

FOOD PRODUCTION AND CONSUMPTION IN AFRICA

How can we do better?

The food situation in Africa has long since been dismal. Hunger and famine in the continent date back as far as the 1960s. Although blessed with many natural resources, both edible and non-edible, the continent struggles to feed its inhabitants.

An analysis was carried out on food production and consumption in 45 African countries to pinpoint the problem in food supply and offer solutions to- not just Africa's food shortage problem- but the world at large.

The data dates from 2004 to 2013. From the analysis, 45 countries produced large quantities of food, yet the number of calories made available to each person in a day was low.

	Value	Type
Year		
2004	663006.000000	Production
2005	691257.000000	Production
2006	718802.000000	Production
2007	705659.000000	Production
2008	736804.000000	Production
2009	746870.000000	Production
2010	786466.000000	Production
2011	812214.000000	Production
2012	841667.000000	Production
2013	872571.000000	Production
2004	2394.222222	Consumption
2005	2409.288889	Consumption
2006	2430.800000	Consumption
2007	2447.755556	Consumption
2008	2460.755556	Consumption
2009	2482.222222	Consumption
2010	2497.400000	Consumption
2011	2515.422222	Consumption
2012	2527.644444	Consumption
2013	2532.244444	Consumption

Production values are measured in kilotonne while consumption values are in kcal/person/day

According to the National Health Service (NHS), UK, the recommended daily intake of calories is 2000 kcal for women and 2500 kcal for men. Note that this figure largely depends on age, lifestyle, and size. Thus, in a continent as labor-intensive as Africa, I believe that calories per capita should be above average.

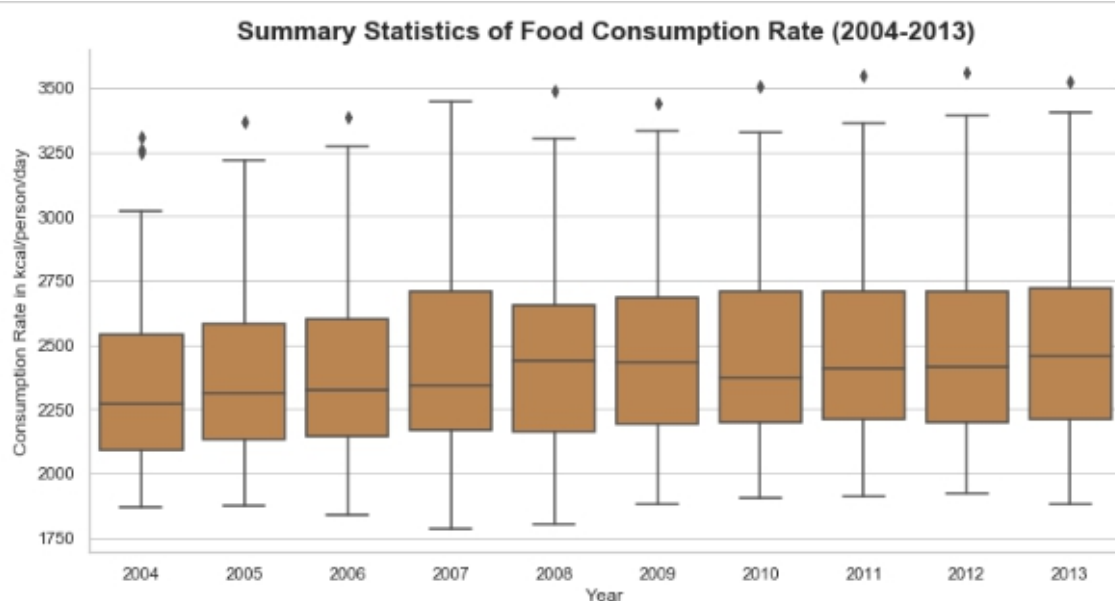
With a large amount of food production, consumption should be high and far from the average. However, this is not the case. Many reasons for this phenomenon come to mind. I will outline just a few.

1. Overpopulation: Africa is the second most populous continent in the world. If all the food produced were evenly distributed (which is not the case), the amount of food getting to each person would be relatively small. However, this is no excuse because China- one of the countries in the most populous continent, Asia- had 3108 kcal/person/day in 2013.

2. Economic situation: The agricultural economy employs 65-70% of Africa's labor force and typically accounts for 30-40% of GDP (Gross Domestic Product). More than 70% of the continent poor live in rural areas, and agriculture is their most important economic activity. Agriculture is the backbone of most African economies, so much of what they produce is sold to foreign countries. This leaves little available to the local markets.

Can you think of more reasons?

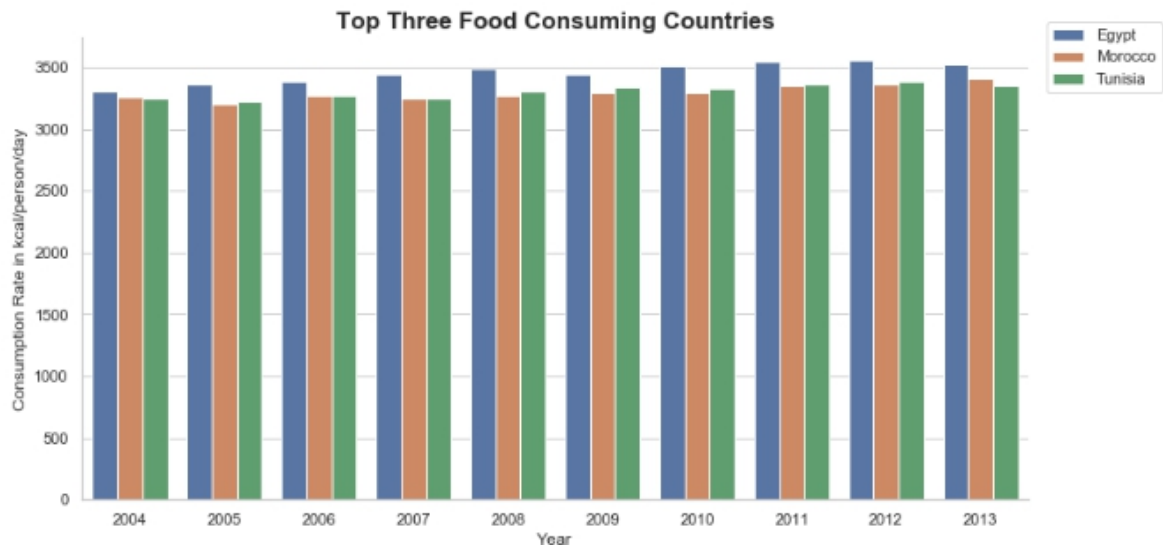
In 2004, three African countries showed higher than average calorie per capita.



Most years had outliers, except year 2007. 2004 had multiple outliers.

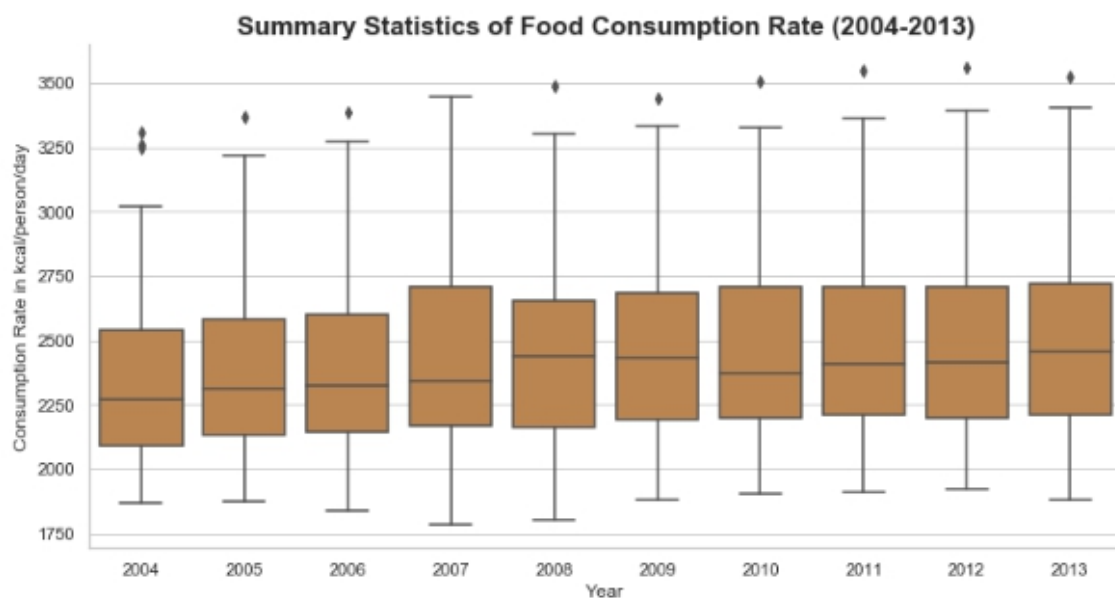
	Country	Year	Value
120	Egypt	2004	3309
270	Morocco	2004	3263
400	Tunisia	2004	3248

Egypt, Morocco, and Tunisia had high calories per capita, not just in 2004 but in other years.



They consistently had above 3000 kcal/person/day throughout the ten years.

While this is true and commendable, some countries had less than 2000 kcal/person/day, as seen in the box plot below (the lower whisker shows the minimum value).



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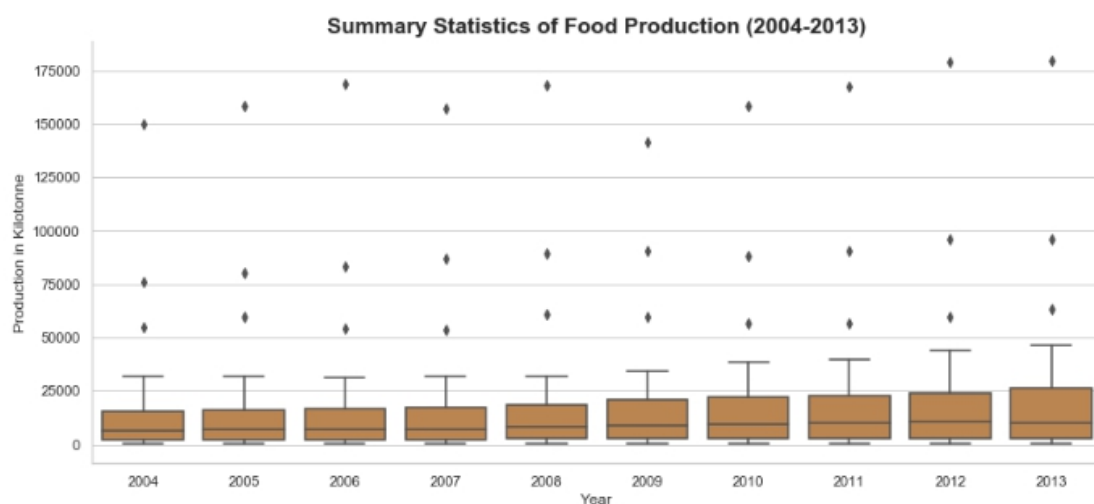
	Country	Year	Value
70	Central African Republic	2004	1989
79	Central African Republic	2013	1879
130	Ethiopia	2004	1882
131	Ethiopia	2005	1978
132	Ethiopia	2006	1967
133	Ethiopia	2007	1957
220	Madagascar	2004	1980
320	Rwanda	2004	1969
430	Zambia	2004	1866
431	Zambia	2005	1873
432	Zambia	2006	1838
433	Zambia	2007	1781
434	Zambia	2008	1801
435	Zambia	2009	1878
436	Zambia	2010	1904
437	Zambia	2011	1907
438	Zambia	2012	1923
439	Zambia	2013	1930

Countries with less than 2000 kcal/person/day. Zambia had low figures throughout the years.

This fact should serve as a call to attention for Non-governmental organizations(NGOs), government officials, and the world at large.

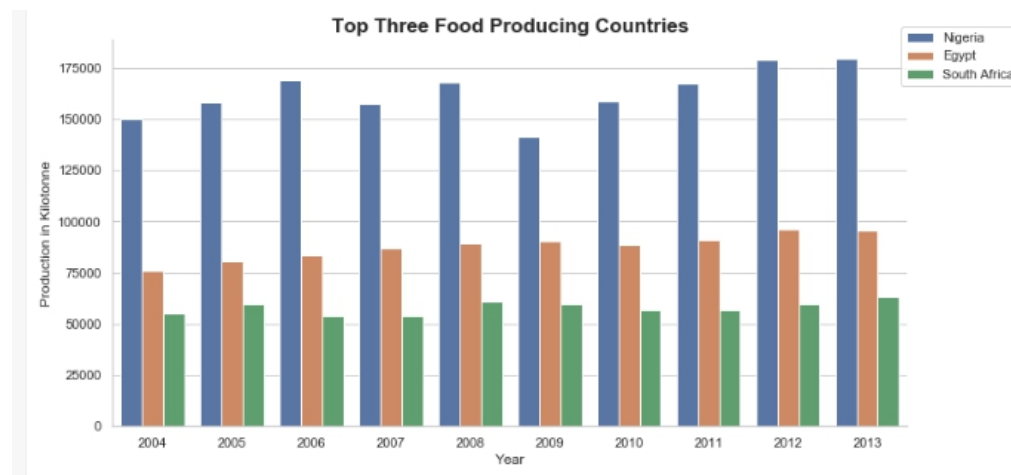
Thankfully, there is no problem without a solution, and I would offer a few.

1.) Increase in Production: One of the ways to increase food consumption/supply is to increase production. In my analysis, I saw that three countries were notable food producers, producing large quantities while others were far behind in production.



Every year (from 2004-2013) had three outliers. The topmost outlier being drastically higher than the rest.

The upper whiskers in all the boxes were below 50,000 kilo-tonne, which is low compared to the outlier points. The topmost outlier is significantly higher than the rest. The top three food-producing countries were Nigeria, Egypt, and South Africa.

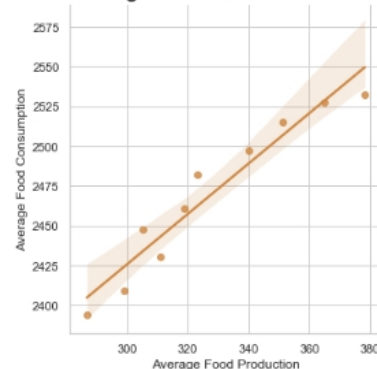


We can see the huge gap in production between Nigeria and the two other high-producing countries (Egypt and South Africa). Nigeria was the most producing country throughout the ten years. Egypt and South Africa were the second and third most producing country throughout the years.

Note that Egypt- the second most producing country- had the highest calorie per capita (above 3000 kcal/person/capita) throughout the ten years. Hence, I believe increasing production can increase food supply.

Also, there seems to be a strong positive correlation between food production and consumption.

Comparison Between Average Food Production and Consumption (2004-2013)



Average food production and consumption show an almost perfect correlation. They are positively correlated meaning as average food production increased over the years, so did average food consumption.

As food production increases, food consumption increases.

2.) Multiple Income: Another way to combat the food shortage worldwide is to diversify the economy. Relying so much on agricultural produce to sustain the economy is possibly why though Nigeria is the most producing country, it has a low calorie per capita. The local markets should be saturated with food before selling to foreign markets. It is well known that multiple income sources are better than one. Though Egypt relies on agriculture to fund the country, it also relies on media, petroleum imports, natural gas, and tourism. Egypt is well known for its tourist attractions, having one of the seven wonders of the world within

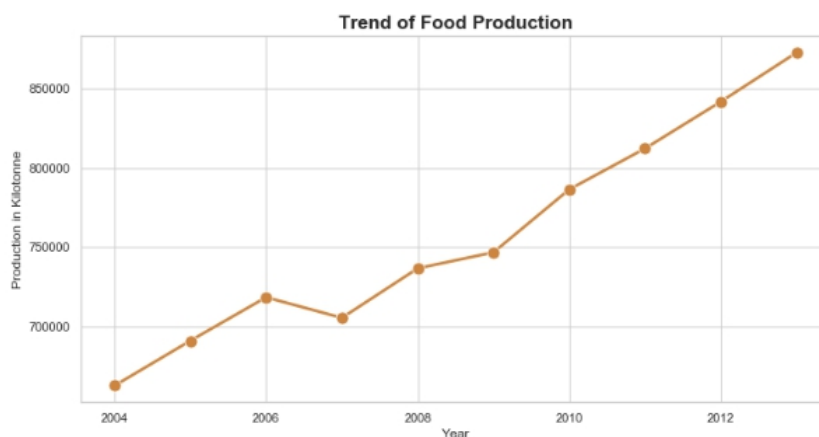
its borders. Whereas, in Nigeria, agriculture remains a strong pillar of the country's economy. The other pillars are oil/gas, mining, and forestry. In previous years, oil/gas value has been decreasing.

3.) Reduce Food Waste: Another possible reason for high production and low consumption is the wastage of food. Food is wasted mainly because of inefficient preparations, and inadequate storage facilities. Food supply can be increased by building more storage facilities and constructing more efficient methods of processing food for storage or transport.

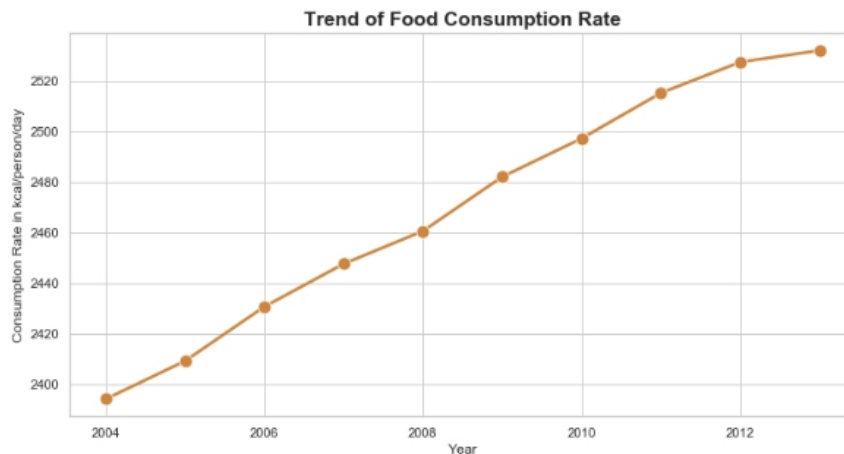
4.) Feed the Nation: Based on the analysis, I recommend that food be grown to feed the community first before selling out of the country. Farmers should produce cash crops when there are enough food crops in the market. There should also be programs that allow farmers to know when there is sufficient food for everyone.

5.) Improve existing infrastructure: Bad roads, storage facilities, and food processing equipment can lead to food spoilage before it can get to the consumers. Improving these infrastructures will help reduce food spoilage and increase supply.

The overall trend in food production and consumption increased from 2004-2013.



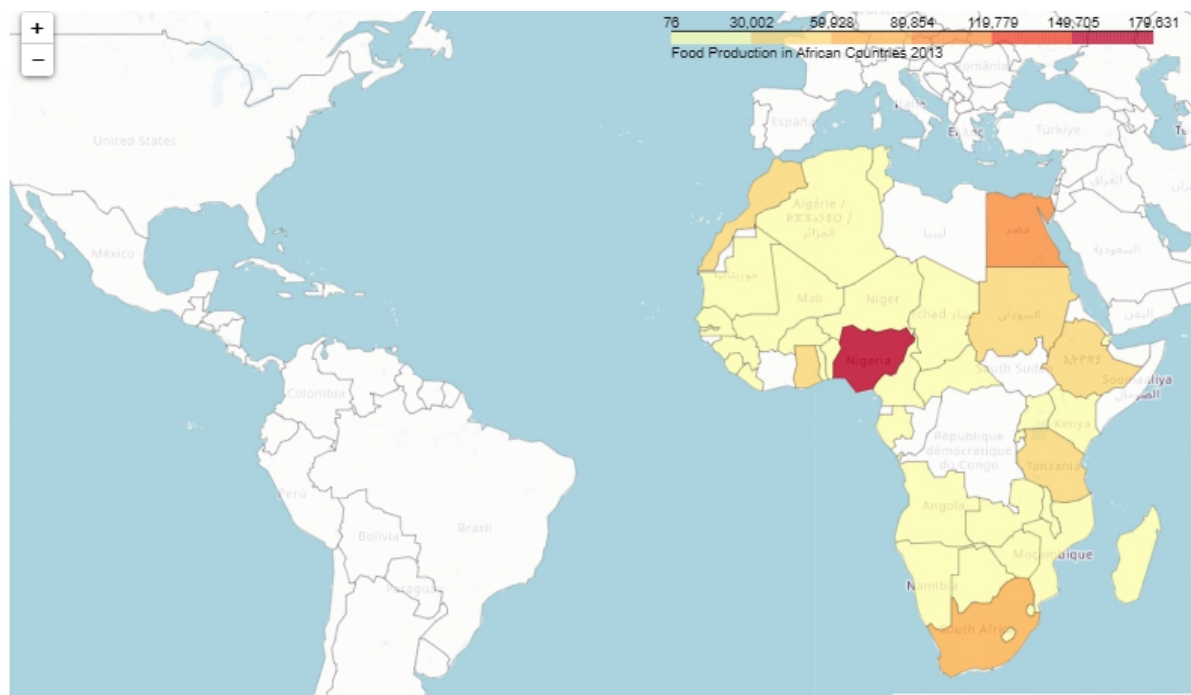
Food production in the 45 African countries increases almost steadily, with a slight drop in 2007 and 2009. It increased from less than 700,000 kilotonne in 2004 to over 850,000 kilotonne in 2013.



The average food consumption rate also increased over the 10 year period, more steadily the production did. It increased from below 2400 kcal/person/day to over 2500 kcal/person/day.

While this is commendable, we must still make active efforts to further increase food consumption. With these points, I believe I have stirred your mind to think of ways to better lives.

Food production in African countries (2013).



REFERENCES

- 1.) <https://www.nhs.uk/common-health-questions/food-and-diet/what-should-my-daily-intake-of-calories-be/#:~:text=An%20ideal%20daily%20intake%20of,women%20and%20%2C500%20for%20men.>
- 2.) <https://www.statista.com/statistics/1094250/daily-per-capita-calories-supply/>
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