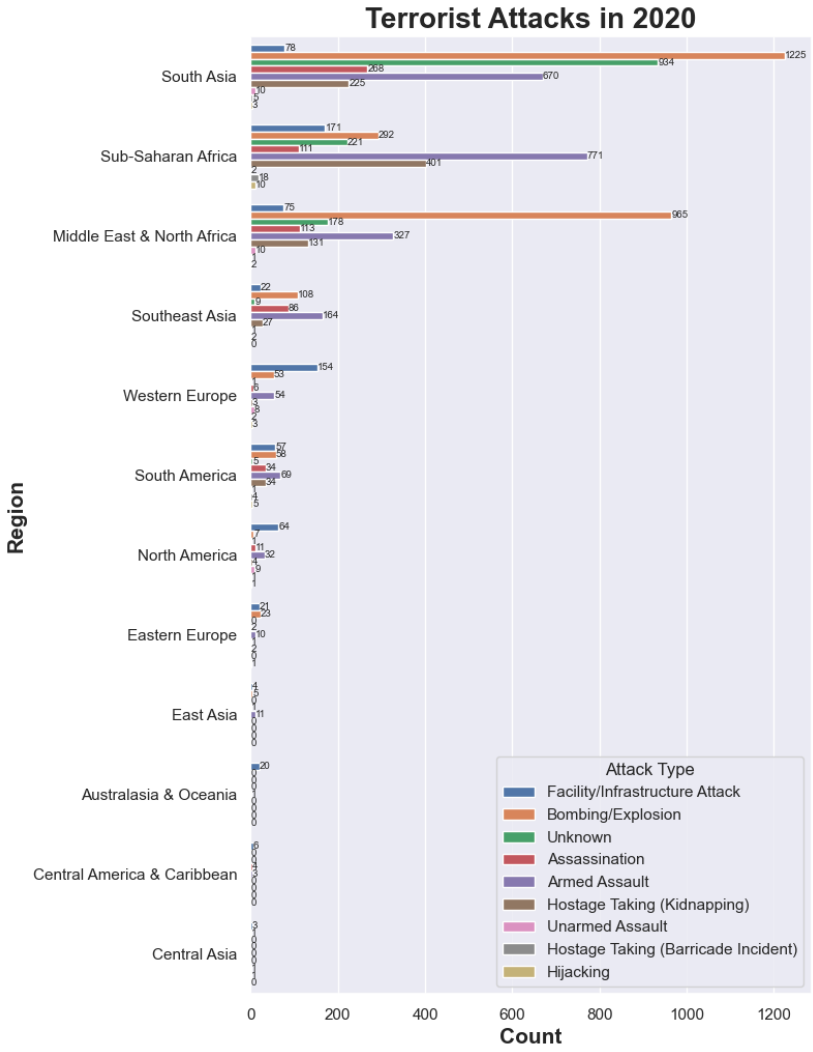
INFSCI 2415 (Information Visualization) Final Report

Regional Focus of Terrorism

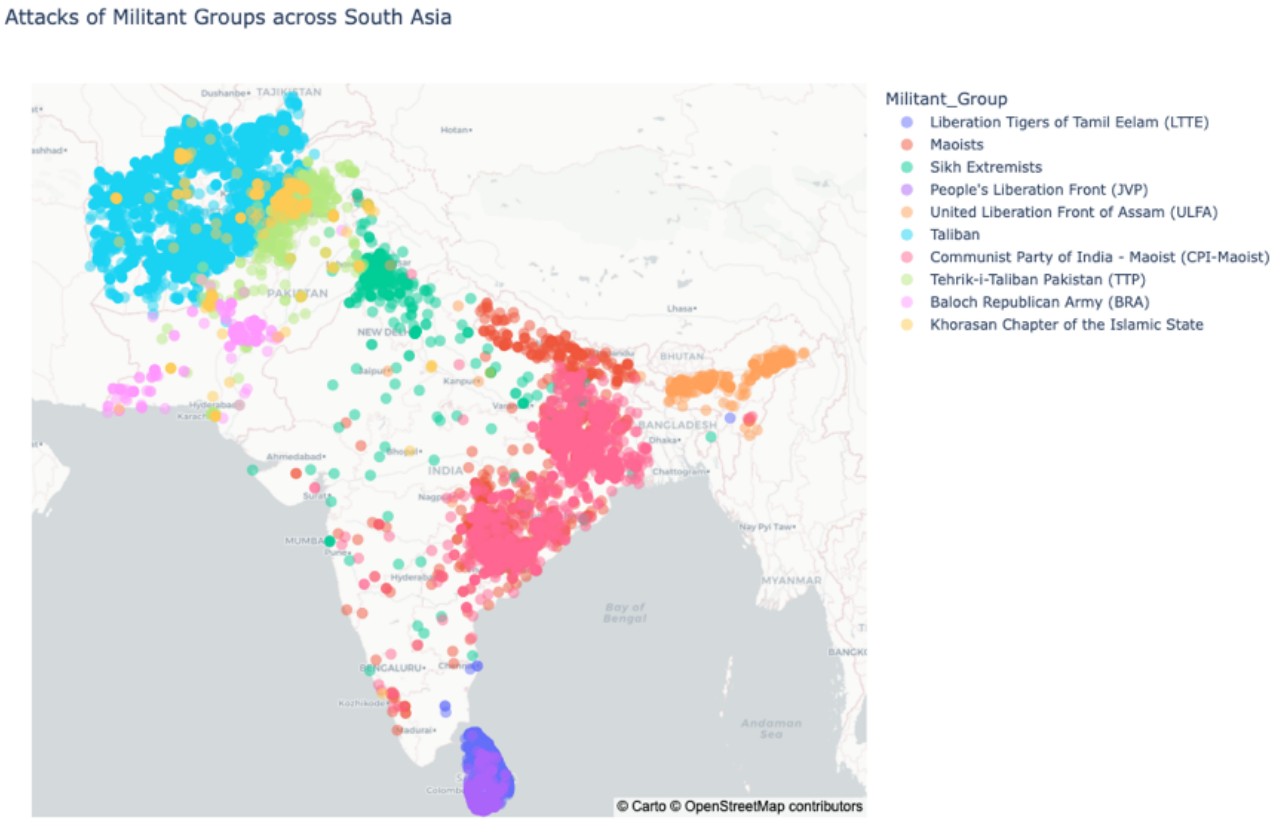


Legend (Attack Type)

- Blue represents Facility/Infrastructure Attack
- Orange represents Bombing/Explosion
- Red represents Assassination
- Purple represents Armed Assault
- Brown represents Hostage taking (Kidnapping)
- Pink represents Unarmed Assault
- Grey represents Hostage taking (Barricade Incident)
- Beige represents Hijacking
- Green represents Unknown

Key Findings

- The graph displays the basic terror statistics of 2020, ordered from highest to lowest in count.
- It can be observed that it is very region-focused, thus allowing for comparative analysis among the different regions of the world.
- The primary observation finds that South Asia has been the biggest victim of terror incidents.
- Among the different attack types, bombing/explosion stands out the maximum in South Asia (1225), Middle East & North Africa (965), and Eastern Europe (23).
- In the West (North America and Western Europe), it can be observed that Facility/Infrastructure Attacks are the maximum.

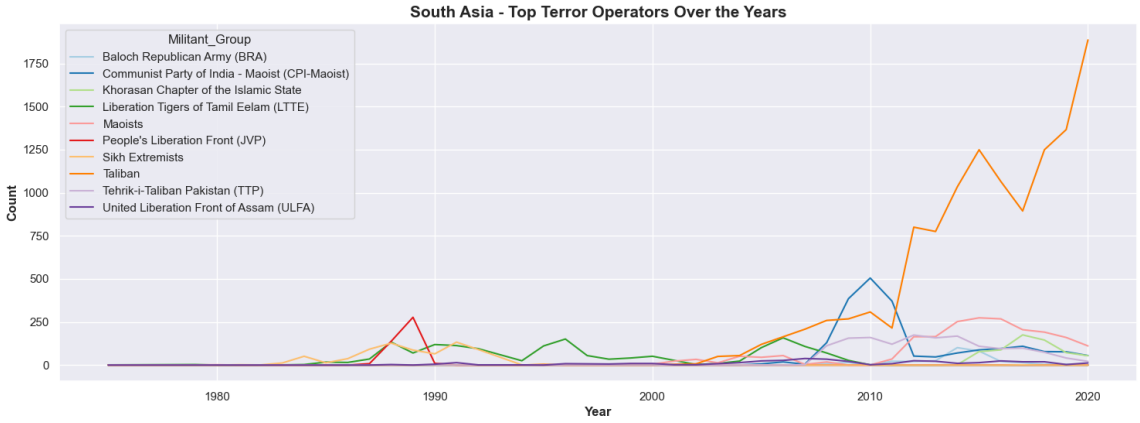


Legend (Militant Group)

- Indigo represents Liberation Tigers of Tamil Eelam (LTTE)
- Red represents Maoists
- Green represents Sikh Extremists
- Purple represents People's Liberation Front (JVP)
- Orange represents United Liberation Front of Assam (ULFA)
- Light blue represents Taliban
- Blue represents Communist Party of India – Maoist (CPI-Maoist)
- Light green represents Tehrik-i-Taliban Pakistan (TTP)
- Magenta represents Baloch Republican Army (BRA)
- Yellow represents Khorasan Chapter of the Islamic State

Key Findings

- The map displays scatter points of attacks carried out by the top ten militant groups operating which are geolocated in South Asia over the time interval of 1980-2020.
- The attacks of the Taliban are clustered all over Afghanistan.
- The attacks of LTTE and JVP are clustered all over Sri Lanka.
- In Pakistan, the attacks of BRA are concentrated in the south, while of TTP are concentrated in the north.
- Khorasan Chapter has incidents in patches in Afghanistan and Pakistan.
- While attacks of Sikh Extremists are concentrated in the north of India, CPI-Maoist attacks are concentrated across the east, and ULFA attacks in the northeast.
- Maoist attacks are mostly restricted to Nepal, and the border it shares with India.



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Key Findings

- The graph displays terror statistics of the top ten militant groups operating in South Asia over the time interval of 1980-2020.
- Terrorism incidents ideally would have started in South Asia around 1982.
- The actions of Maoists peaked around 1989, with around 300 incidents and of CPI-Maoist peaked in 2010, with around 500 incidents.
- Taliban's actions picked up around 2003 and is the highest in 2020 with around 1900 incidents.

Data and Methods

- The dataset was sourced from the Global Terrorism Database, which is a product of University of Maryland's START research center.
- The modules that were used to make visualizations were Pandas, NumPy, Matplotlib, Seaborn, and Plotly. The code was made on Visual Studio Code and was rendered using Jupyter Notebook. Sns.countplot() was used to make the bar graph, pd.crosstab() & plt.gcf() were used to make the crosstab graph, and px.scatter_mapbox() was used to make the map.
- Edits were made on grid, legend, x-axis, y-axis, and title labels for aesthetic appeal.

Significance Statement

- The dataset contains data of over 150 countries, over the time range of 1970 to 2020.
- The visualizations can be used to study the impact of terrorism over the years, and with more regional focus, especially for crafting clear and succinct intelligence reports.
- Predictive diagnostics can be applied using this data, to prevent further terrorism incidents, as terrorism is susceptible to changing governments, geopolitics, global economy, etc.

Data Source: Global Terrorism Database, University of Maryland. https://www.start.umd.edu/gtd/
GitHub Link: https://github.com/Siddhesh0503/INFSCI2415_Final_Project