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# The impact of COVID-19 on industries without smokestacks in Kenya

The case of horticulture, ICT, and  
tourism sectors

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## Abstract

COVID-19 has had not only far-reaching implications on the Kenya economy as a whole but also varied short-term and long-term impacts on various sectors. This policy brief provides an early assessment of the effects of the COVID-19 pandemic on the selected industries without smokestacks (IWOSS) that is horticulture, information and communication technologies (ICT), and tourism. Kenya's economic growth in the pre-COVID-19 period was robust and resilient, expanding by 6.3 percent in 2018 and 5.4 percent in 2019. In the absence of COVID-19, the economy was projected to grow by about 6.2 percent in 2020/21. Following the confirmation of the first case of COVID-19 pandemic in March 2020, the Kenyan economy contracted and the IMF estimated that Kenya grew by -0.1 percent in 2020 relative, to a growth of 5.4 percent in 2019. The service sector was the hardest hit. However, within IWOSS, besides tourism and trade and repairs, all the other IWOSS sectors' share of employment expanded during the COVID period. ICT sector remained resilient and has demonstrated to be an important enabler for firm operations across sectors – through promoting business continuity amid the pandemic. In Kenya, ICT experienced a one-off shock in the March/April 2020 period and recovered strongly thereafter. Horticulture and agriculture have remained to be relatively resilient even with COVID-19 enabling the Country to remain competitive in the global market.

As part of our recommendations, in horticulture, the country will need to: ameliorate the possible effects of the dynamic non-tariff trade barriers (NTTBs) by supporting continuous skills transfer and extension services to local producers, including small-scale farmers; enhance investments in supportive infrastructure, especially feeder roads and cold chain infrastructure such as “cold” collection centers and pack houses; open up more options for transport—especially maritime transport for exports—by investing in a dedicated maritime line to key export destinations. For the ICT sector, key intervention encompass: fast tracking investment in complementary services such as access to electricity and internet connectivity; supporting development of digital skills partly by scaling up digital innovations in education and skills development sectors; and strengthening the ICT legal and policy framework by fast track an all-encompassing policy for E-commerce. Tourism, which was worst hit in the overall economy, should be revived through enhanced innovations and adoption of emerging technologies along the tourism value chain; quickly adopt and enforce COVID-19 containment protocols; promote and/or incentivize domestic tourism; and put in place social protection programs to cushion employees in the sector.

## 1. Introduction

The purpose of this brief is to provide an early assessment of the effect of the COVID-19 pandemic on the select industries without smokestacks (IWOSS) featured into the Kenya case study published in July 2021—on horticulture, information and communication technologies (ICT), and tourism. This brief, which examines both the short-term and long-term impacts of the initial wave of the pandemic, is organized into four parts, including this introduction. Section 2 discusses the effects of the pandemic on the macroeconomy at the global, regional, and local levels as well as the broad implications for the three broad sectors of agriculture, industry, and services. Section 3 focuses on the effects of COVID-19 on IWOSS sectors while the last section focuses on implications for policy.

In Kenya, the first case of COVID-19 was confirmed on March 13, 2020. By March 25, 2021, there were 104,500 confirmed COVID-19 cases in the country, constituting 0.09 percent of the global case load. The emergence of the virus in early 2020 was followed by strict containment measures aimed at curbing the spread of the virus. These measures included movement restrictions (including suspension of travel into Kenya from countries with COVID cases, imposition of curfew hours, restrictions in inter-county movement), suspension of in-person learning in all education institutions, and work-from-home directives. Beginning April 6, 2020, there was an introduction of cessation of all movement by road, rail, or air in and out of the worst-hit counties, including the Nairobi Metropolitan Area and the counties of Kilifi, Kwale, and Mombasa. As a third wave hit in April 2021, the government again ordered a cessation of movement in and out of the five high-risk counties of Nairobi, Kiambu, Kajiado, Nakuru, and Machakos. These measures led to disruptions in the supply systems that serve households and firms across the country. Moreover, the imposed measures had adverse effects on the IWOSS and other economic sectors more broadly.

In response to the economic shock, the government put in place monetary and fiscal measures to cushion the impact on vulnerable groups and support liquidity management including tax relief for low-income earners (i.e., those with a monthly salary of KSh 24,000 (\$225) and below), a reduction in the value-added tax (VAT) rates, and lowering of the central bank rate and the cash reserve ratio. Further, in mid-May 2020, the government announced the introduction of economic stimulus program amounting to KSh 53.7 billion (\$503 million). The program included labor-intensive public works programs; investments in infrastructure, health, and education; and support to farmers through supply of farm inputs by the government.

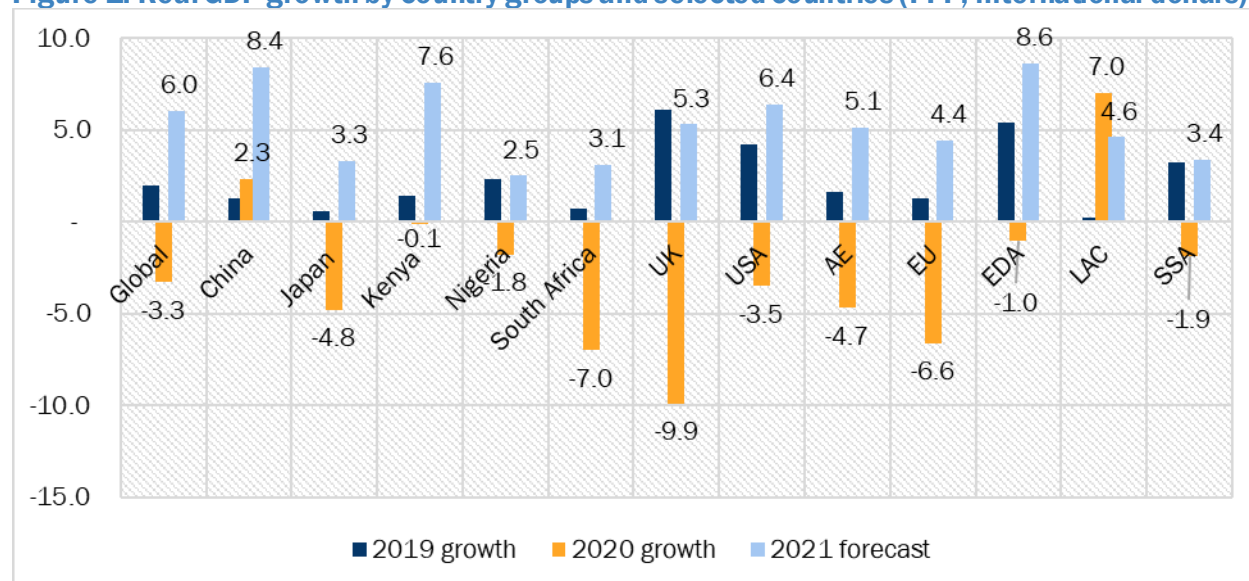
## 2. Effects of the pandemic at global, regional, and local levels

### 2.1 Global and regional implications

At the global level, the IMF projected that the annual gross domestic product (GDP) will drop by 3.3 percent in 2020, from a real growth of 2.8 percent in 2019 because of the COVID-19 pandemic (IMF, 2021). Growth in the second quarter of 2020 was particularly adversely affected, and the global GDP was negative, an outcome attributable to the disruptions in global supply and value chains, and the adverse effects of COVID-19 on nearly all sectors, particularly tourism, financial markets, and overall investment. All the major regional groups including the European Union (EU), emerging and developing Asia (EDA), Latin America and the Caribbean (LAC) and sub-Saharan Africa (SSA) are projected to experience negative growth in purchasing power parity terms (Figure 1). On a more positive note, the 2021 forecast suggests a global recovery for all regional groups including sub-Saharan Africa, even with the ongoing second and third COVID-19 waves sweeping across the globe (IMF, 2021).

Individual country experiences have differed, with some having negative economic growth and others positive but lower economic growth rates. As examples, Japan, United Kingdom, and the United States experienced negative growth in 2020 (Figure 1). China was one of the few countries with positive real economic growth in 2020. Kenya was estimated to have had a growth of -0.1 percent in 2020 relative to a growth of 5.4 percent in 2019.

**Figure 1: Real GDP growth by country groups and selected countries (PPP; international dollars)**



Source: International Monetary Fund, World Economic Outlook Database, April 2021.

Note: AE=advanced economies, UK=United Kingdom, USA=United States of America; EU=European Union; EDA=Emerging and Developing Asia, LAC=Latin America and the Caribbean, SSA=Sub-Saharan Africa.

The experience of African countries was mixed with the major economies of Nigeria and South Africa estimated to have negative growth in 2020. Countries with positive growth rates were, nevertheless, projected to have lower growth rate than in 2019. The lower economic growth rates were precipitated by restrictions on movement (imposition of curfews and ban on travel) and an overall decline in investment that led to job losses in both the formal and informal sectors.

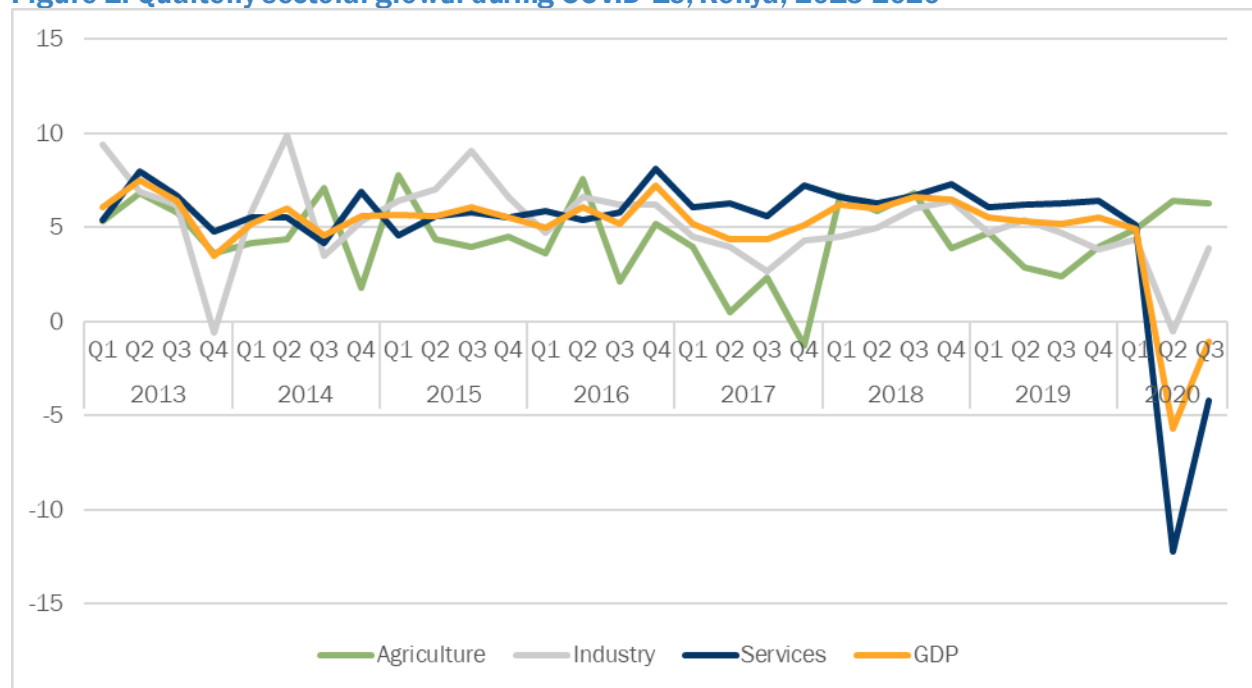
## 2.2 Impact on economic growth and overall employment in Kenya

Kenya's economic growth in the pre-COVID-19 period was robust and resilient, expanding by 6.3 percent in 2018 and 5.4 percent in 2019 (Budget Review and Outlook Paper, BRPOP, 2019). In the absence of COVID-19, the economy was projected to grow by about 6.2 percent in 2020/21 (BRPOP, 2019). Following the confirmation of the first case of COVID-19 pandemic, the projection was revised downwards to 2.6 percent in 2020 and 5.3 percent in 2021 (BRPOP, 2020).

There was evidence of contraction of the Kenyan economy in the first half of 2020, with the service sector being the hardest hit (Figure 2). In the first quarter of 2020, the economy registered reduced growth, at 4.9 percent compared to the 5.5 percent growth recorded in the same quarter of 2019. In the second quarter of 2020, there was a contraction of 5.5 percent, translating to 0.4 percent growth for the first half of 2020. The decline was linked to a negative growth of 12.2 percent in the service sector—the first contraction in services sector for at least a decade. Industry contracted by 0.5 percent in the second quarter while agriculture grew by 6.4 percent. We attribute the contraction in the service and industrial sectors to the containment measures resulting from the COVID-19 pandemic which included movement restrictions like border closures and a ban on international travel. In contrast, we link the observed growth in the agricultural sector to various measures including exclusion of restrictions on transport of food supplies and increased demand at household level. Moreover, the

government also acted quickly to ensure international transport of cargo was uninterrupted, which ensured that agricultural exports could reach the destination markets.

**Figure 2: Quarterly sectoral growth during COVID-19, Kenya, 2013-2020**



Source: KNBS 2021, Quarterly Gross Domestic Report

Within the services sector, tourism (proxied by accommodation and food services) was heavily affected: The tourism industry contracted by 83.3 percent in the second quarter of 2020 compared to a growth of 6.0 percent in the same quarter of 2019. We can link this poor performance to international and domestic travel restrictions, imposition of curfew hours, and closure of restaurants and hotels.

Before the outbreak of the pandemic, economic growth prospects for 2020 were robust, with the National Treasury projecting a growth of 6.3 percent. The growth outlook for 2020 has since been revised to 0.6 percent in Kenya’s Budget Policy Statement (2021) following receipt of more indicators. In 2021, projections suggest an economic recovery from an average of 2.6 percent in 2020 to 5.3 percent in 2021. More specifically, the Kenya Economic Report (KER) (forthcoming) projects a gradual recovery from 1.7 percent in 2020 to 3.1 percent in 2021, whereas World Bank projected a rapid economic recovery from a contraction of 1 percent to growth of 6.9 percent over the same period (Table 1). However, the economic outlook is subject to substantial uncertainty. The projected recovery assumes that the pandemic would have eased by the end of 2020 and that economic activities in the country and those of trading partners would have resumed to normalcy in 2021. Further, it was assumed that government fiscal and monetary interventions would be effective and would achieve the intended objectives. A marginal recovery was confirmed during the third quarter of 2020 (Figure 2), following the easing of containment measures with the broad sectors of agriculture, industry, and services all recording improved performance.

With respect to employment, it is estimated that 43.2 percent of persons above age 18 lost their jobs by the first week of May 2020 (KNBS, 2020). Table 1 summarizes the indicators of the Kenyan labor market for at least four quarters before COVID-19 and the three quarters after the official announcement of the virus’ presence in Kenya.

The number of employed persons in Kenya fell by 5.7 percent in Quarter 1 of 2020 relative to Quarter 1 of 2019 and further to the lowest level for the entire period in Quarter 2 (of 15.9 million) (Table 1). The relatively lower employment numbers coincided with the most restrictive containment measures implemented in March through June 2020. In the third quarter of 2020, there was evidence of recovery as the number of employed persons increased. We argue that the onset of the recovery was indicative of the potentially transitory impacts of COVID-19 on employment.

**Table 1: Selected key labor market indicators**

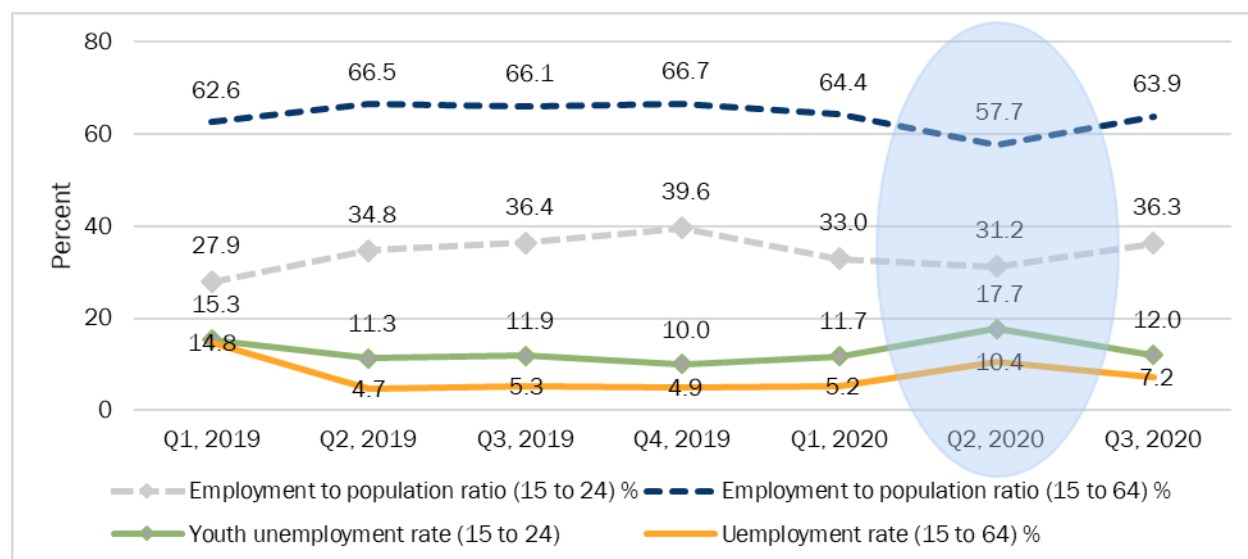
Sector	2019				2020		
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3
Population (15 to 64) millions	26.59	26.77	26.95	27.13	27.31	27.49	27.67
Employed (millions)	16.64	17.79	17.82	18.10	17.57	15.87	17.67
Employment to population ratio (EPR) %	62.6	66.5	66.1	66.7	64.4	57.7	63.9
Unemployed ('000)	1,091.5	878.5	994.6	929.6	961.7	1,841.9	1,368.9
Unemployment rate, %	14.8	4.7	5.3	4.9	5.2	10.4	7.2
Not in the labor force (thousands)	8,866.6	8,103.2	8,140.0	8,097.1	8,759.7	9,774.7	8,622.4
Labor force participation rate (LFPR) (%)	66.7	69.7	69.8	70.2	67.9	64.4	68.8
LFPR (20 to 24) (%)	53.9	57.2	56.9	56.1	51.2	53.0	55.5
Youth NEET (15 to 19) (%)	10.7	7.3	7.4	6.5	9.6	11.8	8.4
Youth NEET (20 to 24) (%)	19.4	18.2	19.6	20.5	25.5	25.1	24.0

Note: NEET = not in education, employment, or training.  
Source: KNBS 2020b, Quarterly Labour Force Report, various.

Correspondingly, the employment-to-population ratio (EPR), which provides information on the ability of the economy to create employment, was lower in Quarter 2 of 2020 (57.7 percent) relative to 66.5 percent in Quarter 2 of 2019 (Table 1). Although the EPR increased in Quarter 3 of 2020 (to 63.9 percent) it was still lower than the EPR of 66.1 percent for the corresponding quarter in 2019. The labor force participation rate (LFPR) of the working-age group (15 to 64) was lowest in quarter 2 of 2020, while the LFPR of the youth aged 15 to 19 and 20 to 24, respectively, were highest in the quarters spanning January to September 2020. Notably, the jump in the number of unemployed youth during this time is in all likelihood a result of many more youths entering the labor force following the closure of in-person learning in all learning institutions for most of 2020.

Overall, the number of unemployed persons was highest in Quarter 2 of 2020, a result of the impact on COVID-19 on employment opportunities (Table 1). The unemployment rate was higher for the youth (15 to 24) than the working-age group throughout the period under review. In the second quarter of 2020, 17.7 percent of the youth were unemployed relative to 10.4 percent of the working-age group. The relative performance for the same quarter a year earlier was 11.3 percent for the youth and 4.7 percent for the working-age group (Figure 3).

**Figure 3: Selected key labor market indicators for the youth and the working-age group**



Data source: KNBS 2020b, Quarterly Labour Force Report, various.

### 3. The impact of COVID-19 on output and employment in IWOSS sectors

The overall impact of the COVID-19 pandemic on the economy may hide its varied impacts at the sectoral level; an examination from a sectoral perspective provides a more complete picture. Building on the recent IWOSS case study, the focus is on selected three IWOSS sectors of horticulture, ICT, and tourism. This subsection weaves together what can be gleaned from secondary sources and from projections by KIPPRA. The projections were, to a large extent, implemented using the Jobs Structure Tool developed by the World Bank (version October 3, 2019). The tool uses data from the WDI database, but in our case we complemented that data using “manual” data from the Kenya National Bureau of Statistics (KNBS).

The overall outlook of the youth employment projections is summarized in Table 2. The overall message is that, with respect to creation of youth employment in the context of a pandemic, IWOSS sectors have been more resilient. IWOSS sectors are projected to account for a higher share (38 percent) of total youth employment in 2021 for a COVID scenario relative to 35 percent for a no COVID scenario. The manufacturing share is projected to increase by a 0.1 percentage point with COVID while the share of other non-IWOSS are projected to decline. Within IWOSS, besides tourism and trade and repairs, all the other IWOSS sectors’ share of employment is projected to expand in a COVID scenario. The expansion in the share of employment is despite the growth contraction that mainly affected the services sectors which dominate that IWOSS sectors.



**Table 2: Youth (15 to 24) employment and its growth and share for IWOSS and non-IWOSS sectors, 2018 and 2021**

	Employment ('000)			Employment growth, 2018-21 (%)		Share of total employment		
	2018	2021 (no COVID)	2021 (with COVID)	Annual growth (no COVID)	Annual growth (with COVID)	2018	2021 (no COVID)	2021 (with COVID)
Total wage employment (%)	505	641	550	2.0	0.7	100	100	100
Total IWOSS	193	225	211	1.3	0.7	38.3	35.0	38.3
Agro-processing	8	8	8	0.2	0.2	1.5	1.3	1.5
Export crops and horticulture	49	51	51	0.4	0.4	9.6	7.9	9.2
Tourism	18	26	20	3.0	0.7	3.6	4.1	3.6
ICT	23	28	28	1.5	1.5	4.6	4.4	5.1
Transport	15	16	17	0.4	0.7	3.1	2.5	3.1
Financial and business services	15	17	17	0.9	0.9	3.0	2.7	3.1
Trade and repairs	64	79	70	1.7	0.7	12.8	12.3	12.8
Manufacturing	44	58	50	2.3	1.0	8.8	9.0	9.1
Other non-IWOSS	267	359	290	2.5	0.7	52.9	55.9	52.6
Agriculture	31	32	32	0.2	0.2	6.1	4.9	5.7
Mining	2	3	3	2.6	1.0	0.5	0.5	0.5
Utilities	2	2	2	0.3	0.3	0.4	0.3	0.4
Construction	29	44	33	3.5	1.0	5.8	6.9	6.0
Domestic services	195	270	213	2.7	0.7	38.7	42.1	38.7
Government	7	7	7	0.7	0.7	1.3	1.1	1.3

Source: Authors' calculations.

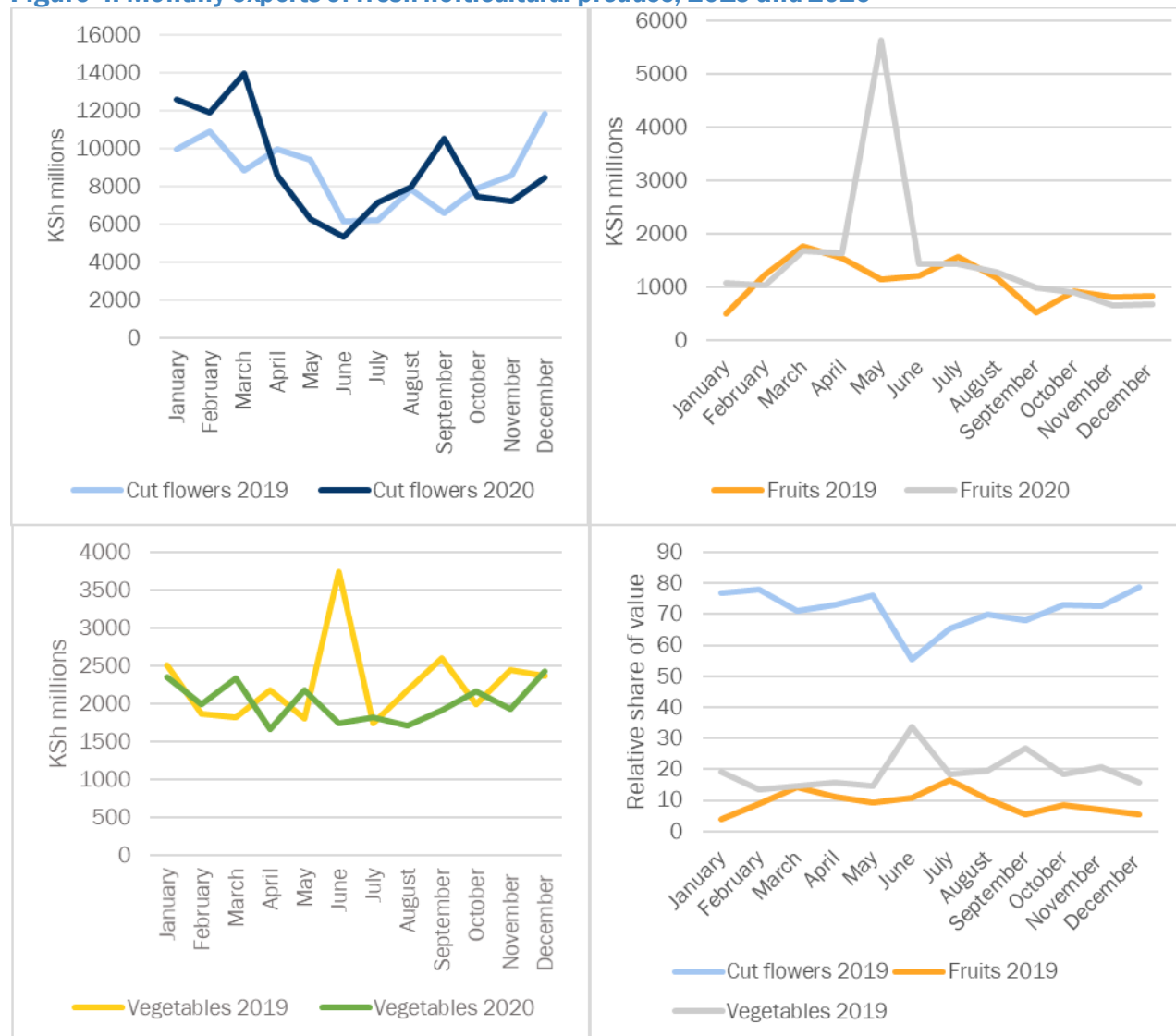
### 3.1 Horticulture

In 2019, agriculture was the largest contributor to Kenya's GDP at 34 percent, and horticulture is a key component of the sector. Indeed, in 2019, horticultural produce (e.g., fruits, vegetables, and flowers) were estimated to account for at least one-third of agricultural output (36 percent). Importantly, more than 80 percent of the horticultural produce was produced by small-scale producers and 96 percent of the total output was consumed locally while the rest (4 percent) was exported.

Under COVID-19, reduced consumption of horticultural products in domestic and foreign markets led to a reduction in horticultural output. At the domestic level, income losses by households and the closure of restaurants, entertainment venues, and learning institutions stifled demand. At the international level, demand for Kenya's horticultural produce declined in the traditional markets (Europe) due to COVID-19. The effects of the pandemic were felt in the export market for fruits and vegetables which was characterized by an overall decline in export capacity with the cut flower market experiencing up to a 50 percent drop in exports and production.

In the face of the pandemic and during the recovery, different products experienced different impacts in terms of export volumes and earnings; however, an overarching trend is that there seemed to be a relatively quick return to normalcy with respect to export volumes for horticulture. For cut flowers, which account for over 70 percent of the value of horticultural exports, there was a decline in export volumes from March through June 2020 (Figure 4). Fruits and vegetables experienced a slight decline in volumes in April 2020 followed by a sharp but short-lived rise in volumes in May/June 2020 before adjusting to levels similar to the previous year (2019).

**Figure 4: Monthly exports of fresh horticultural produce, 2019 and 2020**

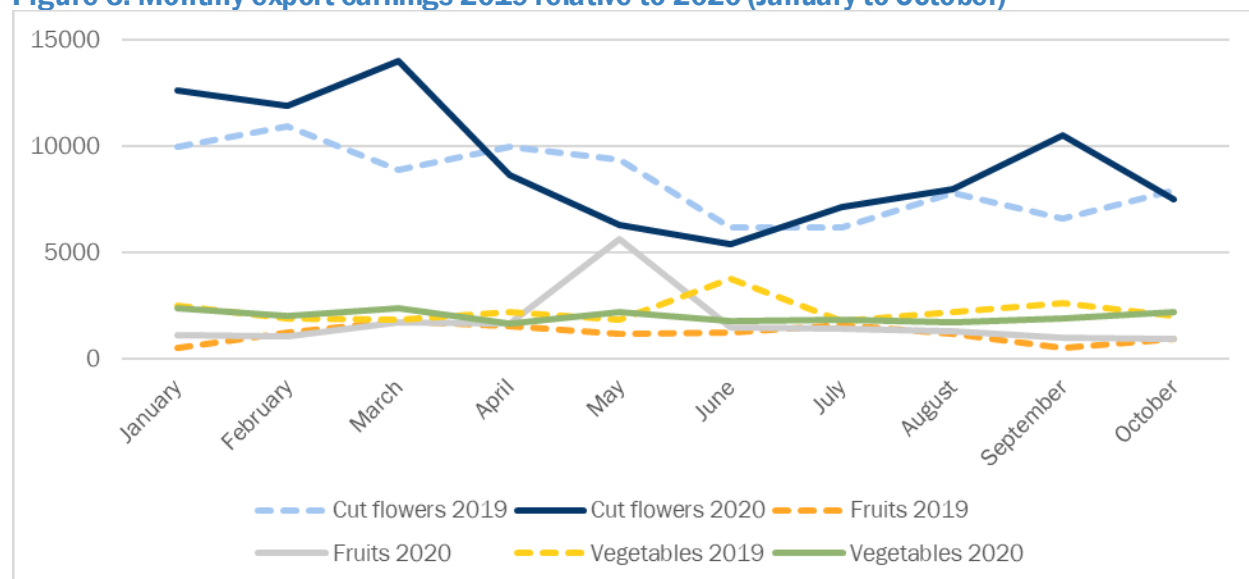


Source: KNBS (2021) Leading Economic Indicators Report.

Generally, export earnings from horticulture seemed to be relatively stable and/or recovered quickly from the shock (Figure 5). The earnings from cut flowers seemed to be most affected, but, if apparent seasonality effects are taken into account (that is, a fall in earnings in the second quarter of the calendar year), the impact of COVID on this subsector was not as extreme as it seems. Indeed, the earnings from cut flowers in June 2020 were just about equal to the earnings in June 2019, which could also be indicative of a quick recovery after the 2020 COVID-19 shock. Export earnings from fruits and vegetables did not fall in March to April 2020 relative to 2019 and, in fact, rose sharply in May 2020 (for fruit) and June 2020 (for vegetables), before returning to a trend similar to that in 2019.

Kenya's lockdown and other COVID-19 containment measures had an asymmetric effect on imports and exports trade. The introduction of lockdown measures by Kenya's trading partners contributed to a significant drop of imports by an average rate of 28 percent and an increase of export trade by an average rate of 12 percent. Socrates and Addisu (2020) attributed the decline in imports to disruption of sea cargo trade with countries that introduced lockdown measures.

**Figure 5: Monthly export earnings 2019 relative to 2020 (January to October)**



Source: Leading Economic Indicators Report, 2021.

### Youth employment prospects

When KIPPRA projected IWOSS wage jobs for the youth aged 15 to 24 years in 2021 comparing a no-COVID scenario versus a COVID scenario, horticulture had the third-largest share (of 7.9 percent) of total wage employment.

In a scenario incorporating the effects of COVID, the model assumes lower growth in the services sectors while growth in the agricultural related sectors is unaffected. Industrial growth remains positive but is reduced. It is projected that under this scenario, share of jobs in total IWOSS will remain unchanged in 2021 relative to 2018 at 38.3 percent. Horticulture is projected to have the second-highest share of total wage jobs for the youth at 9.2 percent.

Within the horticultural sector, the cut-flower sub sector felt the impact of the pandemic hardest. In fact, key informants contacted during the Kenya IWOSS case study estimated that the Kenya cut flower industry lost 30,000 temporary/casual jobs and an additional 40,000 wage employees were sent on unpaid leave within the period between March and July 2020. Key informants suggest that there were only few job losses in the fruits and vegetables subsectors. This reporting is corroborated by the strong export performance of fruits and vegetable in much of 2020 (see earlier discussion of Figure 4). There is also evidence of cut hours for laborers from the KNBS COVID-19 Rapid Survey (2020). The survey indicated that, in the horticulture subsector, cut hours averaged 8 hours in a typical work week in May 2020. The cut hours fell to 5 hours per week in June 2020. We interpret this decline as suggesting a relatively transitory nature of the impact of the pandemic.

## 3.2 Information and communication and technology (ICT)

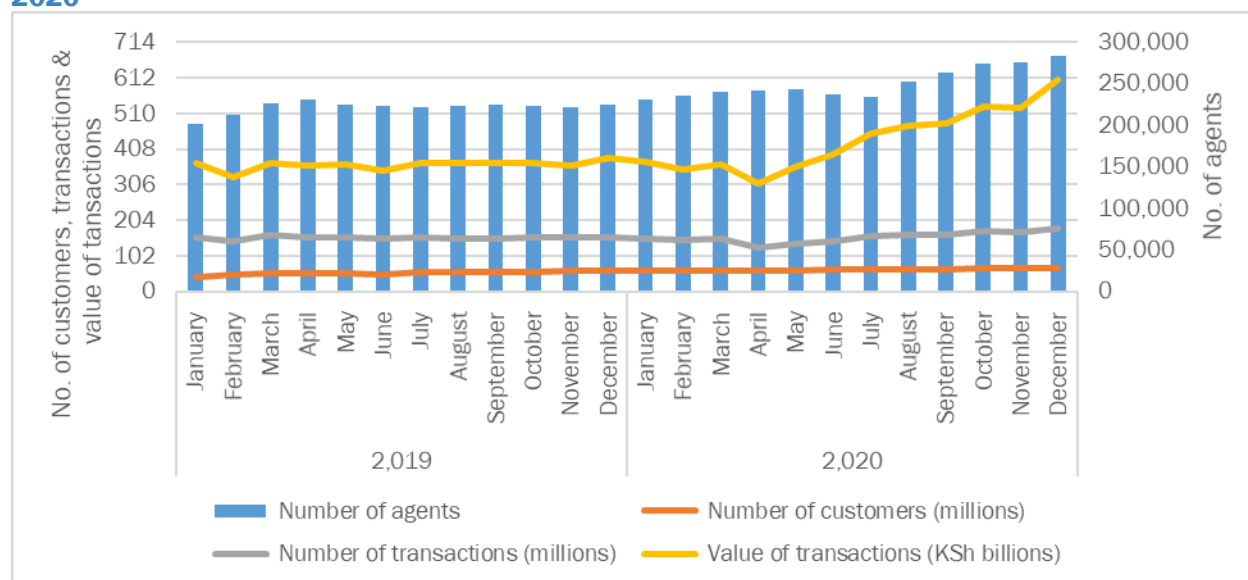
ICT has become an important enabler for firm operations across sectors and enables greater efficiency and competitiveness across the globe, while also promoting firm resilience and business continuity amid the pandemic. In addition, many diverse services that support firms are gradually shifting into

the ICT space. These include data acquisition or capture, communication, decision making, on job training, and monitoring of processes and employees.

In Kenya, both the number of internet subscriptions and transactions (both proxies of ICT output) continued to grow during the COVID-19 period due to increased demand for access to online information coupled with the transfer of many services to the digital space (Figure 6). We expect this growth to be accelerated as more services are expected to shift to the digital space. The increases in service to businesses are, in turn, expected to generate more employment opportunities in ICT.

Unlike most of the other sectors of the economy that experienced extended shocks, ICT experienced a one-off shock in the March/April 2020 period and recovered strongly thereafter, as evidenced by the increase in the number of ICT services agents, number and value of transactions, and number of customers starting in May 2020 (Figure 6).

**Figure 6: Mobile money agents, transactions, customers, and value of transactions in Kenya, 2019-2020**

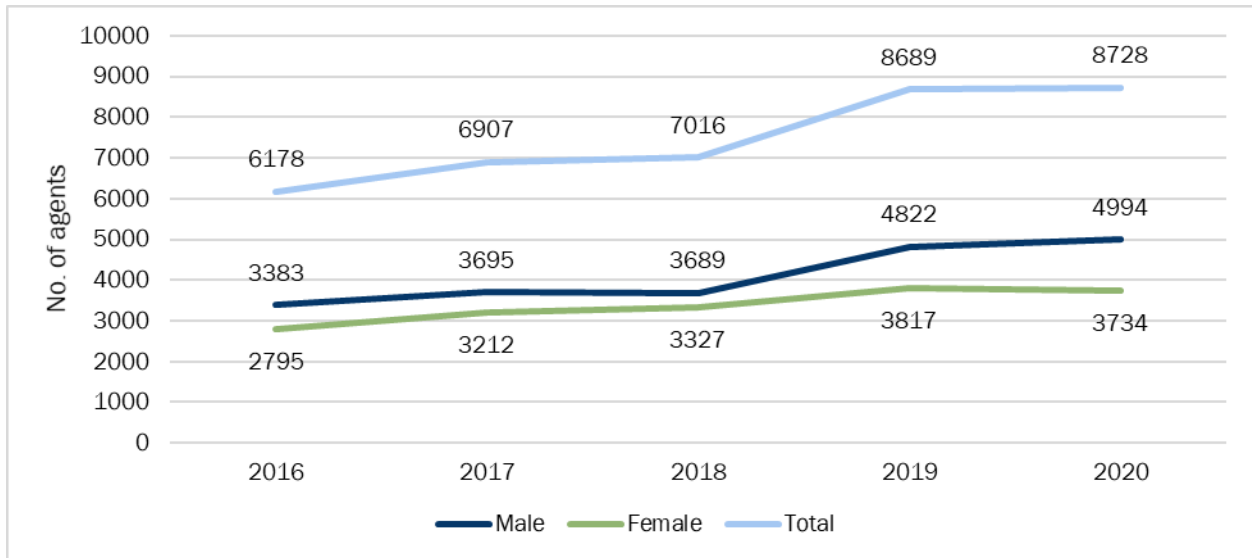


Source: KNBS, 2021.

Importantly, based on employment numbers for June 2019 and June 2020, employment in the ICT sector did not decline as a result of COVID-19. In fact, in June 2020, the number of employees in the mobile service sub-sector stood at 8,728—up from 8,689 recorded in the previous year. This increase continued the five-year upward trend of employment in the mobile service subsector (Figure 7). We acknowledge that there is a possibility that without COVID-19, ICT could have achieved higher growth in output.

The favorable employment numbers are captured in the employment projections of wage jobs in ICT for the youth to the year 2021. The ICT sector remains an important sector for job creation with respective shares of 4.6 percent and 4.7 percent in 2018 and 2021. When we incorporate the effects of COVID-19, the share of wage employment in ICT in total employment increases further to 5.1 percent in 2021.

**Figure 7: Employment in mobile services by gender, June 2016 to June 2020**

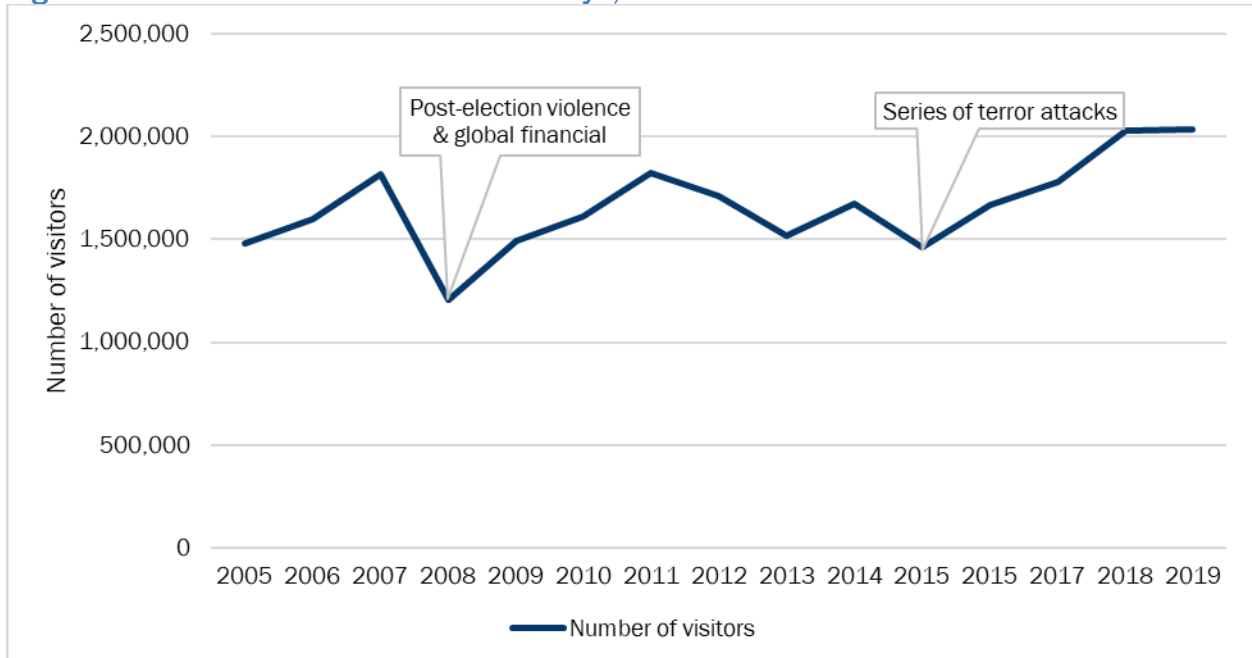


Source: Communications Authority of Kenya Sector Statistics, 2020.

### 3.3 Tourism

Tourism is a major contributor to the services sector in Kenya, and the sector contributes, on average, about 10 percent of the country's GDP. KNBS estimates that the sector accounts for 15 percent of the country's exports, 9 percent of wage employment, and 3.5 percent of the total employment. With the outbreak of the COVID-19 pandemic, there was a sharp decline in travel and tourism activities in Kenya and the spillover effects were felt across other tourism value chain industries—including agro-processing, transport, and real estate.

**Figure 8: International tourist arrivals in Kenya, 2005 to 2019**

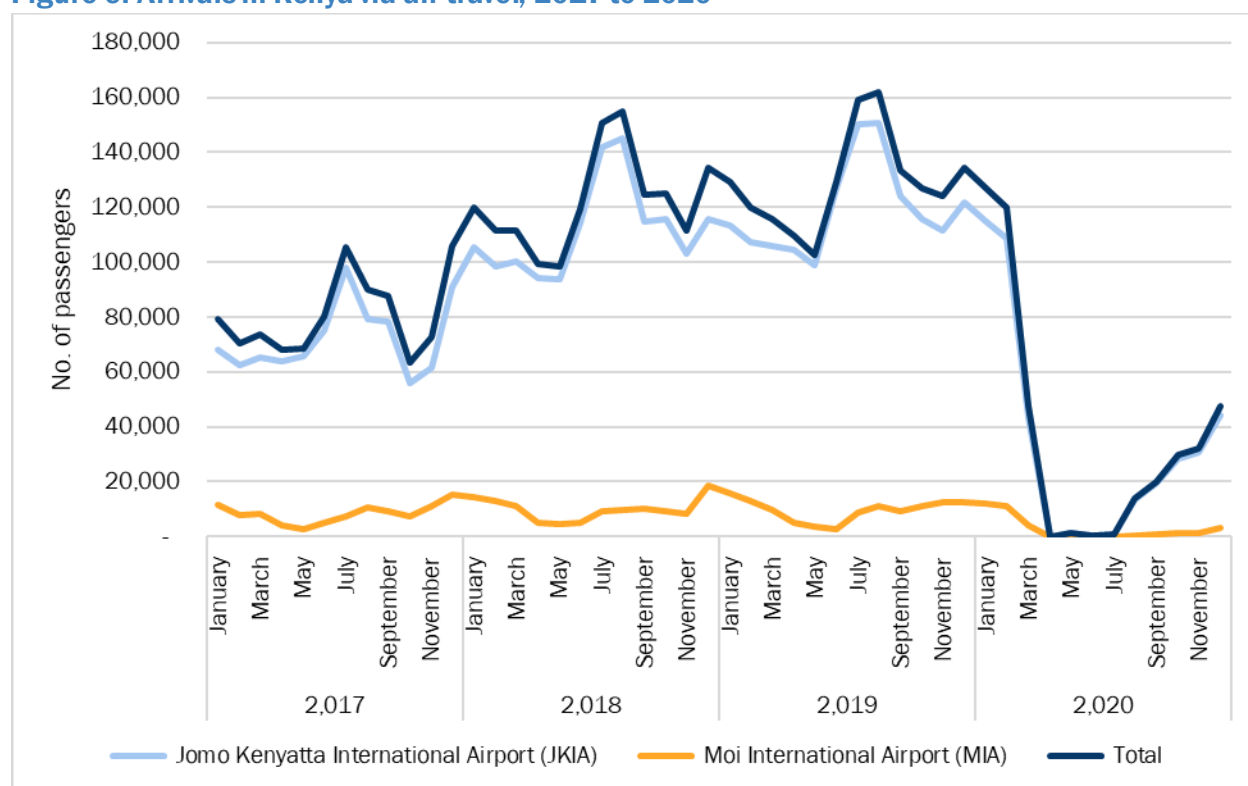


Source: Government of Kenya, Economic Survey, various series.

The tourism industry is among the most volatile given its susceptibility to exogenous shocks. For example, the post-election violence in 2007/8 and the global financial crisis both contributed to drops in tourist numbers. Indeed, the situation was exacerbated by the financial recession that affected most economies, hence, contributing to loss of disposable income. Terror attacks in 2015 and subsequent travel advisories adversely impacted on arrivals (Figure 8). Although the industry recovered thereafter, COVID-19 seems to have halted this process.

Indeed, total lockdowns and bans on international travel in most European countries prevented most potential tourists from Kenya’s key source countries from visiting. Overall air travel fell to almost zero between April and July 2020 (Figure 9), due to both grounded flights and general travel aversion. Indeed, total arrivals by air for January to December 2020 declined by 71.6 percent of the 1,544,850 recorded in similar period in 2019 (KNBS, 2021). Although signs of recovery surfaced in the fourth quarter of 2020 following easing of travel restrictions, visitor arrival levels remained dismal at about 40,000 relative to about 120,000 before March 2020.

**Figure 9: Arrivals in Kenya via air travel, 2017 to 2020**



Source: KNBS, 2020.

Furthermore, the country lost the peak season of June-August in 2020 that is usually marked by increased inbound visitor arrivals and receipts as tourists come to witness “the great wildebeest migration” across the Maasai Mara National Reserve and Serengeti National Park in Kenya and Tanzania, respectively. In 2020, during the period, only 15,073 arrivals were recorded, compared to 449,948 visitors previous year. This drop translated into a loss of KSh 32.4 billion in total tourism revenues; the country lost at least KSh 390 million in park entry fees alone (KIPPRA, forthcoming).

With respect to employment, the tourism value chain generates direct employment in services related to accommodation, food and beverages, transportation, and travel. Indirectly, tourism also generates employment through forward and backward linkages with other sectors, such as conferences and event management, construction, communications, agriculture, and utilities.

With the escalation of COVID-19 pandemic in 2020 and subsequent drops in travel, KIPPRA (forthcoming) estimates that employment in tourism value chain activities declined by 72 percent (Table 3). The worst declines in performance were registered in accommodation (70 percent), food and beverages (70 percent), entertainment (90 percent), railway and air transport (100 percent), and tour/travel services (70 percent).

**Table 3: Estimated employment in Kenya's tourism sector, before and during the COVID-19 crisis**

Key value-chain activities	No. of establishments	Estimated number employed before the COVID-19 pandemic			No. employed during COVID-19
		Formal	Informal	Total	
Accommodation (hotels, resorts, guesthouses, lodges, etc.)	2,336	21,614	281,841	303,455	91,037 (30%)
Food and beverage	811	7,508	97,902	105,710	31,713 (30%)
Entertainment (souvenir shops, craftsmen, festivals, theme parks)	2,250	2,500	23,000	25,500	2,550 (10%)
Transportation					
Railway	1	252	1072	1324	0 (0%)
Road	551	21,101	275,150	296,251	148,126 (50%)
Water	22	845	11,021	11,866	5,933 (50%)
Air	443	16,942	220,919	237,861	0 (0%)
Guides, tour operators, and travel agencies	112	1368	1368	2736	821 (30%)
<b>TOTAL</b>		<b>72,130</b>	<b>912573</b>	<b>98,4703</b>	<b>280,180 (28%)</b>

Data sources: World Tourism Organization (2015) and Kenya TSA.

Notably, following government directives to ease restrictions in August 2020, the sector experienced a positive boost. More specifically, following the ease of restrictions, the meetings, incentives, conference and exhibitions (MICE) sector rebounded strongly, and the sector is set on a recovery path.

### 3.4 Youth employment prospects

Our wage employment projections to 2021 (in a no-COVID scenario) indicate that tourism is among the IWOSS sectors with greatest potential to absorb youth employees. Moreover, tourism's share of employment would have increased from 3.6 percent of total wage employment in 2018 to 4.1 percent in 2021. Under COVID-19, though, we project that its share shall remain at 3.6 percent in 2021.

With respect to gender, tourism had the third-highest share of total wage employment for females across the economy. Its share of 4.3 percent only lags that of trade and repairs, and horticulture. For males, tourism is less important and is projected to account for 3.9 percent of total wage jobs.

COVID-19 impacted employment in other ways, especially in terms of reduced work hours. Indeed, two rounds of surveys done by the KNBS (2020a) during the first two waves of COVID-19 in Kenya (May 2-

9 and May 30-June 6, 2020) reveal that the tourism sector (proxied by accommodation and food services) was worst hit among the selected IWOSS sectors, with an average loss of 30 hours per week per worker. Even so, the sector saw marked improvement just one month later with much smaller differences between usual and actual hours worked in tourism—a finding indicative of a quick turnaround and the transitory nature of the COVID-19 effects on employment. We attribute this turnaround to pent up demand from domestic tourism activities.

## 4. Was the impact of COVID-19 transitory or structural?

The growth and employment indicators indicate that the effects of the COVID-19 pandemic on output and employment in Kenya are likely to be transitory. Indeed, their relatively quick recovery in September 2020 as COVID containment measures were lifted is key indicator that many of these impacts will be largely short-lived.

Our projections indicate that the medium- to long-term impact of COVID-19 outlook are close to the projections for the original IWOSS Kenyan case study from before the pandemic. We assessed the COVID-19 impacts using parameters informed by various sources of information, including AfDB, KIPPRA, and the World Bank, and suggest that negative impact of COVID-19 on economic growth for Kenya is likely to dissipate quickly. For example, the AfDB, KIPPRA, and World Bank projections for economic growth for Kenya were all lower than 1.7 percent for 2020 but more optimistic for 2021 with respective rates of 5.7 percent, 3.1 percent, and 6.9 percent. Clearly, aggregate economic growth was projected to quickly return to the pre-COVID levels, and this recovery is incorporated in our projections.

There are important caveats to these economic growth projections. First, the COVID-19 pandemic continues to unfold, and its duration is uncertain. Second, sectoral-level impacts vary across sectors and do not necessarily move in tandem with the aggregate economy-wide impacts. Indeed, the impacts of COVID-19 varied widely across the three broad sectors of agriculture, industry, and services: For example, while the aggregated economy contracted in the first half of 2020, agriculture *expanded* while services and industry shrank. Although services were hardest hit in 2020, projections indicate that the sector is likely to rebound quickly after the removal of containment measures.

Differences within these broader sectors exist as well. For example, tourism, which contracted by 83.3 percent in the second quarter of 2020, will continue to face an uncertain global environment, which will likely to slow its recovery. Consequently, we expect tourism growth to be lower than the envisaged growth prior to COVID-19, at least in the medium term.

With respect to employment, although the number of employed persons for the entire economy fell in the first half of 2020 relative to 2019, there was evidence of recovery in the third quarter of 2020 as the number of employed persons increased. Importantly, while a key labor market indicator, the labor force participation rate (LFPR) of the youth aged 15 to 24, rose in the quarters spanning January to September 2020, it was likely caused by the cessation of physical learning. As a result, the LFPR is likely to fall to pre-COVID levels as physical learning is resumed.

We project that, in the aftermath of COVID-19, there will be shifts in the relative share of employment across the sectors/subsectors. A higher share of youth jobs is projected to shift to IWOSS at the expense of non-IWOSS sectors. Within IWOSS, besides tourism and trade and repairs, we project that all the other IWOSS sectors' share of employment shall expand, including agro-processing, horticulture, ICT, and financial services. Manufacturing's share is likely to remain the same. However, it is not certain whether the observed increase in the youth employment share of IWOSS will be carried into the long term (next 10 years) since the projections indicate that, in a no COVID-19 scenario, non-IWOSS sectors would have increased their employment share regardless.



#### 4.1 Structural changes to horticulture, ICT, and tourism under COVID-19

In addition to these overarching trends in the economy, the select IWOSS sectors will likely also undergo a number of permanent changes due to the pandemic, related containment measures, and the recovery.

Within the horticultural sector, trends indicate that firms might reallocate resources away from the production of cut flowers (which was most severely affected) towards production of a larger share of fruits and vegetables in the medium term. In the longer term, we expect that the share of flowers in the overall production mix shall recover. On the other hand, the growing perception that fruits and vegetables are more resilient products may result in an increase in their share of output (relative to flowers).

Kenya's ICT sector—an increasingly important enabler for business continuity—continued to grow (as proxied by the number of internet subscriptions and number of transactions) even during the pandemic, and that growth also generated more employment opportunities. The favorable employment numbers are captured in our employment projections of wage jobs for the youth to the year 2021. The dynamics within the ICT sector actually suggest that the entire economy is moving towards a greater share of ICT output and employment.

Tourism, a major contributor to the services sector in Kenya declined sharply following the outbreak of the COVID-19 pandemic. Indeed, employment in tourism value chain activities in Kenya was estimated to have declined by 72 percent in 2020. We expect tourism to partially recover in the medium term and fully recover in the long term, as already hinted at given the positive boost in domestic tourism and the meetings, incentives, conference, and exhibitions (MICE) subsector following government directives to ease restrictions in August 2020. A possible shift we may see is a growing domestic tourism sector as firms are expected to be more inclined to woo this market which has been more resilient to shocks. Tourism services (booking, payment, and marketing) may continue shifting to online-based platforms, and the sector may focus on more unique offers.

Thus, even before the pandemic, Kenya's economy was moving towards more ICT-based operations in nearly all sectors, and so we expect that economy will continue this structural change towards a more digitalized economy given that COVID-19 reinforced the use of ICTs across businesses in many sectors of the economy. Importantly, this change will demand a reorientation of skills of workers (including the youth) towards ICT-related applications and investments. Both basic and advanced skills will be required in broad and emerging ICT technologies such as artificial intelligence, blockchain and the Internet of Things.

### 5. Implications for the recommendations made in the earlier Kenya case study

The COVID-19 pandemic had varied implications on the horticulture, information communication and technology and the tourism sectors in Kenya. The pandemic has disrupted the gains made in reducing poverty and inequality since 2015/16. Unemployment worsened but this effect is likely to be transitory in nature. For the most part, the effects of the COVID-19 do not affect the recommendations in the country case study to support the development of IWOSS. Rather the pandemic brings to the fore the observed resilience (in growth and employment creation for the youth) in most of the IWOSS sectors relative to the non-IWOSS and manufacturing. The pandemic also points to the need for not only additional recommendations but also increased flexibility in policies in IWOSS sectors.

We highlight the recommendations made in the earlier Kenya case study. While these recommendations remain relevant, we submit that a couple of additional recommendations would be required as indicated in the subsections that follow.

## 5.1. Horticulture

Horticulture and agriculture have remained to be relatively resilient even with COVID-19. Although the Kenyan horticulture industry seems to be resilient in the face of COVID-19, Kenya must still remain competitive in the global market. Our recommendations in the original case study, thus, remain relevant, including:

- Ameliorate the possible effects of the dynamic non-tariff trade barriers (NTTBs) by supporting continuous skills transfer and extension services support to local producers, including small-scale farmers.
- Enhance investments in supportive infrastructure, especially feeder roads and cold chain infrastructure such as “cold” collection centers and pack houses.
- Open up more options for transport—especially maritime transport for exports—by investing in a dedicated maritime line to key export destinations.
- Strengthen horticulture producer groups and cooperative organizations to propel producer groups who can facilitate deepened commercialization of agriculture.

In addition to these earlier recommendations, the COVID-19 experience reveals that

- Measures need to be put in place to accelerate the recovery process by increasing freight capacity at competitive costs;
- Kenya can move quickly to acquire and maintain new markets in the fruits and vegetables sectors—partly as a way to compensate for losses in flower sales.

## 5.2 Information and communication technology

Kenya’s ICT sector is critical both for the country’s growth and because of its spillover effects for other sectors of the economy, such as financial services, e-commerce and trade while enabling them to remain resilient during the pandemic. Indeed, the country continues to report significant progress in the digital transformation space at the global level, even during the COVID-19 pandemic period. The country also has well-established digital innovations in e-commerce and money transfers (such as M-Pesa). However, access to digital services remains a challenge due to either high cost of devices and services or service unavailability. As earlier alluded to in the case study report, recovery in the sector should be geared towards:

- Increasing investment in ICT infrastructure and innovations to effectively enable/support other sectors. There is also need to fast track investment in complementary services such as access to electricity and internet connectivity for sustainable use of ICTs.
- Supporting development of digital skills partly by scaling up digital innovations in education and skills development sectors.
- Promoting private sector-led skills development initiatives in high level ICT skills such as programming.
- Strengthening the legal and policy framework to support the uptake of e-commerce. It is critical to fast track an all-encompassing policy for E-commerce.
- Formulating policy and regulations to guide the adoption of the emerging ICT technologies such as Artificial Intelligence, Blockchain and Internet of Things.

In addition to these recommendations, reflecting on the impacts of the COVID-19 pandemic, policymakers should emphasize ICT as a growth enabler, which requires:

- Supporting the expansion and enhancement of competitive skills development programs in relevant ICT applications including IT system development, programming, web design, mobile

application development and IT software engineer in order to curtail possible skills deficits and gaps and enhance the role of ICT as an enabler in the economy.

- Implement supportive policies to enhance more effective online learning and work arrangements, as such policies can support and enhance productivity in periods of disruption.

### **5.3 Tourism**

Despite its impressive performance, the tourism industry is one of the most volatile industries easily affected by external shocks, such as COVID-19 pandemic. For economic recovery to take place within the sector, we propose the following measures:

- Enhance innovations and promote adoption of emerging technologies along the tourism value chain.
- Promote domestic tourism, which has proved to be more resilient in face of shocks like the pandemic.
- Incentivize local tourism firms to design product offerings and review pricing strategies to cater to local needs and tourists.
- Put in place social protection programs to cushion employees in the sector for shocks brought about by pandemics.
- Adopt and enforce COVID-19 containment protocols.

For tourism, our earlier recommendations remain unchanged, though we add that Kenya should prioritize policies to achieve critical levels of immunization against COVID-19 in order to boost its attractiveness as a tourist destination.

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