ADS1 Assignment-2 Report

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Arable Land vs Forest Area in G5 Countries

Abstract

This report presents an analysis of arable land and forest area trends in G5 countries (Brazil, China, India, Mexico, and South Africa) using visualizations generated from a Word Bank Climate Change dataset. The visualizations show the correlations, trends, and distinctive characteristics of land use over time in the selected G5 nations.

Analysis

The line plots provide a historical view of the trends in arable land and forest area for each of the G5 countries.

Brazil: The trend indicates a huge decline in forest area, in addition to an increase in arable land. This pattern suggests significant deforestation, likely driven by agricultural expansion. The magnitude of this change raises critical questions about the long-term sustainability and environmental impact of such land use practices.

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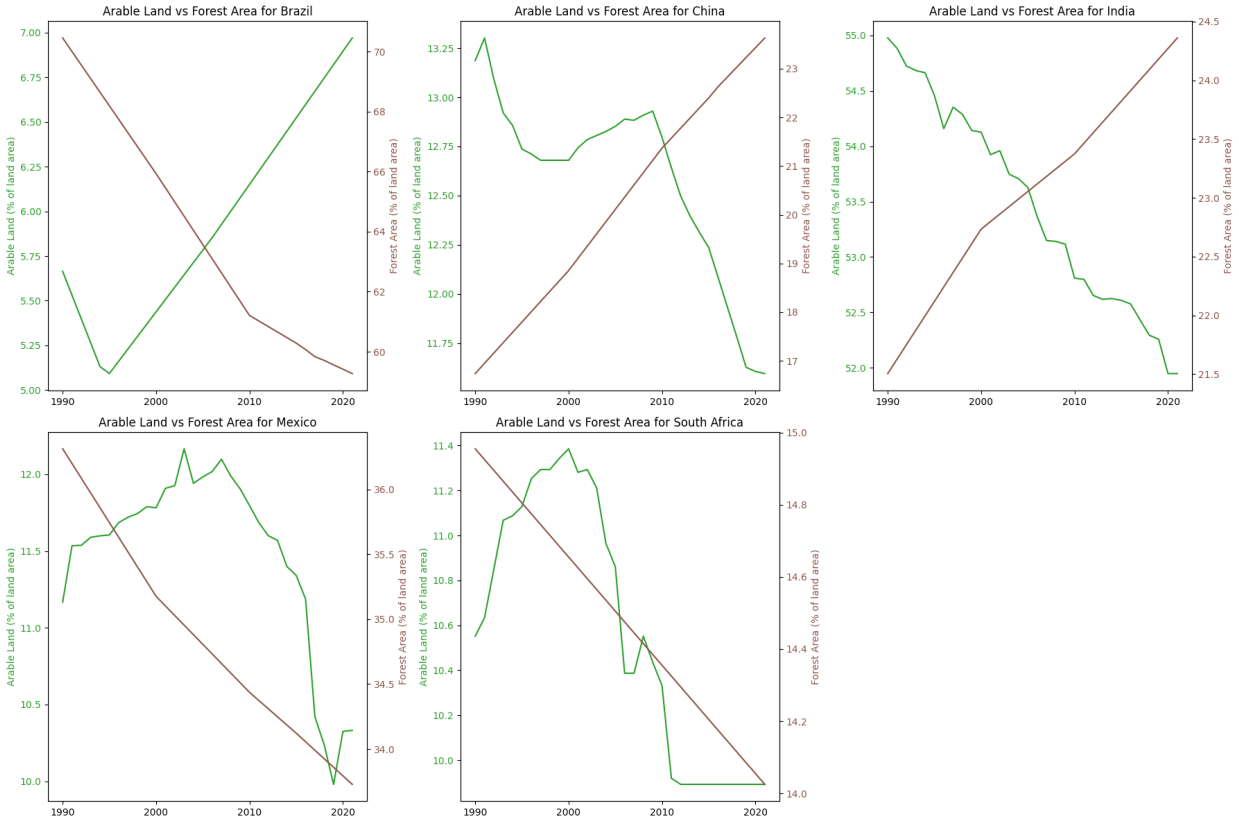
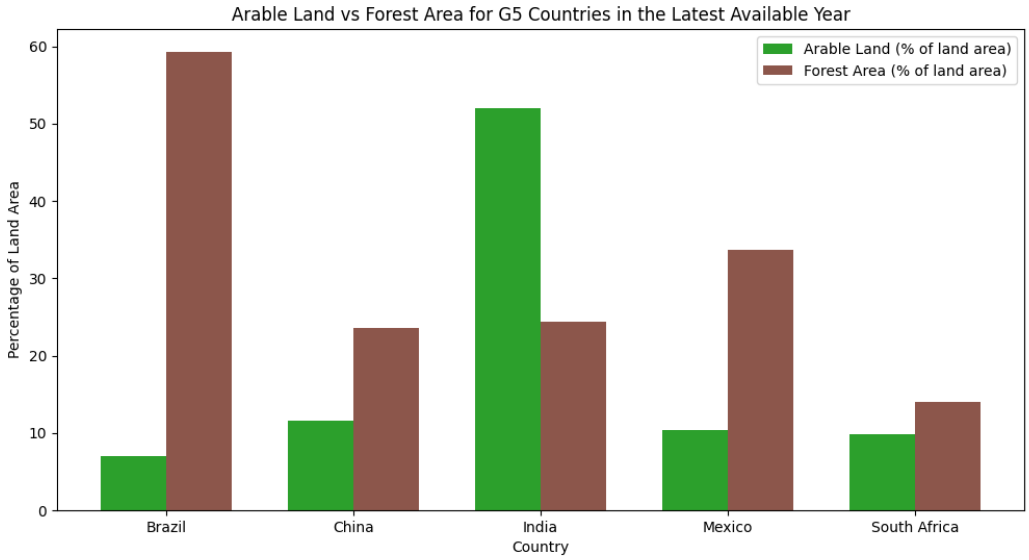


China: The trend shows a relatively stable forest area with minor variances in arable land, China's trend may reflect effective land management policies. The subtle increase in arable land, against a backdrop of stable forest cover, suggests a move towards more sustainable agricultural practices or improved land use efficiency.

India: India's data shows a stable forest area with slight fluctuations in arable land. This stability might be indicative of successful forest conservation efforts, balancing the demands of agriculture.

Mexico: Unique among the G5, Mexico displays a slight increase in forest area alongside a decrease in arable land. With a small decrease on forest areas over the time Mexico can be a role model for other G5 countries.

South Africa: South Africa's trends show relative stability in both arable land and forest areas, hinting at a sustainable approach to land use management. The main concern is the forest area is decreasing.



The bar chart offers a snapshot of the latest available data for each country, allowing for a direct comparison of the current state of arable land versus forest area.

Brazil stands out with a higher percentage of arable land, aligning with the observed trend of decreasing forest areas. China and India show a more balanced proportion between arable land and forest area, reflecting their stable trends observed in the line plots. India has more arable land compared to its forest areas and its the opposite to other G5 countries. Mexico's bar chart reinforces its unique position with a notable portion of forest area, which is consistent with the increasing forest trend seen in the line charts. South Africa maintains a balance between arable land and forest area, mirroring its stable trend in the line plots.

Conclusion

The analysis reveals diverse strategies and outcomes in land use among the G5 countries. Brazil's approach raises concerns about environmental sustainability, while Mexico and India demonstrate effective balancing of agricultural expansion and forest conservation. These variations reflects the different environmental, economic (gdp), and policy contexts each country navigates.

REFERENCES

1. Data: https://data.worldbank.org/topic/climate-change
2. Github Code Repo: