

# FOOD PRODUCTION AND SUPPLY IN AFRICA ANALYSIS



source:<https://foodtank.com/news/2020/03/celebrating-the-informal-food-trade-in-durban-south-africa>

## INTRODUCTION

Food is the most essential resource of every human. It provides nourishment and energy that are needed in our daily lives. Food comes in various forms ranging from fruits, grains, aquatics, vegetables etc.

Food production and supply plays a vital role in sustaining human life. It involves producing, distributing and delivery. Food production involves a wide range of activities such as cultivating crops, rearing animals and harvesting. Food supply involves the process of getting the food from producers to consumers, it involves various means such as transportation, processing, storage, packaging etc.

## AIM

In this project we will be focusing on gaining insights on how food shortage can be solved and understanding the trends in Africa.

## **DATASET OVERVIEW**

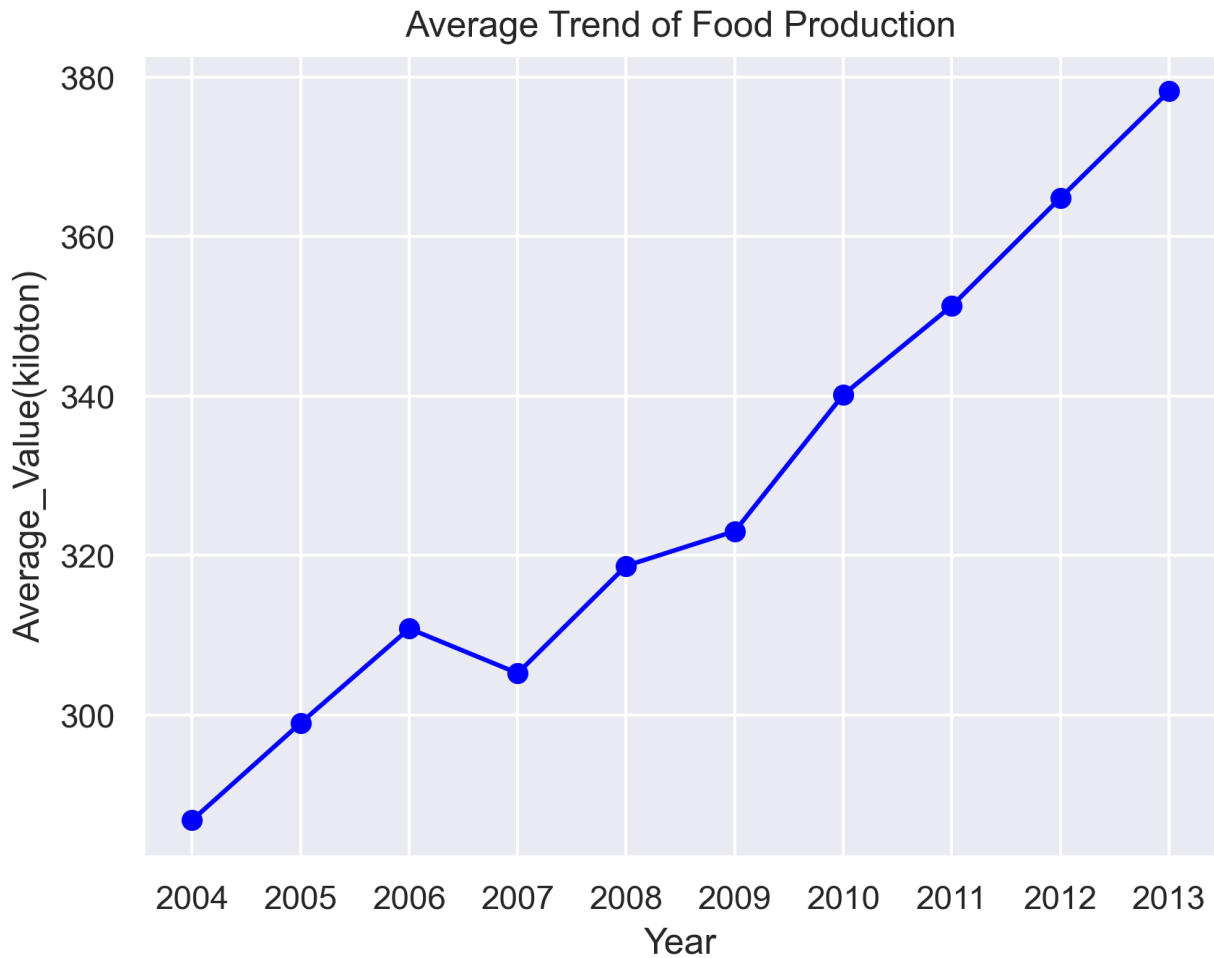
Dataset was obtained from the Food Agriculture Organization(FAO), a specialized agency of the United Nations that promotes food security and food quality worldwide. We will be working with two different datasets which are; Food production 2004-2013 dataset and Food supply 2004-2013. Both datasets span across the period of 10 years with 45 unique countries. The production value is measured in Kiloton quantity while the food supply value is measured in kcal/person/day.

We will be answering some questions to aid a better understanding on how food varieties are being produced and supplied in Africa.

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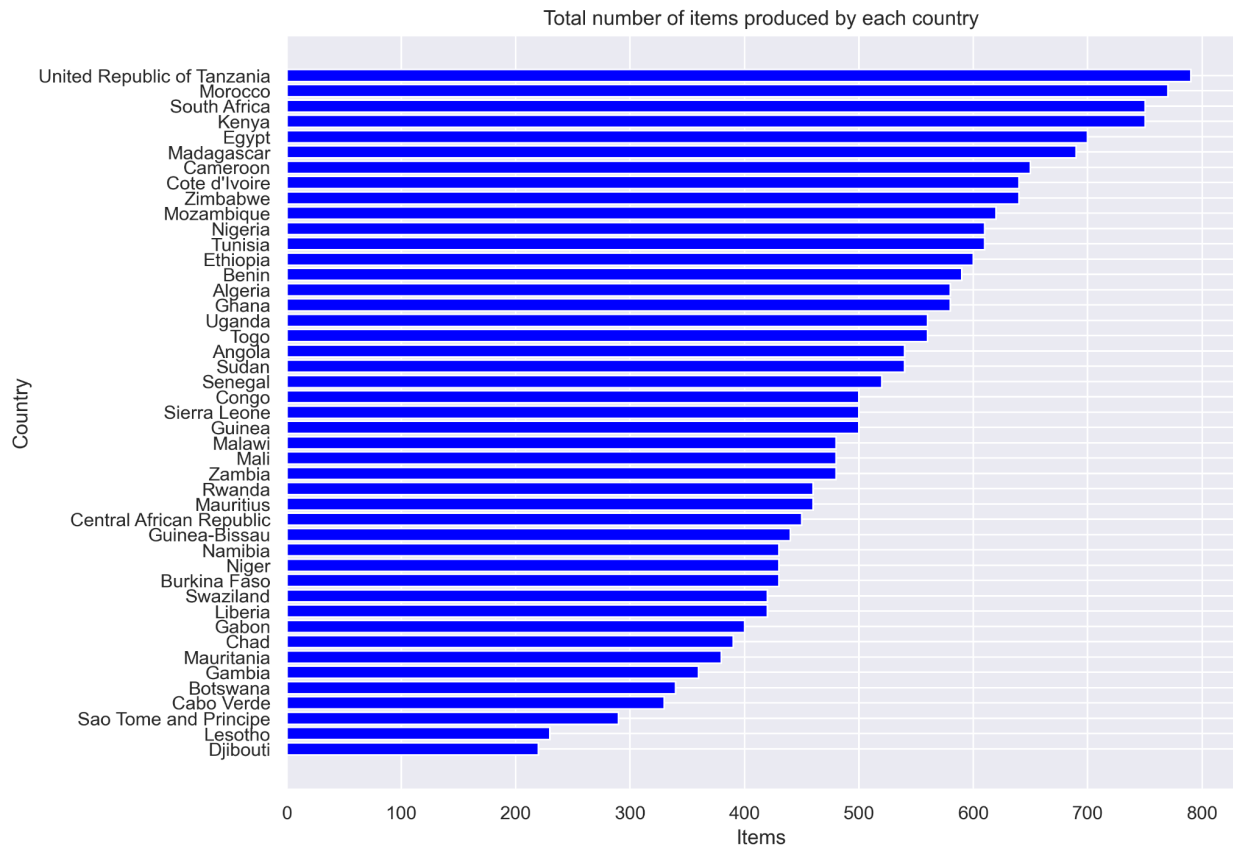
## **FOOD PRODUCTION TREND OVER TIME (2004-2013)**

From the visual below, we can find that 2004-2006 had a steady increase and in 2007, there was a dip in food production which increased in 2008 and had a slight dip in 2009 and from 2010, there has been a steady increase of food production till 2013.



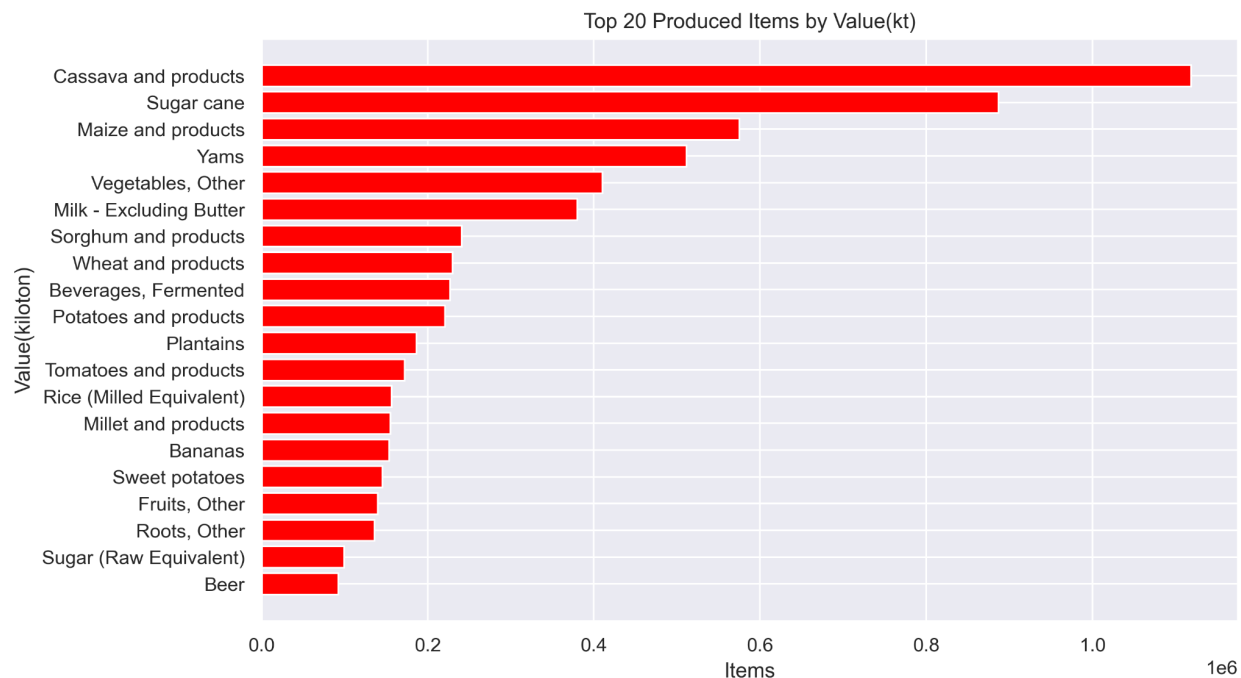
### **TOTAL NUMBER OF FOOD PRODUCED OVER TIME BY EACH COUNTRY**

We can find that countries like the United Republic of Tanzania (790), Morocco(770), South Africa(750), and Egypt(700) produced a higher number of food items over time. While countries like Djibouti, Lesotho, Sao Tome and Cabo verde produced a lower number of food items (220, 230, 290, 330) respectively over the period of 10 years.



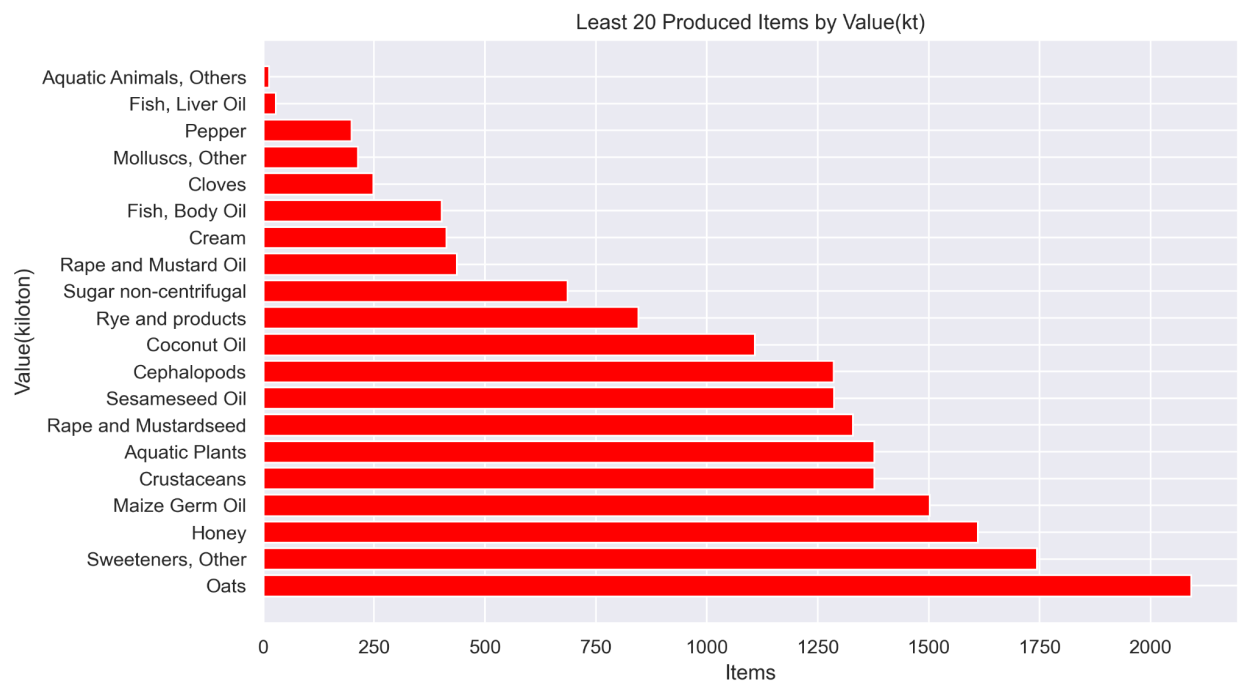
## MOST PRODUCED FOOD ITEMS BY VALUE

There are varieties of food produced by Africa and from the visual below we can find food items like cassava and products, sugar cane, maize and products, yams, vegetables, milk were majorly produced over time in Africa.



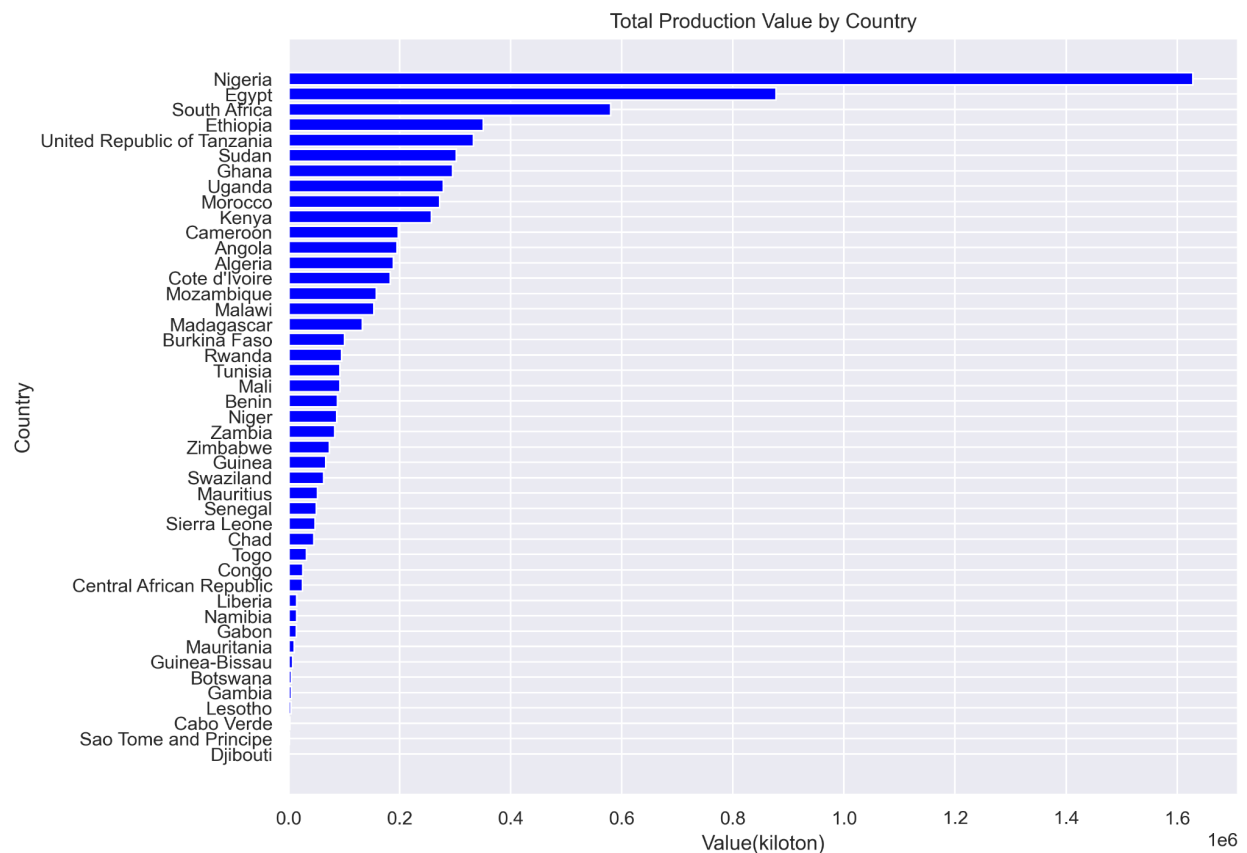
## LEAST PRODUCED ITEM BY VALUE

We can see that food items like cloves, molluscs, pepper, fish and aquatic animals were the least produced items in Africa.



## PRODUCTION VALUE OF COUNTRIES (2004-2013).

From the visual below, we can see the most and least producing countries. We can see that Nigeria produced higher than every other country despite not having higher varieties over the period of ten years. Nigeria, Egypt and South Africa were the top producing countries while Djibouti, Sao Tome and Cabo verde were the least producing countries over time.



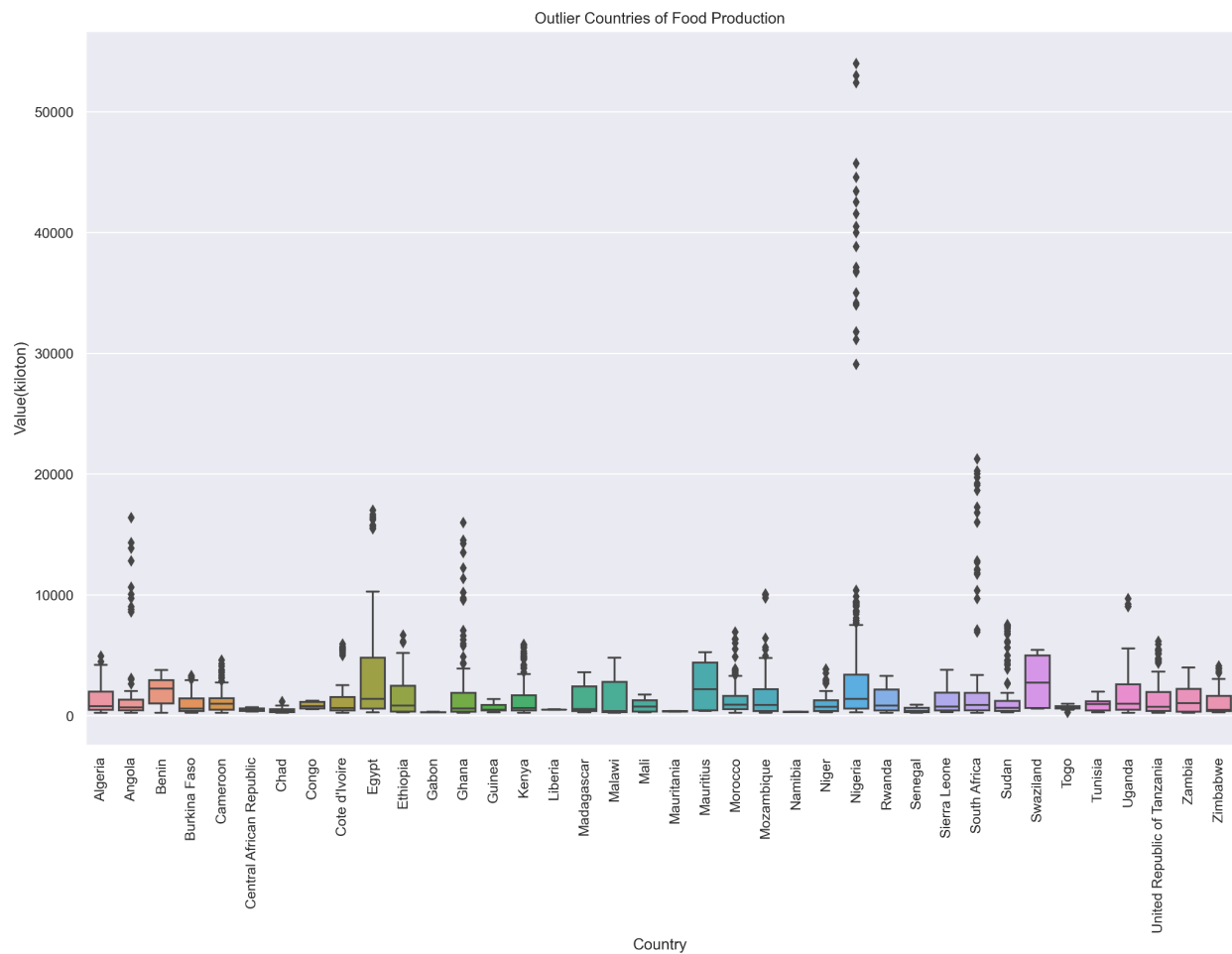
## FOOD PRODUCTION OUTLIERS (EXTREME VALUES).

To get countries that produced consistently over the period of ten years 2004-2013, we looked into finding the quantiles in order to get the upper fence and lower fence. The upper and lower fence would aid us to detect outlier countries that produced consistently over these ranges.

No country produced lower than the lower fence but only higher than the upper fence.

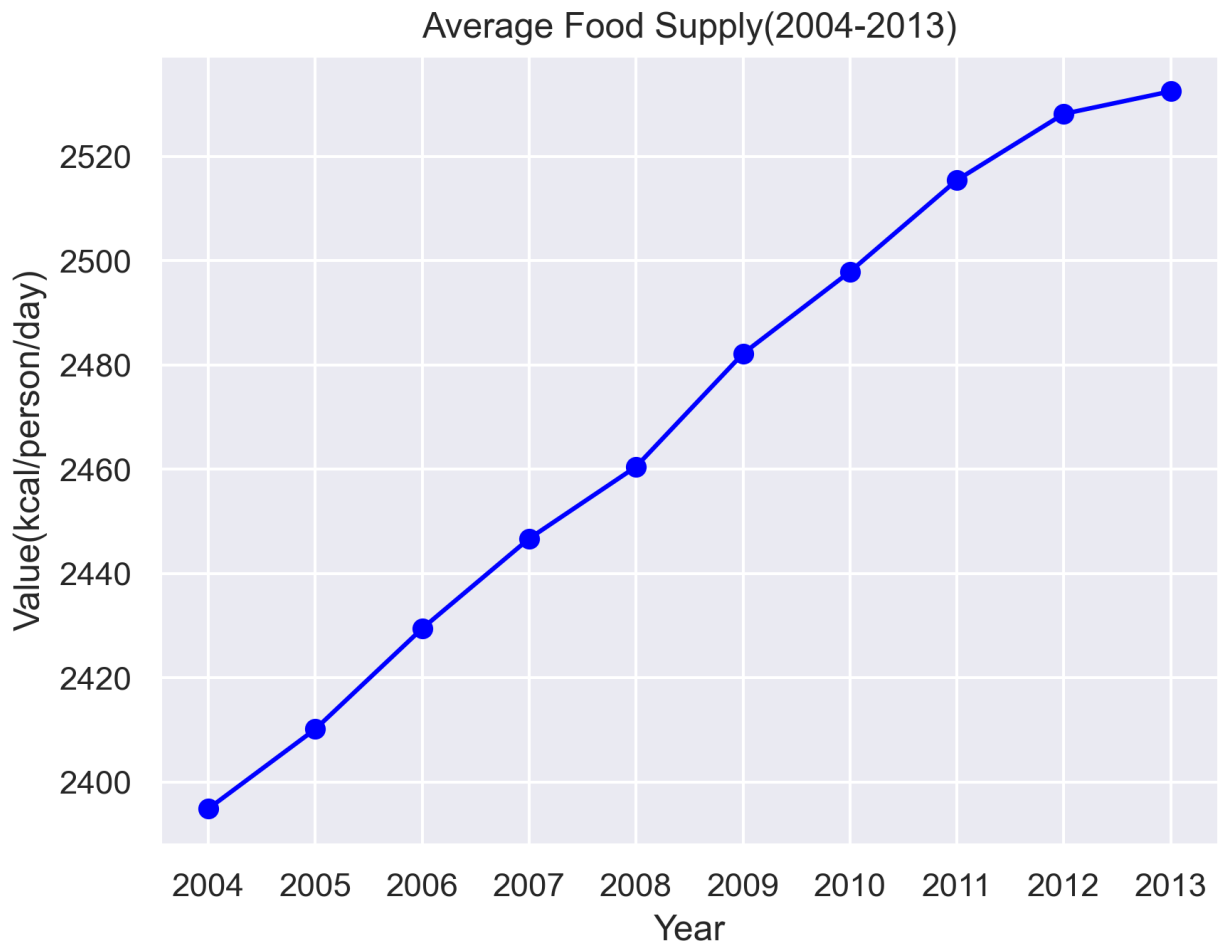
Upper fence is 265.5

From the boxplot below, there are 38 countries that produced consistently and we can see how Nigeria produced more extensively than other countries.



## FOOD SUPPLY TREND(2004-2013).

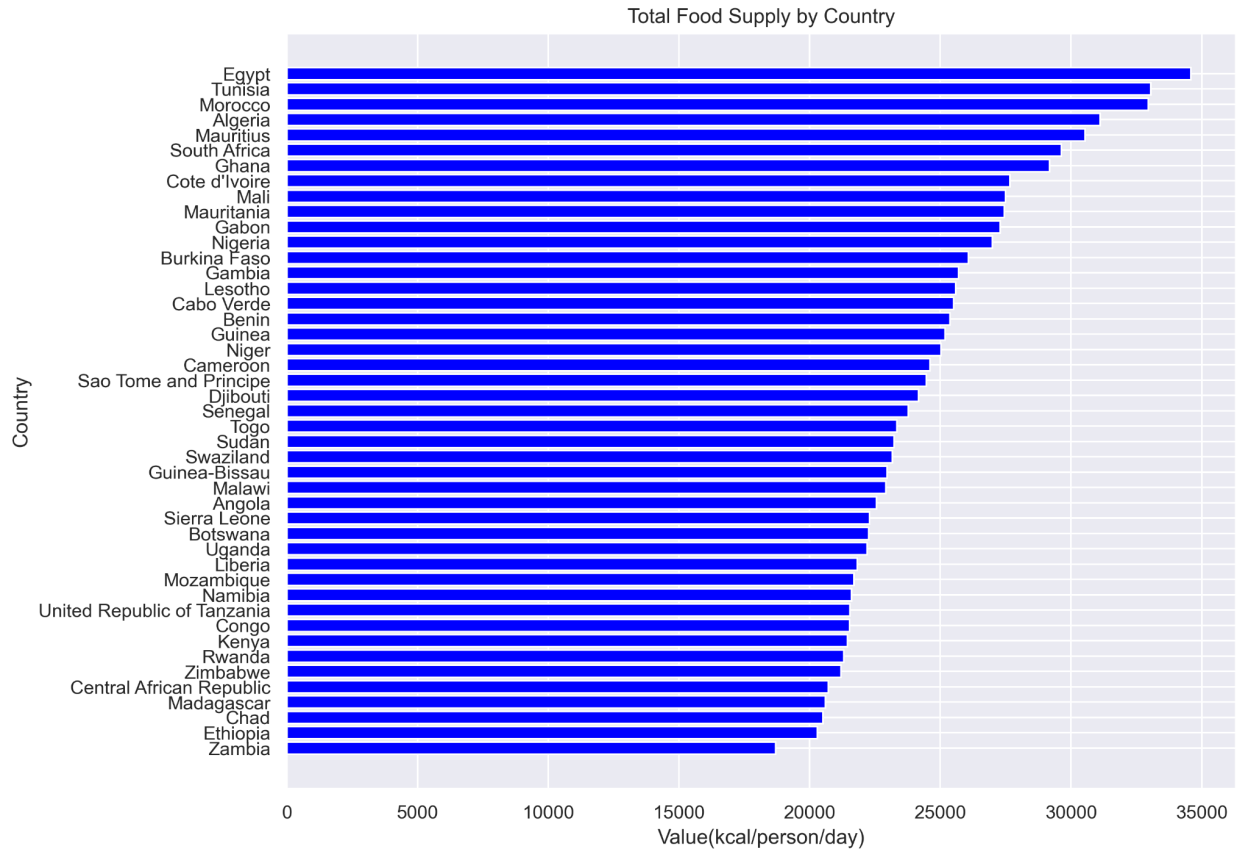
As the year increased the food supply increased from 2004-2013. We can see that in our line plot below.



### FOOD SUPPLY COUNTRIES BY VALUE.

Where there is production, there should be supply right? We would be looking into the most and least supply country by value.





From the bar plot above, we can find that Egypt, Tunisia and Morocco were the top three supplying countries. Zambia, Ethiopia, and Chad were the least supplying countries.

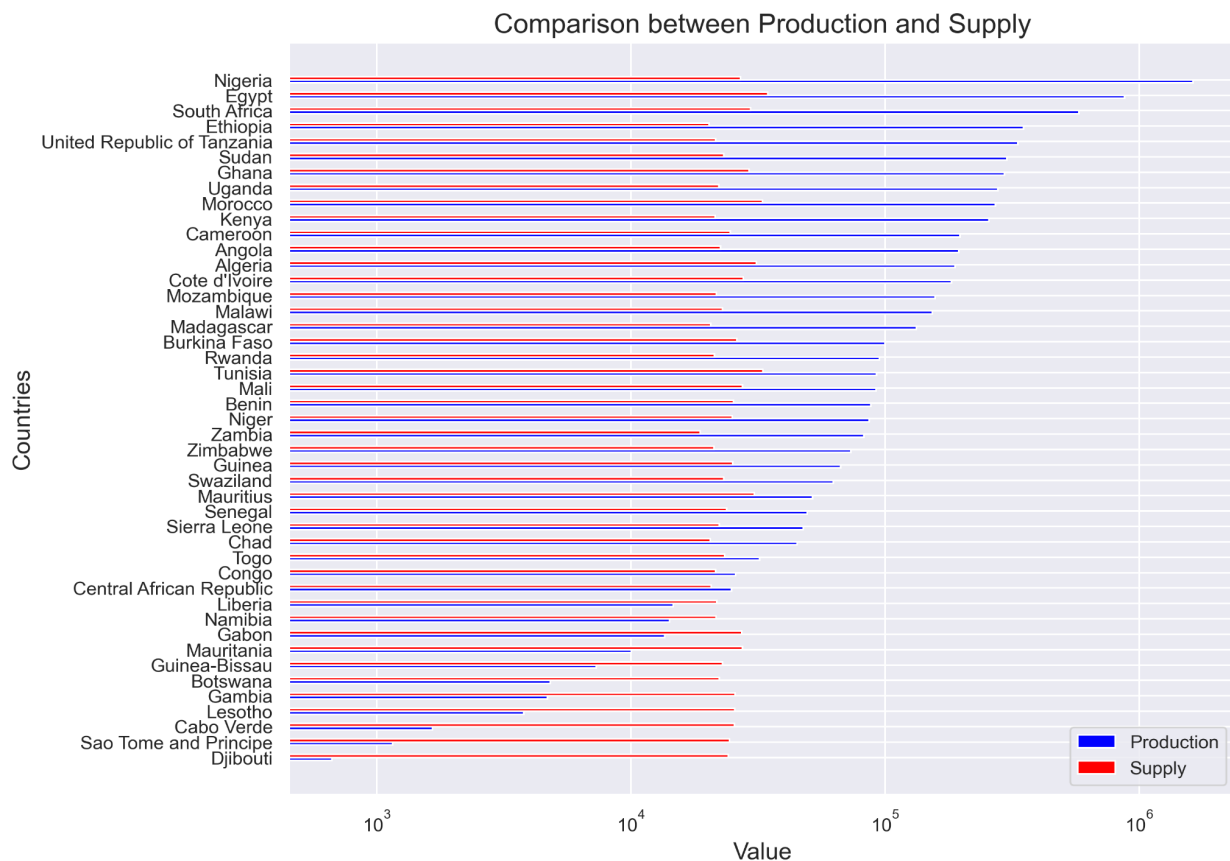
### FOOD SUPPLY OUTLIERS.

From the box plot below, we can find Egypt was the only country that supplied consistently between 2004-2013 above the upper fence.

Upper fence is 3443.375



## COMPARISON BETWEEN FOOD PRODUCTION AND SUPPLY OF COUNTRIES.



From the chart above, we can see there's a constant food supply in Africa and we can also find that countries that produced higher didn't supply more.

## SUMMARY

- Food production increased as the years increased between 2004-2013.
- Food items like cassava, milk-excluding butter, maize, yam, vegetables were the most produced food item.
- Food items like cloves, rye and products, fish, aquatic animals were the least produced food item.
- Nigeria is the highest producing country in quantity (1628030 Kiloton) followed by Egypt (877498 kt) and South Africa (579592kt) respectively.

- Djibouti is the least producing country in quantity (666 kt) followed by Sao Tome and Principe (1152kt) and Cabo verde (1658 kt)
- Food supply increased as the year increased between 2004-2013.
- Egypt is the highest producing country in quantity (34580 kcal/person/day) followed by Tunisia (33055 kcal) and Morocco (32967 kcal) respectively.
- Zambia is the least producing country in quantity (18701 kcal) followed by Ethiopia which had 20292kcal in quantity.
- Countries that had higher production didn't have higher food supply showing there was food shortage at some point in those countries.
- Using the outlier from food supply, Egypt was the only country that supplied consistently.
- From the food production outlier, there were 38 countries that produced consistently and that's a good number showing that there was constant production of food.

Algeria, Angola, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Egypt, Ethiopia, Gabon, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe are countries that produced consistently.

In conclusion, sustainable food production and supply are very crucial for ensuring food security which refers to making it available, accessible and affordable to every individual. Africa has more food supply issues than production and this can be said that there are factors to be considered to improve food supply in Africa which further research need to be done.