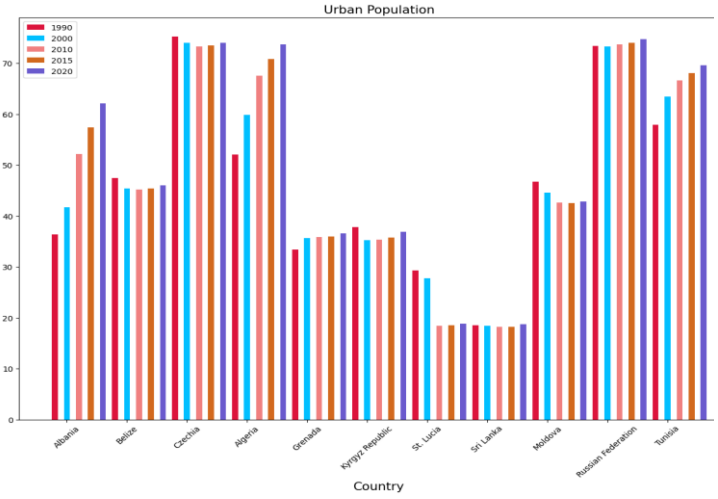
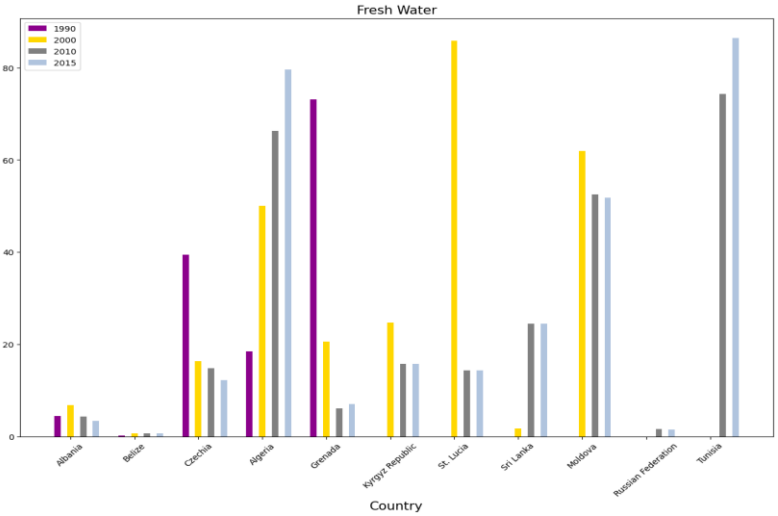
Data analysis based on World Bank data

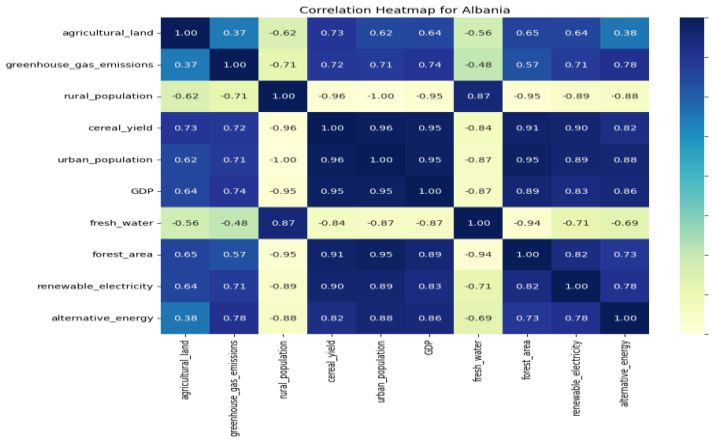
This analysis examines various World Bank indicators over time across multiple countries to reveal insights into urbanization, agricultural output, emissions, and other trends. Findings showcase the interplay between rural and urban populaces and how factors like cereal production track together. Ultimately, correlating the data variables highlights the delicate balance countries face between environmental impact and development goals.





The urban population bar plot shows that over time, both the Russian Federation and the Czech Republic have continued to have comparatively high urban populations. Russia demonstrated a rise in urban population, whereas Czechia had a minor decline. Such trends could be caused by several things. Czechia may have seen migration movements or policies that promoted the growth of rural areas, which resulted in a relative decrease in the number of people living in cities. Russia have seen an increase in its urban population as a result of industrialization, economic growth, or large migration toward urban areas.

The freshwater percentage bar plot emphasizes St. Lucia's early dominance in 2000, which represents a significant share of freshwater resources. St. Lucia's freshwater percentage significantly decreased over the ensuing years. The rising population's increased demand for water, changes in land use that affect water supplies, or environmental factors that affect freshwater availability could all be contributing factors to this loss. During the same period, Algeria and Tunisia showed an increasing trend. This growth could be the result of better water management techniques, infrastructural improvements related to water and enhancing freshwater resources in response to increasing demand and shifting environmental factors in these areas.



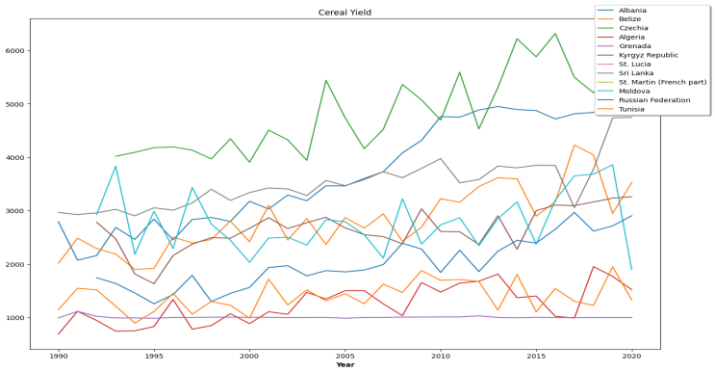
The population of rural areas is positively correlated with the population of metropolitan areas as well as with crop yield. This positive connection suggests a closely connected relationship in which changes in the rural-urban population and cereal yield are strongly correlated with changes in the rural population. Changes in rural

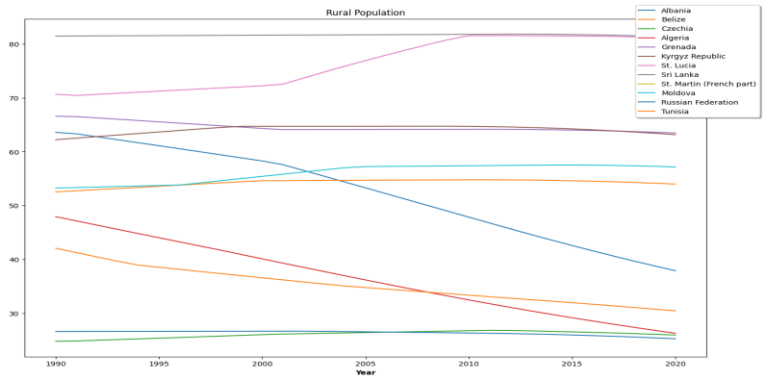
Country	1990	2010	2020
Albania	28.79	28.54	28.79
Belize	70.15	61.00	55.99
Czechia	-	34.41	34.68
Algeria	0.70	0.81	0.82
Grenada	52.06	52.06	52.06
Kyrgyz	-	6.41	6.86
St. Lucia	34.87	34.05	34.05
Sri Lanka	37.48	33.55	34.16
St. Martin	-	-	24.80
Moldova	-	11.40	11.75
Russia	-	49.77	49.78
Tunisia	4.15	4.42	4.52

The forest area is shown in the table for the years 1990, 2010, and 2020. With a forest area of 70.15 in 1990, Belize had the largest recorded total. This fell to 61.00 in 2010 and then to 55.99 in 2020. during the course of the three

population and agricultural productivity are directly related to the progress of urbanization. The amount of forest area and the availability of fresh water have a substantial negative connection.

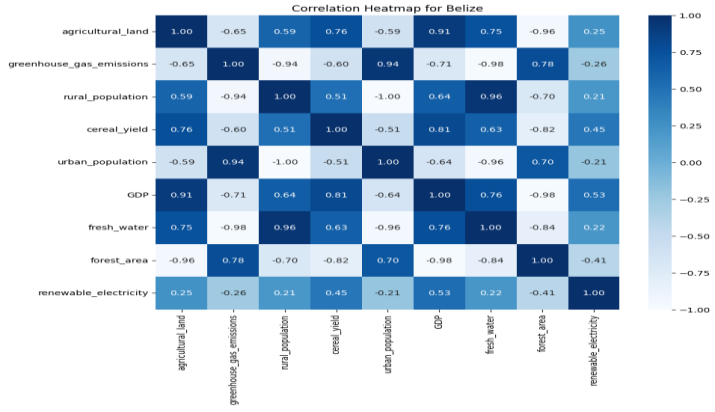
decades, nations such as Algeria continued to maintain a continuously low forest area. the majority of countries—Albania, Czechia, Grenada, St. Lucia, Sri Lanka, Moldova, and the Russian Federation—showed rather consistent forest areas, with only minor variations falling within a small range.

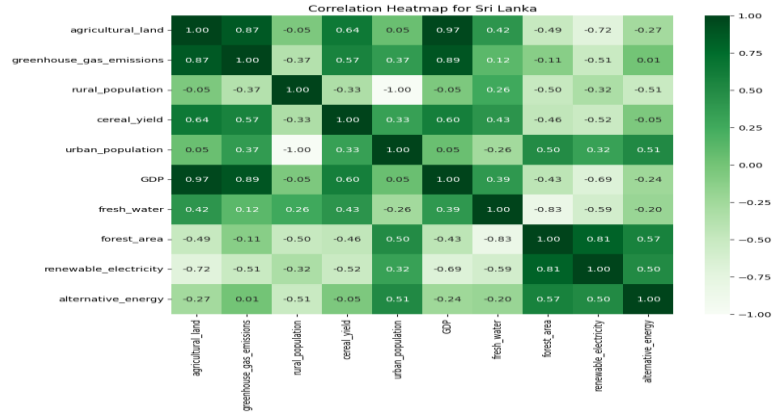




The cereal yield line plot shows that Czechia had the highest cereal yield of all the countries, closely followed by Russia. Increased cereal yields in Czechia could be a result of various reasons, including improved land management techniques, technology developments in farming, and sophisticated agricultural methods. In a similar vein, Russia's agriculture industry has strong cereal production due to a large amount of arable land, significant expenditures in farming infrastructure, and ideal climate conditions in some areas.

Sri Lanka has the largest percentage of rural residents among the countries indicated. A number of reasons, such as restricted urbanization projects, cultural preferences for rural living, and traditional farming practices, may have an impact on this development. Kyrgyzstan demonstrated a significant rise in the number of people living in rural areas during the same time frame. This could be attributed to various factors, including slower urban development, patterns of migration from urban to rural areas.





Agricultural land has a significant positive link with a number of indices, including GDP, fresh water availability, and cereal yield. This suggests that agriculture may be directly responsible for a sizeable amount of the nation's food output, water resources, and economy. There is a clear inverse relationship between forest acreage and variables like greenhouse gas emissions and agricultural land. This could point to a possible contradiction between attempts to conserve the environment and expand agriculture.

GDP, cereal production, and greenhouse gas emissions, have a high positive link with agricultural acreage, indicating a reliance on agriculture for economic growth. A change in population dynamics is shown by the negative correlation between the population of rural and urban areas: while the population of rural areas is declining, the population of urban centers is increasing. This change may be the result of things like metropolitan work possibilities, industrialization, or rising living standards. Higher forest areas support more renewable energy efforts, which is indicative of Sri Lanka's dedication to sustainability and environmental conservation.[1]

[1] https://github.com/kainat-ali09/Assignment-2-Statistics-and-trends.