Analyzing Development Indicators Trends in Iran and Its Neighboring Countries
A visualization in Tableau

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Summary of Project

This project aims to visualize the World Development Indicators dataset from the World Bank Website [1] using Tableau, offering insights into global socio-economic and environmental changes. We've looked at different indicators to understand how Iran and its neighbors are doing economically, socially, and in terms of gender equality.
The link of my visualization in Tableau Public is in THIS LINK.

Dataset Description

The dataset encompasses a broad range of development data, including economic indicators like GDP, health expenditures, education levels, and environmental data. It covers multiple countries across several decades, providing a rich historical perspective.
In our work we select Iran and its neighboring countries(Azerbaijan, Armenia, Turkmenistan, Pakistan, Afghanistan, Oman, Turkey and Iraq.) between all countries. Also we selected some indicators that we wanted to investigate through them and some of them are as follows:

- **GDP (current US$):** Gross Domestic Product represents the total dollar value of all goods and services produced over a specific period within a nation's borders. It is an important indicator of economic activity and health.
- **Adjusted net national income per capita (annual % growth):** This measures the real growth rate of income per person, accounting for inflation and population changes, reflecting the average economic well-being of citizens.
- **Adolescent fertility rate (births per 1,000 women ages 15-19):** This rate indicates the number of births per 1,000 young women and is often used as a measure of reproductive health and societal or cultural norms regarding early motherhood.
- **Age dependency ratio (% of working-age population):** This ratio compares the non-working age population (children and the elderly) to the working-age population, providing insight into the demographic pressures on the productive population.
- **Educational attainment, at least completed short-cycle tertiary, population 25+:** This indicator measures the percentage of the population over the age of 25 that has completed at least a short-cycle tertiary education, such as an associate's degree.
- **Energy use (kg of oil equivalent per capita):** It shows the total energy use per person and can be an indicator of economic development, as higher energy consumption may correlate with higher levels of industrial activity and modernization.
- **Labor force participation rate, female (% of female population ages 15+):** This percentage shows the active involvement of women in the labor force, providing insight into gender equality in employment opportunities.
- **Unemployment, total (% of total labor force):** This is the percentage of the labor force that is without work but available for and seeking employment, providing a key measure of economic health.

Visualization parts

Comparing Countries on different indicators

Looking at Iran and its neighbors, we see that each country is different. Some are doing better economically, and some face more challenges. These differences can come from how each country manages its resources or deals with outside economic pressures.

Economic Health and Social Well-Being

The analysis draws a parallel between economic indicators and social well-being, with a particular focus on the relationship between unemployment rates, income, GDP and suicide incidences. Our findings indicate a potential negative correlation, suggesting that economic challenges are mirrored in the societal mental health landscape. This relationship underscores the ripple effect of economic turbulence on community well-being.

Women in the Workforce and Beyond

Even though there are more women working and in government than before, there aren't as many women working in factories or big industries. This tells us that having a job or a seat in government doesn't always mean women have the same chances as men in every job field.

Methodology

Data prepration

First in my proposal I said that I want to use the dataset of WDI in kaggle [2] but that source wasn't update and it had the data until years 2017-2018. So I downloaded the dataset from the main source [1] that is updated by the word banksource. I downloaded the csv file and did the preprocessing for the dataset such correcting the format of year variable(it was in string format with extra characters and wasn't in date type), then pivoting the years distinct values.

Dashboard creation

For the first dashboard it was just drag and drop and set the filters, but for the second and third dashboards I needed to create calculated fields for every indicator that I wanted to use, and then just visualize their trends in time by line charts. the calculated fields look like this: IF [Series Name] = 'Indicator name' THEN [Pivot Field Values] END, and we should replace the indicator name with the name of the indicator we want to analyse.

Conclusion

Our look at the development indicators for Iran and its neighbors shows that each country's path is different. Some are growing steadily, while others, like Iran, see a lot of ups and downs.
The link between unemployment, income, GDP, and the number of suicides tells us that a strong economy is important for people's well-being. When the economy suffers, it can hurt people's mental health, too. Although we can not say that there is a strong causality between these factors and the suicide rate. It is a complex correlation and needs more factors to be analyzed.
We found that more women are working and participating in politics in Iran, but they still face challenges, especially in industries. This suggests that more work is needed to make sure women have the same job opportunities as men everywhere.
The big picture is that the economy, gender equality, and society's health all affect each other. Countries should think about all these things when they make plans for the future to build a better world for everyone.

References

[1] The World Bank. World development indicators. https://databank.worldbank.org/source/world-development-indicators#, 2022.

[2] Man Chun Hui. World development indicators. https://www.kaggle.com/datasets/manchunhui/world-development-indicators?select=WDI_csv, 2021.