7PAM2000 Applied Data Science-1

Assignment 2: Statistics and Trends

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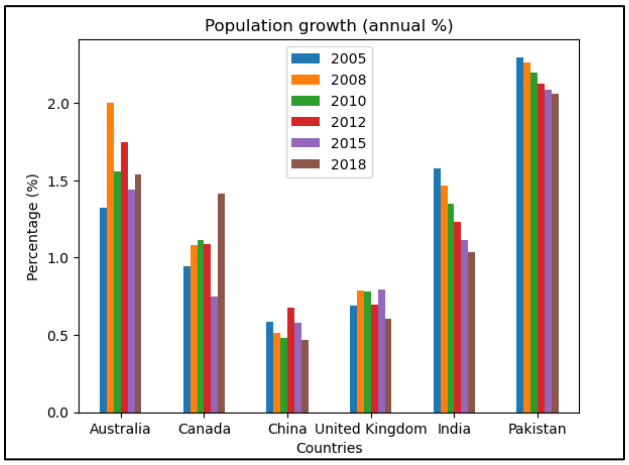
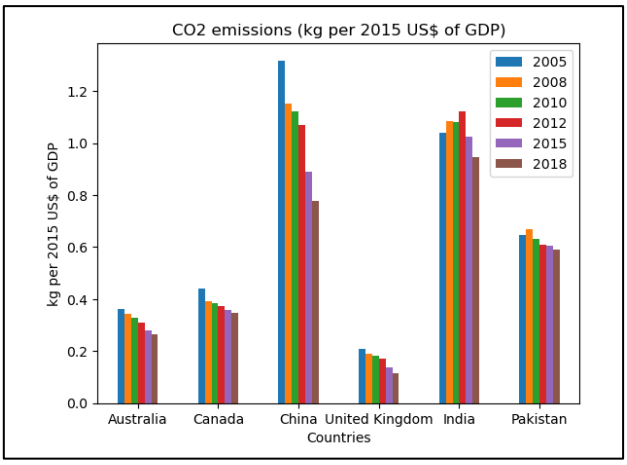
GitHub repo: https://github.com/Anushareddy1203/assigment2

Population Growth and CO2 emission Analysis using World Bank data

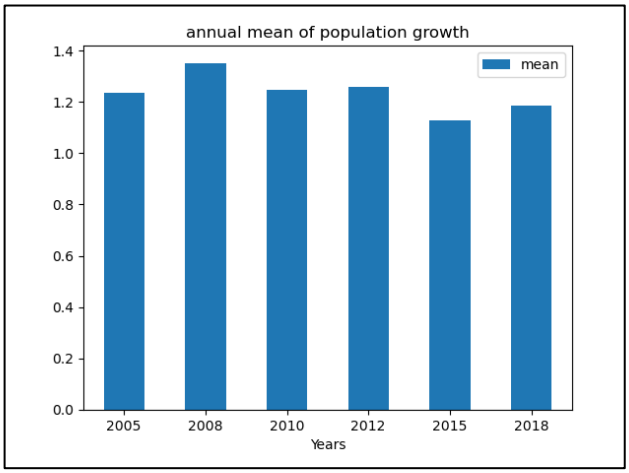
The relationship between population growth and CO2 emissions is explored by examining the trends in both CO2 emissions and population growth over time, as well as their association with each other. The study also examines possible explanations for their relationship.





Population growth is an important indicator of the health and stability of a country. It can be used to measure the economic activity, social development, and environmental concerns in a region. The following table shows the annual population growth rate in Australia, Canada, China, United Kingdom, India, and Pakistan from 2005-2018.

Overall, the population growth rate in all six countries has been decreasing since 2005. This suggests that the countries are undergoing a period of population stabilization. This is a positive sign for the economic and social development of the countries.



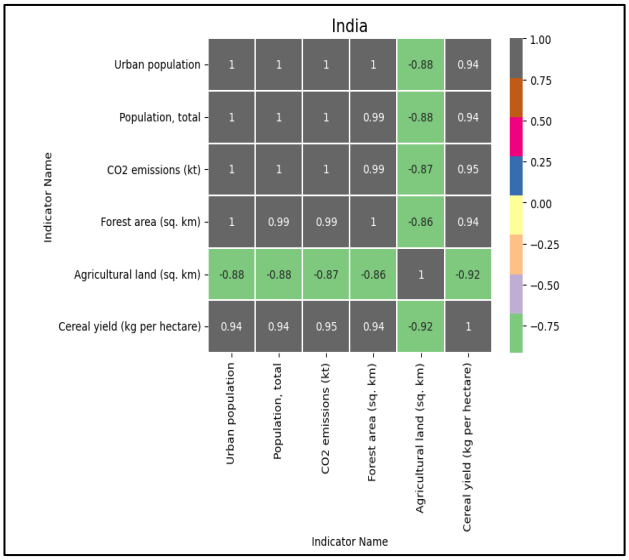
The mean for the table above is 1.225890. This value represents the average of all of the values given in the table. It is calculated by taking the sum of all the values and dividing it by the number of values. Looking at the table, the mean has fluctuated over the years, ranging from a low of 1.127471 in 2015 to a high of 1.352381 in 2008. This shows that, while the overall mean is still relatively steady, the mean value has been subject to some variation over the years.

The graph above provides the CO2 emissions (kg per 2015 US$ of GDP) for six countries in 2005, 2008, 2010, 2012, 2015, and 2018.

The significant decrease in emissions in all six countries demonstrates a commitment to reducing emissions and making progress towards a more sustainable future. In order to continue making progress, countries need to continue to focus on reducing emissions through the implementation of renewable energy sources, energy efficiency measures, and other mitigation measures.

https://data.worldbank.org/indicator/SP.POP.GROW

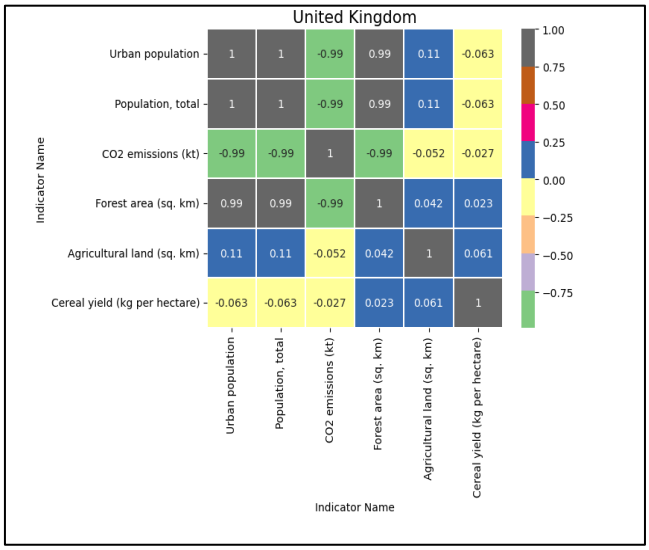
Additionally, countries need to work together to ensure that global emissions are reduced and that each country is doing its part to reduce their emissions.



India is the second most populous country in the world, with a population of 1.35 billion people. This population growth has had a significant effect on the environment in India, with an increase in the demands placed on resources and the consequent environmental degradation. In this essay, we will analyse the correlation between population growth, CO2 emissions, forest area, agricultural land, and cereal yield in India between 2005 and 2018, using the data provided.

The population of India increased from 1.1476 billion in 2005 to 1.3526 billion in 2018, a growth of 18.5%. This growth was most pronounced in urban areas, which saw an increase of 33.5%, from 335.5 million to 460.3 million people.

In conclusion, the correlation between population growth, CO2 emissions, forest area, agricultural land, and cereal yield in India between 2005 and 2018 is largely one of increasing demands on resources and environmental degradation. The growth in population has had a direct effect on CO2 emissions, with a 115% increase in emissions over the period. Forest area has decreased by 4.8%, while agricultural land has decreased by 1%. Cereal yield, however, has increased by 35.6%, largely due to improved agricultural techniques.



The United Kingdom has been one of the most advanced countries in the world in terms of its economy, infrastructure, and development. As such, it is interesting to analyze the correlation between its urban population, total population, CO2 emissions, forest area, agricultural land, and cereal yield.

The data from 2005 to 2018 shows that the urban population has been steadily increasing over the years, from 48,269,624 in 2005 to 55,426,598 in 2018. This is a 14.7 percent increase over 13 years. At the same time, the total population of the United Kingdom has also increased from 60,401,206 in 2005 to 66,460,344 in 2018, a 10.4 percent increase. This indicates that the UK population is becoming increasingly urbanized.

Overall, this data shows that the population of the UK is becoming increasingly urbanized and that the country is making efforts to reduce its CO2 emissions and increase its forest cover. However, there has been a decrease in agricultural land and cereal yield, which could be due to the conversion of agricultural land to other uses.

https://data.worldbank.org/indicator/SP.POP.GROW