

PATTERN RECOGNITION REPORT

HDSC SPRING '23
DATA STORYTELLING TRACK



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PROBLEM STATEMENT

Using trends in food production and consumption to tell a story about how food shortage can be solved. Identifying how food production affects food supply and consumption.

Dataset

The datasets(2) were gotten from the Course Material in csv format and loaded directly into Jupyter Notebook on Google Colab;

[https://www.wolframcloud.com/obj/mar/Hamoye/Session%202/Data/Africa%20Food%20Production%20\(2004%20-%202013\).csv](https://www.wolframcloud.com/obj/mar/Hamoye/Session%202/Data/Africa%20Food%20Production%20(2004%20-%202013).csv) (Food Production) and

<https://www.wolframcloud.com/obj/mar/Hamoye/Session%202/Data/Africa%20Food%20S>

[upply%20\(2004%20-%202013\).csv](#) (Food supply/Consumption).

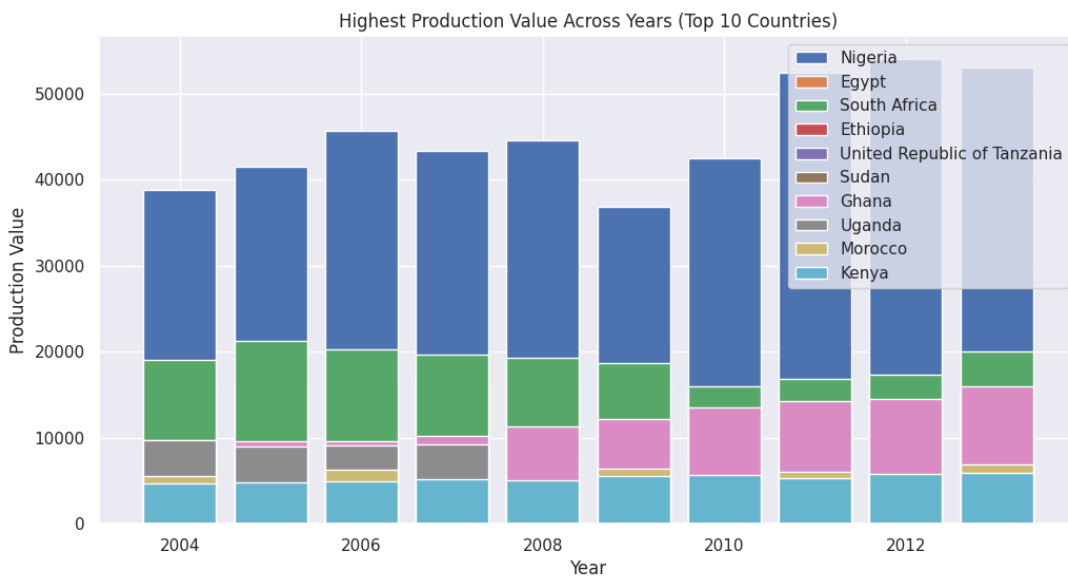
The food production dataset has 4 columns(Country, Item, Year, Value) with 23110 entries while the food supply/consumption has 4 columns(Country, Year, Value) with 450 entries.

Tools used

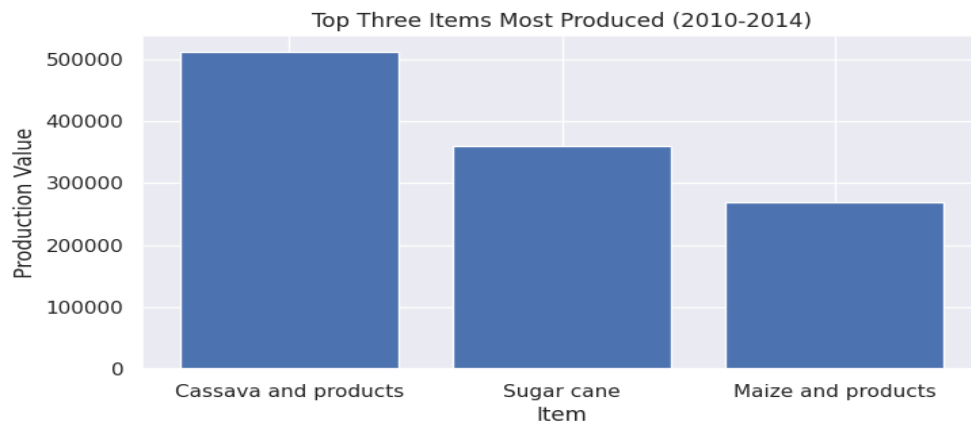
1. Python libraries
2. Jupyter notebook

Analyzing yearly changes in food production

From the food production dataset, the top **10** countries with the highest production are as seen in the graph below:



Nigeria has the highest production value especially in the year **2011** to **2014**.



The three most produced items between **2010** and **2014** are Cassava and products, sugar cane item, maize and products.

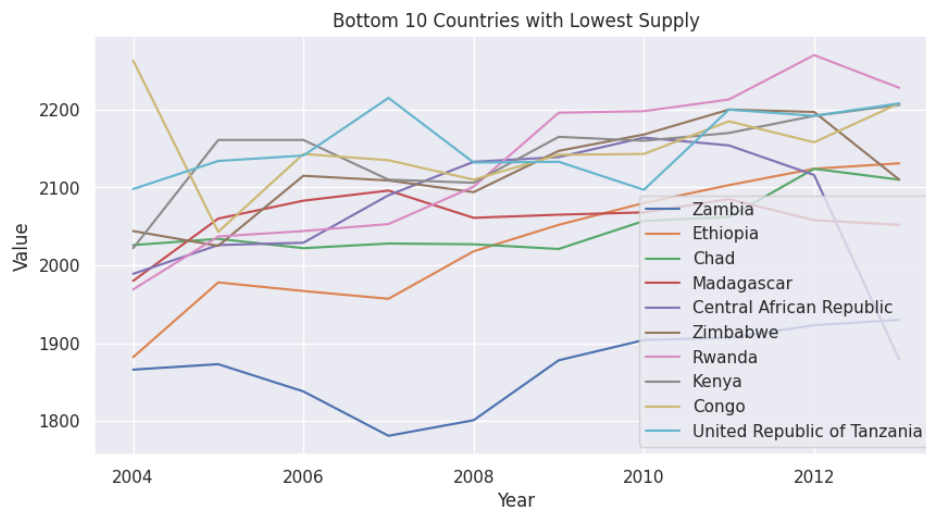
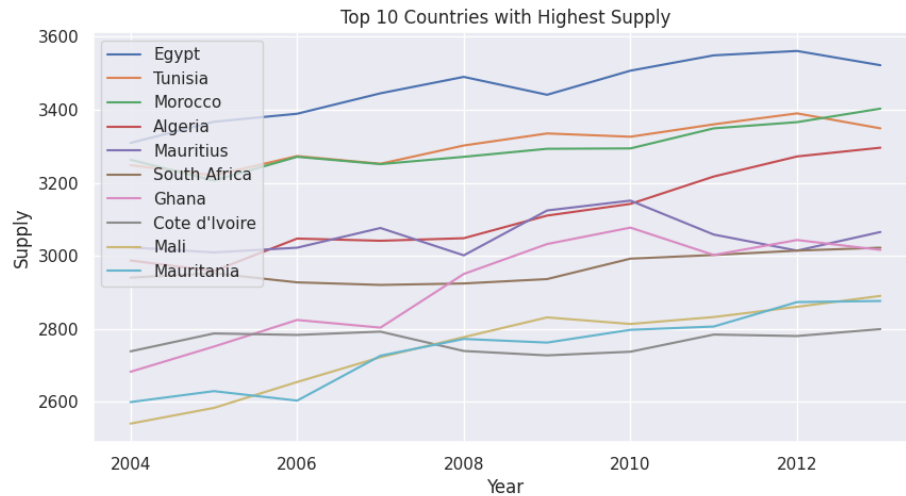
Nigeria is also the **largest** producer of **Cassava and products** from 2010 to 2014.

Checking for the year with the most and least production value, we see from the graph below that **2004** was the least while **2013** had the most.



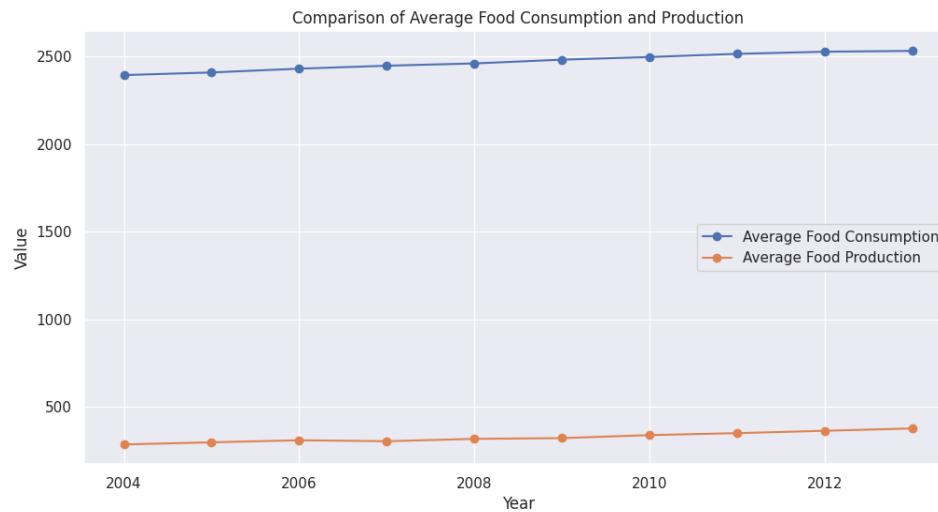
So how does the **supply/consumption** affect **production**?

From the food supply dataset, **Egypt** is the country with the most supply value and **Zambia** is the country with the least supply value.



The **years** with the highest and lowest supply/consumption value respectively are 2012 and 2007.

Comparing the average Food Production and average food supply/consumption, they are directly proportional i.e Food supply/consumption increases as food production increases.



A safe hypothesis can be to say that a solution to food shortage will be an increase in food production. If countries generally increase their food production, food shortages may be averted.

I also believe that food production in some has to be exponentially more to cater for countries that cannot produce as much.