

Global Terrorism Analysis

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Introduction:

The Global Terrorism Database (GTD) contain detailed information about terrorist attacks around the world from 1970 through 2017. The GTD includes systematic data on domestic as well as international terrorist incidents that have occurred during this time period and now includes more than 180,000 records and 135 columns including date, country, target details, attack type, and also if there was a motive behind the attack, the outcome of the attack, and the weapon details. The database is maintained by researchers at the National Consortium for the Study of Terrorism and Responses to Terrorism (START), headquartered at the University of Maryland.

Problem Statement:

The objective of the project is to understand the terrorist events around the world. By making use of interactive charts and animations we have tried to make the exploration easy and more informative. The report is divided into 4 sections. In first section, I tried to have a Birdseye view on global events and observe the trend of attacks across the globe. In section two, I tried to observe total casualties and total property damage due to these attacks. In section three, I tried to observe the trend of attacks region wise and country wise. Lastly in section four, we tried to analyse type of attacks, target types, preferred weapons and most active organisation.

- **iyear:** Year in which event (attack) took place.

- **country_txt:** Name of the country which was attacked.
- **Region_txt:** Name of the region where the particular country belongs to.
- **City:** Name of the city which was attacked.
- **Success:** Whether attack succeeded or failed.
- **Attacktype_txt:** Type of attack.
- **Targettype_txt:** Type of target.
- **Gname:** Name of the organisation or terror group.
- **weaptype1_txt:** Type of weapon used for attack.
- **nkill:** Number of people killed during attack.
- **nkillter:** Number of terrorists killed during attack.
- **nwound:** Number of wounded people during the attack.
- **propextent:** Extent of which property is damaged.
- **propvalue:** Value of the damaged property.

Data Pre-processing:

- **Null values Treatment**

Our dataset contains a large number of null values which might tend to disturb our insights hence we dropped some them and some were replaced with appropriate values at the beginning of our project in order to get a better result.

- **Column decoding**

Assign the levels of the variable success (did attackers succeeded or failed) with 1 as success and 0 as failure. Because encoded variables are difficult to visualize and interpret.

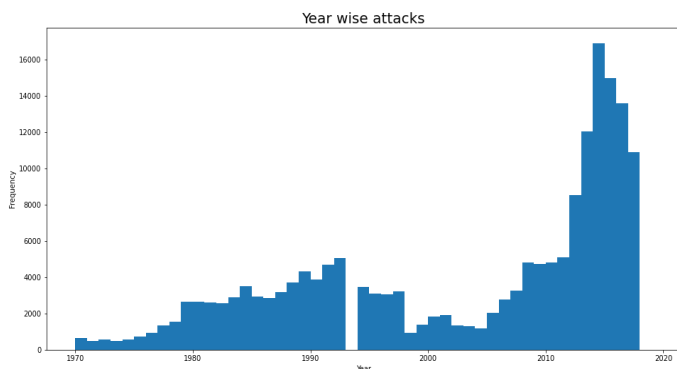
- **Cleaning and Transforming Data**

Cleaning is the process of removing undesired columns, values, or any suffix, prefix, or anything which can produce an exception. Transforming is completely a different process, transforming is required to ensure the consistent data type of features because inconsistent data type will generate an obstacle during the execution of the program.

Analysis and Visualization:

SECTION 1

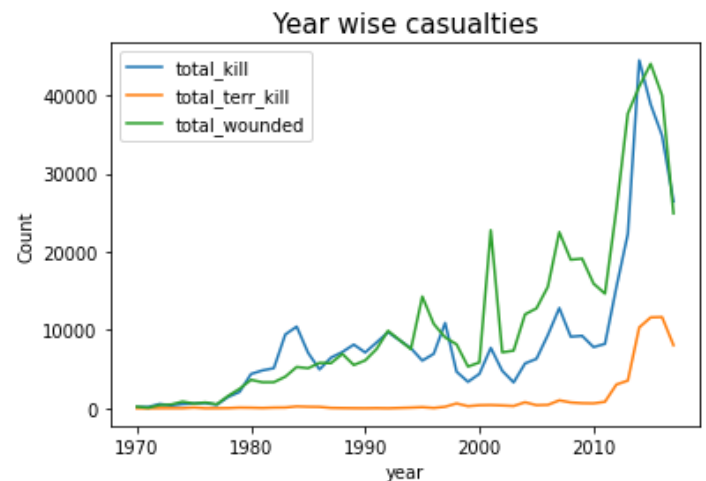
To understand total number of attacks in particular year all over the world



- Before 2000 the frequency of the attacks was increasing very slowly.
- After that it decreased to some extent but since 2005 it has increased very sharply
- It peaked in the year 2014

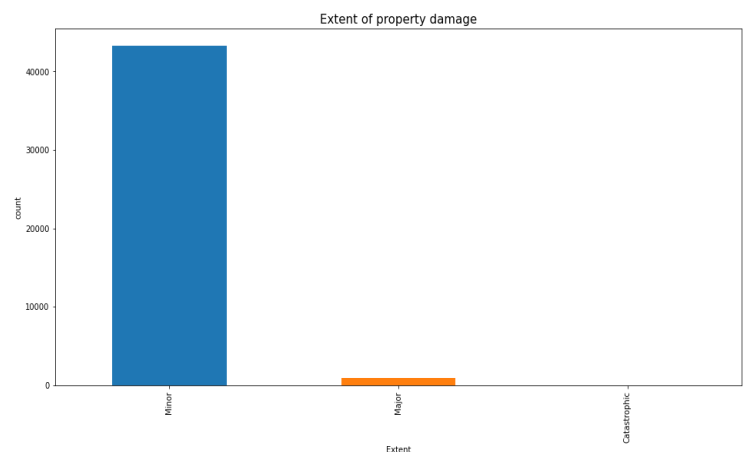
SECTION 2

Total casualties over the years:



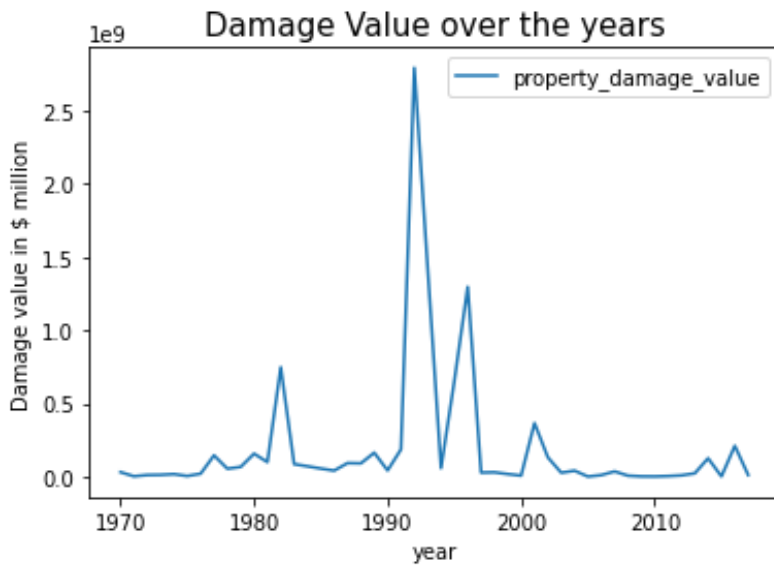
- Number of killed and wounded citizens increased slowly over the years.
- Number of terrorists killed was constant over the years and far more less compared to citizens killed
- All three counts increased sharply after 2010 because of increased number of attacks during that period

To understand the extent to which properties were damaged due to attacks



- Extent of damage for most of the properties was minor that is damage value up to \$1 million.

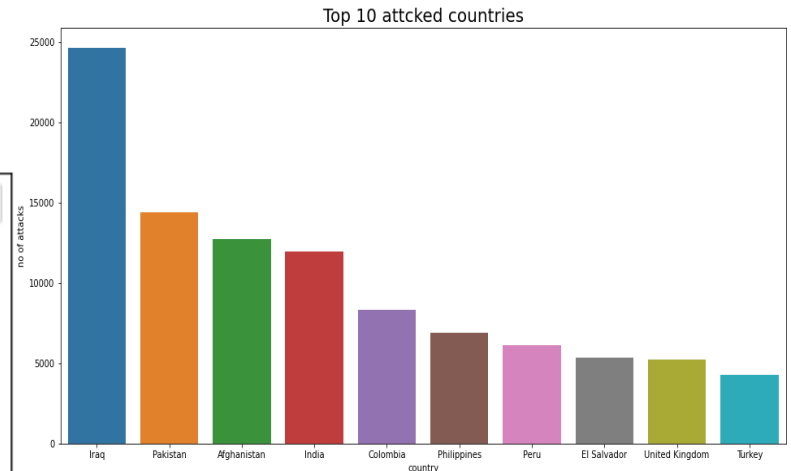
To understand the damage value of properties over the years



- Total damage value of properties was up to \$1 million for most of the years. But, for some years the damage was Catastrophic

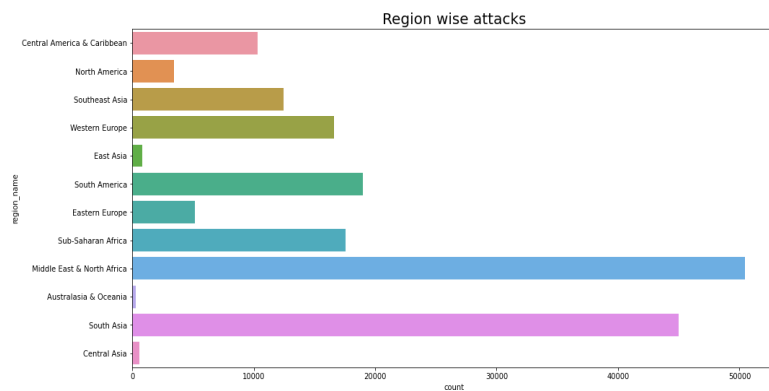
SECTION 3

Top 10 countries which are attacked most of the times



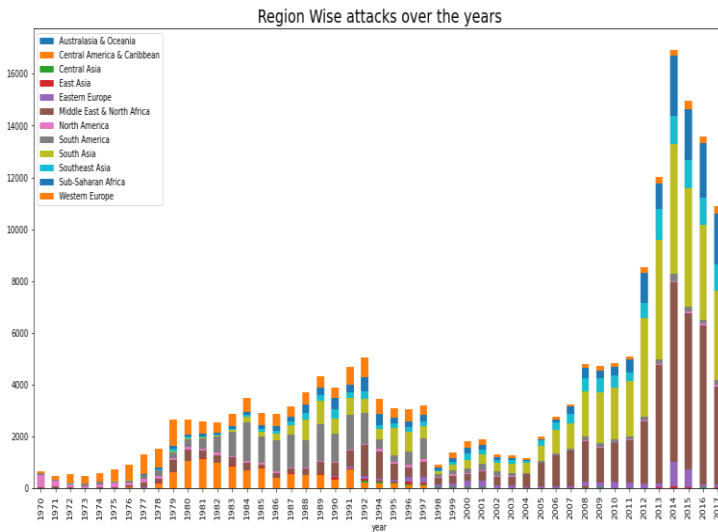
- Iraq is the country with the highest number of terrorist attacks followed by Pakistan and Afghanistan.

Region wise attacks



- Middle East and North Africa is most vulnerable region to the terrorist attacks followed by South Asia and South America.

To understand in which region attacks were most over the years

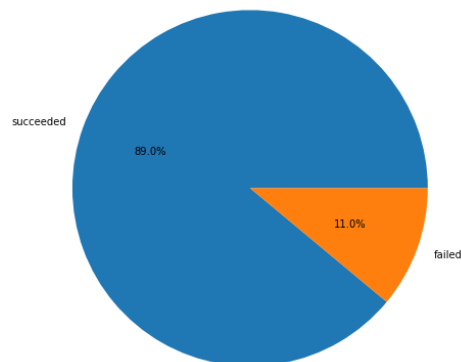


- It seems that attacks were most frequent in South America around 1980's
- Since, last two decades Middle East and North Africa as well as South Asia has experienced highest number of attacks.

SECTION 4

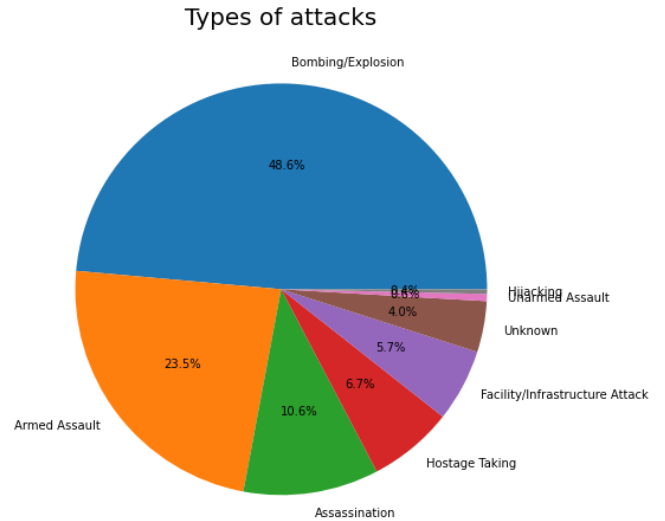
To understand how many attacks were successful and how many failed

Succeeded and Failed attacks



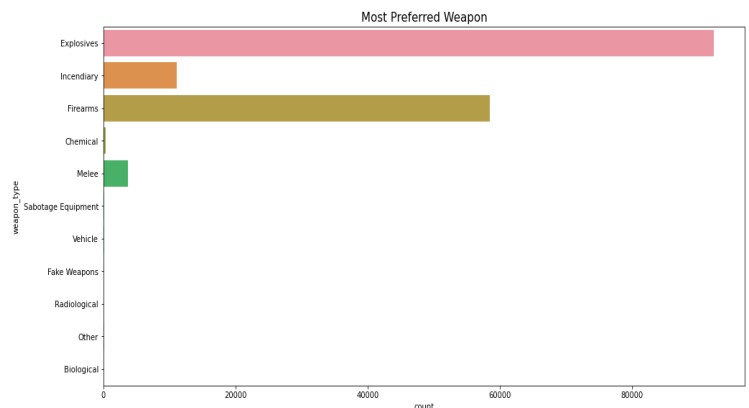
- Most of the attacks attempted (around 89 %) were successful.

To understand which type of attack is most in numbers



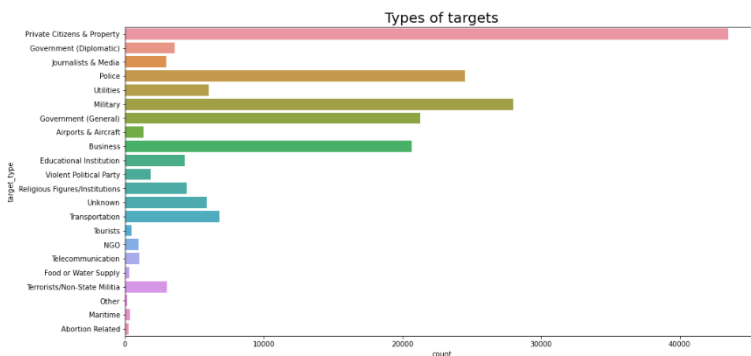
- Almost half of the attacks are of the type Bombing and Explosion followed by Armed Assault.
- while Hijacking and Unarmed Assault are least in numbers.

To understand which weapon was used for most of the attacks



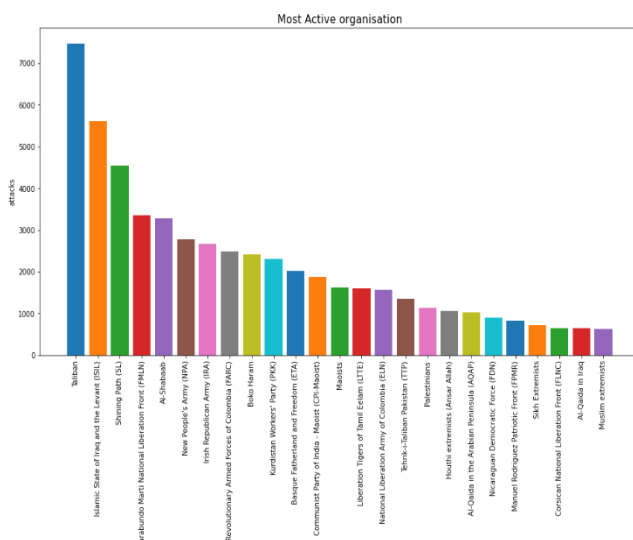
- Explosives or bombings are the most preferred weapon by attackers followed by Firearms that is guns.

To understand what or to whom attackers targeted the most



- Private citizens and property are the most common target for the attackers
- while maritime, abortion related and tourists are not targeted very often

To understand how many times a specific terror group has attempted terror attacks



- Taliban is the most active organisation or the terror group followed by ISIL.

Conclusion:

- ✓ From the study, it can be drawn that the frequency of attacks has increased sharply since the year 2005.
- ✓ As the attacks are increasing, the casualties also increase proportionally.
- ✓ Extent of damage for most of the properties is minor but sometimes attacks cause major as well as catastrophic damage to the properties.
- ✓ Iraq is the country with the highest number of terrorist attacks followed by Pakistan and Afghanistan.
- ✓ India is fourth in row.
- ✓ Middle East and North Africa is most vulnerable region to the terrorist attacks followed by South Asia and South America.
- ✓ Middle East and North Africa as well as South Asia has experienced highest number of attacks over last two decades.
- ✓ Most of the attacks attempted are successful.
- ✓ Almost half of the attacks are of the type Bombing and Explosion.
- ✓ Attackers prefer explosives or bombings most as their weapon.
- ✓ Private citizens and property are main target for the attackers.
- ✓ Taliban is the most active terror organisation.

References: Geeks for geeks.