

HORTICULTURE



VALIDATED REPORT 2019-2020



AGRICULTURE AND FOOD AUTHORITY

HORTICULTURAL CROPS DIRECTORATE



Foreword

The Horticultural Crops Directorate (HCD) of the Agriculture and Food Authority (AFA), in conjunction with industry stakeholders undertook a data validation exercise on the performance of the horticulture subsector in the period 2019 and 2020. The findings are presented in this report, which covers the performance of the fruits, vegetables and flowers grown in all the Counties. The performance of the sub-sector is important considering that it provides income, food security and foreign exchange to the economy. The data provided herein is obtained from the sub-County level by the Sub-County agriculture staff, hence improving country-wide representation. The information generated may be used for planning, research, promotion, and development and investment purposes.

The data provides information on area covered by each crop, production in tons and value at the farm gate level. For cut flowers the crop value refers to the Free on Board (FOB) value. The overall potential for each crop and challenges experienced have been discussed.

The main challenge remains the non-standardized methodology of collecting the data at the county level, sometimes giving notable variations in production per unit area and average farm gate prices within neighboring Sub-Counties. Data validation is undertaken by a multi-disciplinary team which is able to interrogate anomalies in submissions made in order to improve on accuracy. Another notable challenge was under-reporting for some crops particularly those grown by large-scale estates. Sub-county agriculture staffs generally do not have access to these estates and are therefore unable to vouch for the statistics provided.

Overall, there is need to develop the capacity of the data validation team as well as that of the county extension staff to enhance the validity of the data collected.

Acknowledgement

This report is a product of wide consultations among horticulture sector stakeholders whose input has been invaluable.

Special acknowledgement goes to the Kenya National Bureau of Statistics (KNBS), which provided financial and technical support towards data collection from the counties. Members of the data validation team drawn from the Ministry of Agriculture, Livestock, and Fisheries (MoALF) and are herewith acknowledged.

The County agriculture staff, notably the County Executives Committee members (CECs), County Directors of Agriculture (CDAs), County Horticulture Crops Officers and Sub County Horticulture Crops Officers offered vital support in availing data for scrutiny and organizing meetings to deliberate respective reports. This support is highly acknowledged.

With the guidance and facilitation of Mr. Benjamin MTito the Head of Directorate, the coordination of data collection and compilation of this report was undertaken by a team of dedicated technical officers - Grace Kyallo, Deputy Dorector, Technical and Advisory Services, Ann Gikonyo, Deputy Director, MR&PD, Josephine Simiyu, Deputy director, R &C, James Kamau Paul, Gilbert Kipyegon, Galana Yako, Collins Otieno, Jemimah Ndabarua, Caleb Yatich and two interns of HCD; Patrick M Mwaniki, John G. Mburu, Alphonse Olang'o and Rodgers Mumo of KNBS.

I wish to acknowledge the horticulture farming fraternity that continues to generate the data and information used in preparing this report. Since it is not possible to name each one of you that significantly contributed towards this work, kindly receive our appreciation for your invaluable input.

Methodology

The data collection exercise was preceded by development of data capturing templates. The templates were forwarded to the County Directors of Agriculture prior to the field visits. The data validation team was trained on the use of the templates and data collection procedures prior to the field visits.

Data collected from all the 47 counties was validated through county forums during which the pre-filled data templates were interrogated. The forums were attended by the CDAs and the Sub-County Agriculture Officers (SCAOs) from respective counties, chaired by a member of the validation team. A workshop was convened to clean out the data and subject it to analytical tools.

The report generated from the workshop was discussed and validated by stakeholders before production of the final report.

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ACRONYMS

AFA- Agriculture and Food Authority

ALV – African Leafy Vegetables

CDA- County Director of Agriculture

Ha- Hectare

HCD- Horticultural Crops Directorate

MoALF- Ministry of Agriculture, Livestock and Fisheries

MT- Metric Ton

KES- Kenya Shillings

KNBS- Kenya National Bureau of Statistics

SCAO- Sub- County Agriculture Officer

1 CHAPTER ONE

1.0 INTRODUCTION

The agriculture sector is the mainstay of Kenya's economy contributing 29.3 to the Gross Domestic Product (GDP) and accounting for 80 of national employment. According to the Kenya Economic Survey 2020, the leading subsectors in 2020 were Dairy, Horticulture and Tea, in that order.

The domestic value of horticulture production in 2020 amounted to Kshs285.4 Billion compared to Kshs269.68 Billion in 2019 equivalent to an increase of 5.8 per cent. Over the same period, cultivated area decreased by 6.7 per cent from 483,094 ha to 453,636 ha while total production increased by 7.4 per cent from 7.9 million tons in 2019 to 8.5million tons in 2020.

In 2020, floriculture registered 16 percent drop in volume of flowers exported from 173,719 tons to 146,034 tones but the value increased by 3.0 per cent increase in value from Kshs104.14 billion in 2019 to Kshs107.5 billion due to improved prices in the international market as a big percent of flowers were sold direct to consumers in 2020. The industry accounted for accounting for 39.43 per cent of the total domestic value of horticulture though valued at FOB.

Fruits production showed great improvement during the period under review. In 2020, the area increased by 6 percent while production and value increased by 14 and 9 percent respectively. This was attributed to coming to production young orchards that were not earlier in production and good rains experienced in most parts of the country as the major fruits are grown under rain fed conditions. Fruits accounted for 31.07 percent of domestic production valued at farm gate price.

Exotic Vegetable area dropped by 1 percent while production increased by 5 percent compared to the same period in 2019. The value increased by Kshs4 billion a 6 percent due to increased production and improved farm gate prices realized by the major vegetables. The vegetables accounted for 24.68 percent by value of domestic horticulture valued at farm gate.

Indigenous vegetables popularly known as African leafy vegetables performed poorly as the area dropped from 98,940 ha to 54,235 ha while production decreased from 374,489 tons to 303,666 tones valued at Kshs8.94 billion compared to Kshs10.25 realized in 2019. The area decreased in area was attributed to farmers growing other food crops especially in the semi-arid areas that received good rains that favored the production of maize and beans.

Aromatics performance was very good as the area by 16.1 percent while production rose by 15.6 percent. The value went up by 15.8 percent due increased production and better farm gate prices realized during the year 2020. Aromatic production is normally compromised partly due to cheap imports from low cost producing countries like Tanzania that has discouraged domestic producers.

Table 1: Summary of Performance of Horticultural products per category for the years 2019-2020

Crop Type	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Flowers	3,740	173,719	104,141,752,588	3,850	146,034	107,508,570,585	37.67
Fruits	207,245	3,927,971	80,311,160,381	218,762	4,420,689	88,692,366,066	31.07
Exotic Veg	159,081	3,237,650	66,446,964,965	157,262	3,406,137	70,449,643,412	24.68
Indigenous Veg	98,940	374,489	10,251,436,747	54,235	303,666	8,944,431,110	3.13
Aromatics	13,471	167,056	7,345,466,665	15,639	193,068	8,502,587,840	2.98
Asian	3,417	33,070	1,175,167,155	3,681	32,479	1,304,993,296	0.46
Medicinal	200	527	16,176,400	207	549	16,444,040	0.01
Total	486,094	7,914,482	269,688,124,901	453,636	8,502,622	285,419,036,349	100.00

Source: AFA-Horticulture Crops Directorate

NB: Flowers are valued at FOB while others are valued at farm gate prices

1.1 Horticultural Exports

The total value of Horticultural produce exported rose from Kshs142.72 billion in 2019 to Kshs150.16 billion in 2020 representing a 5.2 percent increase. The value of flowers exports increased by 3.2 from Kshs104.14 billion in 2019 to Ksh107.51 billion. Fruits exported value increased by 39.7 from Kshs13.19 billion in 2019 to Kshs18.43 billion in 2020. During the period under review the value of vegetables exports decreased by 4.6 from Kshs25.39 billion in 2019 to Kshs24.23 billion in 2019. Despite the total value of exports increasing by 5.2 percent, the total Export volumes declined by 4.5 from 328,335,450 Kgs in 2019 to 313,668,506 Kgs in 2020. In 2020, flower exports accounted for 72 percent of the total export values while vegetables and fruits accounted for 16 and 12 percent of the total value respectively.

Table 2: Fresh Horticultural Exports

CROP	2018		2019		2020		% Of Total Value
	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	
FLOWERS	161,227,194	113,165,186,323	173,719,297	104,141,752,588	146,033,547	107,508,570,585	72
VEGETABLES	98,414,278	27,685,191,354	72,733,461	25,387,785,979	62,575,409	24,228,432,839	16
FRUITS	75,552,997	12,831,093,042	81,882,692	13,189,032,129	105,059,550	18,426,943,075	12
TOTAL	335,194,469	153,681,470,719	328,335,450	142,718,570,696	313,668,506	150,163,946,499	100

Source: AFA-Horticulture Crops Directorate

1.2 Flower Exports 2019-2020

In 2020, floriculture contributed Kshs107.5 billion up from Kshs104.14 realized in 2019. The volume decreased from 173,719,297 tons in 2019 to 146,033,547 tons in 2020 but the value increased from 104.14billion to 107.5billion in 2020 accounting for 3 percent increase. The increase in value was attributed to high unit price realized for the Kenyan flowers especially roses and cuttings which a verage prices increased by 34 and 28 percent respectively. Flowers exports accounted for 74 percent of total horticulture value. The leading flowers per value were roses, cuttings and mixed flowers accounting for 70.8, 13.0 and 10.2 percent of total flower exports.

Table 3: Summary of Flowers export 2018-2020

Flower type	2018		2019		2020		% of Total Value
	Volume (Kg)	Value (Kshs)	Volume (Kg)	Value (Kshs)	Volume (Kg)	Value (Kshs)	
Roses	129,688,504	72,885,329,999	138,208,040	71,839,170,457	109,662,008	76,162,646,852	70.8
Cuttings	2,634,371	16,599,630,173	3,092,155	11,769,636,781	2,878,068	13,985,917,196	13.0
Mixed Flowers	14,167,462	14,489,864,245	17,267,381	12,491,349,356	21,448,065	11,014,627,017	10.2
Gypsophilla / Million Stars	2,423,889	1,103,781,970	2,398,205	1,467,003,538	1,593,222	947,094,115	0.9
Alstroemeria	2,190,182	1,038,594,723	2,225,863	1,115,351,432	2,046,669	934,704,656	0.9
Hypericum	2,215,107	889,362,493	2,370,341	1,098,617,349	2,013,106	954,302,241	0.9
Carnation / Dianthus	1,501,506	1,606,922,475	1,339,274	709,601,026	1,101,331	602,234,330	0.6
Others	6,406,173	4,551,700,245	6,818,038	3,651,022,649	5,291,079	2,907,044,178	2.7
Total	161,227,194	113,165,186,323	173,719,297	104,141,752,588	146,033,547	107,508,570,585	100.0

Source: AFA-Horticulture Crops Directorate

1.3 Fruits Exports 2018-2020

During the period under review, the volume of fruits exported increased from 75,552,997 kilos in 2018 to 81,882,692 kilos in 2019 representing 6.32 million kilos an 8.4 percent rise. The value increased marginally by 357.9 million shilling a 2.8 percent increase.

Table 4: Summary of fruits export 2018-2020

Fruit Type	2018		2019		2020		% of Total Value
	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	
Avocado	64,477,082	10,839,367,033	59,331,039	10,616,276,977	72,049,208	14,735,103,016	80.0
Pineapple	494,759	29,887,183	12,298,432	850,913,106	24,491,911	2,132,028,965	11.6
Mango	9,659,925	1,612,454,056	9,446,610	1,424,695,762	7,114,721	1,059,193,050	5.75
Raspberries	264,196	153,960,221	165,303	97,276,960	479,305	297,358,125	1.6
Passion F.	595,959	179,989,749	596,673	190,128,972	791,268	169,637,879	0.9

Lemon	574	281,627	817	435,746	37,952	11,796,468	0.06
Others	6,561	4,496,689	1,411	582,766	27,075	8,629,660	0.05
Pawpaw	8,558	1,331,632	11,461	1,543,668	42,924	8,344,475	0.05
Custard	30,712	6,327,252	22,735	5,352,183	20,382	3,873,861	0.02
Apple	14,671	2,997,600	8,211	1,825,989	4,804	977,576	0.01
Total	75,552,997	12,831,093,042	81,882,692	13,189,032,129	105,059,550	18,426,943,075	100

Source: AFA-Horticulture Crops Directorate

1.4 Vegetable exports 2018-2020

During the period under review vegetable exports volumes decreased from **72,733,461** tons in 2019 to **62,575,409** tons in 2020 which has been experienced from 2018. The value also decreased from Ksh27.68 billion 2018 to Ksh25.38 billion in 2019 and down to Kshs24.23 in 2020 representing 8 and 5 percent drop in 2019 1nd 2020 respectively. Mixed vegetables, fine beans, herbs and basils were the leading products accounting for 59, 19.5, 7 and 5.3 percent respectively% of Total Value of vegetable exports.

Table 5: Summary of vegetable exports 2018-2020

Flower Type	2018		2019		2020		% of Total Value
	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	
Mixed Vegetables	31,010,079	12,670,136,843	35,710,305	12,564,969,369	35,730,604	14,061,147,576	58.0
Fine Beans	22,098,505	6,328,868,135	18,416,901	5,651,615,992	14,495,698	4,726,721,606	19.5
Herbs	2,525,736	1,328,004,574	3,548,833	1,919,421,821	3,070,512	1,699,937,146	7.0
Basil	987,924	1,735,367,721	1,716,753	928,387,145	1,797,074	1,288,418,754	5.3
Snow/Mangetout	2,154,385	813,483,030	2,296,582	906,994,859	1,910,601	666,969,527	2.8
Chillies	1,056,623	279,932,412	1,286,413	244,684,534	1,980,396	553,563,058	0.0
Broccoli	574,602	238,922,230	855,081	309,969,119	830,923	309,754,526	1.3
Others	6,599,689	160,162,737	613,315	222,343,129	459,098	298,343,001	1.2
Snap Peas	687,190	344,300,113	859,517	1,535,765,586	924,857	262,725,466	1.1

Aubergines	1,176,377	269,743,906	1,387,226	242,620,823	896,211	130,696,802	0.5
Garden Peas	22,938	116,892,976	197,131	87,734,917	240,341	101,259,310	0.4
Chives	158,732	87,902,729	182,592	126,685,689	126,234	77,704,469	0.3
Baby Corn	61,684	38,666,645	85,077	51,110,276	112,860	51,191,598	0.2
Bean Processed	29,299,814	3,272,807,303	5,577,735	595,482,720	-	-	
Total	98,414,278	27,685,191,354	72,733,461	25,387,785,979	62,575,409	24,228,432,839	100.0

Source: AFA-Horticulture Crops Directorate

1.5 Herbs & Spices Exports 2019-2020

The volume of Herbs and spices increase by 2,095,485 kilos representing 43 percent increase while the value dropped by 182 million shillings a 5 percent drop.

Table 6: Summary of herbs and spices exports 2019-2020

Crop	2018		2019		2020		% of Total
	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	Volume (Kg)	Value (Ksh)	
Herbs	1,727,001	1,377,926,492	2,525,736	1,328,004,574	3,548,833	1,919,421,821	57.7
Basil	445,408	211,229,114	987,924	1,735,367,721	1,716,753	928,387,145	27.9
Chillies	1,388,462	374,617,575	1,056,623	279,932,412	1,286,413	244,684,534	7.4
Chives	134,307	61,954,063	158,732	87,902,729	182,592	126,685,689	3.8
Pepper mint	25,038	10,062,258	65,351	26,590,126	74,962	31,123,670	0.9
Thyme	23,553	10,092,017	31,092	14,157,545	46,433	24,623,476	0.7
Parsley	6,015	3,811,204	28,306	10,506,039	62,771	19,803,730	0.6
Tarragon	11,376	6,542,254	15,622	8,292,939	18,686	9,434,273	0.3
Coriander/Dhania	12,363	6,524,442	18,478	7,651,250	22,735	9,175,047	0.3
Rosemary	5,844	4,250,138	6,645	3,125,154	11,005	5,091,410	0.2
Others	17,209	7,463,009	13,494	5,570,804	32,306	5,950,500	0.2
Total	3,796,576	2,074,472,566	4,908,003	3,507,101,293	7,003,488	3,324,381,295	100.0

2 Review of Performance of Horticultural Crops by Category

2.1 Exotic Vegetables

In 2020, Exotic vegetables contributed 21.78 percent to the domestic value of horticulture. The area, production and value were 157,262ha, 3.4 million tons valued at Kshs70.449 billion respectively. The area decreased from 159,081ha in 2019 to 157,262ha a 1 percent decrease while production increased from 3.2million tons in 2019 to 3.4million tons in 2020 and the value rose from Kshs66.446 billion to 70.449billion representing 5 and 6 percent increase respectively. The increase in value was attributed to increased production and better farm gate prices realized in garden peas that accounts for 15.9 percent of the exotic vegetables. The leading vegetables per value were tomatoes, Garden peas, Cabbage, Kales, French beans and spinach accounting for 29.4, 15.9, 14.9, 6.0 and 5.3 per cent of the total value of exotic vegetables, respectively. These are the most popular and widely consumed exotic vegetables in the country jointly accounting for 81 percent of all exotic vegetables.

Table 7: Summary of Performance of Exotic Vegetables in 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Tomato	29,086	936,787	25,136,419,090	31,486	973,304	20,685,272,770	29.4
Gardern Peas	20,626	145,025	5,817,991,000	23,707	229,816	11,233,551,759	15.9
Cabbage	33,473	991,549	10,743,341,479	30,258	977,054	10,501,459,488	14.9
Kales	37,730	654,067	9,604,617,372	37,871	668,666	10,454,660,761	14.8
French Beans	8,286	68,905	3,902,259,323	8,180	83,530	4,205,300,926	6.0

Spinach	10,359	202,649	3,628,830,597	9,349	238,452	3,729,358,253	5.3
Runner Beans	60	1,509	257,837,500	556	15,752	2,346,597,500	3.3
Carrots	8,586	107,322	1,865,618,255	5,454	87,512	2,214,754,579	3.1
Snow Peas	3,356	33,049	2,320,278,500	2,537	25,308	1,708,659,920	2.4
Bellpeper	1,849	16,402	716,333,557	2,236	26,462	1,043,497,181	1.5
Butternuts	1,487	31,022	722,892,977	1,755	35,829	813,596,889	1.2
Snap Peas	979	9,660	481,310,000	1,014	10,021	494,881,000	0.7
Brocoli	622	9,656	332,221,010	347	3,242	225,186,600	0.3
Butternut	861	13,299	359,714,975	691	9,846	183,628,464	0.3
Babycorn	63	672	17,775,000	269	6,215	154,649,142	0.2
Cucumber	405	4,320	136,864,000	508	5,925	144,193,859	0.2
Coutgete	675	5,265	205,676,085	613	3,918	139,326,424	0.2
Others	578	6,492	196,984,245	431	5,285	171,067,897	0.2
Total	159,081	3,237,650	66,446,964,965	157,262	3,406,137	70,449,643,412	100.0

Source: AFA-Horticulture Crops Directorate

2.2 Fruit Production

During the period under review fruits accounted for 31.07percent of the domestic value of horticulture. The area under fruit increased from 207,245 ha in 2019 to 218,762 ha in 2020, while production and value increased by 492,718tons and Kshs8.381billion representing 13 and 10 percent rise respectively compared to 2019. This was attributed to expanded area especially under avocado and water melons and also increase in irrigated area under fruits. In 2020, the area increased by 6 percent due to increased promotion of fruit farming by both the national and county governments.

The major fruits grown in order of importance are; banana 32.73 percent, Mango 17.34 per cent, Pineapple 13.56 percent, avocado 10.64 percent, water melon 9.08 percent and pawpaw 4.66 per cent.

Table 8: Summary of Fruits production by Area, Volume and Value in 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Banana	71,901	1,512,013	24,622,881,364	72,486	1,871,521	29,028,891,206	32.73
Mango	56,090	900,863	15,260,446,464	56,437	809,857	15,379,435,988	17.34
Pineapple	10,502	379,578	11,442,049,425	10,728	381,441	12,029,012,439	13.56
Avocado	20,240	420,430	9,003,403,239	26,481	500,274	9,438,124,806	10.64
Water Melon	15,999	330,936	7,283,389,780	17,528	386,261	8,055,494,170	9.08
Pawpaw	7,969	119,449	4,121,979,701	8,923	120,474	4,130,727,360	4.66
Orange	9,291	78,040	1,907,023,284	12,604	145,445	3,522,833,425	3.97
Lime	4,955	74,590	2,380,839,822	2,951	82,110	2,161,375,000	2.44
Purple Passion	2,156	25,140	1,443,618,026	2,009	25,400	1,547,555,900	1.74
Tree Tomato	1,156	17,443	1,057,602,944	1,321	21,776	1,201,514,785	1.35
Yellow Pasion	1,406	16,886	562,760,578	1,313	16,479	578,400,400	0.65
Lemons	2,043	16,142	376,220,443	2,050	16,486	476,850,000	0.54
Tangerine	1,149	11,512	247,693,541	1,377	16,434	418,054,690	0.47
Guavas	1,015	11,149	274,302,350	982	10,725	296,260,295	0.33
Luquats	308	4,815	70,002,248	313	4,917	84,389,342	0.10
Pears	189	1,255	36,261,505	188	1,215	66,188,362	0.07
Grapes	51	168	18,548,000	65	668	40,221,000	0.05
Plums	190	1,239	36,954,818	214	1,343	38,951,805	0.04
Grapefruit	173	2,821	47,528,747	193	2,468	36,100,045	0.04
Others	462	3,502	117,654,102	599	5,395	161,985,048	0.18
Total	207,245	3,927,971	80,311,160,381	218,762	4,420,689	88,692,366,066	100.00

Source: AFA-Horticulture Crops Directorate

2.3 Indigenous Vegetables (African Leafy Vegetables)

In 2020, the area, volumes and values decreased by 45, 19, and 13 percent respectively. The area under these vegetables was 54,235 ha producing 303,666 tons worth Kshs8.944 billion down from 98,940ha producing 374,489tons valued at Kshs10.25 billion realized in 2019. In this category of vegetables, Cow peas contributed 37.4 percent followed by African Nightshade, spider plant, leaf Amaranthus and pumpkin fruits that contributed 20.5, 14.7, 9.3 and 9.1 percent respectively. Export of dried ALVs is on the increase due to increased demand by Kenyans in the diaspora particularly in United Kingdom and Germany.

Table 9: Summary of Indigenous vegetables by Area, Volume and Value in 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Cowpea	79,535	159,386	3,512,308,830	36,018	113,666	3,348,701,203	37.4
African Nightshade	6,950	69,254	2,397,810,725	5,917	58,909	1,831,009,726	20.5
Spider Plant	4,280	35,295	1,229,098,895	3,949	36,445	1,315,530,681	14.7
Leaf Amarantha	3,996	54,813	1,322,286,150	3,237	38,172	831,076,886	9.3
Pumpkin Fruits	1,487	31,022	722,892,977	1,755	35,829	813,596,889	9.1
Sleder	355	7,107	350,836,860	841	5,605	260,730,596	2.9
Pumpkin Leaves	903	6,650	147,623,496	900	6,172	158,159,801	1.8
Jute Mallow	672	5,894	309,079,967	657	3,373	155,029,483	1.7
Grain Amarantha	453	3,020	178,728,617	511	2,459	127,453,939	1.4
Russian Confrey	75	644	19,460,000	163	1,354	50,321,660	0.6
Vine Spinash	193	811	33,530,230	217	1,030	29,476,001	0.3
Malabor	41	593	27,780,000	70	652	23,344,245	0.3
Total	98,940	374,489	10,251,436,747	54,235	303,666	8,944,431,110	100.0

Source: AFA-Horticulture Crops Directorate

2.4 Aromatic Plants

Aromatic crops accounted for 2.98 of the total value of horticultural products in 2020. The area under production rose by 2,168ha in 2020 and production increased by 26,012 tons while the value also increased from 7.34billion to 8.5billion in 2020 compared with 2019. This was a 16.1 percent increase in area, 15.6 percent rise in production and 15.8percent increase in value respectively. The leading crops in this category were bulb onions, spring onions, coriander, and garlic accounting for 51.29, 12.61, 10.06, and 6.79 percent respectively.

Table 10: Summary of the performance of Aromatics for the years 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Bulb Onions	6,456	98,924	4,024,486,974	6,992	115,113	4,871,457,116	57.29
Spring Onions	2,975	29,481	826,573,835	2,830	35,520	1,072,430,581	12.61
Corriander	807	13,854	794,338,618	1,086	16,942	854,949,477	10.06
Garlic	265	3,181	572,653,675	266	3,162	577,449,600	6.79
Abc	722	8,497	440,805,252	607	6,791	337,175,600	3.97
Long Cayene	317	3,260	245,624,635	328	3,395	280,051,800	3.29
Bixa	1,253	2,768	185,570,000	2,775	2,859	192,940,000	2.27
Bullet Chilli	145	1,717	79,264,560	165	2,504	111,767,900	1.31
Rosemary	147	1,336	57,781,447	149	1,597	56,570,000	0.67
Stavia	176	1,465	43,775,000	172	1,663	53,175,000	0.63
Lemongrass	96	1,725	38,514,000	104	1,744	41,300,000	0.49
Chives	32	200	10,566,520	25	245	15,793,000	0.19
Persley	24	238	9,100,000	72	925	14,968,000	0.18
Ginger	26	239	7,182,000	39	359	10,880,000	0.13
Others	30	171	9,230,149	29	249	11,679,766	0.14
Total	13,471	167,056	7,345,466,665	15,639	193,068	8,502,587,840	100.00

Source: AFA-Horticulture Crops Directorate

2.5 Asian Vegetables

During the year under review, there was a decrease in area from 3,417ha to 3,681 ha while volume decreased from 33,070 to 32,479 tons. The value increased from 1.175Bilion to 1.305bilion in 2020 mainly due to improved farm gate prices realized. Most of the vegetables were consumed locally due to self-imposed stringent measures due to quarantine pests that has hampered the export of the same.

The leading vegetables in this category were eggplant, dudhi and okra accounting for 40.1, 26.9 and 23.8 percent of the total value of Asian vegetables.

Table 11: Summary of Asian Vegetables by Area, Volume and Value in 2019-2020

Crop	2019			2020			% Of total
	Area (Ha)	Volume (Tons)	Value (Kshs)	Area (Ha)	Volume (Tons)	Value (Kshs)	
Eggplant	996	11,381	329,311,082	1,585	15,286	523,766,111	40.1
Dudhi	612	6,792	226,624,830	355	7,107	350,836,860	26.9
Okra	1,242	9,089	384,473,243	1,445	7,335	310,656,825	23.8
Karella	230	2,535	130,800,000	106	820	59,048,500	4.5
Tindori	124	1,588	55,413,000	63	1,217	40,565,000	3.1
Turia	101	555	16,130,000	102	555	16,130,000	1.2
Valore	112	1,130	32,415,000	25	159	3,990,000	0.3
Total	3,417	33,070	1,175,167,155	3,681	32,479	1,304,993,296	100.0

Source: AFA-Horticulture Crops Directorate

2.6 Medicinal Plants

During the year under review, the area decreased by 7 ha while production rose by 22tons and the value went up by Kshs267,640 compared to 2019. was slight decrease in area and volume by 1.6 and 2.2 percent respectively. This was 3.5, 4.2, 1.7 percent increase in

area, production and value respectively despite depressed prices realized in 2020. There is need to encourage farmers to plant more of medicinal plants to supply the growing demand.

Table 12: Summary of Medicinal plants by Area, Volume and Value in 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Atemesia	31	310	6,200,000	32	312	6,254,500	38
Methi	12	128	5,462,000	13	132	5,487,000	33
Tunguja	137	49	3,290,000	140	58	3,453,000	21
Moringa	12	18	720,000	13	24	742,000	5
Aloe	8	22	504,400	9	23	507,540	3
Total	200	527	16,176,400	207	549	16,444,040	100

3 CHAPTER TWO

3.1 EXOTIC VEGETABLES PERFORMANCE

In 2020, Exotic vegetables contributed 21.78 percent to the domestic value of horticulture. The area, production and value were 157,262ha, producing 3.4 million tons of vegetables valued at Kshs70.449 billion. The area decreased by 1,819ha in 2020 as compared to 2019 a 1.1 percent drop, while production and value increased by 168,487tons and Kshs4.002billion representing 5.2 and 6.0 percent rise respectively compared to 2019. The increase in production and value was attributed to improved yield and farm gate prices realized especially in garden peas tomatoes that accounted for 15.9 percent of the value of exotic vegetables. The leading vegetables per value were tomatoes, Garden peas Cabbage, Kales and French beans accounting for 29.4, 15.9, 14.9, 14.8 and 6.0 per cent of the total value of exotic vegetables, respectively. These are the also

the most popular and widely consumed exotic vegetables in the country jointly accounting for 81 percent of all exotic vegetables.

Table 13: Performance of exotic vegetables for the years 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Tomato	29,086	936,787	25,136,419,090	31,486	973,304	20,685,272,770	29.4
Gardern Peas	20,626	145,025	5,817,991,000	23,707	229,816	11,233,551,759	15.9
Cabbage	33,473	991,549	10,743,341,479	30,258	977,054	10,501,459,488	14.9
Kales	37,730	654,067	9,604,617,372	37,871	668,666	10,454,660,761	14.8
French Beans	8,286	68,905	3,902,259,323	8,180	83,530	4,205,300,926	6.0
Spinach	10,359	202,649	3,628,830,597	9,349	238,452	3,729,358,253	5.3
Runner Beans	60	1,509	257,837,500	556	15,752	2,346,597,500	3.3
Carrots	8,586	107,322	1,865,618,255	5,454	87,512	2,214,754,579	3.1
Snow Peas	3,356	33,049	2,320,278,500	2,537	25,308	1,708,659,920	2.4
Bellpeper	1,849	16,402	716,333,557	2,236	26,462	1,043,497,181	1.5
Butternuts	1,487	31,022	722,892,977	1,755	35,829	813,596,889	1.2
Snap Peas	979	9,660	481,310,000	1,014	10,021	494,881,000	0.7
Brocoli	622	9,656	332,221,010	347	3,242	225,186,600	0.3
Butternut	861	13,299	359,714,975	691	9,846	183,628,464	0.3
Babycorn	63	672	17,775,000	269	6,215	154,649,142	0.2
Cucumber	405	4,320	136,864,000	508	5,925	144,193,859	0.2
Coutgete	675	5,265	205,676,085	613	3,918	139,326,424	0.2
Others	578	6,492	196,984,245	431	5,285	171,067,897	0.2
Total	159,081	3,237,650	66,446,964,965	157,262	3,406,137	70,449,643,412	100.0

Source: AFA-Horticulture Crops Directorate

3.1.1 Tomatoes (*Lycopersicon esculentum*)

Tomato is the leading vegetable accounting for 29.4 percent of the value of exotic vegetables and 12.7 of the total value of horticultural crops grown in Kenya. During the period under review, the area under production increased from 29,086ha to 31,486ha, 8 percent increase while production increased from 936,787 tons in 2019 to 973,304 tons in 2020 accounting for 4 percent increase. The value however decreased by 18 percent from 25.13 billion in 2019 to 20.68 billion in 2020 that was attributed to depressed farm gate prices. Pests and diseases remain major challenges in tomato production especially in the central Kenya counties. The leading counties were Kajiado, Kirinyaga Taita Taveta and Narok accounting for 8.8 ,8.7, 7.8 and 5.7 percent of the total value.

Table 14: Performance of Tomatoes in selected Counties in 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kajiado	2,860	66,086	2,407,180,250	3,033	62,510	1,830,280,000	8.8
Kirinyaga	3,515	62,383	2,482,120,000	3,157	64,038	1,793,233,474	8.7
Taita Taveta	2,932	144,710	1,716,650,000	3,515	71,077	1,620,838,000	7.8
Narok	1,682	35,169	1,290,490,000	1,701	31,855	1,183,474,200	5.7
Makueni	1,067	19,843	935,750,000	1,273	34,229	1,126,388,240	5.4
Bomet	574	10,137	425,900,000	1,234	28,120	1,124,800,000	5.4
Murang'a	1,262	17,991	816,888,771	1,330	27,543	1,079,443,709	5.2
Bungoma	849	17,134	1,032,290,000	694	19,397	826,427,000	4.0
Homabay	540	8,778	291,506,086	716	15,560	810,169,000	3.9
Laikipia	504	10,990	422,420,000	626	20,425	802,874,000	3.9
Nakuru	646	10,482	443,170,000	549	19,821	799,690,734	3.9
Lamu	608	12,210	628,100,000	645	12,390	788,400,000	3.8
Kitui	715	10,443	455,400,000	956	25,085	755,000,650	3.6
Kiambu	1,359	49,842	1,023,683,000	874	19,955	738,670,000	3.6
Trans nzoia	747	14,475	601,158,000	762	14,149	716,950,800	3.5

Machakos	2,294	36,248	1,454,280,500	2,022	21,407	660,365,500	3.2
Siaya	519	9,237	452,980,000	1,227	13,496	482,480,000	2.3
Meru	532	8,073	387,094,000	549	14,632	453,536,000	2.2
Migori	1,327	13,238	415,784,188	1,545	15,796	438,849,000	2.1
Kericho	161	1,198	541,540,000	174	5,636	368,200,000	1.8
Kisumu	438	7,560	424,900,000	269	3,659	148,980,000	0.7
Others	3,956	370,560	6,487,134,296	4,637	432,526	2,136,222,463	10.3
Total	29,086	936,787	25,136,419,090	31,486	973,304	20,685,272,770	100.0

Source: AFA-Horticulture Crops Directorate

3.1.2 Cabbage (*Brassica oleracea var. capitata*)

During the area under review, cabbages accounted for 6 percent of the total value of horticulture and 15 percent of all vegetable value. The area decreased from 33,473 ha in 2019 to 30,258ha in 2020 while production dropped from 991,549 tons to 977,054 the same period. The value of cabbages dropped from Kshs10.74billion to Kshs10.5billion in 2020 a 2.3 drop. The decrease was attributed excessive rains in the main production areas that that led to almost total crop failure in some areas. The leading counties were Nyandarua, Narok, Nakuru, Meru, Nyeri and Kiambu accounting for over 60.2 percent of Total Value. The leading county was Nyandarua that accounted for 18.8 percent of the total value followed by Narok, Nakuru, Meru Nyeri and Kiambu that accounted for 9.8, 9.3, 8.6, 6.9, and 6.8 of the national value respectively.

Table 15: Performance of cabbages in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyandarua	14,480	397,200	2,235,750,000	10,245	373,690	1,969,070,000	18.8
Narok	2,031	101,240	1,219,111,000	1,952	73,174	1,031,061,000	9.8
Nakuru	2,209	76,703	647,132,800	2,207	97,042	981,320,000	9.3
Meru	757	17,586	401,436,000	1,904	64,993	902,370,000	8.6

Nyeri	1,408	41,620	252,383,800	2,150	78,050	724,615,340	6.9
Kiambu	2,348	43,954	476,318,000	2,287	50,668	709,648,000	6.8
Kisii	691	28,577	557,852,000	827	27,661	663,955,600	6.3
Bomet	1,167	55,580	991,695,810	1,014	38,010	584,970,000	5.6
Elgeyo marakwet	951	25,467	530,356,269	930	23,504	487,405,760	4.6
Murang'a	414	16,430	213,292,515	930	23,504	487,405,760	4.6
Trans nzoia	603	11,955	207,946,800	483	12,600	300,425,000	2.9
Makueni	1,486	32,123	801,950,000	317	6,407	209,930,000	2.0
Laikipia	406	9,426	184,448,000	421	9,819	196,041,000	1.9
Bungoma	1,124	55,580	991,695,810	599	15,339	171,210,610	1.6
Others	3,398	78,108	1,031,972,675	3,991	82,593	1,082,031,418	10.3
Total	33,473	991,549	10,743,341,479	30,258	977,054	10,501,459,488	100.0

Source: AFA-Horticulture Crops Directorate

3.1.3 Kales (*Brassica oleracea*)

Kales or “Sukuma wiki” as commonly referred to is produced for the domestic market. It is the most popular consumed leafy vegetable in the country, grown in almost all the counties. In 2020, the area under kales production decreased by 857ha a 2.3 percent drop while production and value increased by 15,773tons and Kshs708.5 million a 2.4percent and 7.4 percent respectively. During the year under review the value of kales accounted for 14.8 percent of all the exotic vegetables by value and 5.88 percent of the total value of horticulture

Table 16: Performance of Kales in selected Counties in 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kiambu	4,601	123,855	1,183,654,200	4,356	107,355	1,258,598,000	12.0
Nakuru	2,682	68,608	765,746,200	1,762	49,059	844,742,000	8.1
Makueni	830	10,953	197,975,018	1,175	67,392	814,312,999	7.8

Narok	2,498	73,200	805,410,000	1,441	66,579	709,125,828	6.8
Siaya	1,102	20,018	314,764,875	1,765	22,868	612,960,600	5.9
Murang'a	1,009	17,571	365,244,048	1,101	29,832	565,988,938	5.4
Kitui	1,224	24,920	365,051,600	1,394	26,580	553,600,000	5.3
Machakos	3,474	24,630	420,019,000	2,140	21,498	521,551,500	5.0
Kisii	1,185	28,755	418,785,005	1,825	24,381	493,508,200	4.7
Homabay	1,671	26,640	707,614,811	2,261	21,597	380,678,000	3.6
Bungoma	698	7,723	81,861,500	1,020	18,548	373,358,636	3.6
Migori	1,086	6,479	148,028,217	3,131	26,575	328,857,912	3.1
Busia	592	4,374	195,890,000	777	8,291	262,775,045	2.5
Bomet	1,624	21,425	311,836,000	1,491	18,730	256,880,000	2.5
Kakamega	1,826	17,926	282,361,000	2,270	9,257	228,000,000	2.2
Nyamira	1,108	38,890	681,100,000	898	13,940	204,150,000	2.0
Lamu	301	7,525	180,500,000	355	8,813	178,150,000	1.7
Meru	725	12,915	297,298,000	731	15,330	170,305,000	1.6
Trans nzoia	688	20,384	463,636,000	745	9,909	143,999,000	1.4
Kisumu	561	12,050	302,500,000	486	4,637	138,420,000	1.3
Elgeyo marakwet	759	10,393	144,334,835	557	7,718	109,141,500	1.0
Nyandarua	1,605	23,700	233,000,000	735	12,100	72,800,000	0.7
Kirinyaga	489	8,430	145,640,000	458	5,620	56,820,000	0.5
Others	5,392	42,703	592,367,064	4,997	72,056	1,175,937,603	11.2
Total	37,730	654,067	9,604,617,372	37,871	668,666	10,454,660,761	100.0

Source: AFA-Horticulture Crops Directorate

3.1.4 Garden peas (*Pisum sativum*)

Garden pea is largely grown for the domestic market with some being exported in mixed pre-packs. The area increased from 20,626 ha in 2019 to 23,707 ha 2020 while production and value increased from 146,025 tons to 229,816 tons and from

Kshs5.8 billion to Kshs11.23 billion. This represented area increased by 15 percent while volumes and values increased by 58 and 93 percent respectively in 2020. The increase in volumes was attributed to improved productivity due to favorable weather condition as most garden peas are grown under rainfed conditions that led to longer harvesting period. The major producing counties were Nyandarua, Nakuru, Meru, Kiambu and Narok. Major challenges in garden pea production are powdery mildew, black spot and African boll worm.

Table 17: Performance of Garden peas in selected counties for the years 2019-2020

County	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyandarua	12,050	93,300	3,270,300,000	13,810	111,273	5,622,329,229	50.0
Nakuru	4,976	15,747	486,095,000	5,679	60,948	2,246,790,000	20.0
Meru	1,825	24,500	1,485,000,000	1,577	35,250	2,179,800,000	19.4
Kiambu	513	2,430	149,232,800	510	8,370	345,306,000	3.1
Narok	565	3,291	143,110,000	370	3,960	198,400,000	1.8
Uasin Gishu	70	593	36,814,250	664	645	191,318,000	1.7
Nyeri	170	1,578	68,070,000	260	2,320	103,677,640	0.9
Trans Nzoia	92	410	16,546,000	260	2,320	103,677,640	0.9
Laikipia	55	720	44,500,000	164	1,098	55,130,000	0.5
Elgeyo Marakwet	92	706	32,150,000	164	1,098	55,130,000	0.5
Baringo	89	694	33,350,000	99	732	34,750,000	0.3
Taita Taveta	17	245	13,800,000	21	508	33,880,000	0.3
Samburu	10	120	8,000,000	12	144	21,600,000	0.2
Bungoma	24	348	11,240,000	28	418	19,880,000	0.2
Others	79	343	19,782,950	90	732	21,883,250	0.2
Total	20,626	145,025	5,817,991,000	23,707	229,816	11,233,551,759	100.0

Source: AFA-Horticulture Crops Directorate

3.1.5 French Beans

During the year under review, the area declined by 1 percent from 8,286 Ha in 2019 to 8,180 Ha in 2020. However, the volume and value increasing by 14,625 tons and Kshs303 million respectively, representing 21 percent and 8 percent rise from what was achieved in 2019. Despite the good performance, production and marketing of French beans in Kenya has continually faced the challenge of pests and diseases increasing the cost of production. Additionally, exceedance of pesticides residues has resulted to high rejection or interception in the export market. Some of the important pests that affect production of beans are white flies, aphids and the main diseases include bean rust and bean spot.

The leading counties were Nakuru, Kajiado, Kirinyaga and Machakos accounting for 23.7, 21.8, 19.8 and 8.9 percent of the national total value respectively.

Table 18 French beans (*Phaseolus sp.*) French Beans 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nakuru	1,816	11,463	620,150,000	1,576	19,725	995,160,000	23.7
Kajiado	288	5,028	275,680,000	1,270	18,150	916,500,000	21.8
Kirinyaga	1,676	7,682	467,950,000	1,455	14,506	831,850,000	19.8
Machakos	1,591	19,388	1,140,081,250	943	6,983	372,841,250	8.9
Taita Taveta	65	904	50,835,500	272	5,505	273,655,000	6.5
Laikipia	200	2,735	147,600,000	344	2,883	172,450,000	4.1
Murang'a	853	4,225	221,151,296	937	4,629	167,047,926	4.0
Makueni	353	4,000	242,500,000	166	1,575	99,260,000	2.4
Narok	314	2,515	145,500,000	314	2,665	97,750,000	2.3
Meru	435	5,654	326,624,000	109	1,105	63,500,000	1.5
Kiambu	238	1,779	96,262,500	233	1,787	46,712,500	1.1
Others	457.00	3,532.00	167,924,777.00	562.00	4,019.00	168,574,250.00	4
Total	8,286	68,905	3,902,259,323	8,180	83,530	4,205,300,926	100.0

Source: AFA-Horticulture Crops Directorate

3.1.6 Spinach (*Spinacia oleracea*)

Spinach is an important vegetable especially among people living in cities and urban areas. During the period under review the area under spinach production decreased by 8 percent, with the volume and value increasing by 21 and 7 percent. This general increase was attributed to high demand for the spinach by urban and peri-urban. The leading counties were Machakos, Kiambu and Narok accounting for 20.1, 18.1 and 14.1 percent of the national total value respectively.

Table 19: Performance of Spinach in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Machakos	2,321	24,704	736,333,850	1,490	25,793	749,085,100	20.1
Narok	917	47,043	474,810,000	839	44,472	674,372,000	18.1
Kiambu	1,680	33,146	552,981,000	1,569	33,599	527,368,000	14.1
Makueni	377	1,761	37,156,049	451	21,577	314,492,000	8.4
Kajiado	169	3,194	59,620,000	433	8,916	208,980,000	5.6
Nakuru	665	15,498	186,520,000	791	15,802	190,200,000	5.1
Kitui	165	5,995	134,200,000	310	6,275	170,350,000	4.6
Meru	331	5,525	177,340,000	430	5,968	128,295,000	3.4
Kwale	245	1,995	124,500,000	212	1,515	115,350,000	3.1
Elgeyo Marakwet	144	1,918	27,621,390	189	2,059	54,307,700	1.5
Nyeri	254	4,489	69,292,501	196	3,066	53,054,560	1.4
Murang'a	377	1,956	41,091,864	461	2,404	49,856,295	1.3
Lamu	91	1,820	43,400,000	100	2,000	47,600,000	1.3
Kirinyaga	224	2,441	47,280,000	212	2,309	41,950,000	1.1
Nyandarua	1,243	32,620	561,763,500	580	3,950	35,300,000	0.9
Others	1,156	18,544	354,920,443	1,086	58,748	368,797,598	10.0
Total	10,359	202,649	3,628,830,597	9,349	238,452	3,729,358,253	100.0

Source: AFA-Horticulture Crops Directorate

3.1.7 Carrots (*Daucus carota*)

Carrots are mainly produced for domestic and Uganda market although there is a small volume that is exported in mixed vegetable pre-packs. The area and volume declined in 2020 by 36 and 18 percent respectively from 8,586 Ha to 5,454Ha and 107,322 tons to 87,512 tons compared to 2019. However, the value increased by 19 percent from Kshs1.87 billion in 2019 to Kshs2.21 billion in 2020. The increment in value may have been as a result of reduced volumes. The leading counties were Nyandarua, Kiambu, Nakuru, and Meru accounting for 20.1, 19.7, 15.6 and 12.1 percent of the national total value respectively.

Table 20 Performance of Carrots Peas in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyandarua	3,858	48,714	586,380,000	1,662	22,875	444,150,000	20.1
Kiambu	940	14,474	360,385,000	861	11,555	436,190,500	19.7
Nakuru	1,165	13,498	160,472,006	822	19,049	345,860,420	15.6
Meru	1,031	8,742	261,311,000	346	13,576	267,080,000	12.1
Kisii	72	1,028	18,216,192	292	4,550	194,764,200	8.8
Narok	296	2,795	85,037,500	327	3,000	126,590,000	5.7
Bungoma	68	1,616	20,418,000	84	2,055	66,227,433	3.0
Nyeri	499	9,178	212,226,674	210	3,209	43,208,670	2.0
Trans Nzoia	50	502	15,472,000	73	1,623	29,780,000	1.3
Homabay	86	860	27,100,000	18	278	10,480,000	0.5
Baringo	78	520	21,400,000	50	197	8,200,000	0.4
Bomet	73	800	16,570,000	82	350	7,260,000	0.3
Others	370	4,595	80,629,883	626	5,195	234,963,356	10.6
Total	8,586	107,322	1,865,618,255	5,454	87,512	2,214,754,579	100.0

Source: AFA-Horticulture Crops Directorate

3.1.8 Snow peas (*Pisum sativum* var. *saccharatum*)

Snow peas are mainly grown for the export market with only a small percentage being consumed locally. The area, volume and value of snow peas produced in 2020 decreased by 24, 23 and 26 percent respectively from 3,356Ha to 2,537Ha, 33,049 tons to 25,308tons and Kshs2.3 billion to Kshs1.7 billion. The main challenges in snow peas production are Powdery mildew disease, Leaf miner and Boll worm pests. The leading counties were Meru and Nyandarua, accounting for 56.47, 36 and 4 percent of the country's total value respectively

Table 21 Performance of Snow Peas in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Meru	1,218	11,790	905,700,000	1,057	12,672	964,800,000	56.47
Nyandarua	1,680	16,800	1,115,000,000	1,223	7,695	614,600,000	35.97
Laikipia	63	1,615	103,550,000	80	1,853	68,965,000	4.04
Narok	55	275	16,500,000	55	2,275	16,500,000	0.97
Nyeri	240	1,680	133,840,000	35	206	15,565,370	0.91
Trans Nzoia	38	168	8,480,000	63	252	12,600,000	0.74
Taita Taveta	34	464	22,605,000	15	263	10,880,550	0.64
Elgeyo Marakwet	6	58	2,900,000	2	20	2,000,000	0.12
Makueni	3	32	1,800,000	2	40	800,000	0.05
Kiambu	2	10	800,000	2	10	800,000	0.05
Bungoma	3	49	2,450,000	1	15	750,000	0.04
Murang'a	3	11	574,000	2	7	399,000	0.02
Others	11	97	6,079,500	-	-	-	0.00
Total	3,356	33,049	2,320,278,500	2,537	25,308	1,708,659,920	100.00

Source: AFA-Horticulture Crops Directorate

3.1.9 Bell Pepper Snow peas (*Capsicum annuum* L.)

Bell pepper also known as sweet pepper or capsicum has high demand and is grown in open field or greenhouse. The most popular variety is the green sweet pepper although the yellow and red are also popular especially with high end hotels and restaurants. The area increased by 387 ha from 1,849 to 2,236 while production increased from 16,402 tons in 2019 to 26,462 in 2020. The value increased by Kshs327 million from 716.3 to 1.043 billion representing 46 percent change compared to 2019. In summary, the area under production increased by 21 percent while, volume and value increased 61 and 46 percent respectively.

Table 22 Performance of Bell pepper in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kwale	560	6,200	285,000,000	560	6,200	285,000,000	27.3
Tana River	39	336	15,440,000	280	7,938	184,764,000	17.7
Lamu	6	28	10,368,000	231	1,858	118,480,000	11.4
Meru	11	144	7,410,400	133	1,563	72,893,100	7.0
Nakuru	8	21	4,800,000	51	1,212	72,440,000	6.9
Makueni	193	1,190	30,600,025	96	1,529	67,575,841	6.5
T/Taveta	38	394	36,000,000	40	403	35,680,100	3.4
Murang'a	121	519	19,010,800	94	555	29,459,700	2.8
Machakos	123	854	35,868,000	115	935	28,050,000	2.7
Kirinyaga	44	880	26,400,000	35	700	21,000,000	2.0
Nandi	15	130	5,571,500	24	190	20,375,000	2.0
Kajiado	161	2,004	71,780,000	119	1,090	15,825,000	1.5
Kilifi	69	342	11,480,000	54	412	12,880,120	1.2
Kitui	18	54	2,848,000	31	310	12,400,000	1.2
Others	443	3,306	153,756,832	374	1,567	1,043,497,181	6.4
TOTAL	1,849	16,402	716,333,557	2,236	26,462	1,043,497,181	100.0

Source: AFA-Horticulture Crops Directorate

3.1.10 Butter nuts (*Cucurbita moschata*)

Butter nut is grown for both domestic and export markets. In 2020 the area and volumes went up from 861ha to 915 while production went up from 13,299 tons to 14,609 tones. The value also increased from Kshs359.7million to Kshs382.7 million compared to 2019. This general upward trend in area, volume, and value was attributed to good weather and improved agronomical practices. Despite the trend, butternut faces challenges of high insect and diseases as well consumer preference of pumpkins.

Table 23 Performance of Butter nuts in selected counties for the years 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kirinyaga	127	4,663	122,535,000	129	4,756	125,430,000	32.8
Homabay	130	1,548	54,870,000	143	2,546	55,348,000	14.5
Machakos	109	1,205	37,500,000	106	1,210	38,456,000	10.0
Murang'a	86	809	25,135,782	88	812	26,543,000	6.9
Bomet	80	1,600	24,000,000	75	1,540	22,359,000	5.8
Meru	44	531	14,346,200	48	580	15,438,000	4.0
Tharaka nithi	37	356	13,415,000	38	360	14,659,000	3.8
Busia	25	500	10,000,000	24	540	9,768,000	2.6
Baringo	39	238	9,140,000	42	246	9,243,000	2.4
Trans nzoia	16	253	9,133,333	28	258	9,145,500	2.4
Embu	44	508	7,975,000	46	510	8,134,000	2.1
Migori	20	270	7,700,000	18	280	7,820,000	2.0
Elgeyo marakwet	23	316	6,771,600	24	168	6,643,900	1.7
Nakuru	22	170	5,200,000	24	178	5,326,000	1.4
Others	60	331	11,993,060	82	625	28,456,000	7.4
Total	861	13,299	359,714,975	915	14,609	382,769,400	100.0

Source: AFA-Horticulture Crops Directorate

3.1.11 Snap peas (*Pisum sativum* var. *macrocarpon*)

Snap peas is mainly grown for the export market. The area under Snap peas increased from 979 ha in 2019 to 1014 ha in 2020 while production rose from 9,660 tons to 10,021 tons during the same period. The value rose from Ksh481.3 million in 2019 to Ksh494.8 million in 2020. Meru, Nyeri and Taita Taveta were leading producing Counties, accounting for 53.4, 25.1, and 13.6 percent of the country's total value. The main challenges in the production of snap peas are Powdery mildew and leaf miner.

Table 24: Performance of Snap peas in selected counties for the years 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Meru	474.00	3,250.00	263,050,000.00	478.00	3,340.00	264,090,000.00	53.4
Nyeri	220.00	1,540.00	123,200,000.00	230.00	1,640.00	124,345,000.00	25.1
Taita Taveta	202.00	4,360.00	63,400,000.00	206.00	4,430.00	67,540,000.00	13.6
Laikipia	16.00	180.00	14,700,000.00	18.00	190.00	16,500,400.00	3.3
Narok	30.00	160.00	9,600,000.00	32.00	176.00	10,200,000.00	2.1
Trans Nzoia	26.00	120.00	4,820,000.00	38.00	180.00	9,560,000.00	1.9
Elgeyo Marakwet	11.00	50.00	2,540,000.00	12.00	65.00	2,645,600.00	0.5
Total	979.00	9,660.00	481,310,000.00	1,014.00	10,021.00	494,881,000.00	100.0

Source: AFA-Horticulture Crops Directorate

3.1.12 Courgettes (*Cucurbita pepo*)

The area under courgette production dropped from 675ha reported in 2019 to 613 ha in 2020 while production decreased from 5,265 tons to 3,918 tons in 2020 due to flooding in the major producing counties as most courgettes are grown along the river valley. The value decreased from Kshs205.67 million to 139.32 million due to low production and low average farm gate prices realized due to poor quality in 2020. The major producing Counties per value were Murang'a, Nakuru, Kiambu, Meru and Taita Taveta accounting for 29.6, 16.1, 13.8, 10.9 and 9.2 percent of the country's total value.

Table 25: Performance of Courgettes in selected counties for the years 2019-2020

County	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Murang'a	132	939	35,676,868	149	1,103	41,269,464	29.6
Nakuru	5	13	401,600	37	492	22,480,000	16.1
Kiambu	316	1,878	83,129,300	280	628	19,233,800	13.8
Meru	139	1,384	54,360,000	41	459	15,160,000	10.9
Taita Taveta	27	513	12,825,000	27	513	12,825,000	9.2
Laikipia	-	-	-	14	159	12,370,000	8.9
Makueni	-	-	-	8	130	6,460,000	4.6
Kirinyaga	21	245	9,100,000	22	243	5,700,000	4.1
Nyeri	18	122	3,691,999	27	125	1,778,160	1.3
Uasin Gishu	-	-	-	4	40	1,200,000	0.9
Nairobi	2	21	641,319	2	15	550,000	0.4
Machakos	2	10	450,000	2	10	300,000	0.2
Others	13	140	5,399,999	-	-	-	0.0
Total	675	5,265	205,676,085	613	3,918	139,326,424	100.0

Source: AFA-Horticulture Crops Directorate

3.2 Indigenous vegetables (African Leafy Vegetables)

In 2020, the area, volumes and values decreased by 14, 20, and 43 percent respectively. The area under these vegetables was 56,136 ha producing 299,628 tons worth Kshs8.84billion down from 98,959ha 373,178tons and 10.24billion realized in 2019. In this category of vegetables, Cow peas contributed 38.2 percent followed by African Nightshade, spider plant, leaf Amaranthus and pumpkin fruits that contributed 19.3, 14.9 9.4 and 9.2 percent respectively. Export of dried ALVs is on the increase due to increased demand by Kenyans in the diaspora particularly in United Kingdom and Germany.

Table 26: Summary of Indigenous vegetables by Area, Volume and Value in 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Cowpea	79,535	159,386	3,512,308,830	36,018	113,666	3,348,701,203	37.4
African Nightshade	6,950	69,254	2,397,810,725	5,917	58,909	1,831,009,726	20.5
Spider Plant	4,280	35,295	1,229,098,895	3,949	36,445	1,315,530,681	14.7
Leaf Amarantha	3,996	54,813	1,322,286,150	3,237	38,172	831,076,886	9.3
Pumpkin Fruits	1,487	31,022	722,892,977	1,755	35,829	813,596,889	9.1
Sleder	355	7,107	350,836,860	841	5,605	260,730,596	2.9
Pumpkin Leaves	903	6,650	147,623,496	900	6,172	158,159,801	1.8
Jute Mallow	672	5,894	309,079,967	657	3,373	155,029,483	1.7
Grain Amarantha	453	3,020	178,728,617	511	2,459	127,453,939	1.4
Russian Confrey	75	644	19,460,000	163	1,354	50,321,660	0.6
Vine Spinash	193	811	33,530,230	217	1,030	29,476,001	0.3
Malabor	41	593	27,780,000	70	652	23,344,245	0.3
Total	98,940	374,489	10,251,436,747	54,235	303,666	8,944,431,110	100.0

Source: AFA-Horticulture Crops Directorate

3.2.1 Cowpeas (*Vigna unguiculata*)

Cowpeas are grown mainly for the domestic market for leaves as a vegetable. During the year under review, the area under cow peas was 36,535Ha producing 113,666 Tons valued at Ksh3.24 Billion accounting for 34.2 percent of the total value of indigenous vegetables. This represented an decrease in area, volume and value by 55%, 29% and 5% respectively compared to 2019. The decrease in area under production was attributed to high acreage being planted with crops like maize and beans which are taken to be of food security to the farmers as the areas received better rains during the year under review. The main producing counties per value were Machakos, Makueni, Kilifi, Kitui, Kwale, Siaya, Nyamira and Taita Taveta among others.

Table 27: Performance of Cowpeas in selected counties for the years 2019-2020

County	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Makueni	43,530	32,220	546,200,000	15,579	27,675	509,310,000	15.2
Machakos	13,864	34,660	727,051,600	7,522	19,068	420,387,000	12.6
Kisii	394	2,213	79,865,133	294	3,379	334,000,000	10.0
Kisumu	21	399	16,140,000	1,017	4,187	313,310,000	9.4
Kwale	1,475	11,238	312,940,000	1,475	11,238	312,940,000	9.3
Lamu	255	2,550	51,000,000	1,769	4,940	252,426,400	7.5
Siaya	585	1,593	247,340,000	815	4,288	192,250,750	5.7
Bungoma	486	1,678	57,370,011	336	3,206	180,040,955	5.4
Nyamira	287	4,911	136,775,000	237	4,411	117,323,000	3.5
Busia	497	1,714	54,160,000	1,033	6,514	102,700,000	3.1
Homabay	387	2,206	48,583,031	690	1,785	92,877,000	2.8
Kakamega	1,621	5,580	79,940,240	1,086	2,710	78,860,250	2.4
Migori	436	1,611	43,176,029	488	2,509	73,703,960	2.2
Mombasa	164	3,282	65,640,000	164	3,288	65,760,000	2.0
Kilifi	8,618	14,726	338,640,000	1,362	4,885	59,850,000	1.8
Vihiga	71	214	12,185,000	323	1,420	44,450,000	1.3
Murang'a	132	1,312	29,836,081	134	1,322	30,083,657	0.9
Meru	166	2,275	27,310,000	242	831	22,406,000	0.7
Others	6,547	35,005	638,156,705	1,453	6,010	146,022,231	4.4
Total	79,535	159,386	3,512,308,830	36,018	113,666	3,348,701,203	100.000

Source: AFA-Horticulture Crops Directorate

3.2.2 African Nightshade (*Solanum nigrum complex*)

African Nightshade is the second most important African leafy vegetable after cowpeas. It has good potential for value addition as it can be dried and marketed locally and even exported as dried vegetable.

During the period under review, the area under production was 6,416Ha producing 64,516 tons valued at Ksh2.04 billion. In 2020, area, volume and value decreased by 8%, 7% and 15% respectively compared to 2019.

The two leading growing counties were Kisii and Nyamira Counties in value contributing to 16.8 and 13.3 percent of the total value in 2020.

Table 28: Performance of African Nightshade in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyamira	997	16,820	523,000,000	867	11,780	343,750,000	18.8
Kisumu	99	3,011	178,550,000	154	2,362	169,270,000	9.2
Uasin Gishu	72	784	26,944,000	497	7,292	157,480,000	8.6
Bomet	215	5,529	114,140,000	190	4,981	133,550,000	7.3
Busia	206	1,269	110,270,000	239	1,976	125,931,920	6.9
Homabay	624	3,868	104,715,026	369	2,211	96,972,000	5.3
Narok	184	3,425	102,900,000	193	2,955	92,570,000	5.1
Kwale	130	1,165	36,654,000	260	2,490	73,800,000	4.0
Bungoma	475	2,854	82,524,531	257	2,153	72,249,250	3.9
Migori	142	685	41,100,000	158	1,067	64,710,000	3.5
Kisii	1,143	10,335	471,918,641	101	1,521	55,112,000	3.0
Kilifi	69	560	20,323,000	199	2,344	53,303,000	2.9
Machakos	1,366	8,553	257,225,000	604	1,911	47,625,000	2.6
Nakuru	110	1,583	41,322,000	189	2,220	42,752,006	2.3
Kiambu	207	1,458	33,642,800	230	2,126	41,242,000	2.3
Nandi	87	724	24,811,821	106	846	31,402,856	1.7

Elgeyo Marakwet	134	870	23,671,475	258	1,704	29,411,600	1.6
Kakamega	250	1,191	45,656,670	323	833	27,163,500	1.5
Siaya	92	398	22,870,000	76	425	24,418,000	1.3
Baringo	119	505	15,395,000	122	457	17,340,000	0.9
Trans Nzoia	117	2,503	95,667,000	106	424	8,480,000	0.5
Others	112	1,164	24,509,761	418	4,831	122,476,594	6.7
Total	6,950	69,254	2,397,810,725	5,917	58,909	1,831,009,726	100.0

Source: AFA-Horticulture Crops Directorate

3.2.3 Spider plant (*Cleome gynandra*)

Spider plant is locally known as “Sagaa” or “Saget” and is grown for the domestic market. In 2020, the area and value decreased by 8 and 2 percent respectively. However, the volume increased by 3 percent from 35,295Ha in 2019 to 36,436Ha in 2020. The increase in volume was attributed by the good rainfall in the main production areas of the Nyanza region. Like other African leafy vegetables, spider plant vegetable is gaining a lot of popularity especially in urban areas partly because the crop does not require use of pesticides therefore the consumers consider it safe and healthy. The counties that led in production in terms of value were Nyamira, Kisii, Homabay and Uasin Gishu.

Table 29: Performance of spider plant in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyamira	752	9,480	358,250,000	820	11,010	319,100,000	24.3
Kisii	639	6,495	280,295,000	441	4,328	276,000,000	21.0
Homabay	572	3,263	90,266,111	520	3,040	115,151,500	8.8
Uasin Gishu	21	179	4,210,000	290	4,259	91,780,000	7.0
Migori	290	1,110	51,078,500	330	1,611	69,684,273	5.3
Narok	179	2,385	62,450,000	189	2,441	63,525,000	4.8

Busia	175	1,721	59,330,000	215	1,065	63,000,000	4.8
Bungoma	210	1,735	71,530,001	175	1,990	57,105,875	4.3
Siaya	46	208	10,370,000	77	497	46,780,000	3.6
Bomet	96	1,334	27,040,000	111	1,473	39,400,000	3.0
Kericho	27	448	10,160,000	38	858	34,740,000	2.6
Kakamega	163	408	15,533,530	243	677	20,798,550	1.6
Kisumu	44	281	12,279,000	48	440	19,321,000	1.5
Nandi	42	291	12,394,571	53	358	14,567,282	1.1
Vihiga	304	1,113	32,550,000	59	261	13,630,000	1.0
Machakos	164	615	18,450,000	65	195	5,850,000	0.4
Baringo	40	171	4,320,650	44	158	5,250,000	0.4
Kiambu	20	128	4,660,000	21	114	3,160,000	0.2
Trans Nzoia	42	161	4,974,000	32	146	2,620,000	0.2
Others	454	3,769	98,957,532	178	1,524	54,067,201	4.1
Total	4,280	35,295	1,229,098,895	3,949	36,445	1,315,530,681	100.0

Source: AFA-Horticulture Crops Directorate

3.2.4 Pumpkin leaves (*Cucurbita maxima*)

Pumpkin leaves are a common vegetable among some communities in Kenya. Harvesting of the pumpkin leaves reduce the production of pumpkin fruits. During the year under review, the area under production was 900 Ha producing 6,172tons valued at Kshs158.2Million. This represented a decrease in volume and increase in value by 7 percent each respectively compared to 2019. The county's leading in values were Kisii, Kirinyaga and Bomet with 24.2, 9.9 and 8.3 percent of the total value.

Table 30: Performance of Pumpkin Leave in selected counties for the years 2019-2020

COUNTY	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kisii	159	1,393	49,302,320	135	1,109	38,212,000	24.2
Kirinyaga	80	1,200	12,000,000	79	1,163	15,610,000	9.9
Bomet	30	220	2,700,000	22	440	13,200,000	8.3
Kakamega	99	275	5,348,895	126	541	12,884,150	8.1
Homabay	13	43	950,418	77	520	12,350,000	7.8
Nyamira	66	470	6,750,000	45	268	10,230,000	6.5
Busia	27	184	5,690,000	28	221	9,400,000	5.9
Meru	24	195	3,450,000	54	417	8,930,000	5.6
Migori	44	299	5,135,000	51	395	8,450,000	5.3
Siaya	25	40	2,400,000	11	138	6,875,000	4.3
Bungoma	102	1,371	28,615,560	65	266	5,995,000	3.8
Vihiga	25	49	2,053,000	28	64	2,842,000	1.8
Nandi	21	110	2,728,000	23	123	2,484,000	1.6
E/Marakwet	24	100	2,760,000	14	66	1,948,000	1.2
Machakos	20	56	1,686,600	13	64	1,932,963	1.2
Kwale	40	240	7,200,000	30	113	1,620,000	1.0
Others	105	406	8,853,703	100	264	5,196,688	3.3
Total	903	6,650	147,623,496	900	6,172	158,159,801	100.0

3.2.5 Leaf Amaranth (*Amaranthus Sp*)

Leaf Amaranth also known African Spinach or “mchicha” is produced mainly for the domestic market across most counties. It is cooked alone or in a combination with other leafy vegetables and is rich in iron.

During the year under review, the area under production was 3,228Ha producing 38,175 tons valued at Kshs.831.1 million. This represented a decrease in area volume and value by 19, 30 and 37 percent respectively compared to 2019.

Table 31: Performance of Leaf Amaranth in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Narok	254	5,770	125,950,000	257	4,930	125,980,000	15.16
Busia	162	1,207	94,650,000	167	1,371	98,835,000	11.89
Mombasa	138	3,045	76,120,000	141	3,111	77,770,000	9.36
Lamu	495	19,800	396,000,000	610	9,000	74,800,000	9.00
Kwale	260	2,490	73,800,000	260	2,490	73,800,000	8.88
Machakos	1,194	7,433	186,062,500	437	2,256	55,885,000	6.72
Kilifi	244	1,943	49,188,000	199	2,344	53,303,000	6.41
Nyamira	104	3,012	43,950,000	106	3,026	46,060,000	5.54
Kericho	12	180	6,740,000	23	610	33,450,000	4.02
Siaya	47	298	29,120,000	41	247	22,930,000	2.76
Bungoma	224	1,574	12,280,052	72	804	22,661,750	2.73
Bomet	70	1,806	36,581,760	40	1,206	18,581,760	2.24
Makueni	7	21	420,000	18	1,800	18,000,000	2.17
Kiambu	85	739	16,315,100	146	1,235	17,574,350	2.11
Nairobi	23	398	10,576,307	22	356	10,420,000	1.25
Tana River	58	214	8,550,000	63	237	9,450,000	1.14
Nandi	38	319	8,411,928	45	386	9,282,285	1.12
Kirinyaga	77	714	7,420,000	65	648	8,760,000	1.05
Kakamega	110	289	7,515,200	141	279	6,430,250	0.77
Meru	8	46	1,180,000	41	280	6,186,136	0.74
Homabay	75	750	37,500,000	33	120	5,300,000	0.64
E Marakwet	10	33	929,173	34	146	4,357,500	0.52

Baringo	20	100	2,500,000	33	141	3,445,000	0.41
Nakuru	23	67	1,300,000	22	101	2,915,000	0.35
Uasin Gishu	6	39	725,000	16	60	1,276,000	0.15
Murang'a	35	350	1,050,000	38	380	1,140,000	0.14
Embu	11	31	390,000	15	28	340,000	0.04
Kisii	190	2,093	86,421,130	2	20	200,000	0.02
Migori	10	18	180,000	11	19	190,000	0.02
Others	7	34	460,000	140	544	21,753,855	2.62
Total	3,996	54,813	1,322,286,150	3,237	38,172	831,076,886	100.00

3.2.6 Pumpkin fruit (*Cucurbita maxima*)

Pumpkin fruit consumption is gaining popularity due to its health attributes and is also used as a food security crop. During the year under review, the area under production increased by 18 percent from 1,487Ha in 2019 to 1,755Ha in 2020. The volume of pumpkin fruit and value in 2020 also increased by 15 and 13 percent respectively compared to 2019. The leading counties in production were Lamu, Meru and Kirinyaga accounting for 22.1, 10.6 and 9.8 percent of the total value respectively.

Table 32: Performance of Pumpkin Fruits in selected counties for the years 2019-2020

COUNTY	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Lamu	50	820	22,000,000	151	6,100	180,000,000	22.1
Meru	47	578	15,196,000	139	3,086	86,181,200	10.6
Kirinyaga	179	6,758	139,352,500	126	3,154	79,920,000	9.8
Nakuru	122	4,713	87,350,000	154	5,549	65,725,000	8.1
Baringo	56	1,798	39,160,000	59	2,020	44,450,000	5.5

Bomet	182	3,640	47,500,000	143	2,860	39,900,000	4.9
Bungoma	53	1,276	31,864,001	59	861	32,540,000	4.0
Kericho	43	740	13,600,000	53	991	30,533,000	3.8
Kakamega	71	310	8,174,166	120	1,061	24,104,166	3.0
E/ Marakwet	40	1,059	19,847,000	56	1,674	21,234,000	2.6
Kitui	29	641	21,100,020	27	540	17,700,000	2.2
Tana River	55	695	29,425,000	32	426	16,560,000	2.0
Murang'a	54	495	14,098,717	67	507	16,288,925	2.0
Migori	57	1,857	47,394,435	111	2,308	16,079,362	2.0
Siaya	33	1,200	48,000,000	37	148	13,950,000	1.7
Kwale	9	72	800,000	30	485	13,450,000	1.7
Trans Nzoia	16	110	13,170,000	35	440	13,200,000	1.6
Homabay	24	49	552,039	43	407	13,140,500	1.6
Busia	22	185	7,320,000	27	270	10,900,000	1.3
Nandi	23	228	23,847,000	29	303	10,527,499	1.3
Others	323	3,798	93,142,100	259	2,640	67,213,237	8.3
Total	1,487	31,022	722,892,977	1,755	35,829	813,596,889	100.0

3.2.7 Butter nuts (*Cucurbita moschata*)

Butter nut is grown for both domestic and export markets. In 2020 the area and volumes went up from 861ha to 915 while production went up from 13,299 tons to 14,609 tones. The value also increased from Kshs359.7million to Kshs382.7million compared to 2019. This general upward trend in area, volume, and value was attributed to good weather and improved agronomical practices. Despite the trend, butternut faces challenges of high insect and diseases as well consumer preference of pumpkins.

Table 33 Performance of Butter nuts in selected counties for the years 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kirinyaga	127	4,663	122,535,000	129	4,756	125,430,000	32.8
Homabay	130	1,548	54,870,000	143	2,546	55,348,000	14.5
Machakos	109	1,205	37,500,000	106	1,210	38,456,000	10.0
Murang'a	86	809	25,135,782	88	812	26,543,000	6.9
Bomet	80	1,600	24,000,000	75	1,540	22,359,000	5.8
Meru	44	531	14,346,200	48	580	15,438,000	4.0
Tharaka nithi	37	356	13,415,000	38	360	14,659,000	3.8
Busia	25	500	10,000,000	24	540	9,768,000	2.6
Baringo	39	238	9,140,000	42	246	9,243,000	2.4
Trans nzoia	16	253	9,133,333	28	258	9,145,500	2.4
Embu	44	508	7,975,000	46	510	8,134,000	2.1
Migori	20	270	7,700,000	18	280	7,820,000	2.0
Elgeyo marakwet	23	316	6,771,600	24	168	6,643,900	1.7
Nakuru	22	170	5,200,000	24	178	5,326,000	1.4
Others	60	331	11,993,060	82	625	28,456,000	7.4
Total	861	13,299	359,714,975	915	14,609	382,769,400	100.0

3.3 Aromatic Plants

Aromatic crops accounted for 2.85 % of the total value of horticultural products. The area under production and volume and value decreased in 2019 by 6.0 % and 18 % and 8 % respectively compared to 2018. The leading crops in this category were bulb onions, spring onions, coriander and garlic accounting for 60.9, 9.52, 9.48 and 7.5 percent respectively.

Table 34: Summary of the performance of Medicinal and Aromatic Plants for the years 2019-2020

Crop	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Bulb Onions	6,456	98,924	4,024,486,974	6,992	115,113	4,871,457,116	57.29
Spring Onions	2,975	29,481	826,573,835	2,830	35,520	1,072,430,581	12.61
Coriander	807	13,854	794,338,618	1,086	16,942	854,949,477	10.06
Garlic	265	3,181	572,653,675	266	3,162	577,449,600	6.79
Abc	722	8,497	440,805,252	607	6,791	337,175,600	3.97
Long Cayene	317	3,260	245,624,635	328	3,395	280,051,800	3.29
Bixa	1,253	2,768	185,570,000	2,775	2,859	192,940,000	2.27
Bullet Chilli	145	1,717	79,264,560	165	2,504	111,767,900	1.31
Rosemary	147	1,336	57,781,447	149	1,597	56,570,000	0.67
Stavia	176	1,465	43,775,000	172	1,663	53,175,000	0.63
Lemongrass	96	1,725	38,514,000	104	1,744	41,300,000	0.49
Chives	32	200	10,566,520	25	245	15,793,000	0.19
Persley	24	238	9,100,000	72	925	14,968,000	0.18
Ginger	26	239	7,182,000	39	359	10,880,000	0.13
Leeks	23	99	4,660,149	22	179	7,089,758	0.08
Tumeric	3	42	2,340,000	2	38	2,250,000	0.03
Basil	2	15	1,500,000	3	16	1,600,000	0.02
Celery	2	15	730,000	2	16	740,008	0.01
Total	13,471	167,056	7,345,466,665	15,639	193,068	8,502,587,840	100.00

3.3.1 Bulb onion (*Allium cepa* L.)

Bulb onion production in Kenya is mainly targeted for the domestic market and its demand surpasses local supply resulting in importation from neighboring countries such as Tanzania and Ethiopia. During the year under review, the area under

production was 6,992 ha, representing 8 percent increase from 2019 that was attributed to the favorable weather conditions that facilitated enough for water for both rainfed and irrigated production in most parts of the country. The volume was 115,113 tons in 2020 up from 98,924 tons in 2019, representing 16 percent increase. The value increased from Kshs4.02 billion in 2019 to Kshs4.87 billion in 2020 representing 21 percent increase. Among the major producing counties are Kajiado, Meru, Nyeri, Bungoma and Narok.

Table 35 Performance of Bulb onions in major counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kajiado	669	20,645	902,250,000	992	26,580	1,026,400,000	21.1
Meru	587	14,612	848,105,000	740	17,368	658,880,000	13.5
Bungoma	832	13,610	470,875,015	675	13,814	538,315,500	11.1
Homabay	512	1,790	66,371,517	367	5,988	530,094,000	10.9
Narok	825	12,795	381,000,000	753	6,109	288,839,750	5.9
Mandera	-	-	-	328	4,315	190,135,000	3.9
Laikipia	233	3,566	138,740,000	213	3,421	168,915,000	3.5
Nyeri	912	11,447	353,895,000	460	5,400	162,000,000	3.3
Taita Taveta	230	2,950	88,500,000	302	5,340	161,900,000	3.3
Machakos	125	961	42,424,000	322	2,754	132,050,000	2.7
Kisii	172	1,980	100,703,080	131	1,269	103,288,800	2.1
Isiolo	267	2,792	111,680,000	189	2,358	85,320,000	1.8
Tana River	34	546	24,000,000	87	1,410	84,600,000	1.7
West Pokot	93	1,395	41,850,000	152	3,050	71,750,000	1.5
Siaya	202	1,035	58,320,000	101	1,281	57,790,000	1.2
Kitui	131	3,120	124,500,000	135	1,920	57,600,000	1.2
Nakuru	49	255	14,100,000	189	2,358	85,320,000	1.8
Kisumu	64	512	30,340,000	77	615	45,240,000	0.9

Nandi	40	636	27,588,500	52	1,132	39,783,250	0.8
Bomet	76	576	20,328,000	78	612	34,040,000	0.7
Murang'a	53	684	38,520,000	49	655	32,501,306	0.7
Kiambu	186	1,000	38,130,000	69	869	29,480,000	0.6
Nyandarua	55	625	24,345,000	45	600	18,000,000	0.4
Garissa	65	419	24,100,000	51	183	9,130,000	0.2
Others	45	974	53,821,862	435	5,713	260,084,510	5.3
Total	6,456	98,924	4,024,486,974	6,992	115,113	4,871,457,116	100.0

3.3.2 Spring onion (*Allium fistulosum*)

Spring onion is a popular crop among the smallholder farmers both commercially and for their own consumption. It is popular locally due to its strong pungent smell, high production and its ability to withstand harsh weather. The area, volume and value increased by 3, 11 and 1 percent respectively. The leading counties in production were Nyandarua, Bungoma, Meru, Kisii, Narok, and Elgeyo Marakwet accounting for 15, 9.7, 8.8, 8.8, 8.5 and 8.3 percent respectively of the national value of spring onions.

Table 36 Performance of Spring onions in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyandarua	450	5,850	186,250,000	410	5,422	164,435,250	15.3
Bungoma	189	2,665	62,510,001	210	4,232	104,435,250	9.7
Meru	137	2,380	49,000,000	250	4,720	94,600,000	8.8
Kisii	300	2,461	54,197,338	83	1,297	94,511,900	8.8
Narok	325	3,640	89,280,000	291	3,859	91,681,428	8.5
Elgeyo Marakwet	176	1,494	62,046,000	169	1,478	89,405,000	8.3
Homabay	151	682	19,026,234	191	2,147	79,144,000	7.4
Nyamira	177	2,480	92,700,000	96	1,658	59,240,000	5.5
Laikipia	30	260	6,560,000	101	2,195	58,650,000	5.5

Bomet	178	866	28,885,714	170	905	27,150,000	2.5
Nandi	102	900	14,924,416	145	1,547	26,780,640	2.5
Nakuru	259	1,961	45,290,000	115	931	23,689,181	2.2
Embu	57	670	26,500,000	37	475	22,750,000	2.1
Nyeri	20	210	4,200,000	59	573	21,075,000	2.0
Siaya	52	326	7,295,200	47	585	20,550,000	1.9
Kiambu	53	246	6,515,000	58	680	16,925,000	1.6
Migori	80	579	16,850,000	63	648	16,160,000	1.5
Kericho	17	181	6,720,000	35	333	13,110,000	1.2
Kirinyaga	19	245	5,100,000	26	392	12,615,001	1.2
Uasin Gishu	37	319	8,211,000	44	313	12,540,000	1.2
Trans Nzoia	48	391	9,473,600	38	608	11,521,280	1.1
Baringo	101	574	12,310,240	67	397	7,248,000	0.7
Others	17	101	12,729,092	127	127	4,213,651	0.4
Total	2,975	29,481	826,573,835	2,830	35,520	1,072,430,581	100.0

3.3.3 Rosemary (*Rosamarinus officinalis*)

During the year under review, the area under production decreased from 487 ha to 474ha and production from 5,890 tons to 5,681 tons in 2019 representing a 2.7 and 5.2 percent drop while the value increased from 277.915million in 2018 to 285.088million in 2019 a 2.6 percent decrease. The leading counties in value in 2019 were Kajiado, Mandera and Meru accounting for 34.53, 19.41 and 10.06 percent of the countries value respectively.

Table 37 Rosemary by Area, Volume and Value in 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kajiado	147	1,800	96,000,650	152	1,920	98,450,000	34.53
Mandera	155	1,953	71,803,000	130	1,242	55,340,000	19.41
Meru	29	518	23,760,000	32	554	28,680,000	10.06
Muranga	14	275	20,457,797	15	320	21,540,000	7.56
Homabay	80	480	22,680,000	60	390	20,870,000	7.32
Siaya	11	295	18,345,000	12	320	19,650,000	6.89
Kirinyaga	15	300	12,000,000	24	350	19,540,000	6.85
Kiambu	6.0	33	2,545,200	12	125	5,234,000	1.84
Embu	4.0	17	550,000	6.5	92	4,320,000	1.52
West Pokot	6.0	90	3,800,000	7.0	98	4,245,000	1.49
Taita Taveta	5.0	55	2,475,000	7.0	80	2,284,500	0.80
Kakamega	7.0	53	2,405,000	6.0	48	2,245,000	0.79
Trans Nzoia	4.0	18	900,000	4.0	19	920,000	0.32
Nakuru	3.0	1.0	120,000	4.0	12	880,000	0.31
Vihiga	1.0	1.0	40,000	1.2	6.0	450,000	0.16
Nyeri	0.2	0.8	33,947	1.2	5.0	440,000	0.15
Total	487	5,890	277,915,594	474	5,581	285,088,500	100.00

3.3.4 Coriander (Coriandrum sativum)

Coriander, also known as “dhania or dahlia” is a popular herb grown for its aromatic leaves for export and domestic markets. During the year under review, the area under production was 707 Ha, producing 7,070 Tons valued at Ksh668.5Million. There was increase in area by 16 percent

although the volume declined by 8.7percent. Kiambu was the leading county in production accounting for 23.6 percent of the total production and value.

Table 38 Performance of coriander in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kiambu	470	10,993	636,780,000	389	9,900	645,760,000	75.5
Taita Taveta	22	599	40,775,000	21	554	38,850,000	4.5
Nakuru	26	125	4,100,000	77	1,170	29,520,000	3.5
Bungoma	3	23	1,300,000	14	1,560	23,517,500	2.8
Kajiado	35	475	29,650,000	140	900	21,562,500	2.5
Murang'a	47	400	22,859,633	59	453	13,181,257	1.5
Meru	28	261	15,660,000	35	420	12,980,000	1.5
Kirinyaga	61	363	9,755,000	53	319	11,827,000	1.4
Uasin Gishu	16	51	2,030,760	29	218	11,800,000	1.4
Homabay	4	28	1,560,000	14	178	6,600,000	0.8
Nairobi	14	141	5,738,393	15	91	3,299,000	0.4
Mombasa	5	46	1,900,000	7	70	2,100,000	0.2
Nyeri	4	32	1,650,000	10	44	1,873,970	0.2
Machakos	10	43	2,225,000	7	34	1,355,000	0.2
Others	62	274	18,354,832	216	1,031	30,723,250	3.6
Total	807	13,854	794,338,618	1,086	16,942	854,949,477	100.0

3.3.5 African birds eye chilies (*Capsicum frutescens*)

The African Bird's Eye chilies is produced for both the domestic and export markets and consumed either fresh or processed. During the year under review, the area, volume and value decrease by 16, 20 and 24 percent respectively. The leading counties in production were Tana River, Kilifi, Kwale, Lamu and Meru accounting for 72.3, 13, 4.5, 4.1 and 3.5 percent respectively of the country total value.

Table 39 Performance of African bird's eye chilies in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Tana River	277	4,875	243,750,000	275	4,875	243,750,000	72.2917
Kilifi	41	927	6,968,752	94	883	44,150,000	13.0941
Kwale	208	1,040	72,800,000	20	304	15,200,000	4.5080
Lamu	114	1,129	95,288,000	130	234	14,040,000	4.1640
Meru	2	12	696,000	18	234	11,960,000	3.5471
Kajiado	4	140	5,600,000	4	60	2,400,000	0.7118
Bungoma	18	108	4,860,000	17	41	1,845,000	0.5472
Migori	20	25	1,300,000	21	26	1,350,000	0.4004
Nandi	3	35	962,500	3	30	750,000	0.2224
Murang'a	-	-	-	3	18	540,000	0.1602
Busia	-	-	-	1	5	500,000	0.1483
Nakuru	-	-	-	2	8	400,000	0.1186
Kakamega	27	26	580,000	17	13	240,000	0.0712
Kisii	-	-	-	1	50	50,000	0.0148
Bomet	2	20	1,200,000	1	10	600	0.0002
Others	6	160	6,800,000				0.0000
Total	722	8,497	440,805,252	607	6,791	337,175,600	100.0000

3.3.6 Bullet chili (*Capsicum annuum* L.)

Bullet chili production has been slowed down by the export self-regulation occasioned by infestation by false codling moth which is a notifiable pest in the European Union market. During the year under review, the area under production decreased by 12% while the volume and value increased by 13% and 6% respectively. The major producing counties in the year 2019 were Kajiado, Tana River, Meru and Samburu.

Table 40 Performance of Bullet chilies in selected counties for the years 2019-2020

COUNTY	2019			2020			of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kajiado	26	760	36,400,000	38	820	42,350,000	37.9
Kirinyaga	13	72	3,830,000	25	740	28,543,000	25.5
Meru	17	241	16,400,000	20	260	18,543,000	16.6
Tana River	21	250	9,400,000	16	220	7,345,000	6.6
Samburu	5	105	3,440,000	6	68	2,654,000	2.4
Makueni	7	96	2,640,000	8	64	2,254,000	2.0
Kwale	8	64	1,920,000	6	58	2,143,000	1.9
Homabay	15	25	810,000	14	46	2,023,400	1.8
Kilifi	8	32	1,278,360	7	49	1,876,000	1.7
Migori	9	15	650,000	6	42	1,665,400	1.5
Taita Taveta	5	11	425,000	6	38	876,500	0.8
Murang'a	2	3	145,000	3	32	465,800	0.4
Embu	3	13	410,000	4	29	456,700	0.4
Kakamega	3	9	270,000	3	18	353,600	0.3
Bomet	2	20	1,200,000	2	18	132,500	0.1
Turkana	1	1	45,000	1	2	86,000	0.1
Total	145	1,717	79,264,560	165	2,504	111,767,900	100.0

3.3.7 Garlic (*Allium sativum*)

Garlic is a leading source of income among the herbs and spices farmers. In 2019 the area under production was 266Ha producing 3,162tons valued at Kshs577.449Million. This represented an increase in area and value by 0.3while the value dropped by 0.8 percent respectively compared to 2018. The leading counties were Meru, Homabay, Kajiado and Makueni that accounted for 64.94, 18.01, 6.11 and 3.68 percent of the country total value.

Table 41 Performance of Garlic in selected counties for the years 2019-2020

COUNTY	2019			2020			% Of total
	Area (Ha)	Volume (Tons)	Value (Kshs)	Area (Ha)	Volume (Tons)	Value (Kshs)	
Nyeri	86	860	375,000,000	86	860	375,000,000	64.94
Homabay	65	1,300	104,000,000	65	1,300	104,000,000	18.01
Kajiado	12	322	32,760,000	12	340	35,300,000	6.11
Makueni	40	119	21,250,000	40	119	21,250,000	3.68
Migori	13	158	9,227,100	13	158	9,227,100	1.60
Narok	13	86	8,600,000	13	58	7,280,000	1.26
Bungoma	10	158	8,800,000	10	124	7,000,000	1.21
Samburu	3	42	5,940,000	3	45	6,750,000	1.17
Kitui	12	92	5,205,000	12	92	5,205,000	0.90
Busia	4	10	500,000	6	15	5,000,000	0.87
Kisumu	4	15	634,575	3	35	800,000	0.14
Kwale	2	15	450,000	2	11	337,500	0.06
Nakuru	0	4	187,000	1	4	200,000	0.03
Trans Nzoia	1	1	100,000	1	1	100,000	0.02
Total	265	3,181	572,653,675	266	3,162	577,449,600	100.00

3.3.8 Long cayenne (*Capsicum annum*)

The area under Long cayenne dropped from 406 ha in 2018 to 317 while production dropped from 3,424 tons to 3,260tons and the value dropped from 249.11 million to 145.62. Production has faced many challenges especially quarantine pests that have made it difficult to take the products to the export market thus

reducing the area under production. The leading counties were Kajiado, Lamu, Kiambu and Makueni accounting for 23.4, 14.2, 9.4 and 8.0 percent of the country's total value.

Table 42 Performance of Long Cayenne in selected counties for the years 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kajiado	35	600	57,400,000	36	620	58,543,000	20.9
Lamu	26	443	35,000,000	25	452	36,540,000	13.0
Kiambu	31	282	23,055,000	32	278	22,456,000	8.0
Meru	16	175	13,052,000	18	186	20,123,000	7.2
Makueni	15	280	19,550,000	16	278	19,345,000	6.9
Murang'a	13	128	8,340,000	15	182	16,342,000	5.8
Kwale	28	164	12,920,000	14	176	14,240,500	5.1
Bungoma	24	230	10,800,000	16	185	13,456,000	4.8
Machakos	12	125	12,450,000	13	132	12,865,000	4.6
Laikipia	7	112	9,400,000	8	106	10,956,000	3.9
Kirinyaga	9	64	6,810,000	10	72	8,324,300	3.0
Tana River	18	127	6,550,000	16	108	7,234,000	2.6
Taita Taveta	16	145	5,996,000	15	128	6,875,000	2.5
E Marakwet	10	69	4,885,000	8	65	5,432,000	1.9
Busia	12	48	4,600,000	11	44	4,453,000	1.6
Bomet	6	43	3,600,000	6	38	4,213,000	1.5
Others	39	226	11,216,635	69	345	18,654,000	6.7
Total	317	3,260	245,624,635	328	3,395	280,051,800	100.0

3.3.9 Chives (*Allium schoenosprasum* L)

The area under chives production decreased from 36.3ha in 2018 to 32.1 2019 and production dropped from 207 tons to 200 tons in 2019. The value increased from Kshs10.29million in 2018 to 10.56million in 2019 due to improved prices. Chives are mainly grown for the export market although it has gained popularity in the local market especially in hotels. The major challenge in chives production is thrips which is a major pest. The leading producers were Taita Taveta and Meru counties accounting for 41.7 and 16.4 percent of the national total.

Table 43 Performance of Chives in selected counties for the years 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Meru	1	56	2,775,000	4	88	7,432,000	47.1
Taita Taveta	8	74	7,080,000	7	76	6,065,000	38.4
Kwale	14	38	328,320	7	43	1,087,000	6.9
Trans Nzoia	2	1	80,500	3	23	678,000	4.3
Siaya	2	1	80,500	2	5	210,000	1.3
Kisumu	1	3	75,000	1	4	178,000	1.1
Kilifi	1	3	75,000	1	3	87,000	0.6
Migori	3	25	50,000	1	3	56,000	0.4
Total	32	200	10,566,520	25	245	15,793,000	100.0

3.4 Asian Vegetables

Table 44 Summary of the Performance of Asian Vegetables for the years 2019-2020

Crop	2019			2020			% Of total
	Area (Ha)	Volume (Tons)	Value (Kshs)	Area (Ha)	Volume (Tons)	Value (Kshs)	
Eggplant	996	11,381	329,311,082	1,585	15,286	523,766,111	40.1
Dudhi	612	6,792	226,624,830	355	7,107	350,836,860	26.9

Okra	1,242	9,089	384,473,243	1,445	7,335	310,656,825	23.8
Karella	230	2,535	130,800,000	106	820	59,048,500	4.5
Tindori	124	1,588	55,413,000	63	1,217	40,565,000	3.1
Turia	101	555	16,130,000	102	555	16,130,000	1.2
Valore	112	1,130	32,415,000	25	159	3,990,000	0.3
Total	3,417	33,070	1,175,167,155	3,681	32,479	1,304,993,296	100.0

3.4.1 Eggplant (*Solanum melongena*)

Eggplant is grown for both domestic and export markets. In 2020 the area decreased from 1,537 ha to 1,197 ha but the production increased from 14,783 to 16,526 due to increased productivity. The value increased from 509.14 million in 2019 to 537.05 million in 2020 a 5 percent increase. The area dropped by 22 percent due to low water levels in the producing area but production went up by 12 percent. Compared to 2019. This general upward trend in area, volumes and values is attributed to favorable weather conditions and good export and domestic markets in particular in coastal region and Nairobi. The leading counties in value are Lamu, Taita Taveta, Kwale and Makueni which accounted for 21.2, 19.4, 14.2 and 12.2 percent respectively

Table 45 Performance of Eggplant in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Lamu	40	1,090	54,500,000	54	2,050	113,800,000	21
Taita Taveta	171	3,827	94,860,000	247	3,514	104,025,200	19
Kwale	240	2,100	63,000,000	280	2,700	76,500,000	14
Makueni	627	3,099	155,390,018	190	2,719	65,682,087	12
Machakos	108	1,112	39,127,500	109	2,035	64,913,555	12
Nakuru	6	26	1,880,000	27	597	35,380,000	7
Kilifi	156	1,407	39,710,250	83	1,211	30,264,000	6
Meru	80	849	30,966,000	24	189	9,015,000	2
Mombasa	13	262	5,462,400	14	270	8,100,000	2

Kajiado	8	180	3,600,000	16	230	6,150,000	1
Kiambu	43	291	7,455,300	28	203	4,734,200	1
Baringo	12	216	4,320,000	14	219	4,350,000	1
Murang'a	11	157	3,361,643	14	163	3,634,384	1
Nairobi	8	74	3,155,000	5	57	3,082,500	1
Others	14	93	2,358,000	92	371	7,425,008	1
Total	1,537	14,783	509,146,111	1,197	16,526	537,055,934	100

3.4.2 Dudhi (*Lagenaria siceraria*)

Dudhi is also known as bottle gourd and is grown for export market as well as small high-end market and is popular with the Asians. The area under production was 399 Ha in 2019 which was a big decrease from the previous year. Production increased from 6,792tons in 201 to 7,107 Tons in 2019 representing a 5% increase. The value also decreased from Kshs226.6Milion to Kshs150.8 Million in 2019 registering a 33% increase.

Table 46 Performance of Dudhi in selected counties for the years 2019-2020

COUNTY	2019			2020			% Of total
	Area (Ha)	Volume (Tons)	Value (Kshs)	Area (Ha)	Volume (Tons)	Value (Kshs)	
Makueni	348	4,044	147,949,830	128	4,669	49,000,000	15.2
Murang'a	48	720	18,000,000	50	750	28,750,000	8.9
Taita Taveta	75	708	16,470,000	76	654	25,660,000	8.0
Kwale	55	430	12,150,000	60	480	20,400,000	6.3
Kajiado	15	140	4,200,000	14	140	4,200,000	1.3
Machakos	14	198	3,920,000	13	198	6,920,000	2.1
Meru	39	390	21,450,000	40	42	12,960,000	4.0
Kiambu	9	90	800,000	10	120	1,461,860	0.5
Tharaka Nithi	6	27	810,000	6	27	810,000	0.3

Mombasa	3	45	875,000	2	27	675,000	0.2
Total	612	6,792	226,624,830	399	7,107	150,836,860	46.8

3.4.3 Karella (*Momordica charantia*)

Bitter guard (Karella) is grown for both export and domestic markets. The quantity of Karella exported has been on the decline in the recent years due strict market requirements especially restriction on false codling moth.

Table 47: Performance of Karella in selected counties for the years 2018-2019

County	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Machakos	27	135	24,300,000	25	125	22,500,000	60
Murang'a	40	320	11,200,000	42	356	14,240,000	38
Mombasa	2	29	868,500	2	30	913,500	2
Total	69	484	36,368,500	69	511	37,653,500	100

3.4.4 Okra (*Hibiscus esculentus*)

Okra is produced for export market and for local consumption especially by the coastal people. There is a growing market in the hotel industry. The area under production in 2020 increased from 920ha 2019 to 1,012ha while production increased from 6,911 tons to 8,301 tons. The value also increased from 296.6 million to 286.69 due to increased production and improved farmgate prices. The crop is mainly grown in ASAL counties with major producing counties being Kwale 52 percent, Kilifi 27.8 percent while Mombasa contributed 7 percent of the total national value

Table 48: Performance of Okra in selected counties for the years 2019-2020

County	2019			2020			
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	% Of Total Value
Kwale	462	3,884	191,140,000	522	4,234	201,220,000	42.0
Kilifi	297	1,640	48,174,125	270	2,213	107,455,000	22.4
Taita Taveta	5	48	1,360,000	450	6,750	88,500,000	18.5
Mombasa	28	506	26,190,000	31	562	27,180,000	5.7
Lamu	18	180	9,000,000	28	270	11,400,000	2.4
Tana River	7	32	1,280,000	41	262	10,330,000	2.2
Machakos	14	140	7,000,000	19	190	9,500,000	2.0
Makueni	22	230	3,650,010	28	248	8,841,716	1.8
Kakamega	2	13	650,000	320	135	6,500,000	1.4
Murang'a	54	189	6,482,700	54	189	6,482,700	1.4
Tharaka	5	25	1,100,000	6	30	1,200,000	0.3
Kiambu	6	24	600,000	5	22	550,000	0.1
Total	920	6,911	296,626,835	1,774	15,105	479,159,416	100.0

4 FRUITS

4.1 Overall performance of fruits

In 2019, the area increased marginally by 19,106 ha representing 10.2 percent rise from 2018 production and value rose by 408,566 tons and value increased by Kshs8.7 billion representing 11.7 and 12.3 percent rise respectively from what was achieved in 2018. This was attributed to good rains and production from orchards that have been established from all over the country. The major fruits grown in order of importance are; banana 31.05 percent, Mango 19.24 percent, Pineapple 13.85 percent, avocado 11.85 percent, water melon 9.18 percent and Pawpaw 5.20 per cent.

Table 49 Summary of Fruits production by Area, Volume and Value in 2019-2020

Crop	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Banana	71,901	1,512,013	24,622,881,364	72,486	1,871,521	29,028,891,206	32.73
Mango	56,090	900,863	15,260,446,464	56,437	809,857	15,379,435,988	17.34
Pineapple	10,502	379,578	11,442,049,425	10,728	381,441	12,029,012,439	13.56
Avocado	20,240	420,430	9,003,403,239	26,481	500,274	9,438,124,806	10.64
Water Melon	15,999	330,936	7,283,389,780	17,528	386,261	8,055,494,170	9.08
Pawpaw	7,969	119,449	4,121,979,701	8,923	120,474	4,130,727,360	4.66
Orange	9,291	78,040	1,907,023,284	12,604	145,445	3,522,833,425	3.97
Lime	4,955	74,590	2,380,839,822	2,951	82,110	2,161,375,000	2.44
Purple Passion	2,156	25,140	1,443,618,026	2,009	25,400	1,547,555,900	1.74
Tree Tomato	1,156	17,443	1,057,602,944	1,321	21,776	1,201,514,785	1.35
Yellow Pasion	1,406	16,886	562,760,578	1,313	16,479	578,400,400	0.65
Lemons	2,043	16,142	376,220,443	2,050	16,486	476,850,000	0.54
Tangerine	1,149	11,512	247,693,541	1,377	16,434	418,054,690	0.47

Guavas	1,015	11,149	274,302,350	982	10,725	296,260,295	0.33
Luquats	308	4,815	70,002,248	313	4,917	84,389,342	0.10
Pears	189	1,255	36,261,505	188	1,215	66,188,362	0.07
Grapes	51	168	18,548,000	65	668	40,221,000	0.05
Plums	190	1,239	36,954,818	214	1,343	38,951,805	0.04
Grapefruit	173	2,821	47,528,747	193	2,468	36,100,045	0.04
Sweetmelon	78	928	26,830,000	115	1,006	32,818,000	0.04
Custard Apple	92	1,142	25,001,200	142	1,486	30,988,211	0.03
Srawberries	38	169	18,910,421	29	1,200	30,365,200	0.03
Apples	100	545	22,664,620	106	655	27,567,231	0.03
Thornmelon	59	206	8,657,231	98	545	22,664,620	0.03
Peaches	27	193	10,307,153	29	210	10,482,600	0.01
White Sapote	57	291	4,403,477	69	271	6,085,184	0.01
Pepino Melon	6	22	820,000	6	16	954,002	0.00
Jackfruit	5	6	60,000	5	6	60,000	0.00
Total	207,245	3,927,971	80,311,160,381	218,762	4,420,689	88,692,366,066	100.00

Source: AFA-Horticulture Crops Directorate

4.1.1 Banana (*Musa sp*)

Banana fruit is the leading horticultural crop by value and volume and it is the most important fruit grown in Kenya accounting for 17.8 percent of the total value of domestic horticulture per value and 34.5 percent of all fruits. It extensively cultivated as a staple food and also as an income generating activity by many local communities. During the year under review, the area under production rose from 71,901Ha to 72,486 ha in 2020, a 1 percent increase. The production volume rose from 1,512,013 tons in 2019 to 1,871,521 tons in 2020, a 24 percent increase that was attributed to good rains in the main producing areas. The value increased by 18 percent from Kshs24.6billion to Kshs29.02billion in 2020 as a result of increased volumes as well as improved farm gate prices. The main banana varieties grown in Kenya include the ripening (dessert) cultivars such as Gross Mitchel, Apple, Giant Cavendish, Dwarf Cavendish, and Williams's hybrid, Grand Nain, Vallery, Lacatan and Ugandan Red amongst others. The cooking varieties include Ng'ombe, Ugandan green, Mutahato and

GradiShisikame while the multipurpose cultivars are Muraru, Gold finger, Ngo'mbe and Mkono watembo. Banana bacterial wilt, fusarium wilt and nematodes remain a threat to banana production. The leading counties per value were Meru, Taita Taveta, Murang'a, Kirinyaga and Kisii accounting for 23.6, 9.7, 7.93, 7.83 and 5.4 percent of the total value respectively.

Table 50 Production of Bananas in selected Counties 2019-2020

County	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Meru	13,031	371,391	5,719,418,697	14,012	484,936	6,843,372,560	23.6
Taita Taveta	5,405	142,692	2,211,726,000	4,909	238,750	2,804,625,000	9.7
Murang'a	6,366	156,133	2,420,063,360	7,338	161,859	2,303,439,288	7.9
Kirinyaga	3,547	99,316	1,489,740,000	4,312	185,133	2,282,732,000	7.9
Kisii	8,342	178,132	2,133,761,493	6,019	119,662	1,565,162,500	5.4
Lamu	3,237	61,356	1,285,800,000	2,001	63,924	1,549,680,000	5.3
Kiambu	2,451	64,873	720,788,360	2,140	60,921	1,197,137,500	4.1
Bungoma	3,321	38,188	498,538,276	2,401	64,450	1,009,791,800	3.5
Nyamira	3,332	44,990	858,020,000	3,316	43,550	877,821,132	3.0
Kakamega	2,366	17,574	439,559,000	2,518	38,380	742,000,000	2.6
Tharaka	3,419	72,074	1,048,208,000	4,283	54,980	682,495,500	2.4
Migori	813	27,278	421,612,456	1,613	44,246	614,080,380	2.1
Embu	1,583	37,992	531,888,000	1,304	44,870	610,700,000	2.1
Kericho	412	12,023	421,256,000	466	12,872	504,960,000	1.7
Siaya	1,312	10,154	455,850,000	1,446	15,106	463,935,000	1.6
Homabay	1,377	19,866	434,371,000	1,254	16,700	463,549,240	1.6
Busia	675	20,850	367,000,000	1,051	19,041	421,168,408	1.5
Nyeri	1,670	37,967	464,461,856	1,352	37,459	399,277,376	1.4
Bomet	384	12,110	206,590,000	415	13,459	351,210,000	1.2

Trans Nzoia	521	7,363	352,570,000	459	7,014	341,000,000	1.2
Makueni	667	6,112	328,500,035	539	10,631	323,682,786	1.1
Machakos	3,487	27,436	434,800,000	1,473	14,316	264,917,000	0.9
Nandi	626	11,052	260,342,500	623	12,060	260,622,500	0.9
Tana River	517	8,316	294,276,000	280	7,938	184,764,000	0.6
Others	3,040	26,775	823,740,331	6,963	99,266	1,966,767,235	6.8
Total	71,901	1,512,013	24,622,881,364	72,486	1,871,521	29,028,891,206	100.0

Source: AFA-Horticulture Crops Directorate

4.1.2 Mango (*Mangifera indica*)

In 2020, the area under mangoes increased from 56,090Ha to 63,437ha which was 13 percent increase while production dropped by 91,006 tones a 10 percent drop as compared to 2019. There was a marginal increase in value of 118.9 million which was only 1 percent increase compared to 2019 that could only be attributed to increase in production as the average farm gate prices dropped. The leading counties in mango production in 2019 ranked by value were Makueni, Lamu, Kilifi, Kwale and Meru which accounted for 67.3% of the value combined. Mango fruit fly remains the main challenges in the production of mango in the country. Other challenges are mango weevil, rust and poor-quality planting material.

Table 51 Production of Mango in selected Counties 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Makueni	13,268	158,973	2,534,904,335	14,985	159,622	3,033,538,500	19.7
Lamu	6,056	98,132	2,135,770,000	5,604	165,820	2,921,400,000	19.0
Kilifi	7,735	138,089	1,724,634,206	7,589	83,675	1,882,375,000	12.2
Kwale	3,725	63,943	1,586,551,000	3,725	63,943	1,293,551,000	8.4
Meru	3,132	53,332	568,738,333	3,638	58,974	1,244,075,333	8.1
Kitui	2,646	52,270	1,054,240,000	3,696	53,090	883,990,000	5.7

Tana River	1,840	31,158	491,976,000	1,255	36,526	509,824,000	3.3
Busia	1,108	12,902	197,085,000	1,203	16,577	411,050,000	2.7
Machakos	5,657	147,095	2,295,528,750	2,300	21,655	398,709,250	2.6
Elgeyo Marakwet	1,127	16,668	341,196,736	1,086	14,630	351,500,430	2.3
Siaya	1,117	13,191	344,698,790	1,435	12,028	342,775,000	2.2
Embu	1,598	29,084	383,168,597	1,540	17,962	262,897,000	1.7
Tharaka Nithi	1,340	8,110	129,490,000	2,231	13,461	261,110,000	1.7
Migori	510	6,898	143,370,000	519	7,544	207,360,450	1.3
Murang'a	1,097	17,385	275,986,308	959	13,056	198,482,764	1.3
Kirinyaga	394	5,677	158,850,000	462	5,610	124,350,000	0.8
Baringo	486	5,521	107,030,000	478	6,229	111,570,000	0.7
Bungoma	246	2,081	61,227,500	173	5,711	106,095,060	0.7
Taita Taveta	341	4,890	68,516,000	482	7,822	106,023,000	0.7
Garissa	604	7,163	156,479,000	640	7,608	101,610,000	0.7
Others	2,063	28,301	501,005,909	2,439	38,315	627,149,201	4.1
Total	56,090	900,863	15,260,446,464	56,437	809,857	15,379,435,988	100.0

Source: AFA-Horticulture Crops Directorate

4.1.3 Pineapple (*Annanus Comosus*)

Pineapple is grown for both fresh market and processing market. The main variety grown is the Smooth Cayenne. During the year under review, the area, production and value increased by 52.2 percent, 0.5 percent and 5.1 percent respectively.

The major counties producing pineapple were Murang'a, Kiambu, Kilifi, Homabay and Kericho contributing 39.5, 17.8, 11.6, 9.5 and 9 percent respectively of the total country's value. The major constraints to pineapple production are unavailability of quality planting material and insect pests' especially mealy bugs and nematodes besides poor agronomic practices among smallholders. There is also limited value addition of pineapple by small holders.

Table 52: Production of Pineapple in selected Counties, 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Murang'a	3,511	163,477	4,740,732,950	3,507	163,738	4,748,388,950	39.5
Kiambu	920	34,653	1,242,000,000	1,348	57,859	2,138,426,000	17.8
Kilifi	1,031	26,729	574,762,000	1,499	37,292	1,397,210,100	11.6
Homabay	857	33,930	1,428,600,000	878	36,840	1,142,000,000	9.5
Kericho	1,237	36,970	1,062,550,000	1,209	36,770	1,087,950,000	9.0
Machakos	400	18,230	565,450,000	395	17,450	528,540,000	4.4
Migori	406	11,870	271,160,000	457	8,111	240,710,889	2.0
Nyamira	217	4,999	163,470,000	310	6,649	224,770,000	1.9
Busia	328	7,452	250,100,000	191	4,587	173,790,000	1.4
Kisii	290	4,441	127,816,000	172	3,853	138,256,000	1.1
Kwale	350	7,936	148,020,000	325	2,114	58,432,500	0.5
Nandi	59	1,214	44,358,500	86	1,750	42,760,000	0.4
Meru	164	2,365	105,700,000	62	990	29,160,000	0.2
Siaya	60	2,108	37,220,000	55	580	16,800,000	0.1
Others	672	23,204	680,109,975	234	2,858	61,818,000	0.5
Total	10,502	379,578	11,442,049,425	10,728	381,441	12,029,012,439	100.0

4.1.4 Avocado (Persea Americana)

Kenya was the leading exporter of avocado in Africa in 2020 and among the top 10 world's largest exporters but only exported 10 of its total avocado production. During the period under review, area increased from 20,240ha in 2019 to 26,482ha in 2020 while production increased from 420,430tons to 500,274tons, 31 percent and 19 percent increase respectively. The value on the other hand increased from Kshs9billion in 2019 to Kshs9.4billion in 2020, representing an increase in value by 5 percent. The production volume in 2020 increased, mainly due to the increased harvest area for avocado and improved prices in the international markets. As the global demand for avocados is increasing and the

profitability of avocado is much higher than other tropical fruits, more farmers are starting to plant the fruit. In addition, the Kenyan government is also actively supporting avocado production by providing free avocado seedlings to farmers and subsidizing small scale avocado farmers.

The leading county was Murang'a that accounted for 31.0 percent by value of produce followed by Kiambu, Nakuru, Kisii , Nyamira Meru and Bomet that contributed 10.5, 7.4, 6.8, 5.8, 4.1 and 3.9 percent respectively of the total value.

The major challenges in avocado production are inadequate availability of clean planting material, fruit fly infestations, anthracnose especially on Fuerte variety, harvesting of immature avocados and poor postharvest handling of the fruit.

Table 53 Production of Avocado in selected Counties, 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Murang'a	4,882	136,080	2,899,048,369	5,890	137,561	2,923,607,824	31.0
Kiambu	1,637	49,125	1,204,258,500	1,676	51,584	988,561,000	10.5
Kisii	2,294	73,728	1,194,732,344	1,981	80,652	644,000,000	6.8
Bomet	672	12,897	484,832,000	687	11,566	363,456,000	3.9
Nyamira	1,597	30,270	489,480,000	2,660	31,269	551,640,000	5.8
Meru	1,208	24,054	462,350,000	2,575	17,499	387,438,292	4.1
Kirinyaga	718	12,965	320,930,000	709	12,940	348,380,000	3.7
Nakuru	483	10,982	234,946,000	1,553	24,501	700,980,163	7.4
Nyeri	657	7,404	173,066,717	1,352	34,199	310,593,376	3.3
Bungoma	464	7,450	172,800,000	273	7,300	105,200,000	1.1
Embu	553	8,297	165,940,000	538	18,727	354,673,440	3.8
Uasin Gishu	253	4,167	152,995,000	511	2,117	105,810,000	1.1
Busia	730	6,751	121,677,904	733	6,380	120,447,500	1.3
Nandi	238	2,719	117,282,000	368	7,661	257,755,000	2.7
Trans Nzoia	455	3,862	113,000,000	296	1,047	20,940,000	0.2

Migori	335	5,678	102,615,000	640	6,031	92,659,978	1.0
Machakos	350	3,668	101,142,500	440	4,570	109,590,000	1.2
Elgeyo Marakwet	375	3,521	81,410,035	523	5,554	112,333,233	1.2
Makueni	336	2,173	66,772,500	129	2,256	64,571,000	0.7
Baringo	355	3,128	63,272,470	354	3,594	72,170,800	0.8
Kakamega	249	1,801	47,528,020	192	1,284	25,091,200	0.3
Kisumu	107	796	24,666,000	101	393	29,012,000	0.3
Kitui	74	480	15,350,000	213	1,438	17,190,600	0.2
Tharaka	413	4,902	74,995,000	327	12,036	180,540,000	1.9
Laikipia	204	2,080	45,350,000	343	5,145	128,625,000	1.4
Others	602	1,452	72,962,880	1,419	12,971	422,858,400	4.5
Total	20,240	420,430	9,003,403,239	26,481	500,274	9,438,124,806	100.0

Source: AFA-Horticulture Crops Directorate

4.1.5 Melon (Cucumis melo sp.)

In 2020, the area under Melons was 17,999ha an increase by 1,529Ha compared to 2019, producing 55,325 tons valued at Kshs8.05billion billion. The area, production and value increase by 10 percent,17 percent, and 11percent respectively in 2020 compared to 2019.

Melons are grown mainly in arid and semi-arid counties. Irrigation and use of hybrid seeds has also contributed high productivity of this crop. The main production counties are Lamu, Migori, Elgeyo Marakwet, Makueni, Taita Taveta, Mandera and tana river are the leading counties accounting for 52.9,13.2, 2.9, 2.6, 2.5, 2.5 and 2.46 percent of the national value.

Major challenges in melon production are pests and diseases. Some common pests include melon fruit fly, aphids and thrips and diseases include powdery mildew and fusarium wilt.

Table 54 Production of Water Melons in major Counties 2019- 2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Lamu	7,102	223,350	4,465,700,000	8,515	212,875	4,257,500,000	52.9
Migori	394	3,127	91,739,000	2,593	46,262	1,061,196,000	13.2
Elgeyo Marakwet	217	3,828	73,838,000	184	4,643	232,601,000	2.9
Makueni	589	5,529	179,000,074	854	18,723	206,796,250	2.6
Taita Taveta	326	6,540	142,412,000	489	12,934	202,202,500	2.5
Mandera	-	-	-	351	3,998	202,054,000	2.5
Tana River	394	3,127	91,739,000	603	12,114	198,118,000	2.5
Kitui	664	19,250	342,300,000	626	11,955	186,200,000	2.3
Meru	77	1,808	60,620,000	225	6,624	158,130,000	2.0
Kajiado	156	2,956	140,780,000	136	2,566	135,780,000	1.7
Kisumu	98	2,925	79,800,000	186	4,218	124,246,000	1.5
Kilifi	190	2,275	126,443,250	406	8,018	121,018,000	1.5
Homabay	431	8,745	180,674,000	246	5,333	108,955,500	1.4
Kirinyaga	124	1,786	27,422,000	194	4,862	98,670,000	1.2
Others	5,237	45,690	1,280,922,456	1,920	31,137	762,026,920	9.5
Total	15,999	330,936	7,283,389,780	17,528	386,261	8,055,494,170	100.0

Source: AFA-Horticulture Crops Directorate

4.1.6 Pawpaw (Carica papaya)

In 2020, pawpaw contributed Ksh. 4.13 billion up from Ksh4.12 billion in 2019 accounting for 0.2 percent increase. The area under production increased by 954 Ha while production increased by 1,025 tones representing 12 percent and 0.9percent increase respectively. The increase in production was attributed to increase in area as productivity dropped due to incidences of mealy bugs and the papaya ring spot virus mainly in Upper Eastern.

Table 55 Production of Pawpaw in major Counties 2019- 2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kilifi	684	13,343	545,888,938	683	12,980	546,698,600	13.2
Lamu	610	10,520	537,000,000	615	11,210	537,560,000	13.0
Machakos	733	11,437	251,633,000	736	11,546	258,540,000	6.3
Makueni	728	11,005	250,750,032	732	11,148	251,340,000	6.1
Meru	215	5,290	247,578,400	220	5,320	247,740,300	6.0
Embu	512	5,072	222,880,000	513	5,120	228,300,000	5.5
Kitui	336	5,510	208,300,000	350	5,580	215,600,000	5.2
Kwale	625	9,150	194,500,000	628	8,990	193,600,000	4.7
Elgeyo Marakwet	295	6,291	186,707,536	296	6,340	187,420,000	4.5
Tharaka Nithi	255	3,360	181,050,000	257	3,470	183,070,000	4.4
Murang'a	213	3,189	179,232,275	218	3,270	180,250,650	4.4
Homabay	332	4,536	172,628,550	334	4,540	172,950,650	4.2
Busia	247	5,758	139,784,000	242	5,630	138,560,000	3.4
Tana River	286	3,912	108,885,000	287	3,940	109,446,000	2.6
Bungoma	157	2,341	72,220,040	158	2,530	78,320,500	1.9
Kisii	79	1,476	76,500,000	72	1,430	76,250,000	1.8
Kirinyaga	124	1,786	67,422,000	142	1,950	68,320,000	1.7
Baringo	173	1,919	67,179,880	178	2,050	67,540,000	1.6
Kakamega	432	1,865	45,101,600	428	1,750	49,605,400	1.2
Migori	140	1,550	43,500,000	159	1,580	46,350,000	1.1
Narok	53	934	65,400,000	926	950	32,470,000	0.8
Others	741	9,206	257,838,450	749	9,150	260,795,260	6.3
Total	7,969	119,449	4,121,979,701	8,923	120,474	4,130,727,360	100.0

Source: AFA-Horticulture Crops Directorate

4.1.7 Lime (*Citrus aorantifolia*)

Lime is mainly consumed in the coastal counties although this has changed with the coronavirus which has seen consumption increase in almost all the counties. The major producing counties are Lamu, Kwale, Kilifi, and Tana River.

During the period under review, the area under production decreased almost by half from 4,955 Ha in 2019 to 2,951 Ha 2020. This was mainly attributed to floods reported by Lamu and Tana River counties. The value however had a slight decrease from Kshs. 2.3 billion down to Kshs. 2.1 billion.

Table 56 Production of Lime in selected Counties 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Lamu	4,426	67,917	2,150,460,000	2,298	75,368	1,956,160,000	90.51
Kwale	196	2,655	93,560,000	196	2,655	93,560,000	4.33
Kilifi	96	1,453	47,554,820	188	1,600	40,745,000	1.89
Tana River	181	2,030	75,864,000	96	1,376	26,240,000	1.21
Mandera	-	-	-	40	244	17,586,000	0.81
Makueni	22	302	6,791,002	35	439	13,991,000	0.65
Kisumu	-	-	-	55	33	6,600,000	0.31
Garissa	-	-	-	31	237	4,500,000	0.21
Taita Taveta	12	151	2,265,000	10	153	1,793,000	0.08
Kiambu	4	7	170,000	2	5	200,000	0.01
Others	18	75	4,175,000	-	-	-	0.00
Total	4,955	74,590	2,380,839,822	2,951	82,110	2,161,375,000	100

Source: AFA-Horticulture Crops Directorate

4.1.8 Oranges (*Citrus sinensis*)

Oranges are mainly grown at the grown for domestic consumption and the most common varieties are Washington navel, Valencia, Mediterranean sweet and Pixie. The major producing counties are Makueni, Kilifi, Kwale, Lamu, Kitui and Taita Taveta and Elgeyo Marakwet accounting about 94% of the total production. Makueni is the leading producer accounting for about 52%.

During the period under review, there was an increase in area under production to 12,604 Ha from 9,291 Ha in 2019. The volume increased by over 80%, while value increased Kshs1.9 billion to Kshs3.5 billion. Value addition still remains minimal thus presenting an opportunity for investing in value addition especially juice and other products although fresh market is still the most popular since Kenya does meet the local demand.

Table 57: Production of Oranges in selected Counties 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Makueni	2,296	20,158	594,280,018	5,796	71,250	1,859,680,000	52.79
Kilifi	1,976	4,811	116,168,000	2,046	29,800	643,968,000	18.28
Kwale	1,920	20,154	354,110,000	1,920	20,154	354,110,000	10.05
Lamu	664	5,230	92,800,000	345	5,339	109,780,000	3.12
Kitui	100	2,000	117,000,000	193	1,970	89,703,200	2.55
Taita Taveta	348	5,190	73,415,800	352	5,265	73,307,800	2.08
Elgeyo Marakwet	214	1,697	52,190,824	226	1,846	72,142,950	2.05
Machakos	756	9,533	229,194,250	586	2,689	69,220,000	1.96
Murang'a	219	3,320	69,641,427	225	1,318	40,411,300	1.15
Nakuru	76	722	19,150,600	60	761	28,571,125	0.81
Busia	117	671	22,210,000	94	1,020	27,885,000	0.79
Meru	76	170	7,359,000	87	403	24,192,950	0.69
Trans Nzoia	103	990	39,500,000	70	257	11,190,000	0.32
Kisumu	56	162	10,027,990	11	43	5,190,000	0.15
Kajiado	22	132	3,960,000	19	52	2,420,000	0.07
Marsabit	48	270	19,200,000	19	10	890,000	0.03

Others	301	2,830	86,815,375	556	3,269	110,171,100	3.13
Total	9,291	78,040	1,907,023,284	12,604	145,445	3,522,833,425	100.00

Source: AFA-Horticulture Crops Directorate

4.1.9 Purple Passion (*Passiflora*)

Purple passion is one of the most profitable fruit in Kenya among small holder farmers. Its' market include export, local fresh and processing. It is popular in the cottage industry for fresh juice processing in Uganda which is one of the leading market destinations.

During the year under review, the area under production dropped by 147Ha, a 7 percent decrease. The volume and value increased by 260 tons and Kshs103 million which represented a 1 percent and 7 percent increase from the previous year respectively. The increase in value was attributed to high farm gate prices due to high demand for the fruits especially due to the Ministry of health advice on consumption of fruits to increase immunity.

The leading counties in production of purple passion are Elgeyo Marakwet, Bungoma Uasin Gishu, Kirinyaga and Embu counties.

Table 58 Production of Purple Passion in selected Counties 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Elgeyo Marakwet	462	9,486	554,436,000	471	9,560	556,780,000	36.0
Bungoma	126	2,755	143,760,010	132	2,845	150,860,000	9.7
Uasin Gishu	187	1,936	105,695,000	189	1,970	136,430,000	8.8
Kirinyaga	58	752	41,140,000	60	860	73,456,000	4.7
Embu	41	746	62,577,778	50	870	72,621,000	4.7
Narok	157	1,180	47,540,000	117	920	52,130,000	3.4
Kisii	53	622	53,844,800	51	670	51,120,000	3.3
Bomet	110	705	37,948,000	105	730	48,234,000	3.1
Murang'a	93	534	37,686,356	89	760	46,123,000	3.0

Nyeri	83	709	28,712,829	84	515	44,247,000	2.9
Trans Nzoia	47	592	35,300,000	50	610	43,243,000	2.8
Nandi	41	534	37,926,500	44	520	41,456,000	2.7
Nyamira	96	774	31,420,000	92	780	39,453,000	2.5
Migori	130	385	16,900,000	60	410	36,130,000	2.3
Baringo	55	466	16,615,000	48	430	29,658,000	1.9
Makueni	91	387	16,602,004	64	360	22,381,000	1.4
Nakuru	26	201	15,707,000	29	290	19,345,000	1.3
Kitui	42	1,050	83,500,000	34	450	16,345,000	1.1
Others	259	1,328	76,306,750	240	1,850	67,543,900	4.4
Total	2,156	25,140	1,443,618,026	2,009	25,400	1,547,555,900	100.0

Source: AFA-Horticulture Crops Directorate

4.1.10 Yellow Passion Fruit (*Passiflora Ligularis*)

Sweet yellow passion fruit has high demand from the juice makers as it yields more juice than the purple passion fruit. During the year under review, the area under production and volume decreased by 7 percent and 2 percent from 1,406Ha in 2019 to 1,313Ha and from 16,886tons to 16,479tons respectively in 2020. The value however increased by 3 percent from 562.7 million to 578,4 million in 2020 compared to 2019. The leading counties in value in 2019 were Kwale, Lamu, Migori, Kitui, and Tana River.

Table 59 Production of Yellow Passion in selected Counties 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kwale	499	6,444	203,140,000	512	7,224	214,130,000	37.0
Lamu	237	3,270	98,100,000	228	3,160	106,434,000	18.4
Migori	122	2,805	73,758,300	65	1,865	58,342,000	10.1
Kitui	102	1,550	67,500,000	45	758	38,543,000	6.7
Tana River	90	600	30,000,000	95	658	38,453,000	6.6

Meru	33	314	16,155,000	38	429	22,657,000	3.9
Murang'a	20	89	4,950,000	21	408	18,321,800	3.2
Nandi	9	273	13,406,000	12	324	16,434,000	2.8
West Pokot	15	270	7,700,000	16	386	14,324,000	2.5
Trans Nzoia	9	145	7,500,000	10	163	8,654,000	1.5
Homabay	28	262	5,659,200	16	232	5,834,200	1.0
Vihiga	18	117	5,590,000	17	121	5,642,800	1.0
Turkana	15	186	5,070,000	14	143	4,853,400	0.8
Kirinyaga	3	91	4,859,999	4	102	4,453,200	0.8
Machakos	26	65	3,250,000	27	70	3,425,000	0.6
Embu	8	64	3,200,000	9	68	3,045,000	0.5
Others	172	343	12,922,079	184	368	14,854,000	2.6
Total	1,406	16,886	562,760,578	1,313	16,479	578,400,400	100.0

Source: AFA-Horticulture Crops Directorate

4.1.11Lemons (*Citrus limon*)

The demand for lemon fruits has been on the increase due to health concerns among the middle class of Kenya. During the year under review, the area under lemon increased by 39.4%. Production and value increased by 34.8% and 42.3% respectively compared to 2018 data. 237 tons a 2.1 percent increase and Value by 6.242 million a 2.6 percent rise compared to 2017. This drastic increase could be attributed to increased demand of lemons due to health benefits and possibility of under reporting in the previous years. Arid and semi-arid counties are the major producers of lemons, with coastal counties being the leading.

Table 60: Production of Lemons in selected Counties 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Lamu	732	4,745	131,400,000	733	4,832	132,065,000	27.7
Kilifi	239	1,978	35,931,000	240	2,030	48,932,000	10.3

Kwale	175	2,150	34,300,000	174	2,020	47,823,000	10.0
Taita Taveta	97	1,351	22,053,030	88	1,248	42,374,000	8.9
Tana River	92	1,053	41,750,000	89	1,023	40,850,000	8.6
Kajiado	16	105	3,150,000	18	115	30,248,000	6.3
Elgeyo Marakwet	143	1,053	19,205,379	143	1,134	22,345,000	4.7
Makueni	120	1,004	14,830,004	121	1,030	20,324,000	4.3
Kirinyaga	37	456	9,120,000	38	464	16,432,000	3.4
Kitui	22	440	12,875,000	24	450	14,324,000	3.0
Machakos	80	256	7,510,000	78	290	12,345,000	2.6
Homabay	41	378	10,960,000	42	282	11,342,000	2.4
Mandera	57	264	9,382,000	56	250	9,542,000	2.0
Murang'a	9	83	3,610,000	14	102	4,325,000	0.9
Nakuru	26	129	3,325,000	24	130	3,456,000	0.7
Others	156	698	16,819,030	168	1,086	20,123,000	4.2
Total	2,043	16,142	376,220,443	2,050	16,486	476,850,000	100.0

Source: AFA-Horticulture Crops Directorate

4.1.12Tangerines (*Citrus tangerine*)

Tangerine's production in the country is majorly done in arid and semi-arid counties and are mainly produced for domestic market. During the year under review, the area increased by 20 percent while production increased by 43 percent compared to the same period in 2019. The value increased from Kshs247.5 million to Kshs418 Million representing 69 percent increase that was attributed to increased farm gate prices for the fruit. The leading counties are during the year under review, the top performing counties were Lamu, Kwale, Makueni and Homabay accounting for 35.7, 28.5 and 20 percent of the country's total value respectively.

Table 61: Production of Tangerines in selected Counties 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	

Lamu	334	4,175	62,625,000	366	6,708	149,214,960	35.7
Kwale	373	5,028	128,162,000	328	4,354	119,180,000	28.5
Makueni	133	671	20,821,000	324	3,165	91,196,340	21.8
Kilifi	160	447	7,593,000	201	1,168	28,784,000	6.9
Homabay	35	280	10,000,000	38	232	9,940,000	2.4
Meru	46	266	5,542,750	26	69	2,846,920	0.7
Taita Taveta	1	19	460,010	1	29	2,305,000	0.6
E Marakwet	21	110	2,734,823	22	84	1,671,800	0.4
Embu	15	248	2,648,333	7	24	870,000	0.2
Kajiado	10	76	2,660,000	6	30	550,000	0.1
Others	21	192	4,446,625	58	571	11,495,670	2.7
Total	1,149	11,512	247,693,541	1,377	16,434	418,054,690	100.0

Source: AFA-Horticulture Crops Directorate

4.1.13Guava (*Psidium gujava*)

The fruit is grown mainly for the domestic market for fresh consumption and processing.

During the year under review the area under production reduced to 1,015 Ha from 1,082 Ha, volumes to 11,149MT from 13,534 MT, values to Kshs 274 million from Kshs 302 million, in 2018.

It is noted that the leading production counties are Homabay, Kisumu and Makueni representing 55.5, 21.5 and 5.9 % respectively of the country's production in terms of value, volume and area under production

A major challenge in production is high infestation by fruit fly due to lack of control measures for the pest. The crop presents opportunities for young people to venture into as a commercial crop as it is fast maturing, highly nutritious and requires minimal inputs for production.

Table 62: Production of Guavas in selected Counties 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	

Homabay	343	4,830	152,350,000	324	4,640	148,568,000	50.1
Kisumu	177	2,428	59,027,200	164	2,380	58,956,000	19.9
Makueni	41	820	16,400,000	59	840	22,346,000	7.5
Kisii	49	340	5,000,000	48	380	9,243,500	3.1
Kakamega	38	248	5,527,100	42	280	8,874,500	3.0
West Pokot	41	244	4,865,000	36	265	7,432,600	2.5
Siaya	24	235	2,800,000	26	228	6,543,000	2.2
Trans Nzoia	29	150	3,600,000	28	160	4,835,000	1.6
Mandera	35	140	1,748,000	35	150	4,500,000	1.5
Bungoma	26	257	2,420,000	24	216	4,325,000	1.5
Nyamira	21	140	2,800,000	22	145	3,456,000	1.2
Taita Taveta	38	165	2,379,050	28	155	2,453,000	0.8
Kiambu	6	113	1,362,500	5	60	2,400,000	0.8
Kericho	12	122	1,450,000	10	120	1,400,000	0.5
Garissa	20	148	1,860,000	20	120	1,360,000	0.5
Migori	10	116	1,150,000	10	80	1,300,000	0.4
Turkana	13	44	1,345,000	12	42	1,254,000	0.4
Embu	17	119	1,220,000	17	120	1,200,000	0.4
Isiolo	10	100	1,600,000	7	35	1,050,000	0.4
Nakuru	14	156	1,820,500	12	92	1,010,001	0.3
Others	51	234	3,578,000	53	217	3,753,694	1.3
Total	1,015	11,149	274,302,350	982	10,725	296,260,295	100.0

Source: AFA-Horticulture Crops Directorate

4.1.14Grape Fruit (*Citrus paradise*)

Grape fruits are mainly grown for domestic market and mainly produced in arid and semi-arid counties. During the year under review, Kwale, Makueni, Kilifi and Taita Taveta remained the major producing counties, accounting for about 98% of the total value. In 2020. the value registered a decline of about 24 %. This was attributed mainly to low prices.

Table 63 Production of Grape Fruit in selected Counties 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kwale	72	1,280	22,250,000	72	1,080	20,250,000	56.1
Makueni	60	1,200	22,000,000	60	1,200	12,000,000	33.2
Kilifi	22	218	1,580,000	44	124	2,740,000	7.6
Taita Taveta	14	96	1,293,280	12	34	518,280	1.4
Nairobi	1	3	70,000	1	3	300,000	0.8
Elgeyo Marakwet	4	25	327,467	4	24	191,690	0.5
Mandera	0.2	0.4	8,000	0.3	0.45	100,000	0.3
Total	173	2,821	47,528,747	193	2,468	36,100,045	100.0

Source: AFA-Horticulture Crops Directorate

4.1.15 Loquats (*Eriobotya japonica*)

The fruit is primarily grown for domestic production (home consumption) and any excess is sold in the local markets. It has always been consumed in fresh status.

During 2019 there was a marginal increase in area under production to 308 Ha from 257 Ha in 2018. The volumes increased to 4,815 MT from 2,935 MT indicating growth of 60.9%, and value of Kshs 45.3 million to Kshs 70million (increase of 64.7%).

The major producing counties are Taita Taveta, Kisii and Meru accounting for 56, 7 and 6 percent respectively of the country's total value.

The major constraints of loquat are prevalence of insect pests and diseases and lack of market.

Table 64 Production of Loquats in selected Counties 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Taita Taveta	110	3,300	39,600,000	102	3,210	38,400,000	45.5

Bungoma	4	29	490,000	8	70	11,500,000	13.6
Kiambu	18	72	2,196,000	19	180	5,730,000	6.8
Kisii	31	158	5,560,000	30	149	5,630,000	6.7
Meru	14	155	4,668,248	16	160	4,653,000	5.5
Kisumu	10	300	3,000,000	11	180	3,500,000	4.1
Makueni	11	125	2,475,000	10	132	2,464,000	2.9
Uasin Gishu	5	74	1,455,000	7	84	1,985,000	2.4
Nyeri	5	50	1,000,000	13	93	1,839,641	2.2
Nakuru	13	94	1,987,800	11	50	1,690,001	2.0
Nyamira	16	80	1,600,000	17	82	1,650,000	2.0
West Pokot	14	72	1,230,000	14	100	1,400,000	1.7
Kirinyaga	6	60	1,200,300	8	70	1,275,300	1.5
Trans Nzoia	20	140	2,000,000	12	110	1,100,000	1.3
Nyandarua	4	24	600,000	4	24	565,000	0.7
Kakamega	5	11	125,900	14	92	518,900	0.6
Nairobi	2	53	590,000	-	6	85,000	0.1
Embu	3	6	60,000	6	56	80,000	0.1
Others	18	12	164,000	12	69	323,500	0.4
Total	308	4,815	70,002,248	313	4,917	84,389,342	100.0

Source: AFA-Horticulture Crops Directorate

4.1.16Plums (Prunus salcina)

Plums are highly seasonal and as they are not expensive, they are popular with both adults and children. Apart from being delicious raw, they can also be stewed, and they make an excellent jam. During the year under review, the area under production decreased marginally by 5 percent from 2018. The volume decreased by 6 percent but the value increased by 7 percent compared to 2018 due to high demand. The leading counties in value in 2019 were Kiambu, Nakuru, Narok, Nyandarua, and Taita Taveta.

Table 65 Production of Plums in selected Counties 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kiambu	76	380	9,608,000	88	420	10,675,000	27.4
Nakuru	24	127	6,213,000	26	132	6,677,000	17.1
Narok	20	160	6,000,000	21	154	6,260,000	16.1
Nyandarua	18	204	4,300,000	19	140	3,786,000	9.7
Taita Taveta	11	110	3,300,000	12	124	2,800,000	7.2
Nyeri	4	105	3,150,000	7	115	3,700,000	9.5
Elgeyo Marakwet	12	38	1,128,834	11	106	1,245,300	3.2
Laikipia	6	56	1,106,000	5	56	1,006,000	2.6
Baringo	8	18	875,000	9	24	1,075,000	2.8
Trans Nzoia	3	15	750,000	4	24	950,000	2.4
Uasin Gishu	2	8	189,000	2	9	290,000	0.7
Murang'a	5	10	178,528	9	29	323,041	0.8
Meru	2	9	156,456	2	10	164,464	0.4
Total	190	1,239	36,954,818	214	1,343	38,951,805	100.0

Source: AFA-Horticulture Crops Directorate

4.1.17Peaches (*Prunus persica*)

During the period under review, there has been an increase in value and volume from Kshs8.5 billion to Kshs10.3 billion from 159MT to 193MT respectively in 2019, whilst the area reduced marginally from 28Ha to 27Ha in 2019. The higher production can be attributed to improved productivity due to good agricultural practices.

Leading production counties remain Kiambu, Narok and Nyandarua representing 64, 20, and 14 percent respectively. However, Narok county remains the most improved in production.

Table 66 Production of Peaches in selected Counties 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Kiambu	14	111	6,630,000	16	118	6,910,000	65.9
Narok	6	41	2,100,000	6	48	1,950,000	18.6
Nyandarua	6	36	1,513,000	6	38	1,562,000	14.9
Uasin Gishu	0	2	48,000	0	2	25,000	0.2
Elgeyo Marakwet	1	3	16,153	1	4	35,600	0.3
Total	27	193	10,307,153	29	210	10,482,600	100.0

Source: AFA-Horticulture Crops Directorate

4.1.18 Apple (*Malus domestica*)

Production of apples is one of the upcoming temperate fruit due to the high value. Apples are grown in high and medium altitude areas. The leading producing counties are Nyandarua, Baringo, Narok, West Pokot, Meru and Kiambu, which accounts for 88.4 % of the national total value. The area under production was 98 hectares and productivity of 545 metric tons valued at Kshs22.6 million. The price is estimated at Kshs25 to Kshs40 per piece.

Table 67 Production of Apples in selected Counties 2019-2020

COUNTY	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyandarua	29	246	9,840,000	31	239	11,520,000	41.8
Baringo	26	125	4,500,000	26	135	4,800,000	17.4
Narok	10	80	3,500,000	12	90	4,800,000	17.4
Meru	5	25	1,250,000	6	34	1,619,231	5.9
West Pokot	8	34	1,250,000	8	38	1,350,000	4.9
Kiambu	2	15	956,120	5	35	1,350,000	4.9

Nakuru	10	7	372,500	8	36	722,000	2.6
Trans Nzoia	2	5	400,000	4	22	600,000	2.2
Laikipia	4	5	400,000	4	14	450,000	1.6
Uasin Gishu	4	3	196,000	2	12	356,000	1.3
Total	100	545	22,664,620	106	655	27,567,231	100.0

Source: AFA-Horticulture Crops Directorate

4.1.19 Tree Tomato or Tamarillo (*Solanum betaceum*)

Tree tomatoes are important for their high nutrition value and are mainly grown in medium to high altitude areas. The leading producing counties are Nyandarua accounting for 55.1% in terms of value, Uasin Gishu, Elgeyo Marakwet, Meru, Kirinyaga and Kiambu. During the year under review, the area under production increased by 14.3%, productivity increased by 24.8% while value increased by 13.6%.

Table 68 Performance of Tree Tomato in selected counties for the years 2019-2020

County	2019			2020			% Of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Nyandarua	316	9,479	658,970,000	318	9,525	661,500,000	55.1
Uasin Gishu	51	728	20,426,000	84	1,405	86,500,000	7.2
Elgeyo Marakwet	22	207	6,255,000	82	3,220	73,460,000	6.1
Meru	77	679	31,890,000	212	1,073	64,255,000	5.3
Kirinyaga	85	1,110	45,100,000	76	1,216	60,890,000	5.1
Kiambu	61	236	17,340,000	71	838	55,275,000	4.6
Narok	166	2,086	179,560,000	80	567	38,415,000	3.2
Nakuru	88	536	15,148,000	78	656	34,902,000	2.9
Murang'a	38	162	9,017,244	46	402	25,950,730	2.2
Tharaka Nithi	12	506	24,070,000	6	456	22,320,000	1.9
Nyeri	58	176	12,669,000	61	560	21,455,330	1.8
Laikipia	24	70	2,400,000	86	805	20,425,000	1.7

Baringo	60	294	10,686,000	23	163	11,200,040	0.9
Nandi	21	167	8,543,000	17	157	6,597,000	0.5
Makueni	12	240	4,800,000	12	240	4,800,000	0.4
Others	65	767	10,728,700	70	492	13,569,685	1.1
Total	1,156	17,443	1,057,602,944	1,321	21,776	1,201,514,785	100.0

Source: AFA-Horticulture Crops Directorate

5 ANNEX1

5.1 NATIONAL SUMMARY

Table 69 Horticulture production performance per crop for 2019-2020

CROP	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Exotic Veg	159,081	3,237,650	66,446,964,965	157,262	3,406,137	70,449,643,412	39.6
Indigenous Veg	98,940	374,489	10,251,436,747	54,235	303,666	8,944,431,110	5.0
Aromatics	13,471	167,056	7,345,466,665	15,639	193,068	8,502,587,840	4.8
Asian	3,417	33,070	1,175,167,155	3,681	32,479	1,304,993,296	0.7
Medicinal	200	527	16,176,400	207	549	16,444,040	0.0
Fruits	207,245	3,927,971	80,311,160,381	218,762	4,420,689	88,692,366,066	49.9
Total	482,354	7,740,763	165,546,372,313	449,786	8,356,588	177,910,465,764	100.0

Source: AFA-Horticulture Crops Directorate

The total area under production in 2020 was 449,786 ha down from 482,354 ha achieved in 2019 while production was 8,356,588 tons compared to 7,740,763 tons that were produced in 2019. The value increased from kshs165.54Billion to 177.9Billion. This was a 6.8 percent decrease in area, 8 percent increase in production, and 7.5 percent increase in value from what was achieved in 2019.

Table 70: Leading horticultural crops 2019-2020

CROP	2019			2020			% of Total Value
	Area (Ha)	Volume (MT)	Value (KES)	Area (Ha)	Volume (MT)	Value (KES)	
Banana	71,901	1,512,013	24,622,881,364	72,486	1,871,521	29,028,891,206	16.32
Tomato	29,086	936,787	25,136,419,090	31,486	973,304	20,685,272,770	11.63
Mango	56,090	900,863	15,260,446,464	56,437	809,857	15,379,435,988	8.64
Pineapple	10,502	379,578	11,442,049,425	10,728	381,441	12,029,012,439	6.76
Gardern Peas	20,626	145,025	5,817,991,000	23,707	229,816	11,233,551,759	6.31
Cabbage	33,473	991,549	10,743,341,479	30,258	977,054	10,501,459,488	5.90
Kales	37,730	654,067	9,604,617,372	37,871	668,666	10,454,660,761	5.88
Avocado	20,240	420,430	9,003,403,239	26,481	500,274	9,438,124,806	5.30
Water Melon	15,999	330,936	7,283,389,780	17,528	386,261	8,055,494,170	4.53
Bulb Onions	6,456	98,924	4,024,486,974	6,992	115,113	4,871,457,116	2.74
French Beans	8,286	68,905	3,902,259,323	8,180	83,530	4,205,300,926	2.36
Pawpaw	7,969	119,449	4,121,979,701	8,923	120,474	4,130,727,360	2.32
Spinach	10,359	202,649	3,628,830,597	9,349	238,452	3,729,358,253	2.10
Orange	9,291	78,040	1,907,023,284	12,604	145,445	3,522,833,425	1.98
Cowpea	79,535	159,386	3,512,308,830	36,018	113,666	3,348,701,203	1.88
Runner Beans	60	1,509	257,837,500	556	15,752	2,346,597,500	1.32
Carrots	8,586	107,322	1,865,618,255	5,454	87,512	2,214,754,579	1.24
Lime	4,955	74,590	2,380,839,822	2,951	82,110	2,161,375,000	1.21
African Nightshade	6,950	69,254	2,397,810,725	5,917	58,909	1,831,009,726	1.03
Snow Peas	3,356	33,049	2,320,278,500	2,537	25,308	1,708,659,920	0.96
Purple Passion	2,156	25,140	1,443,618,026	2,009	25,400	1,547,555,900	0.87
Spider Plant	4,280	35,295	1,229,098,895	3,949	36,445	1,315,530,681	0.74
Tree Tomato	1,156	17,443	1,057,602,944	1,321	21,776	1,201,514,785	0.68
Spring Onions	2,975	29,481	826,573,835	2,830	35,520	1,072,430,581	0.60

Bellpeper	1,849	16,402	716,333,557	2,236	26,462	1,043,497,181	0.59
Corriander	807	13,854	794,338,618	1,086	16,942	854,949,477	0.48
Leaf Amarantha	3,996	54,813	1,322,286,150	3,237	38,172	831,076,886	0.47
Pumpkin Fruits	1,487	31,022	722,892,977	1,755	35,829	813,596,889	0.46
Butternuts	1,487	31,022	722,892,977	1,755	35,829	813,596,889	0.46
Yellow Pasion	1,406	16,886	562,760,578	1,313	16,479	578,400,400	0.33
Garlic	265	3,181	572,653,675	266	3,162	577,449,600	0.32
Eggplant	996	11,381	329,311,082	1,585	15,286	523,766,111	0.29
Snap Peas	979	9,660	481,310,000	1,014	10,021	494,881,000	0.28
Lemons	2,043	16,142	376,220,443	2,050	16,486	476,850,000	0.27
Tangerine	1,149	11,512	247,693,541	1,377	16,434	418,054,690	0.23
Dudhi	612	6,792	226,624,830	355	7,107	350,836,860	0.20
Abc	722	8,497	440,805,252	607	6,791	337,175,600	0.19
Okra	1,242	9,089	384,473,243	1,445	7,335	310,656,825	0.17
Guavas	1,015	11,149	274,302,350	982	10,725	296,260,295	0.17
Long Cayene	317	3,260	245,624,635	328	3,395	280,051,800	0.16
Sleder	355	7,107	350,836,860	841	5,605	260,730,596	0.15
Brocoli	622	9,656	332,221,010	347	3,242	225,186,600	0.13
Bixa	1,253	2,768	185,570,000	2,775	2,859	192,940,000	0.11
Butternut	861	13,299	359,714,975	691	9,846	183,628,464	0.10
Others	6,874	61,587	2,106,799,136	7,169	64,975	2,033,169,259	1.14
Total	482,354	7,740,763	165,546,372,313	449,786	8,356,588	177,910,465,764	100.00

NB: This is exclusive of Cut flowers that are valued at FOB prices

Source: AFA-Horticulture Crops Directorate

