**Title:-**

Dynamic Trends: World Bank Insights on Economy & Environment

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**Abstract:-**

In order to provide insights into the economies and environments of different countries, this analysis looks at World Bank variables throughout time. Some countries' findings indicate a negative correlation between emissions and renewable energy use, while others show a positive association between urbanization and agricultural output development. Data correlations effectively highlight the relationships between progress markers and have consequences for well-rounded sustainability planning.

**Github Link:-**

**Data analysis based on World Bank data**

This analysis examines World Bank indicators over time for various countries to reveal economic and environmental insights. Findings show urbanization and agricultural output growth in some nations while others demonstrate a negative relationship between renewable energy use and emissions. Ultimately data correlations spotlight interdependencies between progress markers with implications for balanced sustainability policymaking.

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| The bar plot of the urban population shows that Sweden and Costa Rica have seen considerable increases in urban population which shows that there have probably been significant migrations of people from rural to urban areas in these countries. Several causes, such as the growth of the industrial sector, more job opportunities in big cities, and improved infrastructure, can be attributed to the rise in the population of Sweden residing in urban districts. Likewise in Costa Rica, urbanization may be influenced and more people may choose to live in cities and towns by factors including infrastructural improvements, economic growth, and urbanization-related laws. | Sweden has the highest cereal production in the world, as shown by the bar plot, which indicates a number of variables that explain the nation's impressive agricultural results. Sweden's high cereal yields are mainly due to the nation's perfect climate, easy access to water resources, efficient farming practices, and adoption of cutting-edge agricultural equipment. The country's commitment to using premium seeds, state-of-the-art equipment, and eco-friendly farming methods, together with other ecologically conscious farming practices, might lead to an even greater growth in agricultural output. |
| Several variables, such as the population, urban population, the usage of renewable energy sources, and greenhouse gas emissions, have positive correlations with GDP. This relationship means Lesotho's population, energy consumption, and urbanization increase as the country's economy grows.  a negative correlation between the utilization of renewable energy sources and emissions of greenhouse gases and CO2. which suggests that moving to more environmentally friendly, renewable energy sources may be a part of Lesotho's attempts to reduce carbon emissions. | |  |  |  |  | | --- | --- | --- | --- | | Country | 1990 | 2010 | 2020 | | Antigua and Barbuda | 459M | 1.15B | 1.42B | | Costa Rica | 5.71B | 37.7B | 62.4B | | Algeria | 62.0B | 161.2B | 145.7B | | Lesotho | 596M | 2.23B | 2.12B | | Madagascar | 3.93B | 9.98B | 13.1B | | Russian Federation | 517B | 1.52T | 1.49T | | Suriname | 388M | 4.37B | 2.91B | | Sweden | 261.8B | 495.8B | 547.1B | | Togo | 2.21B | 4.66B | 7.39B | | Zimbabwe | 8.78B | 12.0B | 21.5B | | Country | 1990 | 2010 | 2020 |   The table shows the GDP data for several countries for the years 1990, 2010, and 2020. The GDP of a country is the total economic output generated inside its borders during a specific time. Analyzing the GDP numbers over time provides information about the economic bust in each country.  The GDP of some countries, like Algeria and Russia, increased greatly between 1990 and 2020, and the GDP of other countries, like Lesotho and Suriname, very slightly increased during the same time frame. |
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| Madagascar uses a lot of renewable energy as its location—plenty of sun and water supplies—makes it ideal for capturing solar and hydroelectric power. Because of the availability of natural resources, such as hydropower, solar energy, and biomass, the country may mostly rely on renewable energy sources. Government initiatives promoting the development of renewable energy sources in concert with alliances or foreign aid may encourage investments in sustainable energy infrastructure. | Algeria gains from beneficial geographic features such as reservoirs and water reservoirs, which give it an abundance of freshwater supplies. If considered collectively, these factors may lead to the country maintaining a high percentage of fresh water, showing a strong commitment to protecting and utilizing this vital resource for many national industries. The country's vast groundwater reserves and effective water management practices may help to explain it. Algeria may have made significant investments in water-saving technologies like irrigation control systems and desalination plants. |
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| There is a positive correlation between the GDP and several variables, such as the population residing in urban areas, greenhouse gas emissions, and grain output. This correlation shows the strong relationship between economic growth and increasing levels of industrialization, urbanization, and agricultural output. The accessibility of fresh water is found to be negatively correlated with most other features, indicating that when certain variables, such as GDP, population, and energy consumption, rise, so does the availability of fresh water. | The positive correlations between several variables, such as GDP, population, CO2 emissions, and greenhouse gas emissions, suggest that these variables are strongly interconnected. This shows that when one element increases in the Algerian environment, the others typically follow suit. The population, greenhouse gas emissions, and CO2 emissions are all negatively connected with the utilization of renewable energy. This negative link would indicate that Algeria is taking steps to reduce its reliance on fossil fuels, which would reduce emissions and promote the use of more environmentally friendly energy sources. |