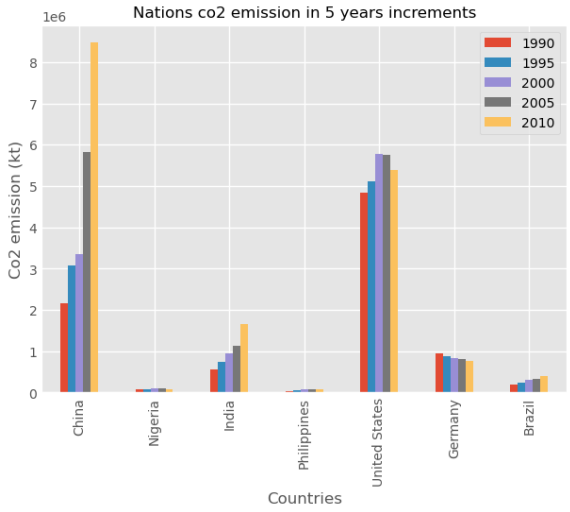
Analyzing Climate Change Based on World Bank Data (1990-2010)

Abstract

This project focuses on investigating climate change using data obtained from world bank. 7 countries across various continents were selected and the relationship of the following factors: Co2 emission (kt), Urban population, Electric power consumption (kWh per capita) and Forest land (% of land area) on climate change were investigated. The examination of causes behind climate change revealed some relationship between the factors of study for emerging countries such as Brazil, China and India

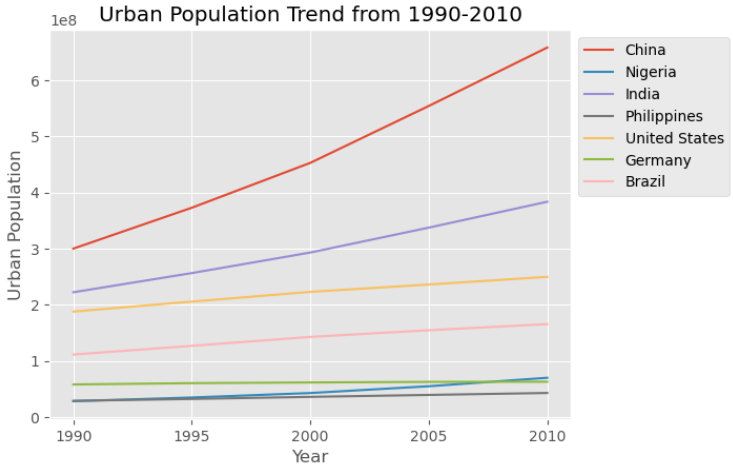
Chart 1



The bar graph above shows Co2 emission (kt) for 7 selected countries from year 1990 to 2010 in 5 ye ars increments. From the chart it is evident that Chi na is the largest emitter of C02. It recorded over 40 0% rise in Co2 emission in 20years. India and Braz il show an upward trend over the years in CO2 emi ssion.

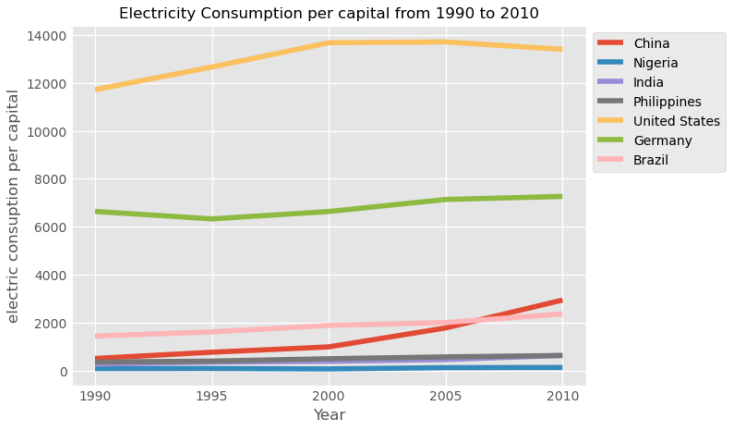
This is reflected in their trend of Urban Population as seen in chart 2. Co2 emission and Urban Migrati on are positively related for the countries of China, India and Brazil

Chart 2



The plot gives a clear picture of the population tren d for the countries over time and provides insights into the growth in Urban population size. Looking at the plot, we can see that China's population grew the highest over 200% from 300 million in 1990 to 658 million in 20 years., followed by India, the Un ited States, and Brazil. From the Co2 Emission and Urban Population charts, it shows that China and B razil have similar upward trends

Chart 3

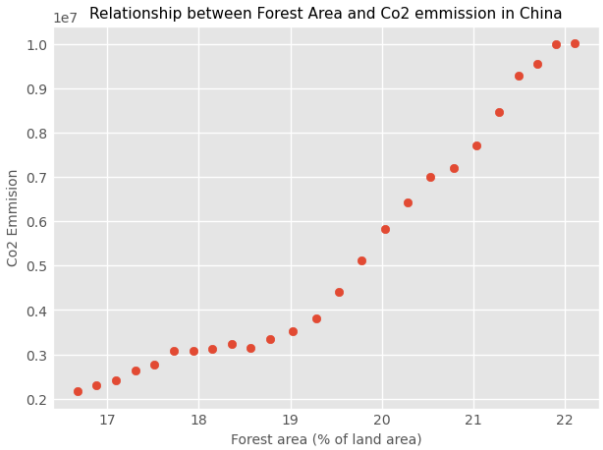


Looking at the electricity consumption data for the se selected countries, we can see that China's India

n's and h Brazil's electricity consumption has seen a steady increase since over the years. electricity c onsumption. Comparing this trend with other trend s in the charts above, it suggests that the upward tr

end in electricity consumption per capital is driven by economic growth and urbanization, particularly in emerging economies such as China, India and B razil.

Chart 4



Surprising, the scatter plot in Chart 3 shows a positive relationship between forest area and population for China despite the upward trend in her co2 emission and urban growth. which are often associated with deforestation and environmental degradation. This suggest that efforts by Chinese govt to protect and expand forest areas have been successful in promoting sustainable development. However, this is not the same for Brazil who as seen a similar trend in urbanization and Co2 emission as seen in chart 4

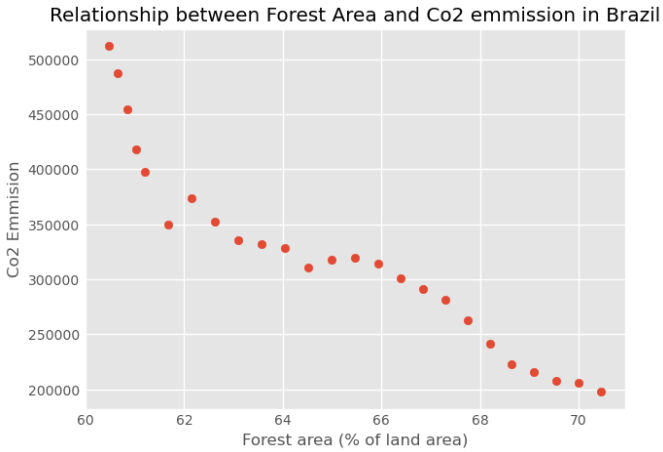


Chart 4 shows a negative relationship between fore st area and Co2 emission in Brazil which suggest th at the increase in Co2 emission is affecting the fore st area negatively. This could be due to factors such as deforestation urbanization, and expansion and de velopment to accommodate a growing urban popul ation as we as seen the positive relationship betwee n the variables

Conclusion.

In analyzing climate change, it can be deduced that for the country of Brazil, there is a similar trend in Co2 emission, urban migration and electricity cons umption per capital. However, there seem to be a n egative relationship between Co2 emission and fore st area, which suggest that emission increases defor estation and increase in urbanization which results i n massive land development which involves cutting down trees for development activities to cater for th e growing population negatively affects the environ ment and climate at large

Chart 5