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A world class regulator of vibrant, diversified and sustainable crop industry

MARKET INTELLIGENCE REPORT FOR



MAIZE GRAIN

ISSUE 1 OF 2022

1. INTRODUCTION

Maize [*Zea Mays*], which is also referred to as corn in the United States of America (USA), is grown globally by several countries, and it is one of the most important cereal grains in the world. It is the basis for food security in most countries especially in Africa as it is one of the staple foods. According to Bathla *et al.* (2019), maize contains various nutritional values such as vitamins (B & C), proteins, phosphorus, zinc, and many other important nutritional components. It is also one of the largest components of animal feed (Kopp, 2021).

Currently, Namibia is not producing enough maize and hence it depends on imports in order to meet the local demand. The country mainly produces white maize both under irrigation and rain-fed cultivation, in the Zambezi, Kavango, North Central, Karst, Central, and South production zones. Large quantities of white maize grain are still being imported mainly from South Africa (NAB, 2021). Notably, Namibia has recently recorded an increase in local maize production, from 66 000 tonnes in 2020 to about 90 000 in the 2021 season.

This Market Intelligence Report highlights the important intelligence information on white maize in terms of production, consumption, and trade (import & export) from the global, regional and national perspectives. Although this document is specifically aimed to zoom into white maize, the global overview section is not specific to white maize only due to a lack of global statistics that are specific to white maize only. The African and domestic perspective section, however, is specific to white maize only.

2. GLOBAL OVERVIEW

PRODUCTION: According to FAO (2022), during the period of 5 years (2016 – 2020), over 80% of the world's maize was produced in the American and Asian regions, with Africa only producing 7.4% of the world's total maize production. Europe produced 10.8% whilst the Oceania region produced the lowest of 0.1% of the world's maize production during the same period (Figure 1 below).

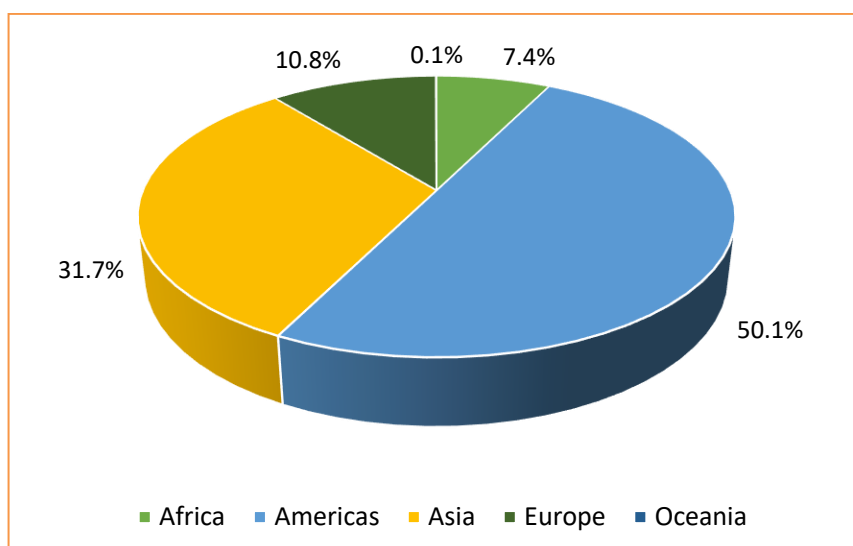


Figure 1: Global maize production share by region (average 2016 - 2020). Source: FAOSTAT (2022)

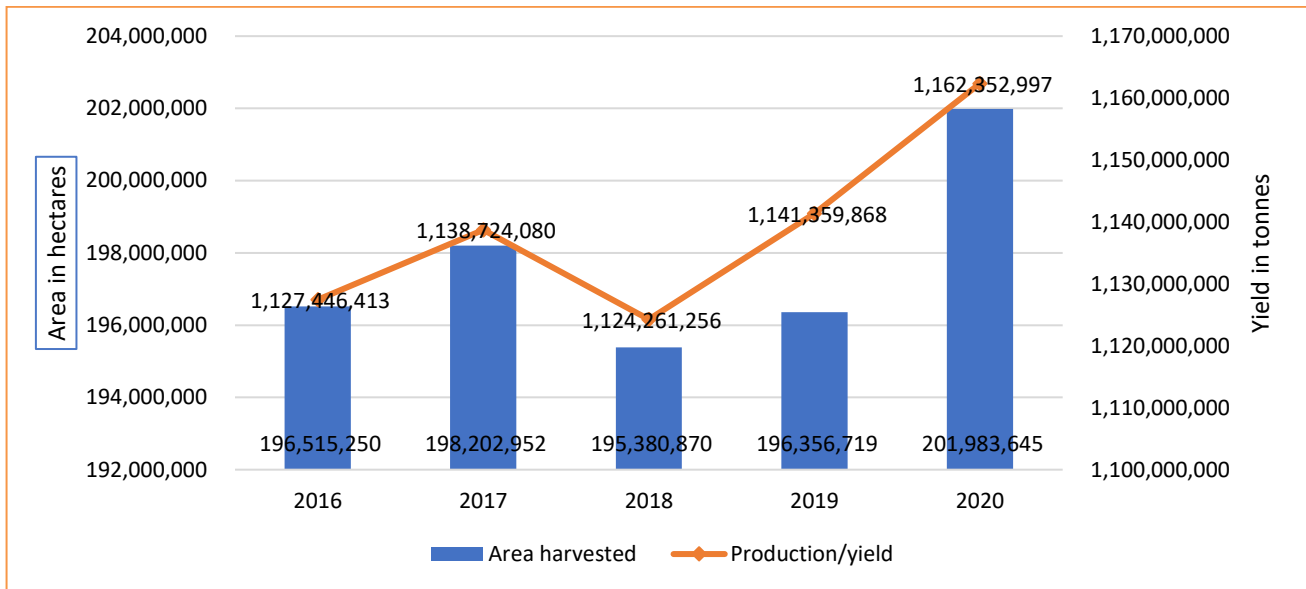


Figure 2: Global production/Yield quantities of maize (average 2016 - 2020). Source: FAOSTAT (2022)

As presented in figure 2 above, the global maize production area was at its lowest in 2018 at just over 194 000 hectares of land, whereby a total yield of about 1.12 million tonnes was harvested. The total area and yield have been on an increase since then with about 1.16 million tonnes harvested from an area of 201 000 hectares in 2020. This indicates a 3.29% increase in the maize production area as well as a 3.36% increase in maize yield over the 3 years.

The USA is the top maize producer in the world, having produced over 366 million tonnes out of the world's total maize production estimate of 1.05 billion tonnes in 2020 (McCormick Technology, 2021).

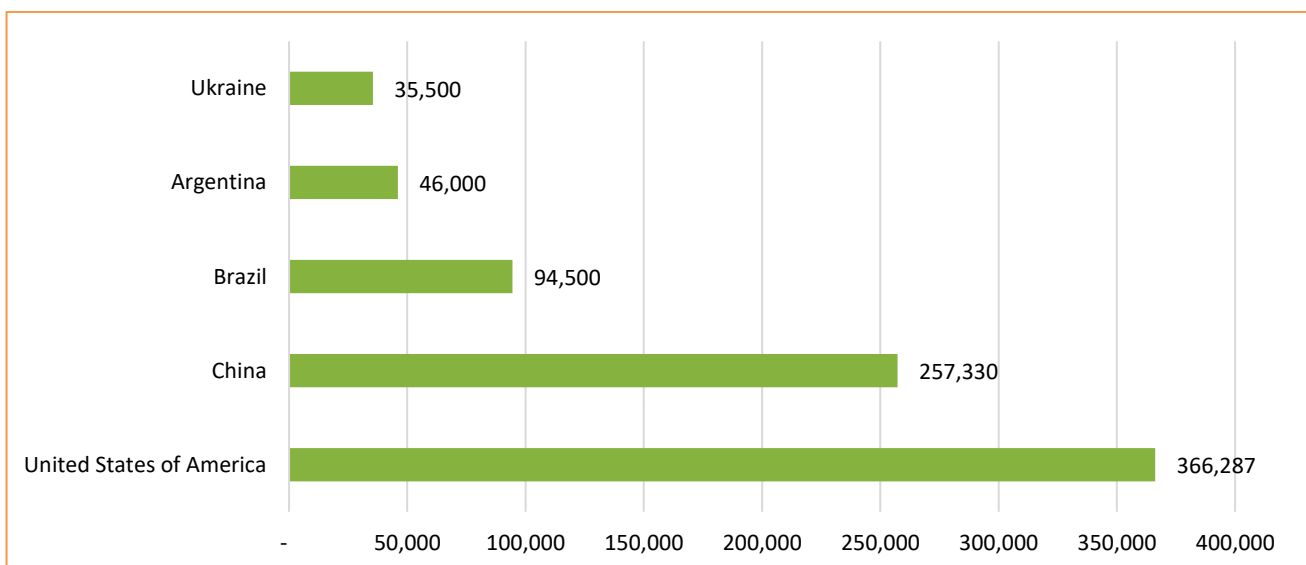


Figure 3: Global maize production (Top 5 countries in million tonnes). Source: McCormick Technology (2021)

As of 2020, maize production in the USA was 366,287 million tonnes, accounting for 35% of the world's maize production. The USA is followed by China with 257,330 million tonnes, Brazil with 94,500 million tonnes, Argentina with 46,000 million tonnes, and Ukraine with 35,500 million tonnes (Figure 3). These top 5 countries account for 76% of the total world maize production.

CONSUMPTION: Maize is the most largely produced and consumed cereal crop in the world simply because it is the main staple food for many people. It can be processed into a variety of food such as flour, popcorns, cereals (cornflakes), and industrial products, such as starch, sweeteners, oil, beverages, glue, industrial alcohol, and ethanol (Ranum *et al.*, 2014).

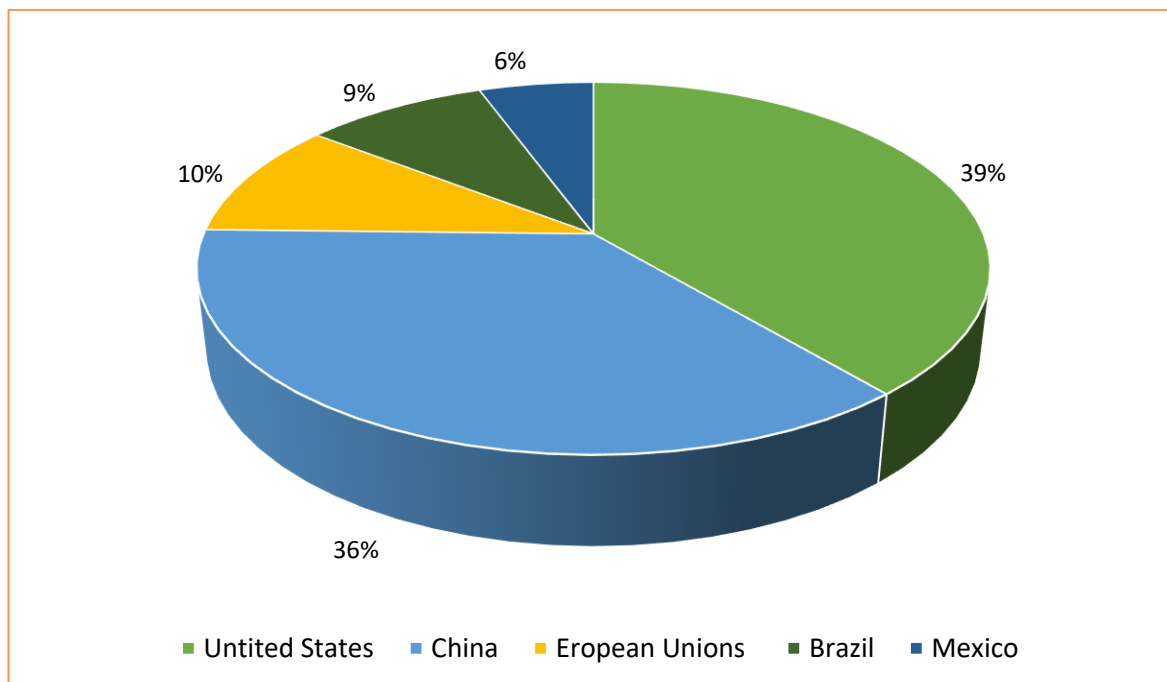


Figure 4: Global maize consumption (2020/2021) (in million tonnes). Source: Statista (2021)

As of 2020/2021 and as indicated in Figure 4 above, the United States consumed the highest quantity of maize with over 305 million tonnes, followed by China with just over 287 million tonnes. The lowest amount of maize in the top 5 countries was consumed in Mexico with about 43 million tonnes.

Maize is largely consumed in Africa in the form of delicacies made from flour such as porridge and bread, unlike in the US and EU where it is largely used as livestock feed (United States Department of Agriculture (USDA), 2022).

EXPORTS: According to McCormick Power Technology (2021), corn (maize), starch and corn (maize) flour remain the highest maize products being exported globally.

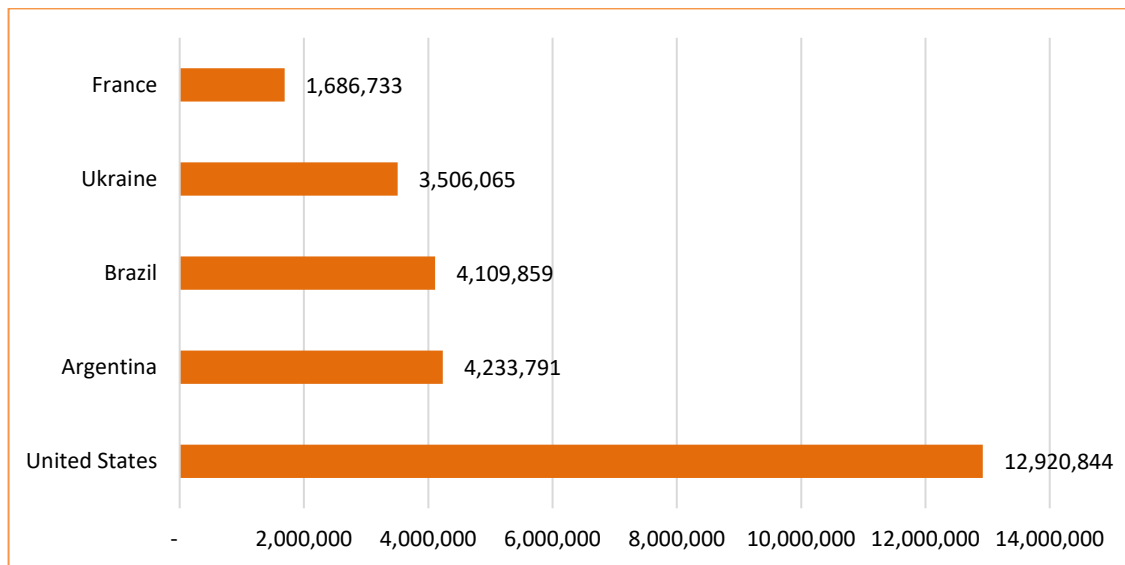


Figure 5: Global maize exports (in tonnes). Source: McCormick Power Technology (2021)

According to McCormick Power Technology (2021), the United States is the top exporter of maize with over 12 million tonnes in 2018 (Figure 5). The US is followed by Argentina with over 4.2 million tonnes, Brazil with over 4.1 million tonnes, Ukraine with over 3.5 million tonnes, and France with just over 1.6 million tonnes. Apart from the top 5, it is worth mentioning that South Africa also makes the top 10 list at number 9, exporting about 452 thousand tonnes of maize.

IMPORT: From an import perspective, the data/graph changes drastically when it comes to the imports of maize (McCormick Power Technology, 2021).

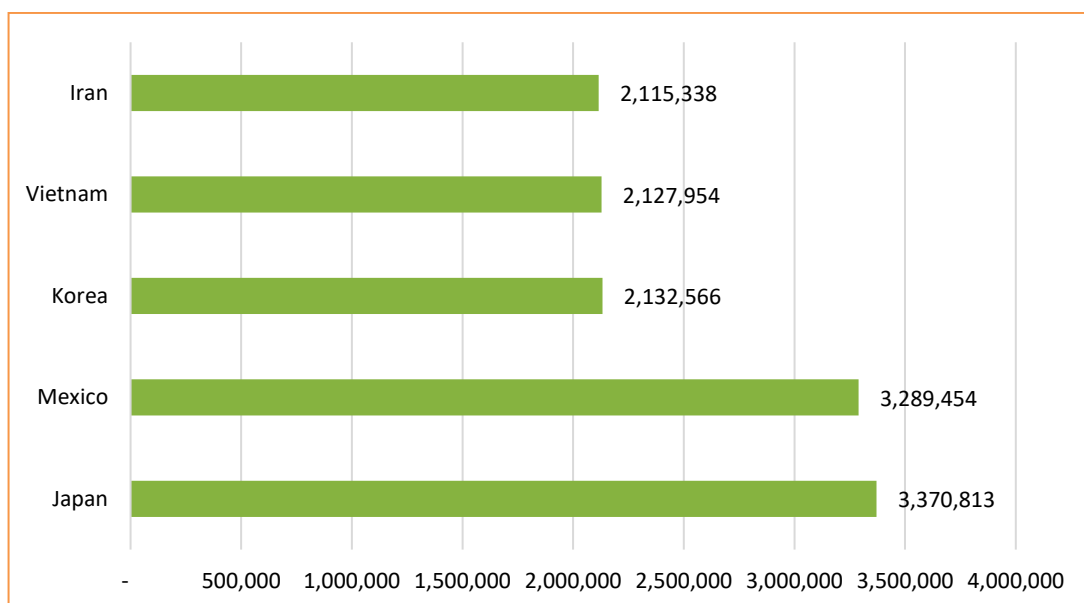


Figure 6: Global maize imports (tonnes). Source: McCormick Power Technology (2021)

Furthermore, according to the 2018 data, and the illustration in Figure 6 above, the top 5 countries that purchased or imported the most maize overall are Japan with over 3.3 million tonnes, Mexico with over 3.2 million tonnes, Korea with over 2.1 million tonnes, followed by Vietnam with over 2.1 million tonnes, and Iran with over 2.1 million tonnes respectively.

PRICES: According to Food and Agricultural Organisation (FAO) (2022), international maize prices have been on a rise recently. This is a result of persistent drought conditions in high exporting South American countries of Argentina and Brazil.

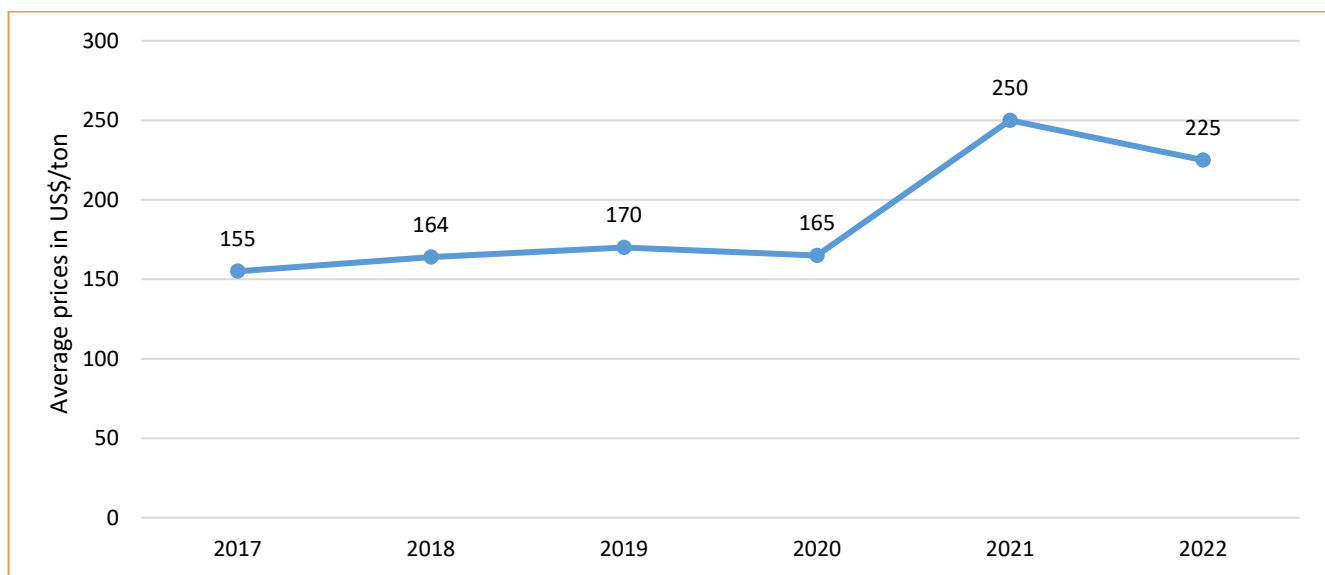


Figure 7: Global maize prices (in US\$/ton). Source: Statista (2022)

As shown in figure 7 above, maize prices started at US\$155/ton in 2017 globally and continued to gradually increase to its highest peak of US\$250/ton in 2021. From there on, the maize price continued to significantly increase and as of January 2022, the price stood at US\$276.6 per ton.



3. AFRICAN PERSPECTIVES

PRODUCTION: According to the Food and Agriculture Organisation (FAO) (2022), maize production in Africa was about 90.1 million tonnes in 2020, representing 7.8% of the world's maize production. Figure 8 below shows that the maize cultivated area remained significantly constant over the period between 2016 and 2020. Africa's largest maize harvest was achieved in 2020, with over 90.1 million tonnes harvested from an area of 43 million hectares.

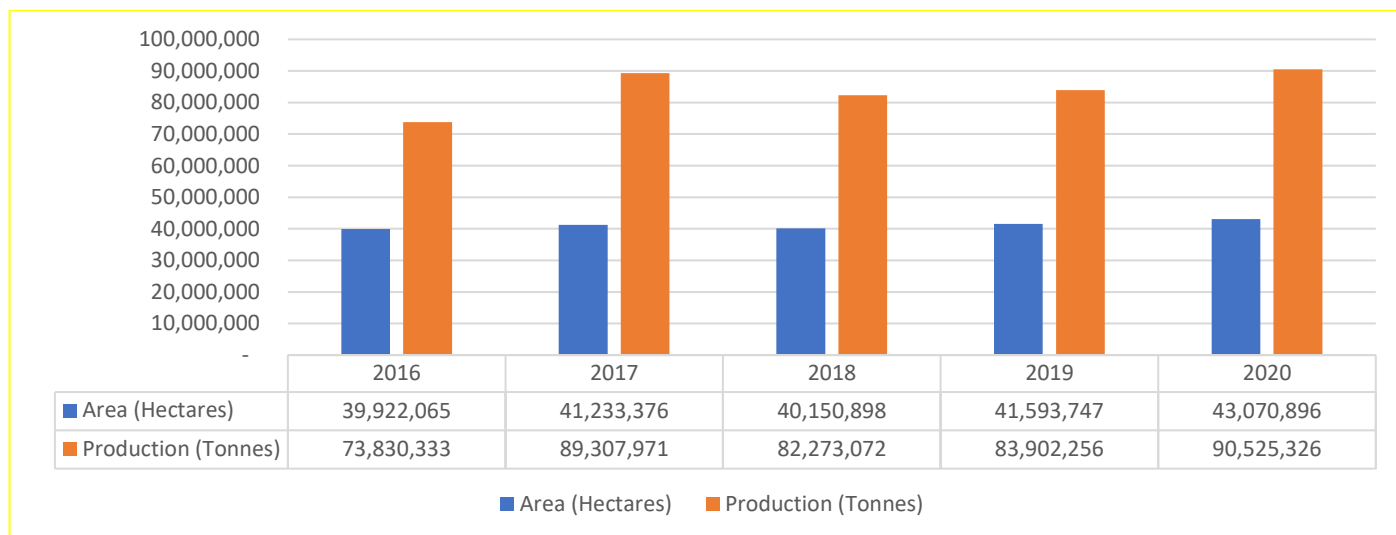


Figure 8: Maize production/Yield vs planted area in Africa (2016 - 2020). Source: FAOSTAT (2022)

Many African countries including several Southern African countries such as Namibia, Botswana, Eswatini, Lesotho, Zimbabwe, etc. remain insufficient when it comes to maize production, whilst South Africa as in most other agricultural commodities remains the top producer of maize in the region (Southern Africa) and overall in Africa. Notably, South Africa is amongst the top 10 largest maize producers worldwide.

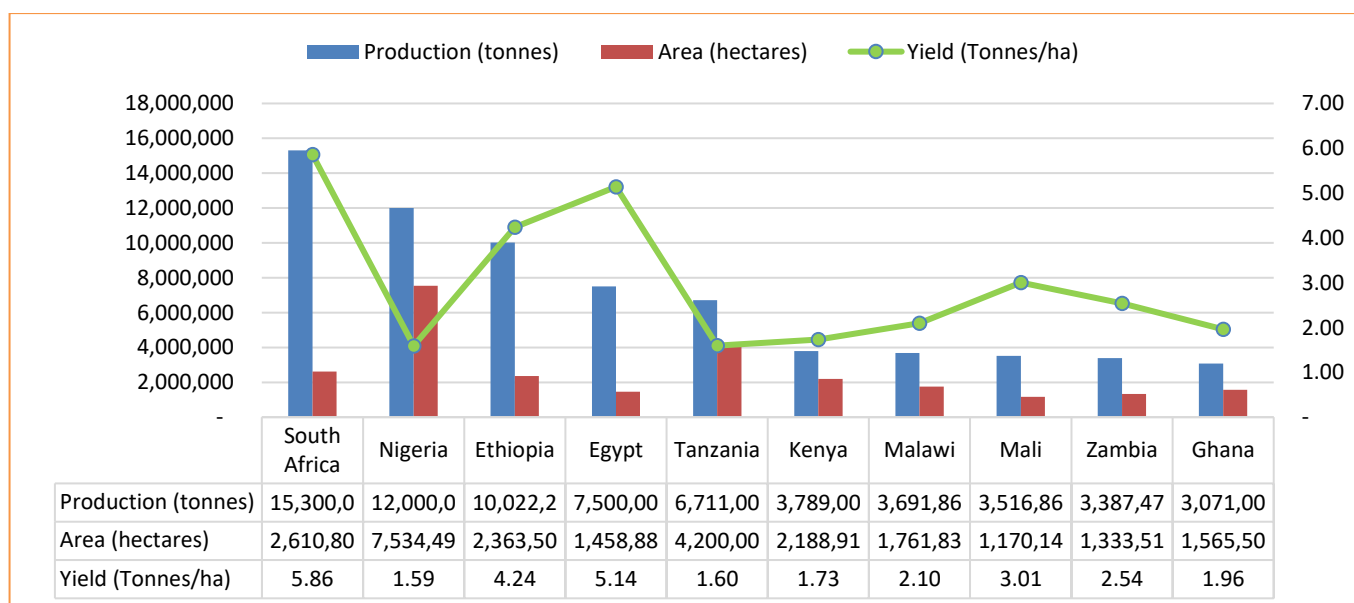


Figure 9: Top 10 maize-producing countries in Africa (2020). Source: FAOSTAT (2022)

As shown in Figure 9 above, during the year 2020, South Africa was the largest maize producer in Africa with over 15 million tonnes (representing 16.9% of Africa's maize production), followed by Nigeria (13.26%), Ethiopia (11.07%) and Egypt (8.28%). South Africa also recorded the highest yield per hectare of 5.86 tonnes/ha.

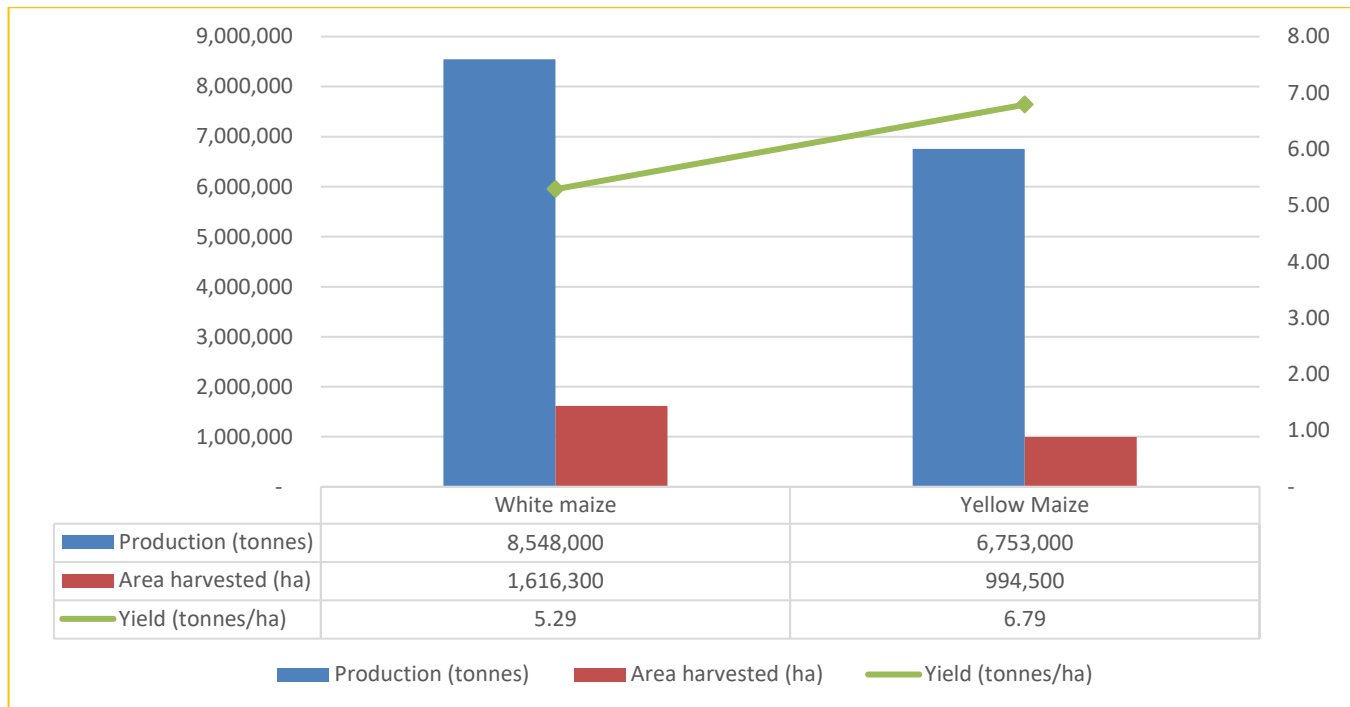


Figure 10: South Africa maize production overview (2020). Source: SAGL (2020)

According to the Southern African Grain Laboratory (SAGL) (2020), and as indicated in Figure 10 above, out of the 15,3 million tonnes produced in South Africa in 2020, white maize's total contribution was 8,5 million tonnes produced over an area of 1.6 million hectares, whilst yellow maize's contribution was 6,7 million tonnes that were produced over an area of 994 thousand hectares.

Type of production	White maize			Yellow maize		
	Area planted (ha)	Production (tonnes)	Yield (tonnes/ha)	Area planted (ha)	Production (tonnes)	Yield (tonnes/ha)
Dryland	1,542,650	7,811,800	5.06	839,400	4,909,250	5.85
Irrigation	73,650	735,700	9.99	155,100	1,843,250	11.88
Total	1,616,300	8,547,500	5.29	994,500	6,752,500	6.79

Table 1: South Africa maize production overview in terms of the type of production (2020). Source: SAGL (2020)

In terms of the type of production, Table 1 above shows that over 90% of South Africa's white maize produced in 2020 was produced under dryland cultivation. Whereas during the same period, 73% of South Africa's yellow maize was produced under dryland cultivation.

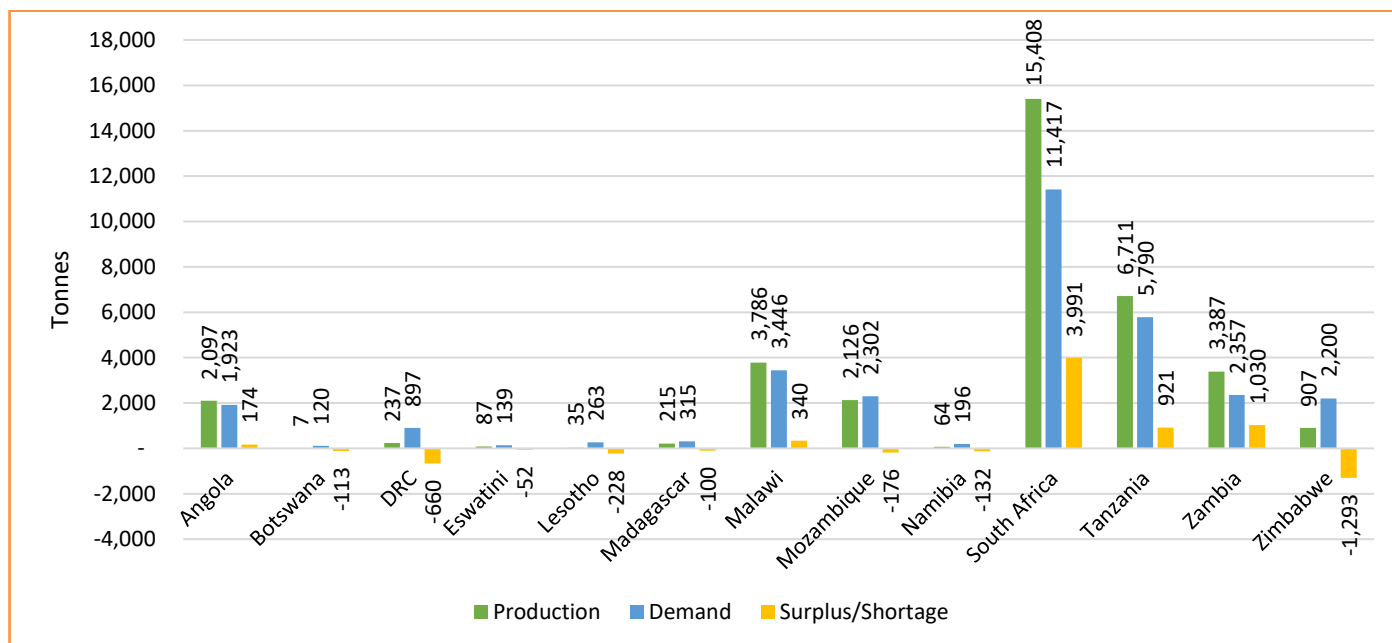


Figure 11: Maize balance sheet for Southern Africa during the year 2020/2021 (in '000 metric tonnes).
Source: Famine Early Warning Systems Network (FEWSNET) (2021)

According to the National Agricultural Marketing Council (NAMC) (2022), South Africa projected the total production of white maize at 9,735,517 tonnes for the 2021/22 marketing season, whilst 8 049 682 tonnes was projected for yellow maize. However, in terms of the maize trade balance in Southern Africa, Figure 11 above indicates how South Africa produced over 15 million tonnes of maize in comparison to the country's total demand of 11 million tonnes.

CONSUMPTION

According to Mordor Intelligence (2022), Africa consumes about 30% of the maize produced in the world with Sub-Saharan Africa alone consuming 21% of the total African maize consumption. Furthermore, approximately 65% of the maize produced in South Africa is white and this is used for human consumption, whereas the remaining 35% is yellow maize which is used for animal feed.

Rank Number	Country	Consumption (1000 metric tonnes)
1	Egypt	16,800
2	South Africa	13,300
3	Nigeria	11,600
4	Ethiopia	9,200
5	Tanzania	6,300

Rank Number	Country	Consumption (1000 metric tonnes)
6	Algeria	4,800
7	Kenya	4,200
8	Malawi	3,900
9	Mali	3,600
10	Ghana	3,050

Table 2: Top 10 maize consumers in Africa (in 1000 metric tonnes, 2021). Source: Index Mundi (2021)

As of 2021, according to Index Mundi (2021) and as indicated in Table 2 above, Egypt is the top maize consumer having consumed about 16,8 million tonnes followed by South Africa which consumed 13,3 million tonnes respectively. Namibia ranks at number 32 in Africa with an estimated consumption of 280 thousand tonnes in 2021.

EXPORTS

South Africa is the only African country that is a maize net exporter. According to FAO (2022), South Africa exported over 2.5 million tonnes of maize in 2020. It is also the only African country from the Southern region that exports maize on an international level. Figure 12 below indicates that Uganda is the second largest maize exporter in Africa, after South Africa, having exported about 258 thousand tonnes of maize in 2020. Amongst the top 10 exporters, Nigeria exported the least maize of just over 4000 tonnes in 2020.

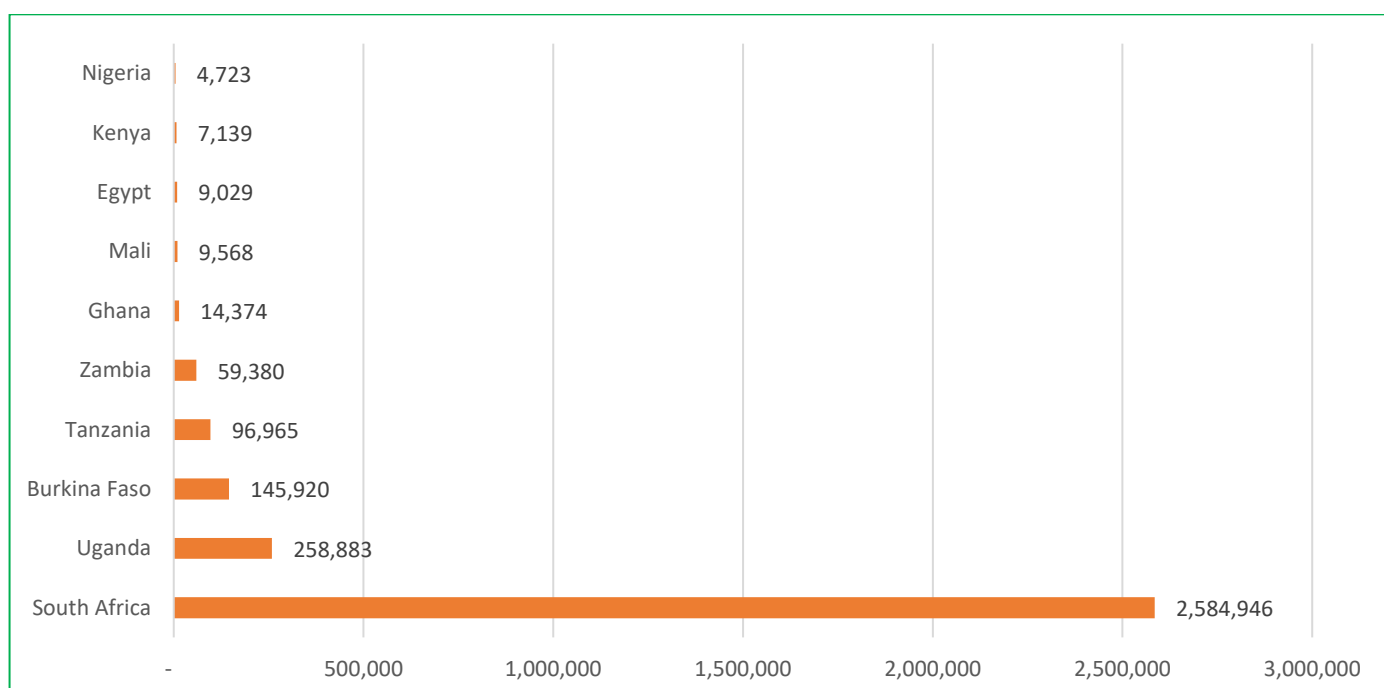


Figure 12: Top 10 African maize exporting countries (2020) (in tonnes). Source: FAOSTAT (2022)

IMPORTS

According to Famine Early Warning Systems Network (FEWSNET) (2021), countries in Southern Africa such as Namibia, Botswana, Angola, Lesotho, Eswatini, and the Democratic Republic of Congo are either experiencing minor or complete deficits when it comes to maize and they depend on imports from other countries specifically in regional markets.

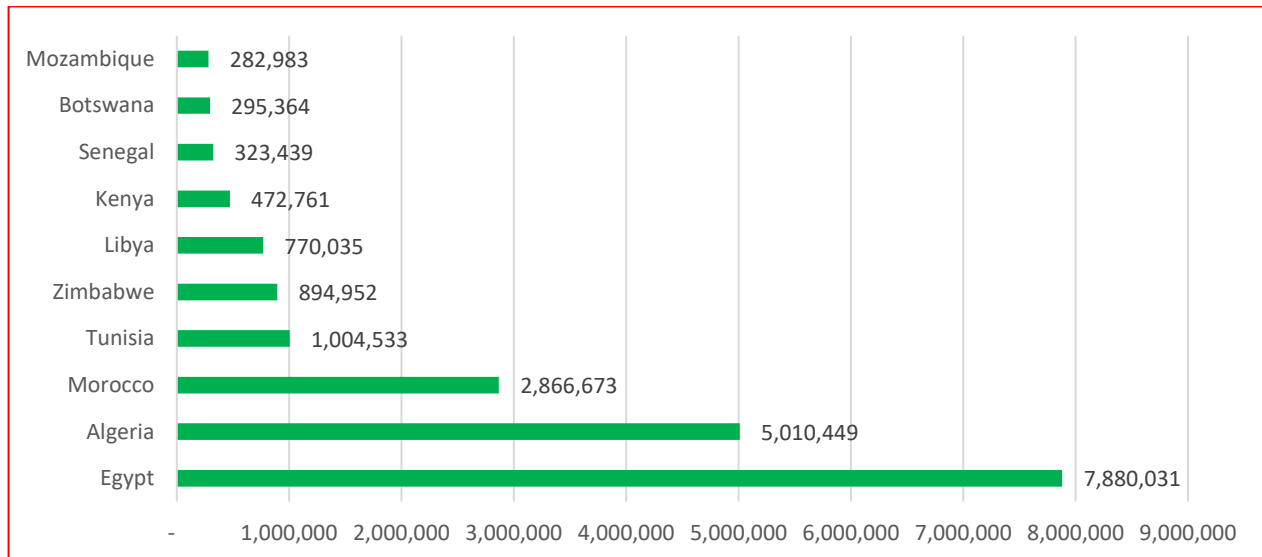


Figure 13: Top 10 African maize importing countries (2020) (in tonnes). Source: FAOSTAT (2022)

As indicated in Table 13 above, Egypt imported the largest amount of maize in Africa in 2020, totalling over 7.8 million tonnes. Egypt is followed by Algeria which imported 5 million tonnes in the same year. Botswana from Southern Africa and also in the same customs union as Namibia, the Southern Africa Customs Union (SACU), imported 295 thousand tonnes of maize during the same period.

PRICES

Maize prices may vary throughout the region although in Southern Africa most of the maize prices are linked to those of South Africa, being the biggest producer in the region. Furthermore, South Africa is the largest exporter in the region, hence it is able to attract the effects of the international prices that are easily influencing the prices of neighbouring countries that are dependent on South Africa for maize imports.

Like Namibia, countries such as Malawi, Zimbabwe and Zambia have government institutional plans to purchase maize from the farmers hence they are also setting up the national price for the maize (FEWSNET, 2021).

Country	Price (per ton)	Currency	Equivalence to N\$ (Conversion date: 18.03.2022)
Zimbabwe	32,000	ZWL	1,491.68
Zambia	3,000	ZMK	2,545.32
Malawi	150,000	MW	2,782.74
Tanzania	380,000	TZS	2,454.36
Eswatini	3,100	E	2,959.48

Table 3: Government institutionalised maize prices. Source: FEWSNET estimates, (2021) & Reliefweb (2021)

Table 3 above indicates the maize prices as set by the government institutions in various countries. Malawian maize price was 150,000 MW/ton in 2021, which is equivalent to N\$2,780.74 per tonne. Prices seem to be low in Zimbabwe compared to other countries, standing at 32,000 ZWL/ton which is equivalent to N\$1,491.68 per tonne.

According to Sihlobo (2021), as of February 2021, South Africa's maize prices were at R3,299 per tonne for white maize and R3,451 per tonne for yellow maize. This is an increase of 8% and 21% during the same period in 2020. It is further anticipated that South Africa's maize prices will continue to be influenced by global events such as the current Russia-Ukraine conflicts. These increases are significantly likely to be felt in neighbouring countries in the Southern region that are largely dependent on maize imports from South Africa.

4. DOMESTIC OUTLOOK

In Namibia, white maize is exclusively produced for human consumption and it is gazetted as a controlled crop whereby the marketing of locally produced white maize grain is managed through the White Maize Marketing Agreement signed between organised producers and millers and facilitated by the Namibian Agronomic Board (NAB). Usually, the import of maize is restricted during the marketing period which usually commences from 01 May each year and this is only allowed after all the locally available marketable maize has been sold and partially milled.

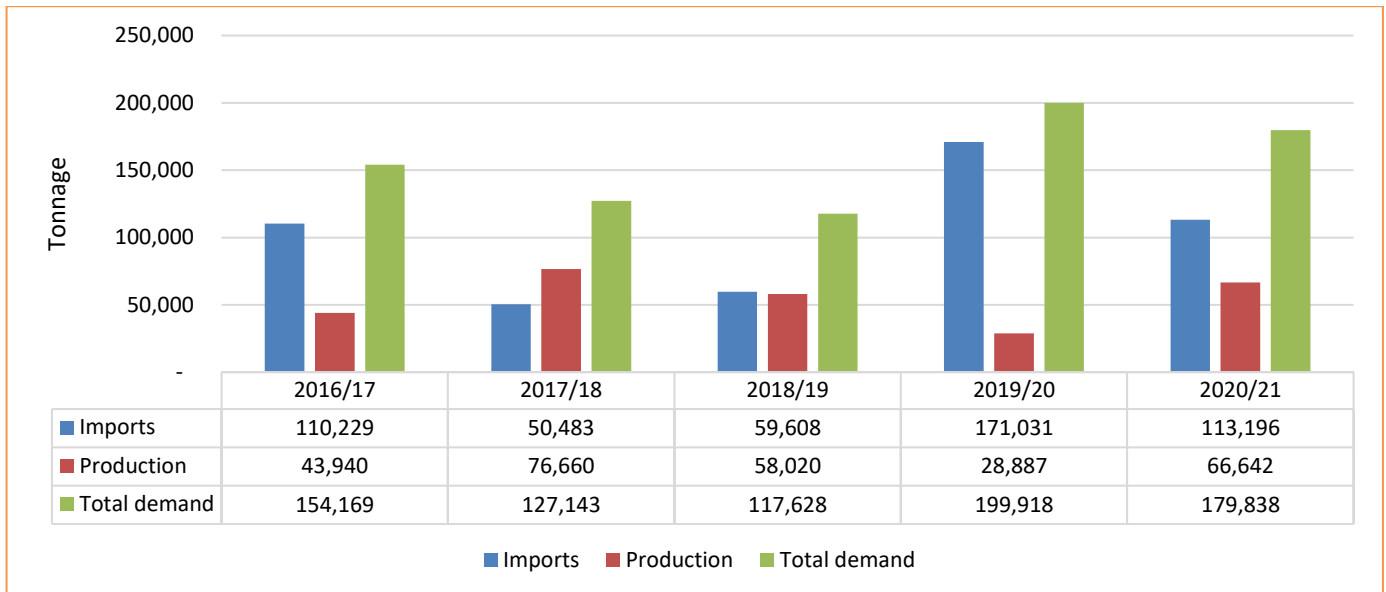


Figure 14: Domestic (Namibia) maize (white) trade overview. Source: NAB, (2022)

The lowest local maize production was recorded in the years 2016/17 and 2019/20 when over 70% of total maize consumption was imported. A significant increase in local production was however recorded in the 2020/21 marketing year which saw an increase to 66,642 tonnes compared to 28,887 tonnes the previous year (Figure 14 above).

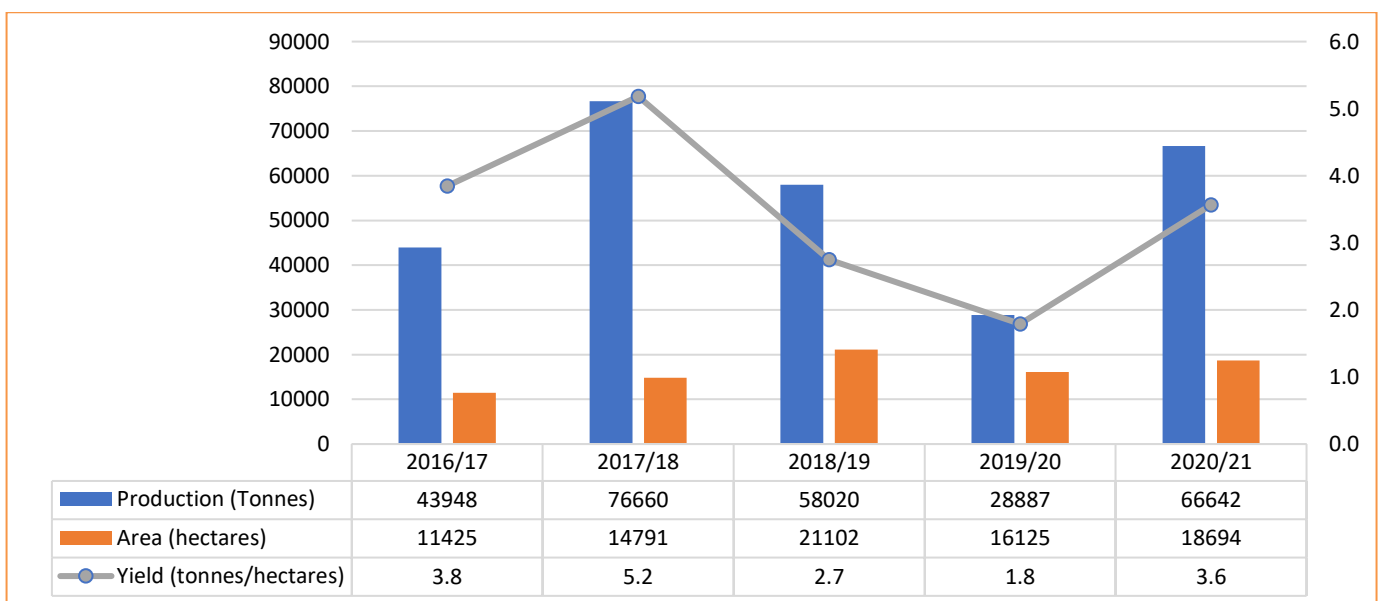


Figure 15: Namibia maize production (Area planted and yield). Source: NAB, (2022)

In terms of maize yield per hectare, Namibia recorded the highest yield per hectare during 2017/2018 with a yield of 5.2 tonnes/hectare as indicated in Figure 15 above. The lowest yield of 1.8 tonnes/hectare was recorded in 2019/2020 due to the recurring drought experienced during this period.

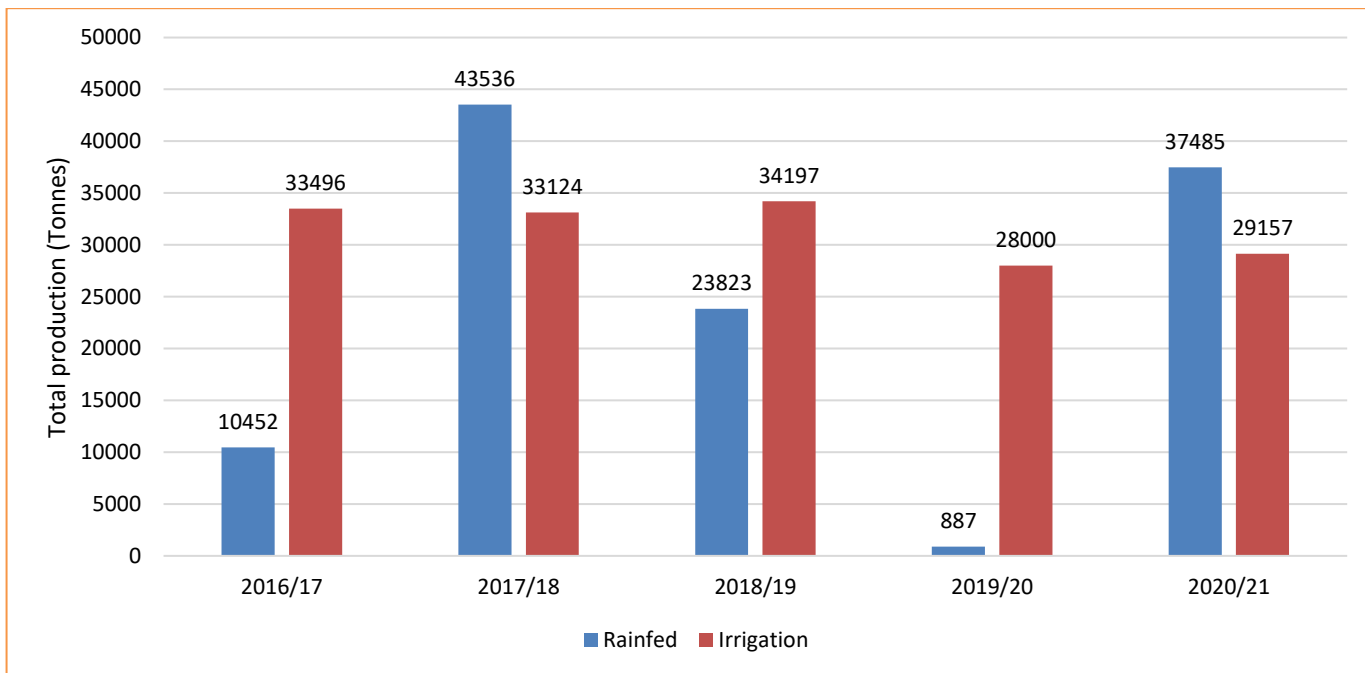


Figure 16: Namibia maize production overview (Rainfed vs irrigation). Source: NAB, (2022)

Figure 16 above indicates that of the largest local maize production recorded in 2017/2018, 43,536 tonnes (57%) was produced under rainfed conditions and 33,124 tonnes (43%) was produced under irrigation conditions.

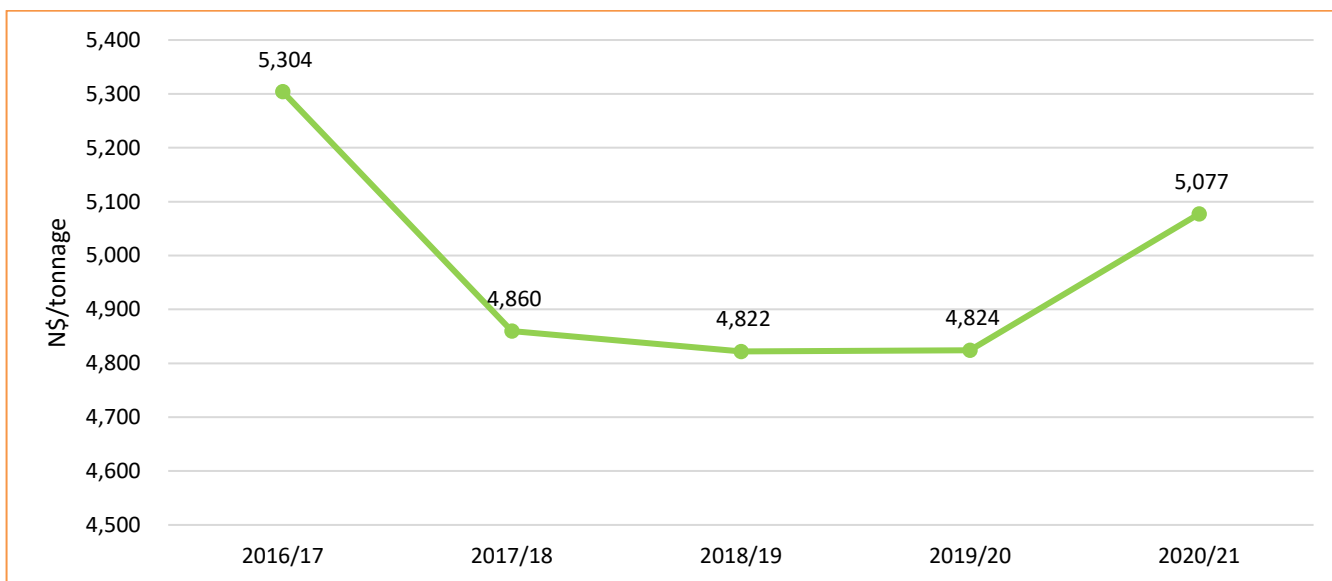


Figure 17: Local (Namibia) maize prices per tonne. Source: NAB, (2022)

During each marketing year, the local millers and producers follow a set maize price that is usually agreed upon before the marketing season commences. Figure 17 shows a 5% increase in maize price per tonne from N\$4,824 during the 2019/20 marketing year to N\$5,077 during the 2020/21 marketing year.

5. KEY POTENTIALS TO UNLOCK GROWTH IN MAIZE FARMING

The increasing demand and high importation of white maize grain for Namibia indicates an opportunity for increased local production. The long-term solution is to invest in projects that will allow the country to increase white maize production in Namibia.

Furthermore, the Namibian government has already invested in various infrastructure developments across the country such as the construction of the Neckertal dam in the Hardap region to aid with water shortages for irrigation in the country, in addition to the existing water infrastructures. Although not enough, the private sector is also encouraged to meet the government halfway and it has invested a lot in actual production.

In line with other crops, maize is currently gazetted as a controlled crop in terms of the Agronomic Industry Act 20 of 1992, and it forms part of the grain marketing mechanisms for Namibia.

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