STATISTICS AND TRENDS

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ABSTRACT

This report is used to analyse climate change in five countries using a range of indicators. The visualization tools used for this analysis are line graphs, bar graphs and heat map. These tools allow us to understand the data we collect and the changes that have occurred several decades. On the other hand, heat map is used to find the correlations and reveal the difference between the highest and lowest values of a particular country by comparing the indicators.

GitHub link is given below:

https://github.com/divyamuraleedharan12/Statistics_and_trends

Five nations from various continents were chosen for this analysis, and the interactions between the following variables were examined: urban population, access to electricity, arable land, agricultural land, cereal yield (kg per hectare) and annual freshwater withdrawal. An examination of the causes revealed several correlations between the variables after the study.

VISUALIZATION
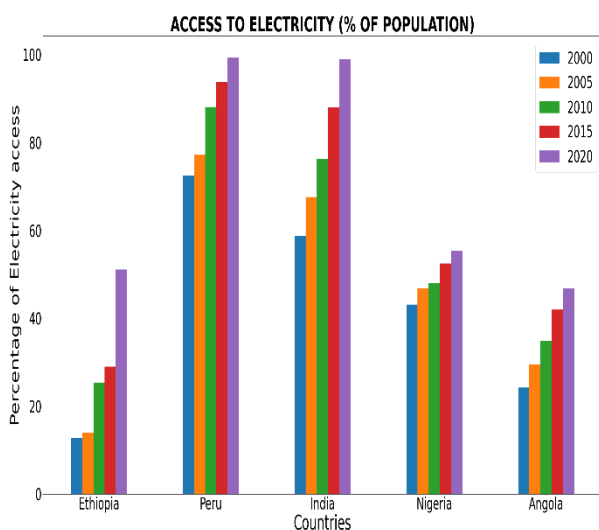
The bar graph illustrates the proportion of people who have access to power in 5 different countries between 2000 and 2020. In 2020, electricity is expected to be widely available in both India and Peru. In contrast, Ethiopia, Nigeria and Angola only receive about 60% of the world's electricity. As is customary, Peru's population is growing every year, and as a result , the amount of power the people receive is high.
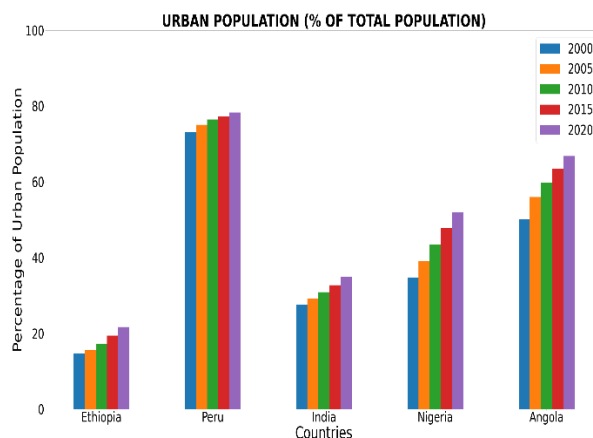
The informational bar graph provides information on the population of metropolitan regions in 5 different global locations throughout 5 different time periods. Peru is predicted to have the biggest of its population nearly 80% annually living in cities. While between 40% and 60% of the population in Angola and Nigeria is now urban, this number is rising year by year. In India, just two fifths of the population reside in cities. In comparison, it is evident that the number of people living in urban areas in Ethiopia is quite low.
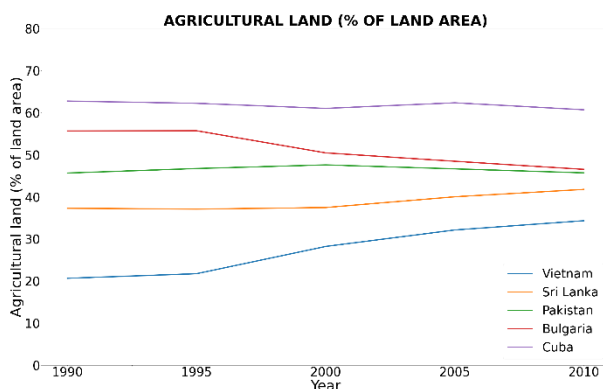
The accompanying line graph shows the proportion of agricultural land used for various commodities in Vietnam, Sri Lanka, Pakistan, Bulgaria, and Cuba. From 1995 to 2010 the agricultural land increased from 20% to 30% in Vietnam. Whereas, in Bulgaria the land area is decreased to the half. Other three has the constant percentage of agricultural land in each year. Comparatively, in Cuba, the amount of agricultural land is expanding while the amount of arable land is shrinking.
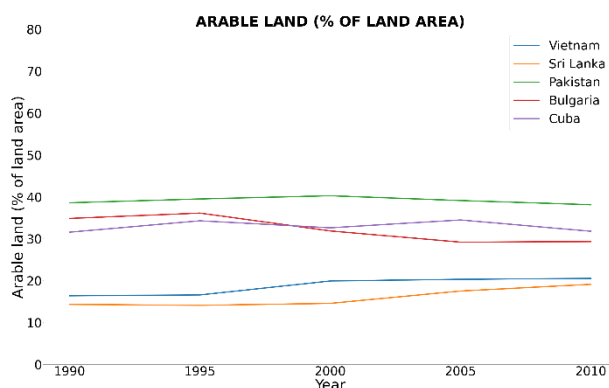

The given line graph shows the percentage of cultivated land in Vietnam, Sri Lanka, Pakistan, Bulgaria, and Cuba between 1990 and 2010. Cuba had 30% farmland in 1990 following various fluctuations, it reached 30% in 2010. Bulgaria saw a reduction in the percentage too little under a third, whilst other nations always had a consistent percentage of fertile soil.

The summary of United Arab Emirates' statistics with four different variables is shown in the table below:

statistics_report

	Population growth (annual %)	Electricity production from oil sources (% of total)	CO2 emissions from solid fuel consumption (% of total)	Electricity production from natural gas sources (% of total)
count	21.0	16.0	17.0	16.0
mean	5.228719132288030	1.9455548597326500	1.4499606335849900	98.01789197873860
std	5.660601525893720	0.6287373382699860	1.4298019683348900	0.5909927687323670
min	0.779087177439076	1.24208972567247	0.0	96.9106749449229
25%	0.911950036242349	1.394847610413940	0.407326378827393	97.5626132743194
50%	4.609526743863	1.784250171107182	0.878558373126955	98.21574982892820
75%	5.93976536580988	2.4373867256806	2.98401525066864	98.52243205488630
max	18.1279839755253	3.08932505507711	4.071111999564839	98.6208576998051
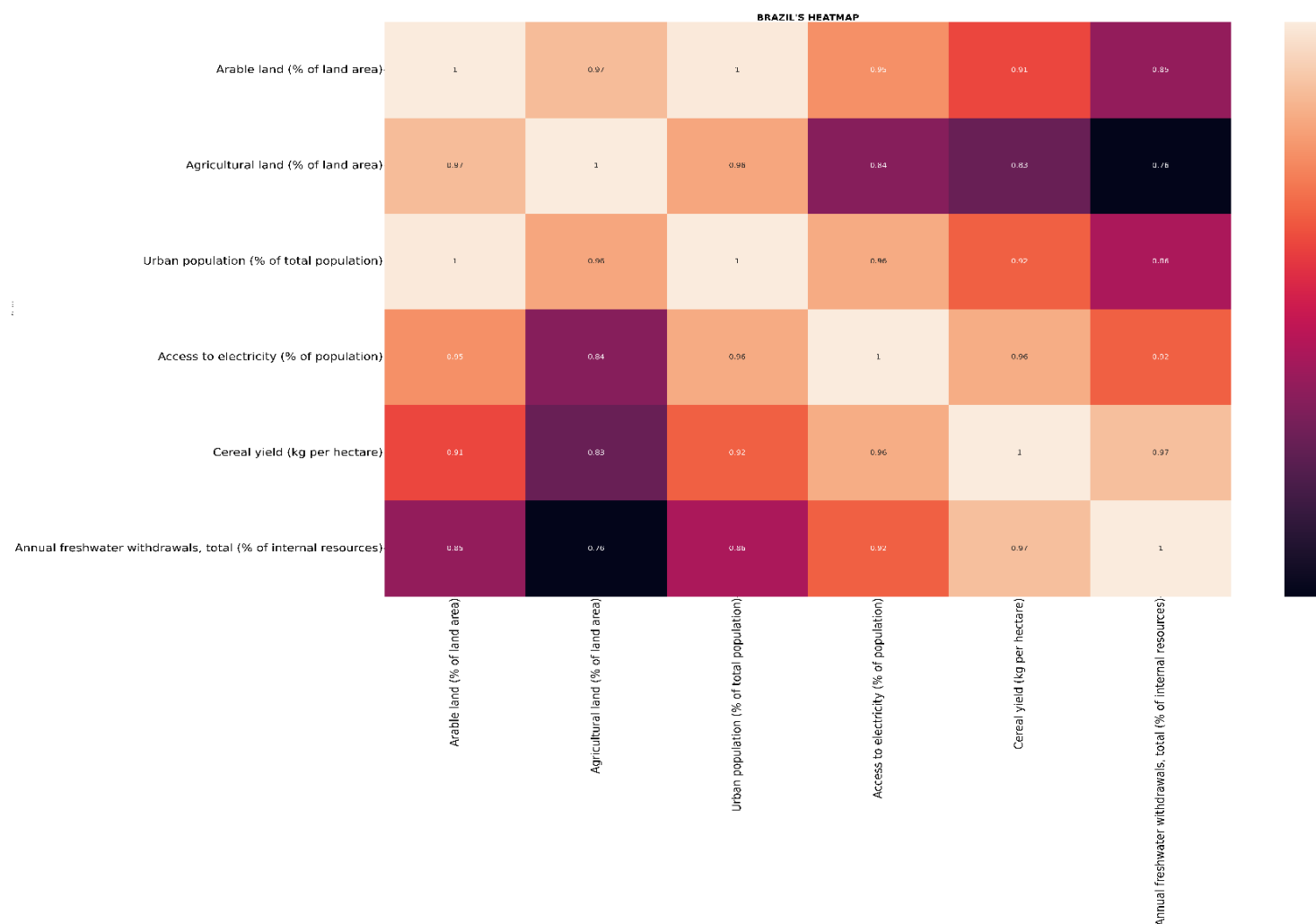
BRAZIL'S HEATMAP

As you can see from the heat map above, which contains indicator for Brazil for the period 2000 to 2016, there is a strong correlation between each indicator. The heatmap graph shows a positive correlation between agricultural land, access to electricity and urban population in Brazil. This has increased over time as urbanization increased the demand for agricultural land. Urban areas and agricultural land need a reliable and stable supply of energy for economic growth and productivity.