

HOW CAN THE PROBLEM OF WORLD FOOD SHORTAGE BE SOLVED USING AFRICA AS A CASE STUDY?

total amount of food produced vs consumed from 2004 - 2013

The total food produced from 2004-2013 is 7575116

The total food consumed from 2004-2013 is 1111399

FOOD PRODUCED VS FOOD CONSUMED FROM 2004-2013

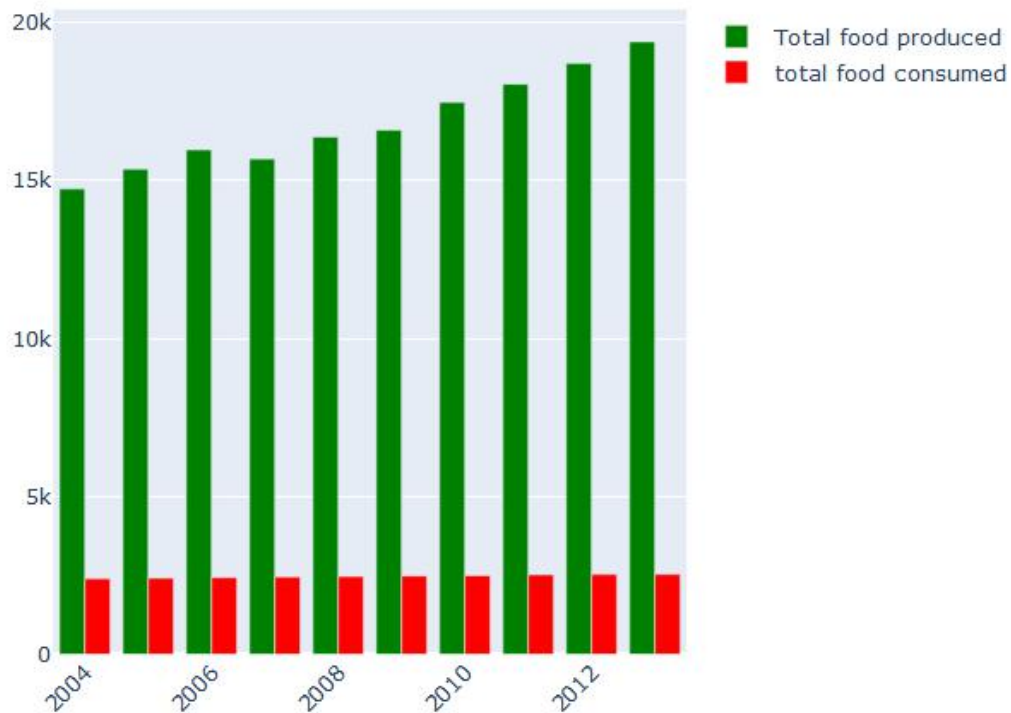


FROM THE ABOVE COMPARISON, WE CAN SEE THAT OVER A SPAN OF 10 YEARS, AFRICA

PRODUCED OVER 7M ITEMS OF FOOD, WHILE ONLY ABOUT 1M ITEMS WERE CONSUMED BY THE TOTAL POPULATION.

LET'S OBSERVE THE PRODUCTION AND SUPPLY TRENDS TO SEE COUNTRIES THAT PRODUCE AND CONSUME MORE FOOD AND THE COUNTRIES THAT PRODUCE BELOW AVERAGE FOOD ITEMS OVER A PERIOD OF 10 YRS FROM 2004-2013.

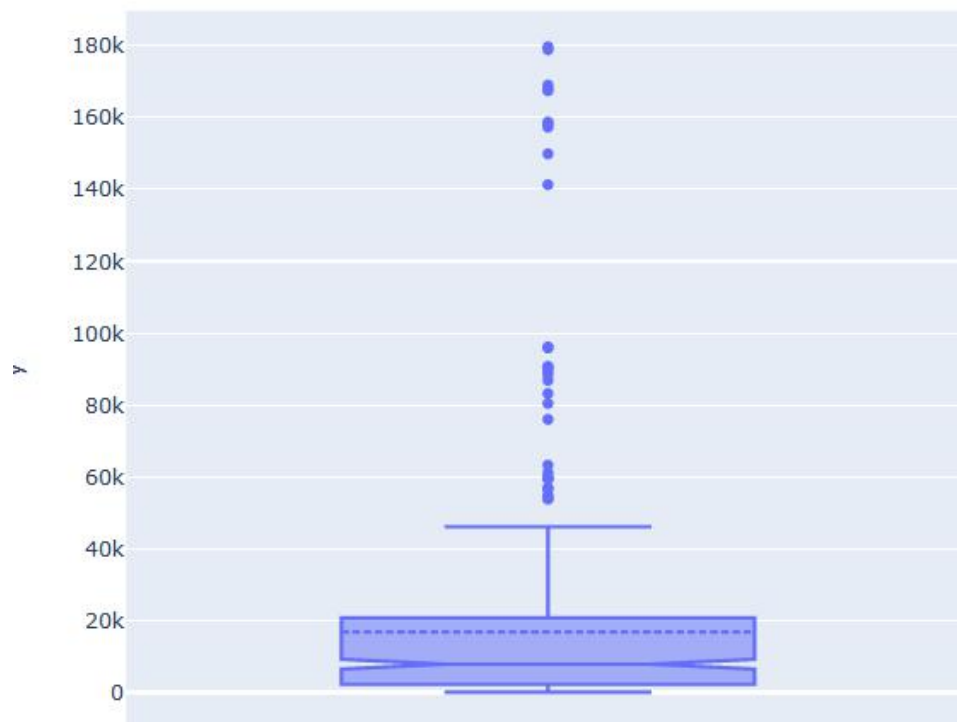
AVERAGE FOOD PRODUCED VS CONSUMED FOR EACH YEAR.



FROM THE ABOVE CHART, WE CAN SEE THAT THE PRODUCTION INCREASES STEADILY AND FAR EXCEEDS THE CONSUMPTION WHICH APPEARS RATHER FIXED WITH MINIMAL CHANGE.

NOW, LET US CONSIDER THE MEAN, MEDIAN, OUTLIERS, AND QUANTILES FOR FOOD PRODUCED FROM 2004-2013

AVERAGE AND MEDIAN FOOD PRODUCTION, OUTLIERS, QUARTILES



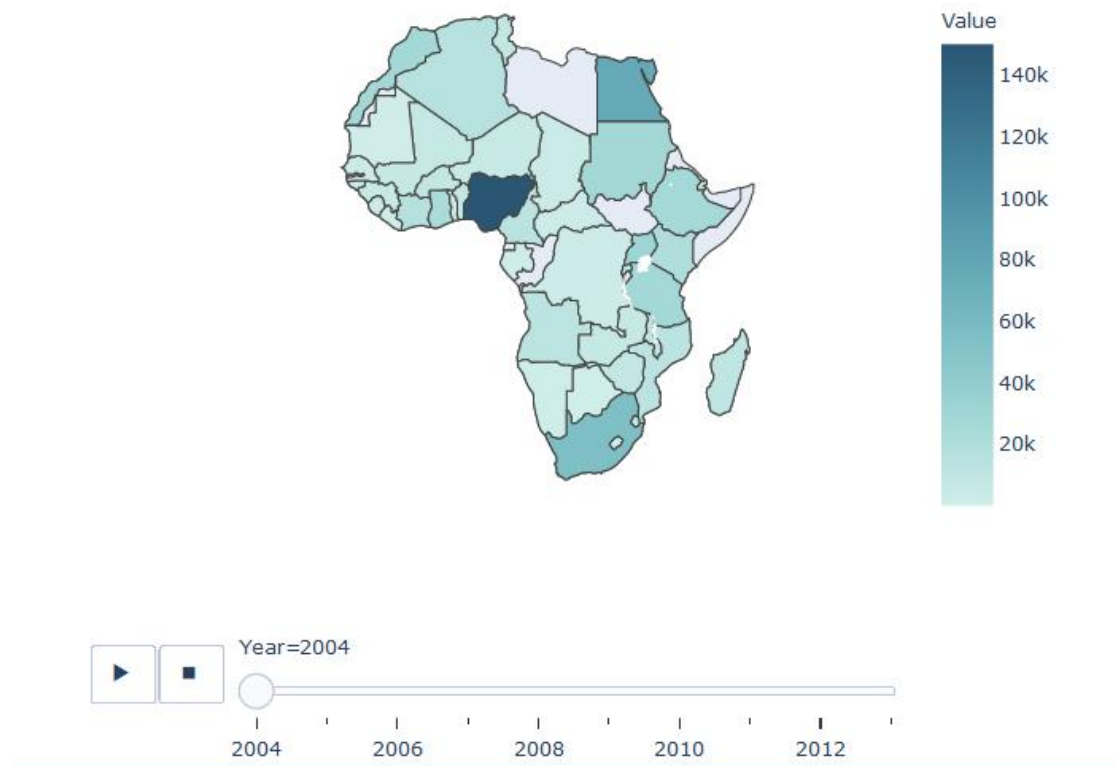
FROM THE ABOVE BOXPLOT, A QUICK HOVER REVEALS THE FOLLOWING INFORMATION:

1. MANY OUTLIERS ARE PRESENT
2. MEAN : 16.83K(2dp)
3. MEDIAN : 7.88K(2dp)
4. Q1 : 2.29K(2dp)
5. Q3 : 20.73K(2dp)

FROM THIS OBSERVATION, IT IS OBVIOUS THAT MOST AFRICAN COUNTRIES PRODUCE FOOD THAT LIES BELOW THE AVERAGE (AT ABOUT 17KT) OVER THE PERIOD OF 10 YRS. HOWEVER, A FEW COUNTRIES PRODUCE WELL ABOVE AVERAGE.

EMPLOYING A CHOROPLETH MAP, WE CAN EASILY SEE ALL THE COUNTRIES WITH THE OUTLIERS (COUNTRIES PRODUCING A LOT MORE FOOD ITEMS)

MEAN FOOD PRODUCTION IN AFRICA FROM 2004-2013



FROM THE FIGURE ABOVE, WE SEE THAT THE TOP FOOD PRODUCING COUNTRY IS:

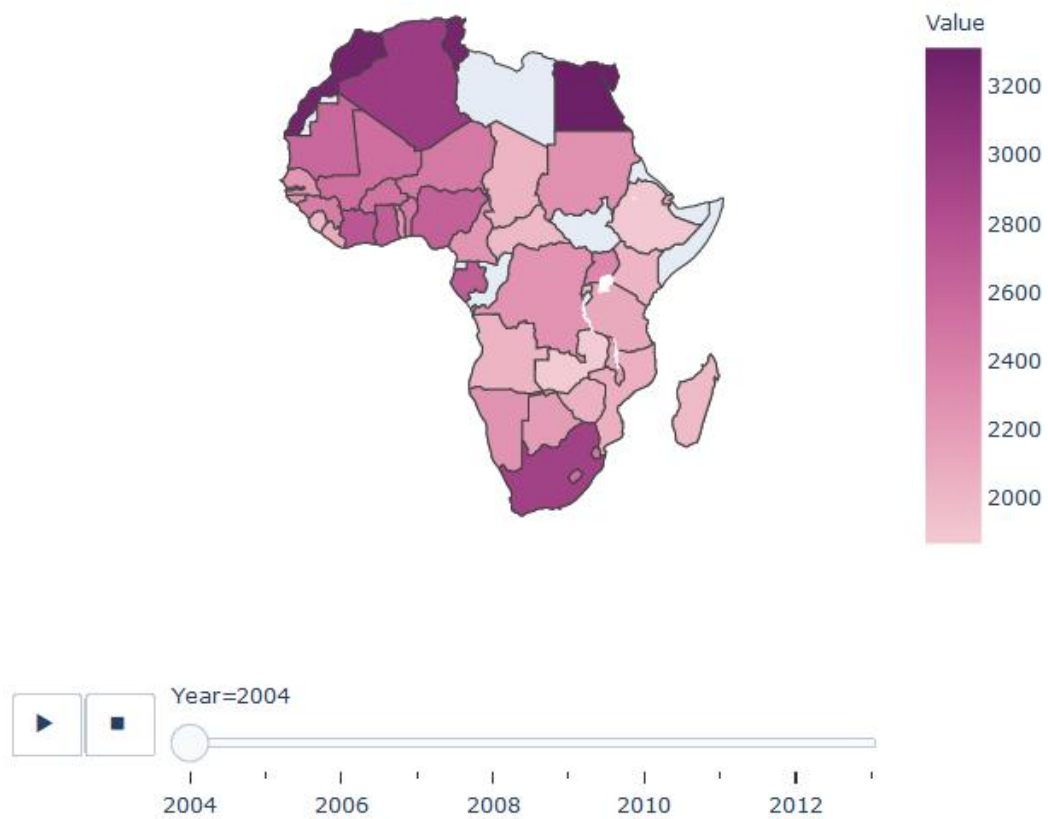
1. NIGERIA AT 179.631KT

AND THE LEAST FOOD PRODUCING COUNTRY IS:

1. DJIBOUTI AT JUST 76KT

ALSO FOR THE SUPPLY TREND OVER TIME, WE HAVE:

MEAN FOOD CONSUMPTION IN AFRICA FROM 2004-2013



FROM THE FIGURE ABOVE, WE ALSO SEE THAT THE TOP FOOD CONSUMING COUNTRY IN 2013 IS:

1. EGYPT AT 3522KCAL/PERSON

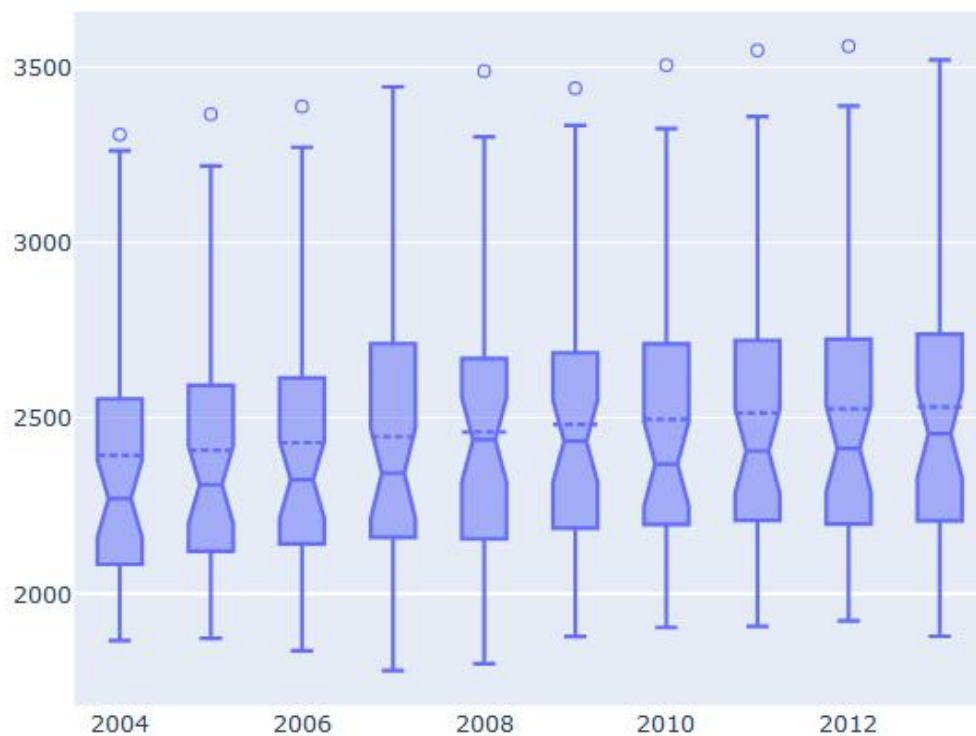
OBSERVATION:

1. EGYPT PRODUCES MORE AND EQUALLY CONSUMES MORE (AN IDEAL CASE).
 2. DJIBOUTI PRODUCES THE LEAST FOOD (79KT), YET CONSUMES ALOT OF FOOD(2136/KCAL/PERSON).
 3. NIGERIA PRODUCED THE MOST FOOD, YET CONSUMED FAR LESS THAN EXPECTED.
- THIS POSES A RATHER INTERESTING QUESTION...

WHY ARE SOME COUNTRIES PRODUCING MORE, YET CONSUMING LESS?

WITH THE AID OF A BOXPLOT SHOWING THE AVERAGE FOOD CONSUMED PER YEAR, WE CAN SELECT A YEAR WITHOUT OUTLIERS, SINCE WE KNOW THAT OUTLIERS DONT HELP MUCH IN ANALYSIS AS THEY GENERALLY DO NOT FOLLOW THE PATTERN.

Food Consumption in all countries from 2004-2013



THE YEAR 2013 WILL BE USED AS IT IS BY FAR THE MOST RECENT RECORD, AND IS ALSO FREE OF OUTLIERS THAT GENERALLY DO NOT FOLLOW THE PATTERN OF an ANALYSIS.

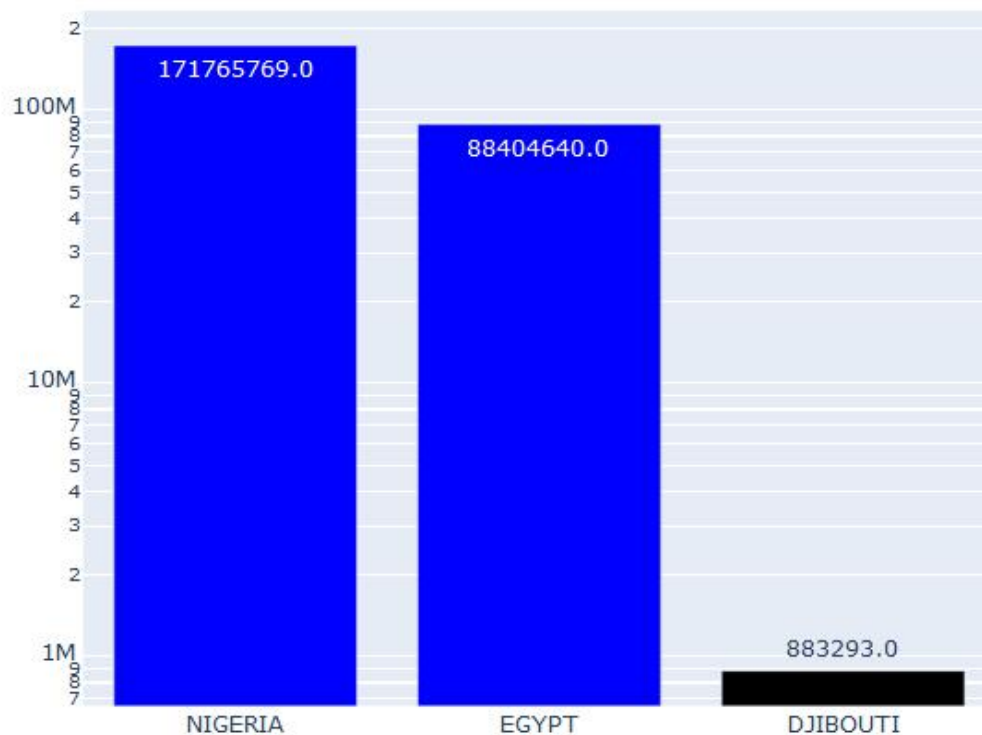
BY QUICKLY IMPORTING THE POPULATION OF THE THREE COUNTRIES UNDER ANALYSIS FOR THE YEAR 2013, WE SEE THAT:

THE POPULATION OF DJIBOUTI IS: 883293.0

THE POPULATION OF EGYPT IS: 88404640.0

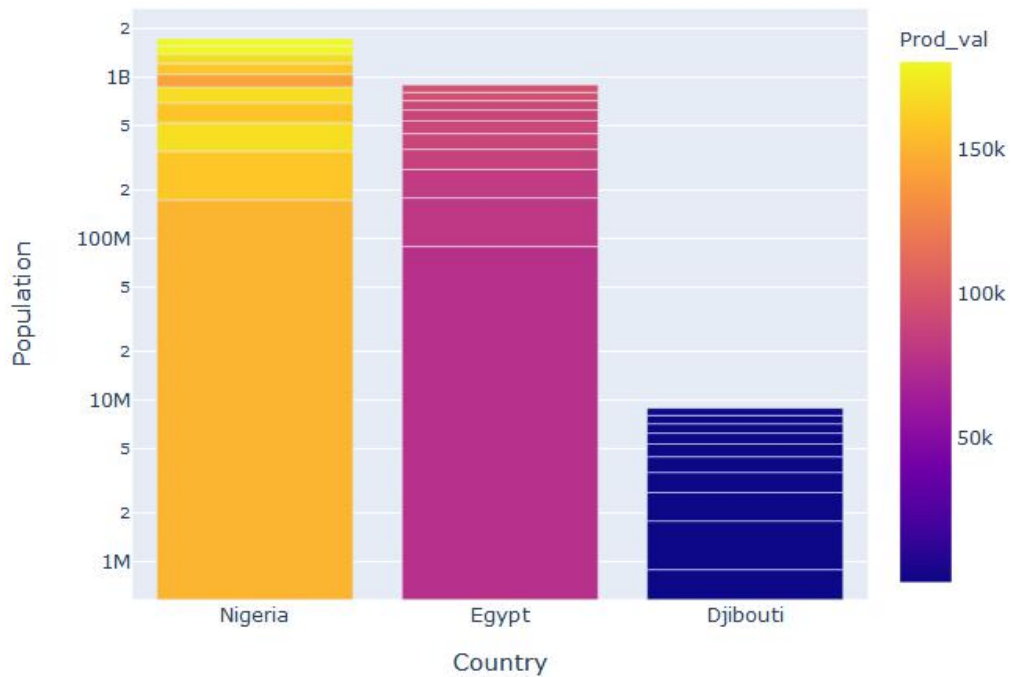
THE POPULATION OF NIGERIA IS: 171765769.0

POPULATION OF EGYPT, DJIBOUTI & NIGERIA IN YR 2013



A QUICK LOOK AT THE POPULATION OF THE THREE COUNTRIES UNDER CONSIDERATION REVEALS THAT NIGERIA HAS THE HIGHEST POPULATION, FOLLOWED BY EGYPT AND THEN DJIBOUTI AT AN ALMOST INSIGNIFICANT VALUE!!!

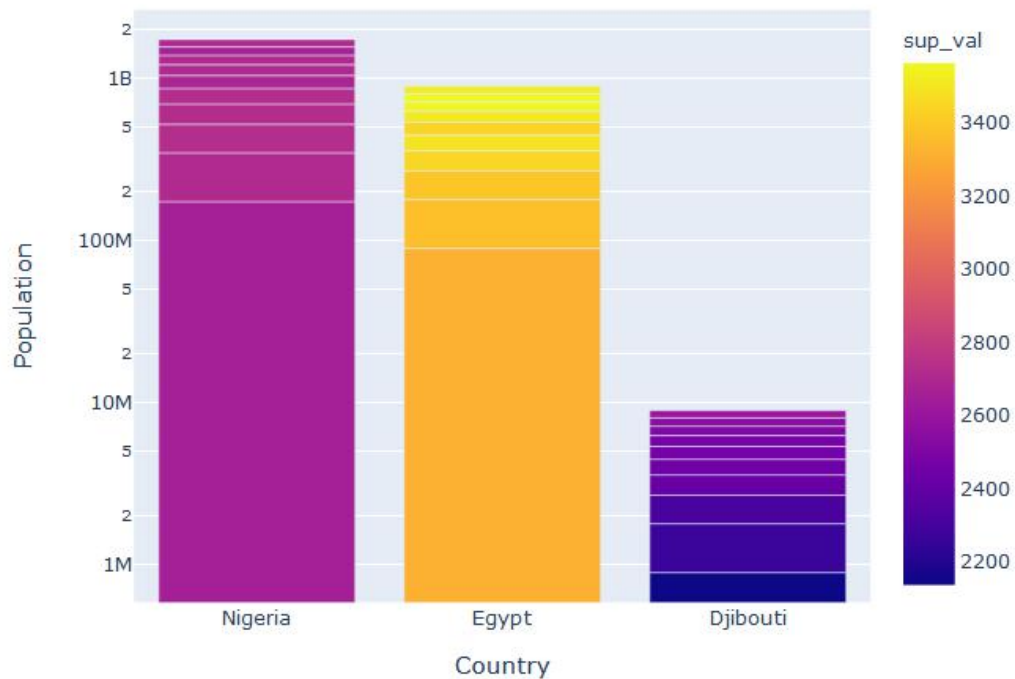
PLOT OF POPULATION VS COUNTRY WITH A VARITION IN PRODUCT



FROM THIS PLOT, WE CAN EASILY SEE THAT:

- NIGERIA HAS THE HIGHEST POPULATION (REL. TO THE Y-AXIS), AND THE HIGHEST PRODUCTION (REL. TO THE COLOR SCALE).
- EGYPT HAS A HIGH POPULATION (REL. TO THE Y-AXIS), AND A HIGH PRODUCTION (REL. TO THE COLOR SCALE).
- DJIBOUTI HAS THE LOWEST POPULATION (REL. TO THE Y-AXIS), AND THE LOWEST PRODUCTION (REL. TO THE COLOR SCALE).

PLOT OF POPULATION VS COUNTRY WITH A VARIATION IN CONSUMPTION



FROM THE ABOVE CHARTS, WE CAN DRAW THE FOLLOWING INSIGHTS:

1. NIGERIA HAS THE HIGHEST POPULATION AND PRODUCTION, BUT CONSUMES FAR LESS.
2. EGYPT HAS AN HIGH POPULATION AND CONSUMES HIGH AMOUNT OF FOOD.
3. DJIBOUTI HAS A LOW POPULATION, PRODUCES LESS, BUT CONSUMES FAR ABOVE WHAT IT PRODUCES

IN CONCLUSION...

SUMMARY TABLE

COUNTRY	POPULATION	PRODUCTION(KT)	CONSUMPTION(KCAL/
NIGERIA	VERY HIGH	VERY HIGH	REL. LOW
EGYPT	HIGH	HIGH	HIGH
DJIBOUTI	VERY LOW	VERY LOW	REL. HIGH

FROM THE ANALYSIS, THESE INSIGHTS HIGHLIGHTS TWO POSSIBLE REASONS CAUSING FOOD SHORTAGE IN AFRICA:

A. POSSIBLE EXPORTATION ACTIVITIES AT THE DETRIMENT OF THE COUNTRY

SEEING THAT NIGERIA HAS THE HIGHEST POPULATION AND PRODUCES THE MOST FOOD, BUT YET CONSUMES WAY LESS, IT IS POSSIBLE THAT EXCESSIVE/ILLEGAL FOOD PRODUCTION OCCURS WITHIN THE COUNTRY, WHICH COULD EXPLAIN WHY COUNTRIES LIKE DJIBOUTI HAVING THE LEAST PRODUCTION HOWEVER CONSUMES FAR MORE THAN IT PRODUCES.

B. POSSIBLE MISAPPROPRIATION OF FOOD WITHIN THE COUNTRY

GIVEN THE HIGH PRODUCTION OF FOOD IN NIGERIA, AND ITS RELATIVELY LOW CONSUMPTION, IT IS LOGICAL TO INFER THAT THERE IS POSSIBLE MISAPPROPRIATION OF FOOD IN CERTAIN AREAS WHERE SOME STATES HAVE EXCESS FOOD AND OTHERS LACK ENOUGH.

SUCH A SCENARIO AS THIS LEADS TO WASTAGE THAT COULD LEAD TO SHORTAGE OF FOOD SUPPLY IN AFRICA.

POSSIBLE SOLUTIONS

1. THE AUTHORITIES SHOULD BE KEEN ON THE ALLOCATION OF FOOD WITHIN THE COUNTRY TO PREVENT WASTE AND SCARCITY.
2. ILLEGAL/EXCESSIVE FOOD EXPORTATION SHOULD BE CURTAILED