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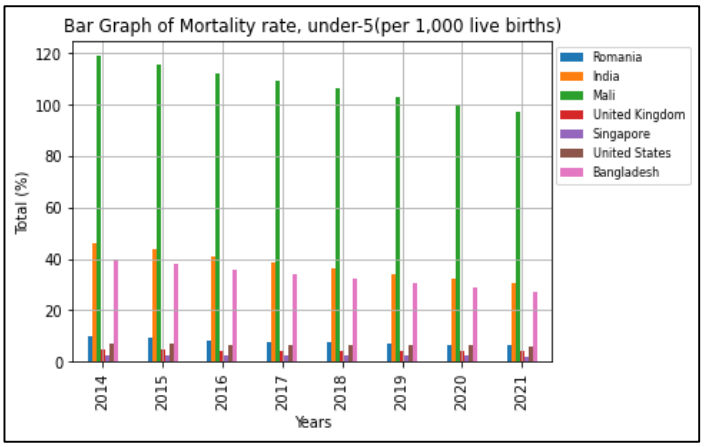
**GitHub Link: ( )**

**References:**([https://data.worldbank.org/topic/climate-change](https://data.worldbank.org/topic/climate-change) **)**

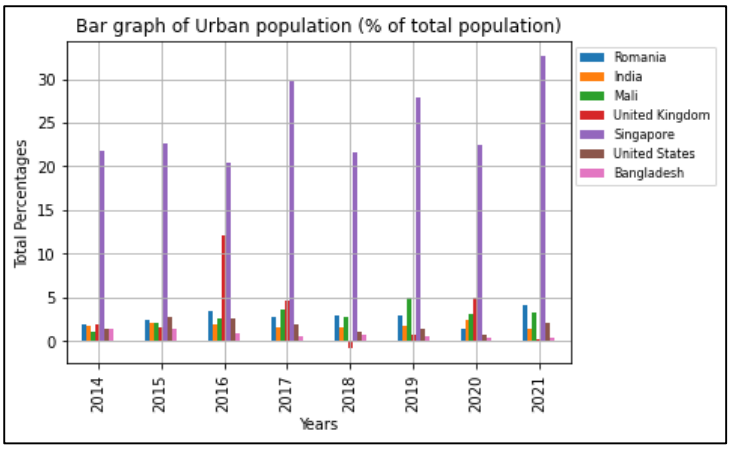
# Comparative Analysis of Countries & their Indicators Using World Bank Data

## Abstract:

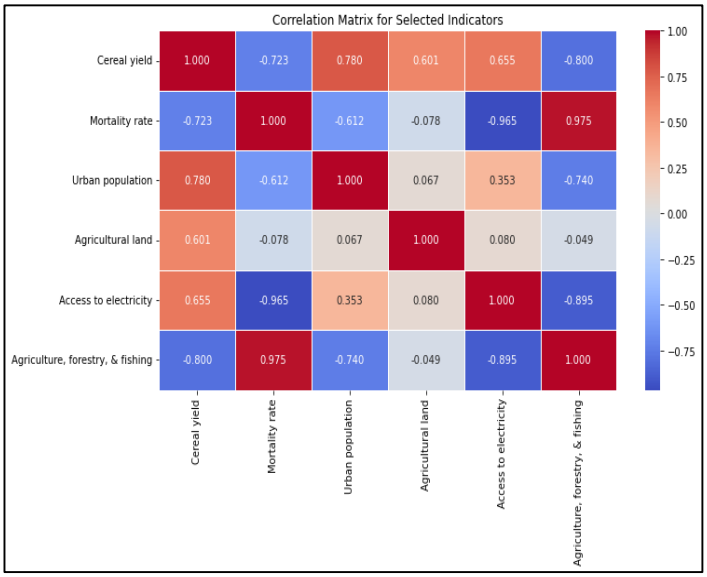
"In this analysis, we explore key indicators across nine Nations, spanning continents. Our focus includes Mortality Rate, Urban Population, Cereal Yield, Population Growth, Renewable Energy Consumption, Agricultural Land, CO2 Emissions, and Foreign Direct Investment. The line plot reveals the United Kingdom's consistent leadership in cereal yield, closely trailed by the United States. In renewable energy consumption, Mali emerges as a primary contributor, despite a slight recent decline, while Bahrain maintains lower consumption. This study offers insights into the intricate dynamics of global trends from 2014 to 2021 across diverse nations.

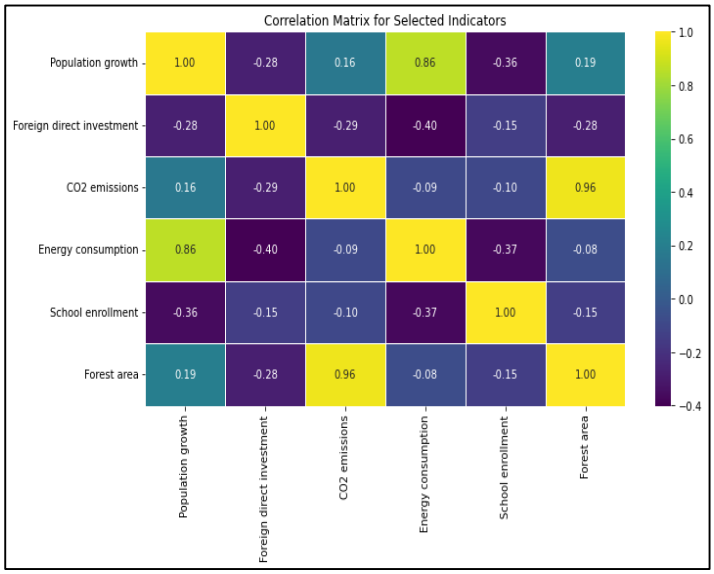



The results of this Bar graph are as follows: In the presented bar graph, Mortality Rates across various countries are visualized for the specified years. Notably, Mali exhibited the highest rate in 2014, while Singapore demonstrated the lowest. Interestingly, in the latest data from 2021, Mali continues to display the highest mortality rate, while Singapore maintains a comparatively lower rate.

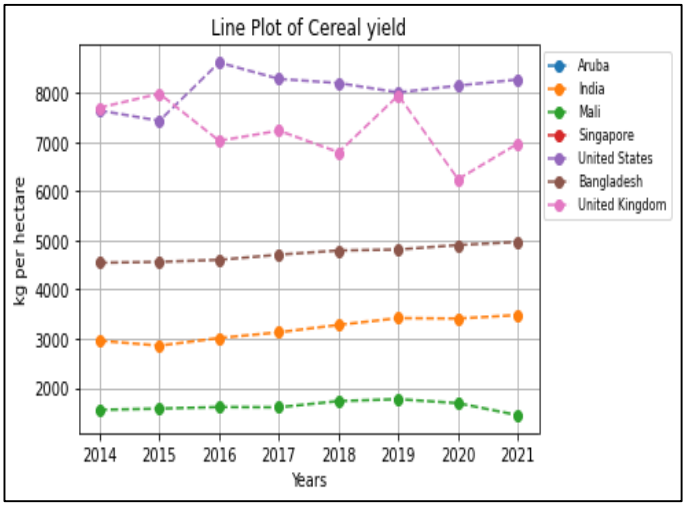



In the bar chart above, we've depicted the Urban Population trends across different countries for the specified years. Noteworthy is the fact that Mali recorded the lowest rate in 2014, while Singapore showcased the highest. Intriguingly, in the latest data from 2021, Singapore retains its position with the highest Urban Population, whereas the United Kingdom maintains a relatively lower rate.



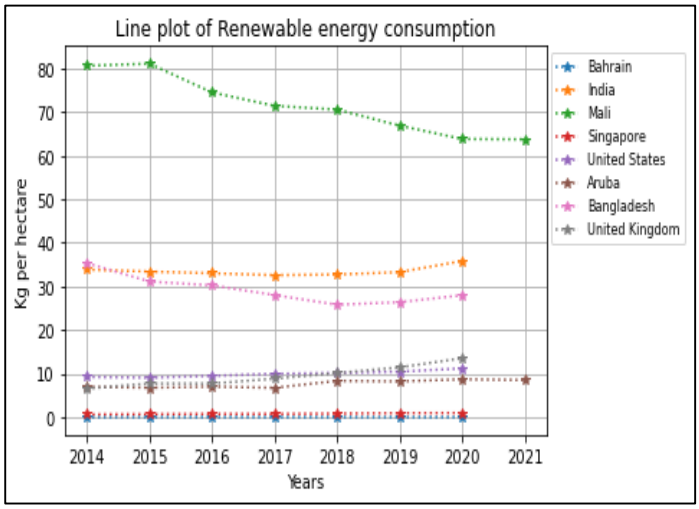
In the heat map presented below, we have considered indicators such as Cereal Yield, Mortality Rate, Urban Population, and Agricultural Land,etc. In discovering the data, we find a strong correlation of 0.78 between the indicators called Cereal Yield and Agriculture, Forestry, and Fishing. On the other hand, Cereal Yield shows a correlation of 0.60 with Agricultural Land, which, though positive, is relatively lower compared to other indicators. In the heatmap provided below, we observe a notably strong correlation of 0.86 between the indicator labelled as Energy Consumption and Population Growth. This shows a strong correlation, meaning that changes in one variable are closely correlated with changes in the other.




A parallel trend is observed in the United States, commencing from a similar starting point to the United Kingdom. Initially witnessing a dip, the U.S. cereal yield gradually ascends in the subsequent years, eventually claiming the top spot among contributing countries. Conversely, countries such as Bangladesh, India, and Mali exhibit marginal growth in cereal yield over the analyzed period, maintaining a consistent level of production without significant increases.

However, it's worth noting that Energy Consumption displays a lower correlation score of 0.09 with CO2 emissions in comparison to other indicators. This suggests a relatively weak connection between Energy Consumption and CO2 emissions, indicating that variations in one may not consistently reflect similar changes in the other. Population growth has highest correlation with energy consumption of 0.86 which is highest among all of this.

In the line plot below, we've delved into the year-on-year analysis of cereal yield from 2014 to 2021. The findings spotlight the United Kingdom as the leading country, consistently surpassing all others in annual yield. Notably, in the subsequent year, there is a slight uptick in the UK's yield, followed by a subsequent decline, showcasing a pattern of high-low variations.




The provided line chart offers a comprehensive analysis of the Year-on-Year Renewable Energy Consumption across different countries. The data encompasses the energy consumption figures for various nations. Mali emerges as the leading contributor to renewable energy consumption, although there is a slight decrease in its consumption over time. On the whole, the depiction of energy consumption for all countries reveals a blend of fluctuations over the Year-on-Year period, spanning from 2014 to 2021.

**Conclusion:**

Summing up our extensive exploration of global indicators using World Bank data, we've gleaned valuable insights into diverse aspects, including mortality rates, urban population dynamics, cereal yield, agricultural land usage, energy consumption, and CO2 emissions. The bar graphs vividly portray the fluctuations in mortality rates and urban population across countries, emphasizing noteworthy disparities.