

An Analytical Study of World Food Shortage Problem and Solutions

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The global human population is expected to reach 8.0 billion in mid-November 2022, 9.8 billion in the year 2050, and 11.2 billion in 2100.



There is a world food crisis spanning the realms of production and distribution. According to the Global Report on Food Crises 2022, acute food insecurity afflicted approximately 193 million people in 2021, and finding solutions for the ever-growing world population has become a hot topic in Food and Agricultural Sectors, and Agripreneurs (These are entrepreneurs whose business is agriculture or agriculture-related). These solutions range from changing the way we grow our food, to change the way we eat, and ensuring total food security.

Let's briefly define Food Shortage and outline some causes and effects of food shortage problems: Food Shortage occurs when food supplies within a bounded region do not provide the energy and nutrients needed by that region's population.

Causes of Food Shortage

- Lack of access to farming lands
- Land Grabbing
- Conflicts, Violence, and Wars
- Unfair Trade Rules
- Fast-Paced Population Growth
- Biofuels
- Natural Disasters
- Climate Change
- Food Wastage
- Market Dominance by Corporate Giants etc.

Effects of Food Shortage

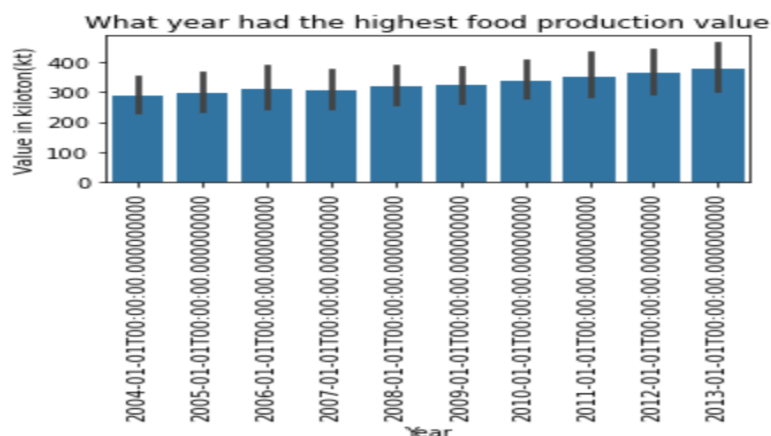
- It leads to hunger
- Unemployment
- Increase in Food Prices
- A rise in Health related cost
- Violent Conflict etc.

This project provides insights into some trends in Africa's Food Production and Supply from the year 2004 to 2013 using data collected from The Food and Agriculture Organization (FAO) and will infer solutions to the food shortage problems. In Africa, one in five people faced hunger in 2020 and the number of hungry people continues to rise.

According to the dataset collected, the following questions and insights were observed:

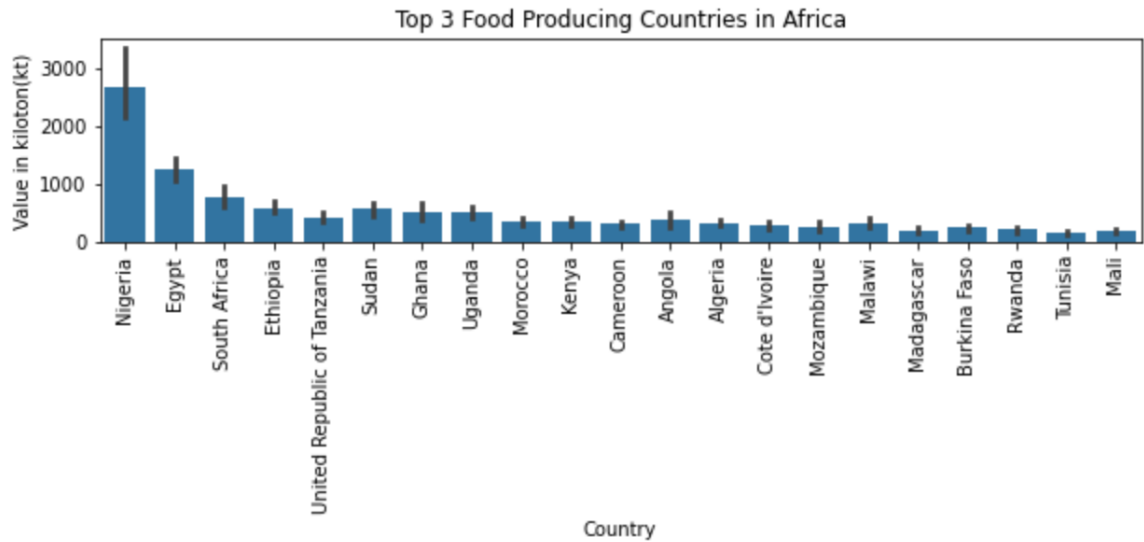
1. What Year had the highest food production value?

After analyzing the data, it was discovered that there was more food production in 2013.



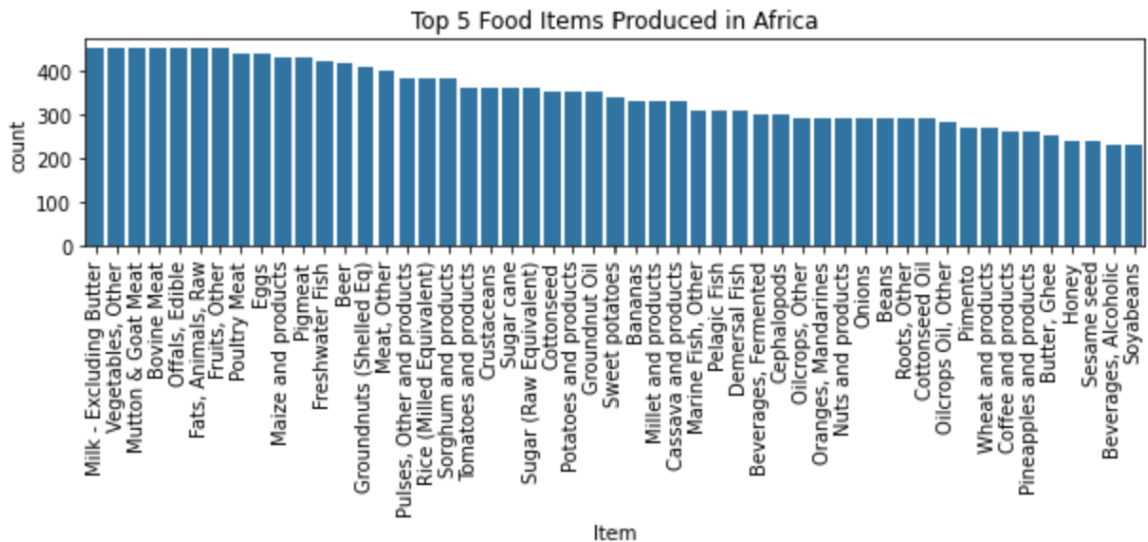
2. Top 3 Food Producing Countries in Africa

After the analysis, it was inferred that Nigeria, Egypt, and South Africa were the top three food-producing countries in Africa from 2004 to 2013.



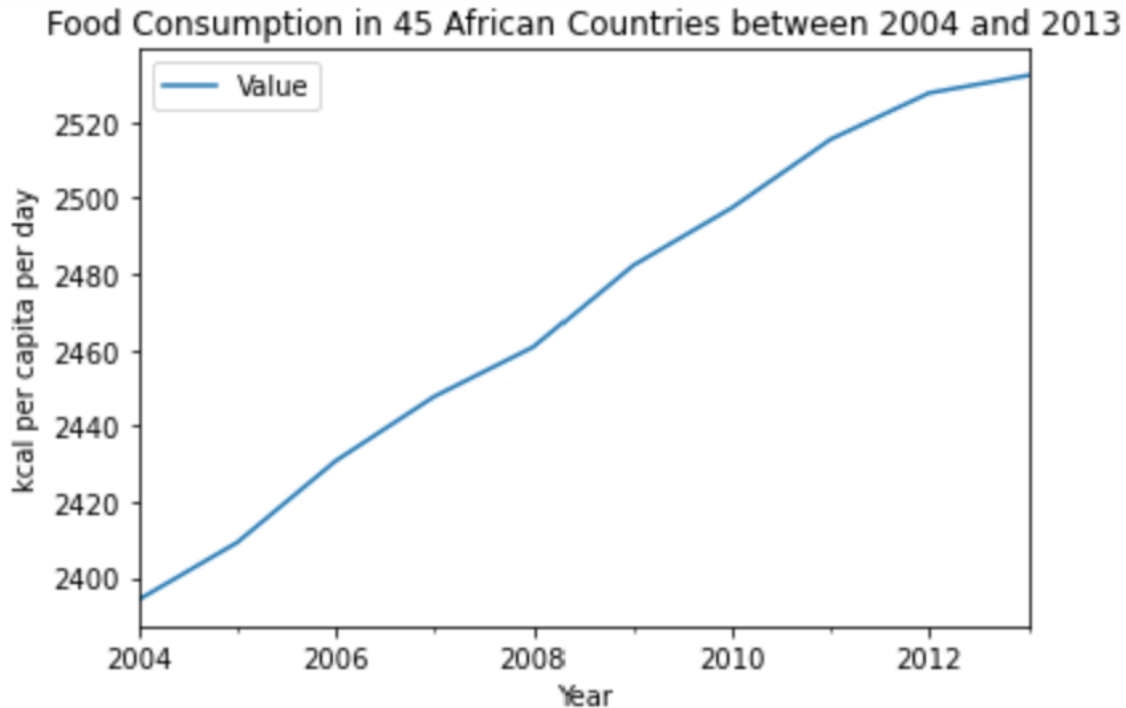
3. Top 5 Food Items Produced in Africa

It was also discovered that Milk(excluding butter), Vegetables, Mutton & Goat Meat, Bovine Meat, Offals(edible), Fats, Animals, Raw, and Fruits are the top produced foods in Africa with a count of 450 each.



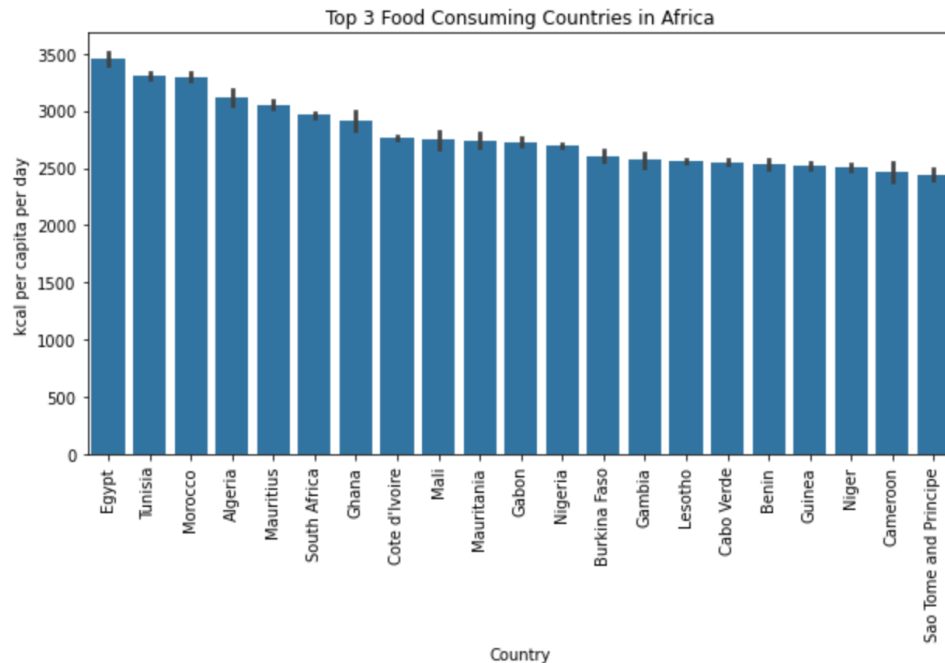
4. **What year had the highest food consumption value ?**

Furthermore, I was interested in knowing what year had the highest supply value and after the analysis, I discovered that the consumption value increased over time as shown below:



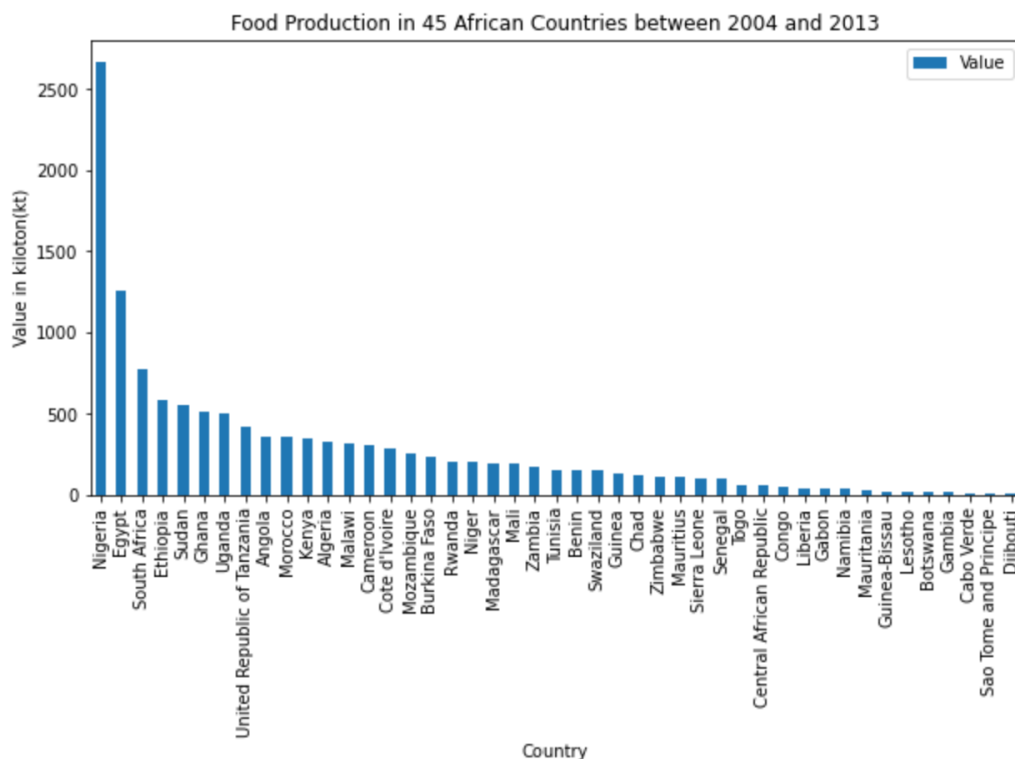
5. **Top 3 Food Suppliers in Africa**

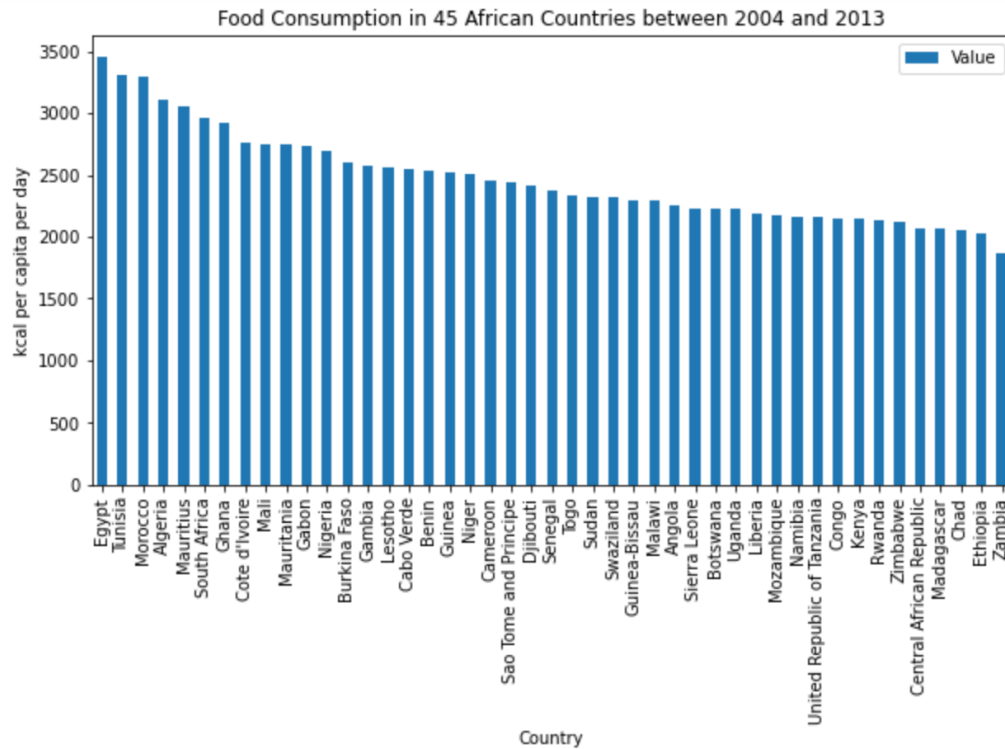
Finally, I discovered the top 3 food suppliers in Africa Interestingly, although Nigeria, Egypt, and South Africa were the top 3 food-producing countries between 2004 and 2013, the visualization shows us that Egypt, Morocco, and Tunisia had the highest food supply per capita.



Comparison between average food consumption and production for each year

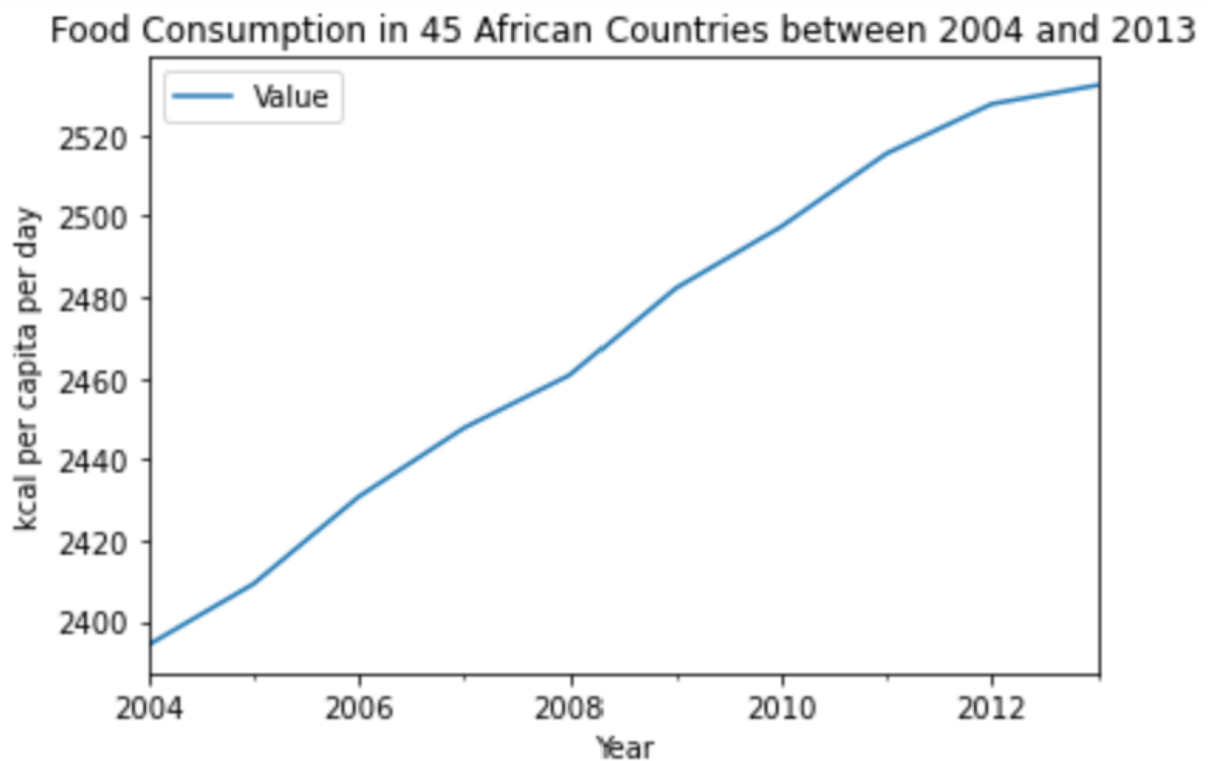
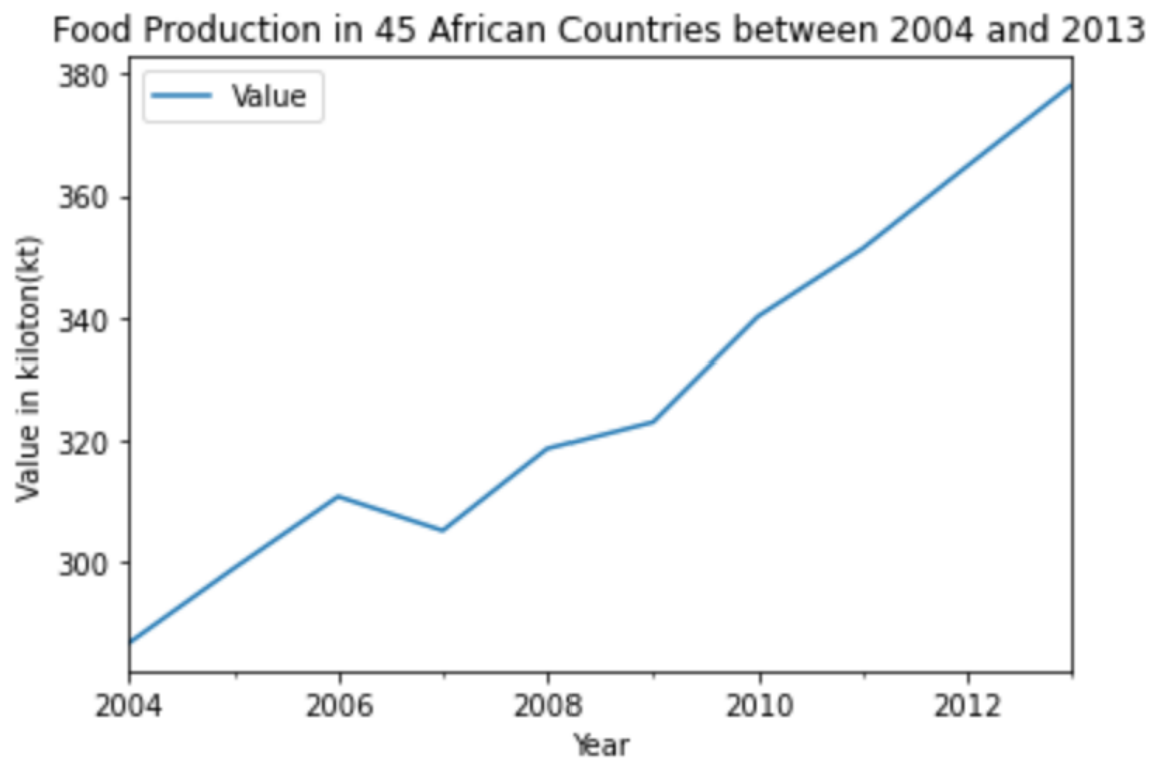
I decided to compare the average food consumption and production for each year from 2004 to 2013. The results are represented in the visual below





The visualizations above show the average food production and consumption in 45 African Countries side by side. It is seen that although Nigeria, Egypt, and South Africa are the top three food-producing countries in Africa, Egypt, Tunisia and Morocco had the highest food supply value in Africa.

Let's compare the growth over the years between average food production and food supply in Africa.



Food production value rose steadily from 2004 to 2006 where it fluctuated till 2009 and rose steadily till 2013. Meanwhile, Food consumption increased steadily.

Solutions to Food Shortage Problems

1. Reduce food waste
2. Countries producing fewer products should produce more
3. **Promote Diversification:** Focusing on a single food crop can produce terrible outcomes for food insecurity reduction. As such, to improve food security, there needs to be training on the importance of diversified and healthy diets for better nutrition. With more varieties of food and an educated community on the importance of a diversified diet, there will be sufficient staple foods available in the markets.