PROJECT REPORT

ANALYZING ISRAEL-PALESTINE WAR

M.Sc. Agricultural Analytics

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Programming for Geodata Processing

Submitted To:

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Abstract

This paper Analyses the impact of Israel-Palestine conflict on both the nations. It includes different aspects like examining loss of lives, the distribution of age, place of residence, and gender among Fatalities. Impact on Economy i.e. GDP of both the nations. Main objective of my project is to analyses and visualize the impact of war on Israel and Palestine. This project includes: 1) Data cleaning: It includes dealing with NaN values in dataset and exclusion of irrelevant columns from dataframe. 2) Data Visualization: It includes distribution of age, place of residence, gender, and type of injuries among Fatalities. Than fatality trends from 2000 to 2023, representation of major districts on map, GDP and Agricultural output over the years through various types of graphs like barcharts, piecharts and linecharts.

The first crucial step was to get appropriate dataset to work on. After searching through various sites I successfully acquired relevant datasets from platform like Kaggle, I have used various python libraries for data analysis and visualization. It includes Pandas, Numpy, Matplotlib, Seaborn, Folium etc. Result: At the end of the project I concluded that this war have greatly affected both the countries.

Introduction

The Israel and Palestine Conflict is ongoing from 1948. In 1948 the war ended with victory of Israel, but 750,000 Palestinians were displaced and the territory was divided into three parts: the state of Israel, the west bank of the Jordan river and the Gaza strip. The Israel-palestine conflict is mainly over who gets what land and how it is controlled. The first intifada occurred in 1987,in which thousands of Palestinians living in Gaza strip and west bank stand up against Israeli government. The second intifada was launched by Palestinians in 2000 and last until 2005.

In 2006 Hamas won the Palestinian Authority's parliamentary election, which corresponds to internal conflict with Fatah. Than Hamas took control of the Gaza strip. Hamas is a political and militant group inspired by Palestinian Muslim Brotherhood. As the Hamas group is considered a terrorist sine 1990s by western government ,its victory did not acknowledged by the US and European Union. Than violence occurred between Hamas and Fatah. And in 2014 Fatah and Hamas entered into a unity government. In 2014, Hamas launched three thousand rockets at Israel, is response Israel took offensive majors in Gaza.

In 2018, Israel forces killed 183 and injured 6,000 Palestinians. And in return Palestinian throw rocks, which leads to violence. Due to this disunity occurred between Fatah and Hamas. In 2021, Hamas and other Palestinian militant groups attack Israel with hundreds of rockets. In response Israel carried out artillery bombardments and airstrikes.

In October 2023, war occurred between Israel and Hamas. Hamas fired rockets into Israel, killing more than 1,300 Israelis, injuring 3,300 and taking hundreds of hostages. After that attack, the Israeli cabinet formally declared war against Hamas. The war has killed 10,000 Palestinians, with more than 4,000 children.

So, this war has affected both the countries to great extent. In this project I have analysed distribution of age, place of residence, gender, and type of injuries among Fatalities, fatality trends from 2000 to 2023, GDP and Agricultural output over the years etc.

Research Questions

1) What is the distribution of fatality from 2000 to 2023 in Israel and Palestine?
2) What are the impacts of Israel-Palestine conflict on GDP of both the nations?
3) How Israel-Palestine conflict affected the Agricultural output of both the nations?

Article: https://www.cfr.org/global-conflict-tracker/conflict/israeli-palestinian-conflict

The referenced article delves into the Israel-Palestine conflict, It draws special attention to the effects on economic expansion and the huge death toll from the fighting. The article underscores the extensive losses suffered by both Israel and Palestine.

Taking this article and few other sources as reference I have done analysis and visualization of Israel-Palestine conflict. In which mainly I have created graphs of various parameters like fatality trends, GDP growth, Agricultural output over the years. Also located major district on map.

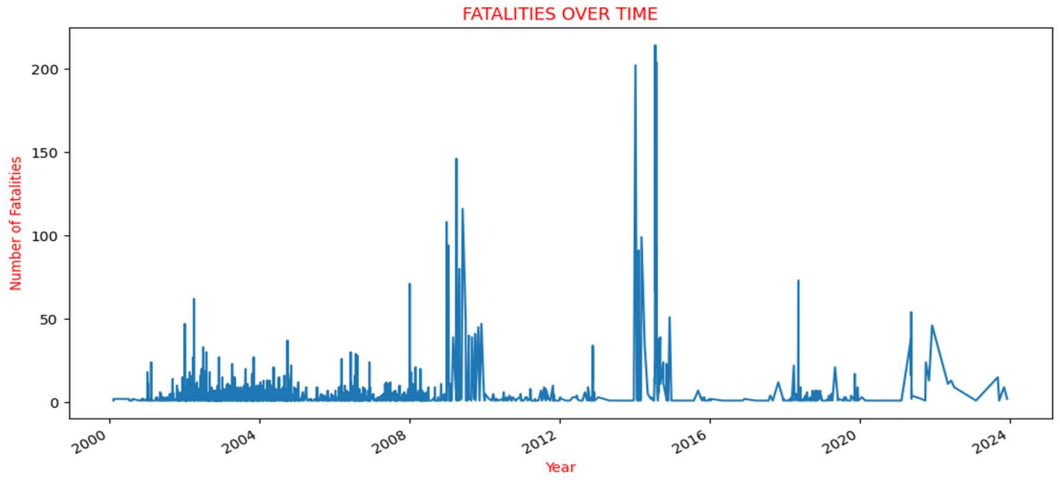
Other reference: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3965270

https://www.researchgate.net/publication/355890614_IsraeliPalestinian_Conflict_A_review_of_the_Past_and_the_Present

https://crsreports.congress.gov/product/pdf/R/R47754

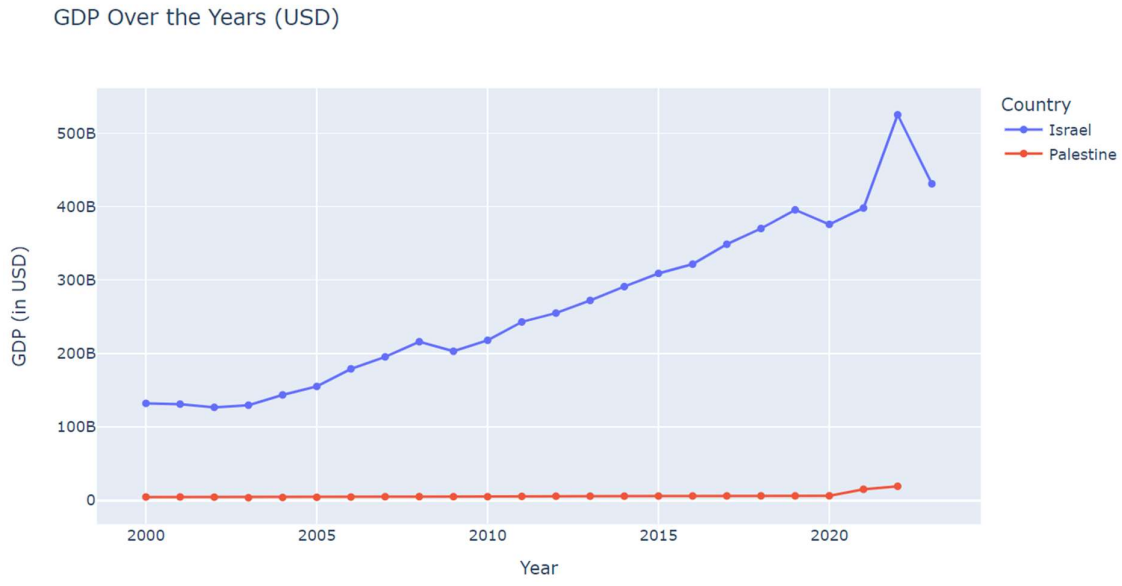
Analysis

Graph-1: The graph shows the Fatality trends from 2000 to 2023.



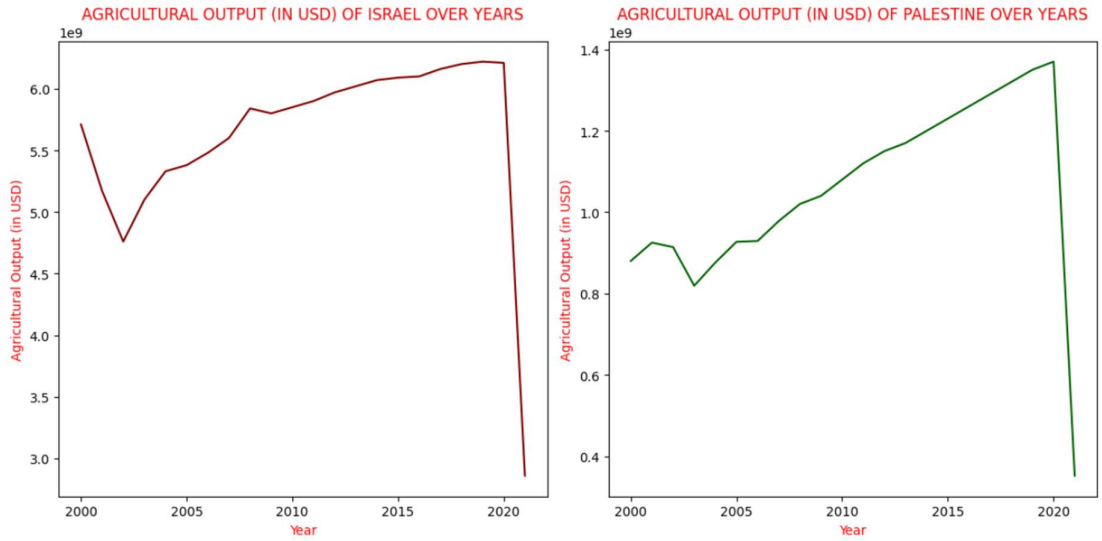
From the graph I can clearly say that highest fatality occurred during 2014-2015. This graph gives the number of fatalities of every year from 2000 to 2024.

Graph-2: The graph represents the GDP in USD over the years.



The above graph shows that GDP of Israel is increasing year after year. But there is not much change in GDP of the Palestine. GDP of Palestine is constant over the years, there is various factors affecting it. Which includes lack of infrastructural development, trade and movement restrictions, and geopolitical conflicts etc.

Graph-3: The graph shows the comparison of agricultural output over years of Israel and Palestine.

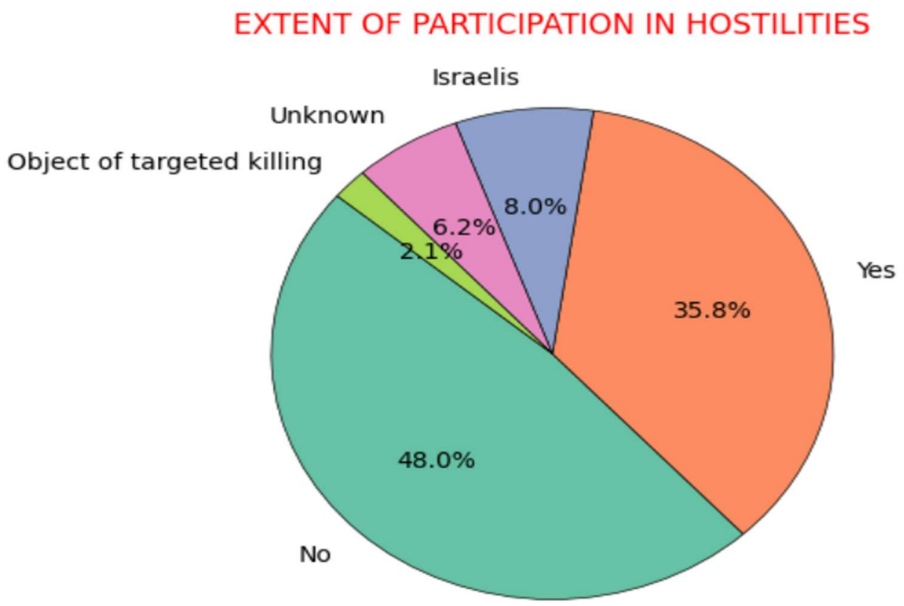


The above graph concludes that the Israel have higher agricultural production in compare to Palestine.

- **Israel:** In Israel, agricultural production have decline from 2000 to 2003, followed by a consistent increase in production until 2020. Than in 2020 it reached to highest. However, after 2020 the production drastically decreased.
- **Palestine:** After a decline in agricultural productivity from 2001 to 2003, Palestine's agricultural output continued to rise until 2020. After 2020, there is significant downfall in production.

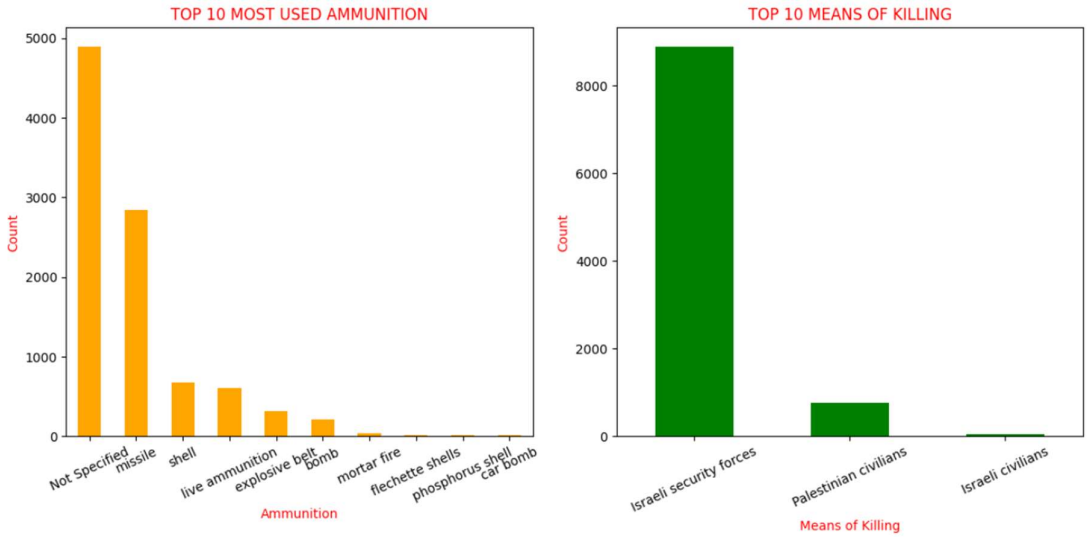
There are several reasons for these variations, such as changes in the weather, agricultural practices, advances in technology, or social and political forces. Due drastic decreased in production to lowest, there is requirement of analysis to understand the contributing factors and formulate strategies for agricultural development.

Graph-3: This pie chart represents the extent of participation in hostilities.



- The above graph indicates that the majority i.e. 48% of the total dead had no participation in the battle.
- Secondly, I can say that 36% of the dead people were involved in the fighting.
- It also shows that 6% of the fatalities are unknown, 8% were killed by the Israelis, and 2% were specifically targeted.

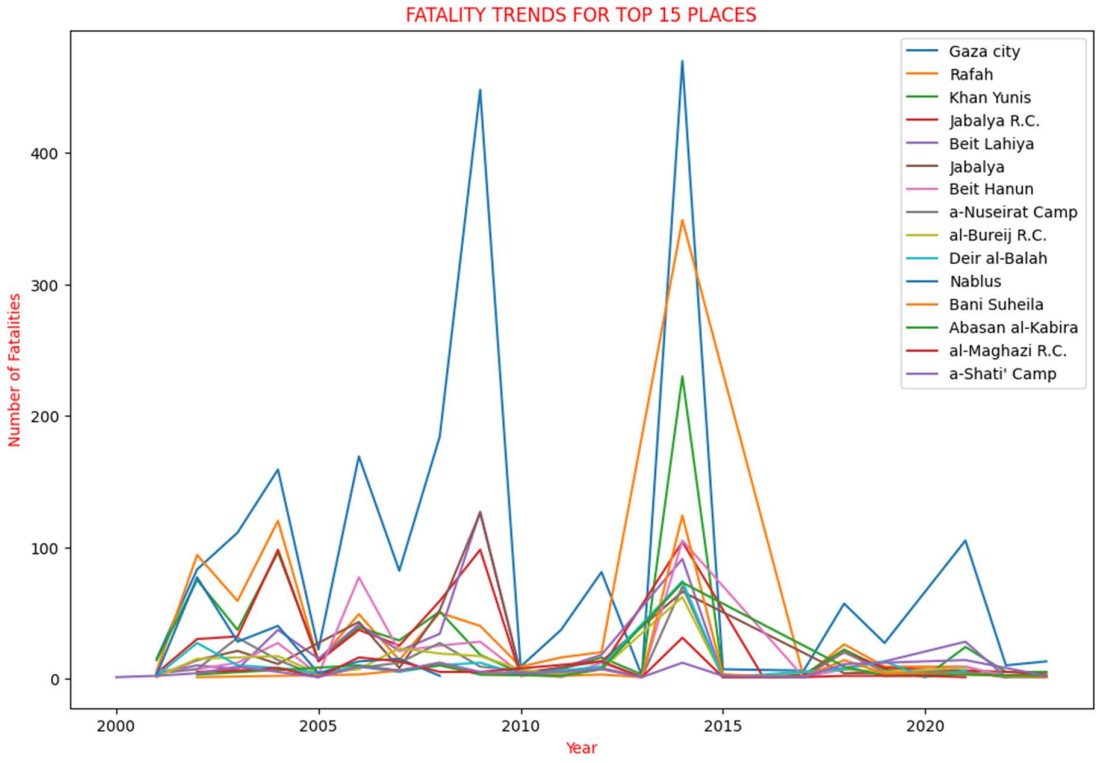
Graph-4: The graph indicates ammunition and means of killing.



The first graph shows the distribution of ammunition types used in the battle; the most common types are missiles, shells, explosive belts, bombs, and mortar fire. The primary means of killing was by missiles, indicating a high degree of military participation.

The second graph displays methods of death. The majority of deaths have been caused by Israeli security personnel. Israeli and Palestinian civilian fatalities have been quite low.

Graph-5: The shows the number of fatalities of different districts over years.



From the above graph shows the fatality trends for different district. I have concluded that the number of fatalities showing high fluctuation is from Gaza and Rafah.

Conclusion

After going through all the analysis, at the end of the project I have concluded that Israel-Palestine war have lead to several loss of lives and also causes decrease in economic growth. The war is still ongoing, there is not any scope or possibilities for this war to stop. The conflict that has occurred in one part of the world can destabilize the economy of whole world.

From the visualization part of the project I have created trend of fatalities over years. According to the trend obtained from the data, the highest fatality occurred in the year 2014 and this battle lasted for six weeks.

Palestine's GDP trend shows little variation between 2000 and 2023, although Israel's GDP grew steadily during that time. The lack of significant variations in the GDP of both countries indicates a certain degree of economic resilience. Over this time, Israel's economy has continued to grow, indicating stability and progress, while Palestine's GDP has stagnated, indicating ongoing difficulties.

Israel produces more agriculturally than Palestine, according to the trend in agricultural output. It was rising annually but only started to decline for both countries in the years 2002–2003. 2020 saw the peak production for both countries, after which it fell sharply. There are several reasons for these variations, such as changes in the weather, agricultural practices, advances in technology, or social and political forces.

It can be concluded that as the war is not yet over so the exact magnitude of damage or environmental and economic losses are far difficult to calculate.

References

- Article: https://www.cfr.org/global-conflict-tracker/conflict/israeli-palestinian-conflict
- Data source-1: https://www.kaggle.com/code/thesnak/the-story-of-palestine/input
- Data source-2 (GDP data): https://www.kaggle.com/datasets/zsinghrahulk/israel-vs-palestine
- Others: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3965270
- https://www.researchgate.net/publication/355890614_IsraeliPalestinian_Conflict_A_review_of_the_Past_and_the_Present
- https://crsreports.congress.gov/product/pdf/R/R47754