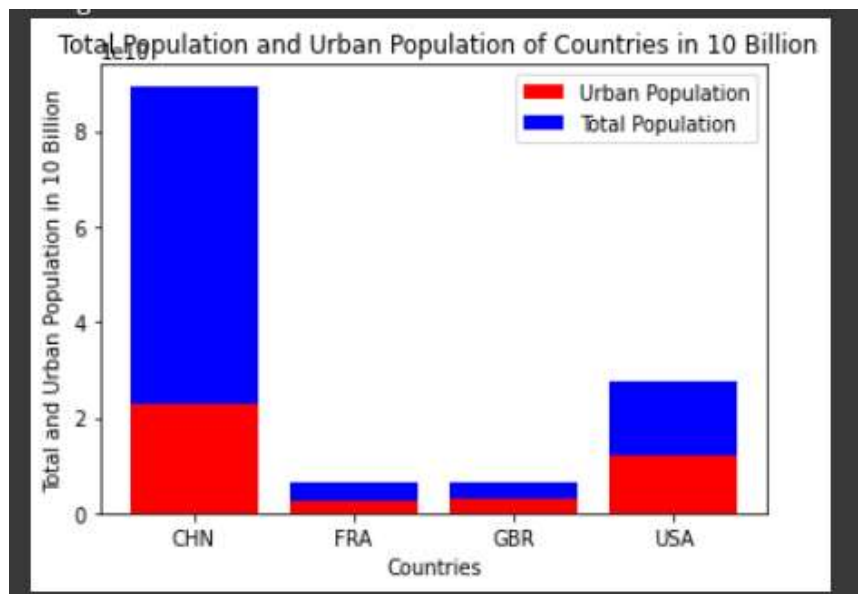


# Analysis of World Bank Data

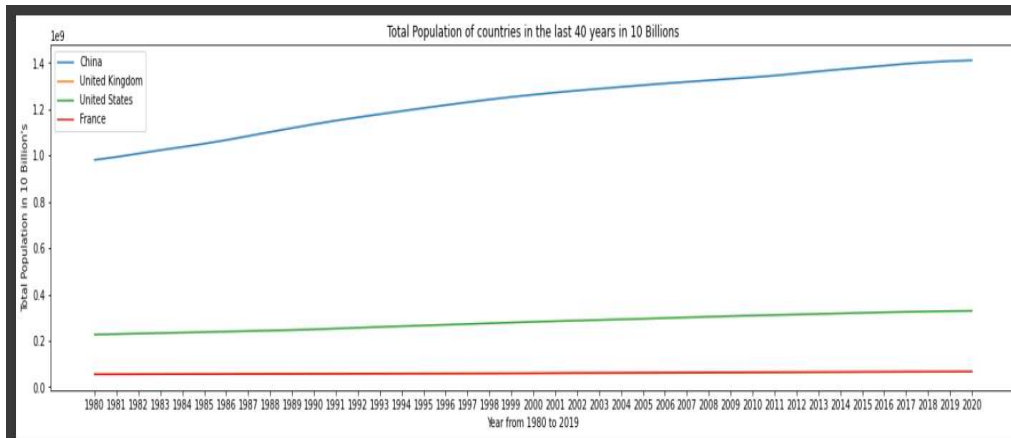
The current analysis is made on World Bank's public data where we use the country-by-country indicators related to climate change. The following are the chosen indicators - Agricultural land, Forest area, CO2 emissions, Population total, and Urban population. The data was collected over 60 years of time from 1960 to 2020 for all the countries. The countries chosen to analyse are the United States of America(USA), the United Kingdom(GBR), France(FRA), China(CHN).

## Insight-1. (Properties of Urban Population and Total Population between countries)

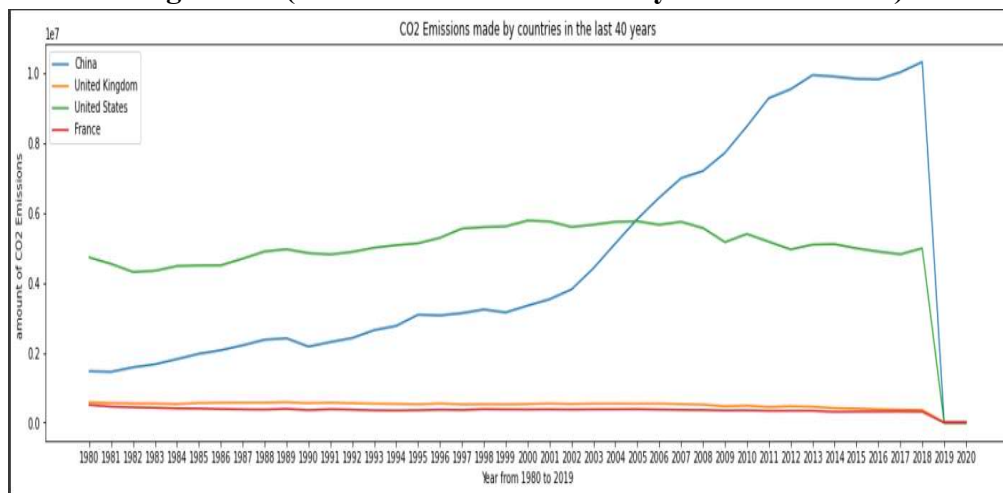


Here we can infer that the urban population is only a subset of the total population. It is seen especially in China that the ratio of the urban population to the total population is comparatively small in spite of having the largest population currently. The population in China is twice as large as the population of the US. Comparing France, GBR, USA and China, China has most of the total population but only half of the Urban population. Compared to China, the other countries have almost 50% of the population as Urban population.

## Insight -2. (Total Population in last 40 years in countries)



## Insight -2.1. (CO2 Emission's in last 40 years in countries)



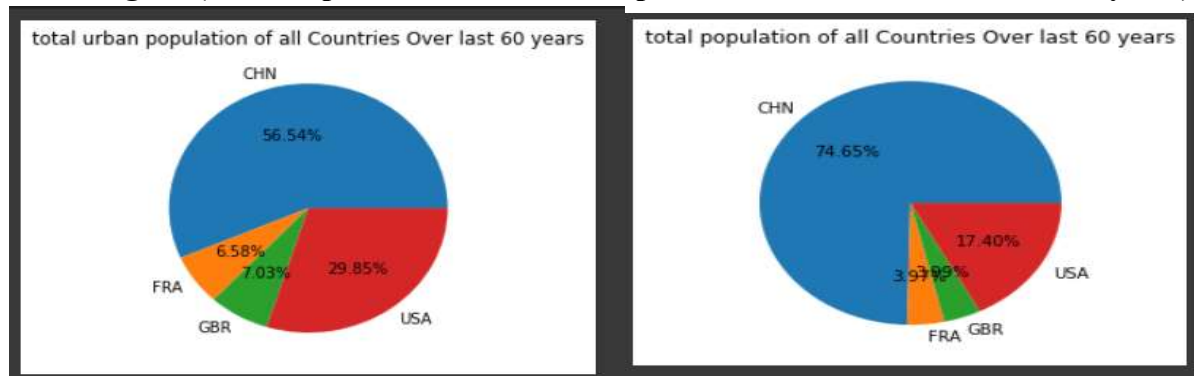
- The growth of the population in the last 40 years overall can be seen that there is only a gradual increase instead of a sharp rise. But it can be seen that the growth in China is comparatively steeper whereas the growth in other countries is almost non-existent. There has been a drastic rise in CO2 emissions in China which can also be co-related to the Population rise. The rise in CO2 emissions for other countries is almost steep and can be attributed to not a heavy increase in population.

### Insight-3(Correlations between Indicators Only for CHINA)

	Agricultural land (sq. km)	Forest area (sq. km)	CO2 emissions (kt)	Population, total	Urban population
Agricultural land (sq. km)	1.000000	0.367519	0.571888	0.562159	0.278765
Forest area (sq. km)	0.367519	1.000000	0.738780	0.827686	0.902231
CO2 emissions (kt)	0.571888	0.738780	1.000000	0.708984	0.814178
Population, total	0.562159	0.827686	0.708984	1.000000	0.870726
Urban population	0.278765	0.902231	0.814178	0.870726	1.000000

- The correlation between Forest area and Urban population is High and the correlation between Urban population and Agricultural land is low, so we could conclude that Urban population people do settle in agricultural lands and not in Forest lands in China. So, the rise in urban population causes a decrease in agricultural lands but a rise in Forest areas. These Correlations vary from Country to Country over time.

### Insight-4(Total Population and Urban Population of Countries Over last 40 years)



- So, the total urban population of China is very high compared to other countries over the last 40 years. The same pattern follows for the Total Population of China compared to other countries.