

FOOD PRODUCTION AND SUPPLY IN AFRICA ANALYSIS

Africa is not only the second-largest continent by land area and population, but also the home of a remarkable diversity of cultures, languages, and religions.

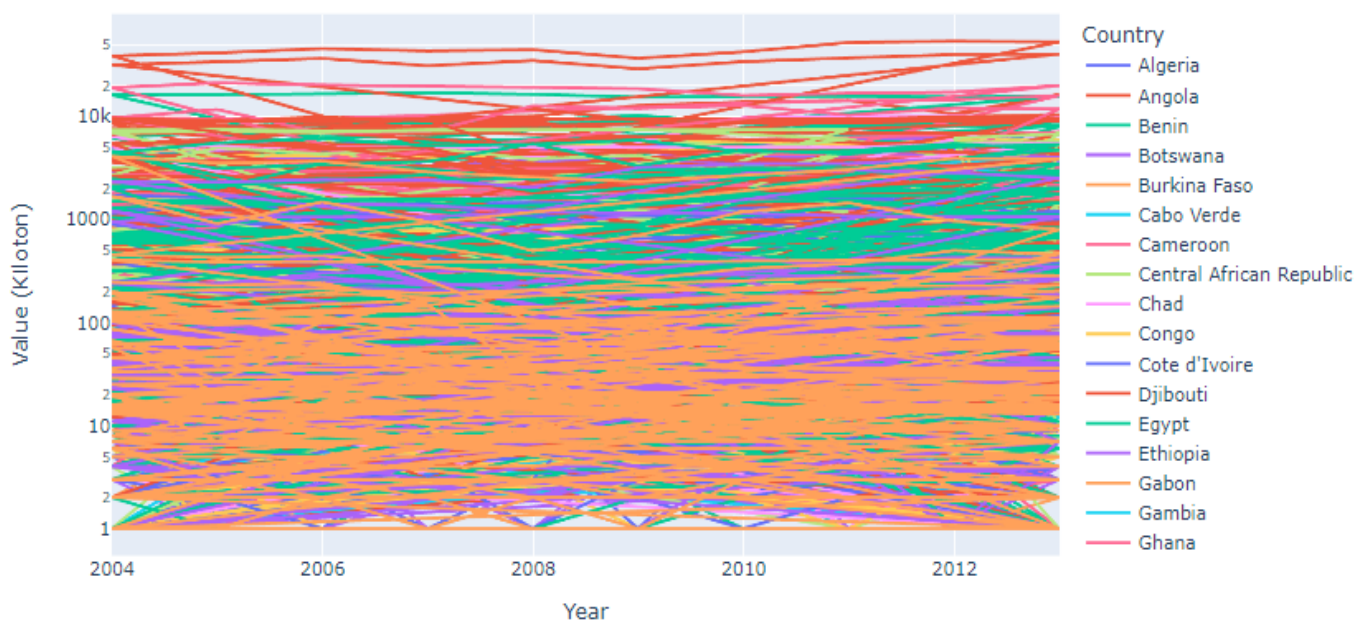
Agriculture is by far the single most important economic activity in Africa. It provides employment for about two-thirds of the continent's working population and for each country contributes an average of 30 to 60 percent of gross domestic product and about 30 percent of the value of exports.

Peasant and subsistence farming is the basic form of agriculture in most parts of the continent. However, agriculture in Africa faces challenges such as low productivity, land degradation, climate change, gender inequality, and malnutrition. Several initiatives and organizations are working to improve the sector and help Africa reach its potential

In this project, we will be analyzing two datasets which contains information of food production and food supply from 2004 to 2013 in 45 African countries. For pattern recognition and storytelling, and their relationship. Also carrying out a hypothesis test on the relationship between rice production and population. Trying to see if Rice production increase as the population of the African countries increases.

- Which Country produces food the most?

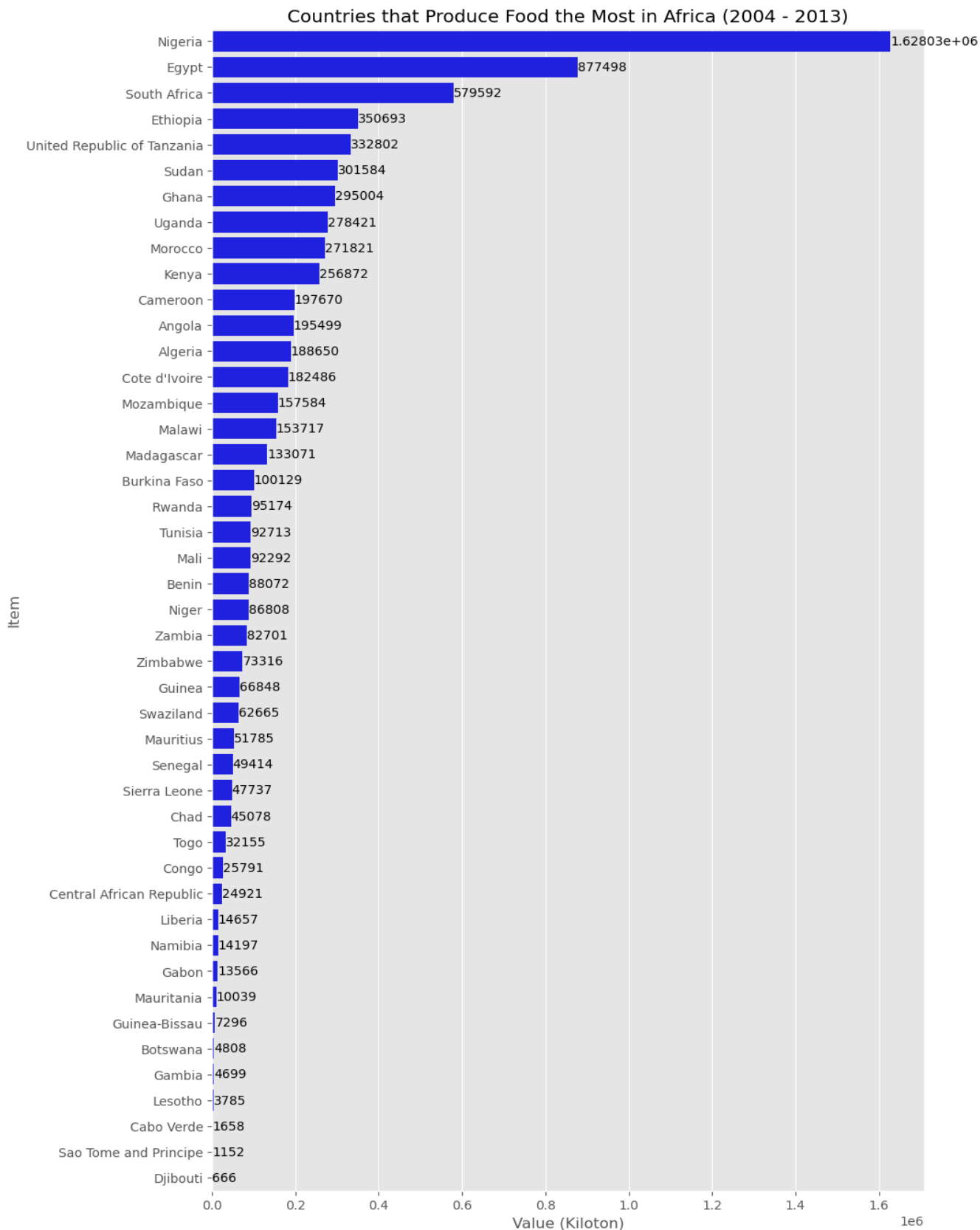
Food Production in Africa by Country (2004-2013)



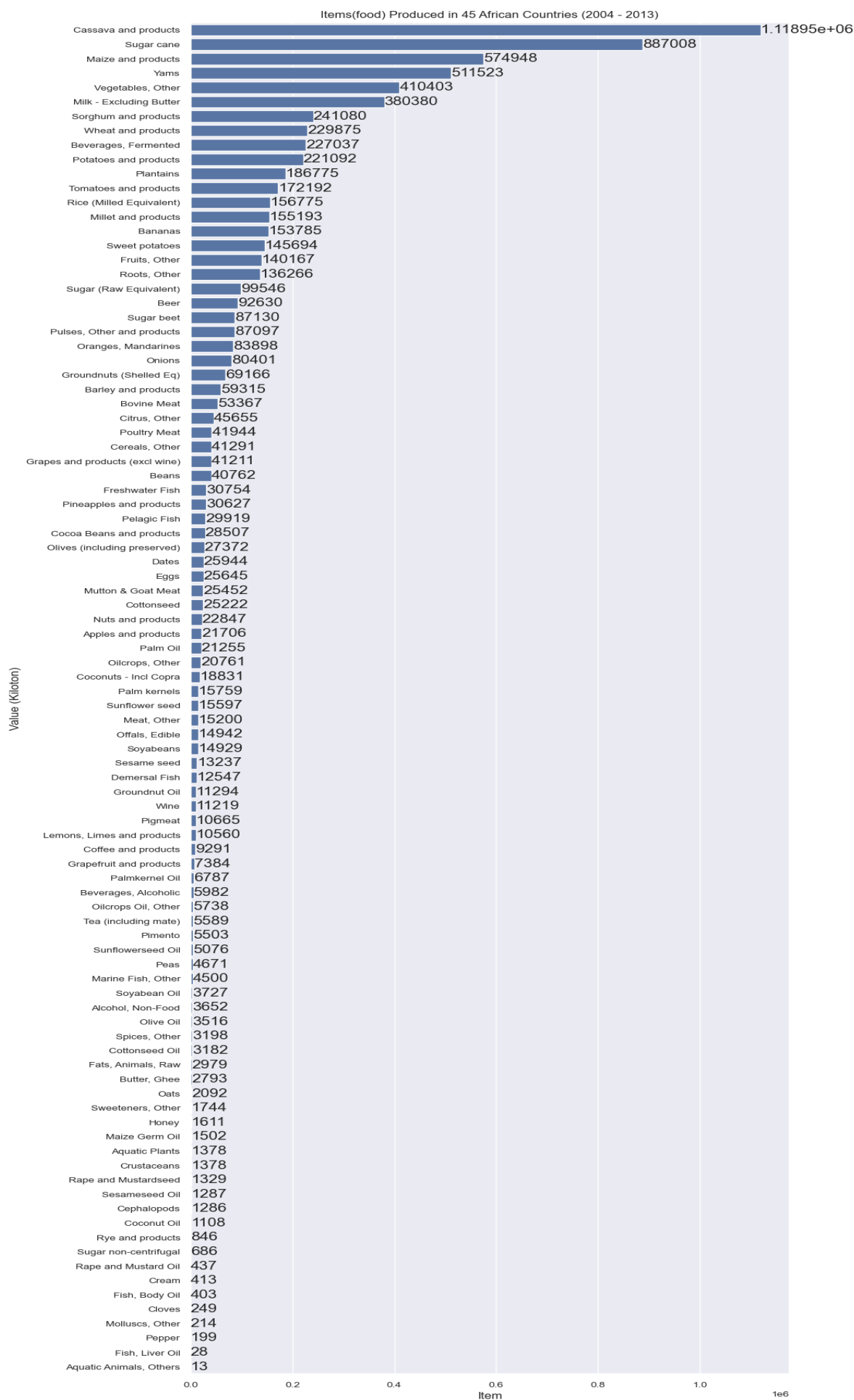
The above chart is too clustered, making it difficult to understand. Hence the next chart is a bar chart to show countries that produced food most

From the chart below we see that Nigeria is the Top food producing country in Africa between 2004 to 2013 with a total food production of 1,628,030 kiloton. Followed by Egypt with total of 877,498 kiloton and South Africa with total of 579,592

While Cabo Verde, Sao Tome and Principe and Djibouti were the countries least food producing country in Africa between 2004 to 2013 with a food production of 1658 kt, 1152 kt, 666kt respectively



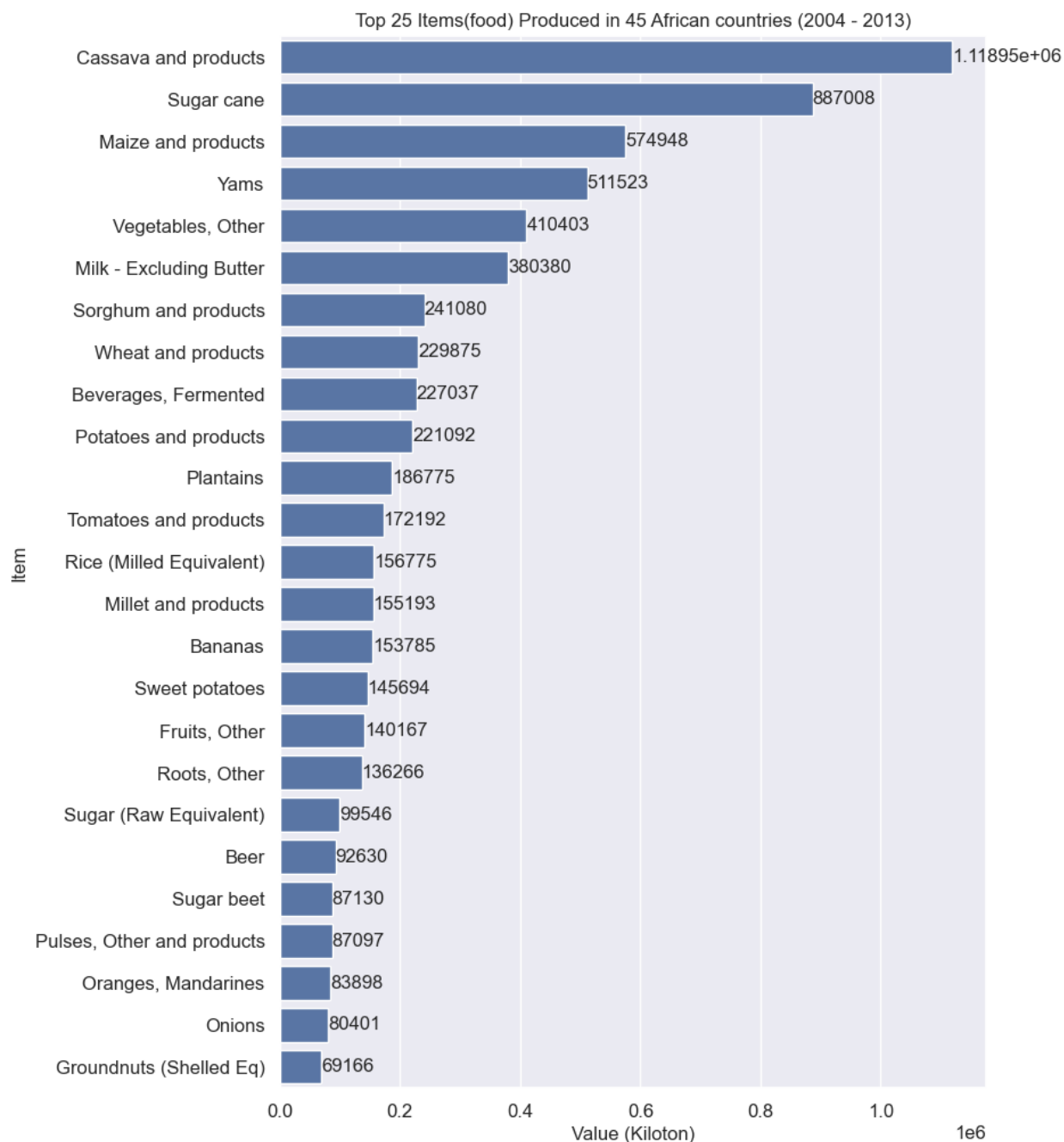
Food item(s) that were produced the most / least



Looking at the chart above we see that Cassava and products is the top most produced food item in Africa from 2004 to 2013 followed by Sugar cane, Maize and products, Yams, Vegetables, Other.

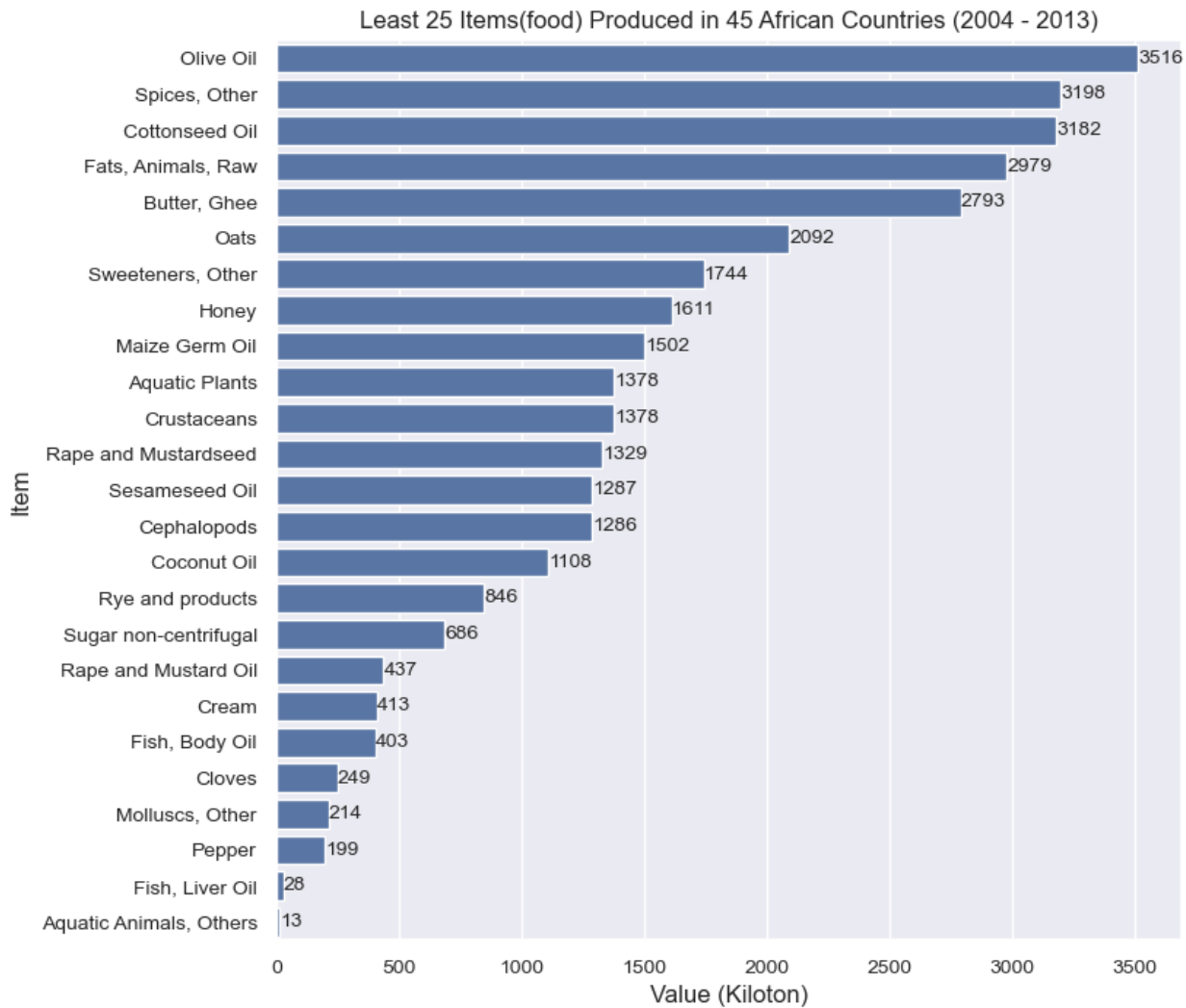
While the least produced food items are Cloves, Molluscs/Other, Pepper, Fish/Liver Oil, Aquatic Animals/Others. However, the above chart looks too long, one will have to scroll long, so i will divide it for better understanding (top 25) and (least 25)

Top 25 Food item(s) that were produced in 45 African countries



Just as seen above Cassava and products is the top most produced food item in Africa from 2004 to 2013 having a total 1,118,948 kiloton followed by Sugar cane with a total of 887,008 kiloton Maize and products with 574,948 kiloton.

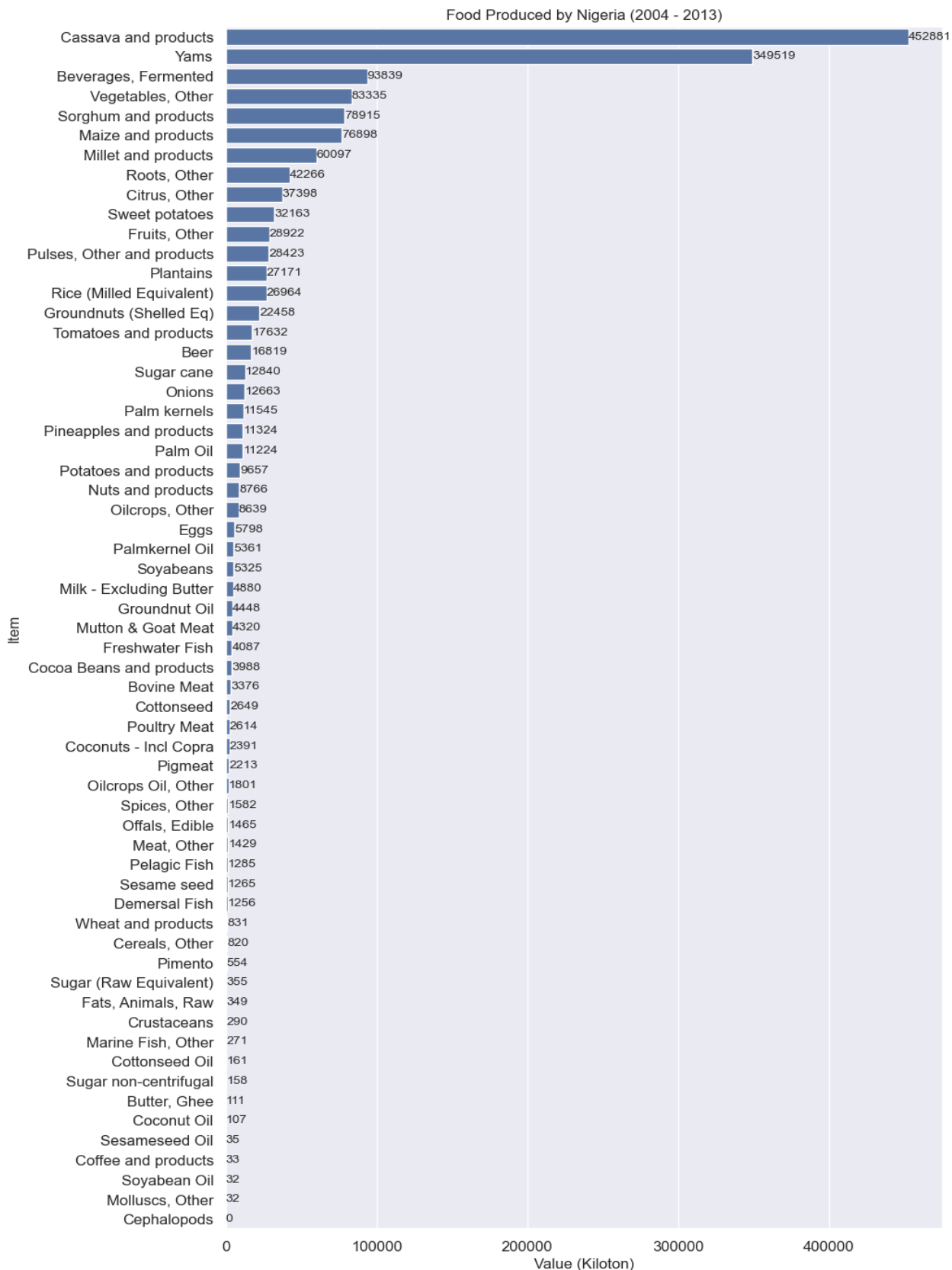
Least 25 Food item(s) that were produced in 45 African countries



The least produced food items are Cloves, Molluscs/Other, Pepper, Fish/Liver Oil, Aquatic Animals/Others.

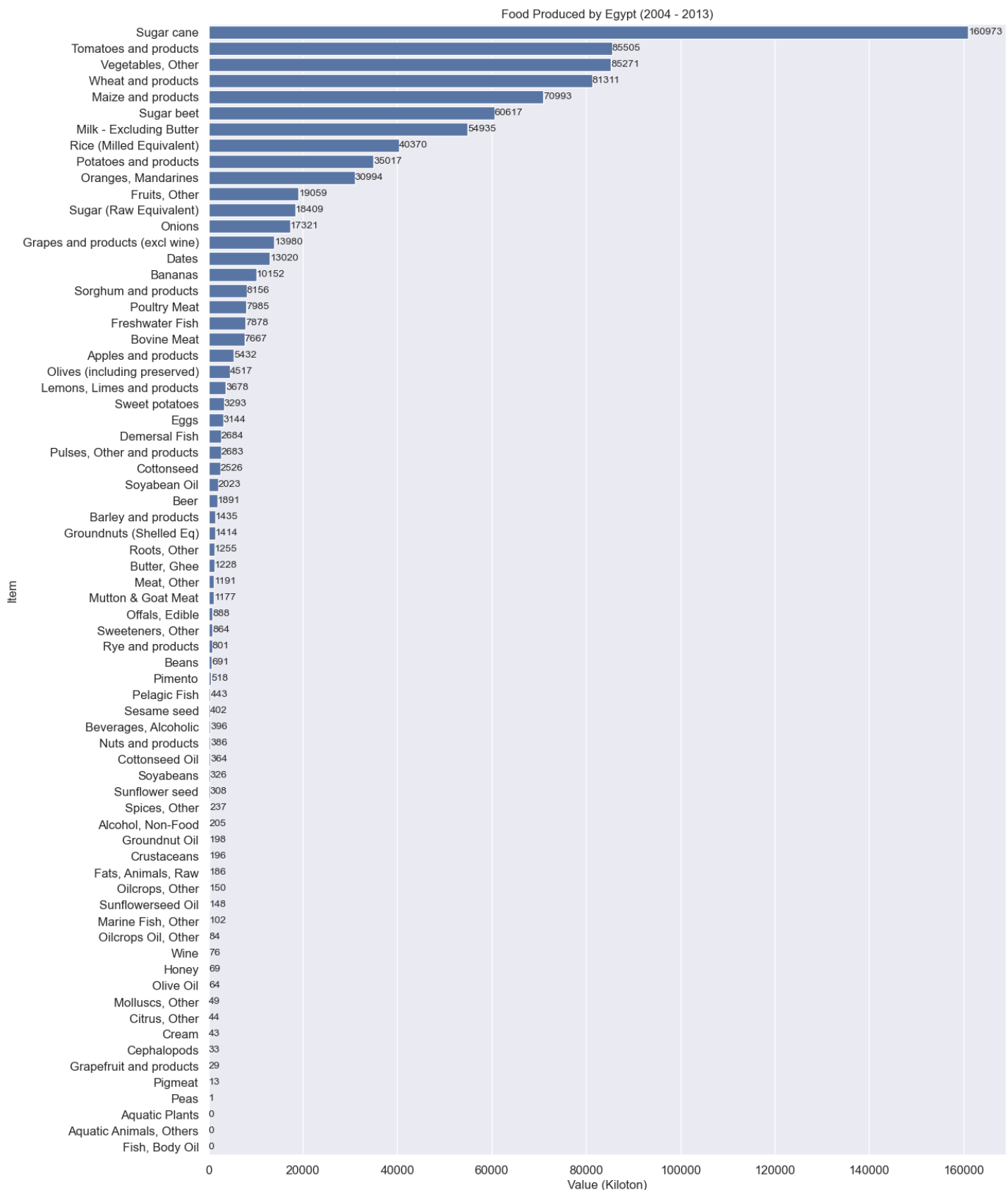
With Nigeria, Egypt and South Africa been the top 3 producing countries. Further insights will be provided on the food products these countries produced more

What Food Did Nigeria Produce more from 2004 to 2013



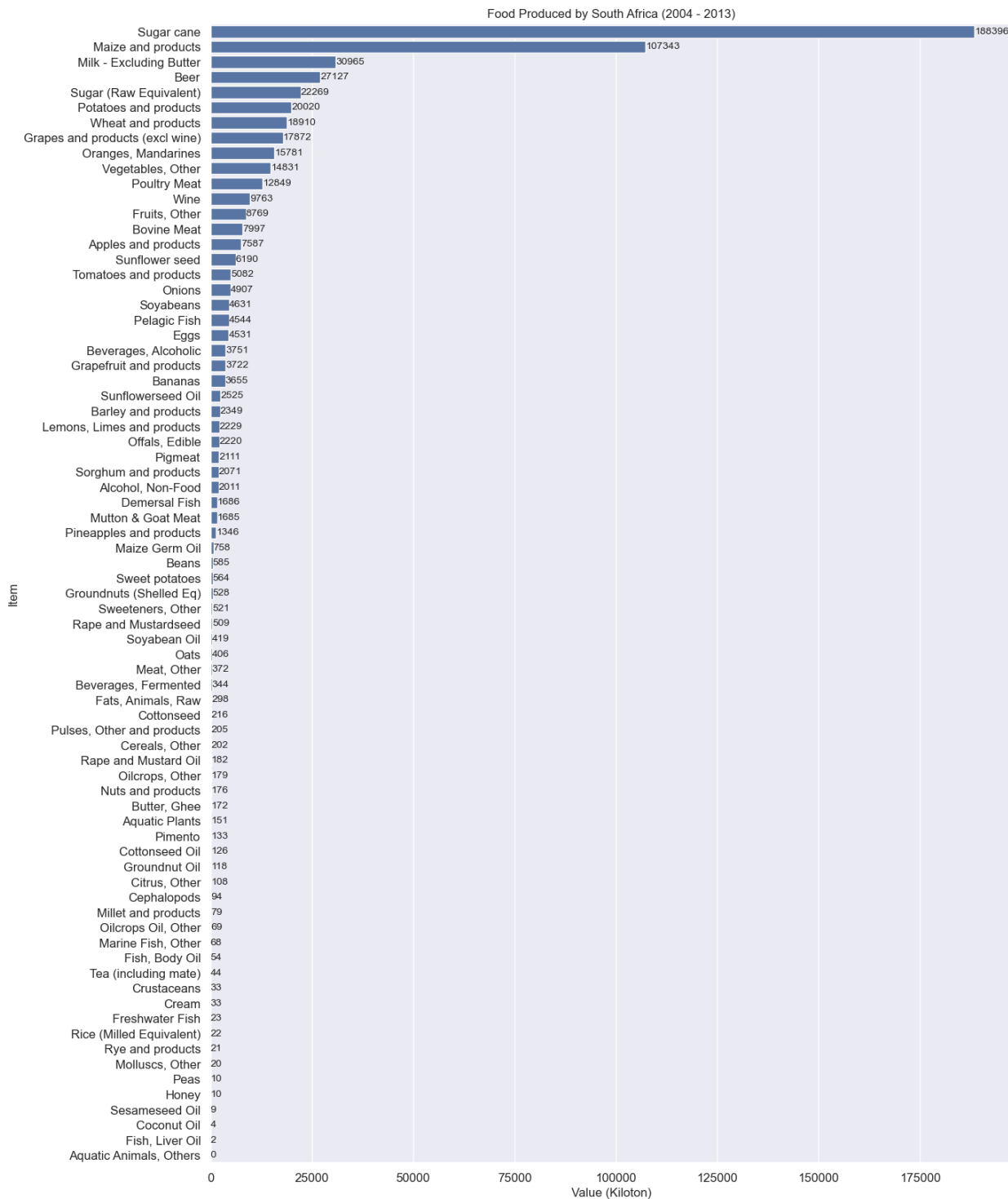
Cassava and products is the top food produced in Nigeria from 2004 to 2013 with a total of 452,881 kiloton followed by Yam with total of 349,519 kiloton, while Beverages, Fermented produced is 93,839 kiloton. Other products can be seen in the above chart.

What Food Did Egypt Produce more from 2004 to 2013



Sugar cane is the top food produced in Egypt from 2004 to 2013 with a total of 160,973 kiloton followed by Tomatoes and products with total of 85,505 kiloton, while Vegetables, Other is 85,271 kiloton. other products can be seen in the chart above

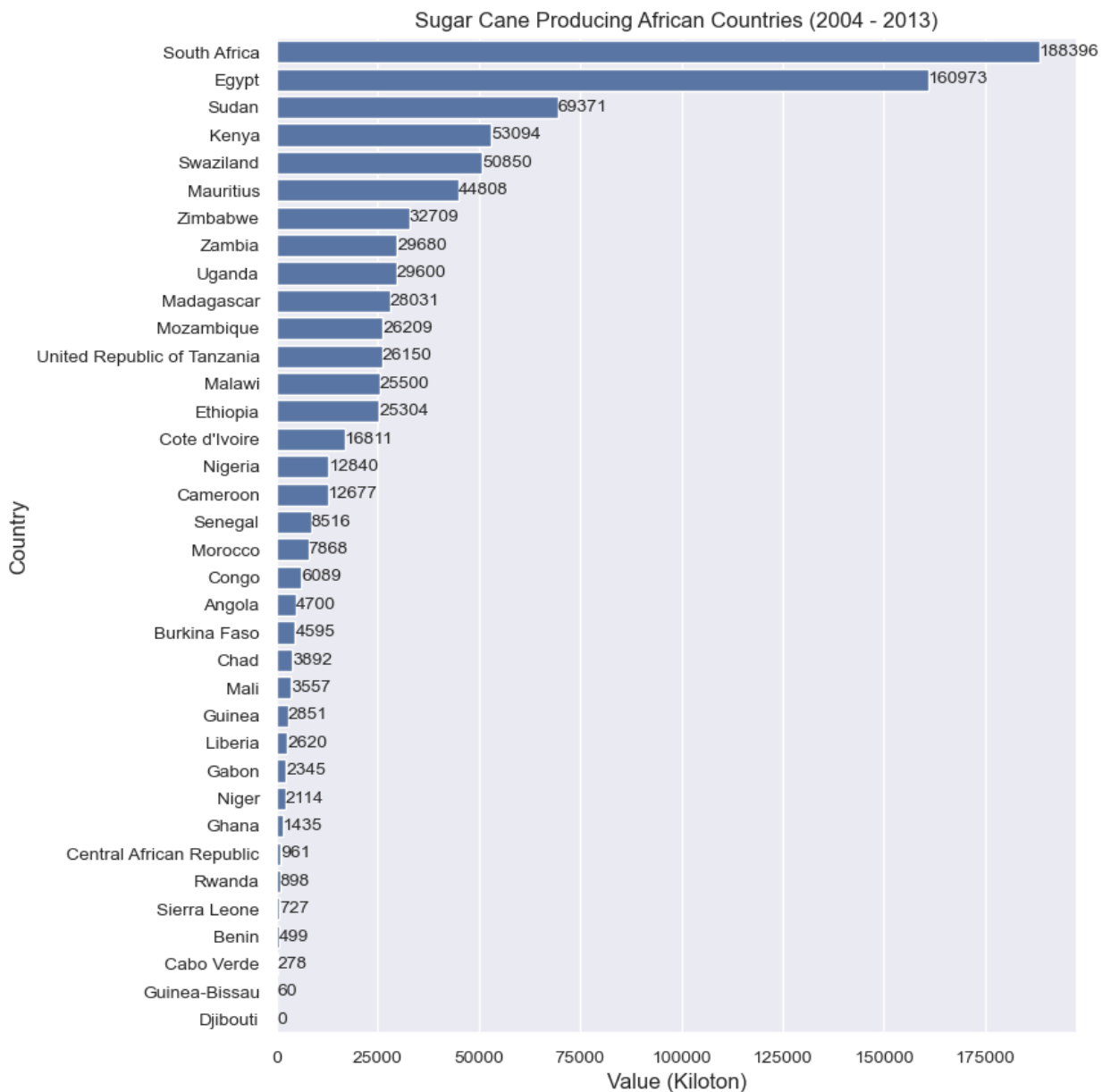
What Food Did South Africa Produce more from 2004 to 2013



Sugarcane is the most produced food in South Africa from 2004 to 2013 with a total of 188,396 kiloton, followed by Maize and products with total 107,343 kiloton, Milk - Excluding Butter 30,965 kiloton, other food items produced by South Africa can be seen in the above table.

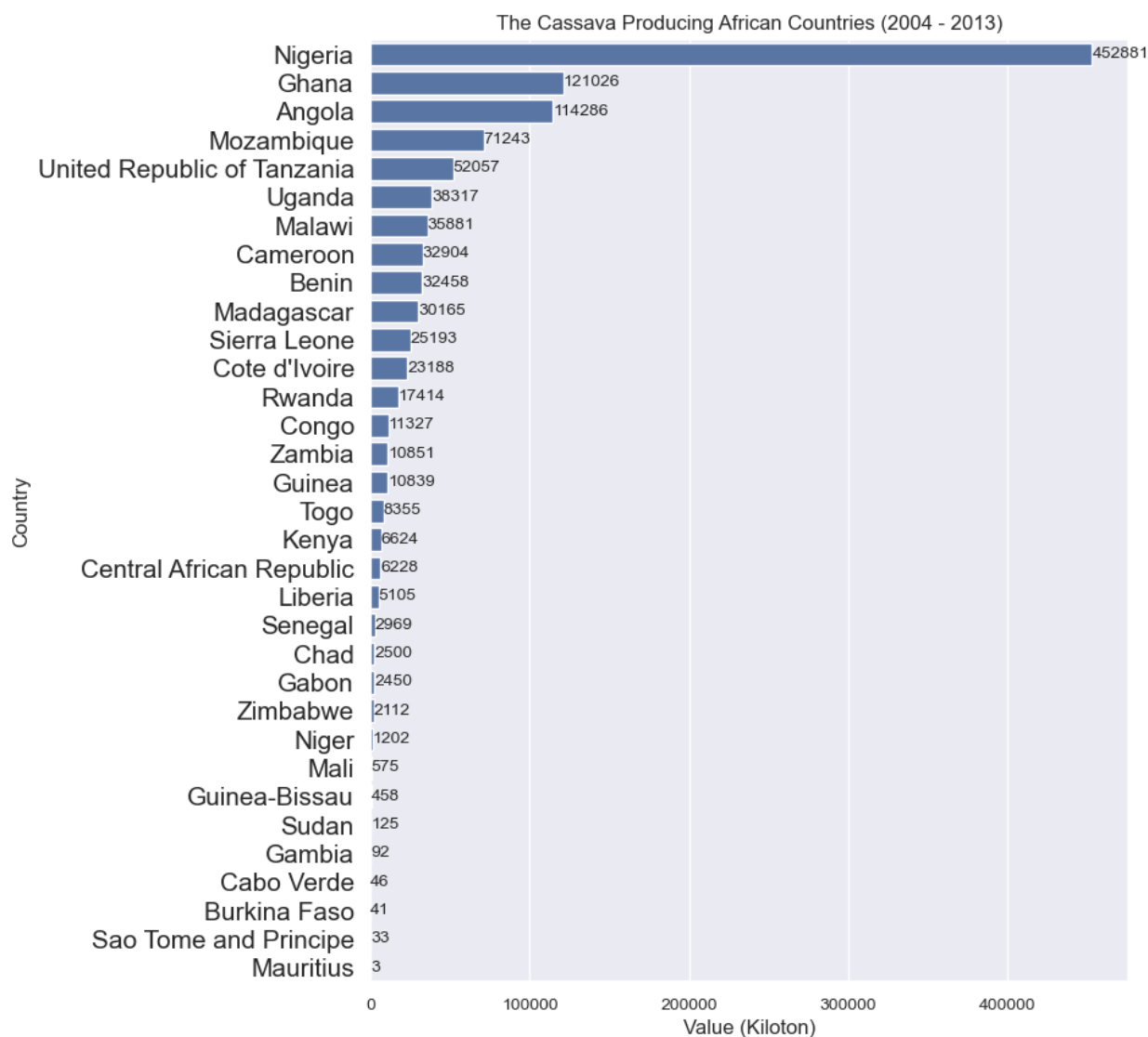
Sugarcane been the 2nd most produced food in 45 African countries from 2004 to 2013. We can see that its the top most produced food by South Africa surprisingly it's also the top produced food in Egypt. In the next part we will visualize to see the overall sugarcane producing country

Top Sugar Cane producing countries



Conclusively, South Africa is the overall top sugarcane producing country from 2004 to 2013 with a total production of 188,396 kiloton followed by Egypt with total of 160,973 kiloton and Sudan with 69,371 kiloton. Other number of sugarcane production by other countries can be seen in the chart above

Top Cassava producing countries

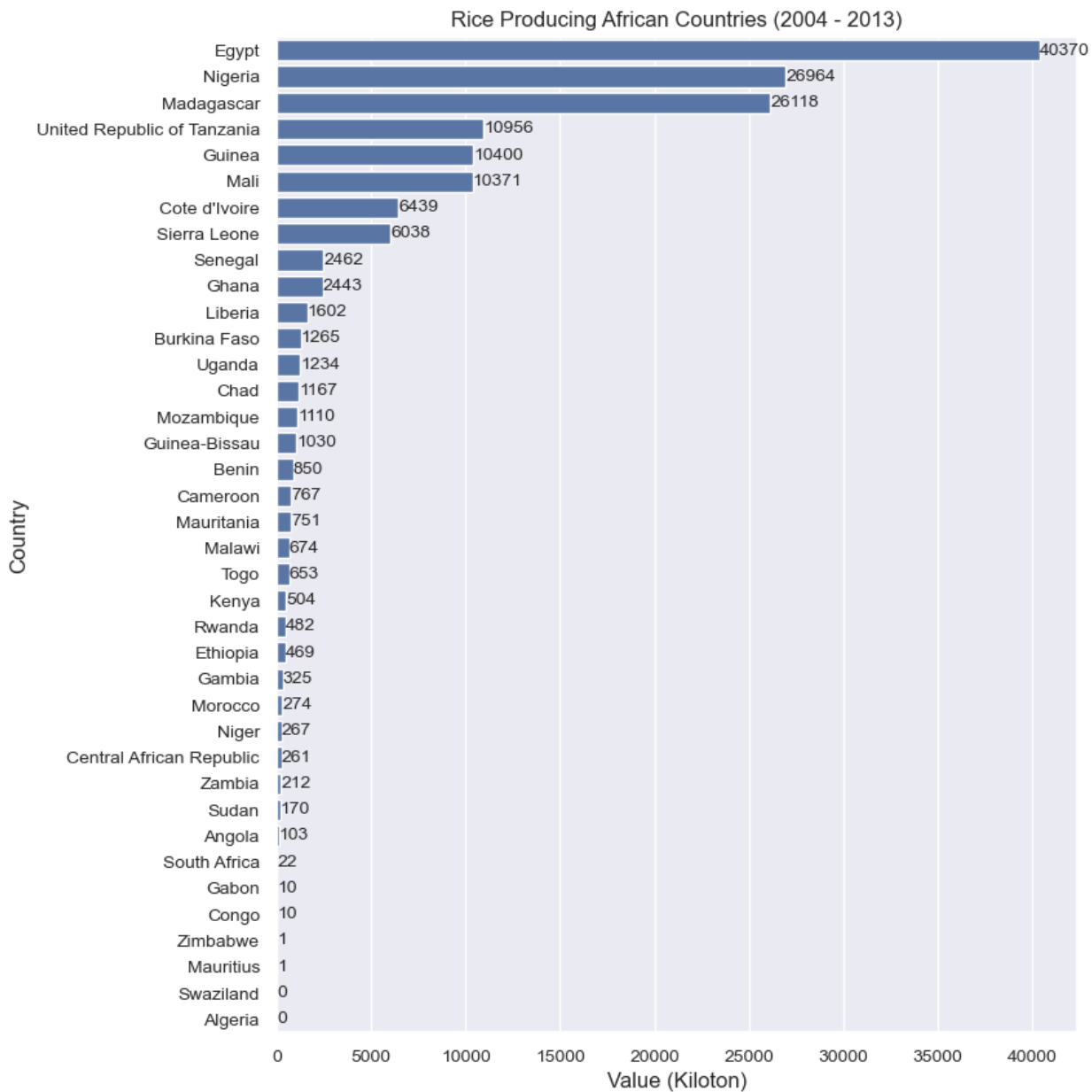


- Nigeria is the top cassava producing country with a total of 452,881 kiloton followed by Ghana with total cassava production of 121,026 and Angola with 121,026.

- With Nigeria been the overall top producing country from 2004 - 2013 its no surprise seeing the large Margin difference between the cassava production value of Nigeria and other countries

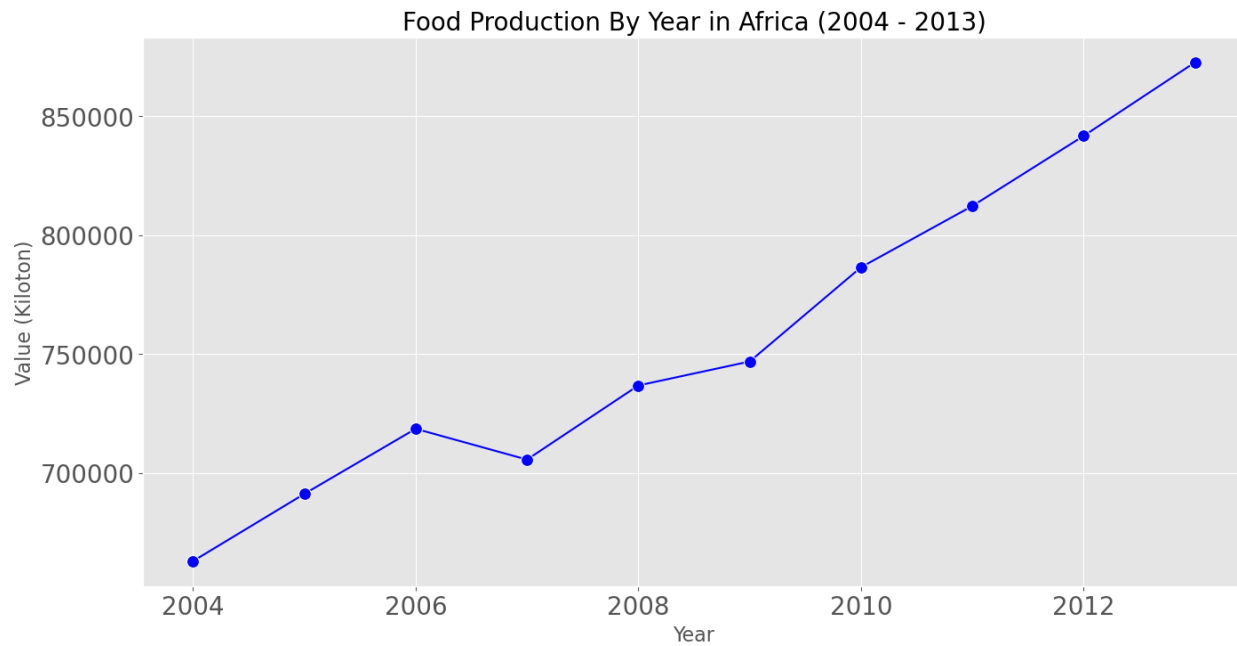
Top Rice producing countries

In the later part of the project we will be working with rice production Vs Population. Rice been one of the popular food in Nigeria, I to know the top rice producing country.



Surprisingly from 2004 to 2013 Egypt is the top rice producing country having a total production of 40,370 kiloton followed by Nigeria with 26,964 kiloton and Madagascar with 26,118 kiloton.

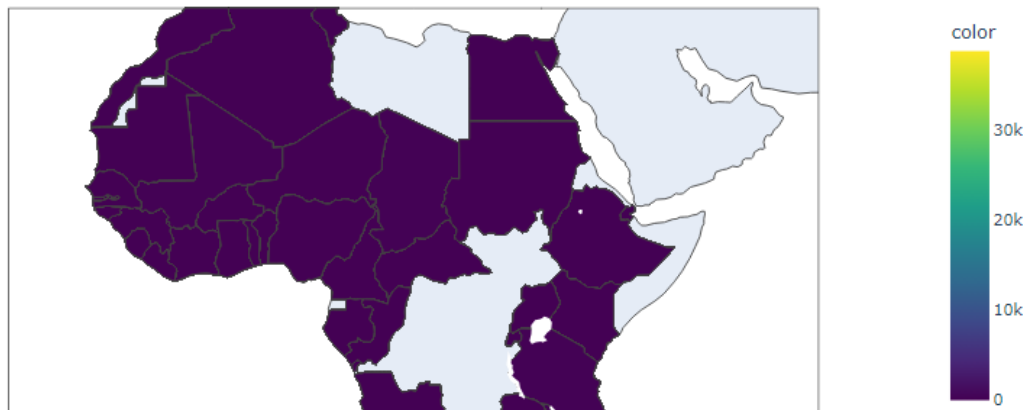
Did Food production in Africa from 2004 to 2013 Decrease or Increase?



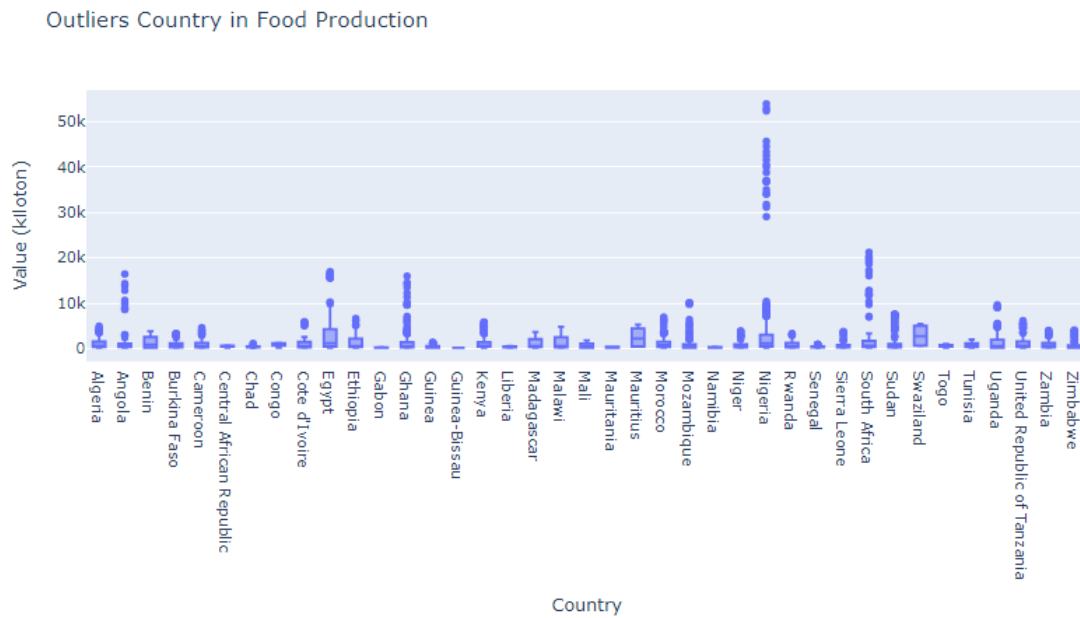
Insight from the above chart shows that food production in Africa increased by the year. However, there was a decrease in 2007 and afterwards an increase till 2013.

Below is a Map showing same.

Food Production in 45 African countries (2004-2013)

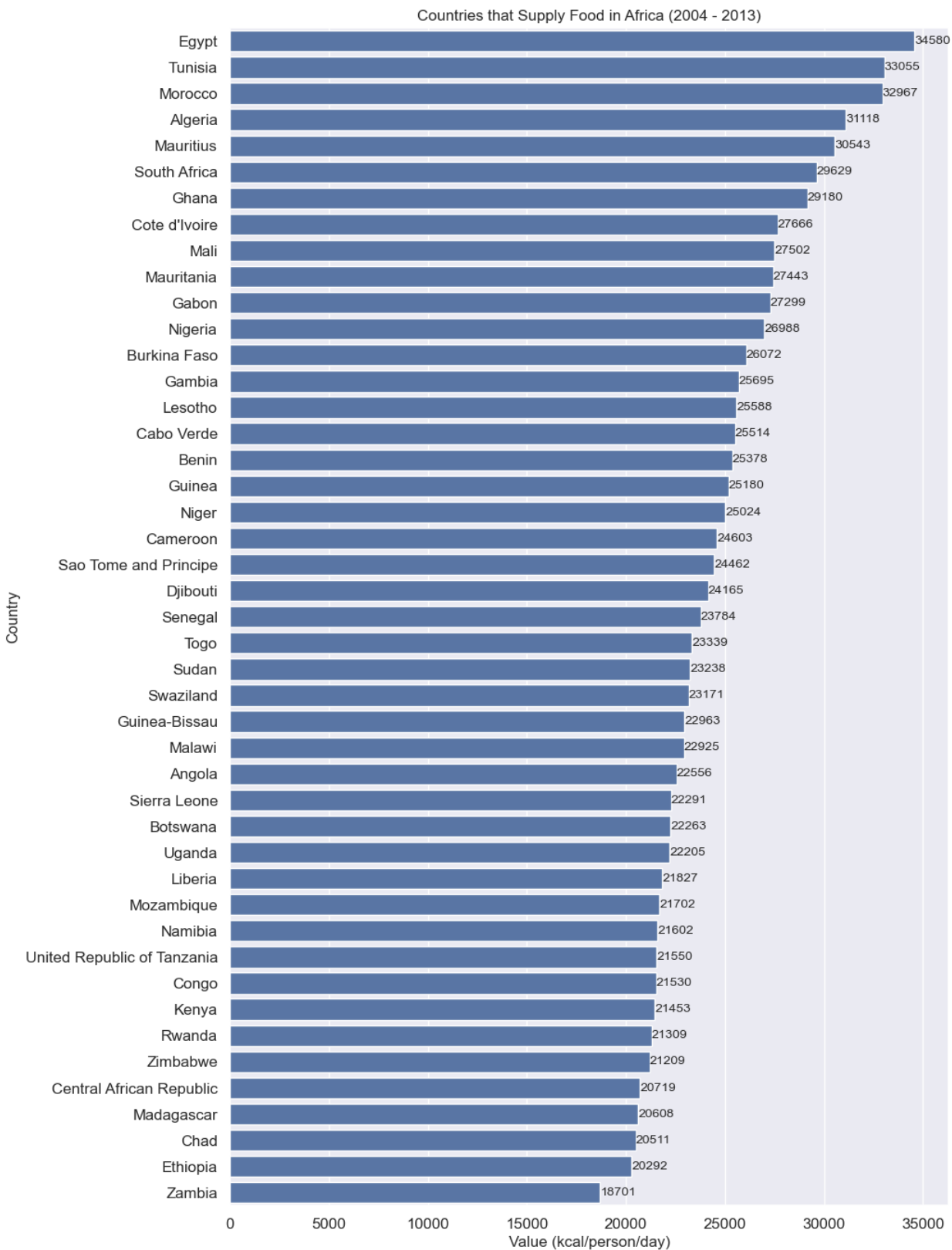


Outlier in Food Production



The above chart shows that 39 countries out of 45 produced high amount of food between 2004 and 2013.

Country that supplied food the most



Egypt is the top food supplying country in Africa from 2004 to 2013 followed closely by Tunisia, and Morocco. In the food production data we saw that Nigeria, Egypt, and South Africa were the top three food producing countries between those years. However South Africa was the 6th supplying country while Nigeria was the 12th supplying country. Lots of factor would have made this so, politics, population etc.

Did Yearly food supply in Africa from 2004 to 2013 increase or decrease?



Food supply kept increasing by the year

Detecting Outliers in food supply



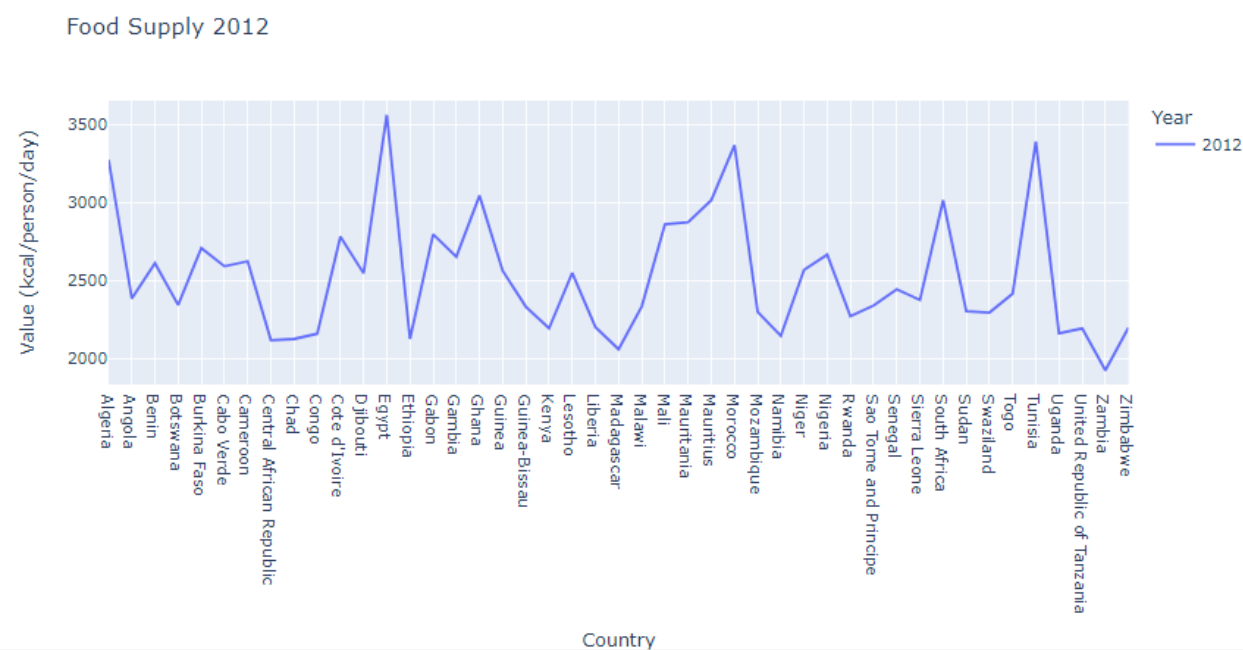
From the boxplot chart above, we can see that there was an outlier in 2012. Looking at the boxplot i cannot tell country that was so i will analyze the data further to verify that

1:

	Country	Year	Value	Unit
128	Egypt	2012	3561	kcal/person/day
408	Tunisia	2012	3390	kcal/person/day
278	Morocco	2012	3366	kcal/person/day
8	Algeria	2012	3272	kcal/person/day
168	Ghana	2012	3043	kcal/person/day
268	Mauritius	2012	3014	kcal/person/day
368	South Africa	2012	3014	kcal/person/day

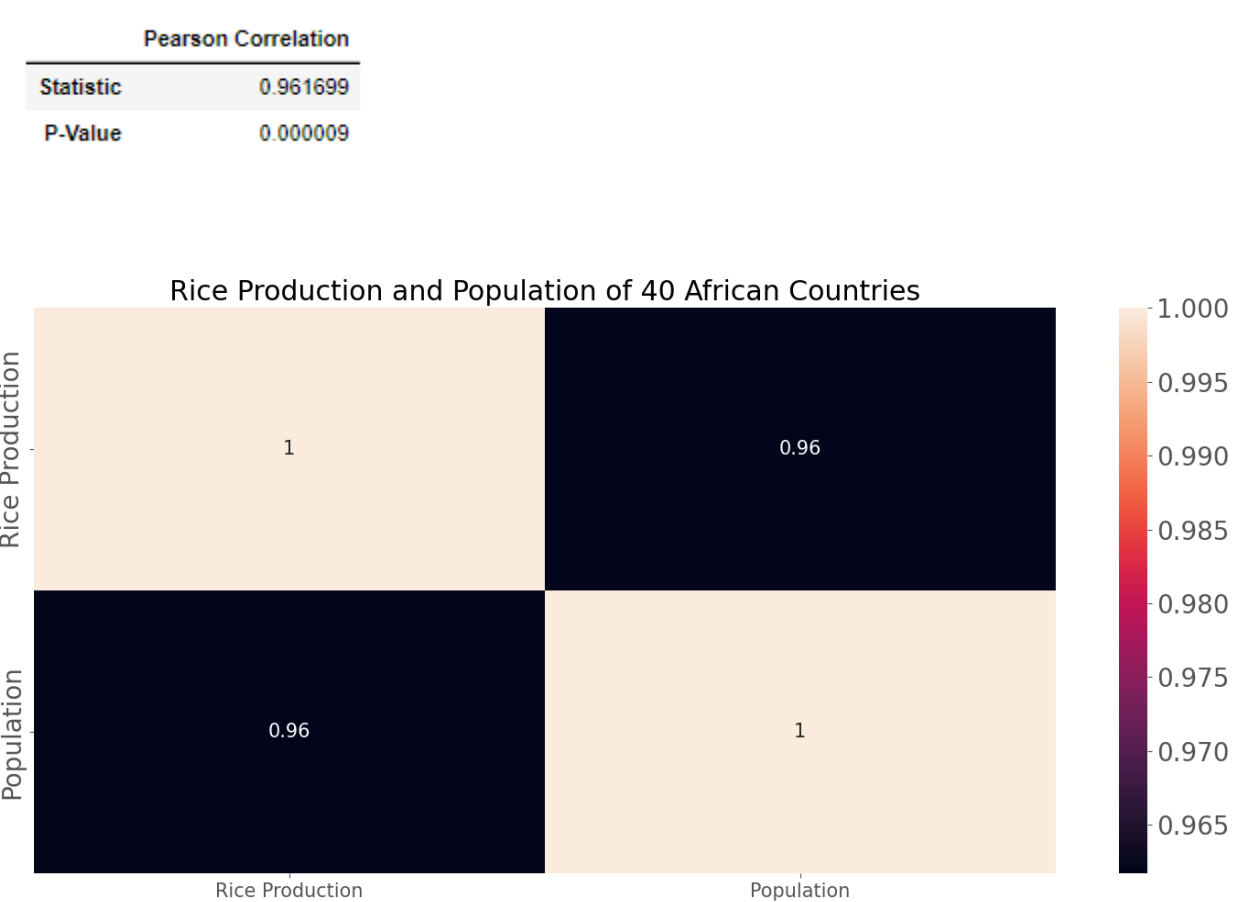
The above table shows that Egypt is the outlier. In 2012, Egypt had significantly higher food available for consumption than other African countries.

Chart showing the food supply 2012

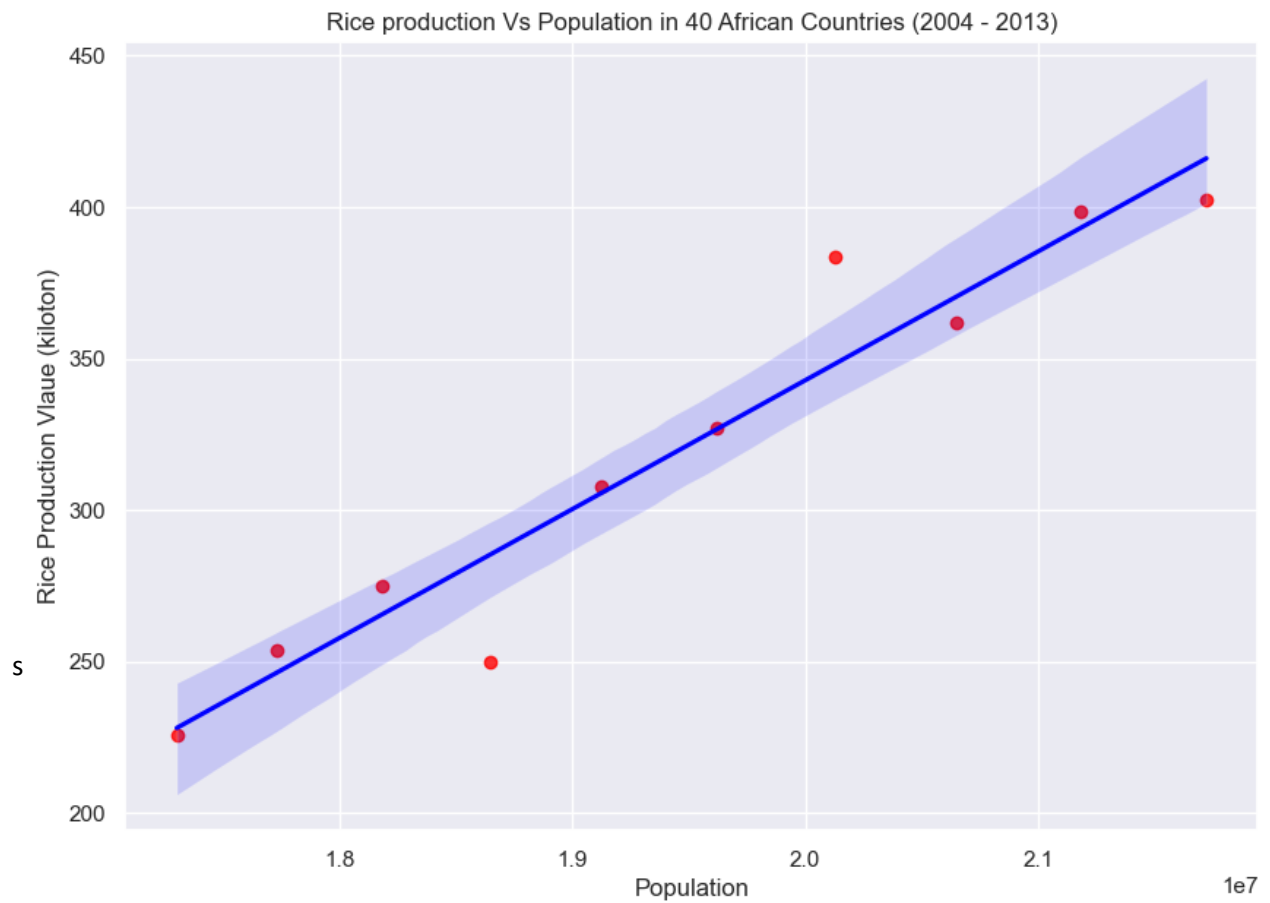


Does Rice production increase as the population of the African countries increases?

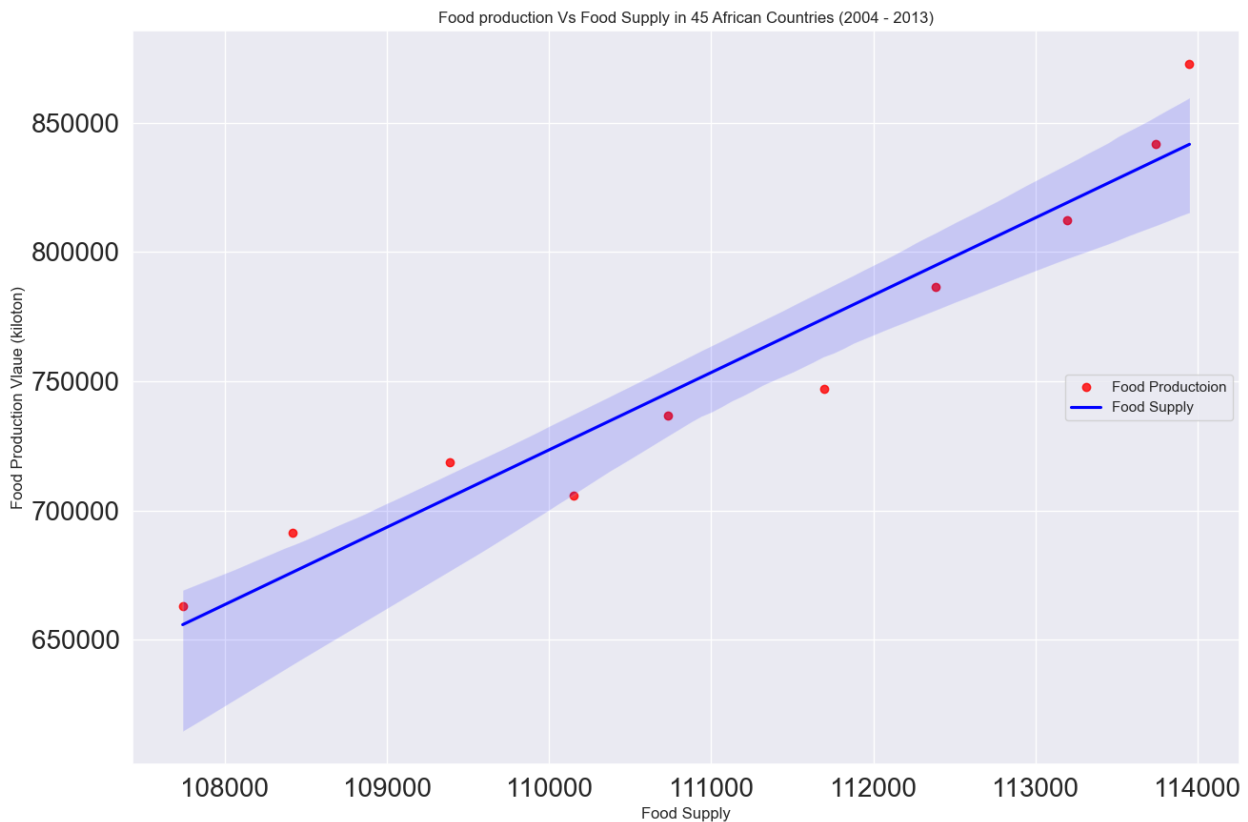
Rice is a carbohydrate food eaten in most parts of the world. It plays a major role in feeding the world. In fact, rice was the third most produced food worldwide in 2014, according to the FAO. So rice feeds the world. Okay. But does the rice production in Africa, as a continent, increase as its population rises? In other words, is there a correlation between the amount of rice produced in the whole of Africa (in kt) and its population? With the population data from the World Bank and the rice production data, a hypothesis testing was carried out where I tried to find out how Rice production correlates with increases in African population. From the chart below it's clear that the average amount of rice increased, and the average population also increased.



There is a strong correlation between rice production and population



Conclusively we can say that as population increase rice production increased.



This chart shows the relationship between food production and food supply

CONCLUSION

Agricultural production in sub-Saharan Africa has remained lower than the rest of the world, and many attribute this to factors inherent to Africa and its people, such as climate, soil quality, slavery, and disease.

Food supply is a crisis that simply cannot be allowed to go to waste. Africa's long-standing food crisis, worsened by the COVID-19 pandemic and, increasingly, by climate change, threatens to have dire consequences. Up to 650 million Africans—50% of the continent's population—lack economic or physical access to sufficient food to meet their minimum needs every day.

There is need to fix Africa food production and supply problem, as food production for most countries is really low. Also, only a few countries had a good supply of food, we also see from analysis that not all of the top producing country made it to top supply countries.

Comparing food production and food supply I see that the food production rate was higher than food supply.

- Climate change is a major challenge facing Africa's food systems, as higher average global temperatures and more extreme weather events will reduce the reliability of food production. Farmers at all scales of production need access to the inputs required to produce a successful crop. Improving productivity, trade, and supporting households are some of the ways to address Africa's food challenges.
- Lack of food storage devices is also another factor.
- Product quality
- Economy situation. (Bad roads, access to loan, no sophisticated farming equipments)

African farmers and the leaders of their organizations are key players in terms of meeting these three challenges and bringing about these essential changes on farms, in regions and in the way agricultural industries are managed.

Recommendations:

- African countries must embrace a food systems approach to scale-up food production, overhaul farm management practices, and improve food marketing to move beyond food security and attain food sovereignty.
- Create a global market for grown-in-Africa agricultural products
- Food should be Produced in a Way That Commonly Wasted Resources are Sustainably Used and Recycled. We must change the way we grow food by ensuring the key production resources, such as land, water and energy, are used in an efficient and regenerative way.
- Transform By-products into Useful Agricultural Products.
- Improve Transport and Storage Facilities to Prevent Food Loss
- Grow industrial demand for agricultural produce

Finally, Africa's governments must renew their commitment to creating an integrated African community as a prerequisite for establishing an integrated market for food. Policymakers need to recognize agriculture and food as industries and assets that can lead to economic self-reliance and growth, support a key transition in the composition of employment across the continent, avoid the cost of managing noncommunicable diseases, and strengthen natural systems. No other sector has so much to offer, and the world needs to align its agriculture and food policies in a way that allows Africa to benefit from its strengths. Aid isn't a sustainable path to wealth, so the world needs to view buying African food products as the best way to contribute to accelerated and sustainable growth in the regions.