



Global Terrorism Attacks

EDA USING

(PANDAS|NUMPY|MATPLOTLIB)

(Accenture Phase-2 | Batch-2 |)

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Overview

The Global Terrorism Database (GTD) is a comprehensive dataset that records and documents incidents of terrorism worldwide.

- ❖ It provides detailed information about various aspects of terrorist attacks, including their locations, dates, methods, and outcomes.
- ❖ The dataset is widely utilized for academic research, security analysis, and policy development.

Data Preparation and Cleaning

Showing the dataset

Checking for Null values

Removing unnecessary data and columns

Checking for data types

Dataset

	eventid	year	month	day	extended	country	country_txt	region	region_txt	state	...	specificity	multiple	success	suicide	attacktype1	attacktype1_txt	targtype_txt	targsubtype1	nationality	nationlity_txt
0	1.970000e+11	1970	7	2	0	58	Dominican Republic	2	Central America & Caribbean	NaN	...	1.0	0	1	0	1	Assassination	Private Citizens & Property	68.0	58.0	Dominican Republic
1	1.970000e+11	1970	0	0	0	130	Mexico	1	North America	Federal	...	1.0	0	1	0	6	Hostage Taking (Kidnapping)	Government (Diplomatic)	45.0	21.0	Belgium
2	1.970000e+11	1970	1	0	0	160	Philippines	5	Southeast Asia	Tarlac	...	4.0	0	1	0	1	Assassination	Journalists & Media	54.0	217.0	United States
3	1.970000e+11	1970	1	0	0	78	Greece	8	Western Europe	Attica	...	1.0	0	1	0	3	Bombing/Explosion	Government (Diplomatic)	46.0	217.0	United States
4	1.970000e+11	1970	1	0	0	101	Japan	4	East Asia	Fukouka	...	1.0	0	1	0	7	Facility/Infrastructure Attack	Government (Diplomatic)	46.0	217.0	United States
...
129960	2.010000e+11	2014	4	7	0	214	Ukraine	9	Eastern Europe	Kharkiv	...	1.0	0	1	0	7	Facility/Infrastructure Attack	Journalists & Media	55.0	214.0	Ukraine
129961	2.010000e+11	2014	4	7	0	214	Ukraine	9	Eastern Europe	Donetsk	...	1.0	0	0	0	7	Facility/Infrastructure Attack	Journalists & Media	55.0	214.0	Ukraine
129962	2.010000e+11	2014	4	7	0	214	Ukraine	9	Eastern Europe	Luhansk	...	1.0	0	0	0	7	Facility/Infrastructure Attack	Journalists & Media	55.0	214.0	Ukraine
129963	2.010000e+11	2014	4	7	0	4	Afghanistan	6	South Asia	Herat	...	3.0	0	1	0	3	Bombing/Explosion	Police	23.0	4.0	Afghanistan
129964	2.010000e+11	2014	4	7	0	4	Afghanistan	6	South Asia	Kandahar	...	3.0	0	1	1	3	Bombing/Explosion	Military	37.0	422.0	International

129965 rows × 21 columns

Top & bottom 5 values

	eventid	year	month	day	extended	country	country_txt	region	region_txt	state	...	specificity	multiple	success	suicide	attacktype1	attacktype1_txt	targettype_txt	t	
0	1.970000e+11	1970	7	2	0	58	Dominican Republic	2	Central America & Caribbean	NaN	...	1.0	0	1	0	1	Assassination	Private Citizens & Property		
1	1.970000e+11	1970	0	0	0	130	Mexico	1	North America	Federal	...	1.0	0	1	0	6	Hostage Taking (Kidnapping)	Government (Diplomatic)		
2	1.970000e+11	1970	1	0	0	160	Philippines	5	Southeast Asia	Tarlac	...	4.0	0	1	0	1	Assassination	Journalists & Media		
3	1.970000e+11	1970	1	0	0	78	Greece	8	Western Europe	Attica	...	1.0	0	1	0	3	Bombing/Explosion	Government (Diplomatic)		
4	1.970000e+11	1970	1	0	0	101	Japan	4	East Asia	Fukouka	...	1.0	0	1	0	7	Facility/Infrastructure Attack	Government (Diplomatic)		
5 rows × 21 columns																				

	eventid	year	month	day	extended	country	country_txt	region	region_txt	state	...	specificity	multiple	success	suicide	attacktype1	attacktype1_txt	targettype_txt	targetsubtype1	nationality	nationality_txt
129960	2.010000e+11	2014	4	7	0	214	Ukraine	9	Eastern Europe	Kharkiv	...	1.0	0	1	0	7	Facility/Infrastructure Attack	Journalists & Media	55.0	214.0	Ukraine
129961	2.010000e+11	2014	4	7	0	214	Ukraine	9	Eastern Europe	Donetsk	...	1.0	0	0	0	7	Facility/Infrastructure Attack	Journalists & Media	55.0	214.0	Ukraine
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129963	2.010000e+11	2014	4	7	0	4	Afghanistan	6	South Asia	Herat	...	3.0	0	1	0	3	Bombing/Explosion	Police	23.0	4.0	Afghanistan
129964	2.010000e+11	2014	4	7	0	4	Afghanistan	6	South Asia	Kandahar	...	3.0	0	1	1	3	Bombing/Explosion	Military	37.0	422.0	International
5 rows × 21 columns																					

Checking for Null Values

Null values count

```
eventid      0
year         0
month        0
day          0
extended     0
country      0
country_txt  0
region       0
region_txt   0
state        419
city         435
specificity   6
multiple     0
success      0
suicide      0
attacktype1  0
attacktype1_txt  0
targettype_txt  0
targetsubtype1 6260
nationality  859
nationality_txt 859
dtype: int64
```

After managing it

```
eventid      0
year         0
month        0
day          0
extended     0
country      0
country_txt  0
region       0
region_txt   0
state        0
city         0
specificity   0
multiple     0
success      0
suicide      0
attacktype1  0
attacktype1_txt  0
targettype_txt  0
targetsubtype1 0
nationality  0
nationality_txt 0
dtype: int64
```

Summary statistics

	eventid	year	month	day	extended	country	region	specificity	multiple	success	suicide	attacktype1	targsubtype1	nationality
count	1.224520e+05	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000	122452.000000
mean	1.997482e+11	1997.546761	6.377879	15.388707	0.035165	135.076814	6.688866	1.425497	0.122881	0.916808	0.025504	3.120651	46.388397	127.523152
std	1.205666e+09	12.430346	3.427141	8.831179	0.184197	118.167290	3.026201	1.020085	0.328302	0.276173	0.157650	1.843347	31.615889	87.206323
min	1.970000e+11	1970.000000	0.000000	0.000000	0.000000	4.000000	1.000000	1.000000	0.000000	0.000000	0.000000	1.000000	1.000000	4.000000
25%	1.990000e+11	1987.000000	3.000000	8.000000	0.000000	69.000000	4.000000	1.000000	0.000000	1.000000	0.000000	2.000000	21.000000	75.000000
50%	2.000000e+11	1997.000000	6.000000	15.000000	0.000000	98.000000	6.000000	1.000000	0.000000	1.000000	0.000000	3.000000	34.000000	101.000000
75%	2.010000e+11	2010.000000	9.000000	23.000000	0.000000	160.000000	10.000000	1.000000	0.000000	1.000000	0.000000	3.000000	73.000000	175.000000
max	2.010000e+11	2014.000000	12.000000	31.000000	1.000000	1004.000000	12.000000	5.000000	1.000000	1.000000	1.000000	9.000000	113.000000	1004.000000

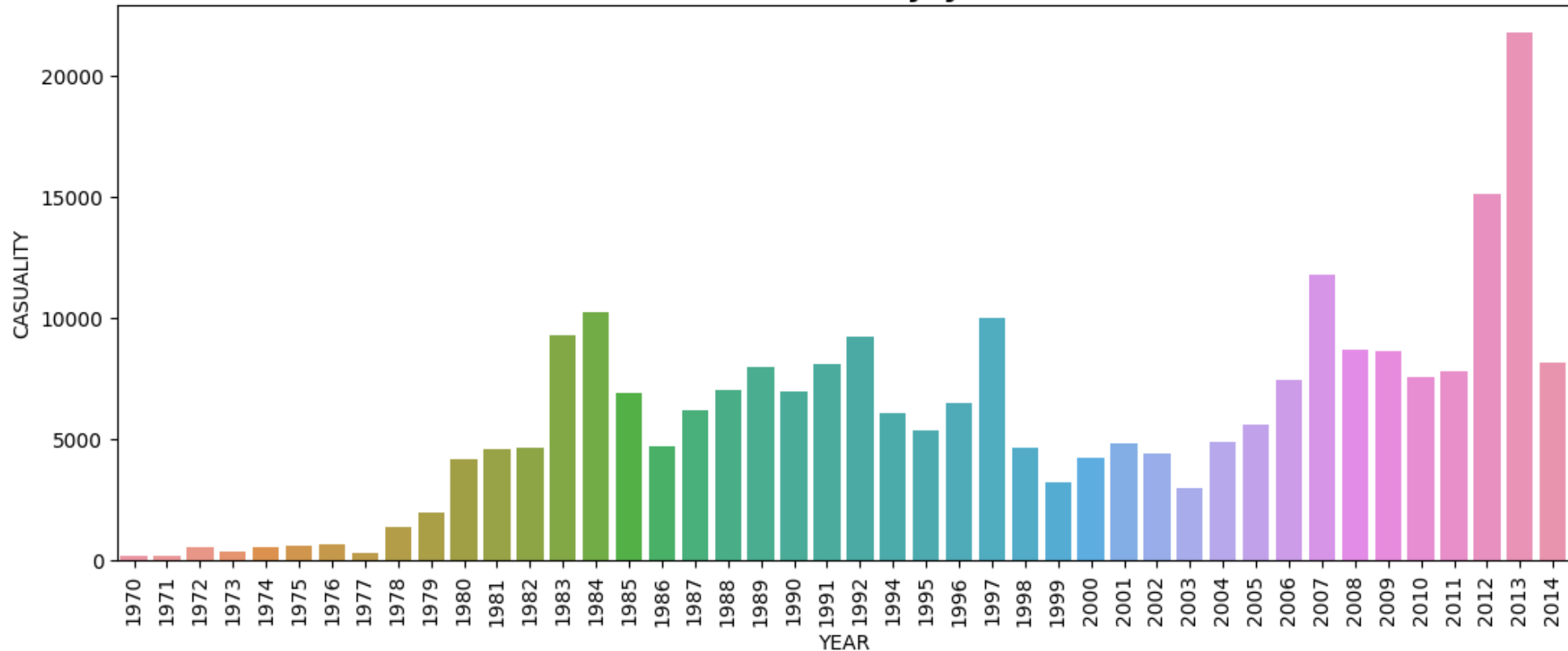
Exploratory Data Analysis (EDA)

Objective Questions:

- What are the Number of casualties every year ?
- Terrorism Trend over the year?
- Most Affected countries or regions?
- What are the primary targets of these attacks?
- Top terrorist group in the world?
- Terror trends by these top groups?

Finding Causalities

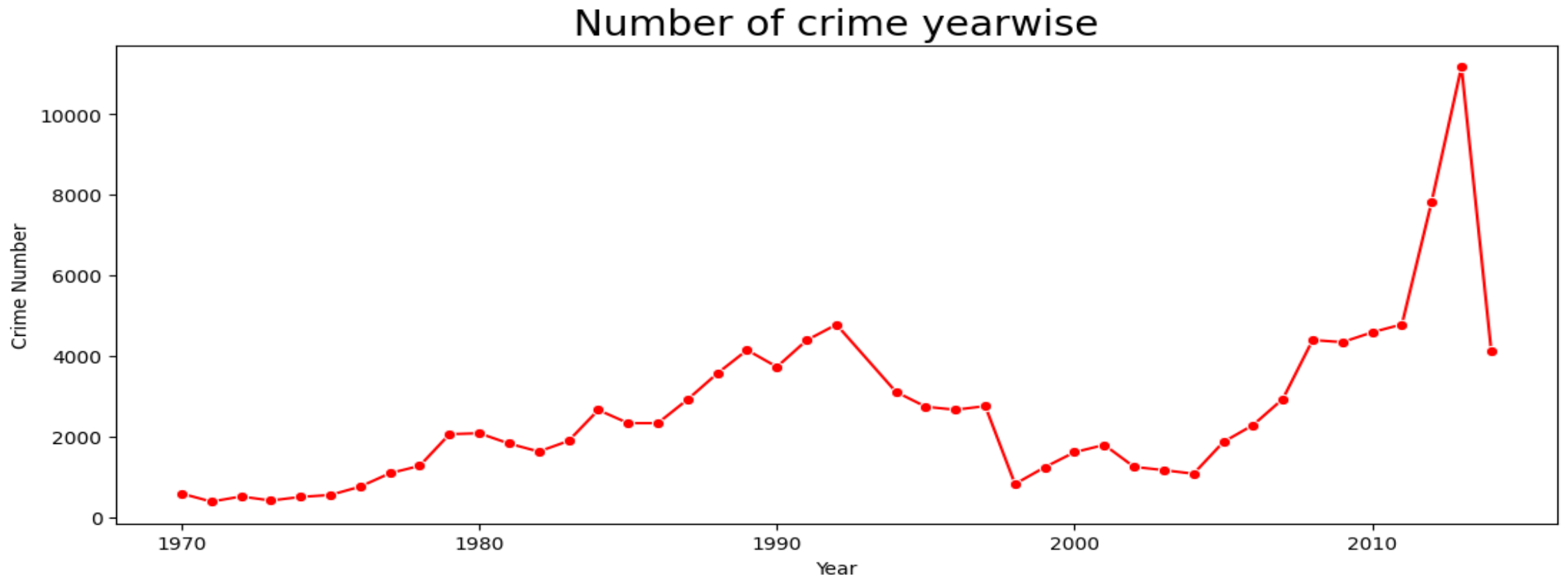
Number of casualties every year (1970 - 2014)



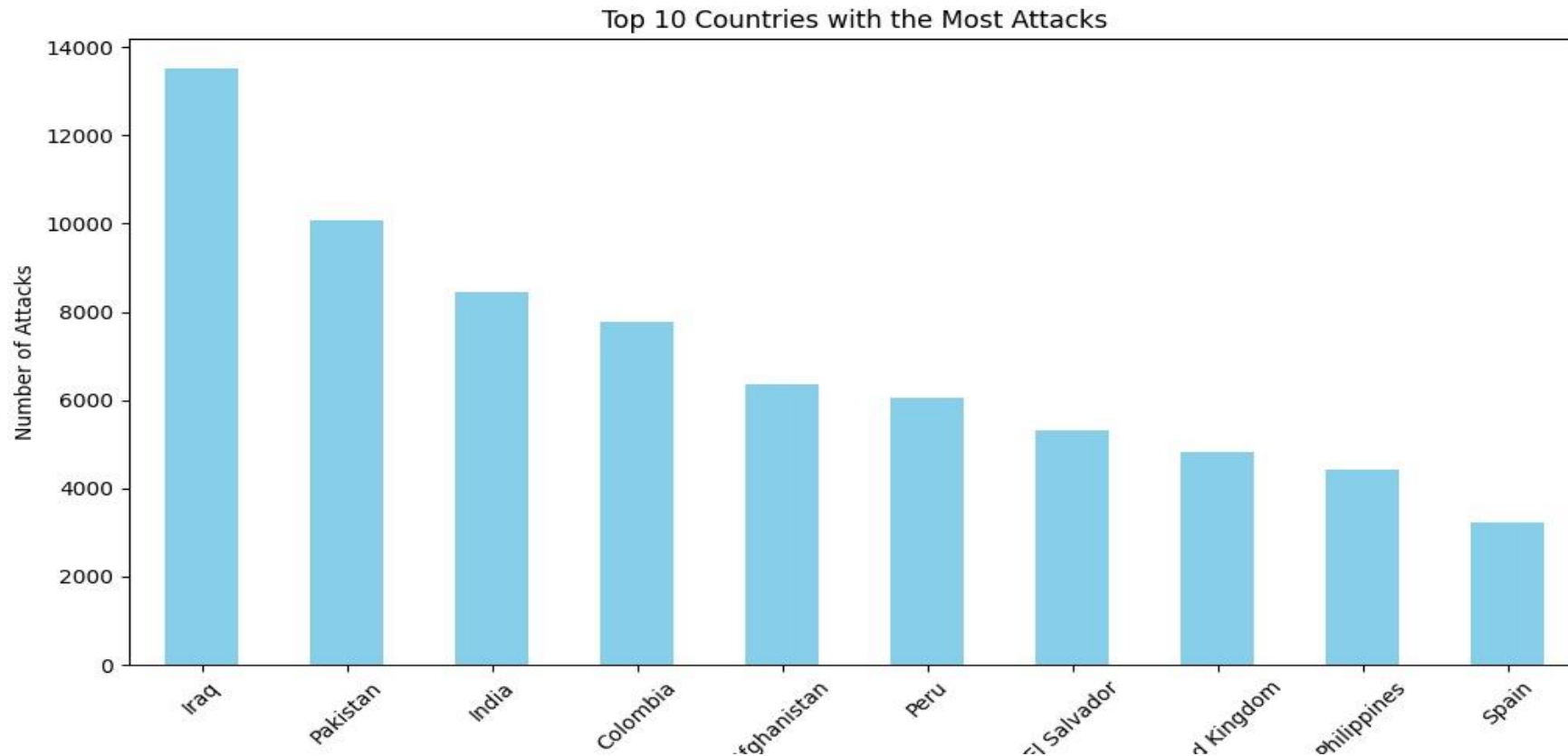
❖ We can see in this graph that casualties were increasing from 1983 - 1997.

❖ Crime was peak in this graph in 2013 - 2014.

Crime over the year



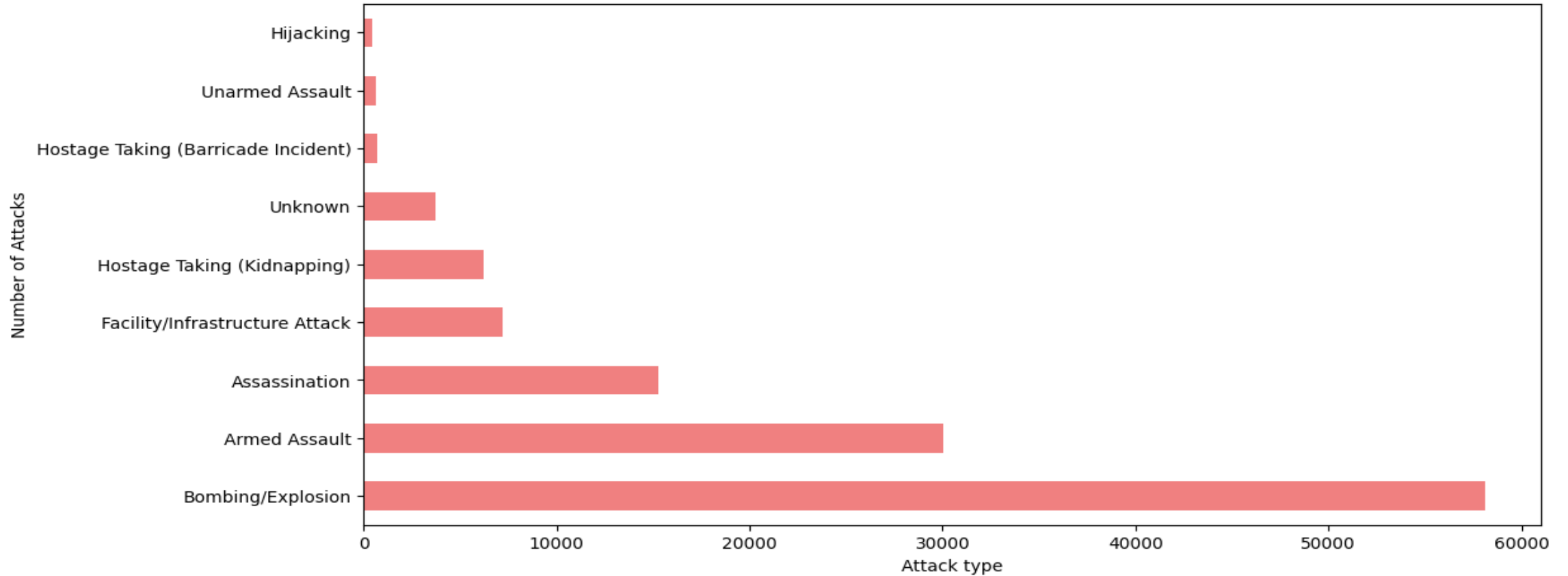
Top 10 Countries with most Attacks



Different Number of attacks in the different region and different Country. Most affected region is Middle east & North Africa and South Asia whereas most affected countries are Iraq, Pakistan and so on given in above graphs

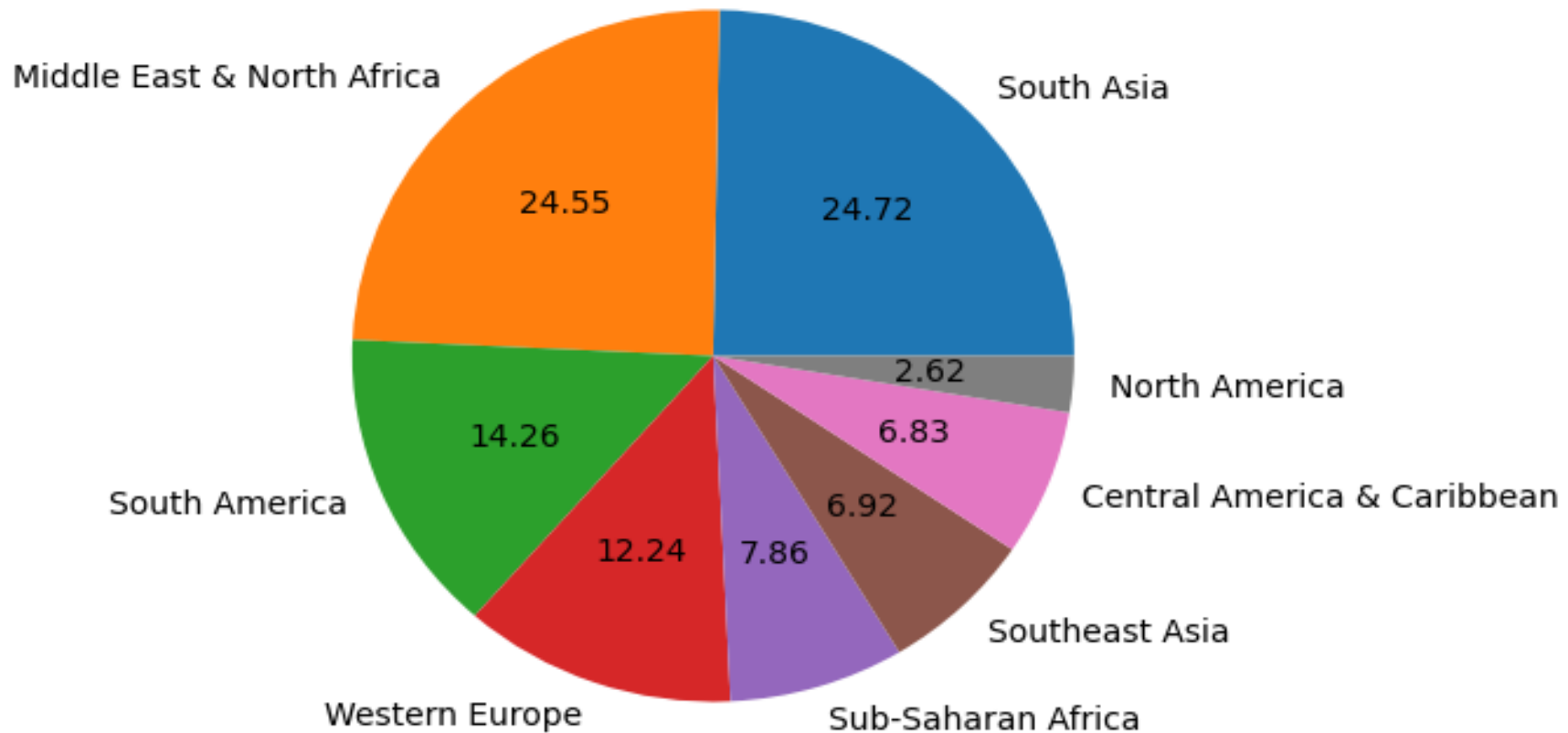
Target type trend

Most Common Types of Terrorist Attacks

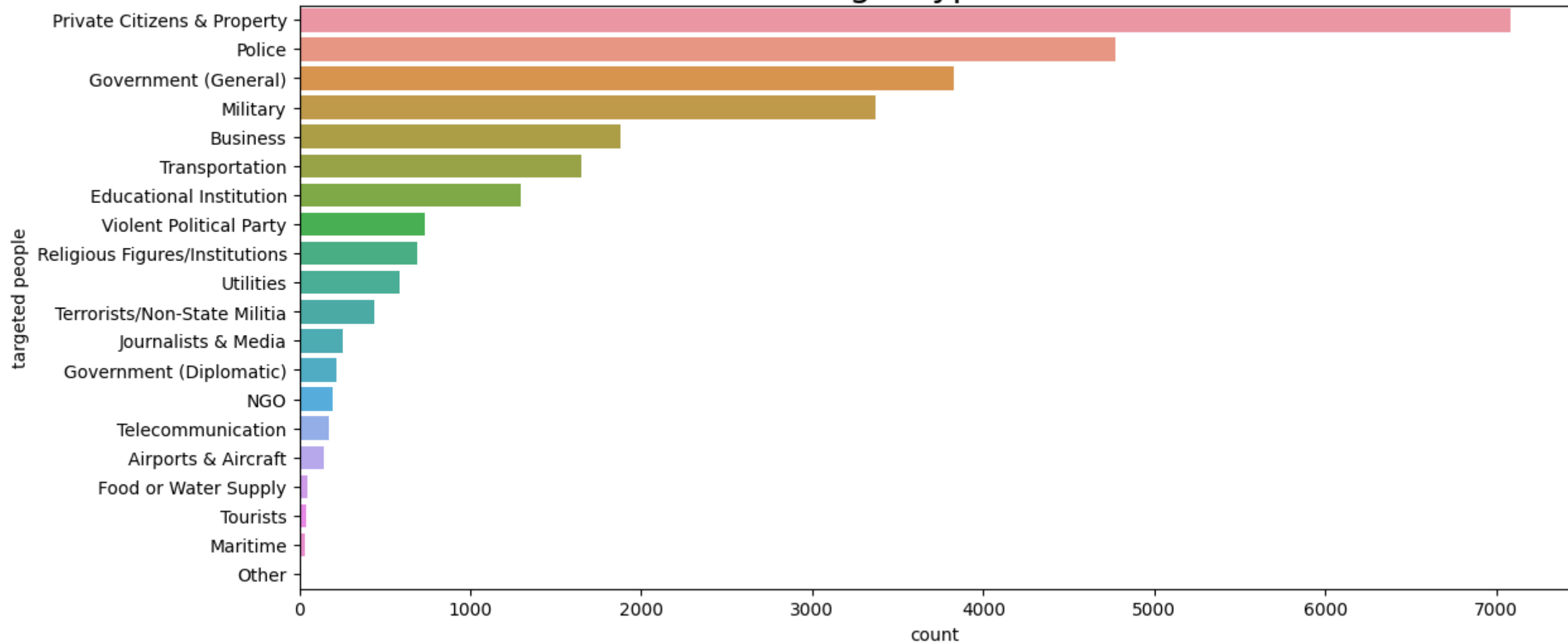


Terrorism trends in region wise

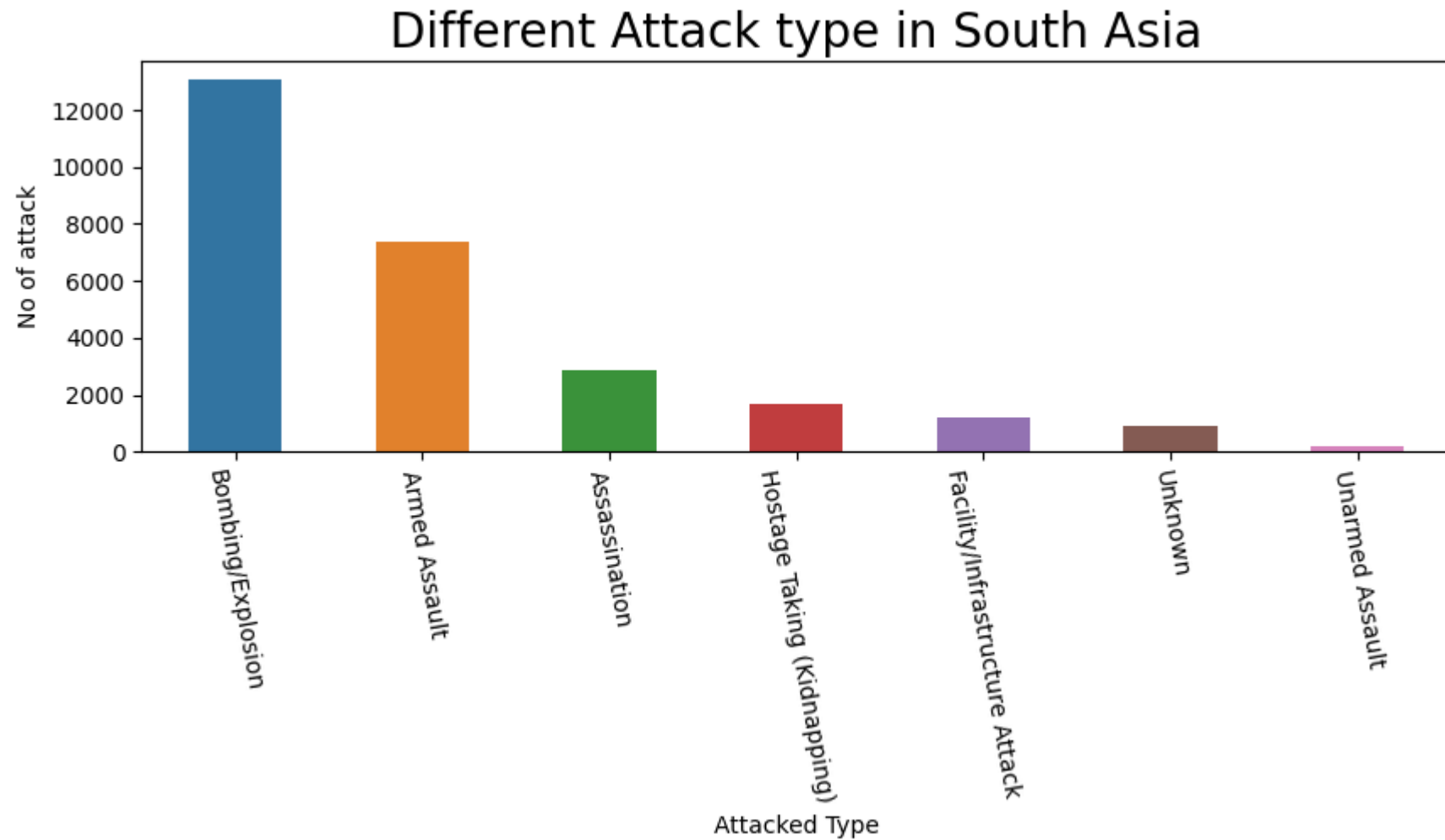
Crime percent with region in this world



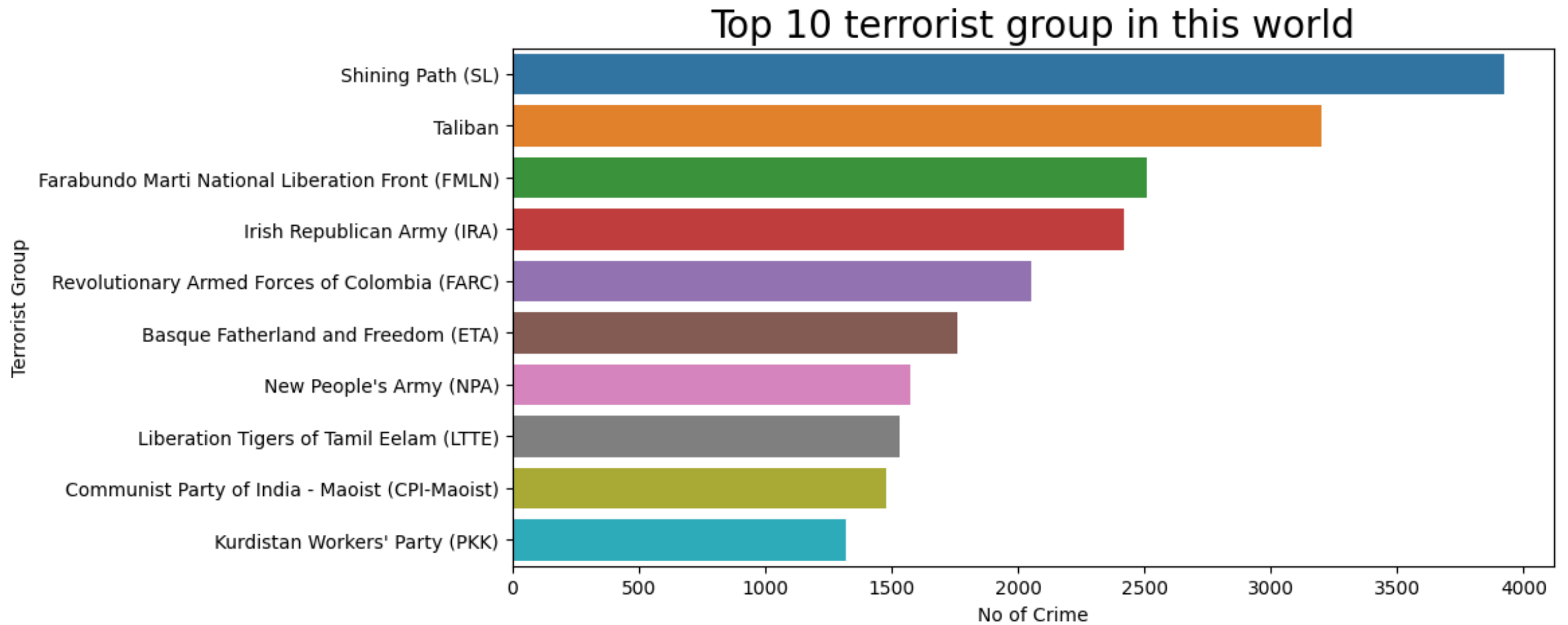
Different Target type in South Asia



In the realm of terrorism, bombings, explosions, and armed assaults stand out as the most frequently employed methods of attack. Whereas in the most affected region the targeted people belonged to the Private Citizens & Property & so on given in the graphs above.

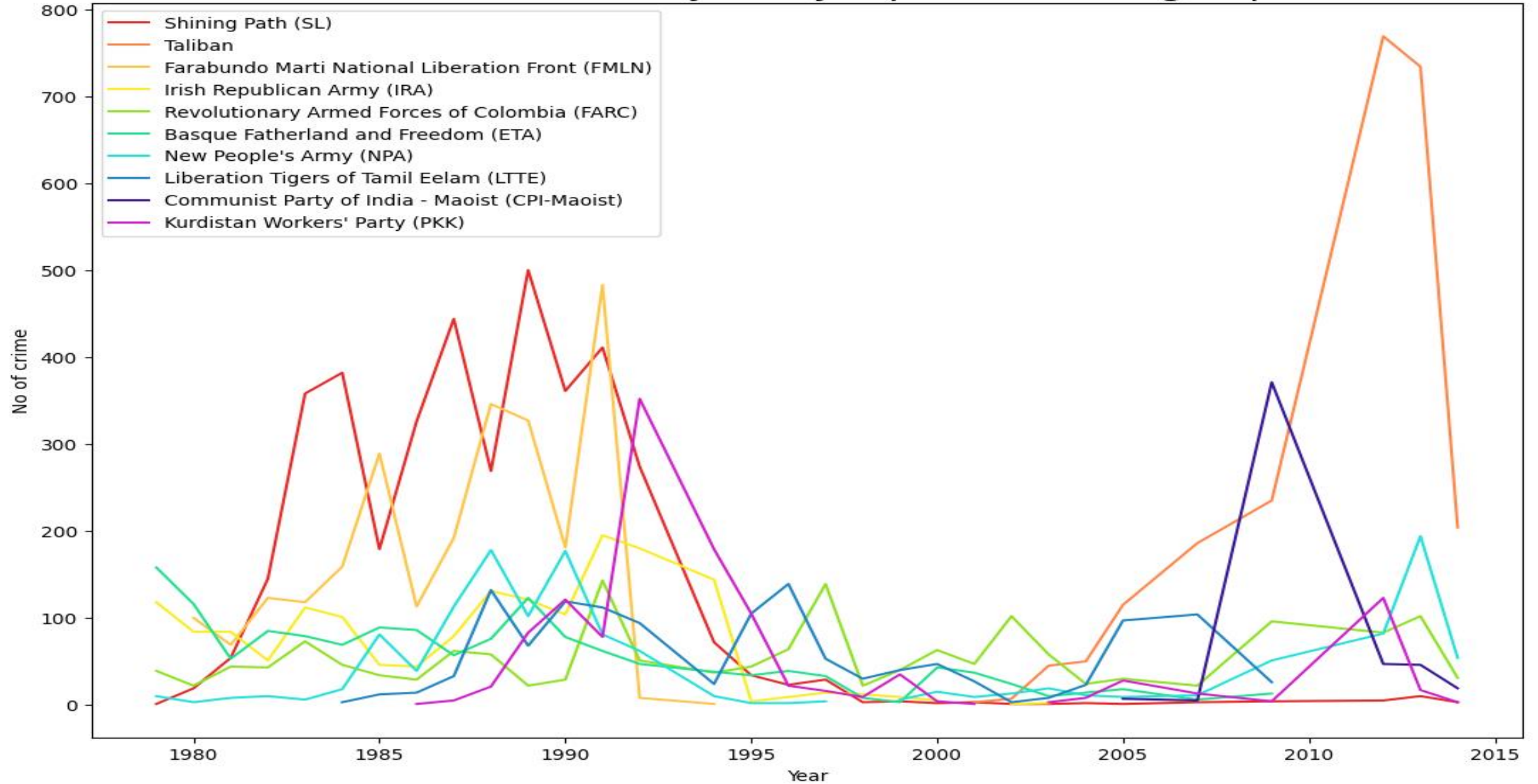


South Asia's are most attacked by **Bombing & Explosion**



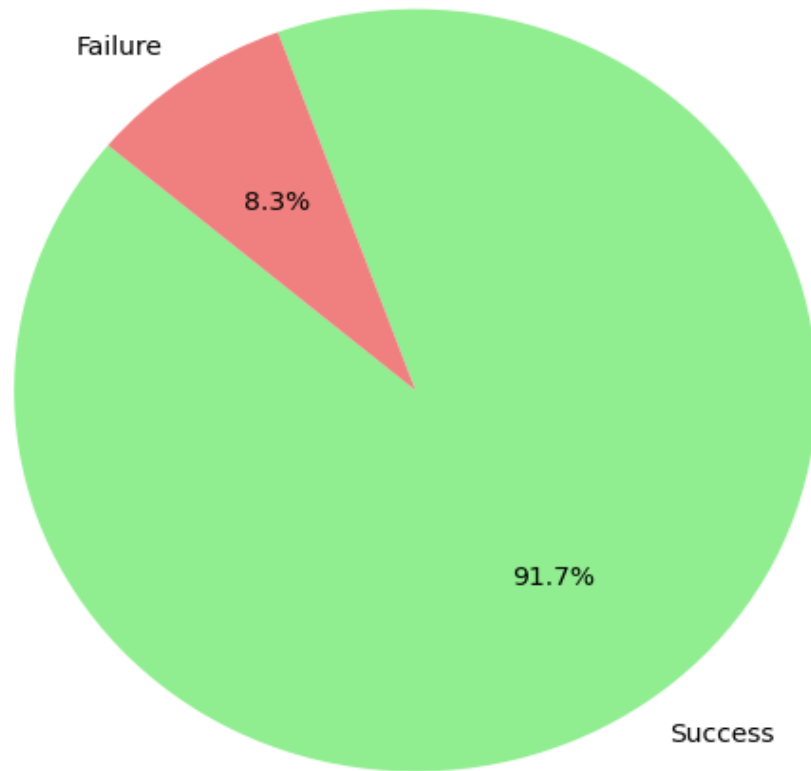
- Shining Path(SL) group is most active Terrorism group.

No of crime each year by top 10 terrorist group



Success & Failure

Success and Failure Rates of Terrorist Attacks



"An overwhelming 91% of terrorist attacks achieve success, with only 8% resulting in failure. This underscores the high effectiveness of these acts, necessitating strong counterterrorism strategies."

Insights & Solutions

- An alarming 91% success rate in terrorist attacks, coupled with an 8% failure rate, underscores the formidable effectiveness of such acts.
- Within the realm of terrorism, certain methods stand out prominently, notably bombings, explosions, and armed assaults.
- To counter this high success rate, there is an urgent need to bolster counterterrorism strategies. This involves enhancing intelligence and surveillance capabilities, fortifying security measures at potential target sites.
- Recognizing the prevalence of these attack methods is critical for security agencies and governments. Strategies should be devised to tackle these threats, encompassing improved explosive detection technologies, reinforced security measures at potential targets, and the implementation of countermeasures against armed assaults.

Insights & Solutions

- The trends in terrorism attacks exhibit significant phases, characterized by fluctuations over the years. These include a steady increase in attacks until the early 1990s, followed by a declining trend, a resurgence in the mid-2000s, and a sharp decrease after 2011.
- Various regions and countries experience differing frequencies of terrorist attacks. Notably, the Middle East & North Africa and South Asia emerge as some of the most affected regions, with Iraq and Pakistan being among the hardest-hit countries.
- Acknowledging the dynamic nature of terrorism is essential. Counterterrorism efforts must be agile and adaptable, addressing the root causes of terrorism, fostering international collaboration, and engaging with local communities.
- Regional and country-specific strategies are paramount. High-risk regions must prioritize security enhancements, intelligence sharing, and the mitigation of socioeconomic factors contributing to terrorism. International cooperation remains crucial for tackling transnational terrorism, while the exchange of best practices and expertise is vital for an effective global response.

Conclusion

- ❑ The Global Terrorism Database (GTD) is a comprehensive dataset that records and documents incidents of terrorism worldwide. It provides detailed information about various aspects of terrorist attacks, including their locations, dates, methods, and outcomes. The dataset is widely utilized for academic research, security analysis, and policy development.
- ❑ These insights and solutions underscore the importance of a multi-faceted approach to counterterrorism. It includes intelligence, security measures, deradicalization efforts, and addressing root causes. Tailoring strategies to specific regions and adapting to evolving trends is key to effectively combatting terrorism on a global scale.