

GitHub Repository Link: <https://github.com/Sandeep3101/SANDEEPKUMAR-MISTRY-ADS-1-ASSIGNMENT-2.git>

ASSIGNMENT 2: STATISTICS AND TRENDS [REPORT OF WORLD BANK DATA CLIMATE CHANGES]

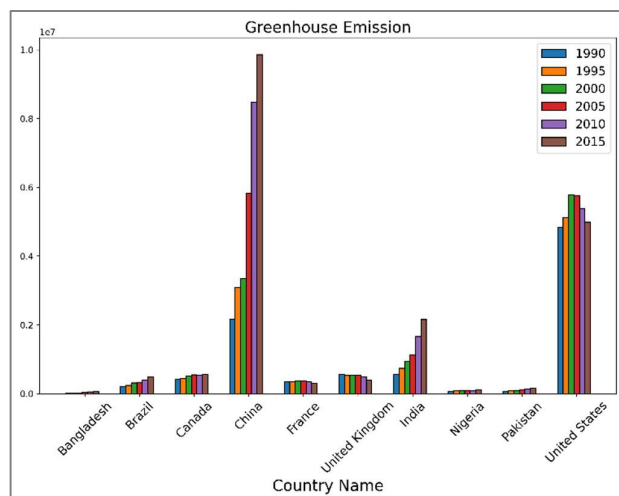
Abstract

A Report of climate changes based on world bank data by using various indicators and data processed through pandas, NumPy, matplotlib pyplot and statistical tools.

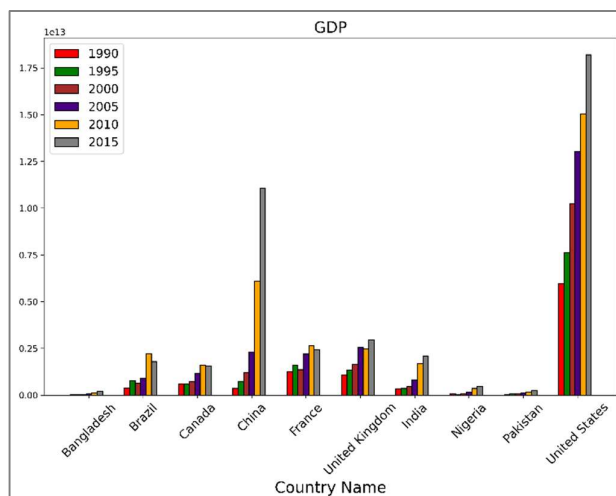
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World Bank data Climate Change Report

In this Report we were investigated few countries and their specific sectors which reflects effects on their climate change. The sectors are like GDP, Greenhouse emissions, Forest area, Arable area, Electricity Consumption, Urban Population, Rural Population etc.



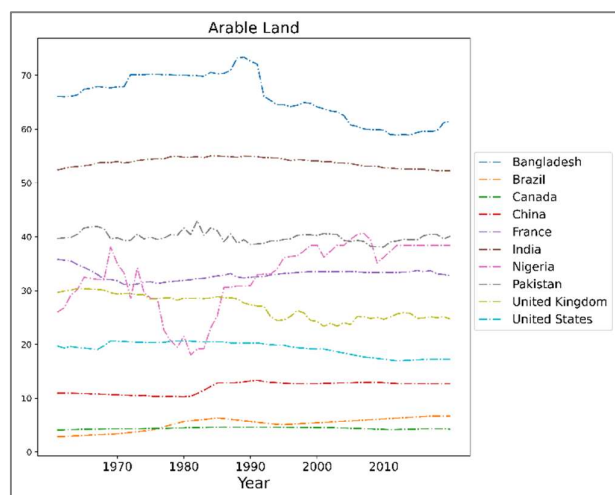
In the above bar graph we found some analysis based on greenhouse gas emissions. 10 different countries show their production rates of the gases. The data is taken from 1990 to 2015 with an interval of 5 years. We can easily show that there is an upward trend in the production of gas in India. Also the downward trend of the United Kingdom shows that the country is able to control the production of harmful gases. But this "greenhouse gas emission" trend also has an impact on their "GDP".



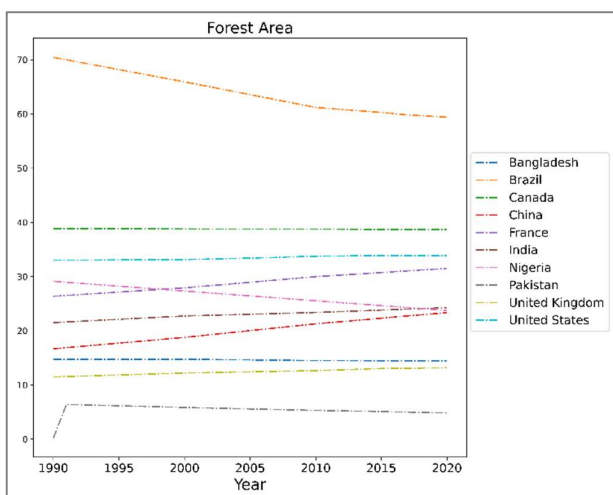
This bar graph represents "GDP" of 10 countries. Which is show GDP of certain time-period, like from 1990 to 2015 with interval of 5 years. United Kingdom has able to increase GDP With succeeded in controlling the "Greenhouse Gas Emissions". As well as china and United states have similar upward trend of GDP. This all upward and downward trend of GDP and Greenhouse Gas Emissions cause by increasing urban population of each country.

	<u>Country Name</u>	<u>1960</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
0	Bangladesh	5.135	30.462	34.308	38.177
1	Brazil	46.139	84.335	85.77	87.073
2	Canada	69.061	80.937	81.259	81.562
3	China	16.203	49.226	55.5	61.428
4	France	61.88	78.369	79.655	80.975
5	United Kingdom	78.444	81.302	82.626	83.903
6	India	17.924	30.93	32.777	34.926
7	Nigeria	15.41	43.48	47.838	51.958
8	Pakistan	22.104	34.997	36.026	37.165
9	United States	69.996	80.772	81.671	82.664

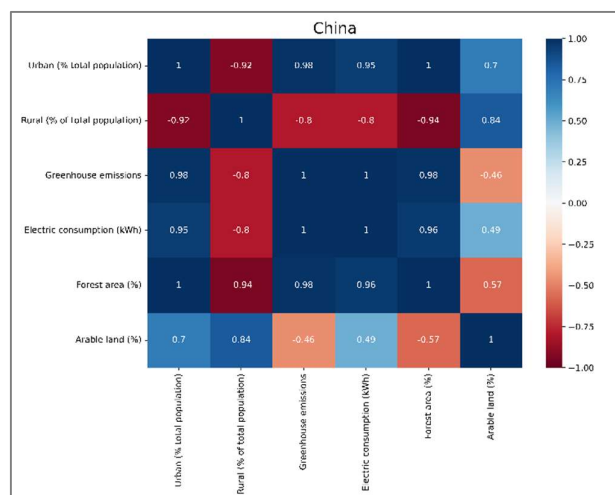
The left side table shows urban population growth of country from 1960 to 2020 (in percentage). In this table we can easily analyze the popultion growth of country, like Bangladesh has large populaion growth in this certain time-period. In pakistan least amount of growth of population occured. And this growth affects on land area of perticular country.



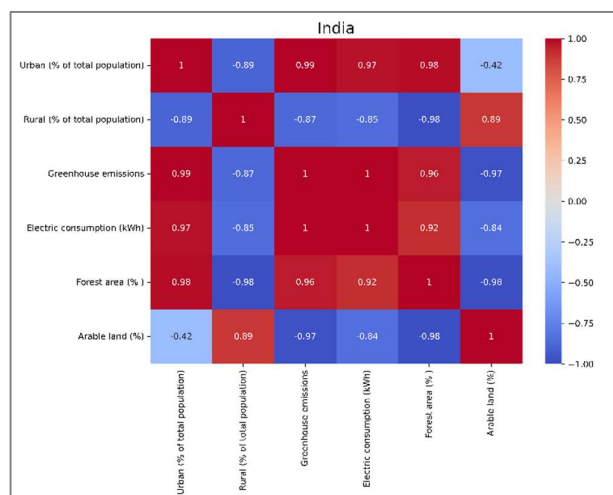
This above line graph shows the arable land of countries. There is a declining trend of arable land in the country of Nigeria in 1980 due to a gradual increase in population growth from 1960 to 2010. China's arable land has still remained at 15%. And India has no percentage changes in this certain time-period.



This above graph shows the forest area of nations. In Brazil from 1990 to 2020 continuously decrement due to deforestation. as well as Canada and United States continues steady line shows maintaining forest area in these 60 years. France is only country that has increased forest area by 6%.



This heatmap shows sectors of climate changes of China country. The strong positive correlation shows between Greenhouse gas emission and Electricity power consumption. Good Lifestyle of population increasing the Greenhouse gas Emission and pollution of power plant.



In above heatmap of India country shows strong negative correlation between arable land and forest land. And shows negative correlation between urban population and arable area. The modern lifestyle of the people is affecting the agricultural land of the country.