

# *Understanding Africa : Food Production and Consumption in the Continent.*

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source : [rabobank.com](http://rabobank.com)

Africa is not just a single country as many outsiders think it is. Africa is a great continent that is sitting on 30.3 Million sq. km of land and houses over 1.3 billion people. This mighty number of people is subdivided into 54 internationally recognised countries and millions of ethnic nationalities within the continent.

The sayings go that “With great power comes great responsibility” and that “To whom much is given, much is expected”. One will be keen to ask how does the continent feed all these people that she is responsible for? Knowing fully well that food is the first among equals when discussing the basic needs of man.

This article is meant to give an overall view of how Africa feeds its people. How she produces the food and consumes the food as well. It will serve as a definitive guide to anyone seeking to understand Africa with regards to food.

## Data Overview

In such a study we wish to undertake right now in this article, data is of a great essence so as to eliminate speculations but churn out accurate information. The data being considered is in two segments namely; *Africa Food Production (2004 - 2013)* and *Africa Food Supply (2004 - 2013)*. They were obtained from the archives of the [Food and Agriculture Organization](#), an arm of the United Nations.

The two datasets cover the production of food in Africa over a period of ten (10) years from the year 2004 to the year 2013.

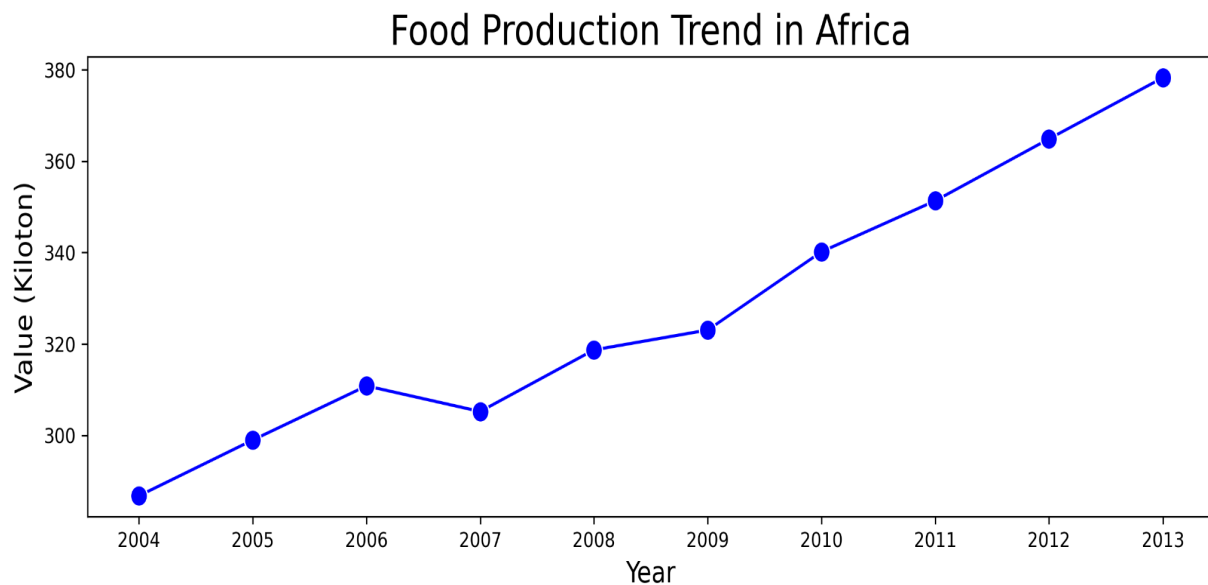
The Production data gives the names of the countries, the food items they produced and the value they produced in Kilotons per year. Whereas the Supply data contains the country name as well and then the value of consumption happening in that country each year in Kcal/person/day.

In total, there are 45 African countries observed and recorded in the datasets during this ten year period.

## Analysis of the Datasets

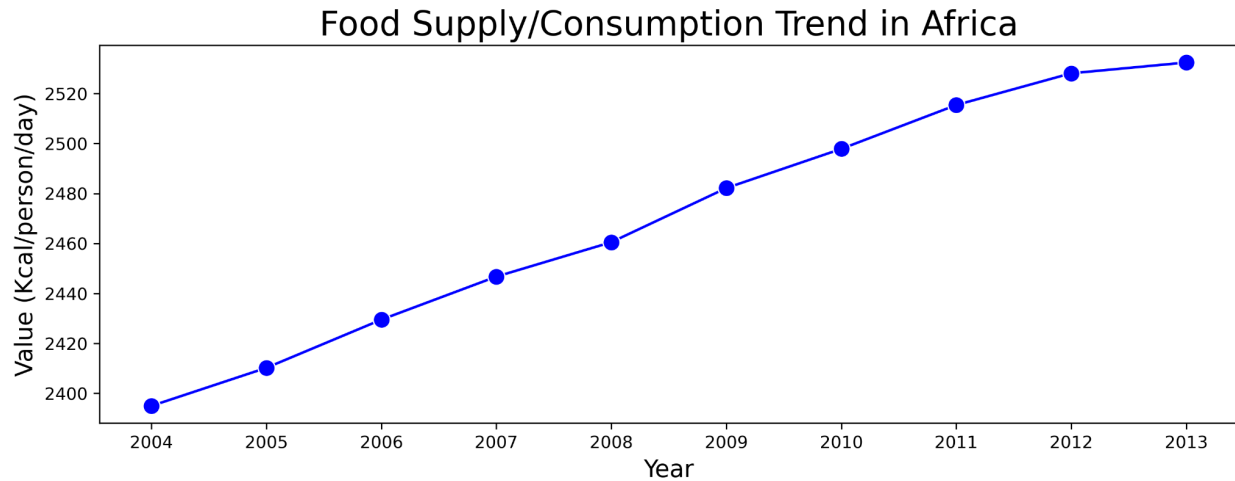
To achieve our sole goal of understanding how food is produced and consumed in Africa, the data was subjected to further analysis to gain needful insights. The following findings were made from the analysis carried out.

### The trend of food production.



By observing the chart above, we can see that Africa has not been irresponsible in providing food for her inhabitants. The continent went all out in the production of food over the ten year period on an increasing capacity. The only slack happened in the year 2006 to 2007. Yes, food was produced, but was it enough to cater for the populace's needs? That can only be answered when we check out the supply trend.

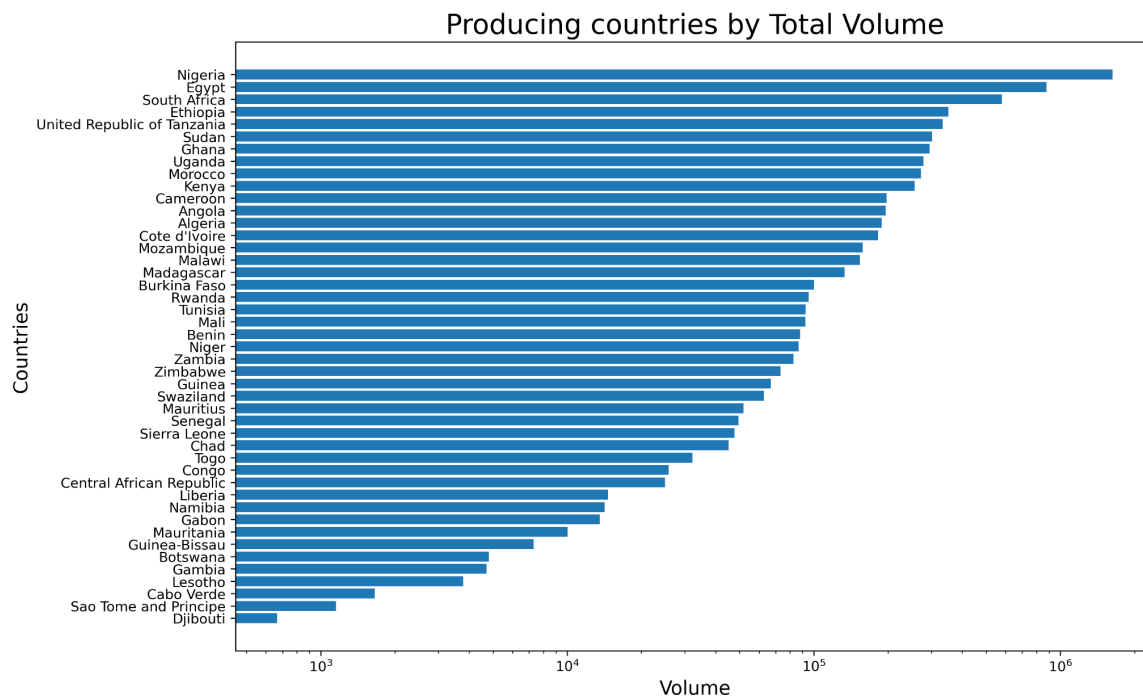
## The trend of food supply



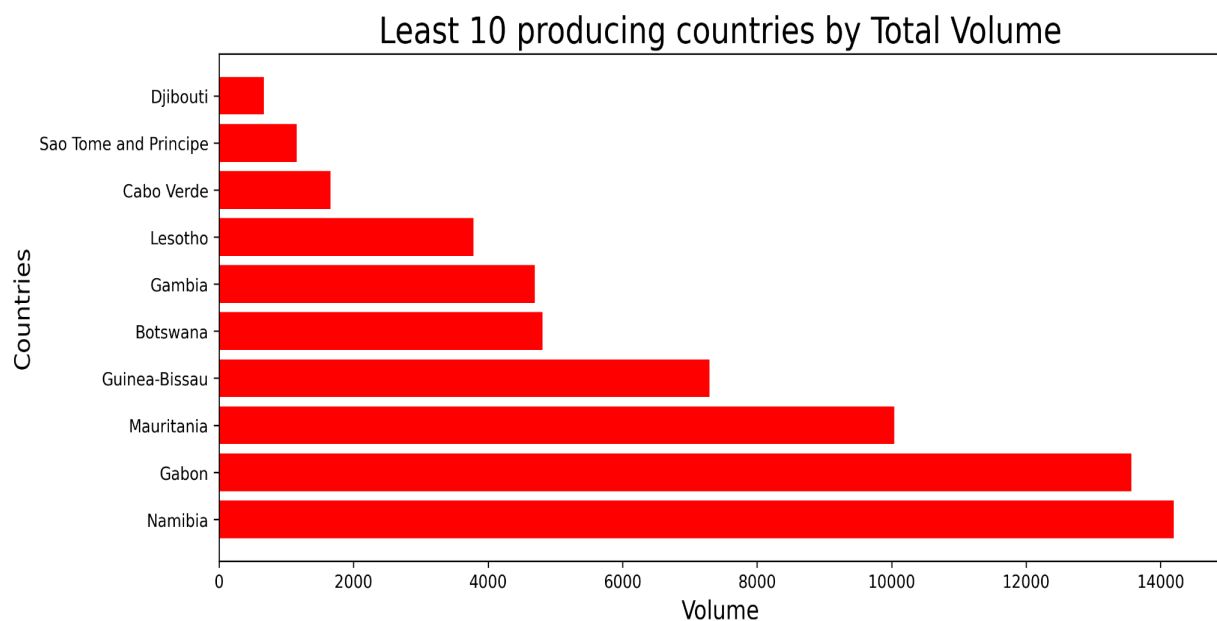
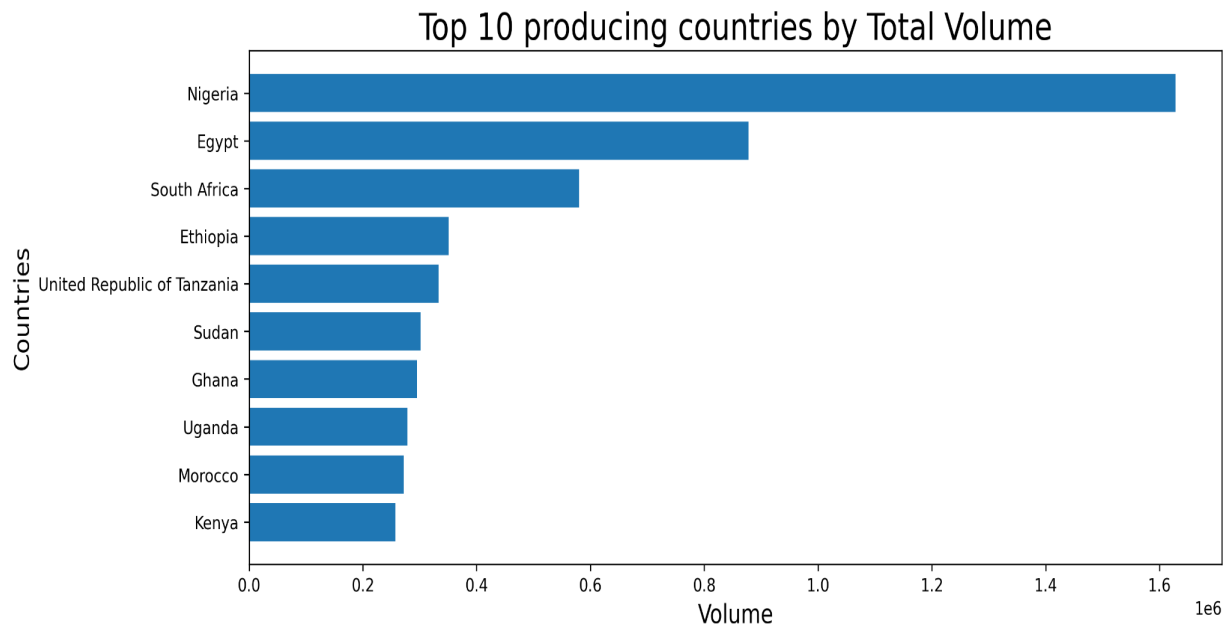
From the data, we can see that on the average that Africa's consumption rate was also increasing constantly as the years went by. This can be an indicator of the availability of more mouths to feed which means a growth in population and also most importantly availability of more food to eat. So on average, we can say that the continent fed its people well.

## How Countries produced by Volumes

Moving further, it is of utmost importance to glean from the data how the individual countries contributed to the overall food production of the continent within the time in consideration. The chart below popped up.



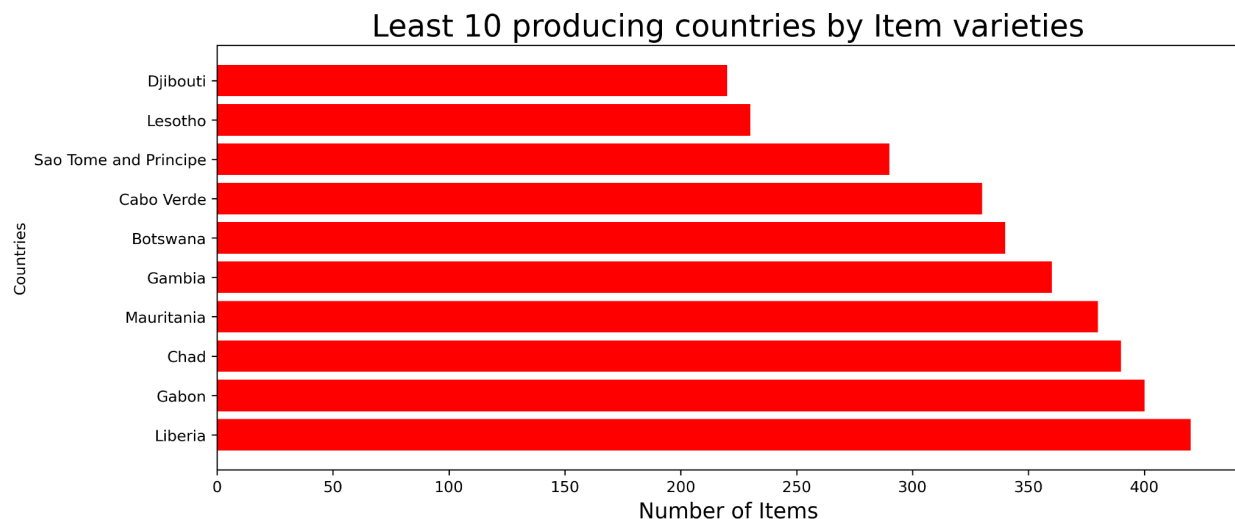
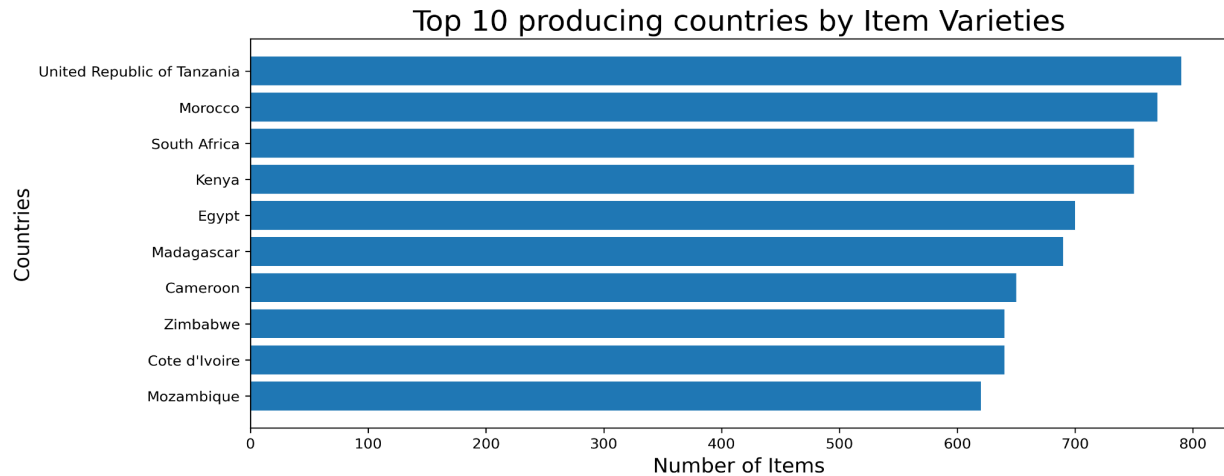
The chart shows how all the 45 individual countries produced. To understand it better, let us split it into top producers and least producers.



From the mini charts, we can easily see that the top producers are in the league of Nigeria, Egypt and South Africa. More so, the least producers are Djibouti, Sao Tome and Principe alongside Cabo Verde.

## Number of Items each country produced

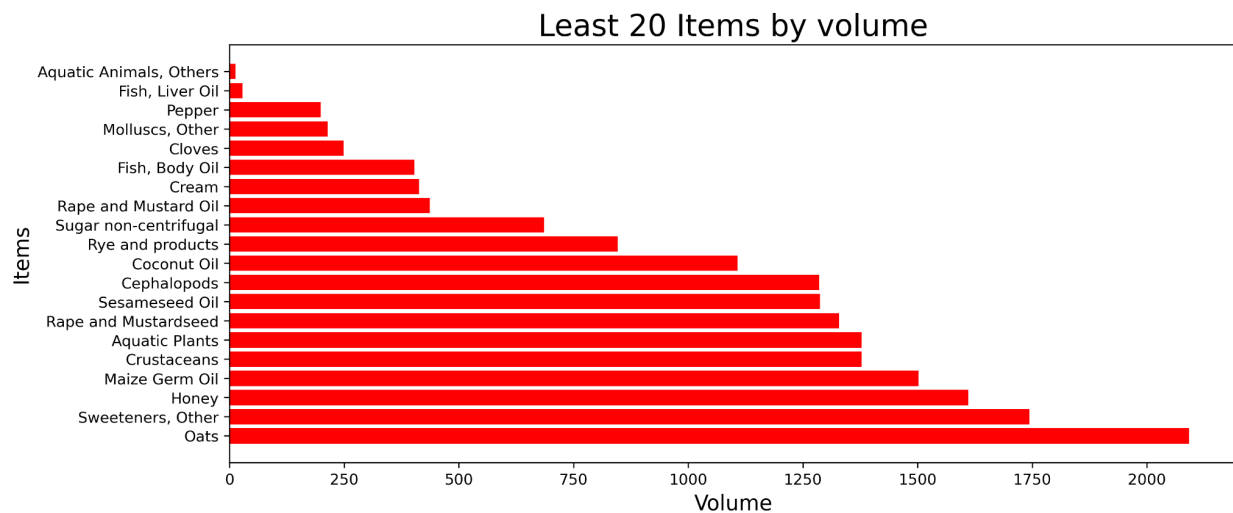
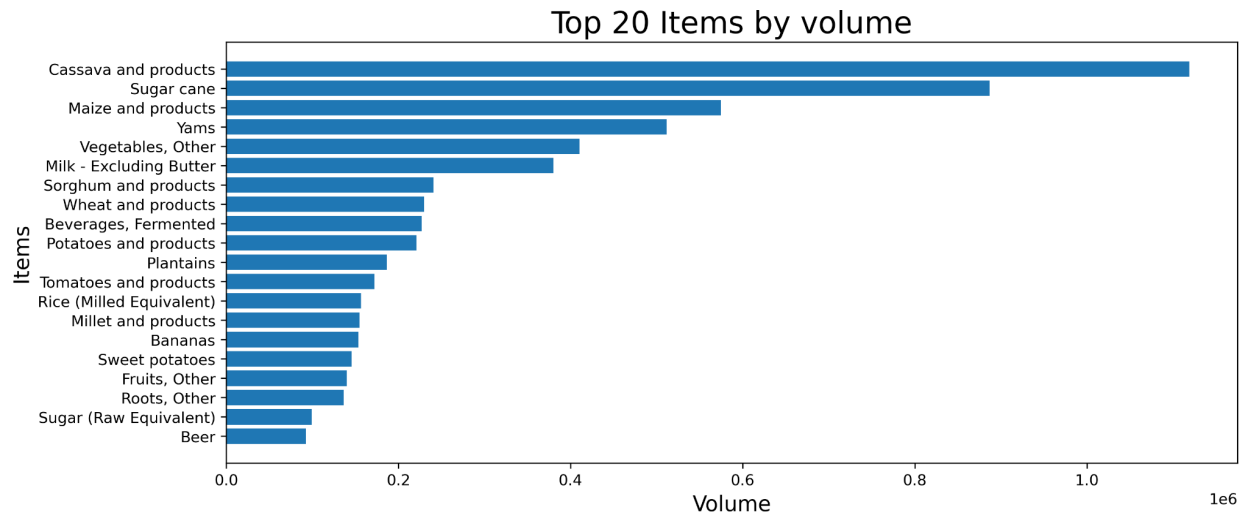
Another insight we can get is the number of varieties of food items each country produces. This can help to determine agriculturally sophisticated nations in the continent.



The United Republic of Tanzania happens to be the nation that grows the highest number of food items pegged at 790 items followed by Morocco at 770 items and then South Africa at 750 food items. Also the least guys are Djibouti producing just 220 items then Lesotho at 230 while Sao Tome and Principe growing just 290 food items.

## How Food Items were produced by volumes

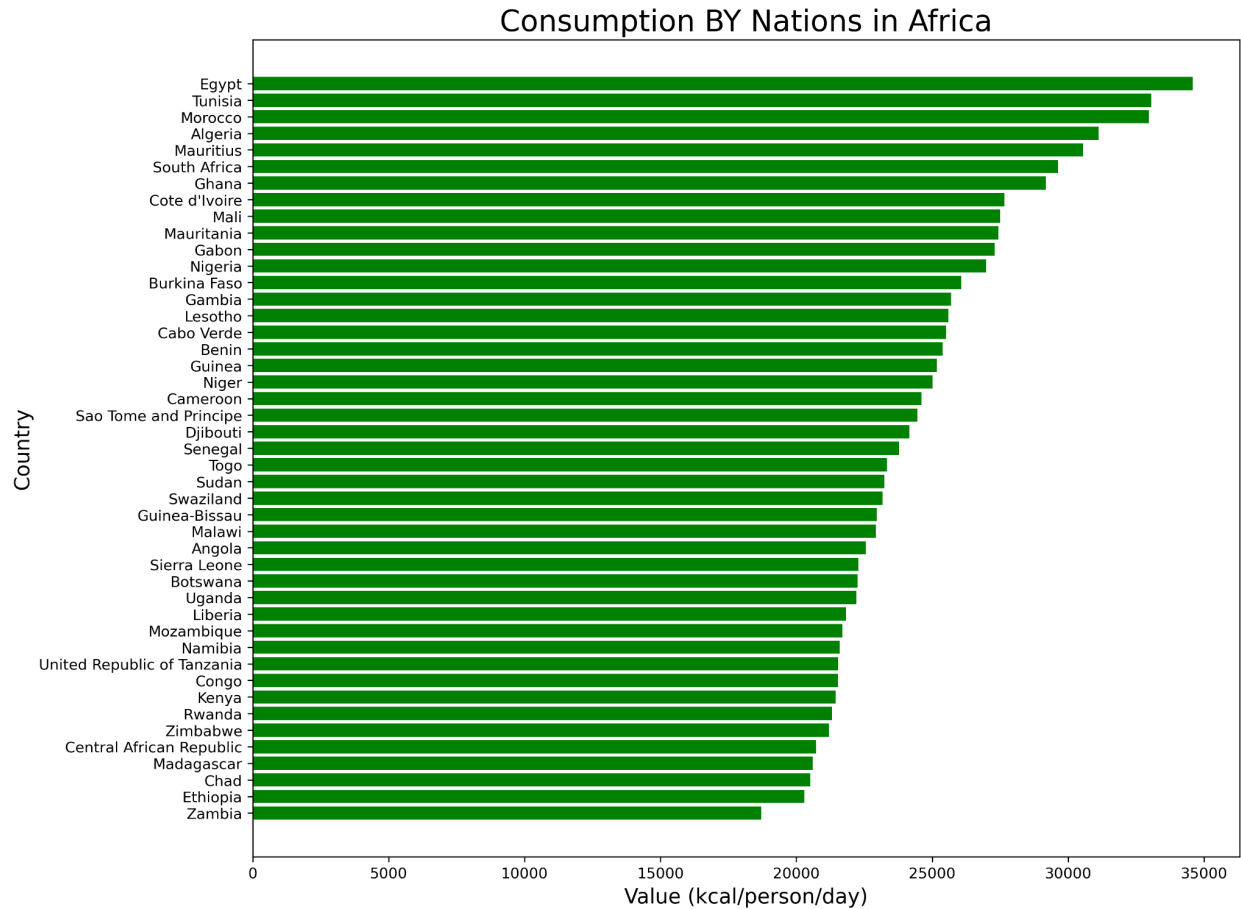
The dataset also gives an overview of how each item was produced by volume. There are a total of 94 distinct food items being recorded as produced in Africa during this ten years. Let's take a look.



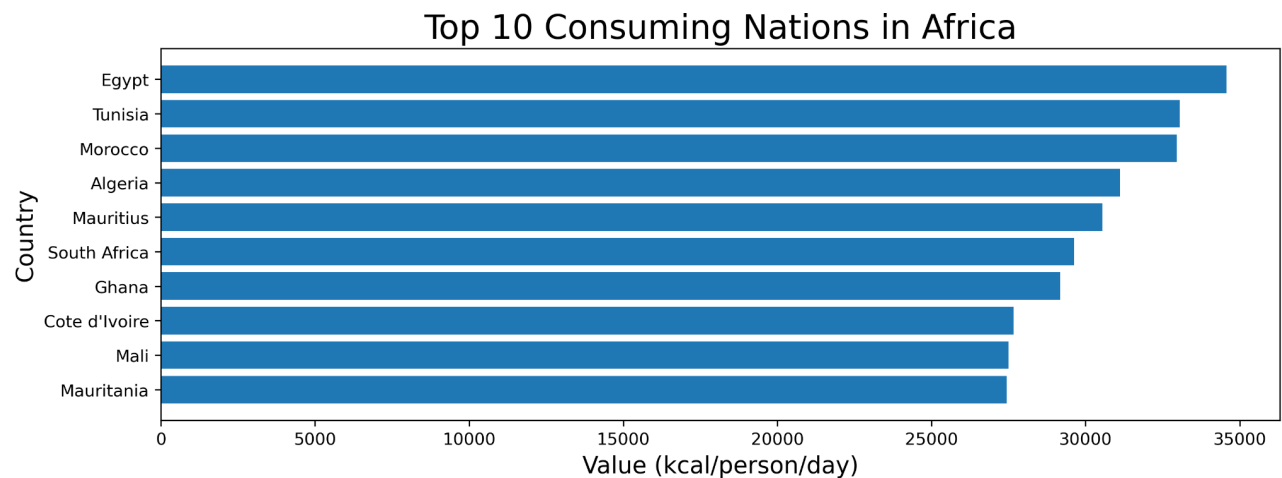
Cassava and its products, Sugarcane and Maize and its products can be said to be the topmost food crop produced by volume in Africa whereas Aquatic animals, Fish and liver oil and Pepper sits as Africa's lowest crop produced cumulatively in 10 years.

### How Countries Supplied food by volume

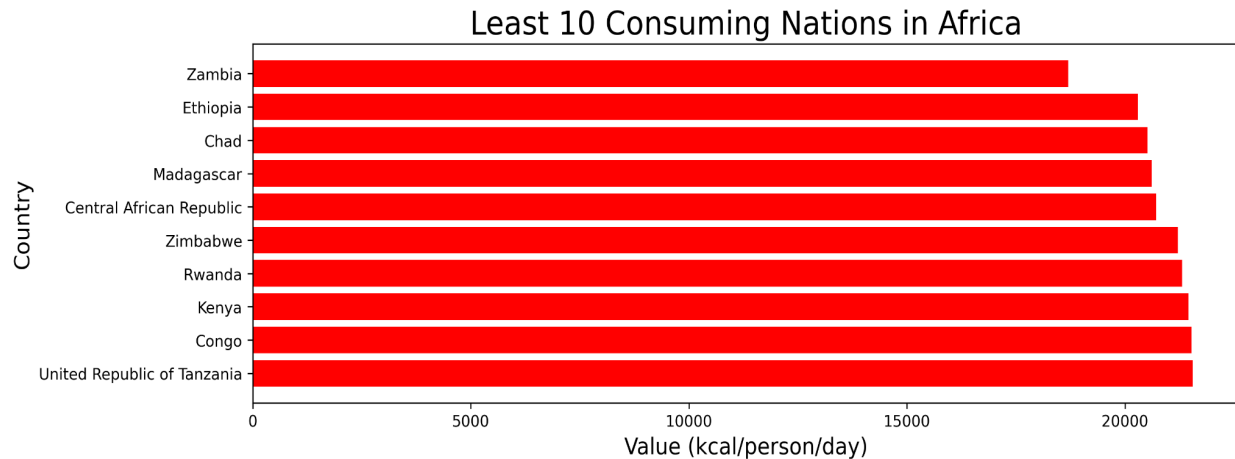
Now, taking a look at how each country supplied or consumed food, we can deduce which country helps Africa feed its people better.



The entire 45 nations' supply volume is shown on the chart. For ease of understanding, we further divide the chart as follows.



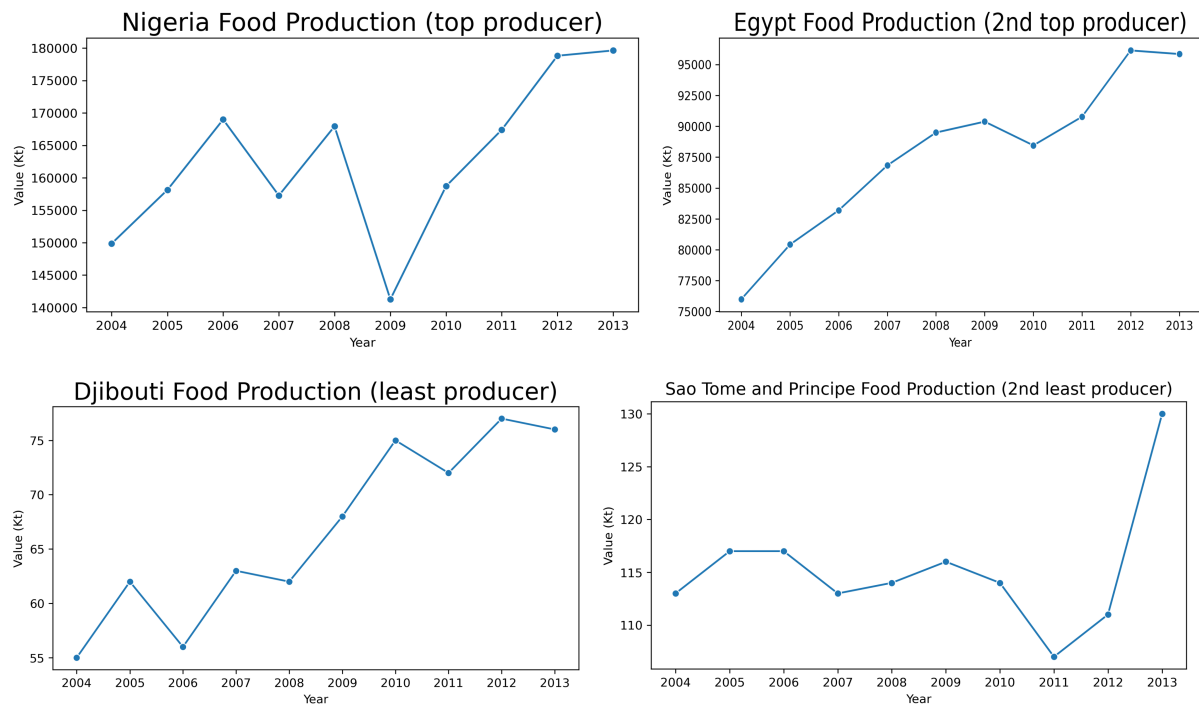
In the supply top players chart, Egypt, Tunisia and Morocco take the lead in volume of food supplied.



Whereas Zambia, Ethiopia and Chad are the lower suppliers.

### Production trends of selected countries

Four nations namely; Nigeria, Egypt, Djibouti and Sao Tome & Principe were selected to study their trend of production by year. This selection is based on the fact that Nigeria and Egypt are the top 2 producers and the Djibouti and SaoTome & Principe are the least 2 producers.



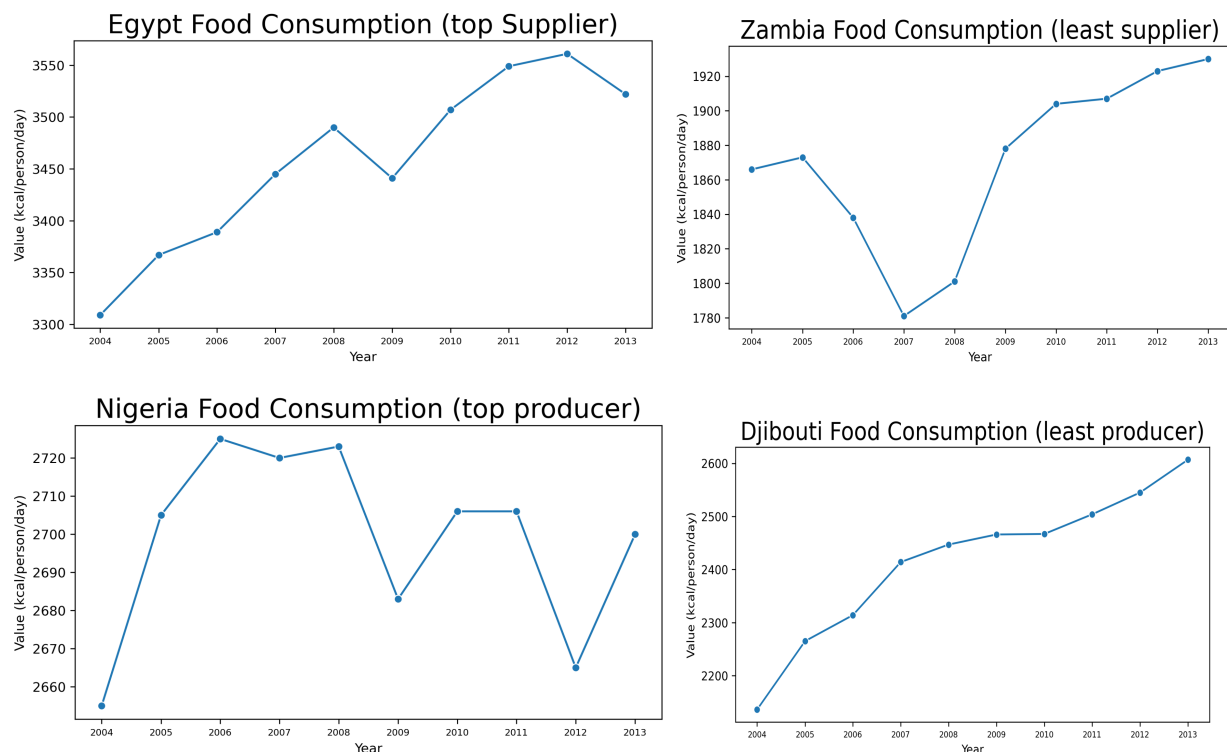
Nigeria's production is a mess accompanied with a great nosedive in production from 2008 to 2009. How they picked up from this fall to rise steadily and still became the top producer of food needs to be studied by other struggling nations. Egypt has had a constant growth bit by bit



amidst a slight fall in 2010 to 2012. Djibouti really needs to sit down and steady their ship. Sao Tome despite all hurdles seems to be upping their game in food production.

### Supply trends of selected countries.

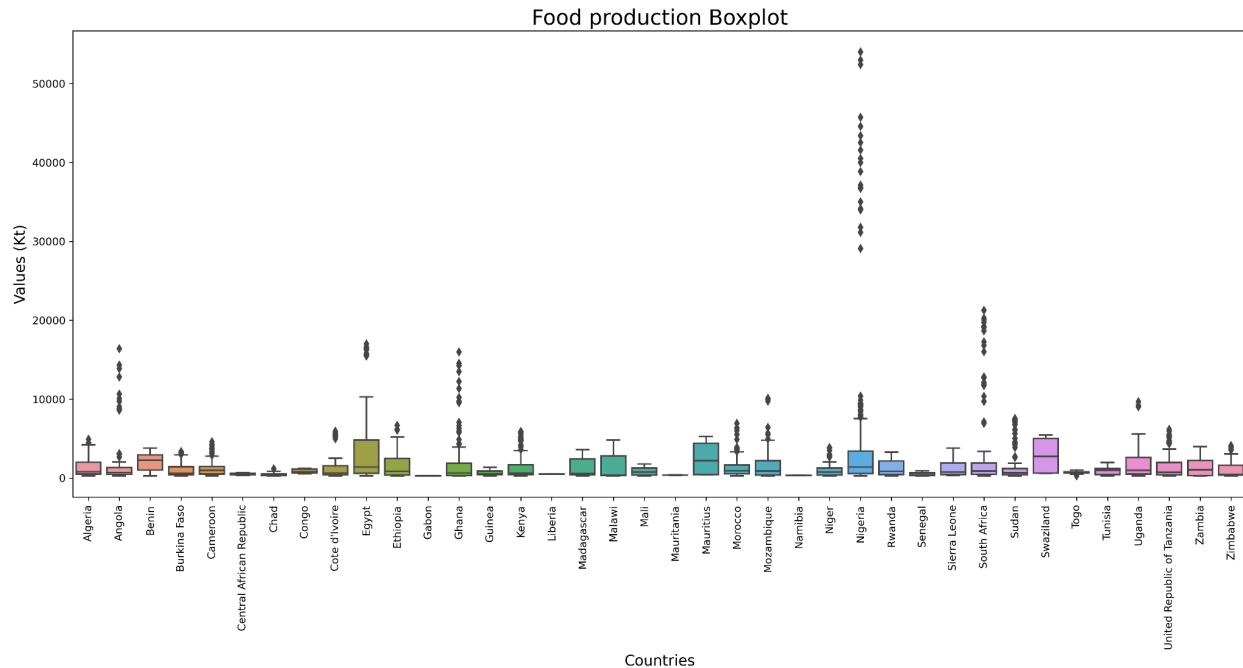
As done with production, some countries were selected as well for careful observation on their supply over the years. They are Egypt which is the top supplier, Zambia which happens to be the least supplier. Let us include the top food producer Nigeria and the least producer Djibouti to see how they fared in supply.



Egypt happens to be a tough fighter, despite the decrease in 2008 supply, it quickly fought and bounced back. Zambia has not been able to pick up from its supply fall of 2005 though there seem to exist minimal efforts to pull up. Nigeria's supply seems very messy, there is no definite pattern, up today and down tomorrow. This is bad for the top producing nation as it makes availability of food an uncertainty. Djibouti, the least producer seems to enjoy an almost constant increasing supply of food. Where is this food coming from since they do not produce much? Definitely importation

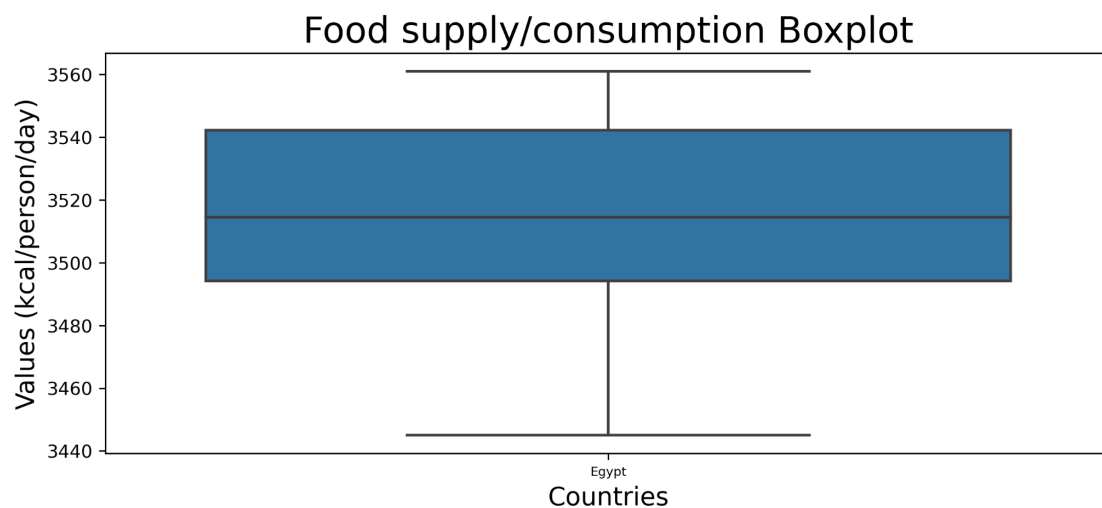
## Outliers in the Datasets.

In the production data, some production scores which are higher than the calculated upper fence production score were noticed. It happened that 38 countries produced consistently higher volumes than the fence threshold score. The boxplot below simplifies the distribution.



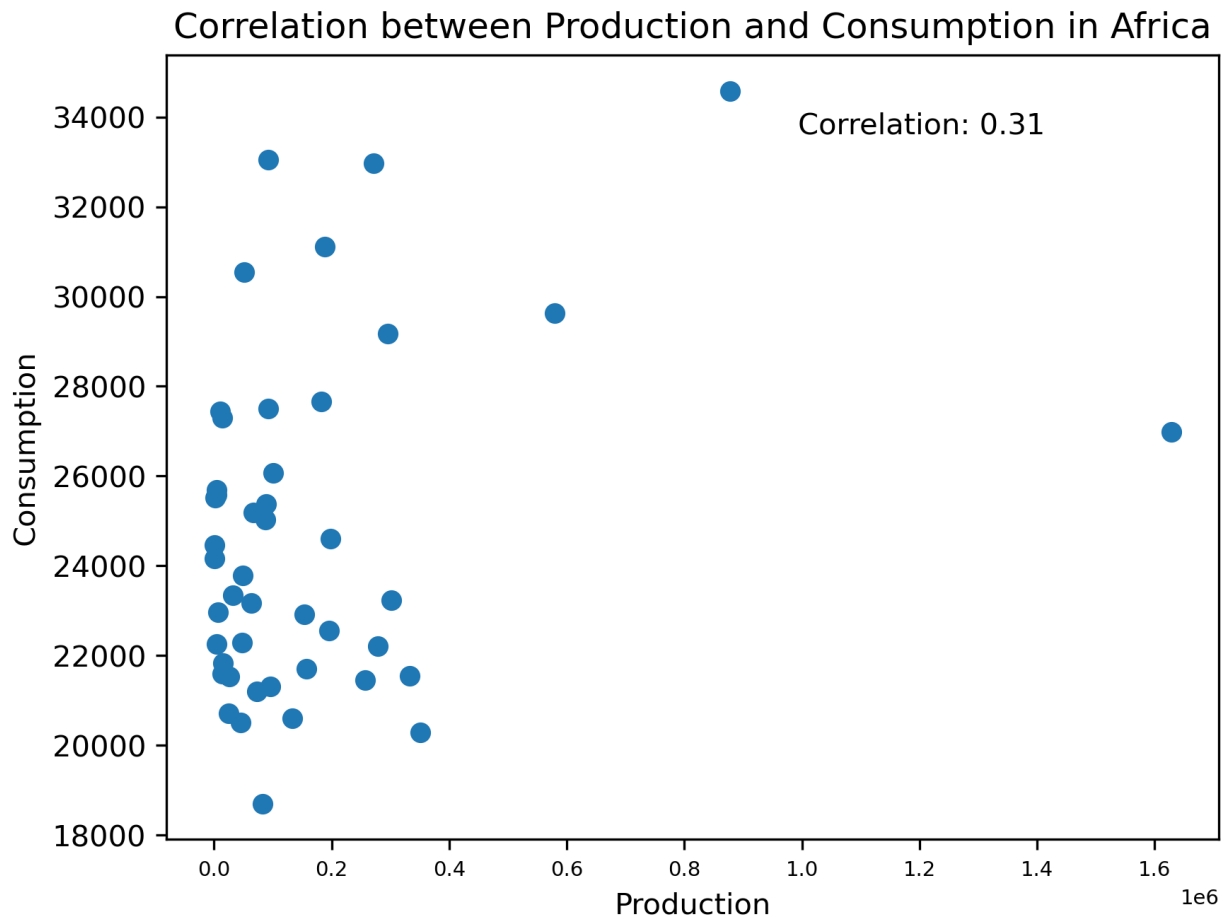
Nigeria happens to produce way more higher volumes as stated by the outlier dots. Followed by South Africa and Ghana.

In the same vein, the supply dataset revealed that there are countries that supplied consistently volumes way above the fence threshold. But coincidentally it happens to be just one country - Egypt. The plot below says more.



### Correlation between Production and Consumption

What if there is a relationship between the production volume and the supply volume in terms of linear increment? Are they independent of each other or do one depend on the other? Seeking to determine the correlation, the plot below aids our quest.

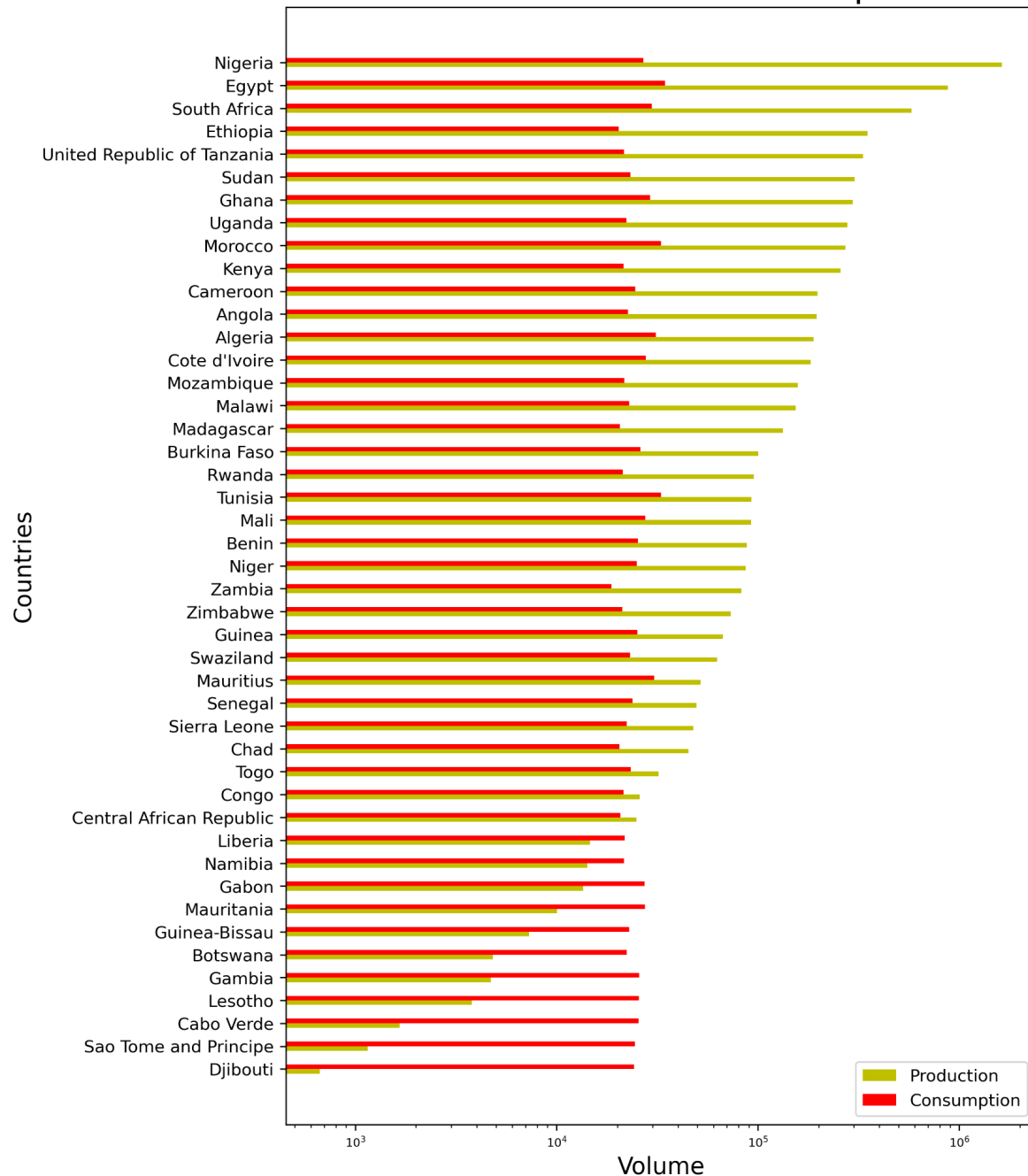


A correlation score of 0.31 indicates that there exists a kind of positive linear relationship between the two. What this implies is that as production value increases, the supply value is expected to increase at an average rate except acted upon by other external forces. It is also important to note that the correlation does not mean that a rise in production value causes a rise in supply value.

### Comparing Production and Consumption

Putting the production and supply values side by side will definitely help decipher at ease the overall happenings in any country of choice in the matters of food and feeding. The chart below combines the two scenarios.

## Countries BY Production and Consumption Volumes



From the chart above, we can deduce that Africa seems to have a constant supply score across the nations. While the production differs. Some countries produce more but supply less whereas some produce less and consume more.

## Recommendations

Following findings from the data, these recommendations can be made to aid Africa produce and supply more food to cater for its citizens.

- There should be a synergy between all the countries as regards food production. The top producers should share technical expertise with the struggling ones with the sole purpose of increasing food in the continent.
- Further research should be done to ascertain why supply is not matching the production capabilities of some countries. Could it be that processing of the food items is poorly handled before supply making the items get spoiled or logistical issues. These matters should be handled fast.
- Countries like the United Republic of Tanzania should distribute more food seed varieties to willing countries to increase the number of item varieties and subsequent volume of production.
- **Pepper** is a vital part of our food but it happens to have been among the least produced in ten years. Countries should deliberately increase pepper production.
- Likewise **Cloves**, which is just produced by three countries out of 45, more countries should invest in the production of these least produced items.
- Countries that have their consumption more than their production such as Djibouti should ramp up their production capacities in order to reduce over dependence on imports which can fail if the producing country falls in their production.

## Conclusion

Africa is doing its best at the moment as regards food production and subsequent supply. More needs to be done as stated in the recommendations.

Anyone needing to have a good understanding about the food industry in Africa must have gained a great knowledge on that subject matter from the works done in this article.

For more insights on the analysis methodology, check out the [Github Repository](#).