Assignment2 - Statistics and trends

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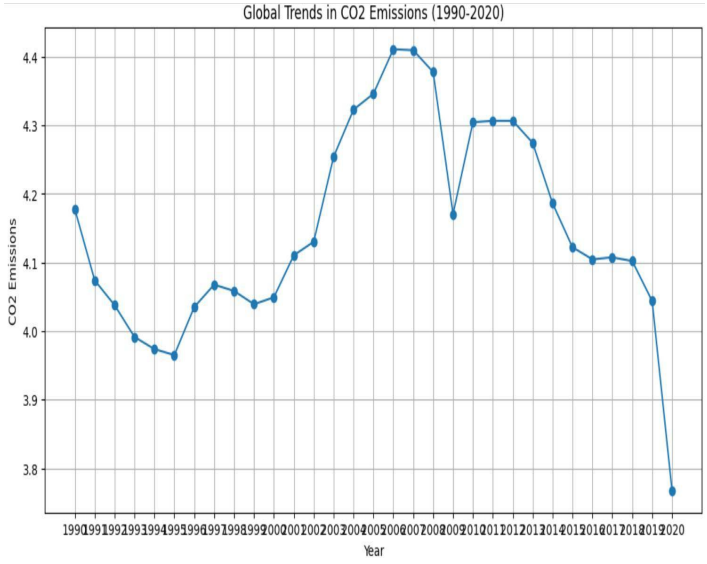
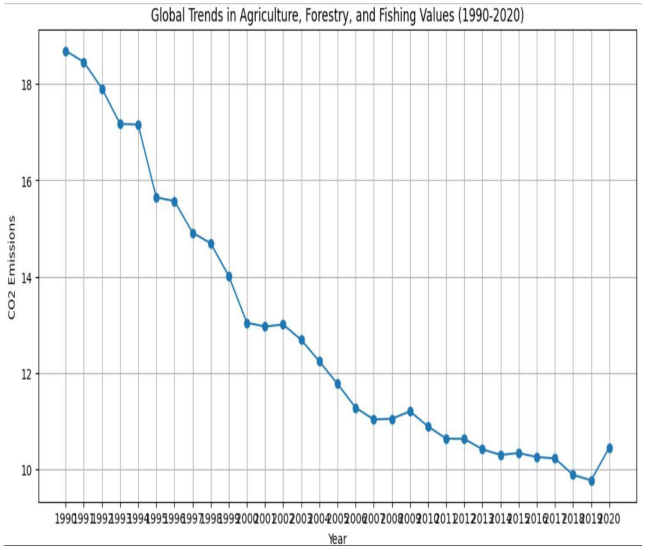
Data : https://data.worldbank.org/topic/climate-change
Github : https://github.com/AnuhyaTirukatchi/22096593

Relation between CO2 emission and Agricultural, Forestry and Fishing Activities using World Bank Data

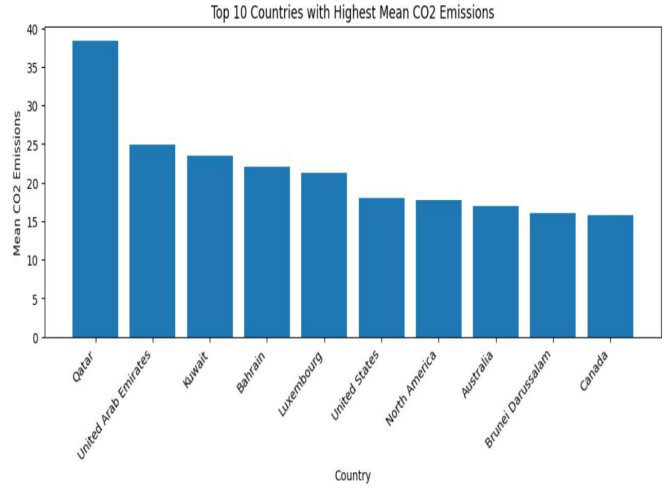
Abstract- We examined World Bank documentation on CO2 emissions and Agriculture, Forestry, and Fishing in a number of countries from 1990 to 2020 for our information analytic investigation. The raw data sets were uploaded and dealt with into Pandas Data Frames, including a concentrate on quantitative characteristics, relationships, and tendencies. We investigated the mean as well as the median of several significant indicators throughout different countries in order to figure out exactly which nations produced the most significant and fewest emissions. To clarify the crucial outcomes, representations that include time series plots and bar graphs were employed. A heatmap highlighted probably interactions amongst CO2 emissions and agricultural activities through emphasizing correlations amongst the information. In particular, the program underlined the top corresponding features for particular countries, namely Nauru, Mauritius, St. Kitts & Nevis, Ghana, and Korea, Rep. of Korea.

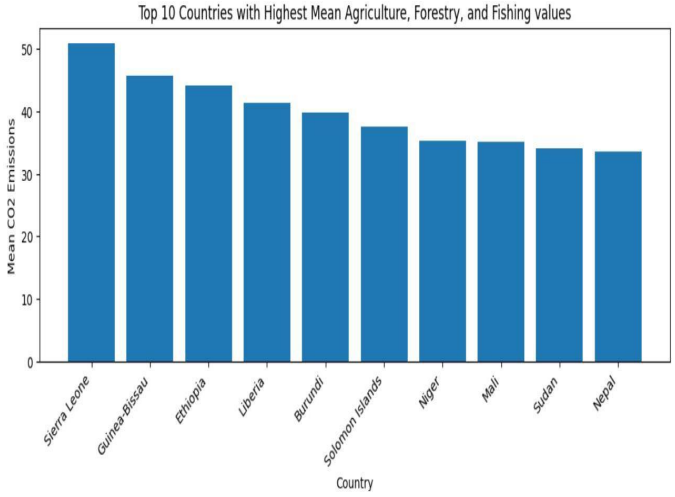
This study plunges into World Bank the form of databases, evaluating CO2 emissions and Agriculture, Forestry, and Fishing variables from 1990 to 2020 throughout different countries. It finds out statistical features, relationships, and trends utilizing Pandas DataFrames and visualizations, permitting a succinct and instructive examination of environmental and financial processes. In this analysis, two datasets are used: CO2 emissions and Agriculture, Forestry, and Fishing. The most connected aspects, largest and lowest CO2 emissions and agricultural, fishing activities, worldwide trend for agriculture, and CO2 emission information were plotted.





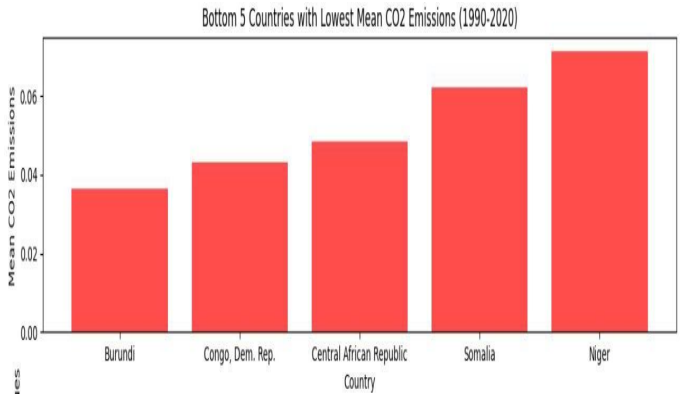
The graph of Global Trends for CO2 Emissions Year by Year shows that CO2 emissions increased from 2000 to 2016. Following then, there is a sharp decline in CO2 emissions figures. However, the graphs for Agriculture, Fishing, and Forestry show a reduction as the year progresses. The bar graph was plotted to understand the data more deeply.

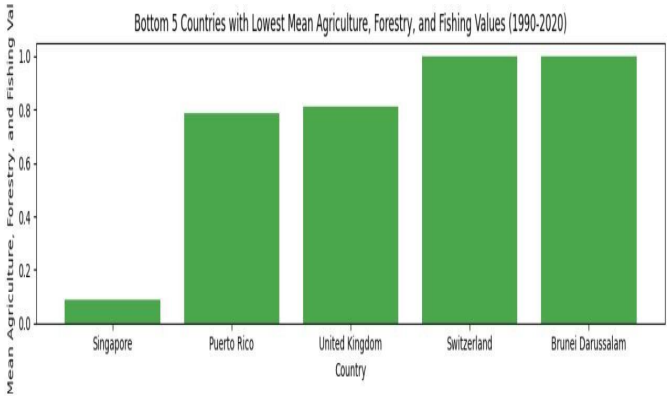




After plotting the bar graph, we discovered that Qatar has high CO2 emissions, although Sierra Leone outperforms other countries in agricultural, forestry, and fishery values. The bar graph also suggests that the

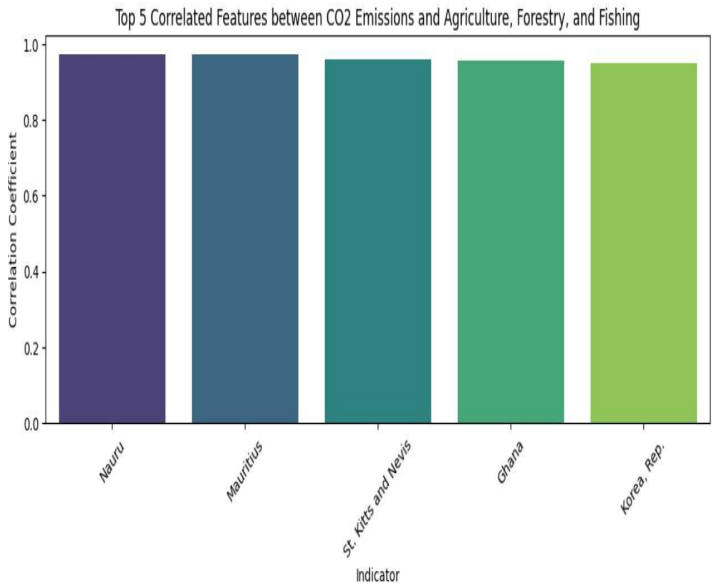
country with the highest CO2 emissions is not focused on agriculture, fishing, or forestry. The bar graph for the bottom five countries releasing the least CO2 is also presented below. Burundi emits less CO2, although Singapore is less active in agriculture, forestry, and fisheries.

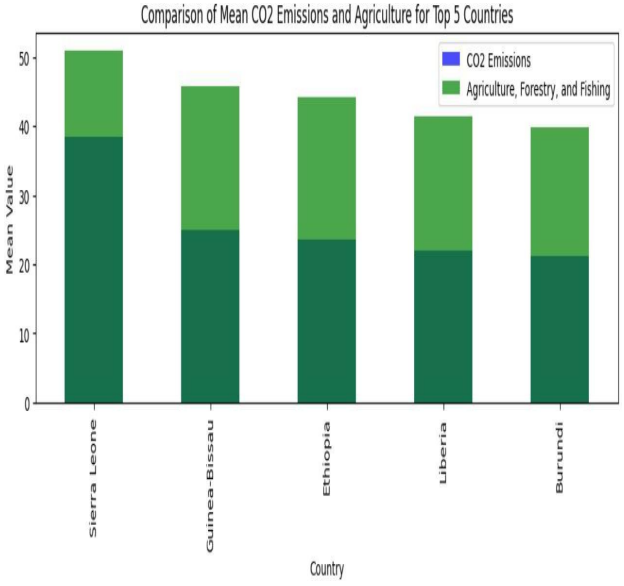




Based to the research outcomes, the cited territories (Nauru, Mauritius, St. Kitts and Nevis, Ghana, Korea, and the Republic of Korea) possess the strongest beneficial correlation coefficients with the characteristics chosen (purportedly CO2 Emissions and Agriculture, Forestry, and Fishing). The value of the correlation coefficient evaluates the magnitude and trajectory of a two-variable linear interaction. These numbers are capable of being understood in the following ways:

- Nauru, Mauritius, St. Kitts and Nevis, Ghana, Korea, and the Republic of Korea: the following countries exhibit a substantial beneficial linear correlation with the identified traits. When a particular attribute advances, the other usually develops as well.
- Close to the single correlation coefficient suggests a highly significant level of correlation.





The emission values and agricultural activity values for the United States were plotted to better comprehend the country's nature. The graph shows that the United States is emitting more CO2 since it is not focused on agricultural, forestry, and fishing activities, as the curve is dropping, whilst the CO2 emission graph shows abrupt fluctuations.