Capstone Project-1
World Bank Global Education Analysis

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Points of Discussion

The Problem Statement

We are provided with the World Bank global education statistical dataset. The World Bank EdStats All Indicator Query holds around 4,000 internationally comparable indicators that describe education access, progression, completion, literacy, teachers, population, and expenditures. The task is to explore and analyze the data to identify variations of indicators across the globe, which countries are more alike and different.
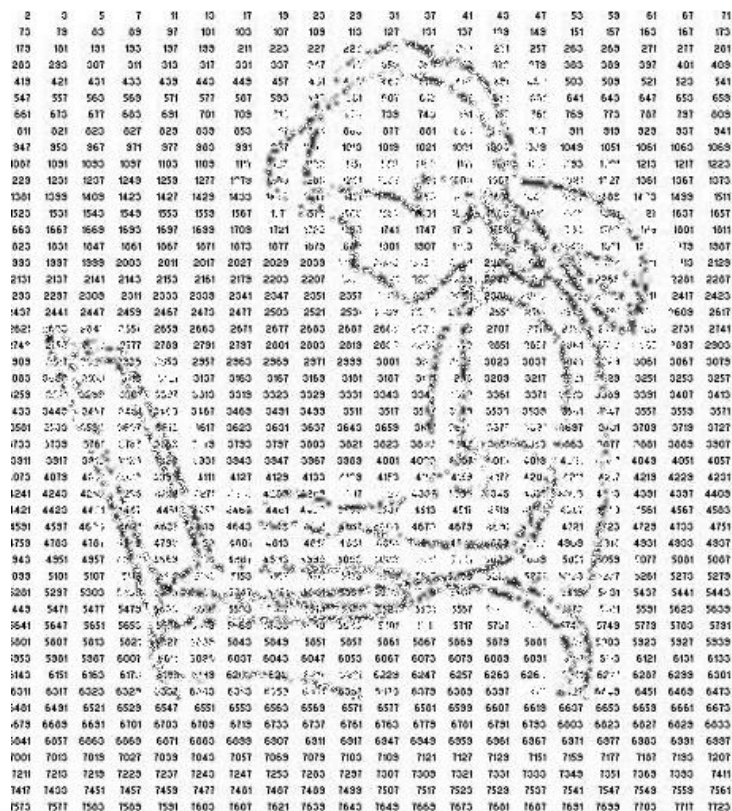
Summary of the Experience Set

Here, the dataset has 8,86,930 (3665*242) rows, which means 8,86,930 experiences about the global population and education.

It has 70 columns regarding country name (242 countries), indicator name (3,665 indicators), record years (1970-2016), and target years, which means each experience is registered along 70 dimensions.

Simply, we have 47 years of experience from 1970 to 2016 with 3,665 features for 242 countries
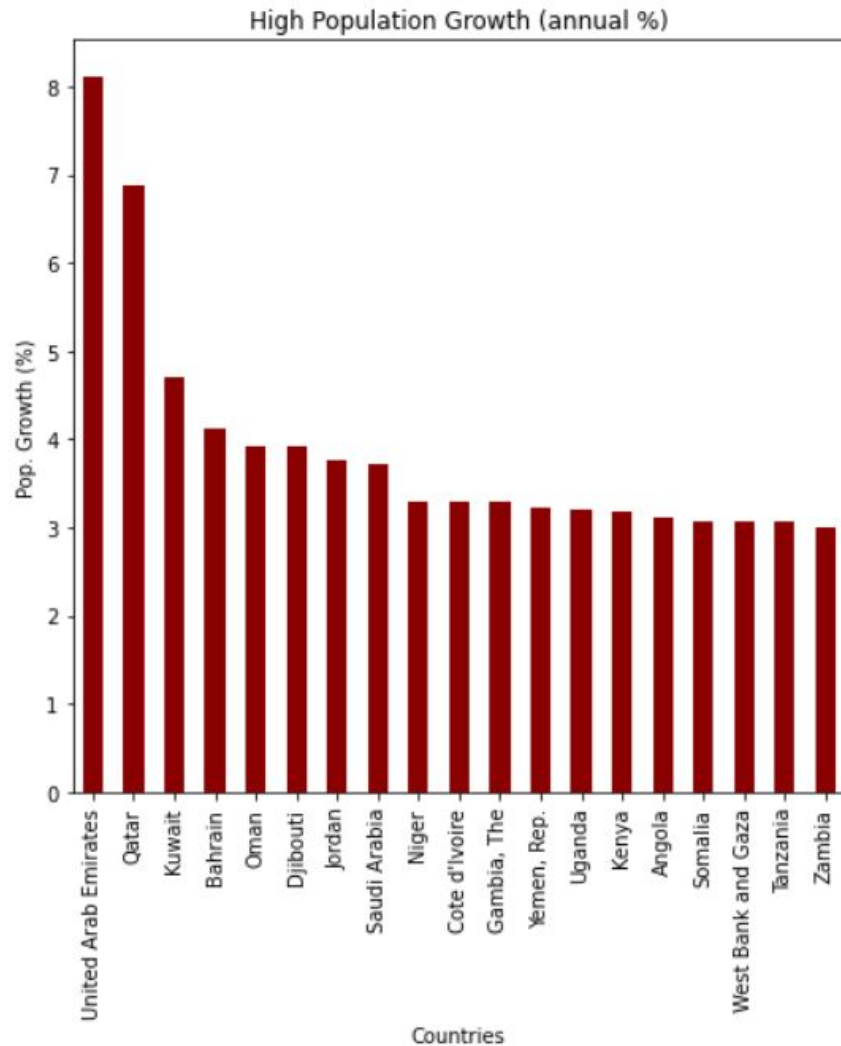
Lets Decode the Experiences !

Global Distribution of Population

The population of males and females are almost normally distributed across the globe but population growth, child population, and adult population are not normally distributed across the globe.

High Population Growth (annual %)
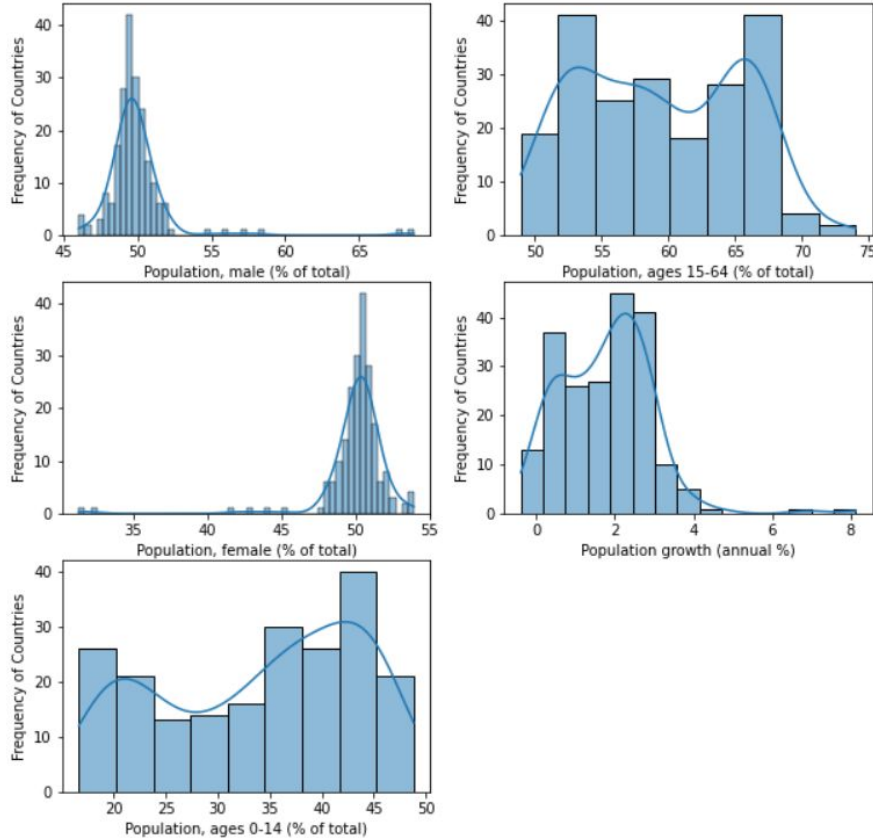
Countries with Higher (+/-) Population Growth

Starting from 'United Arab Emirates' there are 19 countries with more than 3% population growth whereas mean population growth is 1.78 %
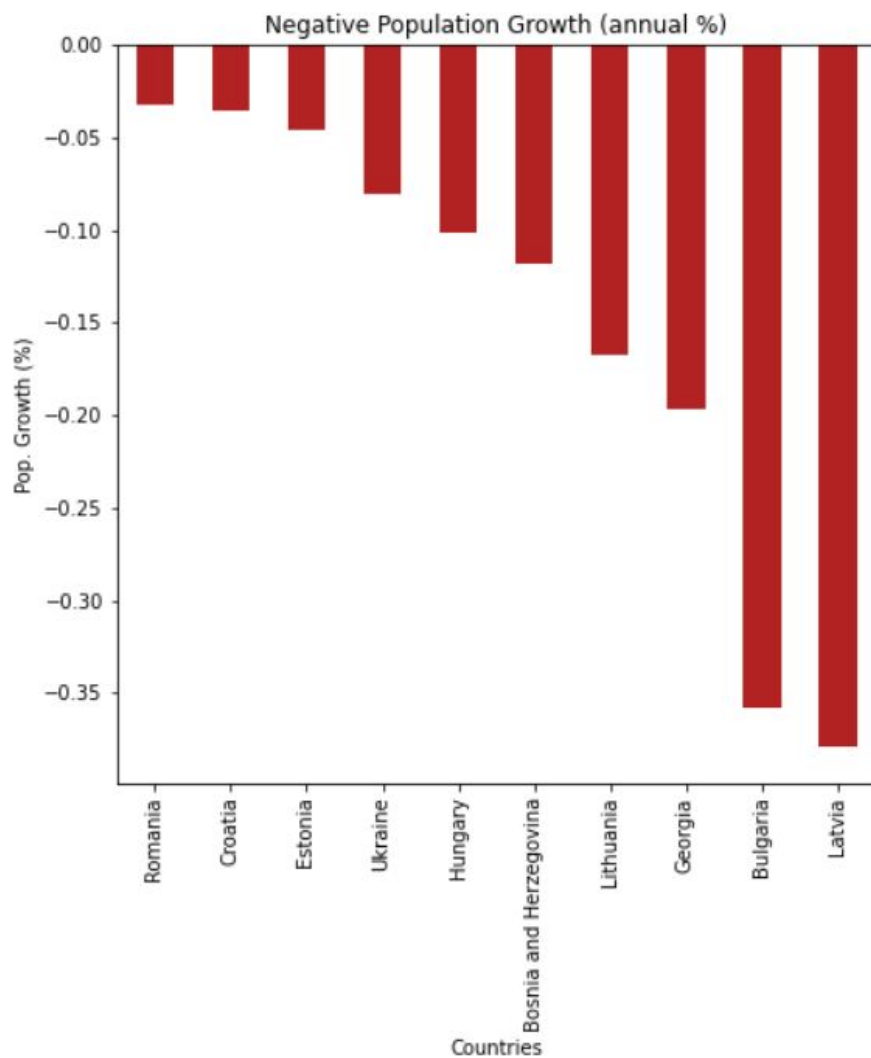
Countries with Higher (+/-) Population Growth...

Starting from 'Latvia', there are 10 countries with negative population growth

Highest Male-Female Population Difference
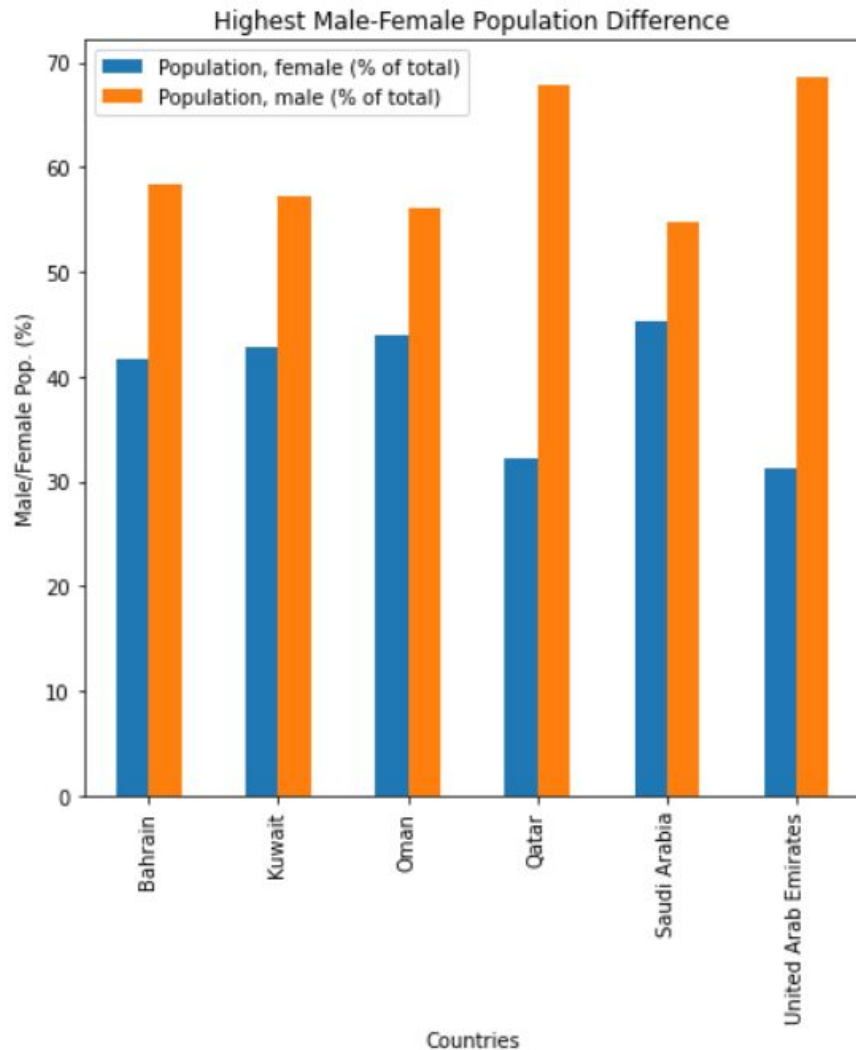
Countries with Higher Gender Imbalance

Starting from 'United Arab Emirates' there are 6 countries with more than 5% male-female population difference
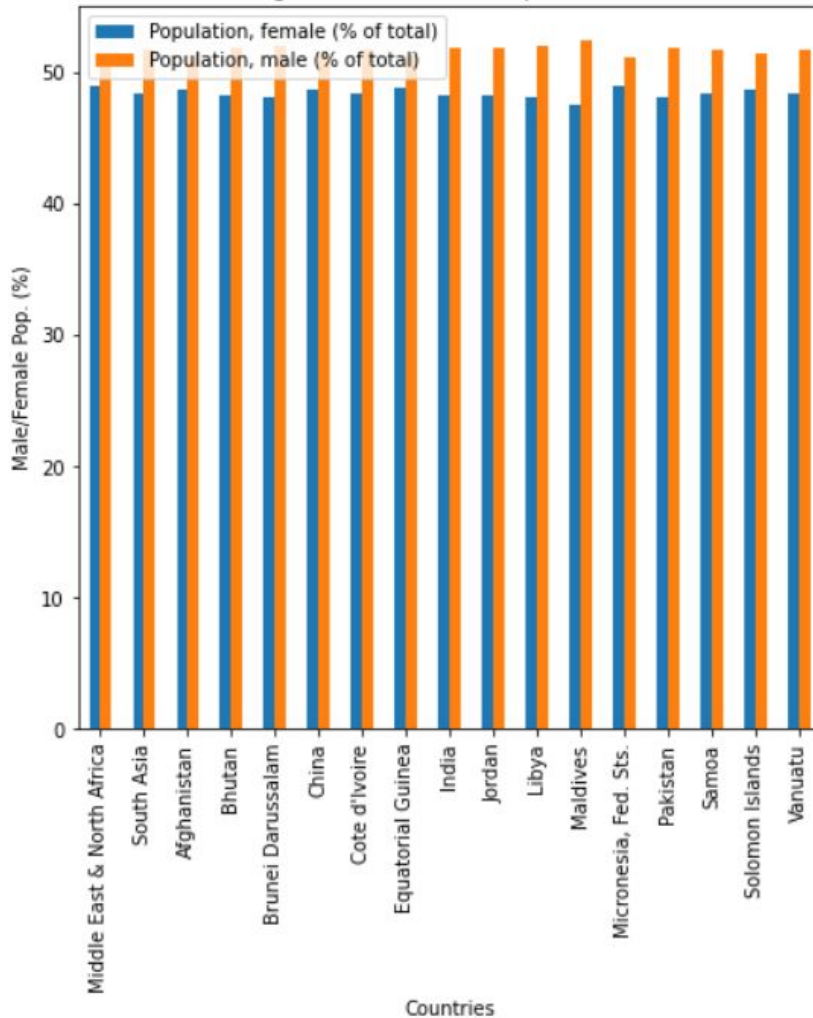
Countries with Higher Gender Imbalance...

There are 17 countries with 2-5% male-female population difference.

Countries having System Imbalance

'Kuwait', 'Bahrain', 'United Arab Emirates', 'Saudi Arabia', "Cote d'Ivoire", 'Jordan', 'Oman' and 'Qatar' are the 8 countries that have both high population growth and high gender imbalance.

Female Students in Primary Education (%)

Countries vs. Education of Females

Starting from 'Afghanistan' there are 39 countries where Female Students in Primary Education is less than 45%.

Female Students in Secondary Education (%)
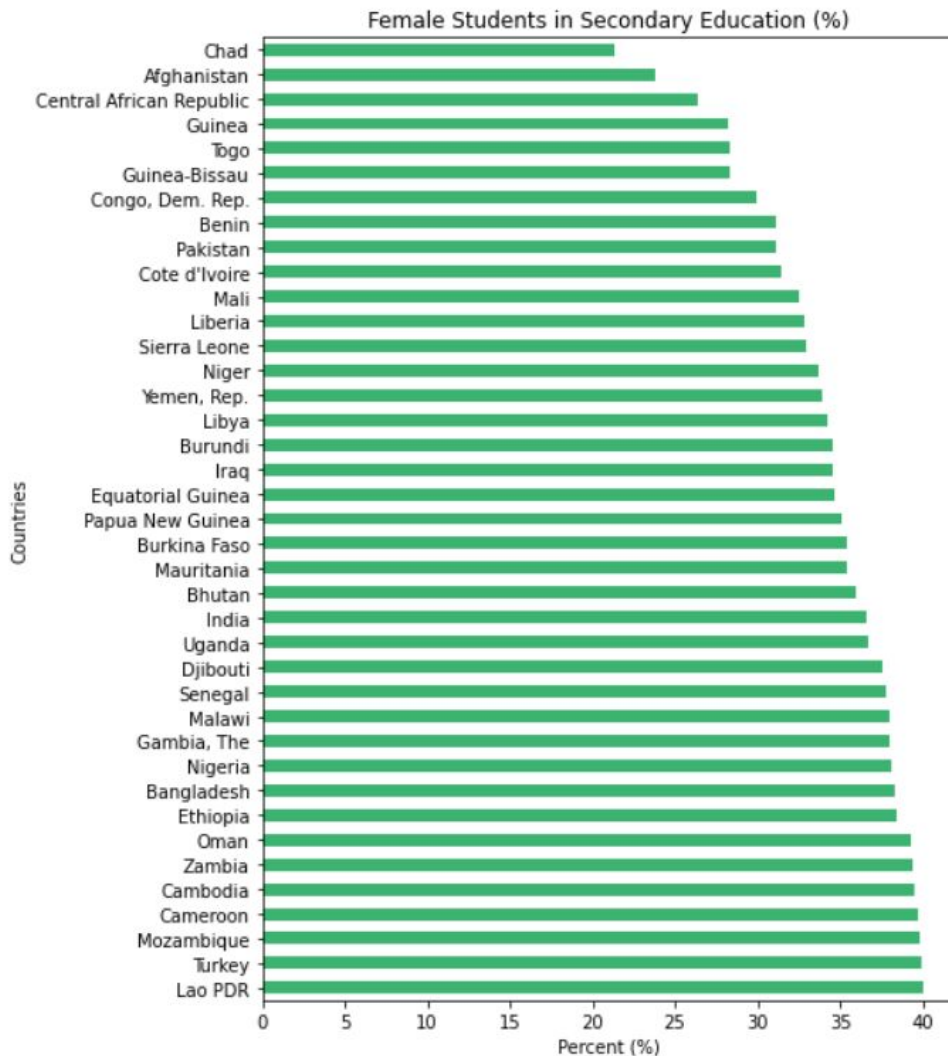
Countries vs. Education of Females...

Starting from 'Chad', there are 39 countries where Female Students in Secondary Education is less than 40%

Female Students in Tertiary Education (%)
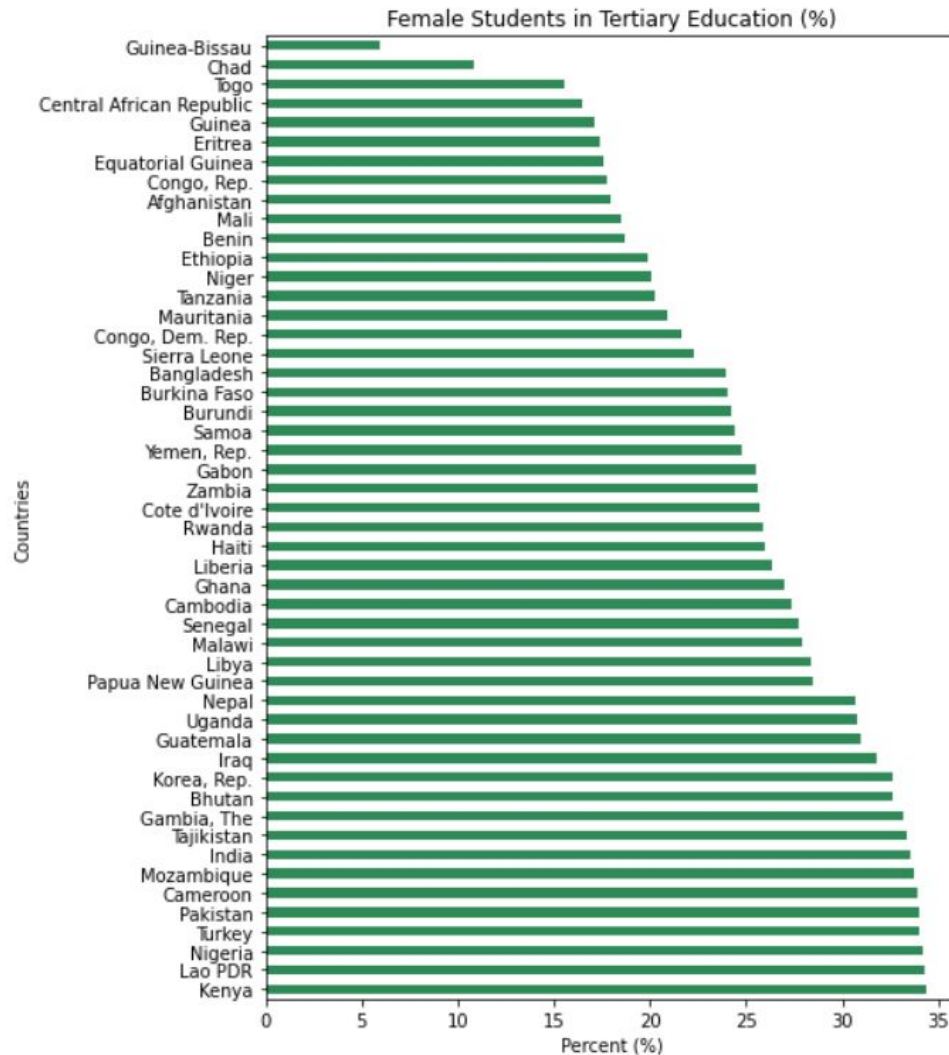
Countries vs. Education of Females...

Starting from 'Guinea-Bissau', there are 50 countries where Female Students in Tertiary Education is less than 35%

Comparison of All Indicators with Poor Female Education

Countries with Poor Female Education

Starting from 'Chad', there are 29 countries that have all poor female educational indicators.

Poor female education is the root cause of lower educational growth of any country in the long run.

Importance of Primary Education of Females

There is a high positive correlation of primary education with secondary education and a medium positive correlation with tertiary education and thus we must give our main focus on primary education of female
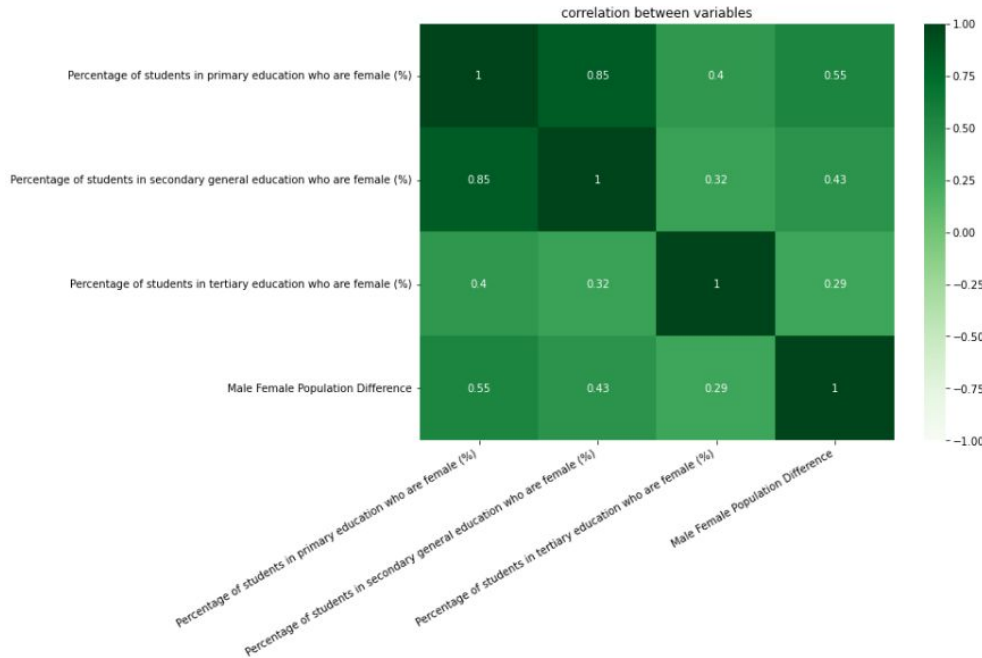
Year vs Female Students in Primary Education
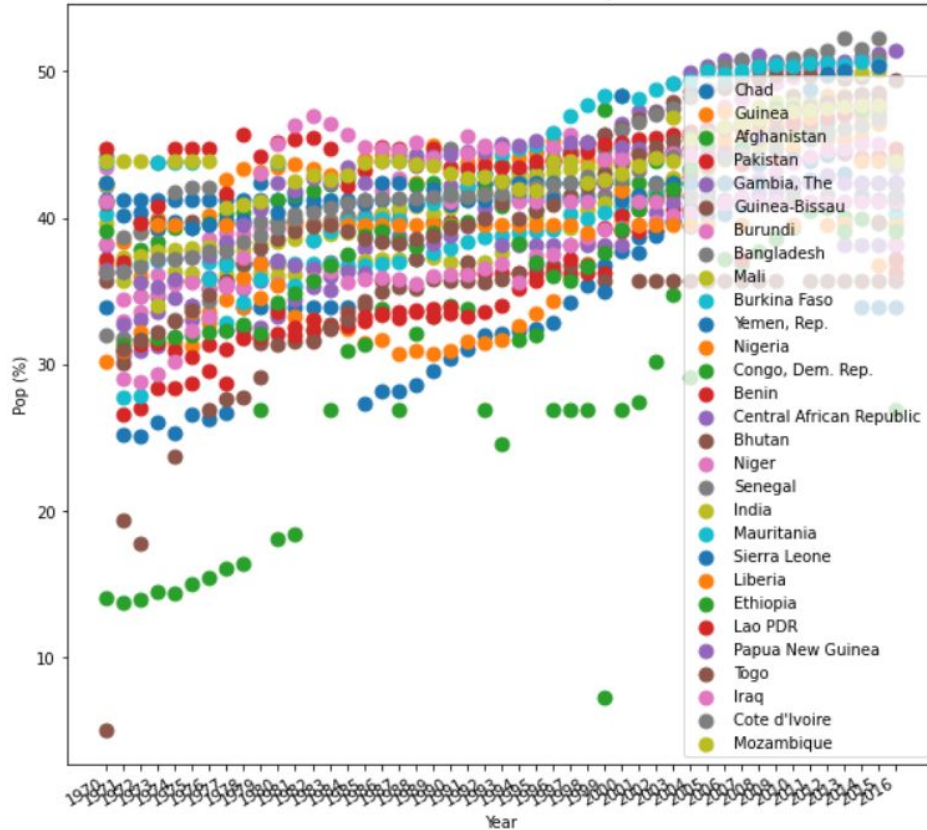
Primary Education of Females in 47 years

For all 29 countries with poor female education, there is no significant progress in primary education of females for the last 47 years (1970-2016). Progress is only 5%. 25-30% in lower margin and 45-50% in upper margin

Final Conclusion

Higher positive or negative population growth and higher gender imbalance are the root causes of system imbalance. Lower educational growth is the root cause of system weakness. Again, system imbalance and system weakness together cause unhappiness and may lead to system breakdown. "**Cote d'Ivoire**", '**Afghanistan**', '**India**', **Bhutan**' and '**Pakistan**' have both high gender imbalance and poor female education. These five countries need to give immediate attention to improving the female population and working on female education.

Thank you