Climate Change Analysis – World Bank

Github link: https://github.com/MalikInamElahi/assignment3.git

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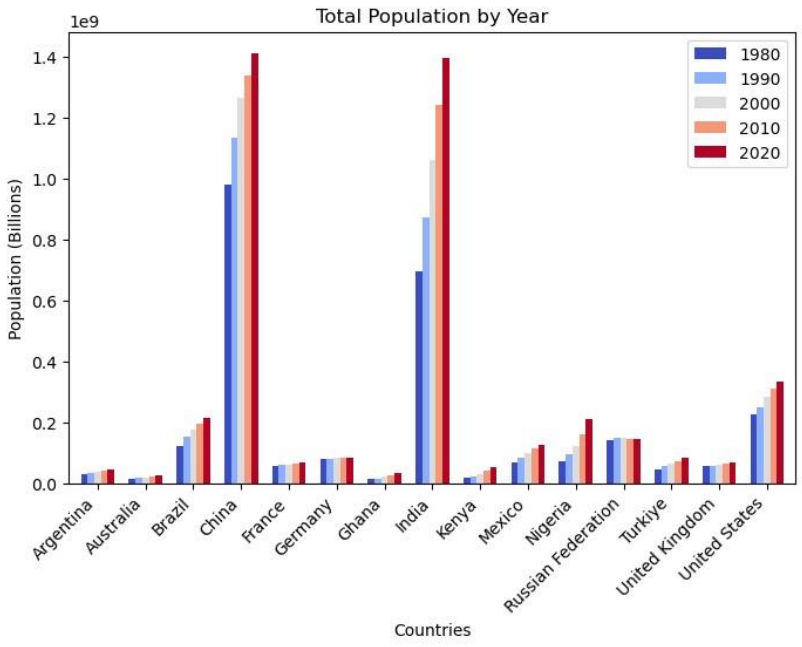
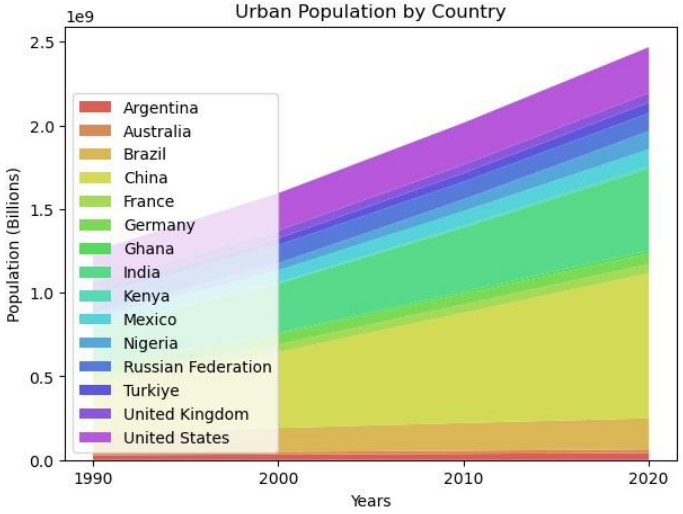
Since working on all available countries was extensive, 15 countries were selected to provide conclusive yet extensive data for this analysis. The countries include both emerging and advanced economies in order to provide additional contrast for the impact of each on climate change.

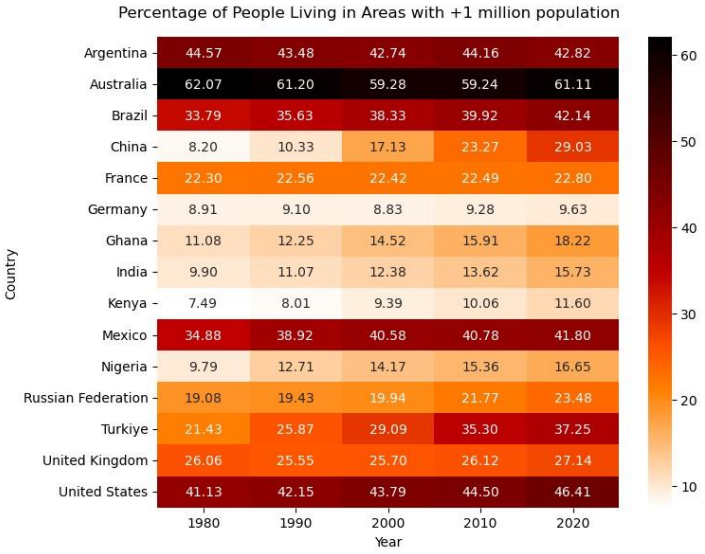


The World Bank data set is quite extensive with 76 indicators in all categories of Macroeconomic development. Out of these, a few notable ones were selected to specifically depict this analysis. For most countries, data in the early years of the data set was missing. To counter this, appropriate time spans have been selected to display complete statistics.

The graph on the left shows the most significant demographic phenomenon of the 21st century, the population boom. For all countries selected, a steady population increase can be observed. China and India lead in the population boom being the only countries with a population lying in the billions. Other countries are emerging with strong birth rates such as Brazil and Nigeria.

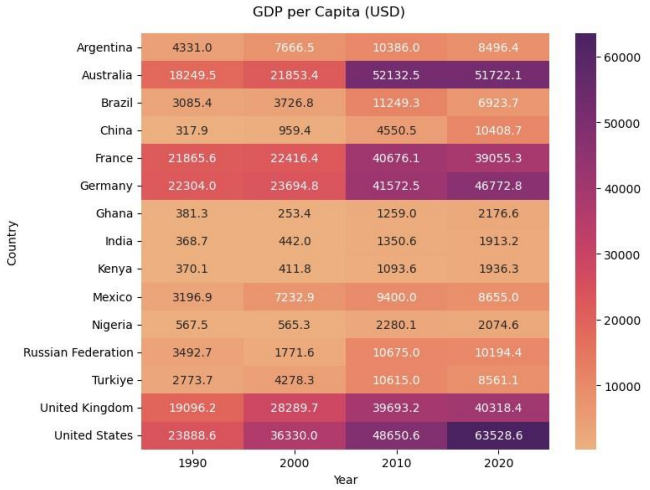
However, one of the reasons this population boom is unique is because for the first time, its urban population that is booming. The world is seeing a shift towards urbanization, as people flock to cities in search of better economic and life satisfaction prospects.

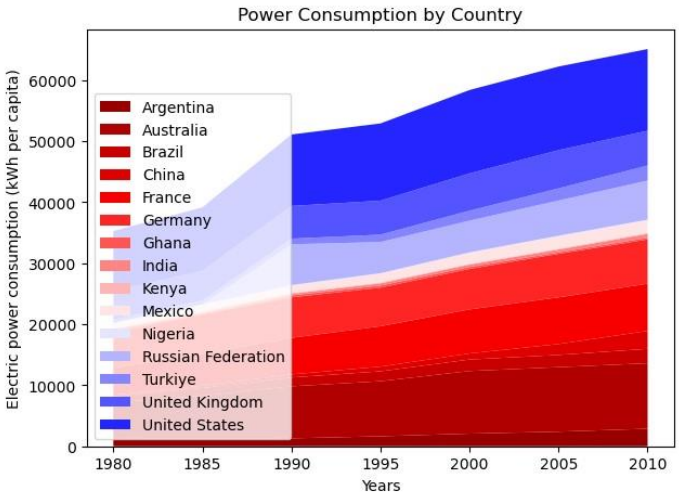


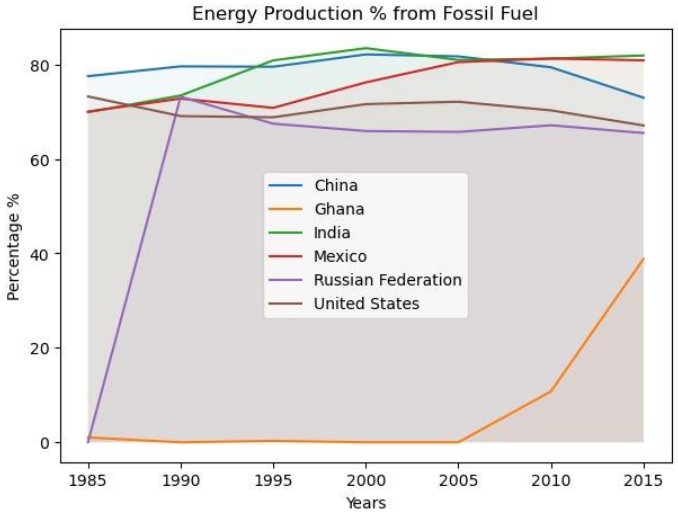


The graphs above show the exponential growth in urban populace. Overall, a billion people have either been born or have migrated to cities in a 30-year span. The heatmap on the right shows the ballooning of large cities with populations ranging in millions. Nearly all countries have seen a rise in such metropolises, others have remained relatively stable.

There have been economic dividends of this population boom, with a steady rise in GDP over the years. The Heatmap grid below shows GDP per capita for the selected countries over the decades. All countries have observed a rise in per capita income. At the same time, this income growth has come at the expense of higher energy requirements.







Electricity consumption has unanimously grown for all countries, putting a pressure on the economy as well as on the resources required to produce electricity. Unfortunately, majority of the world's major economic powerhouses rely on fossil fuels for this. The graph on the left depicts the Energy production percentage made from Oil, Natural Gas and Coal for select countries.

This sustained use of fossil fuels directly affects the greenhouse gas emissions, which have seen a strong positive trend over the decades.

The graphs below show two different metrics, but with similar trends. Greenhouse gas emissions have a strong correlation with a country's GDP.