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EXPORT PERFORMANCE 2010 – 2021**

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Abstract

Purpose: The horticulture sector in Kenya has consistently dominated agricultural sector's contribution to the economy's GDP growth over the last two decades. This paper assesses the export performance of horticulture sector's three main components of cut flowers, fruits and fresh vegetables for the period 2010 – 2021. The paper also sought to identify the challenges that affect the horticulture sector and propose ways of addressing the challenges.

Methodology: The study utilized secondary annual time series data collected from the Kenya National Bureau of Statistics, the Central Bank of Kenya and the Food and Agriculture Organization of the United Nations. Descriptive statistics were used to analyze the data and draw inferences and conclusions.

Findings: The study shows that the value of export revenues from cut flowers have been consistently higher than the earnings from fruits and fresh vegetables for the twelve year period from 2010 to 2021 with the highest earnings being recorded in 2018 when the subsector earned Ksh 113 Billion. Fresh vegetables recorded higher earnings than fruits over the same period, except for the year 2021 when fruit earnings were higher (at Ksh 27 Billion) than earnings from fresh vegetables (at Ksh 18 Billion). This is despite the fact that fruit volumes were lower than the vegetable volumes, implying that the export prices for the fruits were much better than the vegetable prices. Results also show that when real GDP dipped to negative 0.3 per cent in 2020 mainly due to the effects of COVID 19, horticulture export earnings stood at Ksh 151 Billion, perhaps a display of sectoral resilience to the adverse economic effects associated with COVID 19. There does not seem to be a clear relationship between real GDP growth and export earnings from horticulture products during the ten-year period of analysis. This tends to invalidate the export-led growth hypothesis. Key challenges facing the sector include overreliance on the EU market, pest infestation, low production and productivity and high cost of airfreight.

Unique Contribution to Theory, Practice and Policy: Based on these findings, the paper concludes that Kenya's export performance is way below its potential and recommends increased production to meet global demand and diversification of markets and product range.

Keywords: *Horticulture, Export Earnings, Real Gross Domestic Product*

INTRODUCTION

Export growth is often considered as a key determinant of production and employment growth of an economy which is shown in a country's Gross Domestic Product (GDP) growth (Ram 1987). The link between export growth and a country's economic growth has been extensively explored by researchers. Indeed, export-led growth hypothesis holds that exports are the major sources of economic growth as more exports generate more income through the foreign exchange multiplier in the short run (Noula, et al., 2013).

Kenya's economy has registered an average real GDP growth rate of 5.05 per cent over the last decade (2012 – 2021) with the worst performance having been recorded in 2020 when the economy contracted by negative 0.3 per cent mainly due to the effects of Covid 19 containment measures put in place in 2019 / 2020. The agriculture sector has consistently dominated other sectors in terms of its contribution to the overall GDP. In 2021 for instance, the sector accounted for 22.4 per cent of the overall GDP. Despite this dominance, growth in the sector contracted from 5.2 per cent realized in 2020 to negative 0.1 per cent realized in 2021 on account of unfavourable weather conditions experienced in many parts of the country severely impacting livestock and crop production (KNBS, 2022).

In line with most developing economies of Africa, Kenya's economic growth has been mainly dominated by the agriculture sector, with the horticulture subsector (fruits, cut-flowers and vegetables) being the third leading contributor to agricultural GDP after dairy and tea (KNBS, 2022). Additionally, the sector is characterized by high export value, high yield per unit area, high returns per unit area and best utilization of wasteland as well as the provision of raw materials for industries. It is also labour intensive and ensures continuous engagement of the grower /laborer, production of more food energy per unit area than that of field crops, better use of undulating lands, and stabilization of women's empowerment by providing employment opportunities through processing, floriculture, seed production, mushroom cultivation, and nursery preparation, among others. Horticulture forms an integral and important component in the economy of a nation. Indeed, horticultural crops constitute a significant segment of the total agricultural production of a country.

Overall, Uganda remains Kenya's main export destination accounting for 12.3 per cent of total export earnings in 2021. Between 2020 and 2021 Kenya's exports to Tanzania and the DRC increased from Ksh 31.8 billion and Ksh 14.3 billion in 2020 to Ksh 45.6 billion and Ksh 24.4 billion, respectively. This increase was mainly due to a rise in domestic exports of tea, cut flowers and coffee to the Democratic Republic of Congo and soap to Tanzania. An increase in domestic exports of cut flowers; avocados; plants and parts of plants used for pharmaceutical purposes saw Kenya's total exports to the EU rise by 16.7 per cent from Ksh 99.3 billion to Ksh 115.9 billion. Total exports improved by 16.1 per cent to Ksh 748.0 billion in 2021 from Ksh 644.2 billion in 2020, on account of increased exports of horticultural products whereas the current account deficit worsened by 30.1 per cent to Ksh 663.8 billion from Ksh 510.1 billion in 2020. Kenya trade balance for 2021 was \$-10.52B, a 31.33% increase from 2020 when it was \$ -8.01 Billion. During the study period, the Balance of Trade for Kenya as a percentage of GDP peaked in 2011 at -15.3 per cent and fluctuated over the years to reach -9.53 per cent in 2021 (KNBS, 2022).

Since 2015, exports and imports grew by an average of 2.1 per cent and 14.2 per cent, respectively, and this saw the trade balance widen by 21.3 per cent (KNBS, 2022). The main explanation for the widening trade imbalance resulted from the nature of exports, largely dominated by primary products. Undoubtedly, dependence on primary exports exposes the country to international price fluctuations, thus increasing the volatility of export revenue. Furthermore, continued reliance of primary products for export reflects the structural weakness in diversification of both products and market destinations. In addition, Kenya's imports experienced an upward trend, scaling up the import bill because of higher demand for imports of intermediate goods used in the manufacturing and construction sectors. In 2020, the imports narrowed marginally on account of the COVID-19 pandemic and Kenya's concentrated import market in countries such as China that were severely affected by the pandemic. It is also a fact that the increasing number of middle income earners in Kenya who have an affinity for imported goods, have contributed to an increase in volumes imported to meet this rising demand. Moreover, the government's desire to undertake project investments has scaled up demand for capital goods to facilitate infrastructural development, which includes road and rail constructions. For instance, during the study period (2010 – 2020) Kenya constructed the 578.8 km Mombasa – Nairobi – Suswa Standard Gauge Railway (SGR) and the 27KM expressway from Mlolongo in Machakos County to Westlands in Nairobi County at a cost of USD 3.6 Billion and Ksh 97 Billion respectively.

Kenya's Global Market Share of Horticulture

The global horticulture market is estimated to be valued at USD 20.77 Billion in 2021 and is projected to reach USD 40.24 Billion by 2026 at a CAGR of 10.2%. Significant advancement in the agricultural sector, as well as the growing penetration of sustainable horticulture practices, is among the crucial considerations influencing the market dynamics. According to USAID (2015), Kenya lost a significant chunk of its global market share in horticulture between 2010 and 2015 mainly due to overreliance on tea and flower exports as well as poor export value per hectare. Kenyan exporters tend to heavily rely on two or three markets, implying need for diversification. Kenya is the largest African horticulture exporter to the EU with a 16 per cent market share. However Ghana, South Africa and Egypt export more to the Middle East, signifying Kenya's overreliance on Europe. Interestingly, despite Kenya being ranked as the largest horticulture exporter in sub-Saharan Africa, Arid countries in the North and the Middle East not only export more per capita but beat Kenya in terms of export value per hectare. Israel, Egypt and Morocco are examples of countries that export more per capita than Kenya. Overall, potatoes, mangoes, avocados and fresh pea's exports have been growing steadily in the last 10 years due to rising demand in Europe and Gulf markets. The export earnings from French beans, passion fruits and onion have been fluctuating due to competition from Latin America as well as unreliable supply locally. Despite a huge potential in avocado and passion fruit exports especially in Europe where the crop does not grow due to weather patterns, production of these crops is led by smallholders whose scale of production cannot benefit the value chain. Although there is a capacity to produce all-year-round, production of passion fruits has been tied to the rainy season leading to premature harvesting in order to meet demand which is hurting Kenya's prospects.

Problem Statement

The horticulture sector in Kenya contributes significantly to the Gross Domestic Product (GDP) and provides employment to more than six million Kenyans directly and indirectly. The sector also provides raw materials to the manufacturing sector and has higher farm profitability due to higher production and export earnings from foreign exchange. For instance, horticulture export earnings in Kenya rose from Ksh 115.3 Billion in 2017 to a high of Ksh 157.7 Billion in 2021, an increase of Ksh 42.4 Billion making it one of the largest single contributors to the growth of the economy. The sector offers many opportunities in international, regional and domestic markets. Despite this significant contribution to Kenya's economic growth, the horticulture sector is beset with numerous challenges that stifle its growth. Thus it is important to understand the performance of the sector and the challenges faced so as to generate policy interventions in support of this vital sector.

THEORETICAL LITERATURE

Export-led Growth Hypothesis

The export-led growth theory provides that export expansion is one of the main determinants of growth. It holds that the overall economic growth of countries can be generated not only by increasing the amounts of labour and capital within the economy, but also by expanding exports. Emilio (2001) tested the export-led growth hypothesis for Costa Rica using time series data from 1950 – 1997 and validated the hypothesis although population and physical capital investment were the main drivers of the overall economic growth for Costa Rica from 1957 onwards. Further, results from literature review suggested that exports have a positive effect on the overall rate of a country's economic growth and could be said to be the engine of growth, as postulated by the export-led growth theory. Athanasia and Chamberlain (2021) also find positive relationship between exports and growth using data for Kuwait but caution that the degree to which exports positively impact economic growth and in turn further expansion of exports, depends on the categories of exports and imports in which the expansion occurs.

The horticulture sector (fruits, cut flowers and vegetables) creates an opportunity for developing economies for export diversification, poverty alleviation and rural development, (Muriithi 2008). Mwangi et al (2015) observes that the horticultural sector is positively correlated with wealth generation, poverty alleviation and promotion of gender equity particularly in the rural areas. Furthermore, the sector is said to be very fundamental to the national economy especially because of its importance in job creation to millions of Kenyans.

Mcculloch and Ota (2002) conducted a household survey in Kenya to compare the incomes of households that were involved in export of horticulture products and those that did not. The study established that households that practiced horticulture exports were better off than those that did not, especially in the rural areas. Thus enabling more households to participate in the sector was proposed as an appropriate pro-poor growth strategy in both rural and urban areas due to the fact that horticulture uses unskilled labour and also uses land intensively.

Nzomoi et al (2007) looked at the determinants of technology adoption in horticulture production and marketing in Kenya. The paper emphasized the importance of horticulture sector in Kenya's

economic growth in terms of its contribution to foreign exchange earnings and job creation in both formal and informal sectors. Key determinants were identified as access to finance, technical knowhow, nature of businesses, poor infrastructure, as well as access to information. Meme (2015) identified horticulture exports as the main exports from agriculture sector alongside coffee and tea in Kenya. He sought to identify the factors that determined horticulture exports in Kenya with a view of recommending policies that needed to be adopted to support the sector growth. The paper identified real exchange rate, agricultural GDP and real interest rate as the major factors that influenced horticulture exports. These needed to be addressed in order to increase export earnings from horticulture and thus the country's economic growth.

METHODOLOGY

The study utilized secondary time series data on Kenya's horticulture export performance for the period from 2010 to 2021 and the data is analyzed using the descriptive approach. Descriptive research design is a type of research that aims to obtain information to systematically describe a phenomenon, situation, or population (Mugenda and Mugenda, 2003). This study analyzed the cut flower, fruit and vegetable export earnings using annual data from 2010 to 2021. Further, the study relied on secondary data on production, export volumes and values which was collected from Kenya National Bureau of Statistics (KNBS), the Horticultural Crops Development Authority (HCDA), the Central Bank of Kenya (CBK) and other credible sources for the study period. Study findings are presented and discussed in form of graphs, charts and tables.

RESULTS AND DISCUSSION

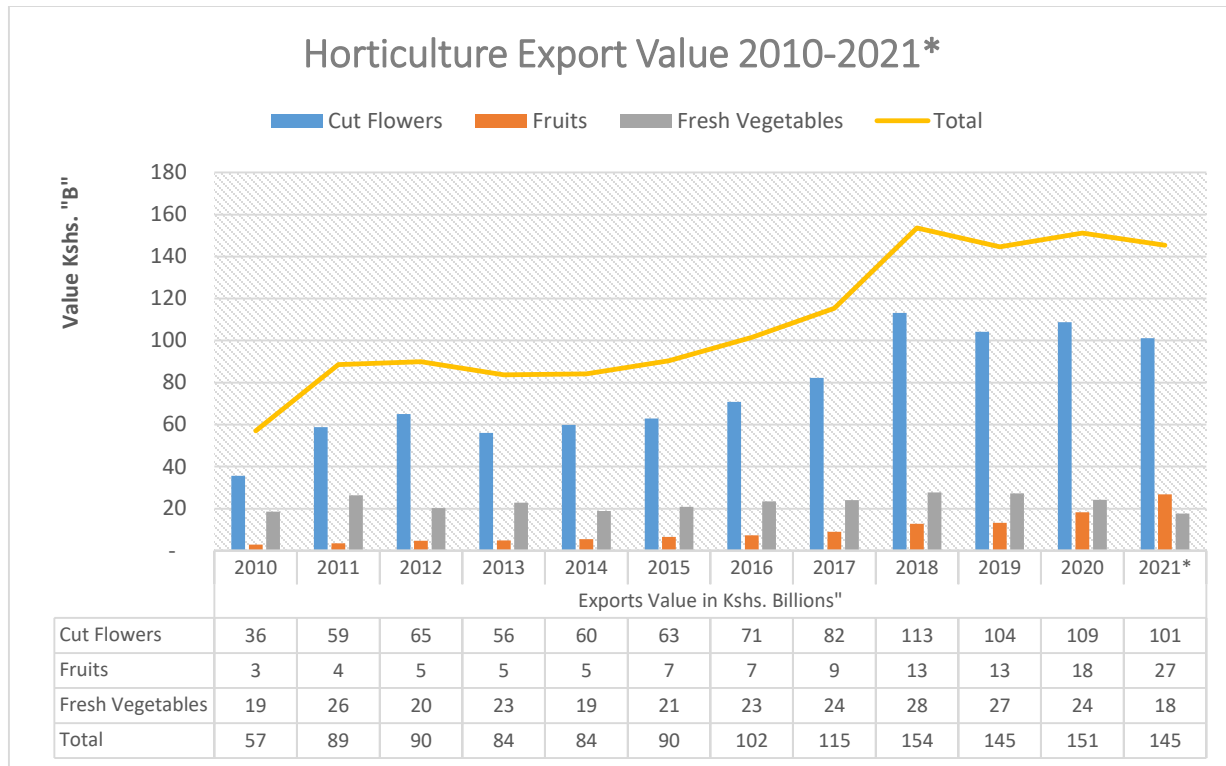
An analysis of the volumes and values of cut flowers, fruits and vegetables exported during the period under investigation is shown in tables 1 and 2 presented here below:

Table 1: Horticulture Export Values 2010 – 2021

	Exports Value in Ksh Billions											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021*
Cut Flowers	36	59	65	56	60	63	71	82	113	104	109	101
Fruits	3	4	5	5	5	7	7	9	13	13	18	27
Fresh Vegetables	19	26	20	23	19	21	23	24	28	27	24	18
Total	57	89	90	84	84	90	102	115	154	145	151	145

Source: Own calculations

The information in table 1 above is summarized as presented in figure 1 here below:



Source: Own calculations

Figure 1: Horticulture Export Values 2010 – 2021*

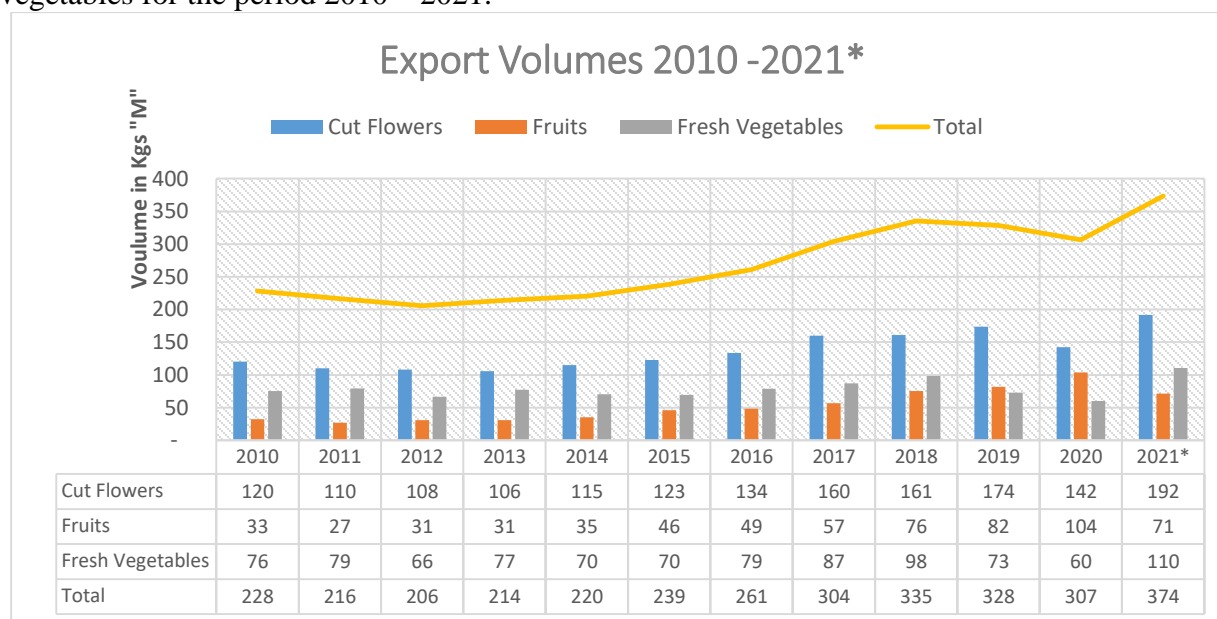
As shown in table 1 above, the values of export earnings from cut flowers have been consistently higher than the earnings from fruits and fresh vegetables for the twelve year period from 2010 to 2021 with the highest earnings being recorded in 2018 when the subsector earned Ksh 113 Billion. Fresh vegetables have recorded higher earnings than fruits over the same period, except for the year 2021 when fruit earnings were higher (at Ksh 27 Billion) than earnings from fresh vegetables (at Ksh 18 Billion). This is despite the fact that fruit volumes were lower than the vegetable volumes, implying that the export prices for the fruits were much better than the vegetable prices. From this finding, it is imperative for the government to ensure horticulture export products are of high quality so as to fetch the best prices in the international markets. Overall, the horticulture sector has shown a positive growth trajectory with minimal fluctuations during the period from 2010 to 2021.

Table 2: Horticulture Export Volumes 2010 – 2021

	Exports Volumes in Kgs. Millions											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021*
Cut Flowers	120	110	108	106	115	123	134	160	161	174	142	192
Fruits	33	27	31	31	35	46	49	57	76	82	104	71
Fresh Vegetables	76	79	66	77	70	70	79	87	98	73	60	110
Total	228	216	206	214	220	239	261	304	335	328	307	374

Source: KNBS and Agriculture Authority of Kenya 2021

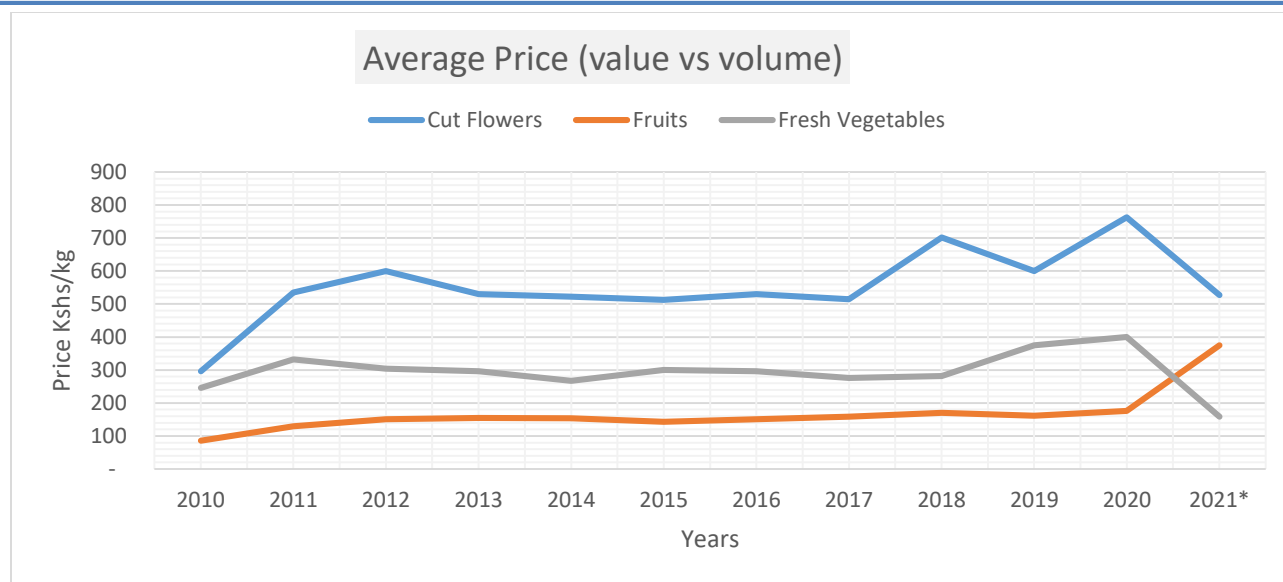
Figure 2 below is a graphical presentation of the export volumes for cut flowers, fruits and fresh vegetables for the period 2010 – 2021.



Source: Own calculations

Figure 2: Horticulture Export Volumes 2010 – 2021

From figure 2, cut flowers have recorded higher export volumes than both fruits and fresh vegetables over the entire period 2010 – 2021. This could be attributed to the fact that Kenyans do not have a culture of “consuming” flowers like they do with fruits and vegetables. Similarly, export volumes of fresh vegetables have been higher than that of fruits during the same period except for the years 2019 and 2020. The overall export volumes have been on an upward trend though characterized by mild fluctuations in 2018 and 2020.



Source: Own calculations

Figure 3 Average Price 2010 – 2021*

The average prices for each of the three horticulture products are depicted in figure 3 above. As expected from previous analysis, cut flowers recorded a higher average price compared to that of fruits and fresh vegetables. On the other hand, fresh vegetables have earned higher average prices than fruits from 2021 to 2020 when the average price declined and was overtaken by that of fruits. It is of policy importance to understand what caused the dip in average prices of vegetables in the international market.

Table 3: Kenya’s Real GDP and Horticultural Export Earnings

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Real GDP (%)	4.6	3.8	5	5	4.2	3.8	5.6	5.1	-0.3	7.5
Hort export earnings (Ksh Billions)	90	84	84	90	102	115	154	145	151	145

Source: Central Bank of Kenya and KNBS

A comparison of real GDP growth and horticultural export revenues over the ten year period is presented in Figures 4 and 5 shown here below:

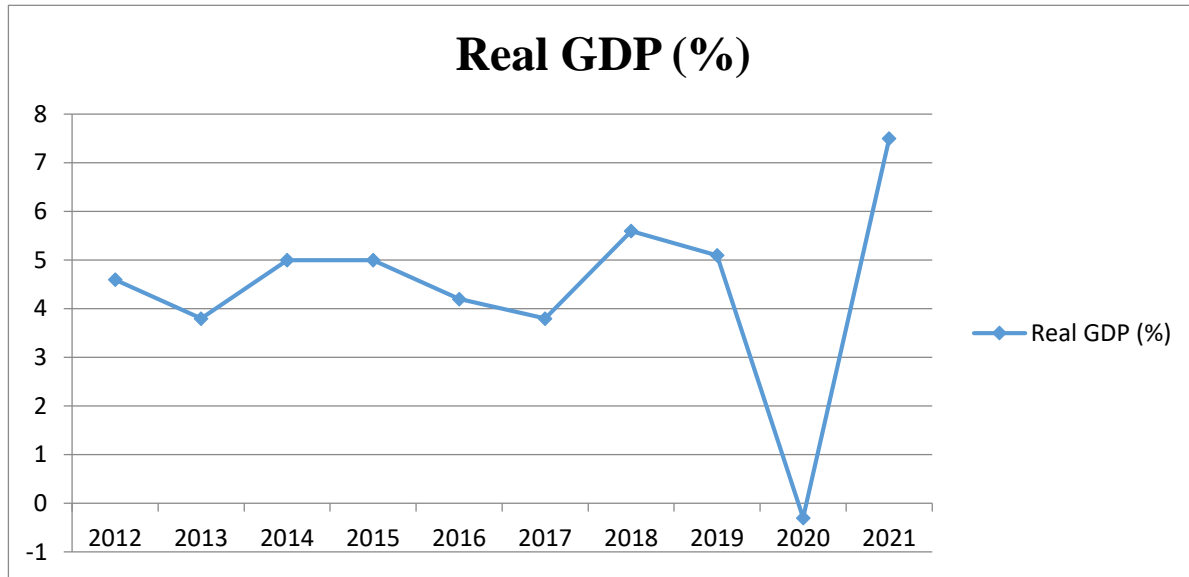


Figure 4: Real GDP growth rate (2012 – 2021)

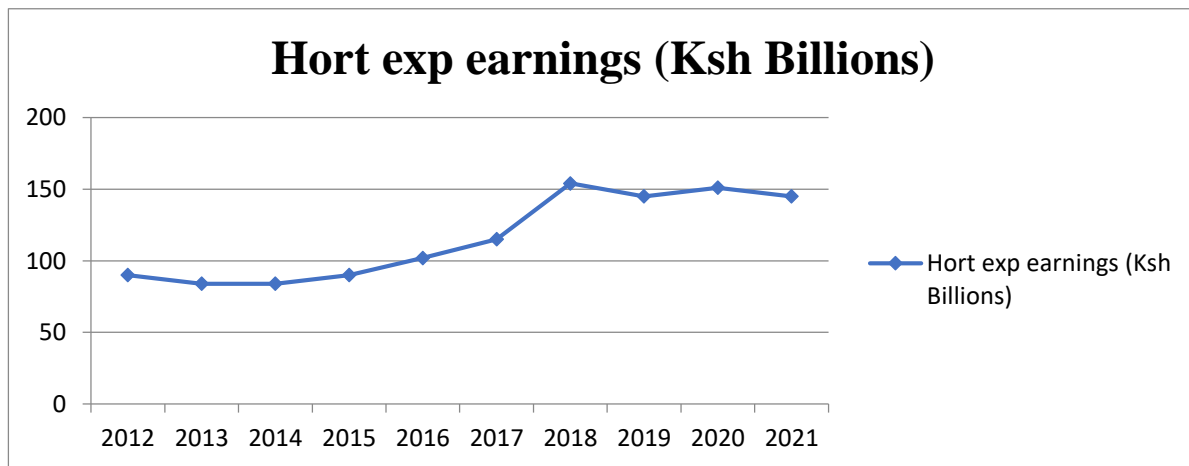


Figure 5: Horticulture export earnings (2012 – 2021)

From figures 4 and 5 above there does not seem to be a clear relationship between the real GDP growth and export earnings from horticulture products during the ten-year period of analysis. However it is evident that when the annual horticulture export earnings peaked at Ksh 154 Billion in 2018, real GDP was also at an impressive high of 5.6%, the second highest rate in the decade. It is also noteworthy that when real GDP dipped to negative 0.3 per cent in 2020 mainly due to the effects of COVID 19 horticulture export earnings stood at Ksh 151 Billion, perhaps a display of sectoral resilience to those adverse economic effects associated with COVID 19.

Challenges Facing Horticulture Industry in Kenya

The horticulture sector continues to face numerous challenges despite the importance of the sector in contributing to Kenya's economic growth. Desk search review of relevant literature identified the following challenges in the sector:

- (a) Overreliance on the EU market for its exports. This market has had changing stringent regulatory requirements that has resulted to increased notifications due to pesticide Maximum Residue Limits (MRLs) and interceptions due to quarantine pests.
- (b) The tropical nature of Kenya's climate is favorable for pest infestation therefore pest control is mandatory to ensure food security and produce quality. However, due the EU regulations the number of authorized pesticides is shrinking against high incidences of pest and resistance to available pesticide regime;
- (c) Low production and productivity especially small holder farmers due to low adoption of improved technologies;
- (d) Non-compliance to quality and safety standards especially in the domestic market and low adoption of Good Agricultural Practices;
- (e) Un-competitiveness of the sub-sector due to high transaction costs along the value chain; for example, high cost of agro-inputs, agro processing and marketing logistics among other costs.
- (f) Exploitation of farmers by middlemen/marketing agents who act as the link between the farmers and buyers.
- (g) The COVID 19 pandemic affected the sub sector through travel restrictions and reduced cargo space which impacted on exports of produce and importation of inputs.
- (h) Reduced market demand due to lock downs especially in European Union and The United Kingdom during the COVID 19 period.
- (i) High cost of airfreight
- (j) High cost of doing business as a result of government levies and taxes, high cost of utilities etc.
- (k) Cash flow problems among the exporters.
- (l) Strict market requirements especially on sanitary and phyto-sanitary matters.

CONCLUSION AND RECOMMENDATIONS

In Kenya horticulture export earnings drive up agriculture sector contribution to the country's GDP. Higher export earnings from horticulture products leads to higher GDP growth. Of the three horticulture export products, cut flowers generate much more foreign exchange than fruits and vegetables. Thus efforts should be channeled towards producing more flowers and addressing the challenges faced in the sector such as the high cost of airfreight as well as meeting the quality standards expected in the international markets. This includes strict adherence to the national horticulture traceability system for transparency, accountability and discipline throughout the supply chain to establish a reputation for quality. There is also need for capacity building of Kenyan horticulture stakeholders on key issues affecting the sector e.g. market access

requirements, value addition, compliance to standards, post-harvest management especially for fruits.

The study findings do not show a clear relationship between horticulture export earnings and the country's real GDP growth hence does not validate the export-led growth hypothesis for the period of analysis. This may point to the fact that horticulture exports are only a small part of the country's total exports and results may change if we compared the total exports and real GDP growth.

Kenya has huge unexploited export potential for its horticultural products given its agricultural production, size of economy, population, and arable land. Thus, Kenya's horticultural export performance remains way below its capacity. For instance, the 4% of total production that is currently being exported needs to be improved significantly to meet the growing global demand. For this to happen, production (especially of fruits and vegetables) needs to be enhanced so as to meet domestic demand and the surplus to be exported. Policy interventions in the areas of provision of affordable inputs as well as incentivizing private producers by government will be a step in the right direction. Incentives could be by way of suspending or waiving of taxes faced by exporters, through the necessary legislation. Thus addressing the numerous constraints faced by producers along the value chain will also help boost production and spur growth of the sector. Access to finance is frequently mentioned in various published sources as one of the main challenges faced by producers and exporters of horticulture products to facilitate various activities along the value chain such as subsidizing the cost of airfreight. This challenge may be addressed by offering affordable credit or setting up of an Export Growth Fund to benefit targeted exporters. Extension services to small scale producers will also address the issues of quality / standards that are demanded by the international markets. Furthermore, Kenya needs to embrace export market diversification outside of the traditional EU market such as Uganda and India which have their own unique advantages such as low cost of transport (in the case of Uganda). Following BREXIT, bilateral agreements can be signed with the UK for increased exports of Kenyan horticultural produce into the UK market. Other possible export markets include Russia as well as COMESA and SADC member countries. Diversification of horticulture product range such as cabbages, onions, passion fruits and carrots will also find export markets in the region including South Sudan, Tanzania, Uganda and the Democratic Republic of Congo.

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