin



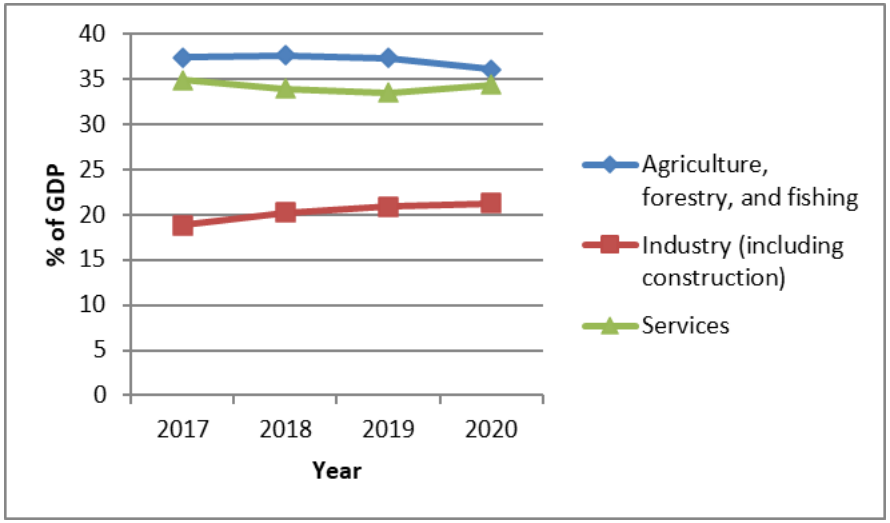
Burkina Faso



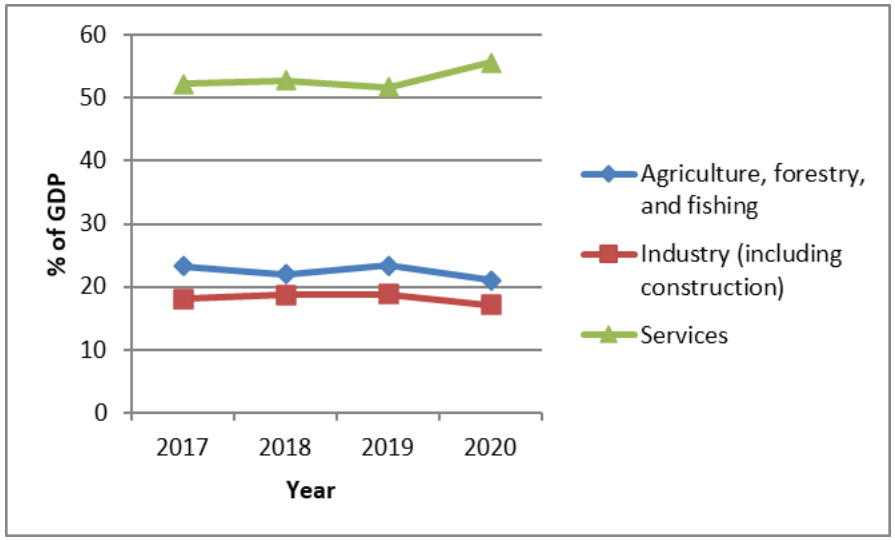
Chad



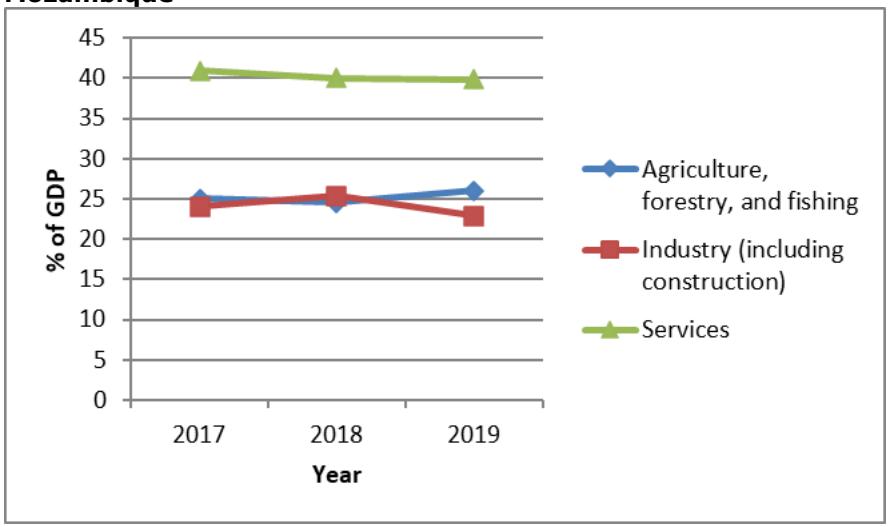
Mali



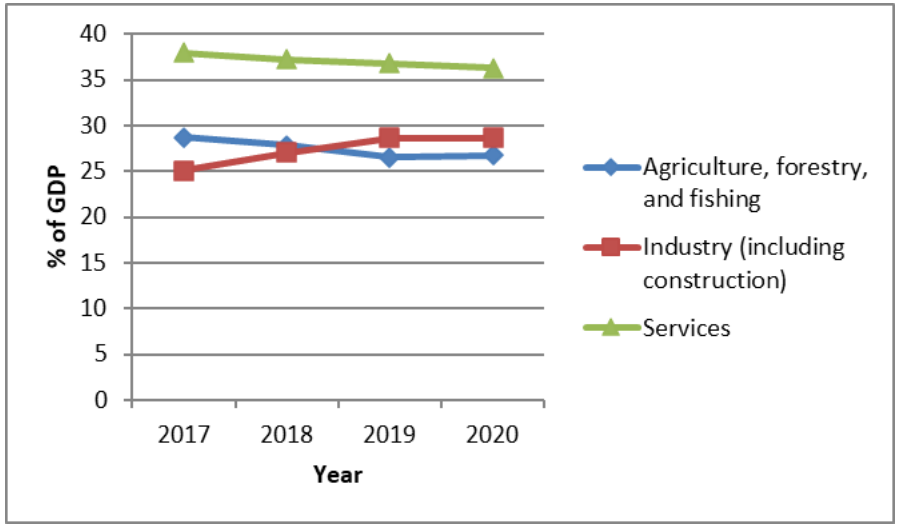
Malawi



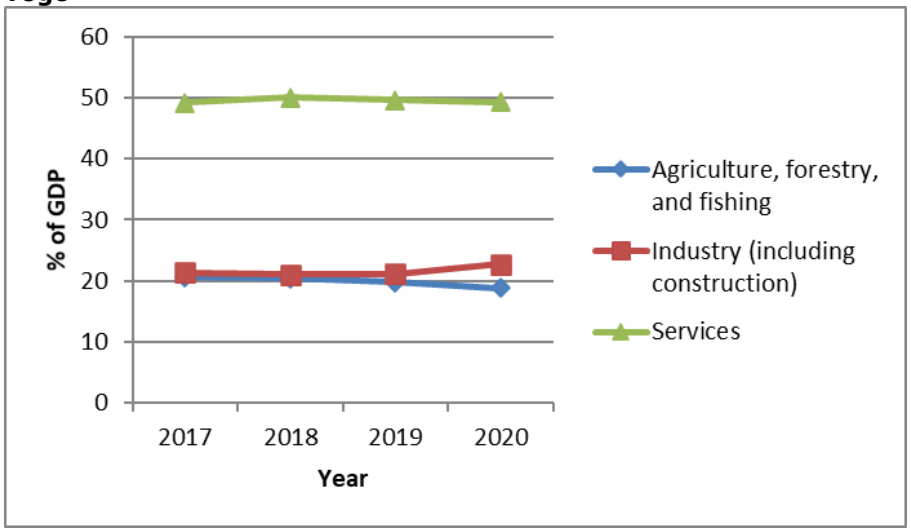
Mozambique



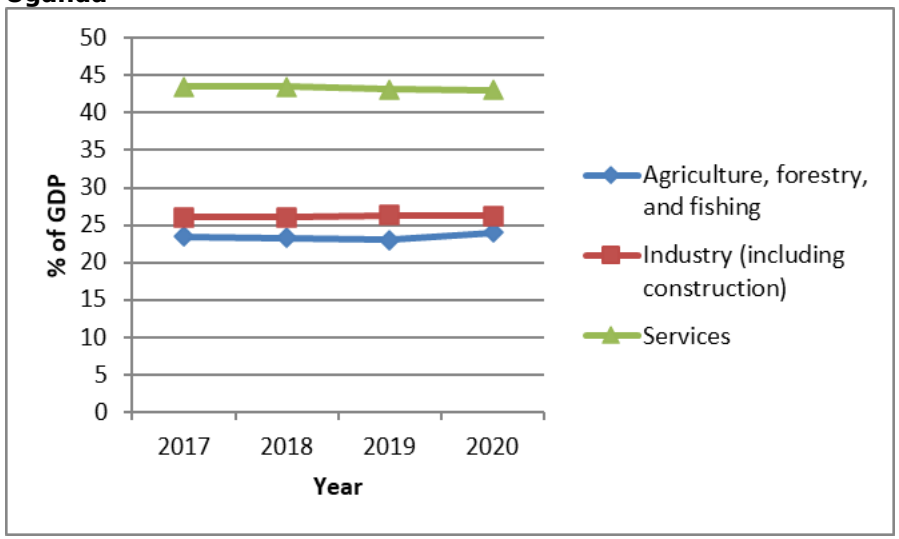
Tanzania



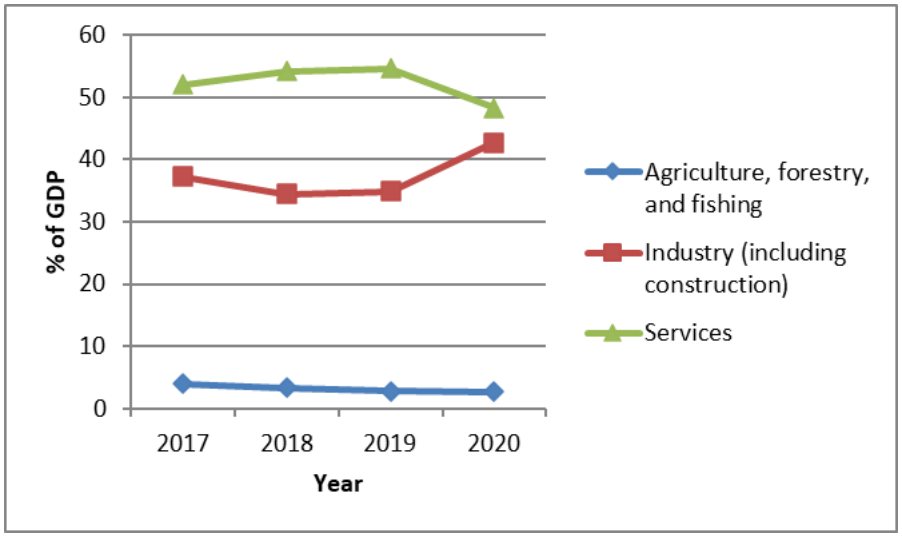
Togo



Uganda



Zambia



Notes: Value added = value of output - value of input. All productive activities in between generating value are taken into acount. Industry includes manufacturing and construction sectors.

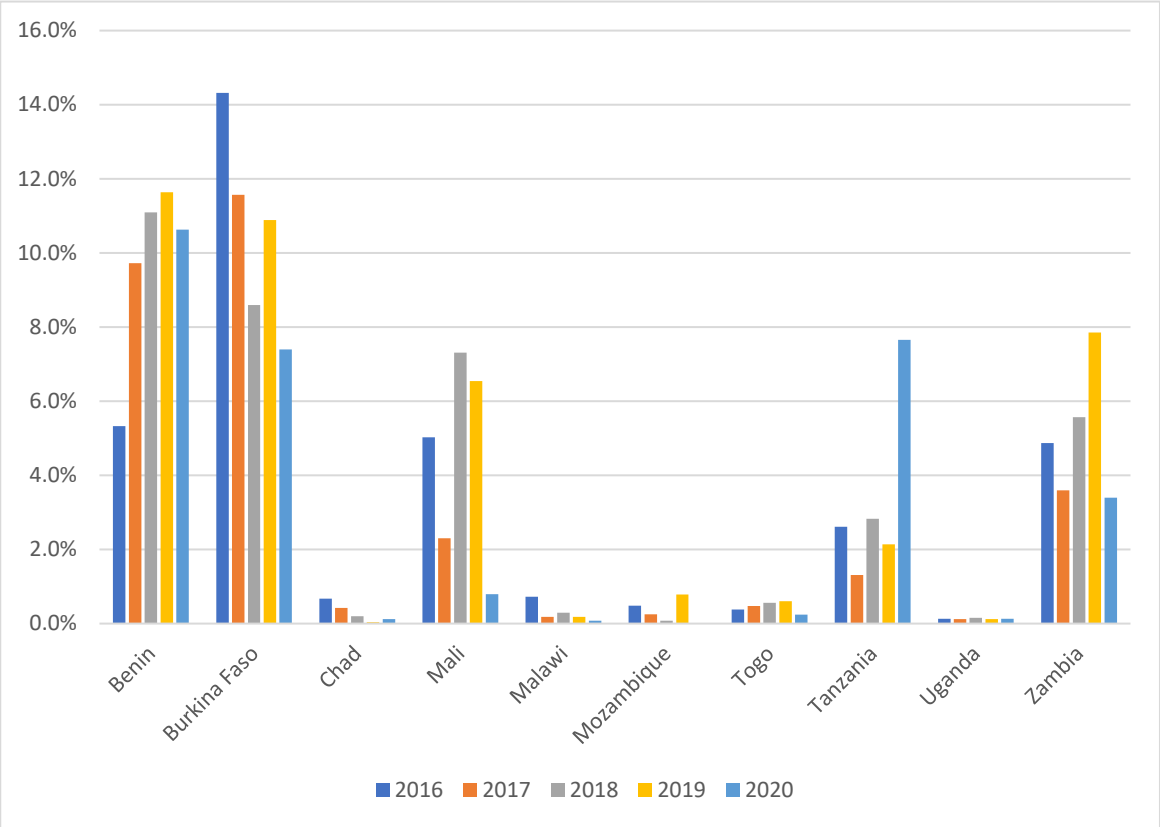
Source: World Bank: World Development Indicators.

1.3.2 Cotton is an important engine of agricultural value addition

1.15. Cotton plays an important role in the creation of agricultural value added in the countries under observation. Figure 7 shows the contribution that cotton export revenues make annually to value addition in the agricultural sector including forestry and fishing activities. The contribution by cotton in half of the reference countries in recent years is regularly above 5%, and for some of them regularly around 10%. This contribution is certainly under-estimated, because it excludes formal and informal revenue-generating activities linked to cotton production, transformation, and trade at the national level. These include, for example, local transformation and marketing of cotton by-products.[25]

1.16. For example, small women-led businesses appear to be predominant in all C-4 countries. Data collected by local experts shows that women set up businesses near the processing units that crush cottonseed for edible oil, to obtain the black or white cake that results as waste from crushing the seeds. This cake is then used to produce soap, through a production process which is mostly artisanal. In Mali alone, these activities employ about 400 seasonal workers and generate average annual revenues of over USD 262,000. Similar revenues are earned by women producing cotton soap in the other C-4 countries.[26]

Figure 7: Value of cotton exports as a percentage of agricultural value added in reference LDCs



Source: ITC Trade Map for cotton value of exports (HS5201 and HS5202).
World Bank: World Development Indicators for agricultural value added.

Authors' calculations.

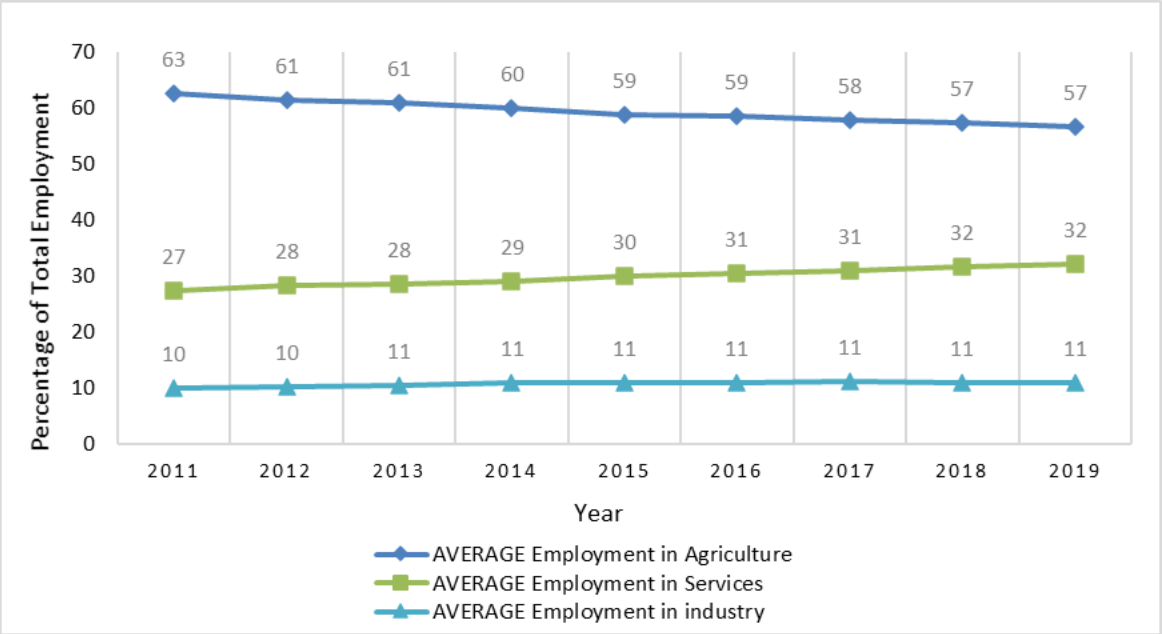
[25] See e.g., https://trade4devnews.enhancedif.org/en/op-ed/how-cotton-and-its-products-can-help-create-resilience-african-smallholders.

[26] See WT/CFMC/W/87.

1.3.3 Agriculture employs more than half of the labour force

1.17. Figure 8 shows that, although the share of people employed in agriculture in the reference group of LDCs has decreased by ten percent from 2011 to 2019, agriculture still provides employment for more than 50% of the total employed labour force in these countries, ahead of services and industry. For instance, in 2019, Chad and Mali had more people working in agriculture than any other sector, with 75% of the total employed labour force in Chad working in agriculture, 62% in Mali, 38% in Benin, and 26% in Burkina Faso.

Figure 8: Average employment in agriculture, industry and services in reference LDCs (% of total employment) (modeled ILO estimate)



Note: Modeled ILO estimates.

Source: ILO.

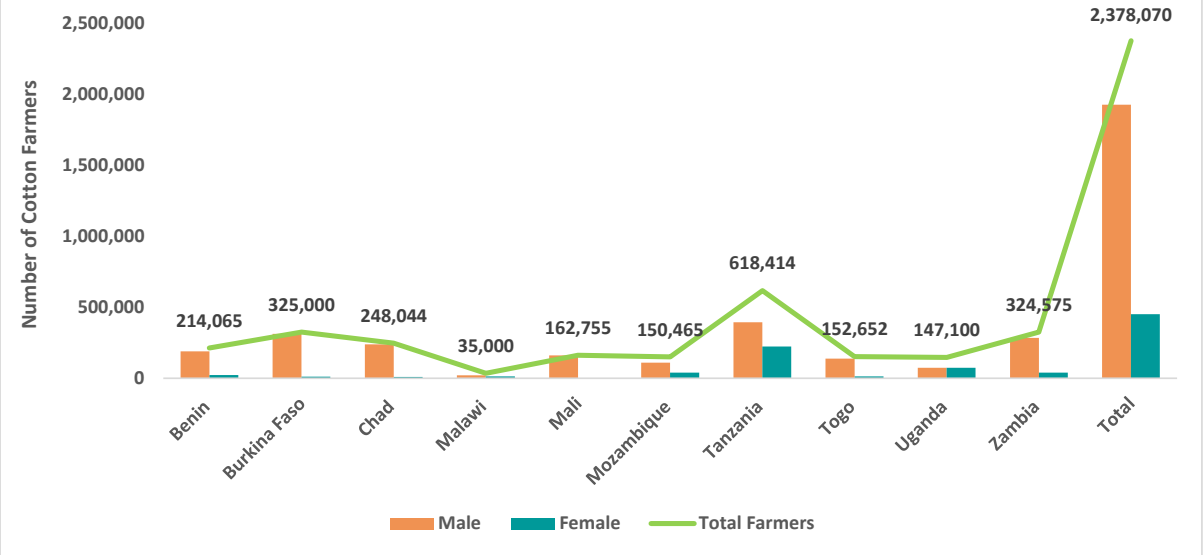
Authors' calculations.

1.18. As often reported by the C-4 countries[27], a considerable share of their employed labour force in agriculture are cotton farmers. While it is extremely difficult to obtain precise and corroborated data on the number of farmers and smallholders in LDCs, Table 2 below provides an ICAC estimate of the number of cotton farmers per country and by gender in reference LDCs.

Table 2: Estimated number of individual cotton farmers in reference LDCs

Country	Male	Female	Total Farmers
Benin	190,657	23,408	214,065
Burkina Faso	313,625	11,375	325,000
Chad	238,944	9,100	248,044
Malawi	21,000	14,000	35,000
Mali	161,655	1,100	162,755
Mozambique	110,776	39,689	150,465
Tanzania	394,021	224,393	618,414
Togo	138,580	14,072	152,652
Uganda	73,900	73,200	147,100
Zambia	283,944	40,631	324,575
Total	**1,927,102**	**450,968**	**2,378,070**

[27] See e.g., the C-4 statement annexed to document TN/AG/SCC/W/34 - WT/CFMC/W/82.



Source: ICAC Cotton Databook 2021.

1.19. Whereas the figures reported in Table 2 represent individual farmers in reference LDCs, the number of cotton farmers and value chain operators in Africa is arguably much higher. For example, the C-4 reported at the Information Session on Cotton and COVID-19 of 30 July 2020, that more than 20 million cotton smallholder farmers in Africa were already suffering from the effects of the pandemic at that point in time.[28]

1.4 Cotton-specific COVID-19 impacts in reference LDCs

1.20. At a July 2020 WTO event, the C-4 highlighted that, as a result of the COVID-19 crisis, an average 70% of the fibre prepared for export in 2020 remained in factories, transit hubs or ports, and that weather conditions also severely affected the quality of the fibre[29]. The group also emphasised that - beyond the impacts on cotton markets and production - the COVID-19 crisis was affecting the economic sustainability and livelihoods of millions of farmers around the world, especially the smallest and most vulnerable.[30]

1.21. At the same meeting, ICAC reported that, in aggregate, most African cotton is typically exported to Asian countries such as Bangladesh, China, Viet Nam, and Thailand. Because textile manufacturing in Asia was heavily affected by sharply declining demand from developed-country markets and logistic hurdles associated with the response to the COVID-19 pandemic, Africa's cotton exports also fell sharply.

1.22. This situation thus led to a net deterioration in Africa's terms of trade, as cotton exports and sales fell, unsold cotton stocks incurred unanticipated costs, logistic costs associated with cotton exports increased, and input costs for pesticides and herbicides rose in some countries.

1.23. This sub-section will present a detailed assessment of these trends, complemented by the LDC responses provided to the WTO-ICAC survey, as presented in Part II and Annex 1 of this study.

1.4.1 Impact on cotton prices

1.24. World cotton prices are driven by demand and supply dynamics. The main driver of cotton fibre demand is the Textile and Apparel sector, which in turn reflects demand from consumers, and

[28] See TN/AG/SCC/W/34 - WT/CFMC/W/82.

[29] See the report of the WTO Information Session on Cotton and COVID of 30 July 2020, organized at the request of the C-4 with the objective of reaching a common understanding on the socio-economic impacts of the COVID-19 pandemic on cotton value chains: https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/TN/AG/SCCW34.pdf&Open=True.

[30] Idem.

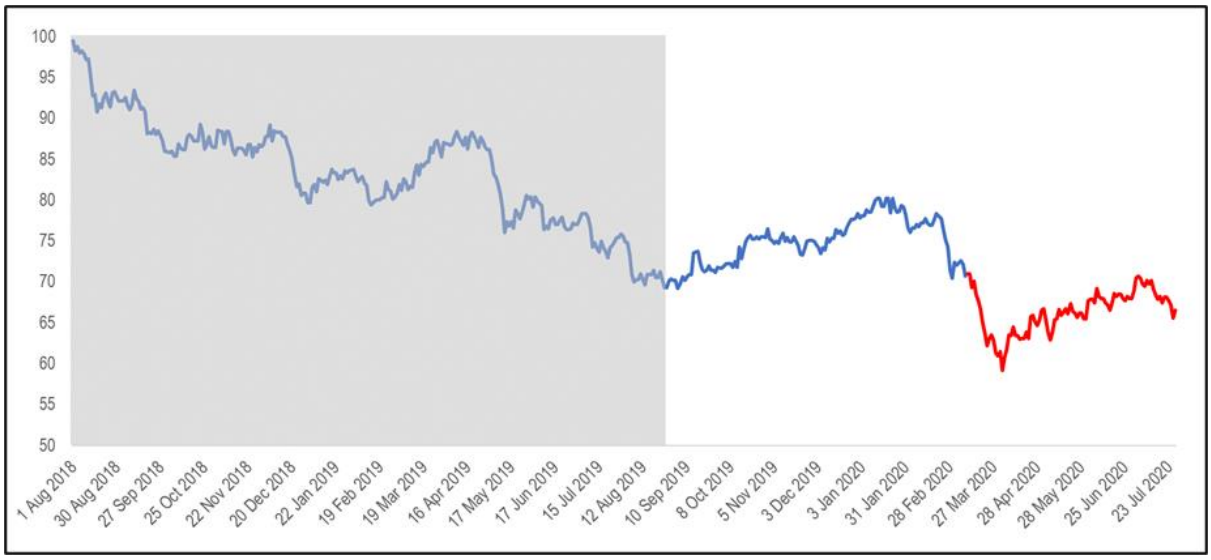
is also influenced by price variations of other raw materials that can substitute for cotton, such as manmade fibres, or to a certain extent by price variations of competing crops in the same areas.

1.4.1.1 Evolution of world cotton prices

1.25. ICAC reported in July 2020 that the "A index"[31] – the international reference price for cotton – had fallen steeply due to COVID-19, although it had also been following a downward trend as a result of the tense international trade environment since 2018.

1.26. ICAC data in Figure 11, which shows the observed daily quotation for the Cotlook A Index, represents in the left-hand gray portion the 2018/19 crop season, and the 2019/20 crop season in the right-hand white portion of the chart. The red line represents the steep fall in the "A Index" since early March 2020, when the pandemic was declared, as well as the more gradual subsequent rebound.

Figure 9: "A Index" fall in March-April 2020



Note: The graph shows the observed daily quotation for the Cotlook. A Index, cents/pound (to be updated after DD of 4/11/21).

Source: ICAC presentation at 30 July 2020 information session (link)

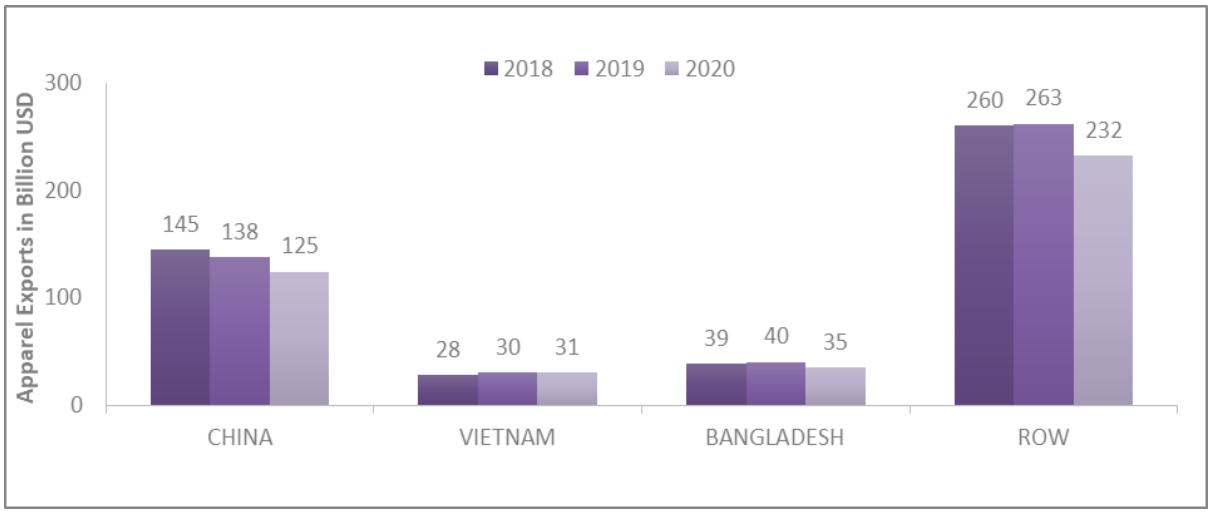
1.27. ICAC's expectation at that time was that cotton prices were expected to remain under bearish pressure due to higher ending stocks in the current and following seasons and a weaker textile fibre demand from brands and retailers, with the demand for apparel due to take many months to normalize. ICAC also noted that price trends for manmade fibres could affect purchasing decisions taken by Textile and Apparel brands and retailers.

1.28. Later in 2020, apparel exports from China and Bangladesh suffered an unprecedented drop due to the COVID-19 crisis.[32] Bangladesh's apparel exports declined by 13%, while China's exports fell by 10%. The sharp decline in these exports in 2020 was due to order cancellations and lower demand from importers of textiles and apparel (Figure 10).

[31] The A Index is one of the commonly tracked prices for cotton and it is commonly accepted as one of the indications of the world price for cotton. Cotlook has been using merchant quotes to derive the A index since the mid-1960s. Cotlook quotations are estimated daily by the editorial staff of a private Liverpool-based company, Cotlook Ltd., and are intended to indicate the competitive level of offering prices. The average of these prices forms the A Index, which is quoted in cents per pound and represents shipments to the Far East, where most of the world's cotton is spun into yarn.

[32] PowerPoint Presentation (wto.org).

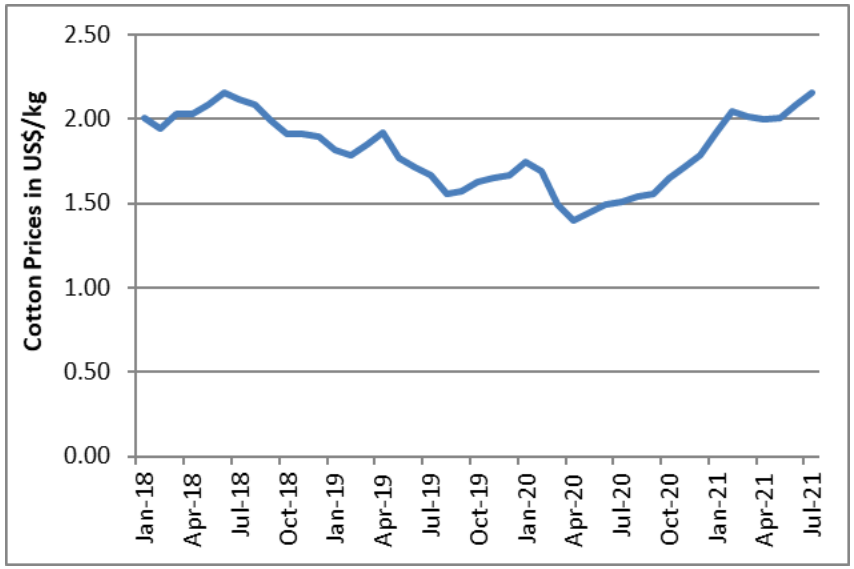
Figure 10: Effects of COVID-19 on Major Apparel Export Markets

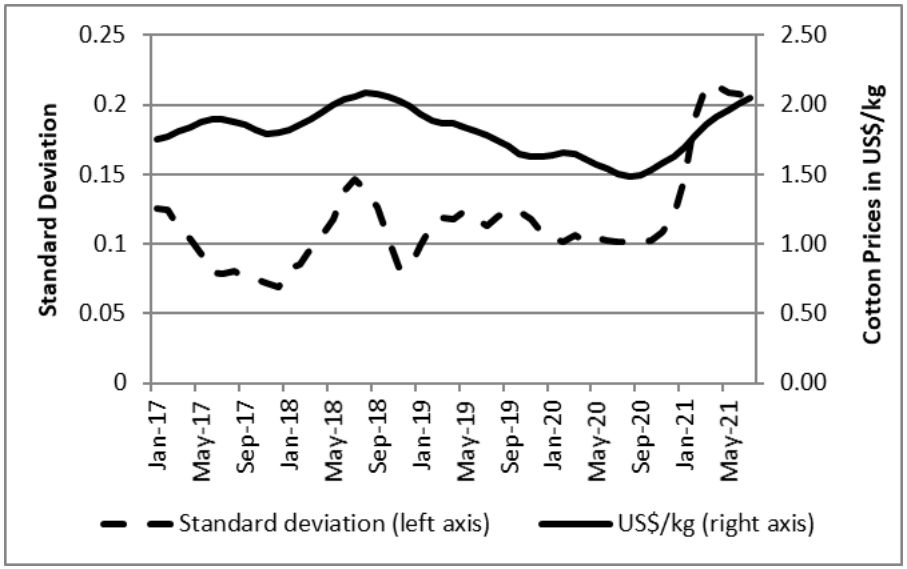


Source: ICAC presentation at May 2021 Dedicated Discussion on cotton (link).

1.29. In line with the evolution of index A, Figure 11 shows that world cotton prices started declining in June 2018 from USD 2.15 per kg to around USD 1.5 per kg in mid-2019, before dropping further to USD 1.40 per kg in April 2020 and beginning to rise again in the second half of 2020 with observed price variation close to 10 cents, implying limited variability in prices (Figure 11, right-hand graph). The upward trend was confirmed in fall 2020 until July 2021 with prices reaching levels above 2 USD/kg in 2021.

Figure 11: Cotton price trends in 2018-2021, in nominal USD/kg (left-hand graph); Price outlook (nominal USD/kg): Cotton 6-month moving average price level and 12-month standard deviation





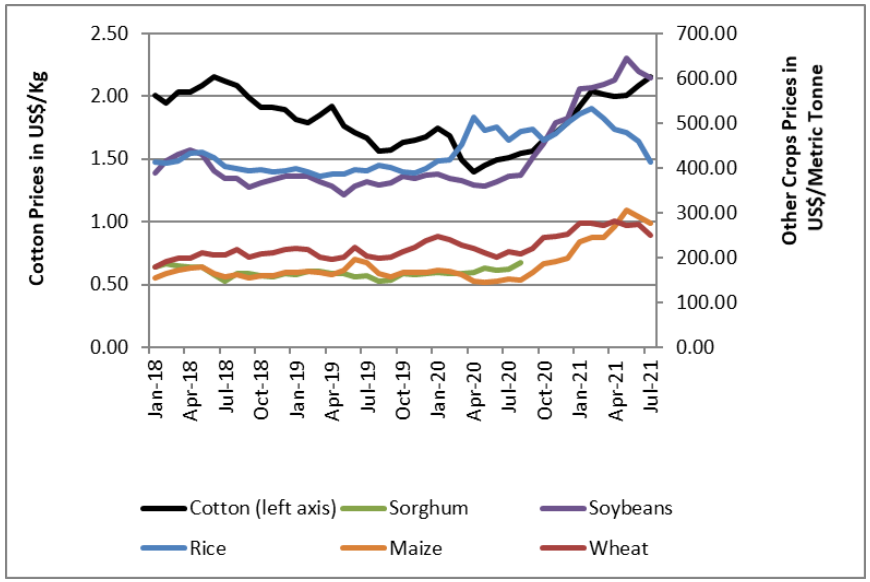
Source: World Bank Commodities Price Data (The Pink Sheet). https://www.worldbank.org/en/research/commodity-markets.

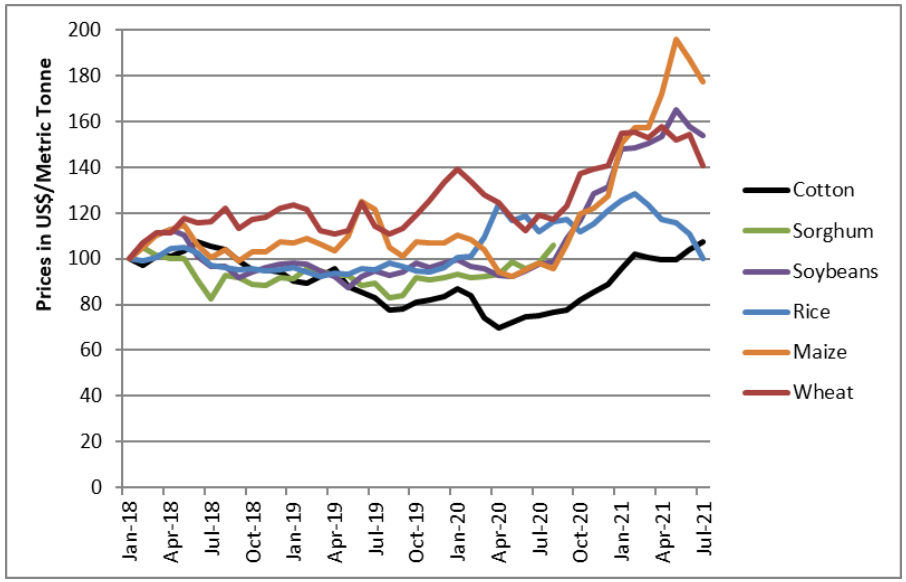
Authors' calculations.

1.4.1.2 Comparison between cotton prices and other crops

1.30. When expanding the observation and looking comparatively at the prices of cotton and other agricultural commodities, it is possible to observe that while there was a decreasing trend in cotton prices from spring 2018 until march-April 2020 before a rebound thereafter, other main crops have been less affected by the COVID shock in the spring 2020 when looking at the 2018-2020 period, and generally experienced a sharper increase than cotton in the following months with the exception of rice. This may be explained by the fact that cotton use is very dependent on textile demand while grains and soybeans are largely for food use. The price data in 2021 also shows a certain stabilisation or decreases of prices for grains and soybeans in the second half of the year while cotton prices continued their upward trend. (Figure 12).

Figure 12: World prices of cotton and other crops





Note:

* Nominal USD/weight unit; USD/metric tonne for all crops except cotton measured as USD/KG.
** Index = 100 in January 2018 for graph on the right-hand side.

Source: World Bank Commodities Price Data (The Pink Sheet).
https://www.worldbank.org/en/research/commodity-markets.

Authors' calculations.

1.4.1.3 Situation in cotton producing African countries

1.31. As explained by ICAC, farmers' seed-cotton prices in many of the cotton-producing African countries in the FCFA zone are usually fixed at the beginning of the season by government cotton agencies and the organisations representing farmers. For example, prices in Benin, Côte d'Ivoire and Senegal remained unchanged in 2020/2021 from the previous season, whilst prices were decreased in Burkina Faso, Mali, and Togo.[33]

1.32. Moreover, while experts expected international cotton prices to rebound in 2021 to over USD 2.00 per kg, seed prices in 2020/21 were expected to decline in certain countries. For instance, prices of seed cotton in 2019/20 were USD 0.45 per kg in Mali and USD 0.42 per kg in Cameroon, but were expected to fall by 30% and 12% respectively in the next season[34]

1.33. In Mali and other West African Franc Zone countries, cotton sowing decreased as a result of the fall of seed cotton prices. The lack of access to market price information, as well as uncertainty about future cotton demand and prices, had consequences for farmers' cotton production decisions. Indeed, many African farmers chose to plant food crops instead of cotton during the 2020/2021 agriculture campaign, due to the order cancellations and associated price fluctuations in the textile and cotton value chains, as described above. Michigan State University reported, for example, that in Mali, from 365,450 hectares sowed with cotton in 2019/20, only 26,632 hectares were sowed with cotton in June 2020 (equivalent to a 93% decrease on the previous season and 3% of the number of hectares typically devoted to cotton production in the country (i.e., 810,000 hectares)[35]. In South Africa, a similar situation was reported.[36]

1.4.2 Costs associated with cotton production and export from LDCs have increased, and logistics have become more complex

1.34. Besides the trends in international cotton prices and the way such trends are reflected and interpreted in LDCs' national contexts, another key determinant of the export performance of LDCs is represented by the costs of agricultural inputs, and the logistic costs/requirements associated with exporting operations.

1.35. Regarding the costs of agricultural inputs, the costs of fertilizers started increasing in 2020 and remained high at the international level in 2021, with easing expected in 2022[37]. various LDC stakeholders who responded to the survey presented in Part II of this study reported a significant increase in such costs. The agricultural inputs associated with cotton cultivation include fertilizers and pesticides. According to data provided by the "Programme Régional de Production Intégrée du Coton en Afrique (PR-PICA)", it appears that the costs of pesticides have increased significantly in some countries, such as Benin and Burkina Faso, from season 2019/2020 to season 2020/2021. For example, the price for the insecticide treatment of a single hectare planted with cotton in Benin went from 3,500 FCFA to 7,000 FCFA from one season to the next.

1.36. On the other hand, both changes in the costs of maritime freight and service disruptions in key African ports, as reported by various sources including from the private-sector[38], deserve particular attention.

1.37. While specific cotton freight data are not easy to collect, some data on the evolution of bulk and containers freight may shed light on the current situation. The International Grains Council (IGC) reported in October 2021 that the Grains and Oilseeds Freight Index, which is published by the IGC and spans five grains/oilseeds markets, seven key exporting origins and around 300 grains/oilseeds routes, was close to its highest level on record (the Index started in January 2013)[39].

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[33] Interview with ICAC economists, September 2021.
[34] * 2020-06_ICAC_Recorder_Edmonds.pdf (cirad.fr).
[35] (https://www.canr.msu.edu/news/why-could-the-covid-19-cotton-crisis-lead-to-an-economic-and-social-crisis-in-mali).
[36] (En Afrique du Sud, le coton ne fait plus recette | Commodafrica).
[37] Fertilizer prices expected to stay high over the remainder of 2021 (worldbank.org).
[38] See e.g., Box 2.
[39] https://www.igc.int/en/markets/marketinfo-freight.aspx.

1.38. More specifically about the situation of African ports and about container ships[40], Professor Thanos Pallis reported at a UNCTAD seminar in April 2021 that container vessel calls decreased by close to 4% in total in African ports from 2019 to 2020. Within Africa, significant decreases were reported in Western African ports in the first and second quarter of 2020, yet that part of the African continent quickly recovered in the second half of 2020, bringing its percentage change on the previous year back to 0% in December 2020.[41]

1.39. According to the same source, the ports that recorded the most significant decreases in container vessel calls from 2019 to 2020 were those of Mozambique (-28%), Mauritius (-14%), Kenya (-11%), Senegal (-10%), South Africa (-9%), Nigeria (-9%) and Egypt (-8%). In addition, overall freight rates more than doubled for the route Shanghai-West Africa in the course of 2020[42].

1.40. Finally, as explained by IGC, there is also a possible link between rice and cotton trade in West Africa. The IGC Secretariat explained that: "*Rice volumes shipped to Benin (mostly from Asia) fell sharply in the late 2019 and early 2020, including only a nominal 29,374 t dispatched in Nov/Dec 2019 (compared to 573,441 t dispatched in the same months in 2018!) – this was due to the Nigerian border closure which restricted re-exports of rice across to Nigeria. […] a large proportion of rice exported to Benin is shipped in containers, so that sharp decline in rice imports would have also restricted the number of containers arriving in Benin. […] the drop in rice imports would have significantly reduced container availability within Benin, which would have made cotton exports more challenging. [under this assumption] containers would have gone Asia-Benin with rice and then had a return leg of Benin-Asia with cotton. Although the Nigeria/Benin border has now re-opened, more recently there have been significant disruptions in global container markets, including a shortage of containers at key rice exporters in Asia. Consequently, many buyers have been grouping together to secure a single bulk vessel, rather than importing using containers – and again, this would be restricting container availabilities within West Africa for cotton exports*."[43]

1.4.3 Cotton production, harvested area, and productivity show resilience[44]

1.41. ICAC data indicates that the area cultivated in reference LDCs decreased on average by 16% from 2019 to 2020. Although production dropped by 18% over the same period, the prospect for rapid recovery is promising, with an estimated 29% increase in area cultivated and a 41% increase in production volumes between 2020 and 2021 (Figures 13 and 14).

1.42. Reference LDCs were not affected equally by the COVID-19 pandemic, with cotton production contracting in Mali and Togo, while remaining constant or even rising slightly in Benin, Burkina Faso, Chad, Tanzania, and Uganda.

1.43. In Togo, production dropped by 14% in the 2019-20 season and by 31% in 2020-21, along with a reduction of planted area of around 45%, with no recorded changes for 2021/22. In Mali, on the other hand, both area cultivated and cotton production fell respectively by 78% and 79% in 2020/21. However, Mali is also estimated as the largest contributor to the 2021/22 recovery, with increases in area and production estimated at around 400% and 450% respectively.

1.44. In the case of Benin and Burkina Faso, although area decreased by 8% for Benin and 4% in Burkina Faso in 2020/21, production has slightly increased by 2% and 7% respectively, compared to the previous season.[45]

1.45. As Figure 15 shows, average lint yields while remaining below international averages, have increased year-on-year in the reference group from 2018 through to the 2021 estimates. This is mainly due to productivity improvements in Benin, Burkina Faso, Chad, and Mali, with Benin exceeding 500 kg per hectare in 2020 and 2021, and yields in the other 3 countries expected to

[40] ITC explains that container vessels are generally used for cotton shipments as containerized transport implies various advantages given the nature of cotton as a product. See: https://www.cottonguide.org/cotton-guide/cotton-marketing-freight/

[41] https://unctad.org/system/files/non-official-document/tlb_20210415_webinar_thanos_en.pdf

[42] Idem.

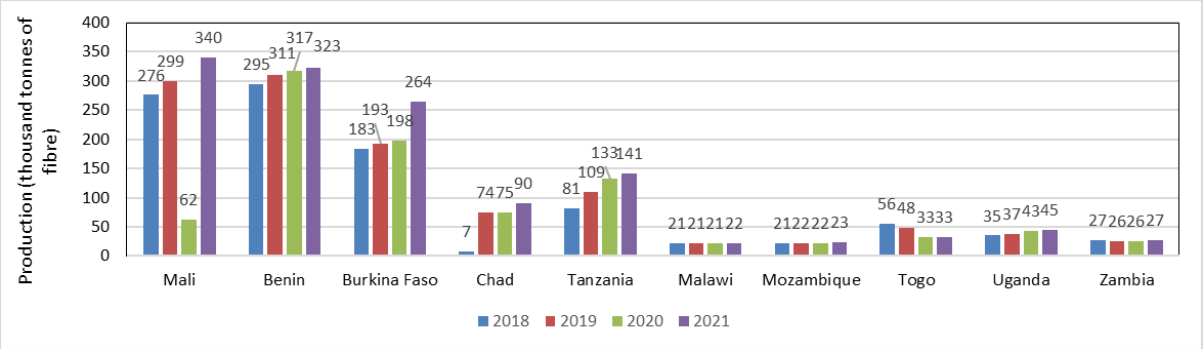
[43] Excerpts from exchanges with IGC Secretariat, October 2021.

[44] 2019 refers to the crop year 2019/20 and 2020 refers to the crop year 2020/21.

[45] Please note ICAC is currently trying to update its cotton data on Africa. All updates available will be included in ICAC presentation at the November 2021 WTO cotton meetings.

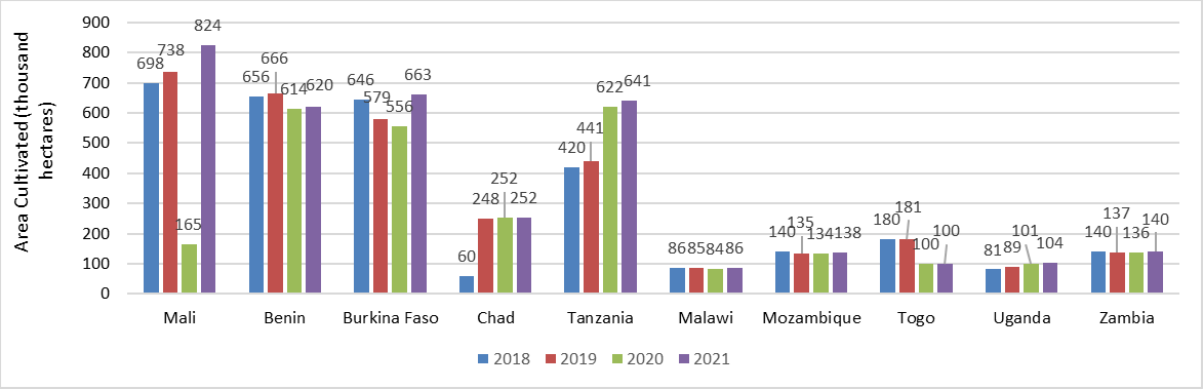
approximate 400 kg per hectare in 2021. Only Uganda has comparable yields among other African LDCs.

Figure 13: Cotton Production in reference LDCs (thousand tonnes of fibre)



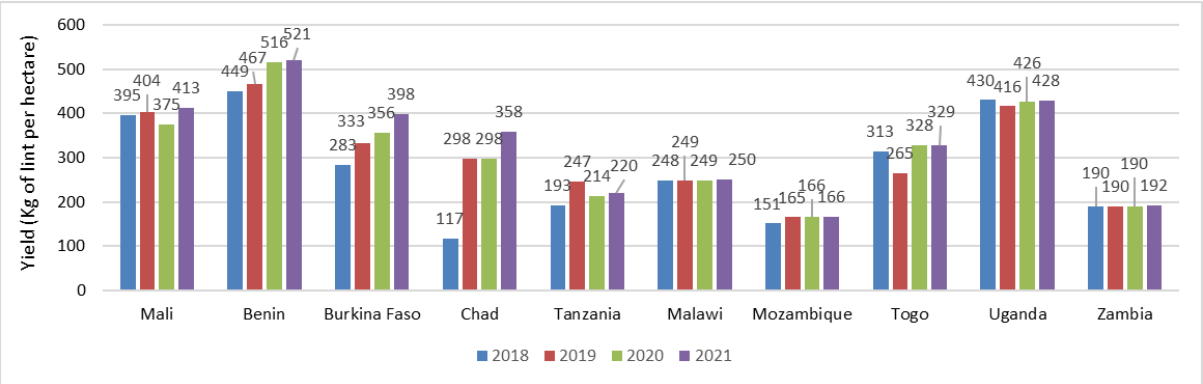
Source: ICAC Cotton Databook 2021.

Figure 14: Harvested area (thousand hectares)



Source: ICAC Cotton Databook 2021.

Figure 15: Yield (Kg of lint/hectare)



Source: ICAC Cotton Databook 2021.

1.4.4 Adverse impacts on cotton exports[46]

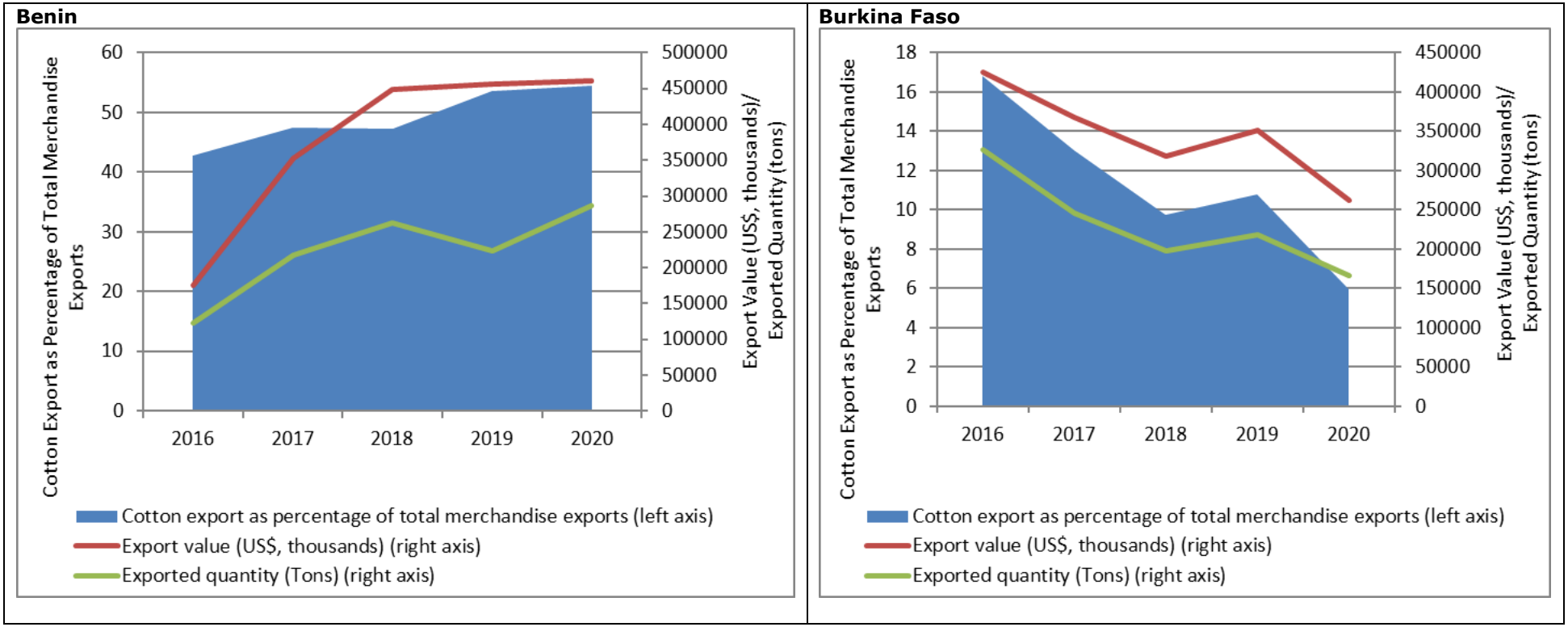
1.46. COVID-19 adversely affected LDC cotton exports due to order cancellations, logistical breakdowns and greater uncertainty, as noted above. Imports of inputs also became more costly.

[46] Information on trade (values and quantities) is provided in calendars years (January to December).

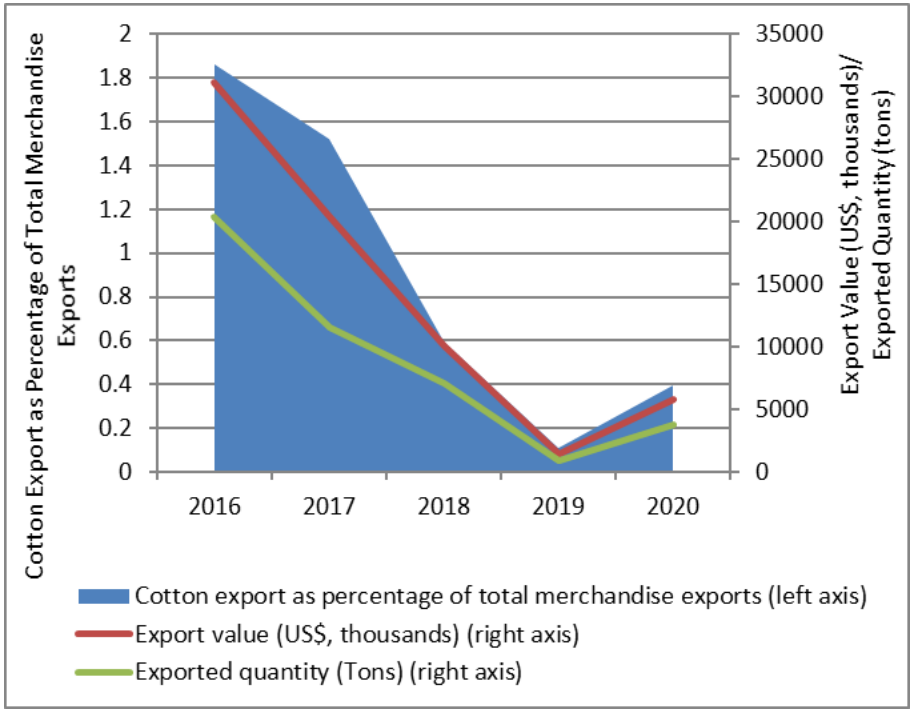
1.47. The importance of cotton in reference LDCs' exports is apparent from Figure 16, which also shows a correlation between the volumes and value of cotton exported and the share of cotton in total merchandise exports.

1.48. From 2019 to 2020, the value of cotton exports from the reference group of LDCs fell by 34%, a much sharper drop than the 9% fall in the level of exports from all cotton exporters in the world combined. This meant a net loss in export revenues of over 500 million USD for the whole group from 2019 to 2020. Table 3 shows the considerable variation in the impact of COVID-19 at the country level, with export values and significance of cotton exports as a share of total export in 6 out of the 10 reference countries declining from 2019 to 2020, while increasing or remaining stable in Benin, Chad, Tanzania, and Uganda (Figure 16 and Table 3).

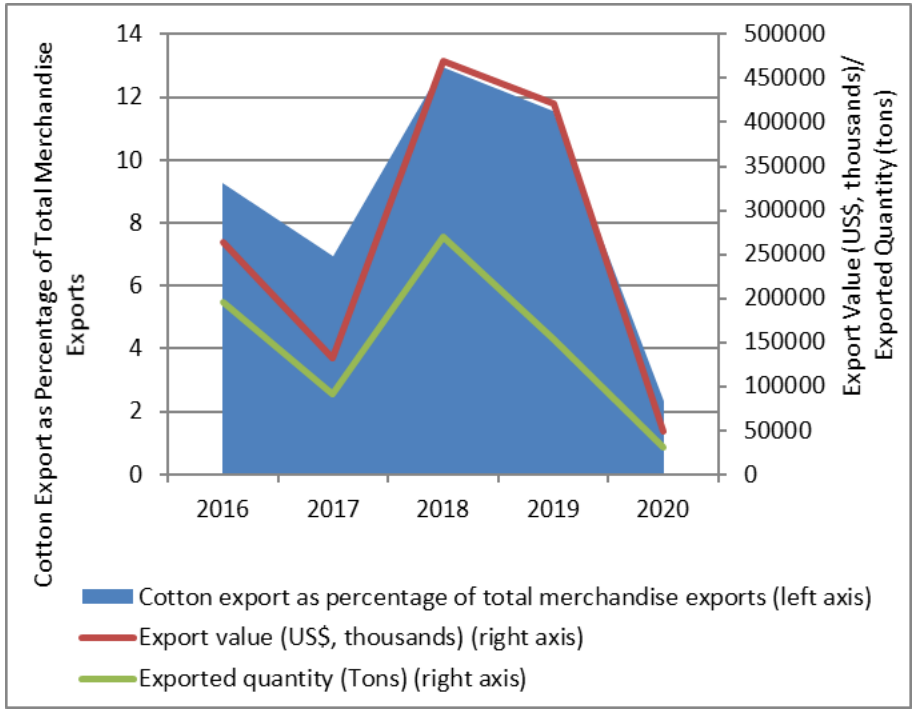
Figure 16: Cotton export values, quantities and shares over total merchandise exports in reference LDCs



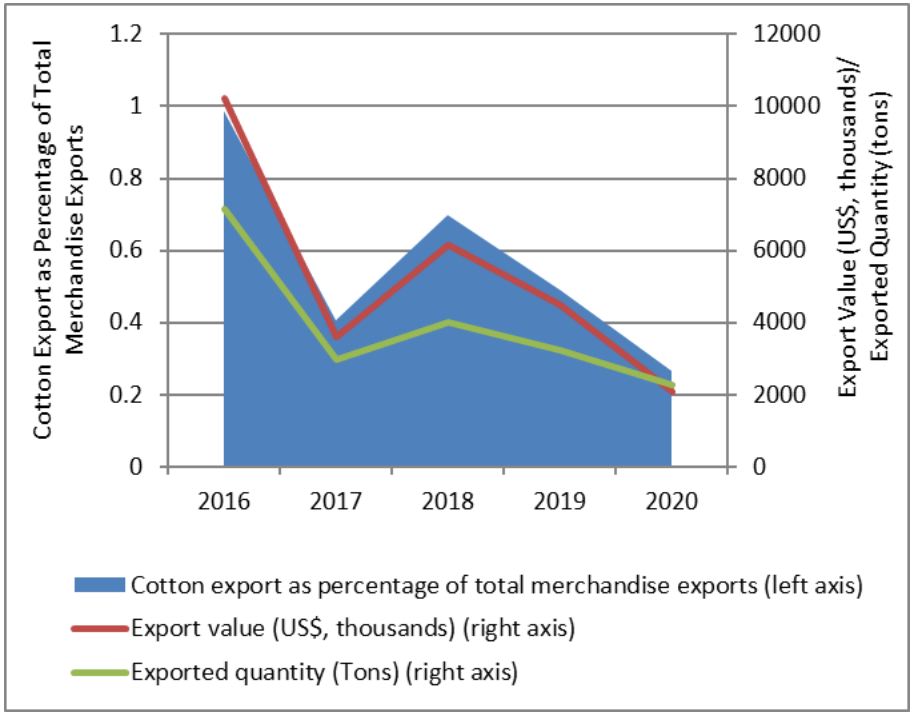
Chad


Cotton Export as Percentage of Total Merchandise Exports
Export Value (US$, thousands)/ Exported Quantity (tons)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
35000
30000
25000
20000
15000
10000
5000
0
2016
2017
2018
2019
2020
Cotton export as percentage of total merchandise exports (left axis)
Export value (US$, thousands) (right axis)
Exported quantity (Tons) (right axis)

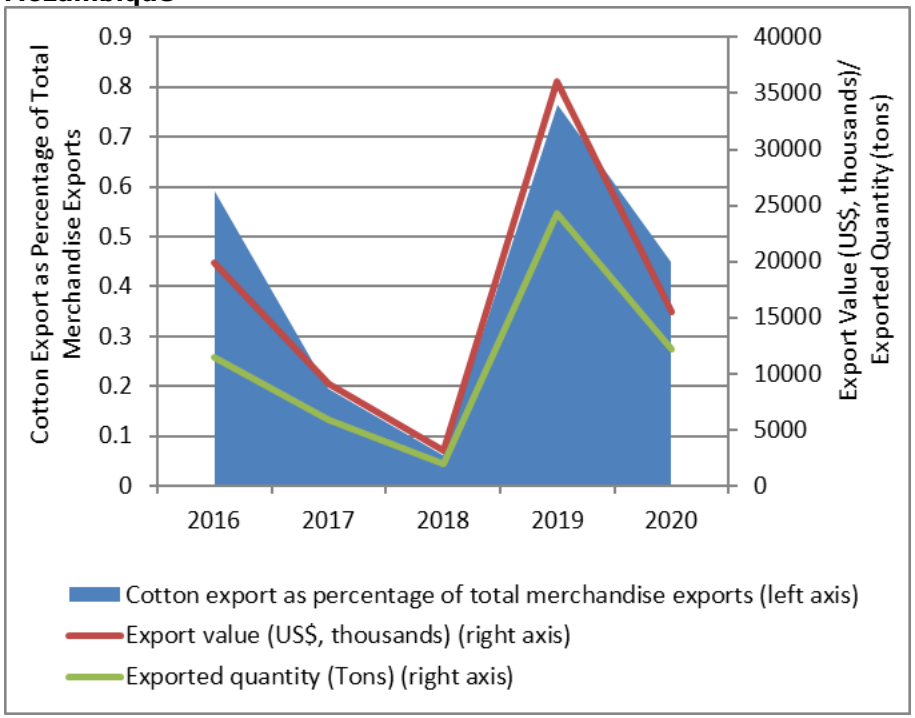
Mali


Cotton Export as Percentage of Total Merchandise Exports
Export Value (US$, thousands)/ Exported Quantity (tons)
14
12
10
8
6
4
2
0
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
2016
2017
2018
2019
2020
Cotton export as percentage of total merchandise exports (left axis)
Export value (US$, thousands) (right axis)
Exported quantity (Tons) (right axis)

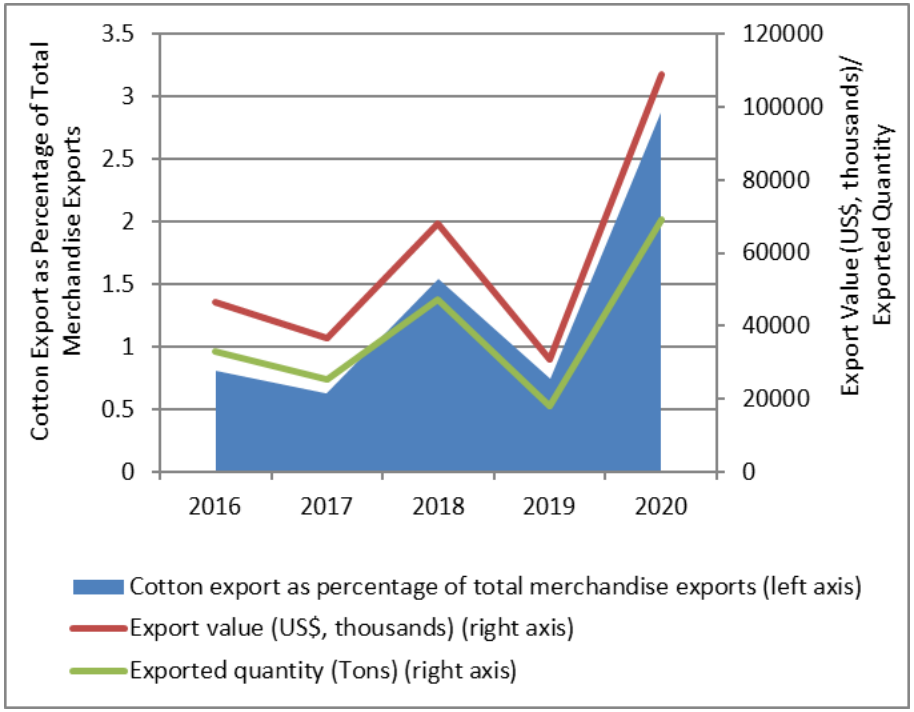
Malawi



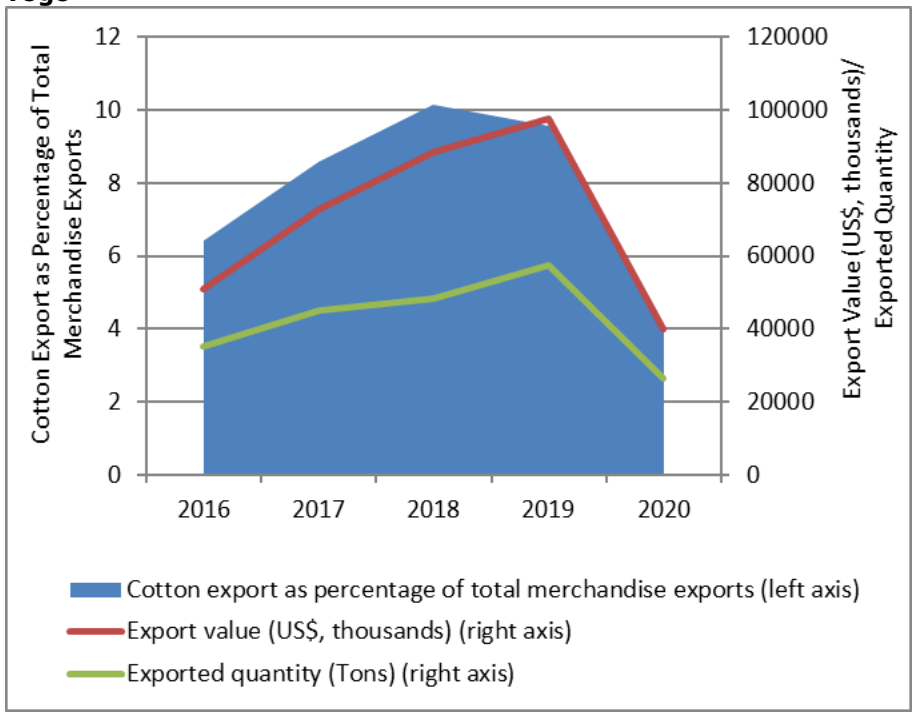
Mozambique



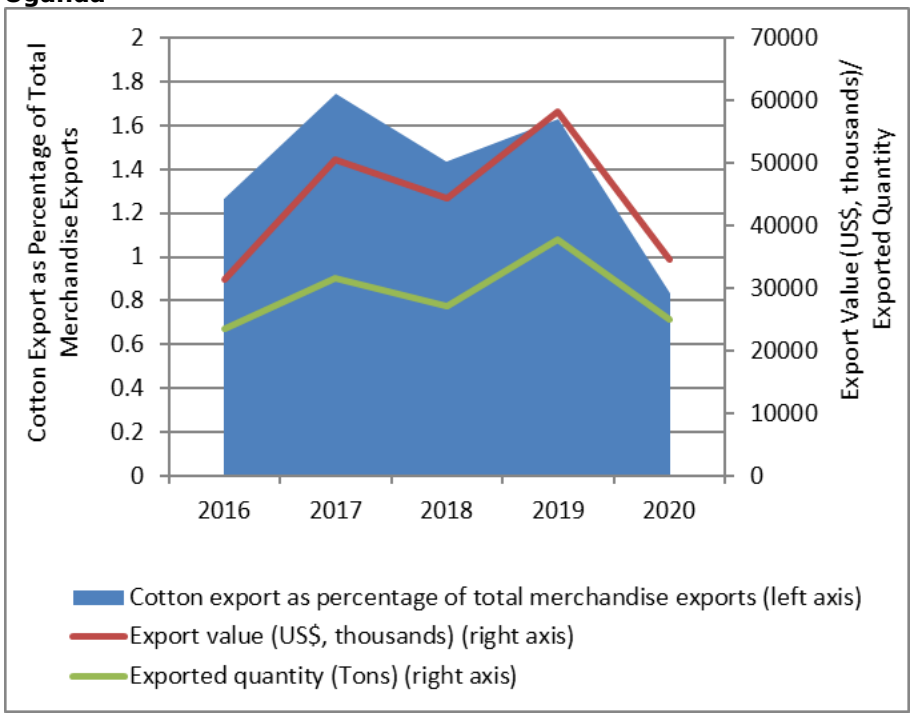
Tanzania



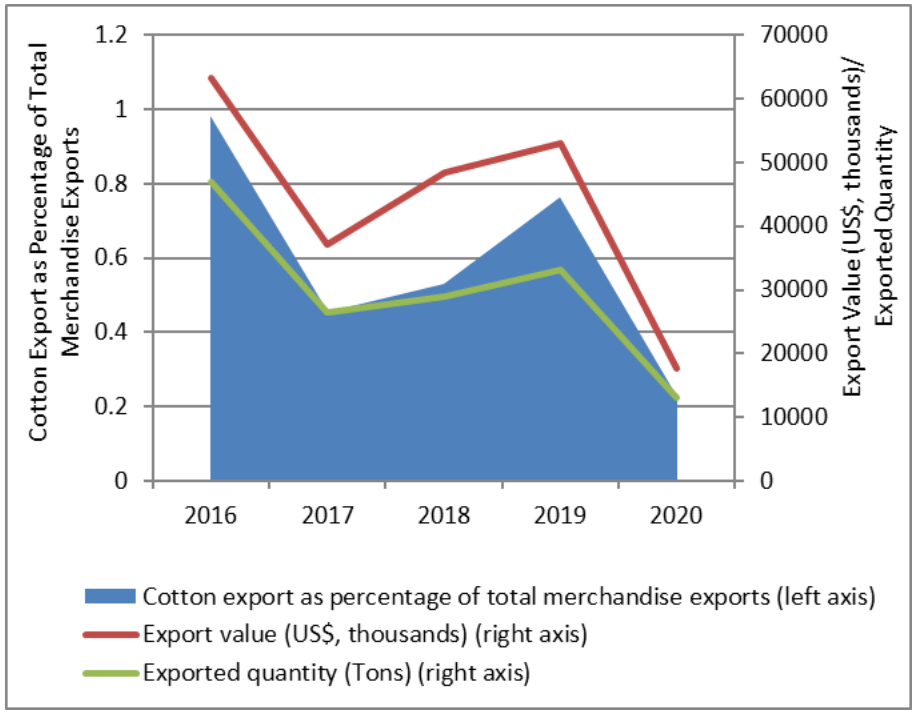
Togo



Uganda



Zambia



Notes:

* ICAC Cotton Databook for quantity exported by Benin in 2019.
Product: HS5201 and HS5203
Original values are in US dollars (nominal)

Source: ITC Trade Map.

Authors' calculations.

Table 3: Value of cotton exports (USD millions) in reference LDCs and percentage change from 2019-2020

Exporters	2016	2017	2018	2019	2020	% Change 2019-2020
World	11,173	14,236	16,681	15,717	14,306	**-9%**
Total Reference Group of LDCs	1,117	1,081	1,505	1,511	997	**-34%**
Benin	175	352	449	456	460	**0%**
Burkina Faso	425	367	318	351	262	**-25%**
Chad	31	20	10	1	6	**307%**
Mali	263	132	469	421	49	**-88%**
Malawi	10	3	6	4	2	**-54%**
Mozambique	20	9	3	36	15	**-57%**
Tanzania, United Republic of	46	36	68	30	109	**256%**
Togo	51	72	88	97	39	**-59%**
Uganda	31	50	44	58	34	**-40%**
Zambia	63	37	48	53	17	**-67%**

Source: ITC Trade Map (HS5201 and HS5203).

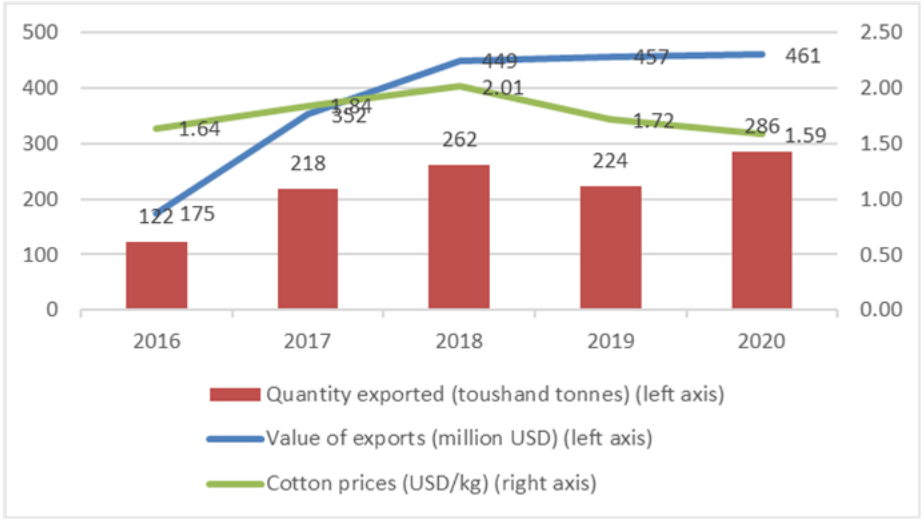
Note: Figures and percentages shown in the table are rounded up.

Authors' calculations.

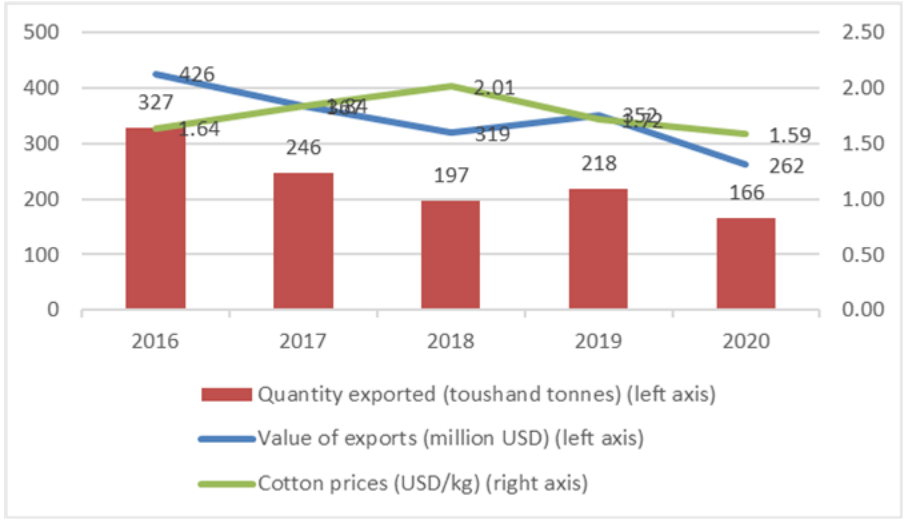
1.49. Figure 17 shows that, exported year to year quantities and values globally follow a similar trend, with no apparent correlations with price fluctuations.

Figure 17: In the C-4, the quantity of cotton exported and the value of exports followed similar trends during the period 2016- 2020

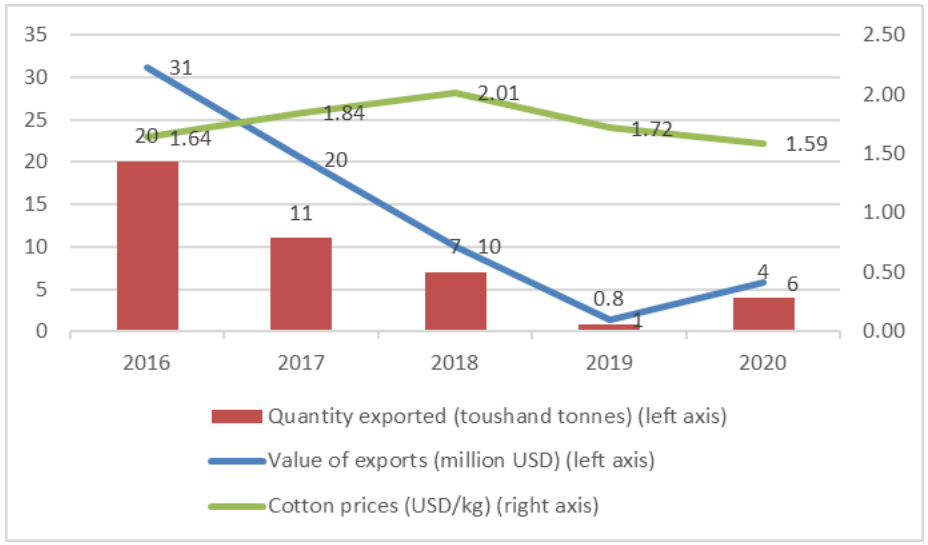
Benin



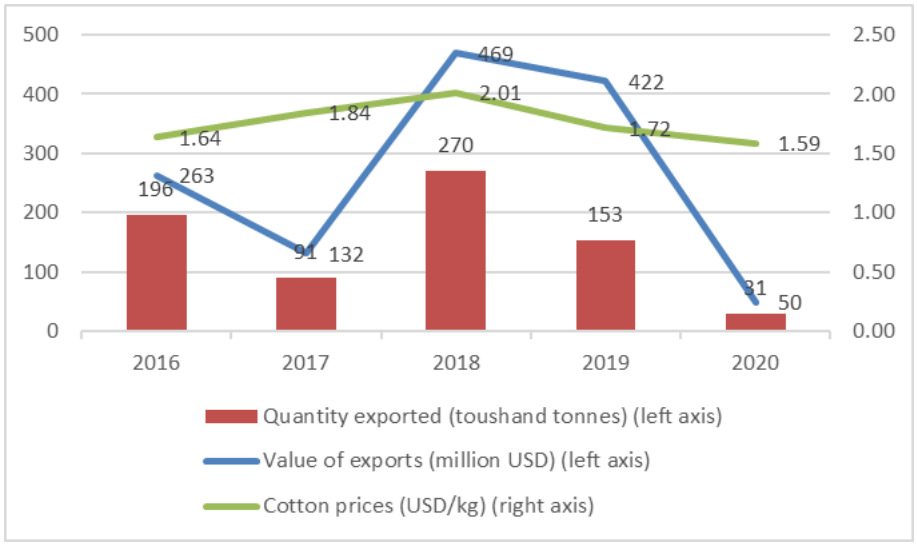
Burkina Faso



Chad



Mali



Source: ITC Trade map data; ICAC data for quantity exported by Benin in 2019.

Product: HS5201 and HS5203.

Authors' calculations.

1.50. Finally, monthly export data can also help having a better sense of the short-term effects of the COVID-19 pandemic on exports. As presented in Figure 18, the data available seem to indicate that the COVID-19 pandemic has affected monthly cotton exports from the C-4 countries differently.

1.51. Given that stocking capacity is very limited in West Africa and that cotton sowing in that sub-region takes place in June-July, cotton exports tend to pick up between January and June every year in the period following the harvest (i.e. in October-November).

1.52. However, monthly data for the beginning of 2020 shows that the pandemic may have had impacts on monthly export flows in the C-4 countries.

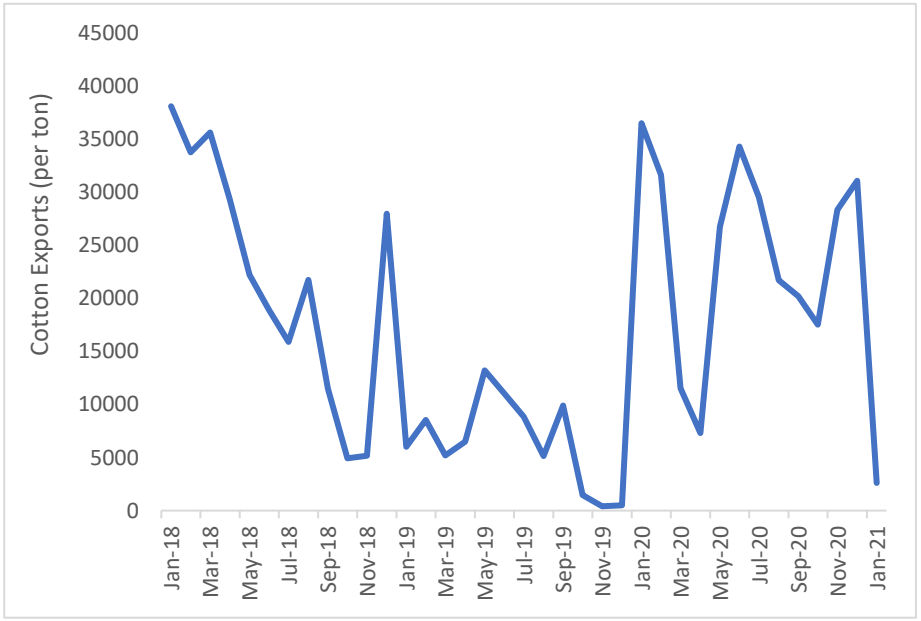
1.53. In Benin, for instance, monthly cotton exports were characterized by a sharp decline in March-April 2020, which could be linked to the effects of the pandemic on maritime transport and logistics, followed by a recovery in the rest of 2020. Another steep drop can be observed from available data for December 2020 and January 2021, despite the full recovery projected by experts for the year 2021.

1.54. In Burkina Faso, monthly exports in 2020 seem to have followed patterns relatively similar to those in 2018 and 2019. Here again, data presents negative tendances for the first months of 2021.

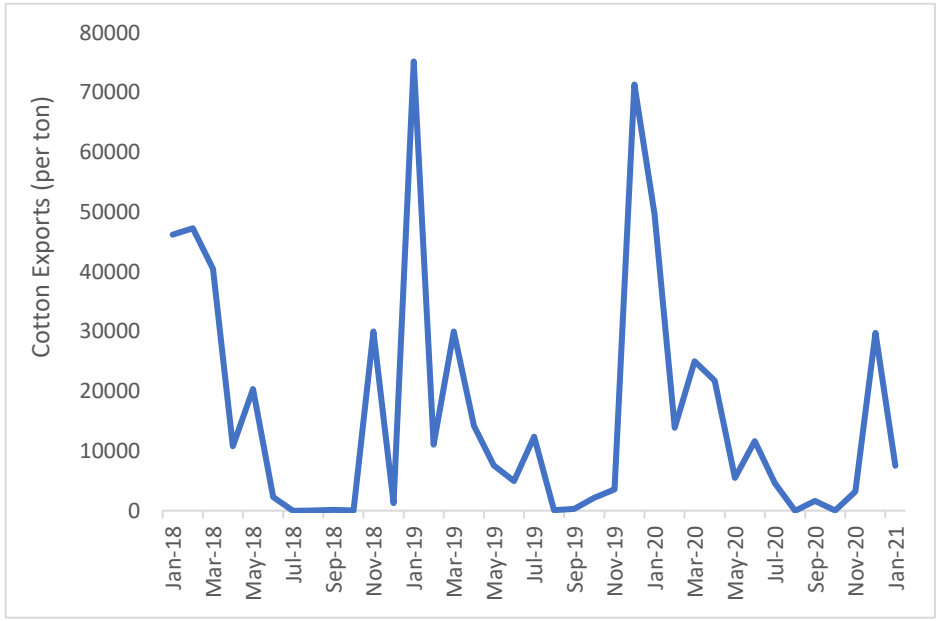
1.55. In Mali, the effects of the pandemic are more visible in the course of the whole year 2020, but with a significant recovery in the beginning of 2021.

Figure 18: Monthly cotton export data show impacts of the pandemic in the C-4 countries (tonnes)

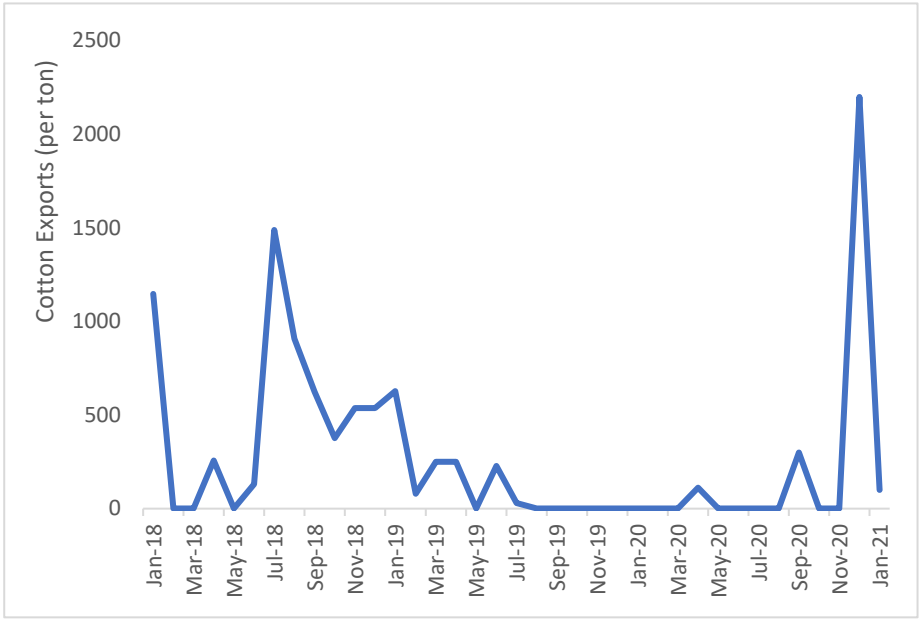
Benin



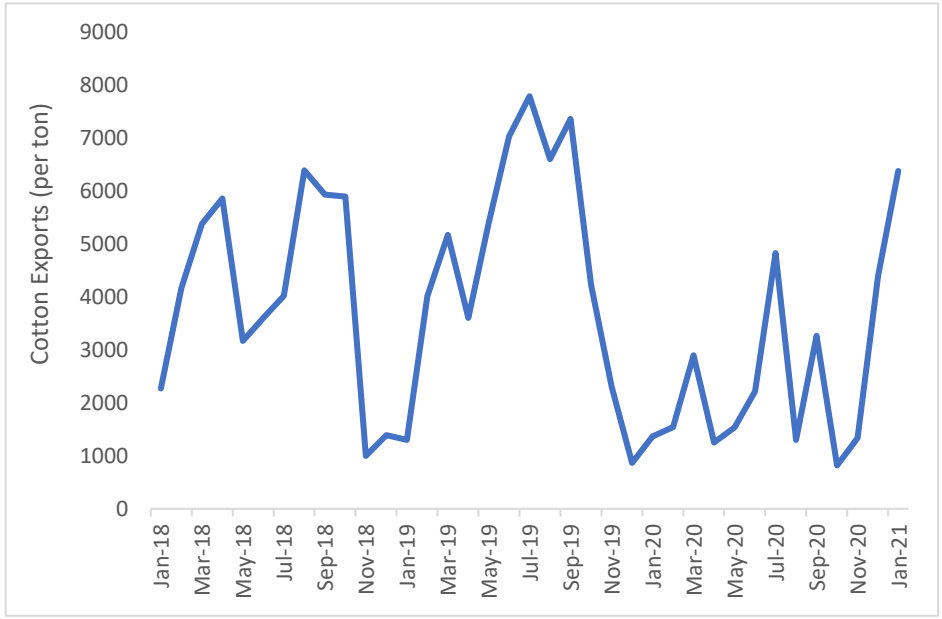
Burkina Faso



Chad



Mali



Notes: Chad presented several missing data points, represented by "0" in the relevant graph.
Graphs were created based on ITC Trade Map data as main source and UN Comtrade Database and Trade Data Monitor as complementary sources (HS5201 and HS5203 code).
Contrary to the annual data on quantities exported by the C-4 represented in thousand tonnes, the monthly data is depicted per ton for ease of interpretation.

Source: ITC Trade Map.
UN Comtrade Database.
Trade Data Monitor.

Authors' calculations.

1.4.5 New trade patterns and trade linkages emerged in 2020

1.56. As Figure 16 above shows, cotton exports have increased the most in Benin, Chad, and Tanzania, a phenomenon which is due to increased exports to Bangladesh, Pakistan, Indonesia and Germany (Figure 19). Exports to Bangladesh and Pakistan were particularly important for Benin and Tanzania, as imports fell in three of their top five export destinations during the first year of the pandemic (2020). Falling production in Pakistan may also explain the country's significant import growth over the 2019-2020 and 2020-2021 cotton seasons.[47]

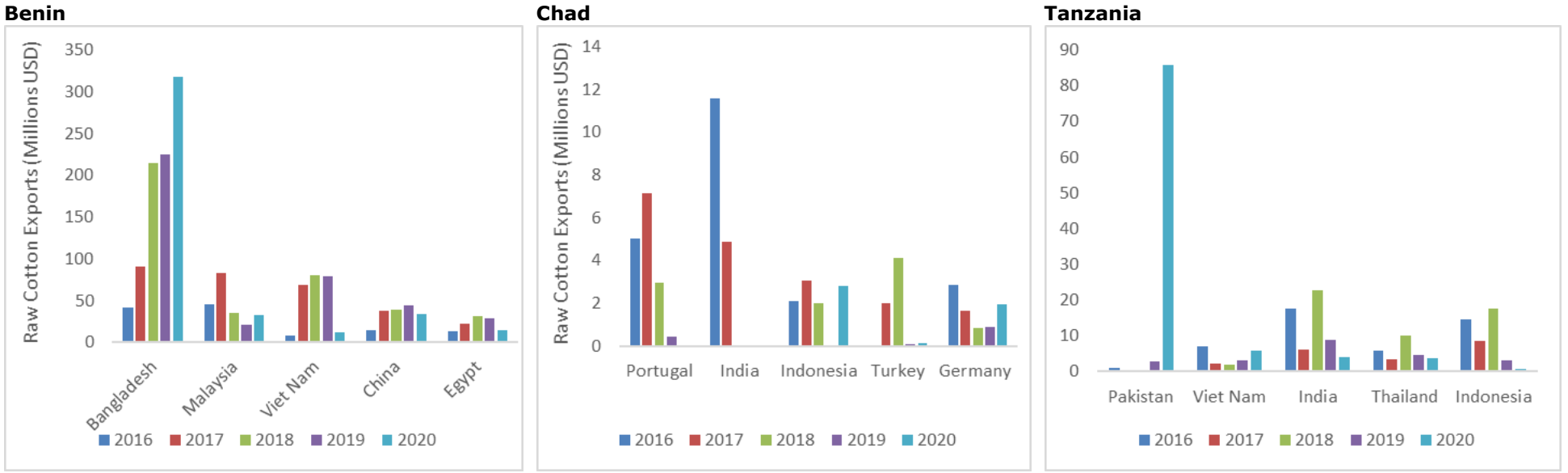
1.57. In the case of Benin exports of cotton to Bangladesh grew by 41% from 2019 to 2020, while the value of imports decreased in three out of the country's top five export destinations, with Benin's exports to Vietnam falling by 84%, those to China dropping by 21%, and those to Egypt falling by 50%.

1.58. Among LDCs, Bangladesh is the largest importer and consumer of cotton. From 2018 to 2021, the country accounted on average for 98% of total LDC imports, and 87% of total LDC cotton consumption. Despite the COVID-19 pandemic, the country's imports and consumption grew by 13% and 9% respectively in the 2020/21 season. The demand increase can be attributed to the country's pandemic response, which involved testing employees, adopting health protocols, and restructuring contracts with retailers. While Bangladesh's imports fell by 3% and its consumption dropped by 5% over the 2019/20 season, they also rapidly recovered[48].

1.59. These preliminary data illustrate the differences between countries in terms of geographical export profile and highlight further the heterogeneity of the impact of the COVID-19 pandemic on supply and demand trends across countries and the evolution of these trade patterns may deserve further research.

[47] Source: Pakistan Central Cotton Committee.
[48] Bangladesh: Cotton and Products Update | USDA Foreign Agricultural Service.

Figure 19: Selected LDCs' raw cotton exports by destination, in USD millions



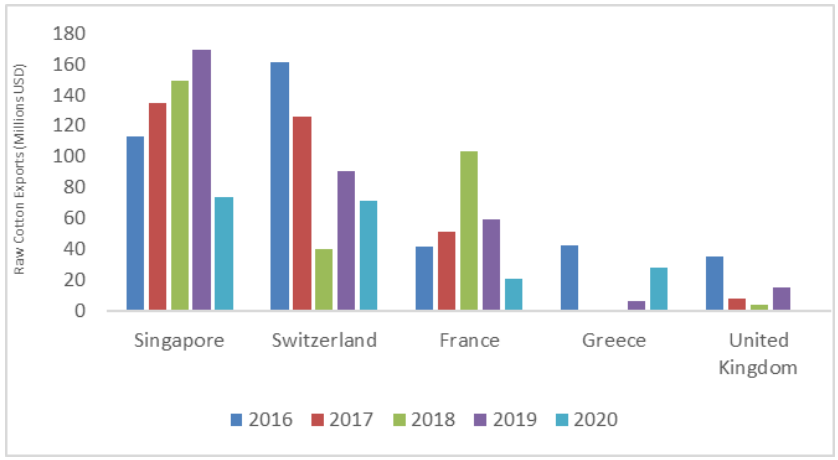
Source: ITC trade and market analysis.

Notes: (HS 5201 – neither carded nor combed).

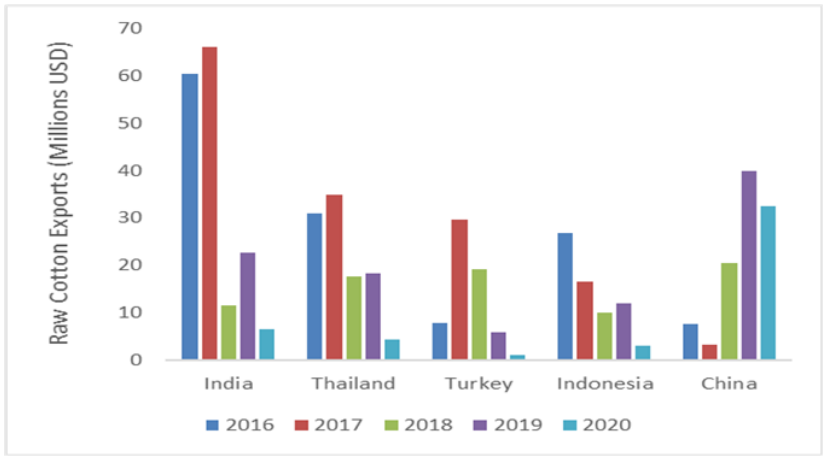
1.60. It is interesting to notice that some of the other LDCs from the reference group that faced e a decrease in exports in the marketing year 2020, also experienced important shifts in trade patterns in the same year (Figure 20), such as an increase of exports to India from Togo.

Figure 20: Other LDCs' raw cotton exports by destination, in USD millions

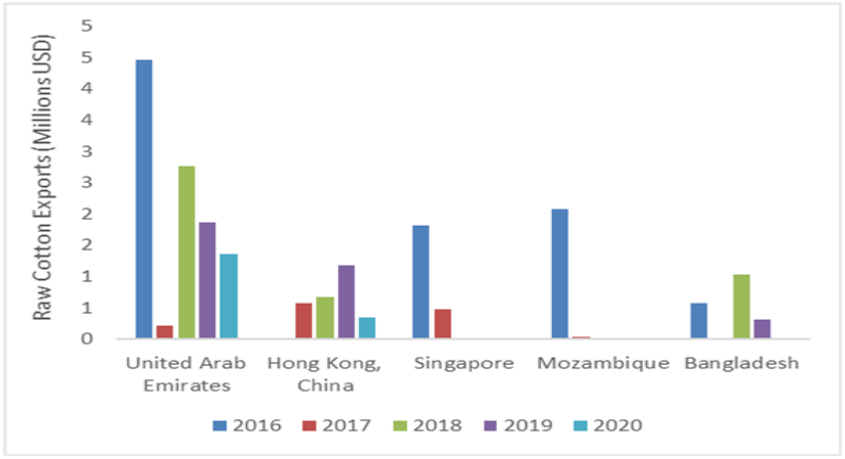
Burkina Faso



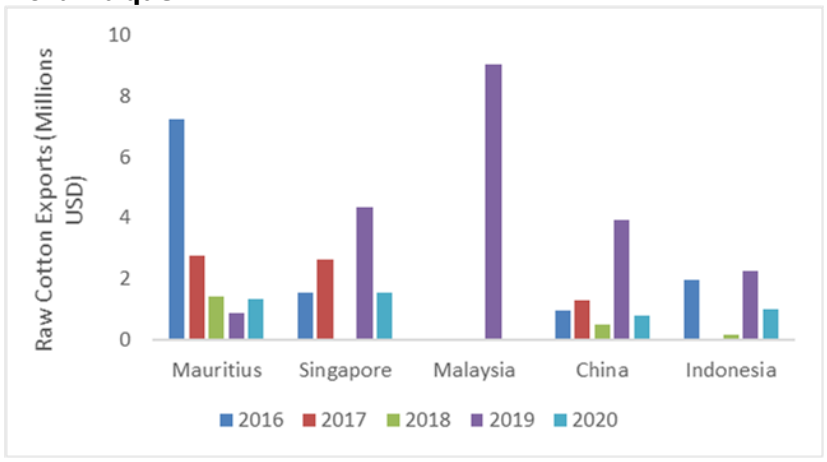
Mali



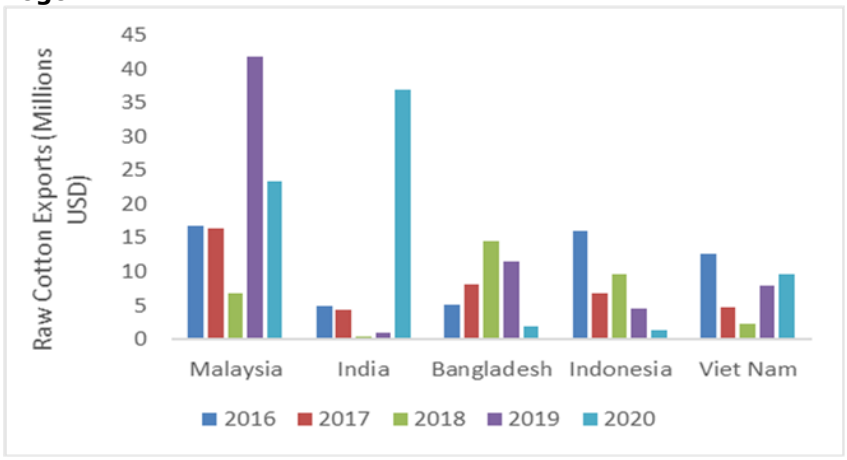
Malawi



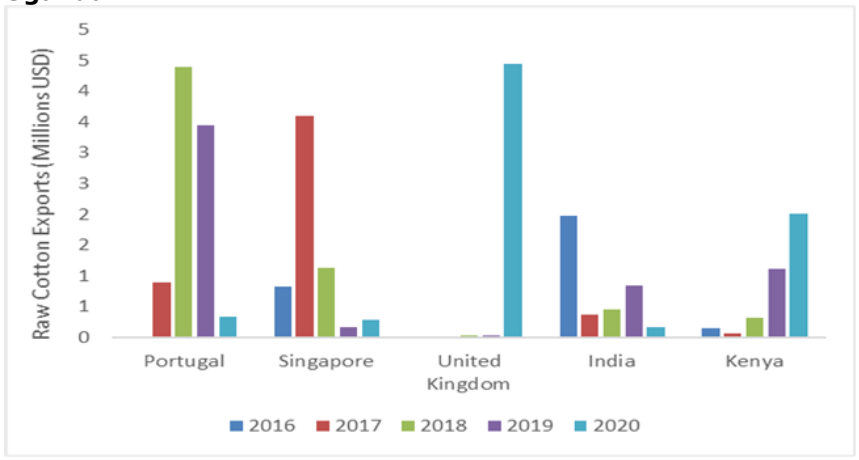
Mozambique



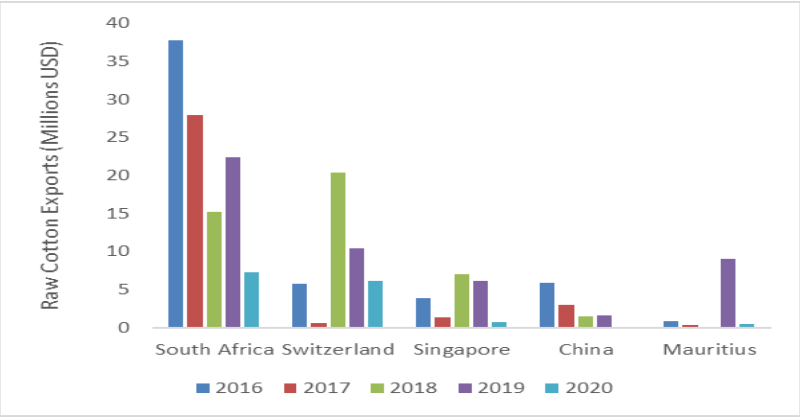
Togo



Uganda



Zambia



Notes: (HS 5201 – neither carded nor combed).

Source: ITC trade and market analysis.

1.4.6 The COVID-19 pandemic accelerated some trends in consumer preferences worldwide

1.61. As highlighted by ICAC, the preliminary data available tend to indicate that COVID-19 pandemic changed and accelerated some trends in the fashion industry, as consumers relied more on online shopping, and with some of them expressing greater concern for equity and social justice. In parallel, various brands and retailers sought to change the fashion industry by pursuing more sustainable business models.[49]

1.62. Euromonitor's report on consumer trends in 2021 indicates that consumers paid closer attention to companies' actions during lockdowns.[50] Private sector representatives have also commented on these apparent trends (Box 2).

Box 2 – A private sector view on prices, logistics, and global market trends during and after 2020

"Looking strictly at cotton, we highlighted in our last update in summer that prices had recovered particularly well from the lows observed in March 2020. Despite the sharp decline in cotton production linked to the closure of production facilities, consumption recovered relatively quickly, thereby bringing an end to the oversupply on the market.

Furthermore, production conditions that were worse than expected and a particularly active hurricane season led to a fall in certain areas' production (USA, Pakistan). During this time, demand also changed structurally. Just as clothing consumption fell significantly in 2020, this was replaced by the consumption of more common consumer goods such as home textiles, sofas, curtains and rugs, reflecting the fact that consumers were staying at home and carrying out renovations while they worked remotely. All these products have much more of an impact in terms of gross consumption since they are 100% cotton and contain no synthetic materials.

In the meantime, demand for clothing has recovered and almost returned to 2019 levels, leading to quite high price levels today.

However, this recovery has had a very significant impact on global logistics, and on maritime trade in particular. With economic activity rebounding fairly strongly across the planet, maritime companies had to redirect their fleets and equipment (containers) to the most active (and most lucrative) flows. All countries, and particularly West Africa, were then significantly affected by steep increases in freight prices. In addition, the majority of shipping lines simply stopped going to certain African ports. Cotton companies and traders were stuck and could do nothing but wait until shipping lines decided to resume these routes. We were stuck and unable to embark for several months.

The consequences were quite serious. Customers who had purchased African cotton needed to receive their goods, otherwise they would be required to turn to other sources. Yet these sources faced the same situation. The entire value chain therefore majorly suffered, and this situation is still ongoing, although it has slightly improved over the past few weeks.

The pandemic has also accelerated the process of improving social and environmental responsibility in the cotton supply chain. With the bankruptcy of certain textile distributers due to the fall in consumption, we have seen the emergence of a new type of consumer who buys online and is more concerned with how ethical their suppliers are. Certain regions have been singled out. Today, we are seeing many initiatives promoting greater transparency and sustainability in the value chain."

Source: Charles Jannet, Director, Ecom Agroindustrial Corp. Ltd, and President, Afcot, September 2021.

[49] Ref. to relevant ICAC presentation.
[50] Idem.

2 RECOVERY AND RESILIENCE – MEASURES ADOPTED AND WAY FORWARD

2.1. The COVID-19 pandemic was accompanied by several restrictions that adversely affected several economic sectors in different ways. Specifically, restrictions on the free movement of people and lockdowns imposed in response to the pandemic negatively affected the agricultural sector as a whole and cotton in particular.

2.2. As Part I shows, cotton production, imports and exports in most reference LDCs were stifled by the pandemic and the measures taken to counter it. Meanwhile, reductions in the availability of human resources and the closure of some nodes of the supply chain set up further hurdles for these countries. It is therefore crucial that all cotton sector actors draw the necessary lessons from the pandemic and adopt their strategies accordingly.

2.3. Against this backdrop, Part II of this study first gives an overview of development assistance flows specific to the cotton sector, and then focuses on responses from public and private cotton stakeholders from the reference LDCs to a survey jointly designed by the Secretariats of the WTO and the ICAC, which was circulated between mid-July and mid-August 2021 to obtain first-hand information about COVID-19 impacts on the cotton sector and the ways forward suggested by LDC stakeholders.

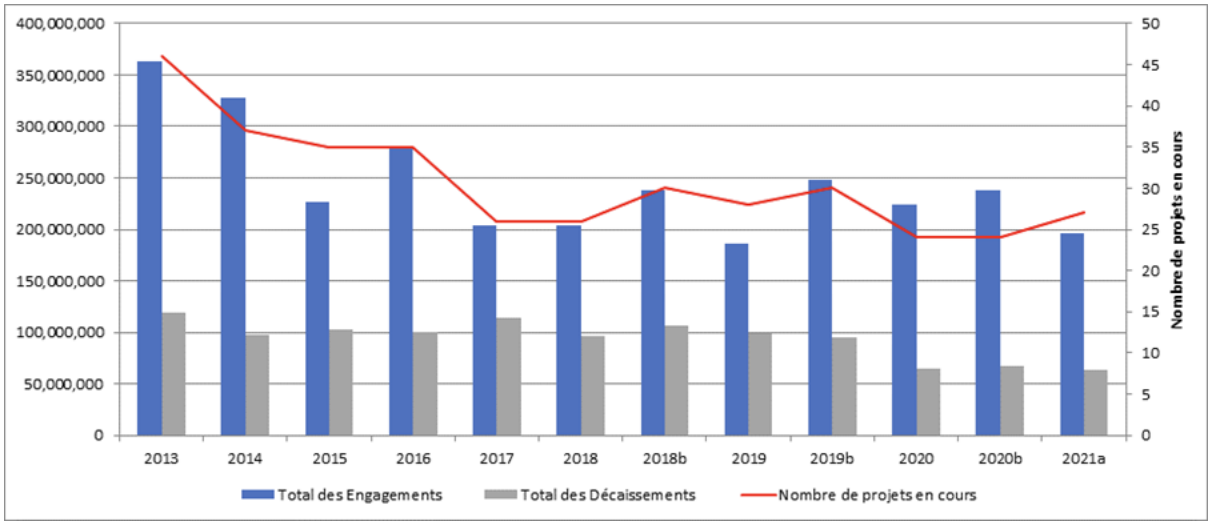
2.1 Cotton-specific development assistance flows decreased from 2020 to 2021

2.4. As shown in Figure 21, the total committed amount for active cotton-specific projects fell by 17% between November 2020 and May 2021, as reported on the May 2021 revision of the WTO's "Evolving Table on Cotton Development Assistance".[51] This drop represents a decline by over USD 41 million from the previous revision. Disbursements also fell to slightly over USD 63 million, compared to the USD 67 million of the previous revision. However, one additional active cotton-specific project was included over this period, bringing the total number of such projects up to 27. Annex 3 contains an excerpt of the latest version of the Evolving Table, with details on specific projects and their operational status, as well as on donors and beneficiaries.

2.5. These preliminary data and the possible relationship with COVID-19 pandemic should be interpreted with caution, taking into account the normal timelines followed in a project cycle. Main impact could be in relation to disbursements in the case of projects stopped as a result of the pandemic. Further work with the relevant development agencies may be welcomed to deepen this analysis.

[51] The Evolving Table on Cotton Development Assistance is the WTO's main document on this topic, and a unique monitoring tool. It lists cotton-related development cooperation projects and programmes, and is updated twice a year. The table provides information on donors and beneficiaries, as well as detailed data on disbursements and commitments. The latest trends presented in the table are discussed in the Cotton Days. The most recent version of the Evolving Table (WT/CFMC/6/Rev.30) was circulated to Members in May 2021.

Figure 21: overview of cotton-specific development assistance commitments, disbursements, and number of projects recorded in the Evolving Table (in USD, left axis)



Source: Authors' calculations based on relevant documents in the series WT/CFMC/6/*.

2.2 Analysis of responses to the WTO-ICAC survey

2.6. The Secretariats of the WTO and the ICAC circulated a survey to LDC Members and Observers in the period 15 July - 15 August 2021. The purpose of this exercise was to collect first-hand information on the impacts of the pandemic on the cotton sector in 2020 and in 2021. A total of nine LDCs responded to the survey (Annex 1 reports detailed information on responding LDCs).

2.7. In essence, survey responses from LDCs suggest that the most severe impacts at the country level were recorded in both 2020 and 2021 in the areas of exports of fibre and availability of production inputs. LDC respondents provided no specific price-related information.

2.3 Measures taken by LDCs at the national level

2.8. Question 5 of the survey asked respondents to describe any COVID-19 recovery policies that were initiated or implemented during the pandemic in support of the following: agriculture, textiles, trade, imports and exports.

2.9. Survey responses showed that policies implemented during the pandemic for the **agricultural sector** included COVID-19 economic relief programs or national COVID-19 response plans. Some of these took the form of economy-wide stimulus packages which also covered the agricultural sector, including those to revive agricultural marketing and production. Data collected also indicated that some governments facilitated access to agricultural inputs, including by subsidizing them. National agricultural development funds also provided support to the sector.

2.10. For policies on trade, exports, and imports, survey responses indicated that some countries gave financial support to importers and soft loans to garment and textile producers.

2.11. Other widespread policies aimed at promoting recovery included financial support for large scale farmers, extended deadlines for settling industrial tax, and industrial infrastructure investment programs.

2.12. Table 4 below summarises the measures reported by LDC survey respondents.

Table 4: National pandemic response measures as reported by LDC survey respondents[52]

Cotton-specific	Agriculture and infrastructure
• Maintain the input and purchase prices of seed cotton during the 2020-2021 crop year. • Prohibition of food crops microcredit to producers. • Maintain sales prices for seed cotton and purchase prices for inputs. • Cotton farms are allowed foreign exchange to import BT seeds. • Cotton users are allowed to import cotton during the supply of cotton, and if they produce more than enough cotton, they are allowed to export it to the market. • Increase in the purchase price of seed cotton from the producer; input subsidy. • Subsidies of the basic purchase price to producers and inputs for about 50 billion [FCFA] as well as the organ of the national cotton base for about 0.5 billion [FCFA]. • Loan provision to potential cotton growers.	• The fund for support to agrarian development provides a credit line of 15 billion Kwanzas, for financing family and agricultural holdings, with an interest rate of no more than 3%. • Facilitation of access to agricultural inputs. • Providing sustainable market environments, input provision, efficient labour provision. • Government support for Seed, Pesticide and Fertilizer availability in the market. • Subsidies for agricultural inputs and basic purchase price to producers for about 50 billion [FCFA]; organization of national cotton meetings for around 0.5 billion. • Attribution of a 12-month tax credit to companies, on the amount of VAT payable on the import of capital goods and raw materials that are used for the production of basic food basket goods. • Subsidies on agricultural imports such as tractors and other implements and inputs. • Financial support for economics and importers. • Adoption of fiscal measures and access to financing for the months of April to June 2020 (among others: i) exemption from VAT on the sale of products used in the fight against COVID-19; ii) exemption from taxes and customs duties on pharmaceutical products, medical consumables and equipment falling within the framework of the fight against COVID-19; iii) suspension of on-site control operations with the exception of proven cases of fraud; iv) automatic remission of penalties and fines due; etc.); • Establishment of a solidarity fund for the benefit of actors in the informal sector, in particular for women, for the revival of vegetable and fruit trade activities, amounting to FCFA 5 billion • Chemical suppliers have also been provided with the necessary foreign exchange to obtain the required foreign exchange from the National Bank. • Admission of Franco-Valuta license.[53] • Extension of the deadline for settlement of industrial tax. • Support from the national agricultural development fund. • Support for producers by setting up agricultural mechanization tools. • Financial support for large scale farmers (working capital) • Track construction program for about 400 billion [FCFA].

[52] In some cases, responses have been slightly edited and/or translated from the original where needed.

[53] A Franco-Valuta privilege (or licence) is a permission to import goods on which foreign exchange is not payable following the strict payment procedures implemented by banks and regulated by the National Bank of Ethiopia.

Other measures
• Adoption of a national COVID-19 response plan, amounting to CFAF 391 billion (this plan takes into account the health response, as well as the coverage of social and economic recovery measures). • Establishment of a COVID-19 Economic Recovery Fund, amounting to CFAF 100 billion. • Funding of research on infectious diseases and the production of pharmaceutical drugs for an amount of CFAF 15 billion. • Efforts have been made to collect the required demand for the chemical and pass it on to the chemical suppliers so that they can get priority. • Industrial infrastructure investment program for around 48 billion [FCFA]. • Closing of borders and lock downs for periods ranging from two weeks onwards. Restricted mobility within the country through curfews. 14-day quarantine at points of entry. • Invest in formal small-holder farmers to produce food for the domestic economy. This will result in jobs being protected and create new avenues of government revenue. • Government increased public health funding to local and community health centres to implement mass testing and increase the capacity to track and trace. Enforce social distancing and sanitation measures. • Vaccination of frontline staff and observance of physical distance, sanitize, mask-up, avoid touching your mouth and nose and cough through your elbow. • Strict cross border testing, reverse suspension on international flights. • Increased government transparency. • Countering conspiracy theories. • Strict adherence and observation of non-pharmaceutical protocols. • 25% reduction in the license for the benefit of companies in the passenger transport, hotel and tourism sector. • Application of a reduced VAT rate of 10% to the Hotel and Restaurant sector.

2.3.1 Recommendations from LDCs' public and private stakeholders for measures in support of recovery and resilience

2.13. Question 6 of the survey asked respondents to suggest some of the best approaches that could be taken by governments, the private sector, or both, to enable a speedy recovery from the negative impacts of COVID-19 and build resilience to future shocks. Once again, it asked respondents to focus on policies related to agriculture, textiles, trade, imports and exports.

2.14. **For the agricultural sector, respondents highlighted:**

- **Digitalization:** Survey responses showed that, during the pandemic, it was essential for LDCs to digitalize their input and supply systems, due to human resource shortages resulting from COVID-19 containment measures. Respondents also called for the introduction of virtual training platforms for extension staff and farmers, the establishment of e-payment services to farmers to enable them to avoid handling cash, and the development of technologies to boost cotton productivity, as well as the development of e-commerce platforms.

- **Agricultural Inputs:** LDC survey responses underscored the importance of timely and affordable access to agricultural inputs such as quality seeds, the extension of input support programs to cotton farmers, and the provision of a formal certified seed supply system. Respondents indicated that the COVID-19 pandemic has also meant cotton producers are now in greater need of support to help them afford agricultural tools and machinery, as the prices of these goods has risen due to an increase in the price of steel[54].

- **Funding:** LDC respondents requested economic recovery programs, including in particular in relation to access to inputs, stimulus support and subsidies to farmers for agricultural such inputs. Some respondents also suggested the creation of credit lines with subsidized interest rates to encourage access to inputs such as seeds, fertilizers, machinery and various equipment, in order to enhance cotton productivity and promote economic well-being in rural areas.

- Some respondents suggested **increasing warehousing capacity of cotton ginning companies** to improve their competitiveness and create incentives to improve cotton productivity in smallholder farmer cooperatives. This would also ensure that ensure that the cotton quality is not impacted in case of transport delays.

[54] Steel prices reportedly doubled in 2020 and 2021, see e.g., https://fortune.com/2021/07/08/steel-prices-2021-going-up-bubble/.

- **Price stabilization:** Among the survey respondents, some producers suggested maintaining or increasing the current purchase price of seed cotton, while some buyers favoured a subsidy on the price of seed cotton.

- **Improved soil fertility and agricultural practices:** Survey respondents emphasised the value of improved soil fertility management, adoption of supplemental irrigation systems, modernization and mechanization. They also highlighted the implementation of climate change adaptation programmes and continuous training on good agronomic practices.

- **Policies for trade, exports and imports:** the respondents called for streamlined regulatory import and export procedures; exemptions or reduction from export and import taxes for agricultural products (including cotton); an easing of trade in farm inputs, machinery, and equipment, including through tariff reductions; and relaxation of cross border restrictions, including international flight restrictions.

- **Textiles:** Survey respondents suggested policies including cutting energy costs and subsidies to encourage local processing and consumption. Survey responses also highlighted the importance of promoting and strengthening the processing capacities of textile units and infrastructure to support textile processing while also promoting artisanal weaving by smallholder farmers in rural areas. Some respondents suggested that specific tax incentive packages could be created to attract domestic and foreign direct investment in the textile and clothing industry, and to remove tax on textile equipment imports. Many survey replies proposed that second-hand clothing imports be banned, and that governments also facilitate access to finance and investment funds.

2.15. **Other suggested policies included:**

- Increasing the number of processing plants.
- Strengthening the capacities of the logistics chain and the transportation of goods.
- Incentivising public-private partnerships through commercial and industrial policies.
- Creating a stabilization/management/investment fund for emergencies (climate and pandemic).
- Scaling up extension and other support to the cotton sector.

2.3.2 Brief overview of responses from non-LDC respondents

2.16. This section includes an overview of the main elements contained in responses from non-LDC respondents. Although this study focuses exclusively on LDCs, the examples of measures described below also provide readers with a wider perspective on the responses of the cotton and agricultural sector to the challenges posed by the pandemic.

Summary of measures taken at the national level[55]

For agriculture, some countries implemented COVID-19 recovery programs, as in LDCs. These included funds and credit for farmers and the exemption of agricultural activities from lockdown measures. One respondent reported that the state cotton agency adjusted its purchase of cotton at minimum support prices.

For trade, imports and exports, some countries sought to provide relief to exporters during the COVID-19 outbreak by extending to six months the validity of advance authorizations and the export obligation period. Respondents indicated that a 12-month tax credit had also been established on the amount of VAT that companies have to pay on the import of capital goods and raw materials used to produce basic goods.

On textiles, some countries provided special measures to support the flow of liquidity to the textile sector, by introducing an option to release partial subsidies against bank guarantees in order to facilitate the subsidy release process.

[55] In some cases, responses have been slightly edited and/or translated from the original where needed.

Other policies which have helped support the cotton and agricultural sector included vaccination of the adult farming community, and the transfer of government funds to help alleviate credit constraints and to increase investment in agricultural inputs and the extension of deadlines for settlement of industrial tax.

Summary of recommendations for measures to support recovery and resilience[56]

For agriculture, policy suggestions included:

- Putting in place a cotton minimum support price.
- Quality seeds, pesticide subsidies, training of farmers, and incentives for farmers to encourage better yields.
- Income guarantee for agriculture activities.
- Decentralized procurement of cotton seeds.
- Availability of containers and non-customs warehouses.
- Develop local capacities and international cooperation to secure the supply of inputs and seeds.
- Building of storage facilities and establishment of funds to provide subsides that cushion rising production costs and fallingselling prices.
- Authorization of new genetically modified cotton varieties.

For textiles:

- Reduction of taxes and ensure energy supply.
- Reduction in the cost of doing business.
- Promote cotton research and provide technical and financial support.
- Policies to maintain jobs and cash flow of textile companies.
- Promotion of production to reduce the cost of raw materials.
- Secured loans with fiduciary schemes of inventories, lots and portfolio.
- Develop local processing capacity.

For trade, import, export:

- Reduction in documentary procedures.
- Innovative taxation measures to encourage exports and trade.
- Develop storage facilities and set up funds to provide subsidies to cushion rising of production costs and falling of export prices.

Other suggestions included:

- Interstate movement of labour to be encouraged.
- Build alert and information mechanisms [on non-specified subjects] for population both nationals and globally to enable a rapid and appropriate reaction.
- Curb inflation in the country.
- Encourage local consumption.

2.4 Actions undertaken by the International Community

2.17. From the onset of the pandemic, many international and national institutions have made efforts to support the cotton industry and the agriculture sector at large. Table 5, Box 3 and Box 4 below report examples of available projects and programmes for which information was publicly available on the internet at the time of drafting of this report.

[56] In some cases, responses have been slightly edited and/or translated from the original where needed.

Table 5: Other programmes enacted by international entities

Name of Institution	Project/Programme/Initiative	Brief explanation of the project /programme/ Initiative
African Development Bank	COVID-19 Response Facility https://www.afdb.org/en/news-keywords/covid-19-response-facility-crf	Grants were provided to African Governments to ease the negative socio-economic impacts of COVID-19, which formed part of government support to agriculture and other sectors of the economy.
Better Cotton Initiative	COVID- 19 Hub https://bettercotton.org/covid-19-hub/	Helping farming communities to leverage tools, resources, and partnerships to promote resiliency during this period.
Biodiversity International	The Alliance's response to COVID-19 (the Alliance of Bioversity International and CIAT) Alliance's response to COVID-19 (bioversityinternational.org)	The Alliance mobilized its resources and expertise to address immediate needs, including helping host countries meet short-term food security requirements, providing real-time information on COVID-19-driven shifts in food consumer behavior, and maintaining our global collections of seeds and germplasm ready for deployment to farmers fields across the globe.
Fair Trade Foundation	Fairtrade secures funds to protect future cotton supply chains https://www.fairtrade.org.uk/media-centre/news/fairtrade-secures-funds-to-protect-future-cotton-supply-chains/	Fairtrade received EUR 80,000 from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the German development agency, to provide food and income security for smallholder cotton farmers fighting the impact of COVID-19 in India.
Food and Agriculture Organization	Keeping food and agricultural systems alive - Analyses and solutions in a period of crises - COVID-19 Pandemic http://www.fao.org/2019-ncov/analysis/en/	An FAO analysis of past experiences and a compilation of policy responses with their pros and cons for agricultural and food systems.
Food and Agriculture Organization	FAO COVID-19 Response and Recovery Programme: Asia and the Pacific https://reliefweb.int/sites/reliefweb.int/files/resources/cb1515en.pdf	This is a paper which talks about addressing the impacts of COVID-19 in food crisis contexts.
Gesellschaft für Internationale Zusammenarbeit (GIZ)	Rapid and local solutions for the coronavirus pandemic. Bulletin: rapid and local solutions for the coronavirus pandemic (giz.de)	Provision of support in the global fight against the coronavirus pandemic. The areas being supported include healthcare, agriculture, employment, technical assistance etc.
Global Agriculture & Food Security Program. (GAFSP)	COVID-19 Response Plan COVID-19 Response | Global Agriculture and Food Security Program (gafspfund.org)	Provision of funds for countries to mitigate COVID-19's impact, and to work towards a quick recovery.
International Cotton Advisory Committee (ICAC)	Capacity building in organic and conventional cotton during COVID times	ICAC in partnership with GIZ launched this project that aims at empowering cotton trainers in Cameroon and Burkina Faso with the latest knowledge on cotton production technologies for both conventional and organic growers, through trainings, manuals, and use of the Plant health APP.

Name of Institution	Project/Programme/Initiative	Brief explanation of the project /programme/ Initiative
International Food Policy Research Institute	COVID-19 Policy response portal. https://www.ifpri.org/project/covid-19-policy-response-cpr-portal	A portal set up to analyze the direct and indirect impacts of government responses in a comparative way. The COVID-19 Policy Response (CPR) Portal systematically captured throughout 2020 the policy responses pursued by governments, including population restrictions, social protection, trade, health, fiscal, and monetary measures.
International Monetary Fund	COVID-19 Financial Assistance and Debt Service Relief IMF Financing and Debt Service Relief	The IMF is providing financial assistance and debt service relief to member countries facing the economic impact of the COVID-19 pandemic which will help all sectors of the economy including agriculture. This was in the form of a rapid financing instrument and rapid credit facilities.
World Bank	World Bank Group's Operational Response to COVID-19 (coronavirus) - Project List https://www.worldbank.org/en/about/what-we-do/brief/world-bank-group-operational-response-covid-19-coronavirus-projects-list	Over 15 months, through June 2021, the World Bank Group is making available up to $160 billion in financing tailored to the health, economic and social shocks countries are facing, including $50 billion of IDA resources on grant and highly concessional terms.
World Bank	COVID-19 Debt Suspension initiative. https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative (see world debt graph below)	COVID-19 has dealt a major blow to world's poorest countries, causing a recession that could push more than 100 million people into extreme poverty. The World Bank and the International Monetary Fund urged G20 countries to establish the Debt Service Suspension Initiative. The DSSI is helping countries concentrate their resources on fighting the pandemic and safeguarding the lives and livelihoods of millions of the most vulnerable people. Since it took effect on May 1, 2020, the initiative has delivered more than $5 billion in relief to more than 40 eligible countries.
World Business Council for Sustainable Development (WBCSD)	Regenerative fund to support leather, cotton, wool and cashmere farmers. Kering launches a new regenerative fund to support leather, cotton, wool and cashmere farmers - World Business Council for Sustainable Development (WBCSD)	A fund to support farmers and growers' transition 1 million hectares of current crop and rangelands into regenerative farming practices over the next five years – with individual grants available up to EUR 500,000.
World Food Programme (WFP)	WFP's Socio-economic Response and Recovery Programme Framework – 2020 WFP's Socio-economic Response and Recovery Programme Framework - 2020 | World Food Programme	The SERRF leverages WFP's extensive operational footprint, strategic partnerships, and its expertise in food and nutrition assistance. WFP is uniquely positioned to support governments and other local partners to counter the socio-economic impacts of the COVID-19 pandemic and build back better
World Health Organization (WHO)	Strategic Preparedness and Response Plan. WHO's Strategic Preparedness and Response Plan	The COVID-19 Strategic Preparedness and Response Plan (SPRP) for 2021 and accompanying documents is a package aimed at guiding the coordinated action that must be taken at national, regional, and global levels to overcome the ongoing challenges in the response to COVID-19, address inequities, and plot a course out of the pandemic.

Name of Institution	Project/Programme/Initiative	Brief explanation of the project /programme/ Initiative
World Trade Organization (WTO)	COVID-19: Agricultural Measures https://www.wto.org/english/tratop_e/covid19_e/ag_trade_measures_e.htm	A list on trade and trade-related measures taken in the context of the COVID-19 crisis targeting agricultural products, as defined in Annex 1 to the Agreement on Agriculture, has been compiled by the WTO Secretariat from official sources.
World Trade Organization (WTO)	Information Session on COVID-19 and Agriculture — Transparency for Food Security https://www.wto.org/english/tratop_e/agric_e/info_sess_28jul20_e.htm	At the request of the Cotton-4, the WTO Secretariat organized an information session on the impact of COVID-19 on cotton. The purpose of the session was to ensure a common understanding of the facts and figures about the impact of the COVID-19 pandemic on cotton value chains and to initiate a dialogue on possible solutions.
United Nations Children's Fund (UNICEF)	The Cotton On Group and the Cotton On Foundation https://www.unicef.org/partnerships/cotton-on	Cotton On joins forces with UNICEF to help to deliver the largest vaccination operation in history, supporting the delivery of COVID-19 vaccines to protect health-care workers, teachers and vulnerable people around the world. Through the Cotton on Foundation, the global retailer is helping to fund the equitable delivery and administration of 1 million doses of a WHO-approved COVID-19 vaccines, supplied by the Global COVAX Facility led by Gavi, WHO, CEPI and UNICEF.

Box 3: Better Cotton Adapts to COVID-19 Pandemic to Support Smallholder Farmers

More than 250 million people worldwide depend on cotton farming for their livelihoods, and the majority of cotton is cultivated by smallholder farmers in lower income countries. Farmers sit at the heart of Better Cotton's work, and Better Cotton has remained committed to improving livelihoods and supporting cotton farming communities throughout the COVID-19 pandemic.

The past year has brought serious health and safety risks for cotton farmers and workers, together with fluctuating market conditions, restriction of movement, and challenges with accessing farm inputs. The COVID crisis is adding to the threats that farming communities face in light of climate change – rural communities in low-income countries are particularly affected, but this is also true for millions of disadvantaged rural communities in India, one of Better Cotton's largest cotton producing countries.

To help keep farmers safe while also protecting and supporting their workers and partners, Better Cotton transformed the way they worked, so their on-the-ground partners could continue to implement the Better Cotton Standard System and build farmers' capacity to adopt better farming practices without risking their own or the farming communities' health and safety in the process.

Equipping their partners with tools and resources
Better Cotton continued to support their on-the-ground partners in developing and reinforcing the skills and expertise they need to help Better Cotton Farmers, prioritising online learning over in-person training.
To offer the Better Cotton programme without any cost to smallholder farmers, Better Cotton organises farmers into "Producer Units" with a designated staff of local Field Facilitators who travel the fields day in and day out to accompany smallholder farmers on their journey toward improving their farming practices. When in-person Field Facilitator training was hindered by the pandemic, it was essential to equip them with an alternative. Better Cotton developed two online learning systems for approximately 3,900 Field Facilitators. They launched the system in India in September 2020, with all Field Facilitators there now able to access videos in six languages on topics including soil health, pest management and the cotton growth cycle.

Continuing verification and licensing activities
Keeping Better Cotton verification activities going is vital to understanding whether farmers have grown their cotton in line with the Better Cotton standard and, ultimately, whether their cotton can be sold as Better Cotton. Therefore, Better Cotton sought to uphold their assurance processes – shifting to remote monitoring in light of travel restrictions and, in some cases, postponing activities that could potentially comprise people's health and wellbeing. They successfully piloted remote assurance processes in Mozambique in early 2020, integrating the lessons learnt into their guidance for Better Cotton Teams and third-party verifiers in other countries, including Egypt, Mali, India and Pakistan. These innovations exposed many rural smallholder farming communities to video conferencing for the first time, getting them accustomed to tools they will increasingly be able to make use of to access farming knowledge, information and data. Greater participation in these activities will allow them to fast-track their adoption of online tools for implementing better farming practices.

Leveraging the better Cotton farmers network to help keep communities safe
Better Cotton's mission is to support the adoption of better farming practices by providing on-the-ground training. Through exceptional circumstances of the pandemic, they had the opportunity to raise funds and leverage their network to distribute emergency funding to programme partners in India, Pakistan, Mozambique and Mali for additional support. The majority of the funding was used to provide information on preventing the virus and distributing face masks, soap and hand sanitisers to farmers, Field Facilitators and local communities. The masks were often made locally, including by women participating in groups designed to help them gain greater economic independence. Better cotton's local partners made remarkable efforts, investing both time and independent funds in support of the rural communities in which they operate. Learn more here [https://bettercotton.org/covid-19-hub/].

Looking ahead
Adapting to the COVID-19 pandemic has highlighted the need to accelerate the use of appropriate technology to share farmer knowledge and access farms for verification activities for Better Cotton. To make the most of these learnings, they continue to expand access to remote partner training and verification processes, monitoring the situation in production countries and considering how remote activities could provide inspiration for future developments.

Source: Better Cotton.

Box 4: Enhancing safe trade in plants and plant products: the ePhyto solution

- The current COVID-19 crisis constitutes an opportunity to permanently adopt solutions that improve business practices and advocate for an increased use of the ePhyto solution to achieve economies of scale, cost efficiencies and facilitate safe trade.

- The e-Phyto solution, developed through an innovative project funded by the Standards and Trade Development Facility (STDF)[1] and implemented by the International Plant Protection Convention (IPPC), has accelerated the transition towards electronic phytosanitary certificates that make trade between countries safer, faster and cheaper.

- Trade in plants and plant products has traditionally relied heavily on paper phytosanitary certificates to provide assurances that exported plants and plant products meet the phytosanitary requirements of importing countries. Launched in December 2016, the STDF-funded ePhyto project built and operationalized technical solutions allowing developing countries to exchange electronic phytosanitary certificates (ePhytos) globally[2].

- Specifically, the project developed a central server (referred to as the ePhyto "Hub") to facilitate the exchange of ePhytos between National Plant Protection Organizations (NPPOs). This helped address the difficulty for many countries to negotiate bilateral agreements and access multiple existing national systems operated mainly by developed countries.

- The project also developed a Generic ePhyto National System (GeNS) to enable the production, submission, and receipt of ePhytos. It provides a cost-effective system that can be implemented across a wide range of countries with limited capacities, mainly LDCs.

- So far, the e-Phyto solution's implementation has been a resoundingly successful. Becoming fully operational in July 2019, 92 countries were connected to the Hub in April 2021. Of these, 50 were regularly exchanging ePhytos. The GeNS system was tested in 30 countries and moved into full operation in eight countries.

- Of note, is the greater adoption and promise of ePhyto acceleration in African LDCs and lower middle-income countries such as Benin, Cameroon, Ghana, Kenya, Madagascar, Nigeria, Rwanda, Uganda and Zambia. These countries are either currently registered to the Hub and/or currently exchange ePhytos using the Hub and the GeNS system.

- African cotton producers will particularly benefit from the ePhyto solution as there is often a requirement of phytosanitary certificates for cotton given its potential to introduce regulated plant pests. While there still needs to be far greater adoption of the ePhyto solution by large-scale cotton producing countries in the region such as Burkina Faso, Chad and Mali, the current trend is very positive and points towards widespread registration to the Hub in a region that will benefit immensely from digitization.

- The benefits of the ePhyto solution are apparent. These include: (i) improvements in security, including the reduction of fraudulent certificates; (ii) reduction in costs and complexity of procedures; (iii) reduction in the use of paper resulting in a positive environmental impact; and (iv) increases in trade flows through border access for plants and plant products.

- On the other hand, the main challenges for developing countries in implementing the ePhyto solution are: (i) weaknesses in existing paper-based certification systems; (ii) inadequate legislative frameworks; (iii) limited public-private collaboration; and (iv) lack of political will.

- It is important to remember that the ePhyto solution will not solve systemic failures in national phytosanitary control systems. This technical solution is effective when countries already have an effective paper based phytosanitary certification systems, including functioning institutions and adequate legislation. It is thus important to first conduct a thorough analysis of current business processes before embarking into adopting the ePhyto solution.

1 See: https://www.standardsfacility.org/
2 See: https://www.standardsfacility.org/PG-504

Source: Standards and Trade Development Facility.

CONCLUSIONS

The COVID-19 pandemic and associated lockdowns have had a significant impact on the cotton sector in LDCs. Cotton is critical for development in these countries, but the COVID-19 pandemic has exacerbated other challenges the sector faces, including changing temperature and precipitation patterns associated with climate change. Revitalising the cotton sector in LDCs has the potential to generate employment, enhance productivity and competitiveness, and build resilience to future shocks.

What happened?

- Cotton producing LDCs were hit hard by the COVID-19 pandemic in 2020, but impacts were heterogeneous. In 2020, GDP per capita decreased by 2.1% on average in the reference group of LDCs, while food security indicators also worsened in several countries.

- Cotton production and exports from some LDCs declined sharply as a result. On average, the area planted with cotton in reference LDCs decreased by 16% and cotton production decreased by 18% from 2019 to 2020, with troughs reaching -79% in some countries. Other countries in the same group nonetheless managed to increase their production and yields slightly in the same period.

- These mixed agronomic performance results are mirrored in trade: while six countries experienced a sharp decline in their cotton exports from 2019 to 2020, others appear to have maintained previous export levels or even show improvements on those levels. In net terms, however, the reference group's cotton export value decreased by 34%.

- World cotton prices started declining in June 2018, falling from USD 2.15 per kg to USD 1.56 per kg in mid-2019: they then fell further to USD 1.40 per kg in April 2020 (with a sharp decline as of March 2020, when the pandemic was declared). ICAC data indicates that cotton prices fell particularly sharply from March 2020, before rising again in September 2020.

- Agriculture remains critical for livelihoods and rural development especially in Africa, employing more than 50% of the total labour force in the countries studied. Furthermore, among the millions of cotton farmers in the C-4 and other LDCs, an estimated 450,000 are women. Women also add value to cotton, for example by producing soap from cotton ginning waste.

What are the challenges and what can be done?

- The COVID-19 crisis highlighted the importance of ensuring the cotton sector is resilient to future shocks, including climate-related extreme weather events and changing temperature and precipitation patterns.

- An important part of doing so will involve ensuring that policy responses help boost productivity sustainably and improve competitiveness in cotton and the agricultural sector.

- Policy makers also need to consider how policy interventions will affect cotton value chains in their entirety, including the impact on the textile industry and other industries using cotton and cotton by-products.

- This includes ensuring that the competitiveness of the cotton sector creates synergies with other vibrant parts of these countries' economies, including the services sector.

- More broadly, a critical policy challenge for policy makers will be to situate the cotton sector within a broad vision of economic development for both rural and urban areas.

- Doing so should be complementary to global efforts at the WTO to reduce trade distortions, including those associated with trade distorting domestic support to cotton, and to eliminate various barriers to trade that hamper development in African cotton-producing LDCs.

- C-4 countries are among those that have most effectively weathered the COVID-19 storm. This should send important signals of confidence to international investors and donors.

- However, even within the C-4 there have been different experiences, policy responses, and trade and market trajectories. This heterogeneity across LDCs means there are plenty of opportunities to learn lessons from success stories as governments and development partners lay the foundations for the recovery.

ANNEXES

Annex 1 - WTO-ICAC Survey

Responses: 104 in total, of which from LDCs:

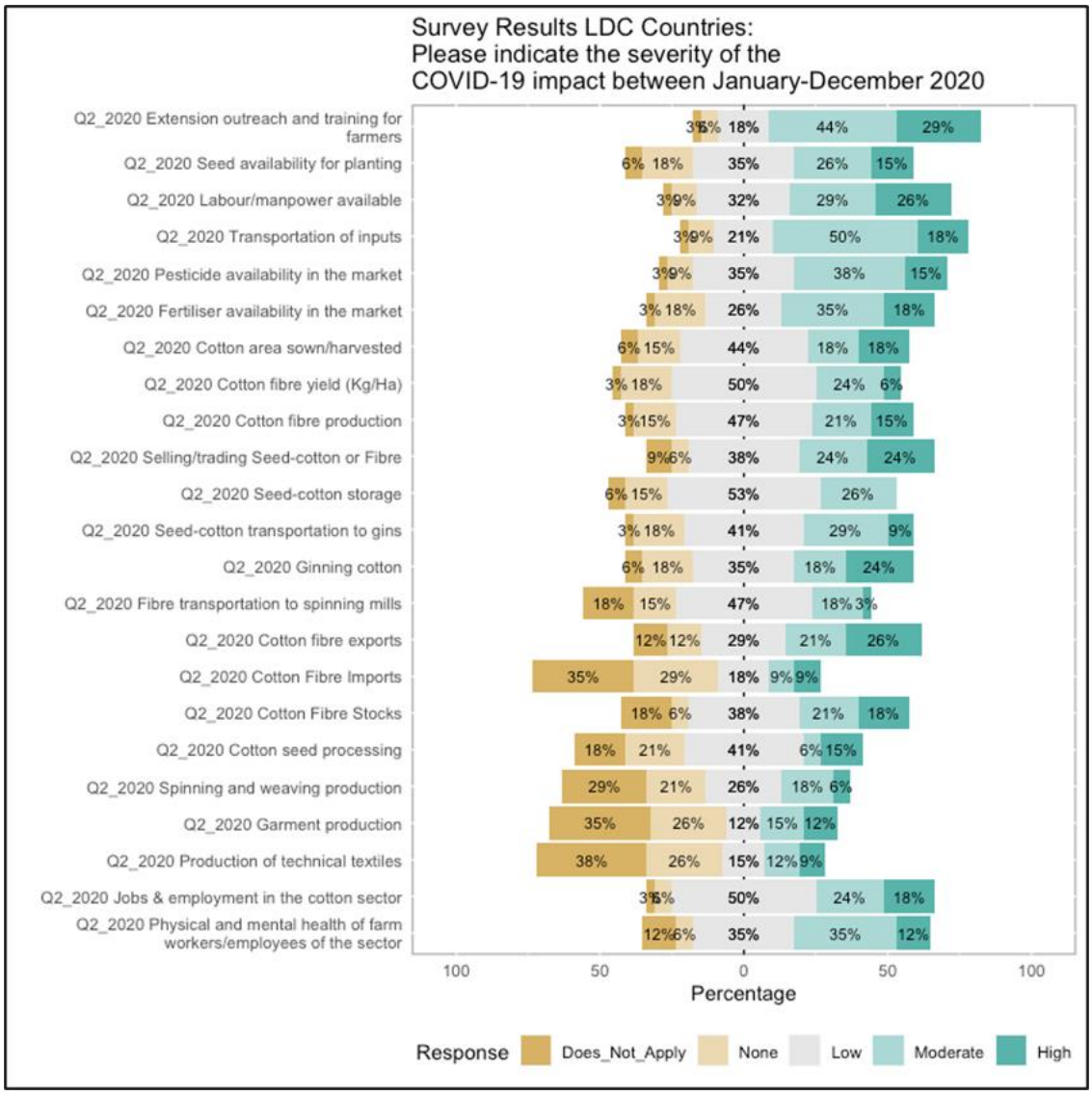
Total responses from LDCs	29
Afrique de l'Ouest	1
Angola	1
Bangladesh	1
Benin	7
Burkina Faso	4
Mali	6
Mozambique	1
Tanzania	2
Zambia	6

Summary of the survey results for 2020 and 2021 (calendar years)

Question 2 of the survey was focused on the impacts of the COVID-19 virus on various aspects of the cotton sector during the calendar year of 2020. Figure 22 displays a summary plot of the results for the LDC's. From this plot it is clear that all sectors of the cotton industry were impacted by COVID-19 on some level. The areas most heavily impacted (as mentioned above) were in cotton exports and the availability and transport of production inputs. In the LDC's reporting, 76% of respondents noted at least some level of impact on cotton export, while 47% of the total respondents noted that cotton fibre exports were impacted at a moderate to high level. Seed availability was impacted with 41% of respondents indicating moderate to high impact. However, fertiliser and pesticide inputs were affected more heavily with 53% reporting moderate to high impact for both inputs. Interestingly, transport of production inputs were reported to have affected the LDC's at a moderate to high level by 68% of respondents.

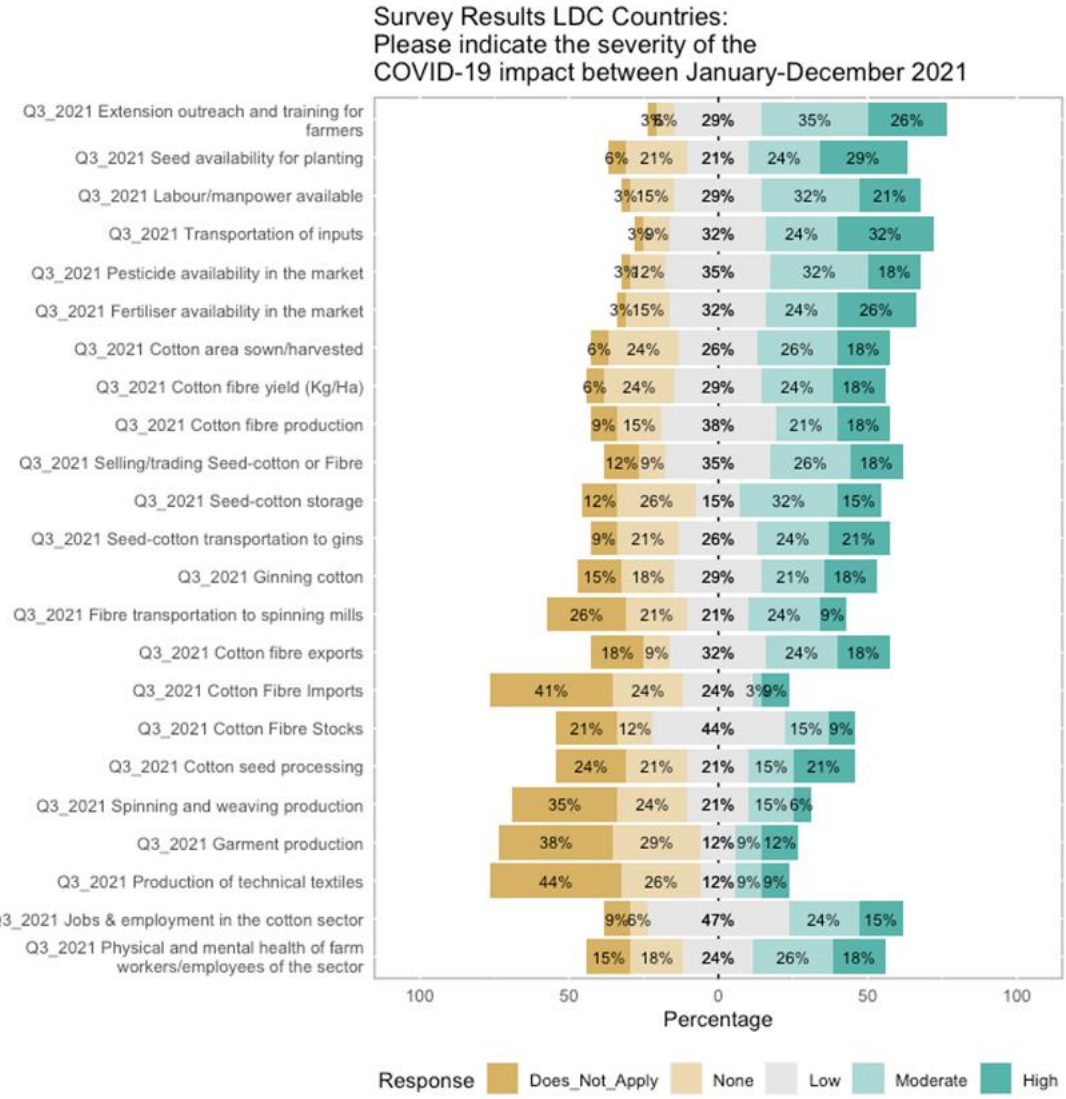
Question 3 of the survey was focused on the impacts of the COVID-19 virus on various aspects of the cotton sector during the calendar year of 2021. Figure 23 displays a summary plot of the results for the LDC's. We can see a slight downward trend in the affects of COVID-19 from 2020 to 2021 but the impacts are still substantial. The impact on cotton fibre export has moved from 47% of respondents noting moderate to high impact in 2020 to 42% in 2021. The availability of seed seems to have become more problematic in 2021 with 53% of respondents indicating moderate to high impact, an increase of 12% over 2020. Impacts on fertiliser and pesticide inputs decreased from 53% in 2020 to 50% of respondents in 2021 reporting moderate to high impact. The severe impact on the transportation of inputs has decreased from 68% in 2020 to 56% of respondents reporting moderate to high impact in 2021.

Figure 22: Summary plot of survey results for the LDCs (survey question 2)



Note: LDC countries reporting in the survey: Angola, Bangladesh, Benin, Burkina Faso, Ethiopia, Mali, Mozambique, Tanzania, Zambia.

Figure 23: Summary plot of survey results for the LDCs (survey question 3)

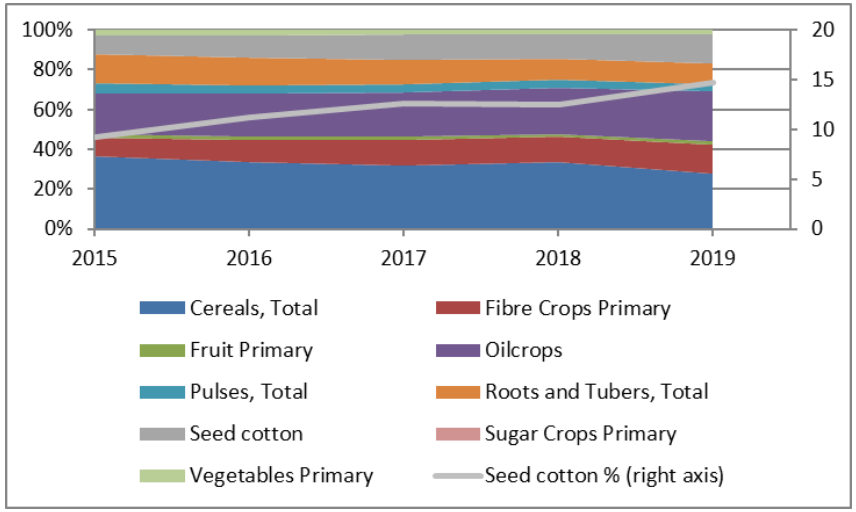


Note: LDC countries reporting in the survey: Angola, Bangladesh, Benin, Burkina Faso, Ethiopia, Mali, Mozambique, Tanzania, Zambia.

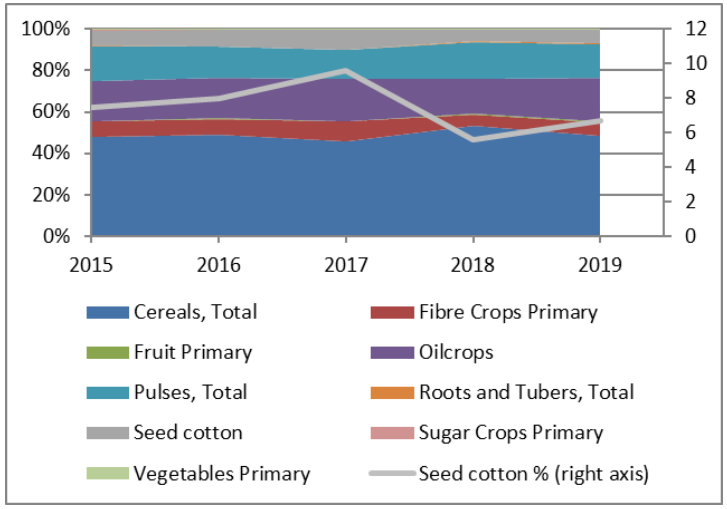
Annex 2 - Share of various agricultural products including cotton in total agricultural crops harvested area

Share in percentage of various agricultural products including cotton in total agricultural crops harvested area

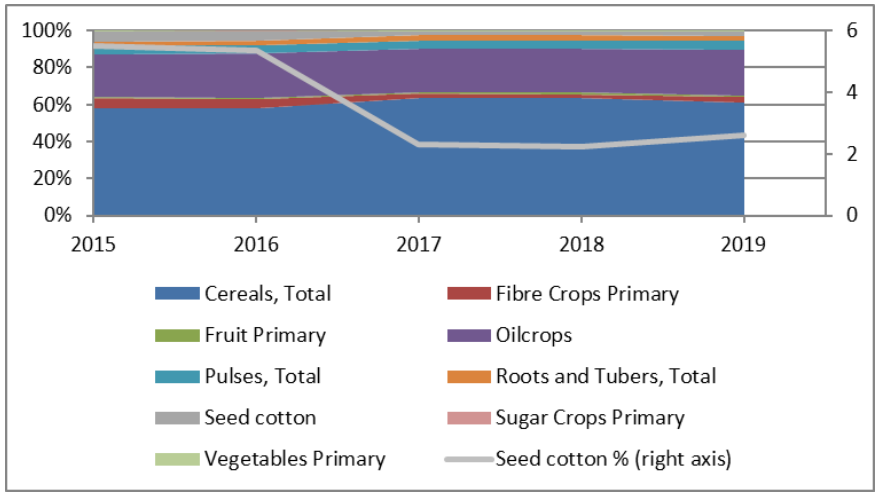
Benin



Burkina Faso



Chad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2015
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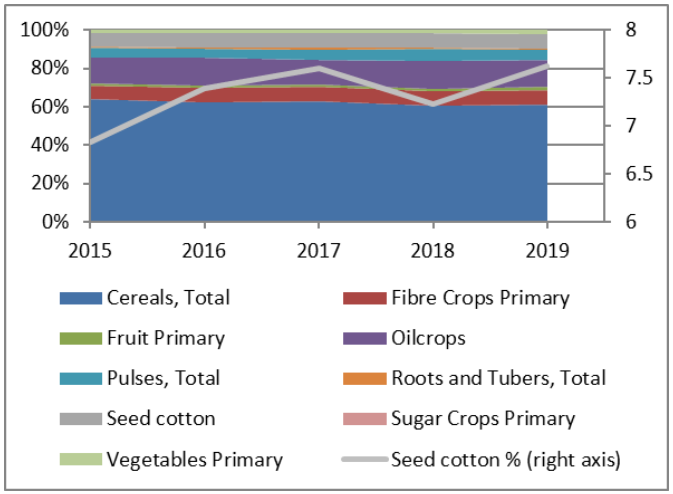
Cereals, Total
Fibre Crops Primary
Fruit Primary
Oilcrops
Pulses, Total
Roots and Tubers, Total
Seed cotton
Sugar Crops Primary
Vegetables Primary
Seed cotton % (right axis)

Mali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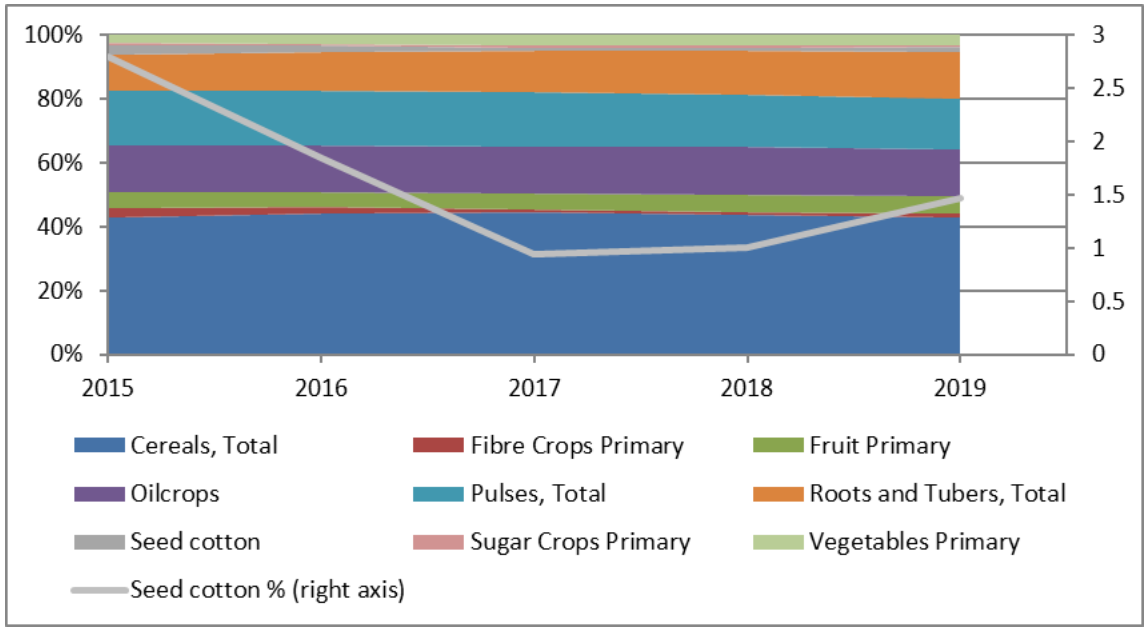
Cereals, Total
Fibre Crops Primary
Fruit Primary
Oilcrops
Pulses, Total
Roots and Tubers, Total
Seed cotton
Sugar Crops Primary
Vegetables Primary
Seed cotton % (right axis)

Malawi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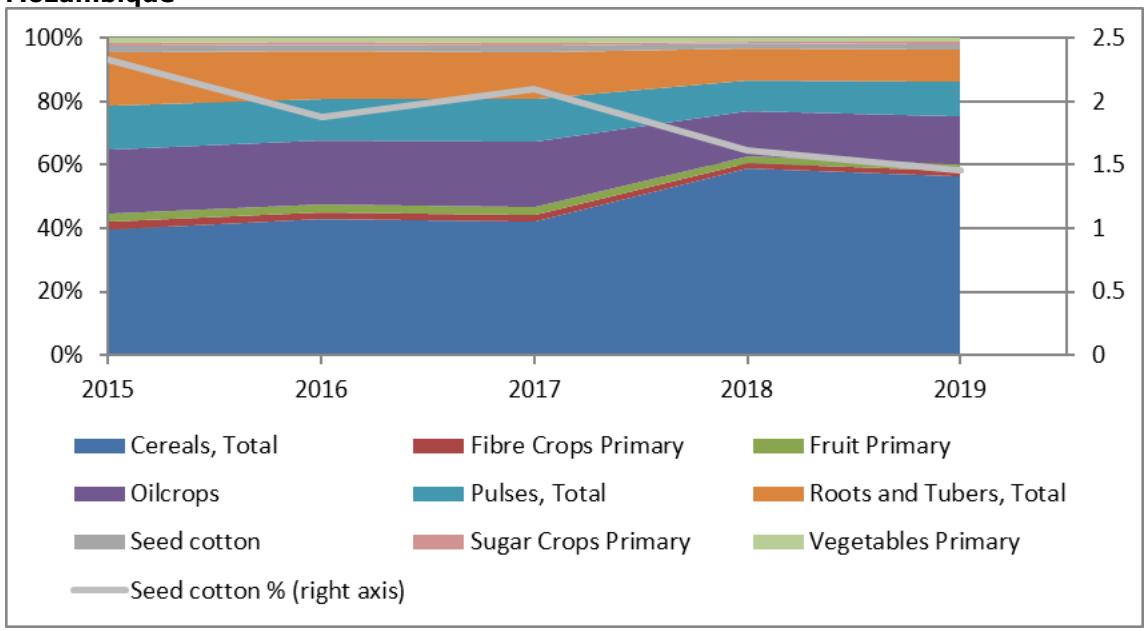
Fibre Crops Primary
Fruit Primary
Oilcrops
Pulses, Total
Roots and Tubers, Total
Seed cotton
Sugar Crops Primary
Vegetables Primary
Seed cotton % (right axis)

Mozambique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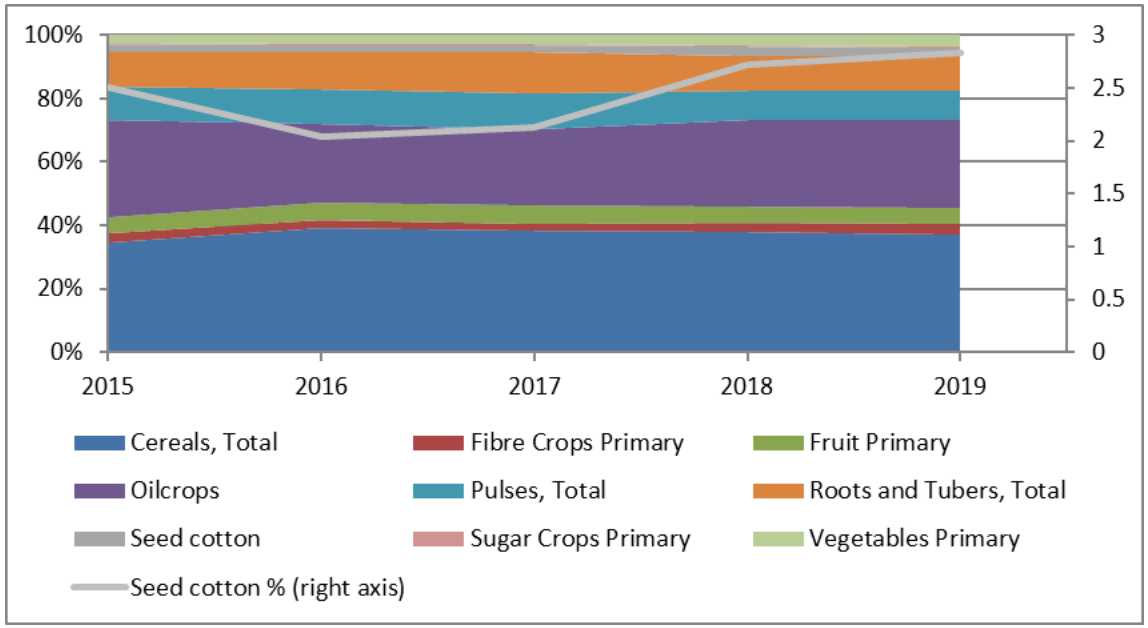
Fibre Crops Primary
Fruit Primary
Oilcrops
Pulses, Total
Roots and Tubers, Total
Seed cotton
Sugar Crops Primary
Vegetables Primary
Seed cotton % (right axis)

Tanzania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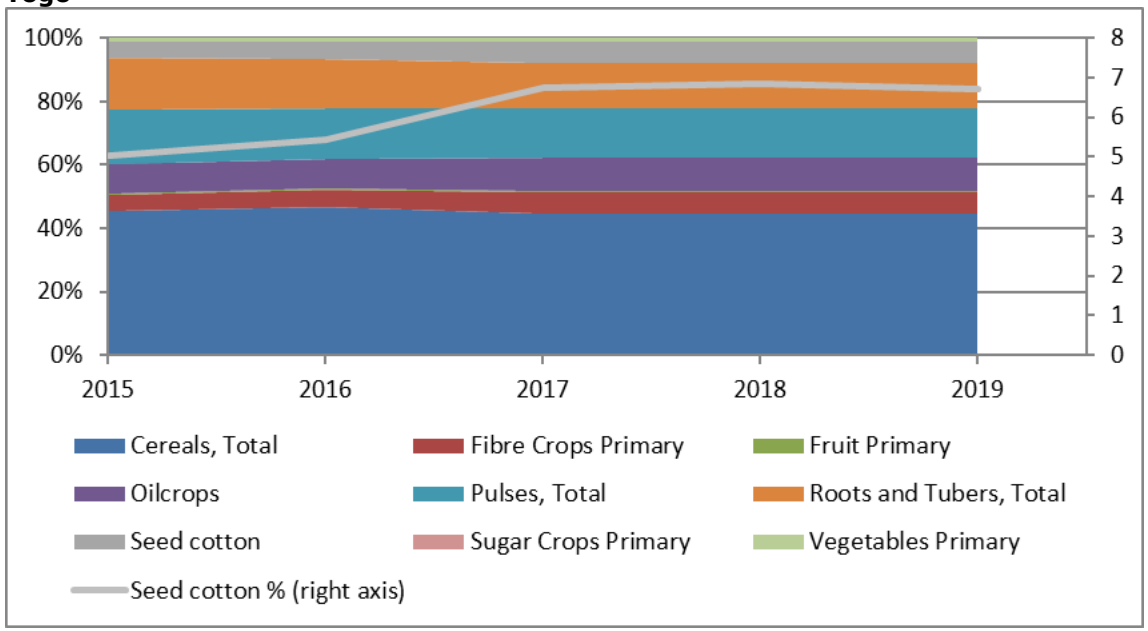
Cereals, Total
Fibre Crops Primary
Fruit Primary
Oilcrops
Pulses, Total
Roots and Tubers, Total
Seed cotton
Sugar Crops Primary
Vegetables Primary
Seed cotton % (right axis)

Togo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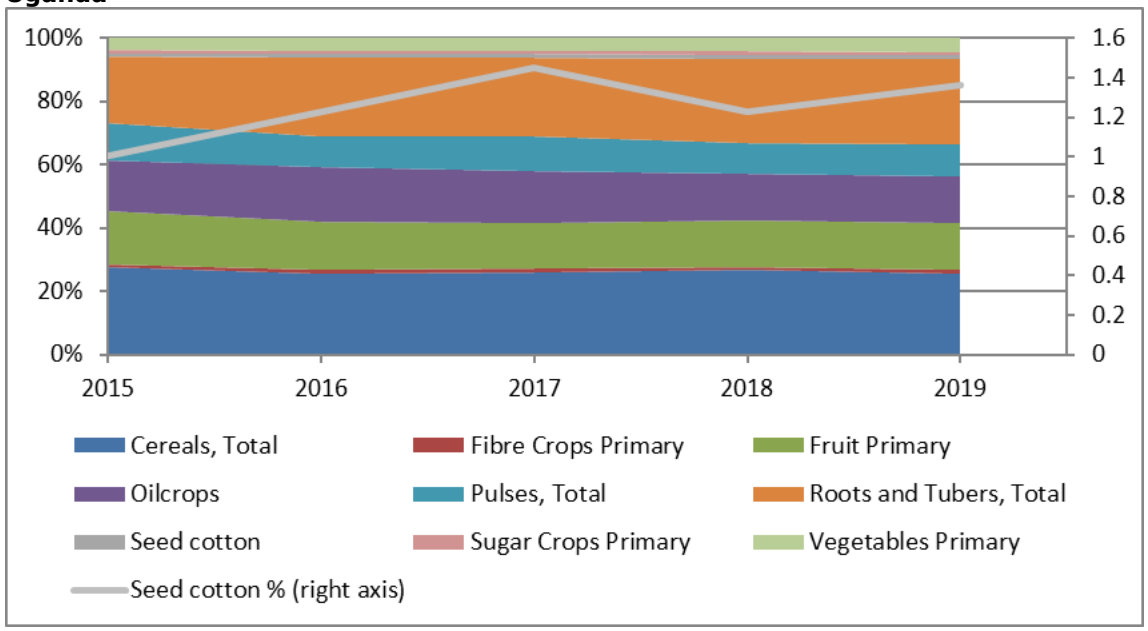
Cereals, Total
Fibre Crops Primary
Fruit Primary
Oilcrops
Pulses, Total
Roots and Tubers, Total
Seed cotton
Sugar Crops Primary
Vegetables Primary
Seed cotton % (right axis)

Uganda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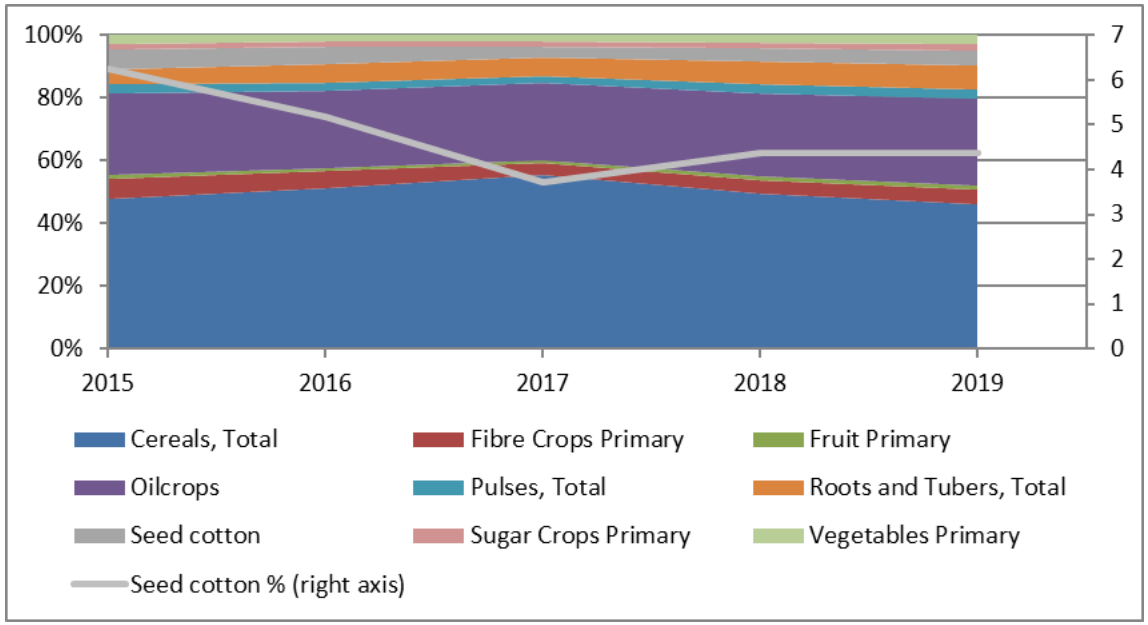
2019
Cereals, Total
Fibre Crops Primary
Fruit Primary
Oilcrops
Pulses, Total
Roots and Tubers, Total
Seed cotton
Sugar Crops Primary
Vegetables Primary
Seed cotton % (right axis)

Zambia



Source: FAO.
http://www.fao.org/faostat/en/#compare
http://www.fao.org/economic/the-statistics-division-ess/methodology/methodology-systems/crops-statistics-concepts-definitions-and-classifications/en/.

Authors' calculations.

Annex 3 - Excerpt from the May 2021 WTO Evolving Table

WTO DIRECTOR-GENERAL'S EVOLVING TABLE ON COTTON DEVELOPMENT ASSISTANCE PART I – ACTIVE COTTON SPECIFIC DEVELOPMENT ASSISTANCE[a]					
DEVELOPMENT COMMUNITY	**Programmes/Projects/Activities**	**Value**	**Operational Status[b]**	**Disbursement Status[c]**	**Beneficiaries**
BILATERAL DONORS					
EUROPEAN UNION	Support for changes in the Cameroon cotton basin-ABC	EUR 9,400,000	PFS 2020-2025		Cameroon
FRANCE	Support to integrated management of agricultural resources (ASGIRAP) – C2D with a specific component for the enhancement of productivity in the cotton sector	EUR 10,000,000	IP 2014-2020	EUR 5,386,911	Cameroon
	Support project for agro-ecological transition in the cotton zone	EUR 18,500,000	IP 2019-2022	0	Mali
	Agro-ecological transition project in cotton zones 2	EUR 10,000,000	IP 2020-2024	0	Benin
GERMANY	Support for changes in the Cameroon Cotton Basin - Rural Development Support Program (ABC-PADER) with the EU	EUR 10,000,000	IP 2020-2024		Cameroon
	Global Programme Sustainability and Value Added in the Agricultural Supply Chains-Cotton	EUR 11,959,000	IP 2019-2023	-	Burkina Faso, Cameroon, India, Uzbekistan
	Sector Programme Sustainable Agricultural Value Chains and Standards	EUR 1,000,000	IP 2020-2023		Western; Central and Eastern African Countries
	Initiative spéciale Formation et emploi, valeur ajoutée de la chaine du textile et production du coton bio	EUR 425,000	IP 2020-2021	EUR 425,000	Senegal
ITALY	The Egyptian Cotton Project (implemented by UNIDO)	EUR 1,500,000	IP 2017-21	EUR 1,450,000	Egypt
	The Egyptian Cotton Project – II Phase (implemented by UNIDO)	EUR 1,500,000	PFS		Egypt
NETHERLANDS	Initiative Sustainable Trade (IDH): Cotton Value Chain Development	EUR 16,500,000	IP 2016-20	EUR 8,792,538	China, India, Mali, Mozambique, Pakistan, Senegal, Tajikistan, Turkey
SWEDEN	Conservation Cotton TechnoServe Programme: Support to farmers in Northern Uganda to become efficient producers of cotton and staple food crops (in cooperation with jeans manufacturer Edun)	EUR 256,213	IP 2014-15		Uganda
SWITZERLAND	Initiative Sustainable Trade (IDH): Cotton Value Chain Development	USD 780,000	IP 2016-20	-	Africa, Central Asia, China
	Better Cotton Initiative (BCI): The Delta Project "Bridging the Gap in Measuring Real-Time Sustainability Performance"	USD 1,103,835	IP 2018-21	-	Global

WTO DIRECTOR-GENERAL'S EVOLVING TABLE ON COTTON DEVELOPMENT ASSISTANCE PART I – ACTIVE COTTON SPECIFIC DEVELOPMENT ASSISTANCE[a]					
DEVELOPMENT COMMUNITY	**Programmes/Projects/Activities**	**Value**	**Operational Status[b]**	**Disbursement Status[c]**	**Beneficiaries**
UNITED STATES	West African Economic and Monetary Union (UEMOA) Cotton Competitiveness (UCC) Activity	USD 1,200,000	IP 2016-2020	USD 805,000	Benin, Burkina Faso, Chad, Mali, with results impacting all cotton-growing member States of UEMOA and ECOWAS
SOUTH-SOUTH PARTNER					
BRAZIL	Programme for the development of the cotton sector in Africa (Benin, Burkina Faso, Chad, Mali, Togo, Mozambique, Malawi, Kenia, Tanzania)	USD 34,250,195	IP 2012-2022	USD 20,926,570	Cotton-producing countries in Africa (15 countries)
	Strengthening of the cotton sector through south-south cooperation	USD 16,408,154	IP 2012-2024	USD 12,556,813	Argentina, Bolivia, Colombia, Ecuador, Haiti, Paraguay and Peru
	South-South cooperation for the promotion of decent work in cotton-producing countries in Africa and Latin America	USD 6,946,395	IP 2015-2021	USD 3,945,645	Mali, Mozambique, Tanzania, Paraguay and Peru
	Support to small-scale cotton producers and public institutions in selected African countries in the production and commercialization of cotton by-products (such as oil and cottonseed meal) and products from other crops combined to cotton production (such as corn, sorghum and bean) - "Beyond Cotton" project	USD 7,420,630	IP 2017-2023	USD 1,950,447	Benin, Kenya, Mozambique and Tanzania
	Improved Effectiveness and Transparency of Pesticide Registration Systems in Latin America and Caribbean Countries.	USD 6,231,735	IP 2019-2023	USD 396,685	Brazil, Colombia and Paraguay
INDIA	Cotton Technical Assistance Programme	USD 2,848,809	IP 2011-2018	FD	Benin, Burkina Faso, Chad, Malawi, Nigeria, Uganda
MULTILATERAL AGENCY					
CONVENTION ON BIOLOGICAL DIVERSITY (CBD)	+Seeds: More Biodiversity, More Sustainable Development, More Cotton. (Implemented by ALTER VIDA Paraguay, with FAO Technical support)	USD 26,100	IP 2020–2020	0	Argentina; Bolivia, Plurinational State of; Brazil; Colombia; Ecuador; Paraguay and Peru

WTO DIRECTOR-GENERAL'S EVOLVING TABLE ON COTTON DEVELOPMENT ASSISTANCE PART I – ACTIVE COTTON SPECIFIC DEVELOPMENT ASSISTANCE[a]					
DEVELOPMENT COMMUNITY	**Programmes/Projects/Activities**	**Value**	**Operational Status[b]**	**Disbursement Status[c]**	**Beneficiaries**
ENHANCED INTEGRATED FRAMEWORK (EIF)	The Cotton by-Products Project: Unlocking the Hidden Value (Implemented by ITC, UNCTAD and WTO)	USD 204,694	IP 2019–2020	USD 96,580	Benin, Burkina Faso, Chad, Mali, Mozambique, Tanzania, Uganda, Zambia
	The Cotton by-Products Project: Unlocking the Hidden Value (Implemented by ITC, UNCTAD and WTO)	USD 100,336	IP 2021	0	Malawi, Togo
FAO	Competitiveness and sustainable strengthening of the cotton sector through the reinforcement of cotton farmers' capacities in the Integrated Production and Pest Management	USD 3,315,650	IP 2012-16	USD 3,000,000	Burkina Faso, Mali, Senegal, Tanzania, Zambia
ITC	Supporting Indian Trade and Investment for Africa	USD 2,000,000	IP 2015-20		Ethiopia, Kenya, Tanzania, Uganda
OIC Countries – ITFC International Islamic Trade Finance Corporation)	The Egyptian Cotton Project (implemented by UNIDO)	USD 75,000	IP 2021	USD 0	Egypt

a Part I contains development assistance provided specifically to the cotton sector.
b Five operational implementation categories exist: PFS: project formulation stage; IP: in progress; C: completed; S: suspended; D: discontinued.
c FD reflects full disbursement.

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