Climate change data analysis based on World Bank data

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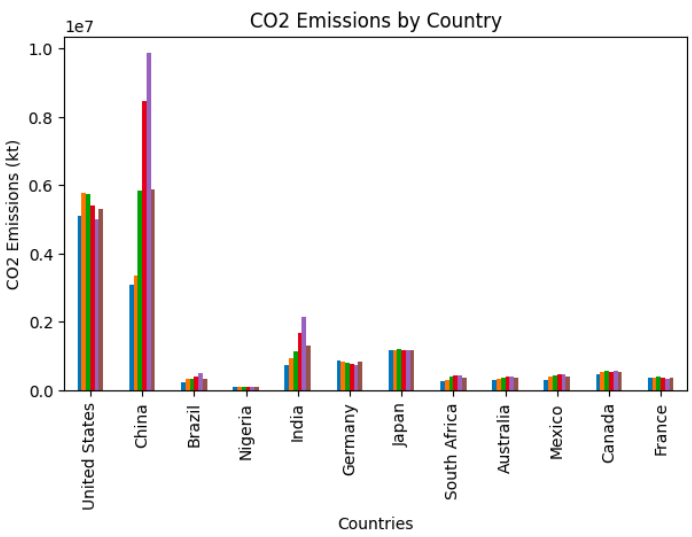
Data set:

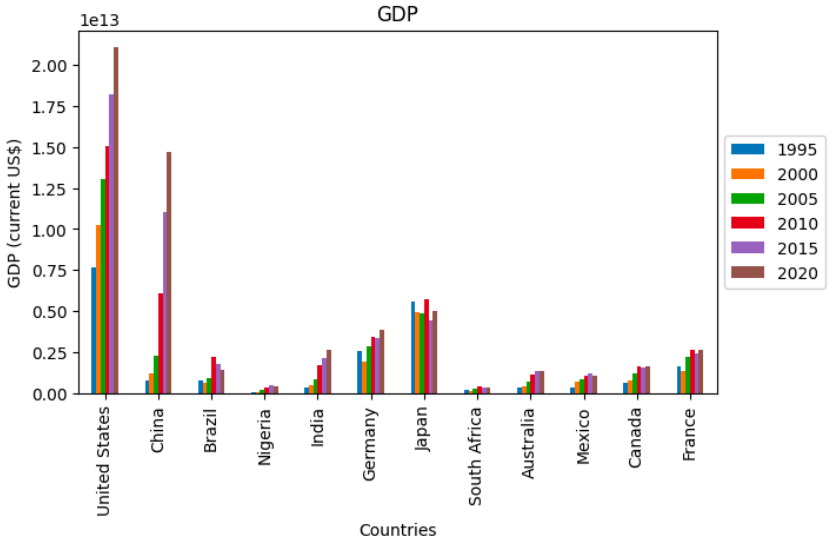
Git link: https://github.com/Samranouman/Visualisation.git

Abstract

For this analysis 12 countries from different continents were selected and the interrelations of the following factors on climate change were investigated: total greenhouse gas emission, Rural and Urban population (% of total), Forest area, Arable land, Electricity production.

The analysis found some correlations between the factors and causes behind them were investigate



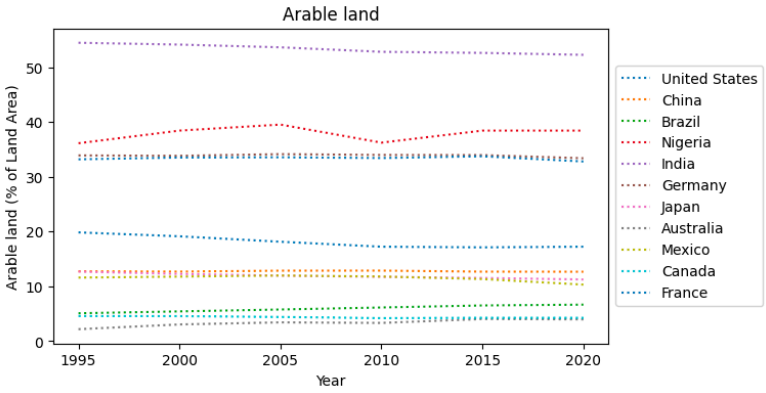


Graph shows the CO2 emissions of selected countries from 1995 to 2020. China has been the largest contributor to global CO2 emissions since 2005, with India and the United States also showing significant increases. However, some countries, such as Germany, France, and Japan, have kept emissions relatively stable or decreased since 2005. China which were top emitters in 2015. The data emphasies the need for international cooperation to reduce carbon emissions and mitigate climate change's effects.

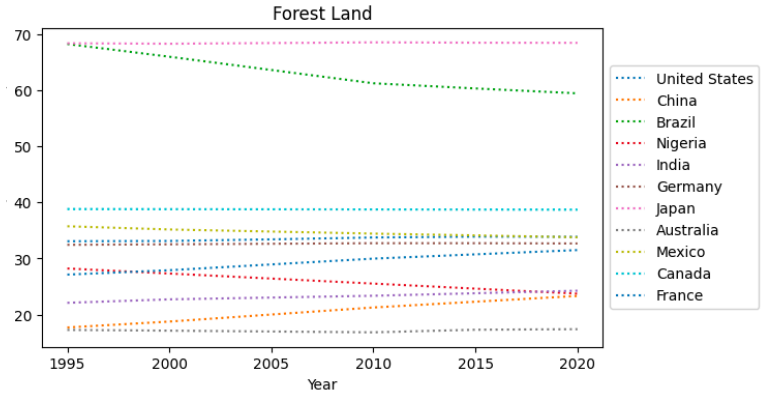
The bar graph displays the Gross Domestic Product (GDP) in current US dollars for selected countries from 1995 to 2020. China's GDP has grown significantly over the years, surpassing the United States as the world's largest economy in 2014, while Nigeria's GDP remained relatively stable. However, some countries such as Japan, Germany, India and France also exhibited notable economic growth. Nevertheless, they still have high levels of GDP per capita.

The data suggests a shift in global economic power from Western nations to emerging economies in Asia and Africa. There is a need to promote sustainable economic growth and development worldwide.

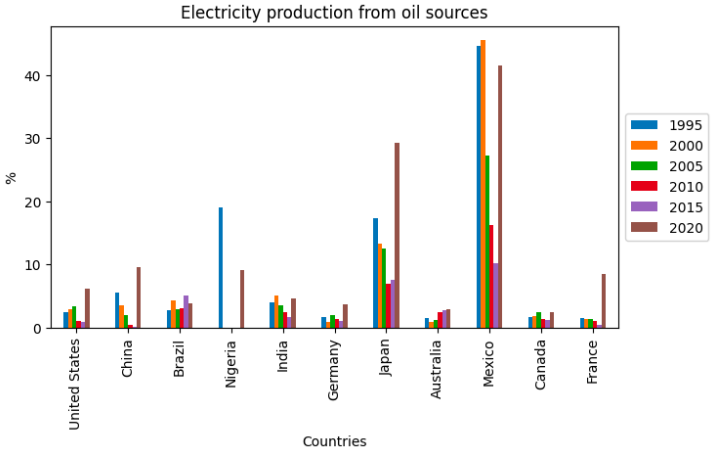
https://data.worldbank.org/topic/climate-change



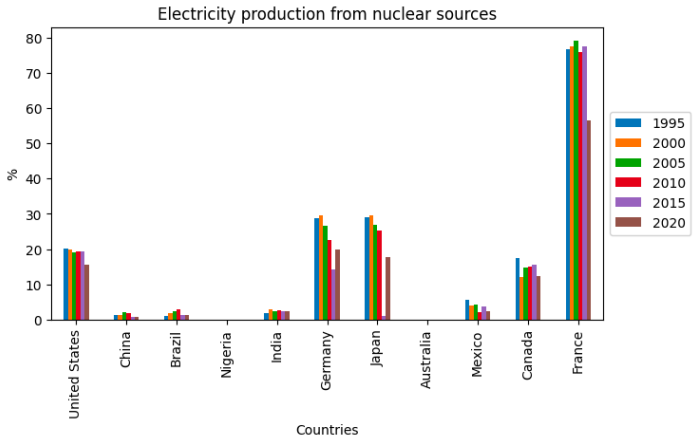
Visualization shows the changes in arable land (% of land area) for selected countries from 1995 to 2020. The data suggests that most countries experienced a slight decrease in arable land, with the exception of Brazil and Australia. Brazil's arable land has increased steadily over the years, while Australia remained relatively stable. These findings could indicate potential trends in agricultural development and land management practices in different countries



Brazil has the largest forest area followed by Russia and Canada. In the last 25 years, Brazil has lost around 10% of its forest area, while China has shown an increase of approximately 3%. The United States and Canada have managed to maintain their forest areas relatively stable, while Germany has slightly increased its forest area. Nigeria has seen a gradual decrease in forest area, and France has the lowest forest area percentage. Overall, the plot highlights the variations in forest area among countries and the changes in forest area over time.



The data reveals that the Mexico has consistently been the highest producer of electricity from oil 1995 to 2010, followed by China and Japan. However, there has been a general trend of decreasing reliance on oil as a source of electricity production among these countries over the years. Australia have slightly increase their reliance on oil as a source of electricity, with Nigeria zero oil-based electricity production by 2000 to 2015. This trend is likely due to a combination of factors, such as the development of alternative energy sources and increasing environmental concerns.



The France had the highest percentage of nuclear energy production among the selected countries, reaching over 80% in 1995 to 2015, followed by Germany and Japan. China, India, and Brazil had the lowest percentages during this period, with Brazil producing almost no nuclear energy. Australia and Nigeria are not producing electricity from nuclear Over time, the use of nuclear energy for electricity production has decreased in some countries such as Germany and Japan from 1995 to 2015, while it has remained relatively stable in others, such as the United States and India. Overall, the graph highlights the disparities in the use of nuclear energy for electricity production across countries.