# Capstone Project : 1
## Global Terrorism Analysis

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# Points for Discussion

- Understanding Problem Statement
- Data Set Information
- Nan Value Handling
- Data Wrangling
- Variable Explanation
- Year wise analysis
- Region wise analysis
- Type of attack
- Analysis on India
- Terrorist group analysis
- Map
- How to Stop Terrorism
- Challenges
- Conclusion
- Q&A

# Understanding Problem Statement

- Topic –  "Global Terrorism"
- Problem Statement --  Explore and Analyze the Global Terrorism dataset to discover the key finding to understand terrorism and their activities.

- Terrorism is the unlawful use of force or violence against persons or property to intimidate or coerce a government or its citizens to fulfill certain political or social objectives.

- Law enforcement generally recognizes two types of terrorism: domestic and international.

# Data Set Information

- The Global Terrorism Dataset is a open source database including terrorist attack all over the world from 1970 till 2017.

- This dataset includes systematic data of more than 180,000 attacks around the world.

- The database is maintained by researchers at the National Consortium for the Study of Terrorism and Response  to Terrorism (START).

# Data Processing and Nan value Handling

encoding = "ISO-8859-1",

- Data encoding
- Dataset contain 181691 records and 135 columns
- There is a significant amount of missing information
- We have dropped all the null columns and then we left with a Significantly fewer column
- We have used around 20 variables for the analysis

| # | Column | Non-Null Count | Dtype |
|---|--------|----------------|-------|
| 0 | eventid | 181691 non-null | int64 |
| 1 | iyear | 181691 non-null | int64 |
| 2 | imonth | 181691 non-null | int64 |
| 3 | iday | 181691 non-null | int64 |
| 4 | approxdate | 9239 non-null | object |
| 5 | extended | 181691 non-null | int64 |
| 6 | resolution | 2220 non-null | object |
| 7 | country | 181691 non-null | int64 |
| 8 | country_txt | 181691 non-null | object |
| 9 | region | 181691 non-null | int64 |
| 10 | region_txt | 181691 non-null | object |
| 11 | provstate | 181270 non-null | object |
| 12 | city | 181257 non-null | object |
| 13 | latitude | 177135 non-null | float64 |
| 14 | longitude | 177134 non-null | float64 |
| 15 | specificity | 181685 non-null | float64 |
| 16 | vicinity | 181691 non-null | int64 |
| 17 | location | 55495 non-null | object |
| 18 | summary | 115562 non-null | object |
| 19 | crit1 | 181691 non-null | int64 |
| 20 | crit2 | 181691 non-null | int64 |
| 21 | crit3 | 181691 non-null | int64 |
| 22 | doubtterr | 181690 non-null | float64 |
| 23 | alternative | 29011 non-null | float64 |
| 24 | alternative_txt | 29011 non-null | object |
| 25 | multiple | 181690 non-null | float64 |
| 26 | success | 181691 non-null | int64 |
| 27 | suicide | 181691 non-null | int64 |
| 28 | attacktype1 | 181691 non-null | int64 |
| 29 | attacktype1_txt | 181691 non-null | object |
| 30 | attacktype2 | 6314 non-null | float64 |
| 31 | attacktype2_txt | 6314 non-null | object |
| 32 | attacktype3 | 428 non-null | float64 |
| 33 | attacktype3_txt | 428 non-null | object |
| 34 | targtype1 | 181691 non-null | int64 |
| 35 | targtype1_txt | 181691 non-null | object |
| 36 | targsubtype1 | 171318 non-null | float64 |
| 37 | targsubtype1_txt | 171318 non-null | object |
| 38 | corp1 | 139141 non-null | object |
| 39 | target1 | 181055 non-null | object |
| 40 | natlty1 | 180132 non-null | float64 |
| 41 | natlty1_txt | 180132 non-null | object |
| 42 | targtype2 | 11144 non-null | float64 |

NULL values

# Data Wrangling

Cleaning and unifying dataset for easy access and analysis. Ex-(Orissa to Odisha)

More then 70% of the dataset contain null column or contain duplicate column

We have dropped all the duplicate column and then we left with a Significantly fewer column

Important columns:
year, month, day, longitude, latitude, region, country, state, attack type, target type, terrorist group, wound, kill, success rate, weapon type, property, location.



```
 #   Column              Non-Null Count     Dtype
---  ------              --------------     -----
 0   eventid             181691 non-null    int64
 1   iyear               181691 non-null    int64
 2   imonth              181691 non-null    int64
 3   iday                181691 non-null    int64
 4   approxdate          9239 non-null      object
 5   extended            181691 non-null    int64
 6   resolution          2220 non-null      object
 7   country             181691 non-null    int64
 8   country_txt         181691 non-null    object
 9   region              181691 non-null    int64
 10  region_txt          181691 non-null    object
 11  provstate           181270 non-null    object
 12  city                181257 non-null    object
 13  latitude            177135 non-null    float64
 14  longitude           177134 non-null    float64
 15  specificity         181685 non-null    float64
 16  vicinity            181691 non-null    int64
 17  location            55495 non-null     object
 18  summary             115562 non-null    object
 19  crit1               181691 non-null    int64
 20  crit2               181691 non-null    int64
 21  crit3               181691 non-null    int64
 22  doubtterr           181690 non-null    float64
 23  alternative         29011 non-null     float64
 24  alternative_txt     29011 non-null     object
 25  multiple            181690 non-null    float64
 26  success             181691 non-null    int64
 27  suicide             181691 non-null    int64
 28  attacktype1         181691 non-null    int64
 29  attacktype1_txt     181691 non-null    object
 30  attacktype2         6314 non-null      float64
 31  attacktype2_txt     6314 non-null      object
 32  attacktype3         428 non-null       float64
 33  attacktype3_txt     428 non-null       object
 34  targtype1           181691 non-null    int64
 35  targtype1_txt       181691 non-null    object
 36  targsubtype1        171318 non-null    float64
 37  targsubtype1_txt    171318 non-null    object
 38  corp1               139141 non-null    object
 39  target1             181055 non-null    object
 40  natlty1             180132 non-null    float64
 41  natlty1_txt         180132 non-null    object
 42  targtype2           11144 non-null     float64
```

Duplicate Values

# Variable Explanation

- **event_id**: The terrorist attacks have unique id which can be used for our future ref.

- **iYear**: Year in which attacks happened.

- **iMonth**: In which month the attacks has been takes place

- **iday**: In which day the attacks has been takes place.

- **Country_txt**: It gives the country name at which the attack took place.

- **Region_txt**: It gives the Region name at which the attack took place.

- **provstate**: It shows name of the state attacked.

- **attacktype1_txt**: It shows the weapon used in attack.

# Variable Explanation (Continued)

- **targtype1_txt**: It gives us an idea about the victims of the terrorist attack.

- **Nkill:** No. of casualty killed.

- **Nwound:** No. of people wounded

- **weapsubtype1_txt**: It gives us a brief idea about the most used weapons.

- **gname**: It gives us an idea about the most active terrorist group in the world.

- **Propvalue**: Value of damage property.

- **Location**: It shows the place of attack.

- **Latitude & longitude**: It shows exact location of attack

# Number of Attacks over the year



NUMBER OF ATTACKS OVER THE YEAR
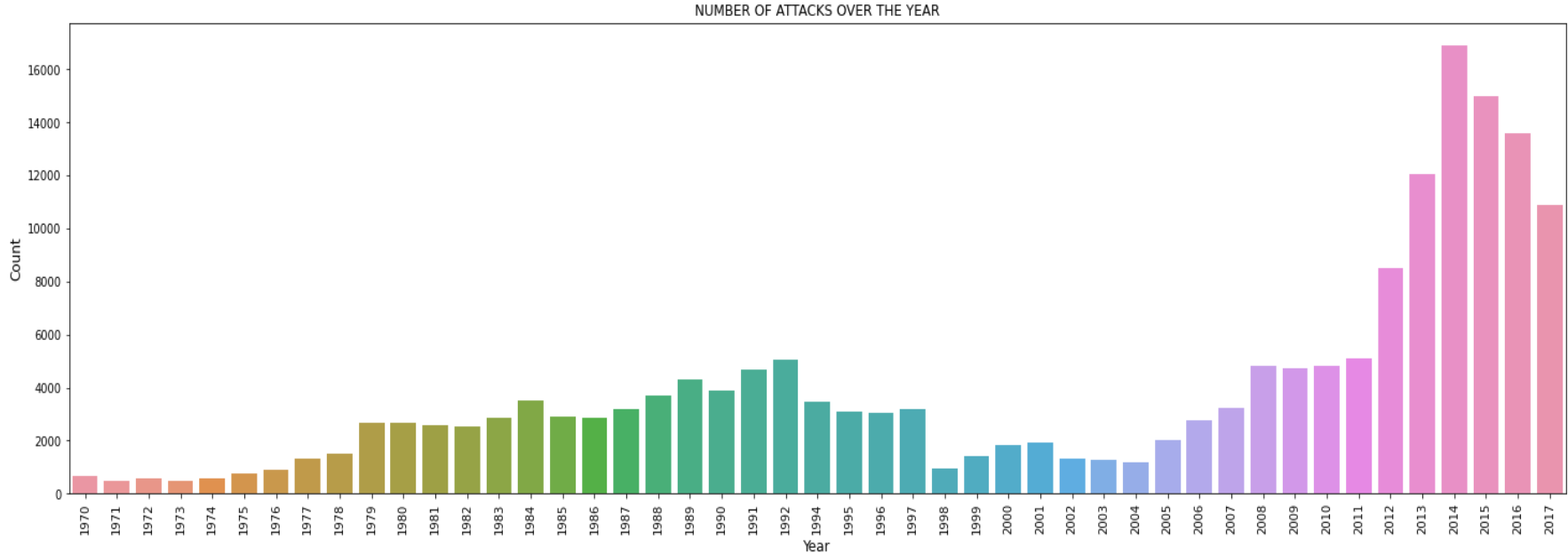
Terrorism then had a fairly rise in the 1980s and early 1990s and was considerably low in the next decade but then terrorism rose from early the 2000s topping the charts like never before in the history.

# Number of attacks in region around the world



Terrorist activities by region each year

**Region**
- Australasia & Oceania
- Central America & Caribbean
- Central Asia
- East Asia
- Eastern Europe
- Middle East & North Africa
- North America
- South America
- South Asia
- Southeast Asia
- Sub-Saharan Africa
- Western Europe
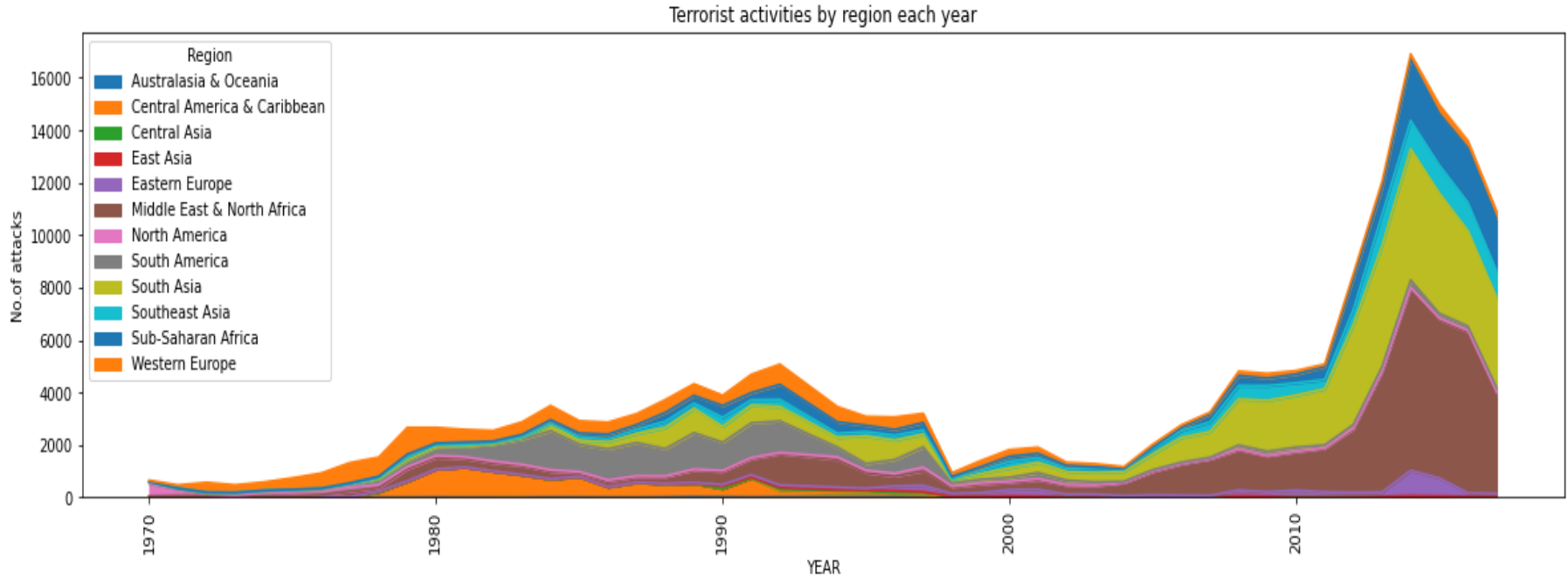
# Type of weapon used for attacks



Weapon Type
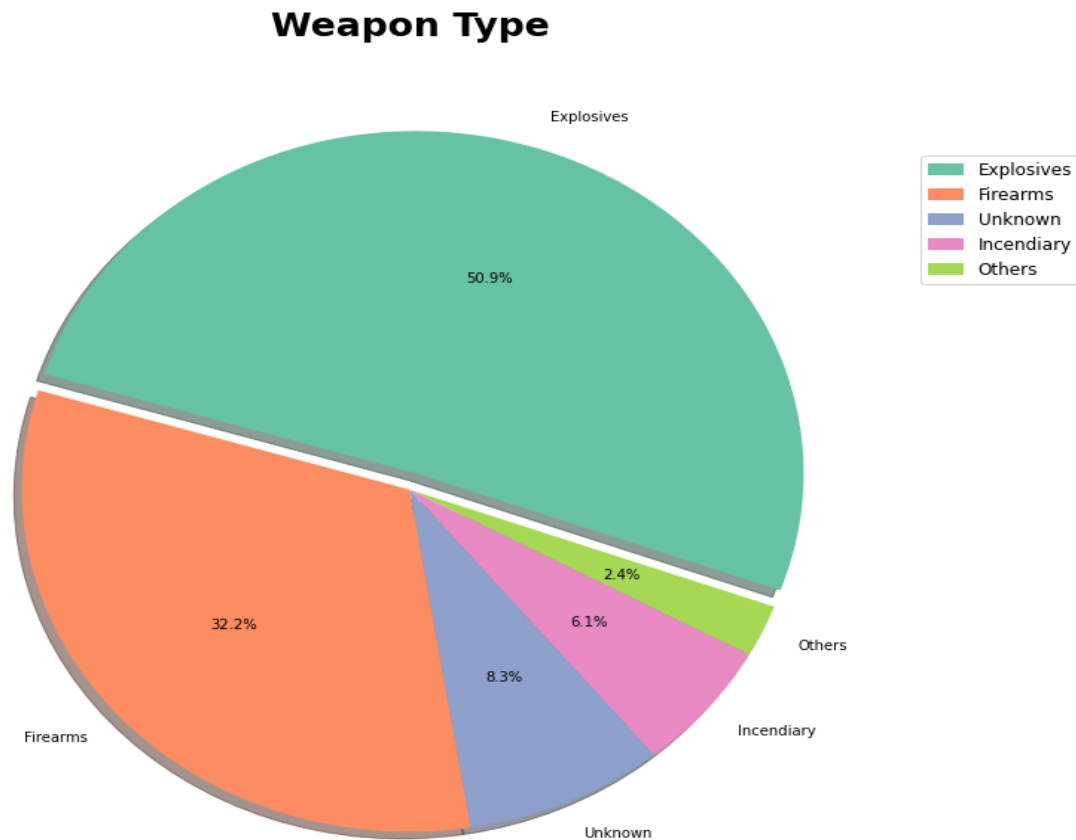
# Attack type V/S Casualties



Terrorist Attack Types and Damage
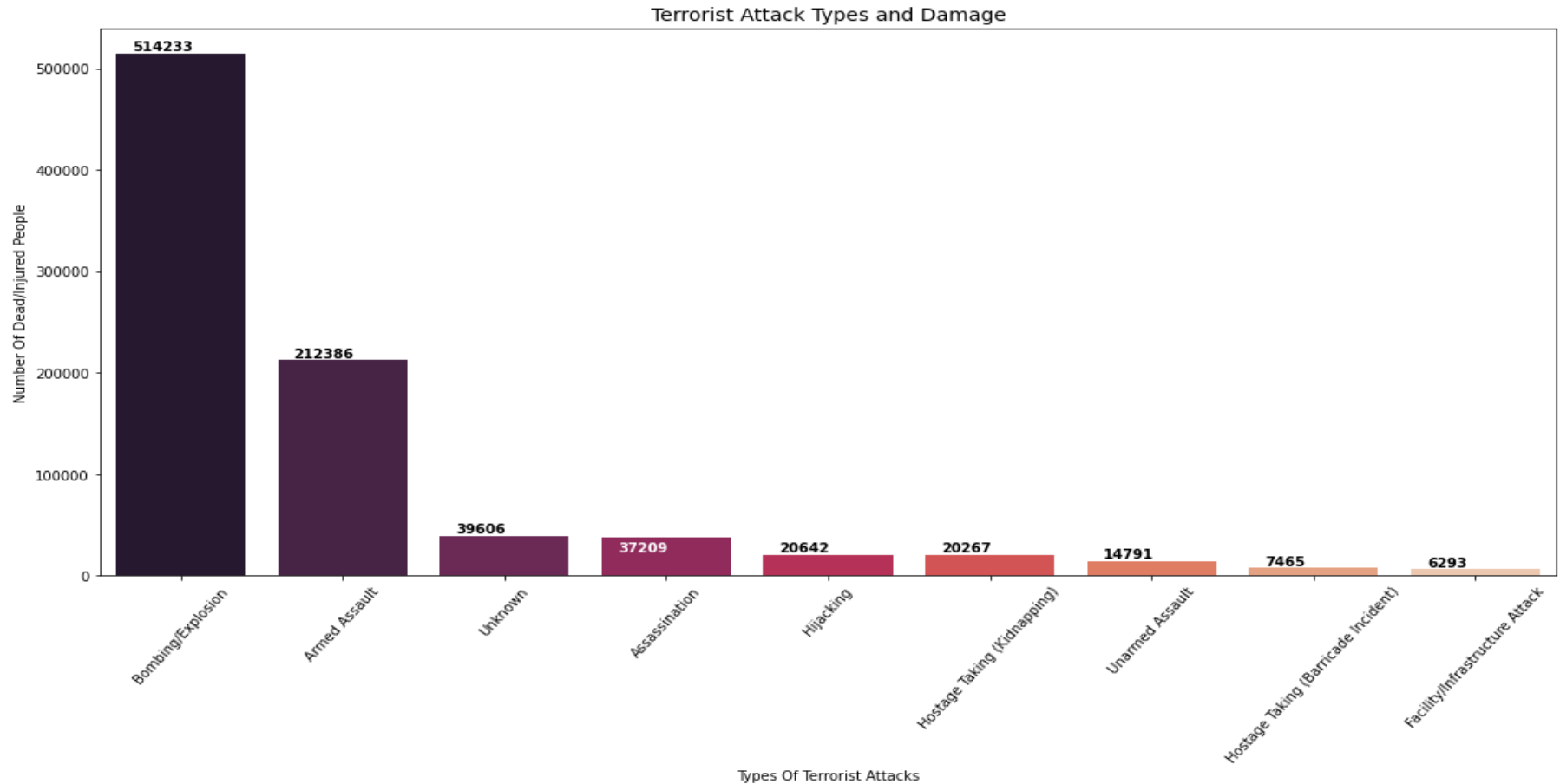
# Type of Target



Type of Target of Attacks

# Most Attacked Country
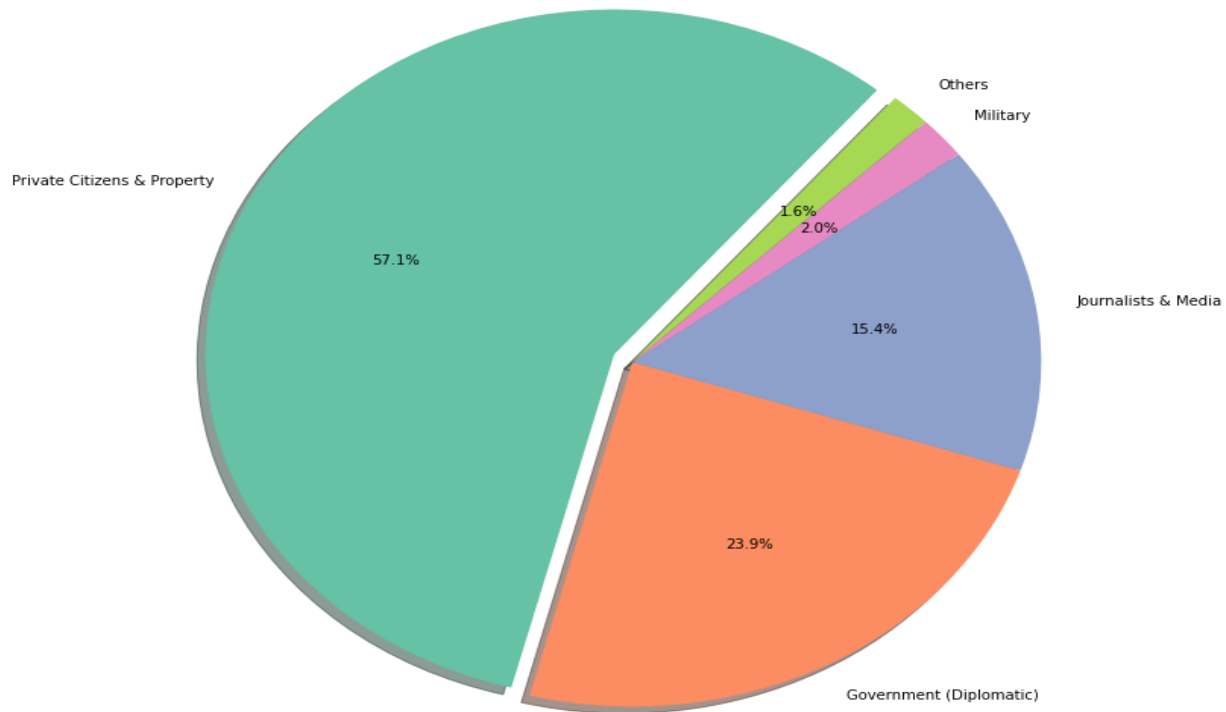


most terrorist attack in country
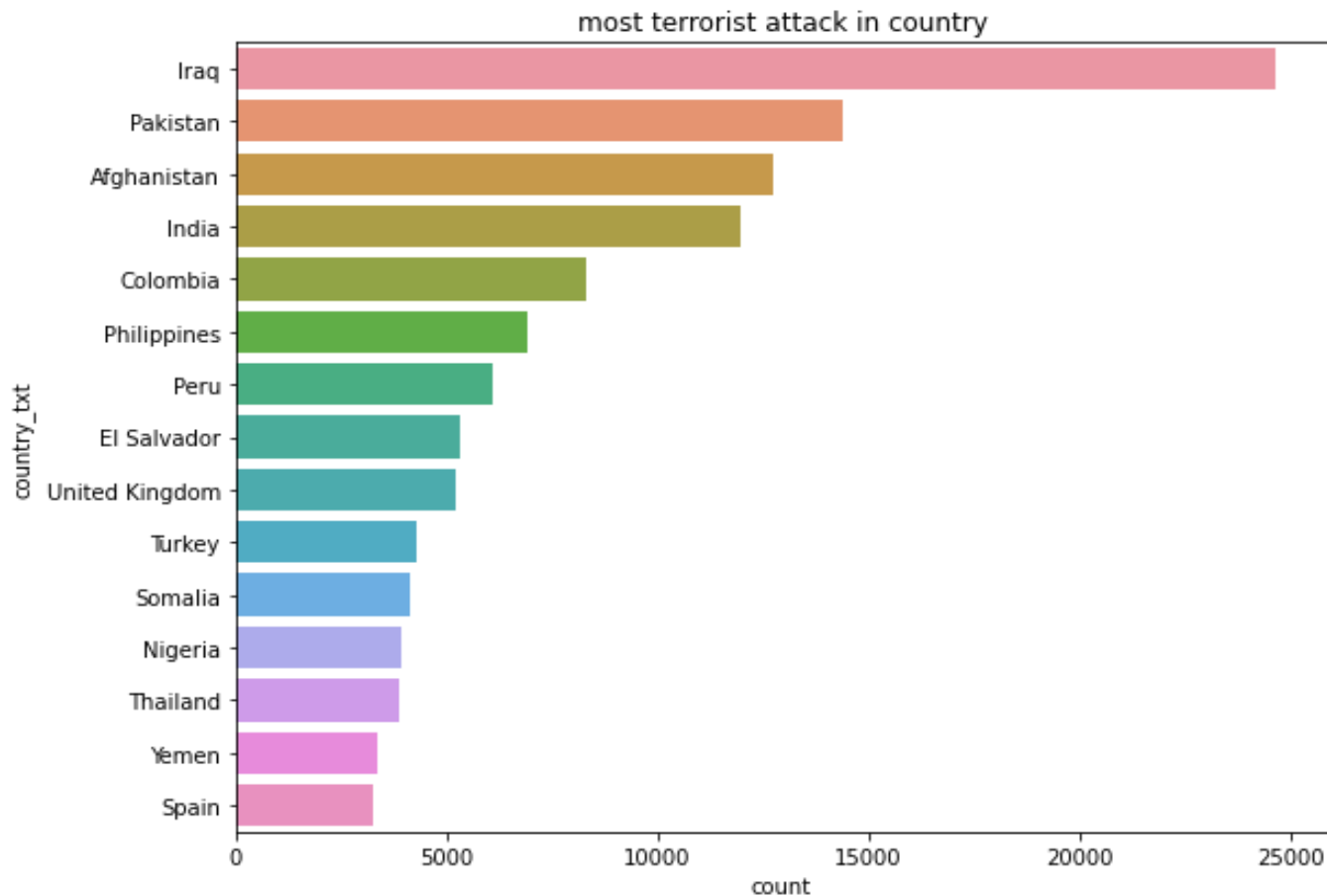
# Terrorist Group Responsible for Attacks Globally



groups responsible for attack in world
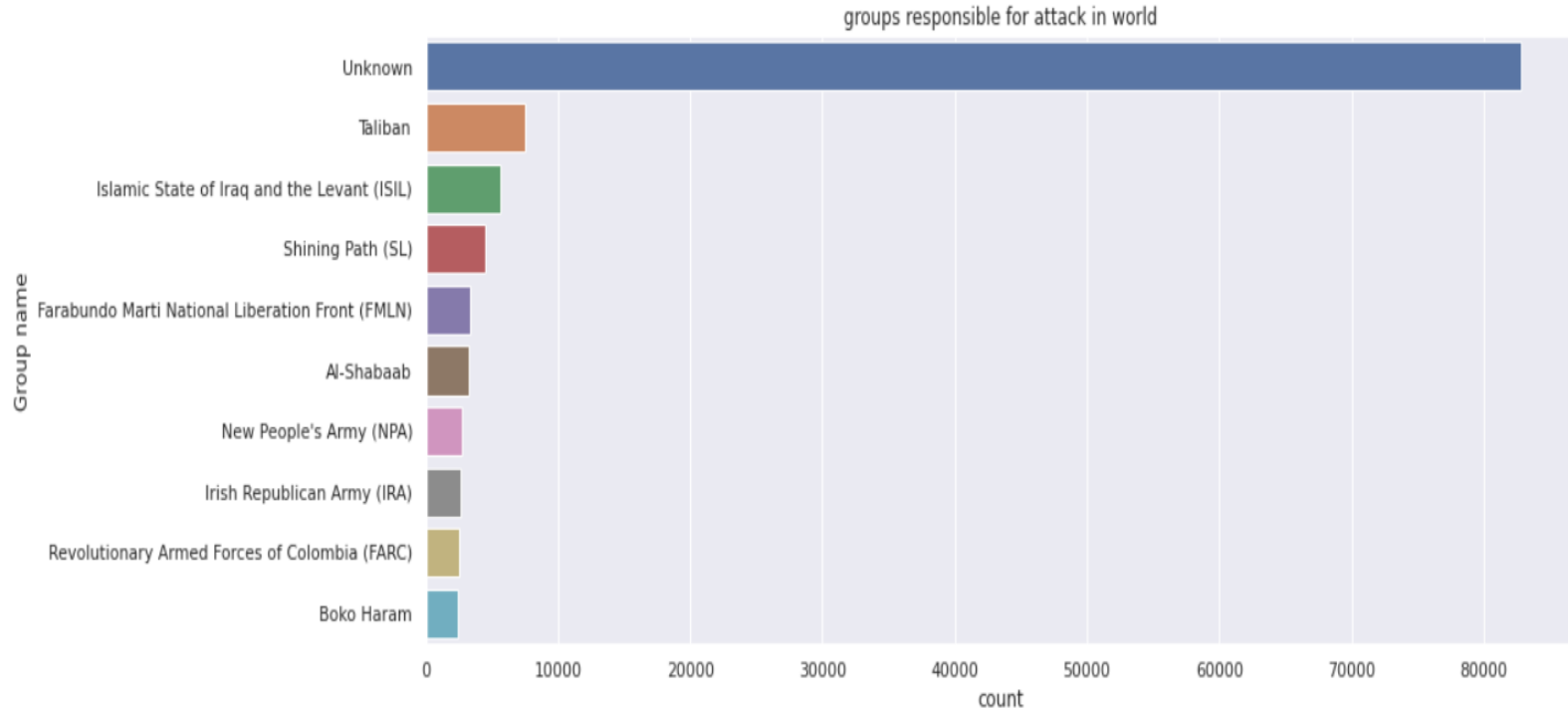
# Attack vs. Killed Analysis



Attacks VS Killed
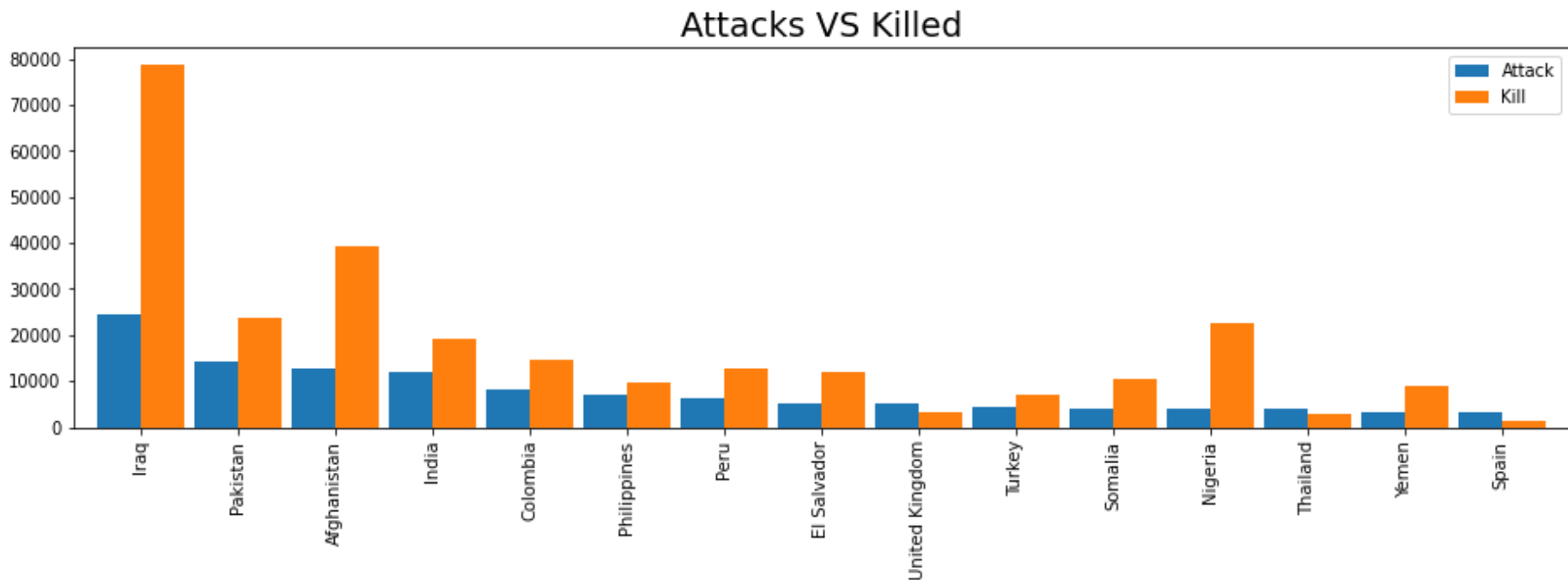
# Terrorist Attack in India over the Years



Attacks in india over the years
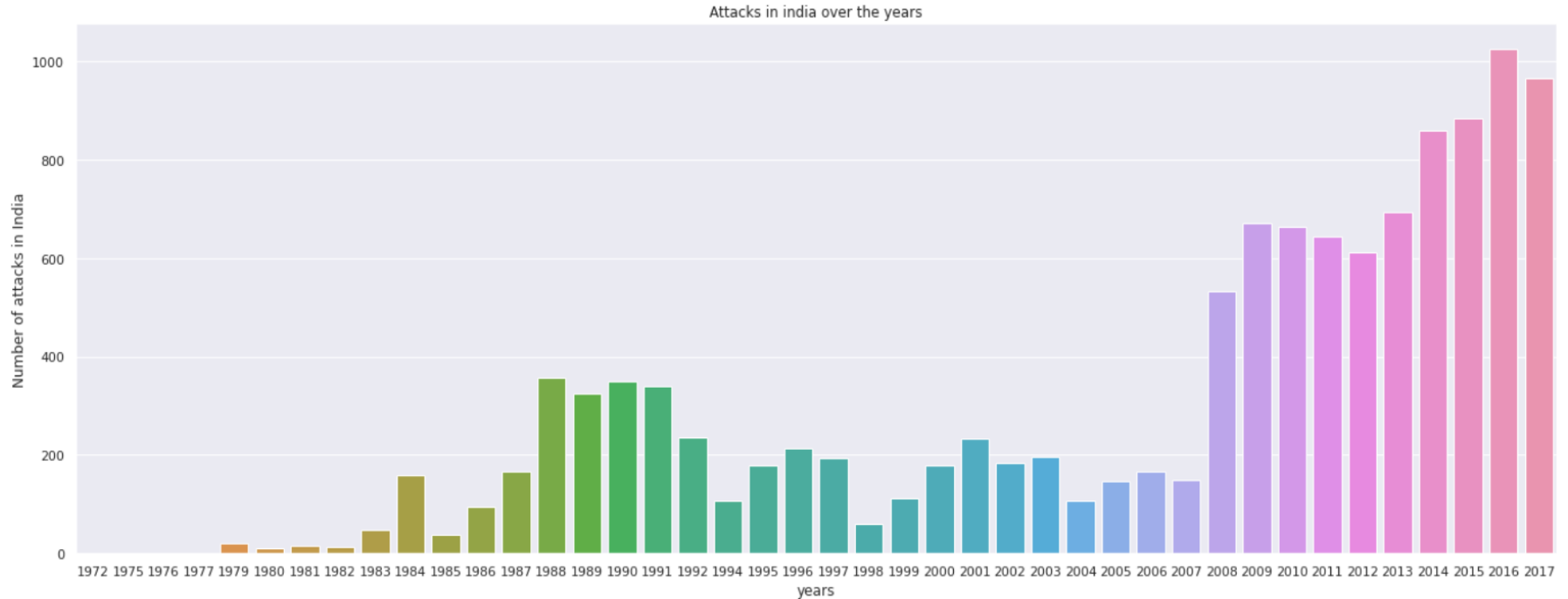
149 incidents were recorded in 2007 were as 534 incidents are recorded in 2008. This shows 258% rise in the incidents just in single year.

# Compare Global vs. India Terrorist activity
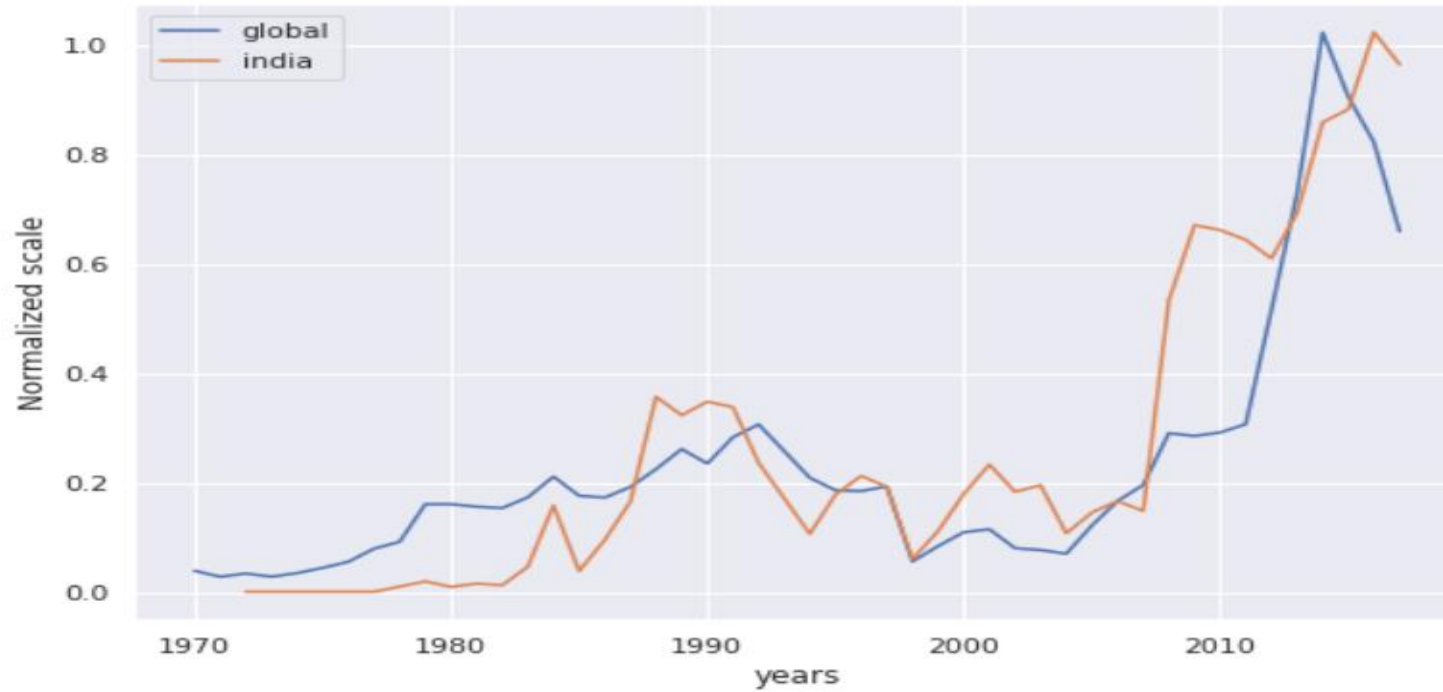
# Region in India most affected by the Terrorist
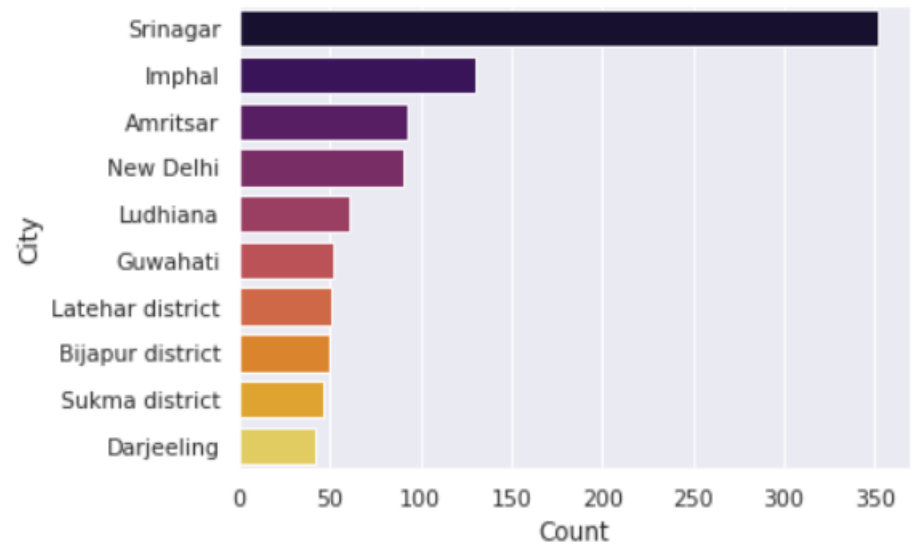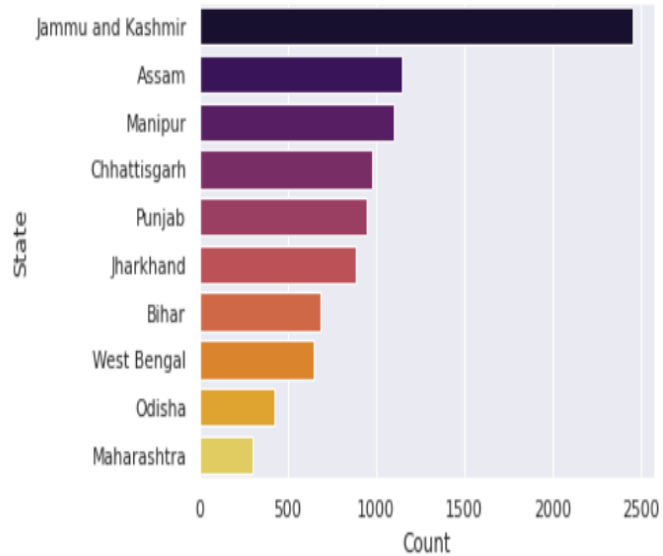
# Active terrorist group in India
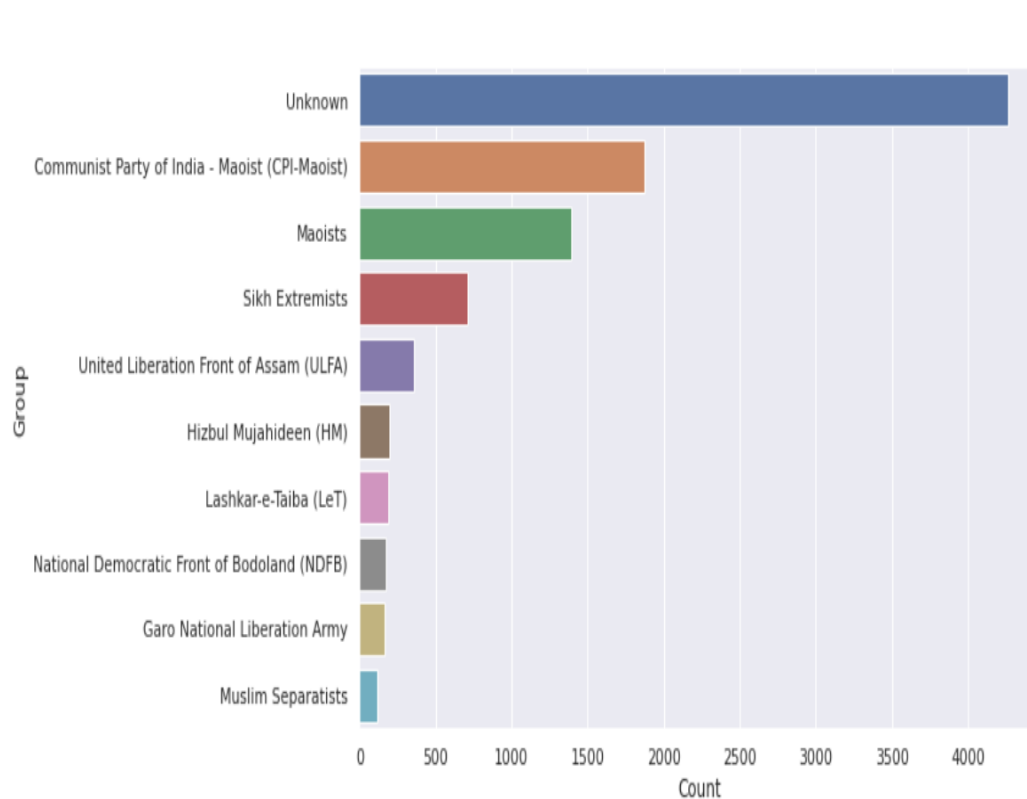


| Group_name | number_of_attack | percentage(%) |
|---|---|---|
| Communist Party of India - Maoist (CPI-Maoist) | 1861 | 24.652272 |
| Maoists | 1366 | 18.095112 |
| Sikh Extremists | 703 | 9.312492 |
| United Liberation Front of Assam (ULFA) | 350 | 4.636376 |
| Hizbul Mujahideen (HM) | 199 | 2.636111 |
| Lashkar-e-Taiba (LeT) | 186 | 2.463903 |
| National Democratic Front of Bodoland (NDFB) | 172 | 2.278447 |
| Garo National Liberation Army | 153 | 2.026759 |
| Muslim Separatists | 118 | 1.563121 |
| People's War Group (PWG) | 97 | 1.284938 |
| Bodo Militants | 87 | 1.152471 |
| Muslim Militants | 87 | 1.152471 |

Unknown terrorist groups are more then ~50%

# Most casualties by terrorist group in India
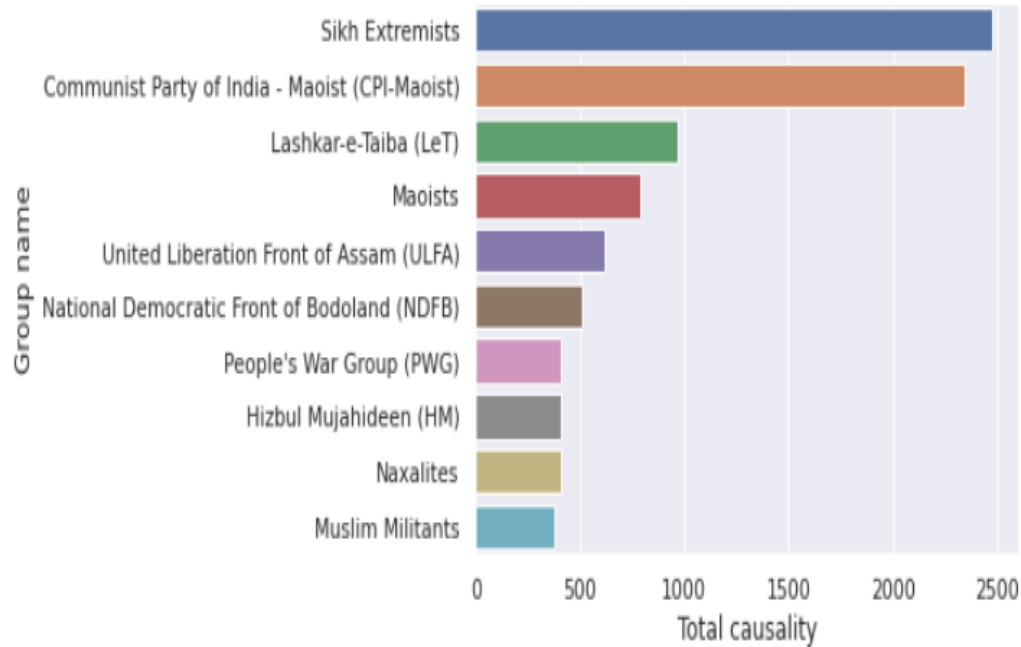


| Group_name | kill | percentage(%) |
|---|---|---|
| Sikh Extremists | 2477.0 | 16.978545 |
| Communist Party of India - Maoist (CPI-Maoist) | 2344.0 | 16.066900 |
| Lashkar-e-Taiba (LeT) | 969.0 | 6.641991 |
| Maoists | 790.0 | 5.415039 |
| United Liberation Front of Assam (ULFA) | 617.0 | 4.229214 |
| National Democratic Front of Bodoland (NDFB) | 514.0 | 3.523202 |
| People's War Group (PWG) | 410.0 | 2.810337 |
| Hizbul Mujahideen (HM) | 409.0 | 2.803482 |
| Naxalites | 408.0 | 2.796628 |
| Muslim Militants | 377.0 | 2.584139 |

Total causality in India alone 14589, Between the year 1972 to 2017

# Terrorist group
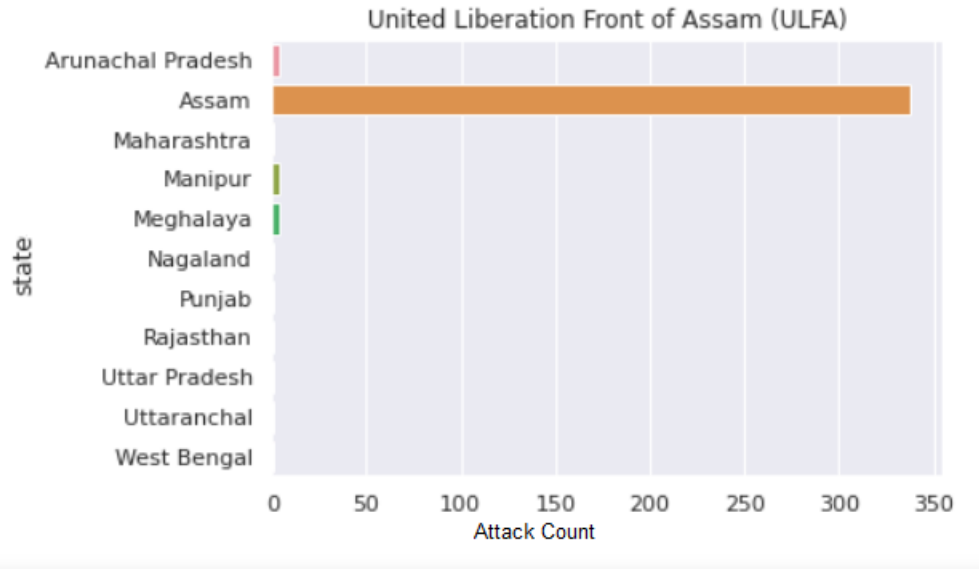
## Hizbul Mujahidden
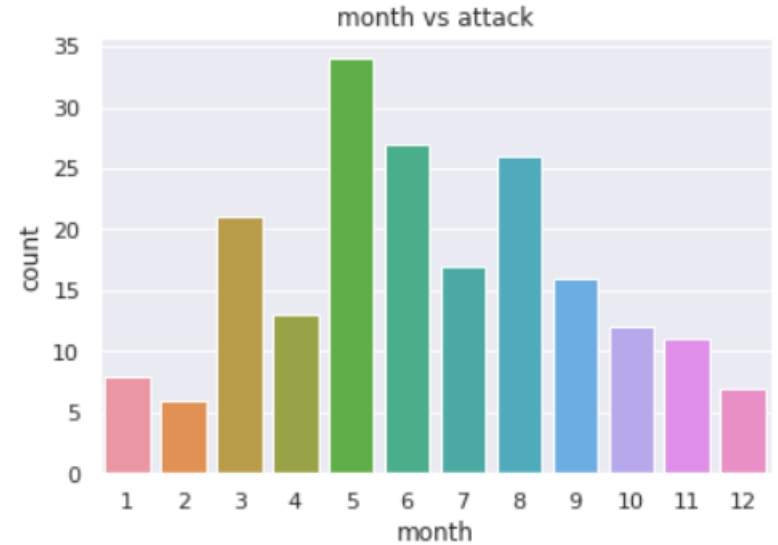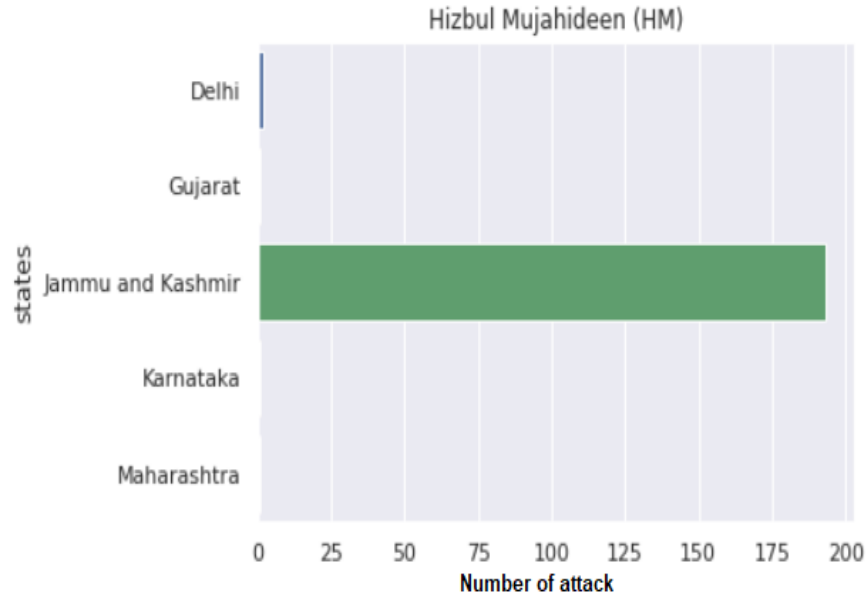


## India based terrorist group

# Terrorist group

**AI**

## Hizbul Mujahideen

## Hizbul Mujahideen (HM)

HM terrorist group has killed 408

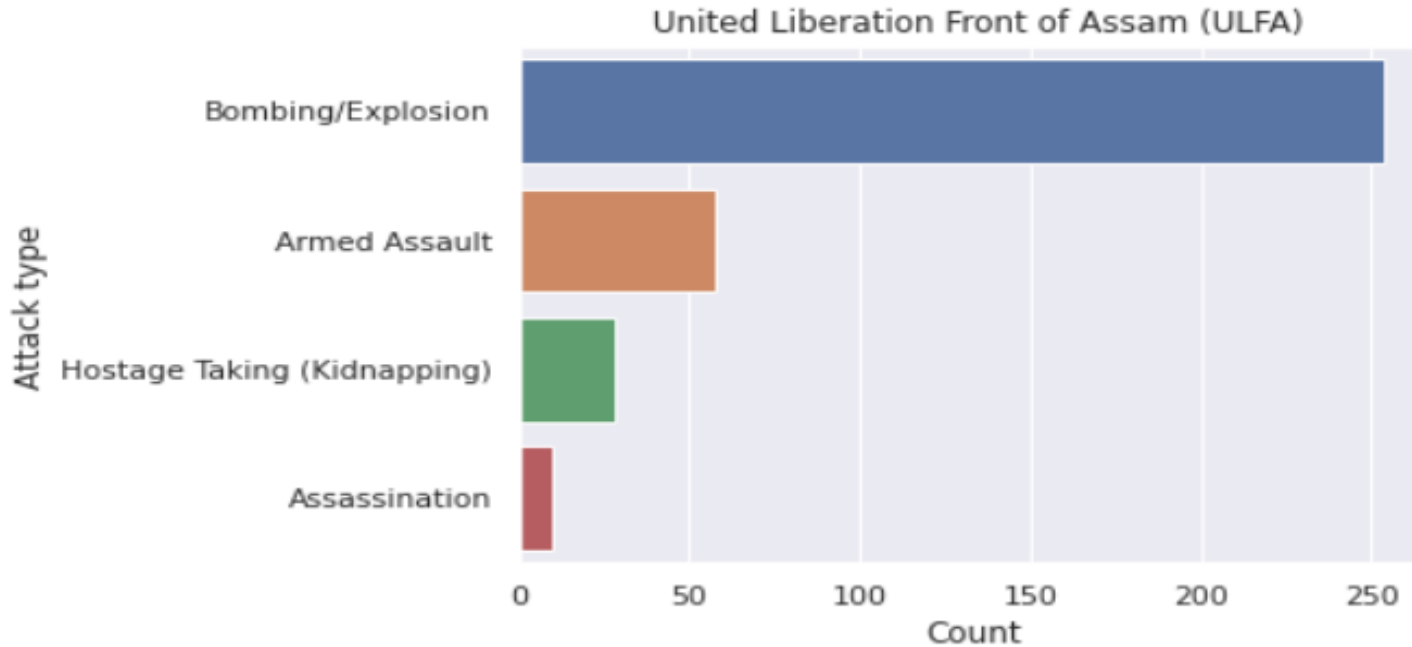## United Liberation Front of Assam



United Liberation Front of Assam (ULFA)
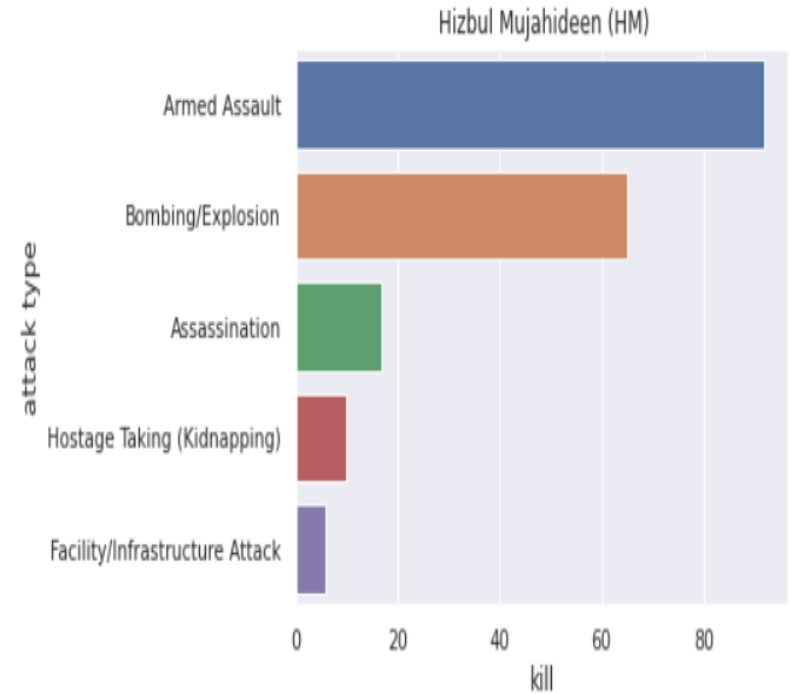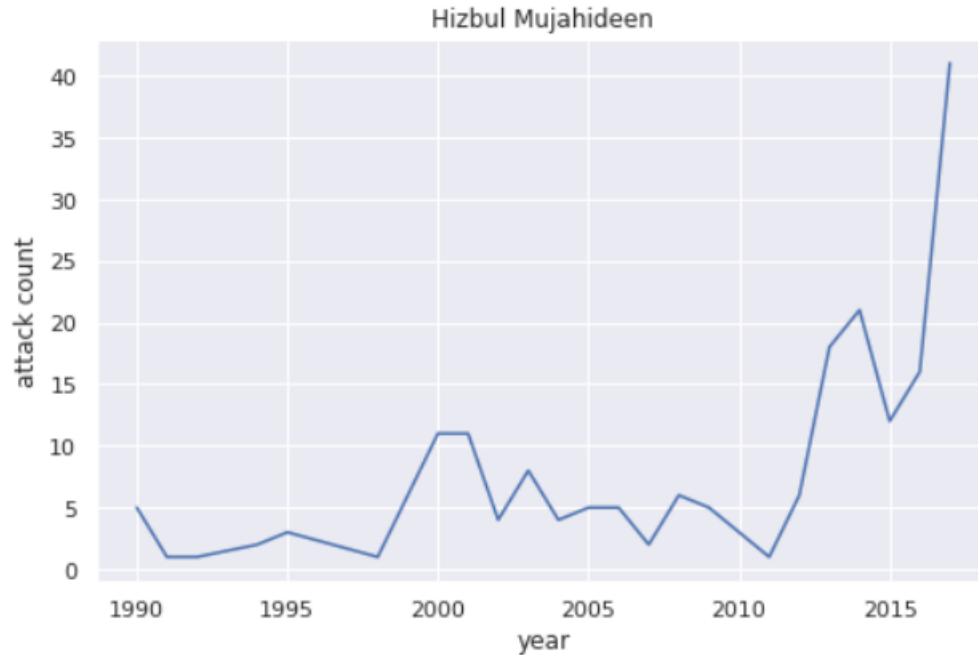


United Liberation Front of Assam

## India based terrorist group

## United Liberation Front of Assam



United Liberation Front of Assam (ULFA)

ULFA terrorist group has killed 617
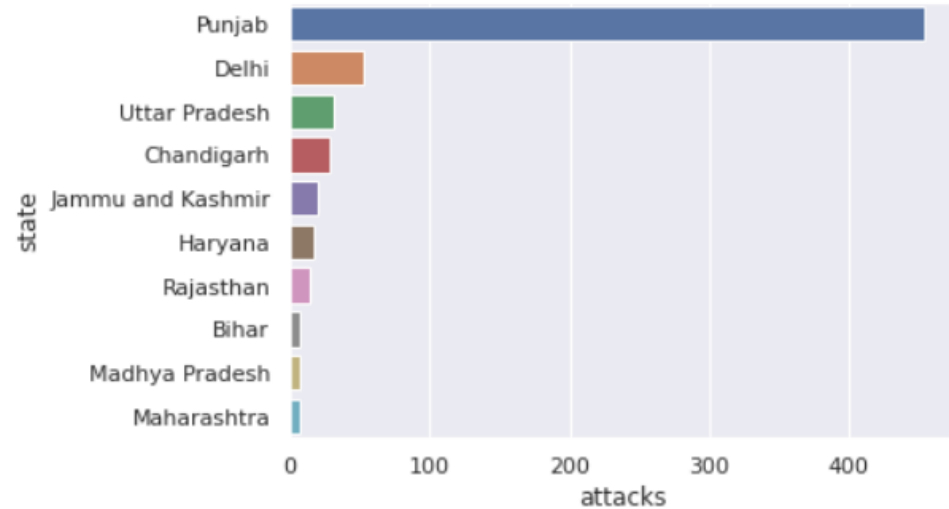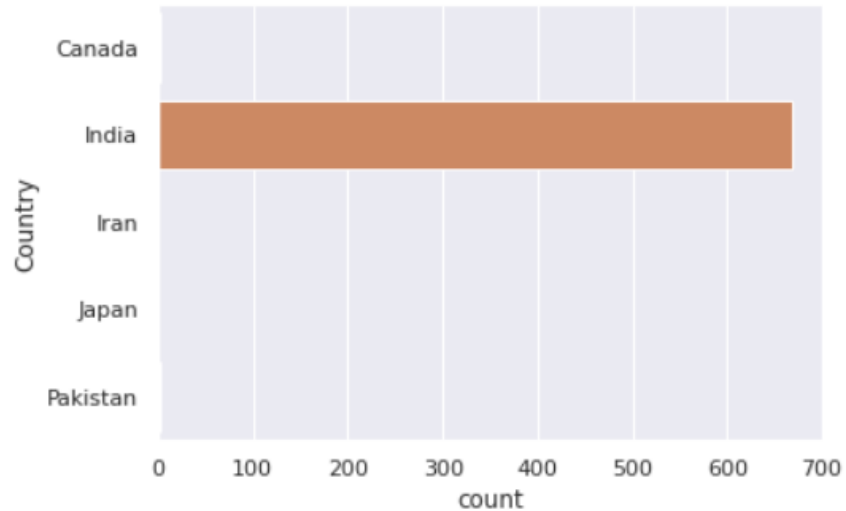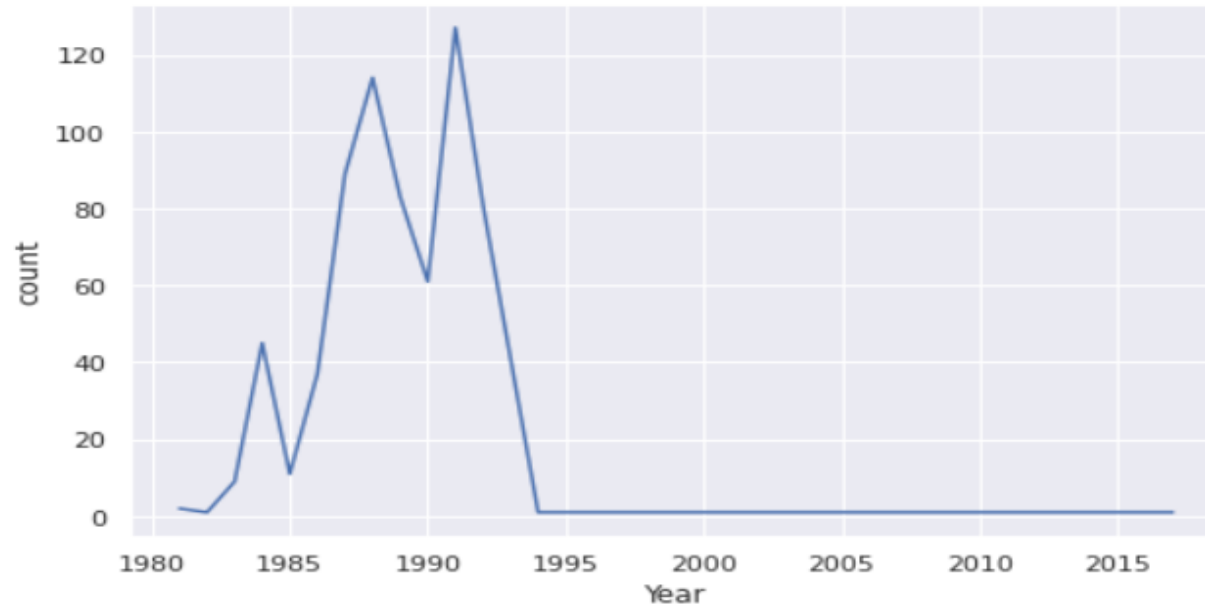
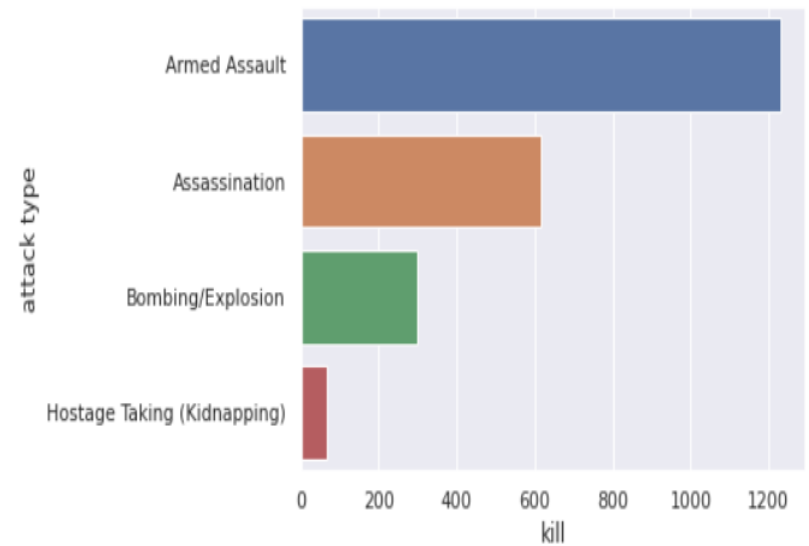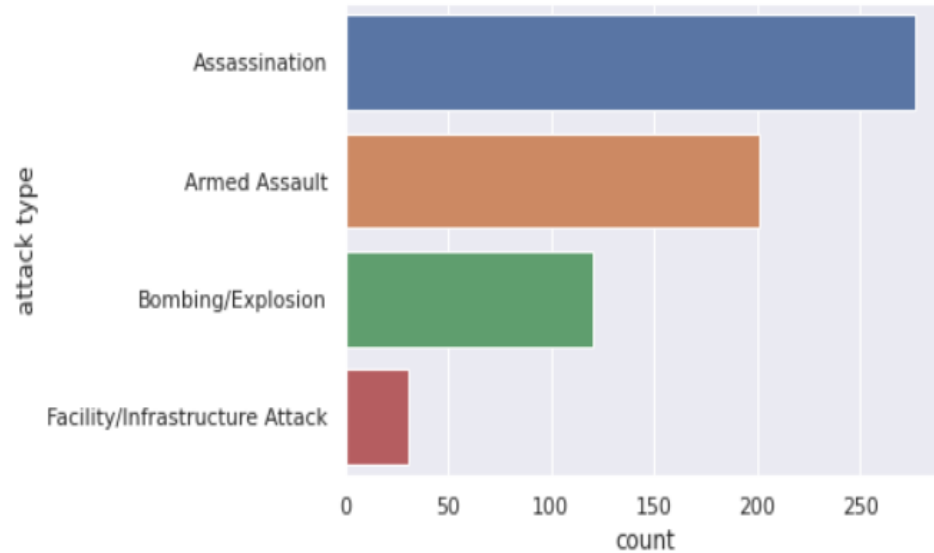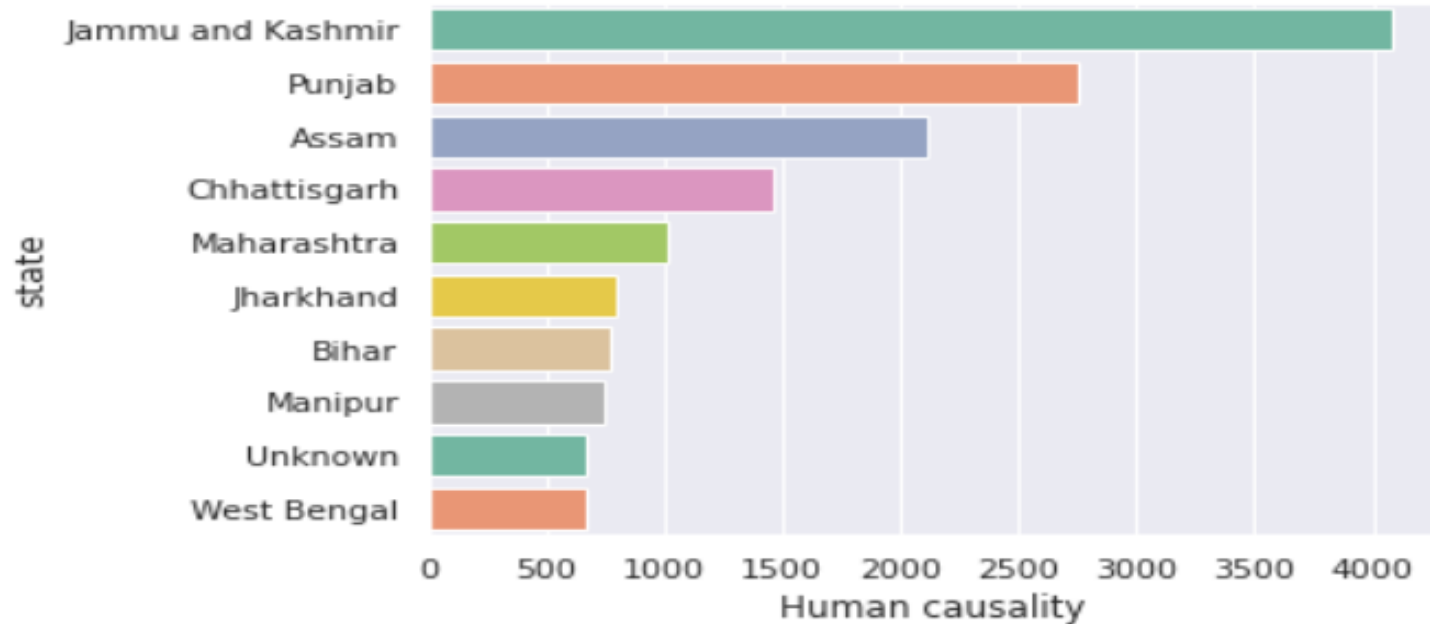## Sikh Extremists
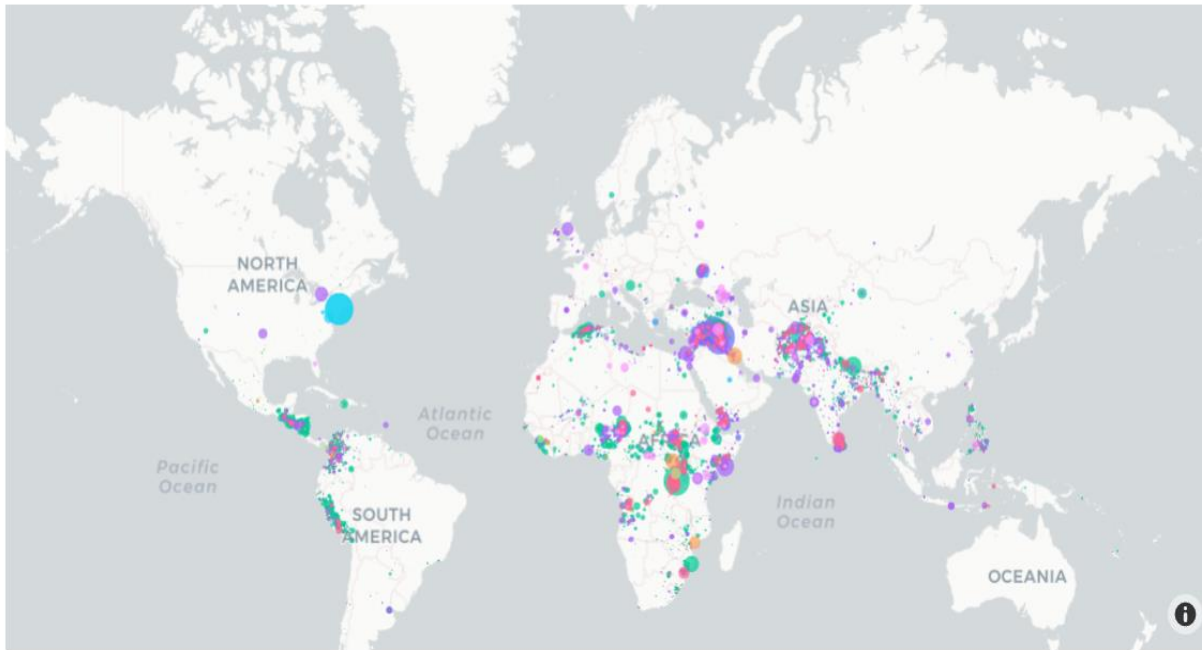
Sikh Extremists



Sikh Extremists terrorist group has killed 2303

# Human causality assessment in India



Total Human causality in India is 14028

# Worldwide Impact Of Terrorism



- attack_type=Hostage Taking (Kidnapping)
- attack_type=Assassination
- attack_type=Armed Assault
- attack_type=Bombing/Explosion
- attack_type=Facility/Infrastructure Attack
- attack_type=Hijacking
- attack_type=Unknown
- attack_type=Unarmed Assault
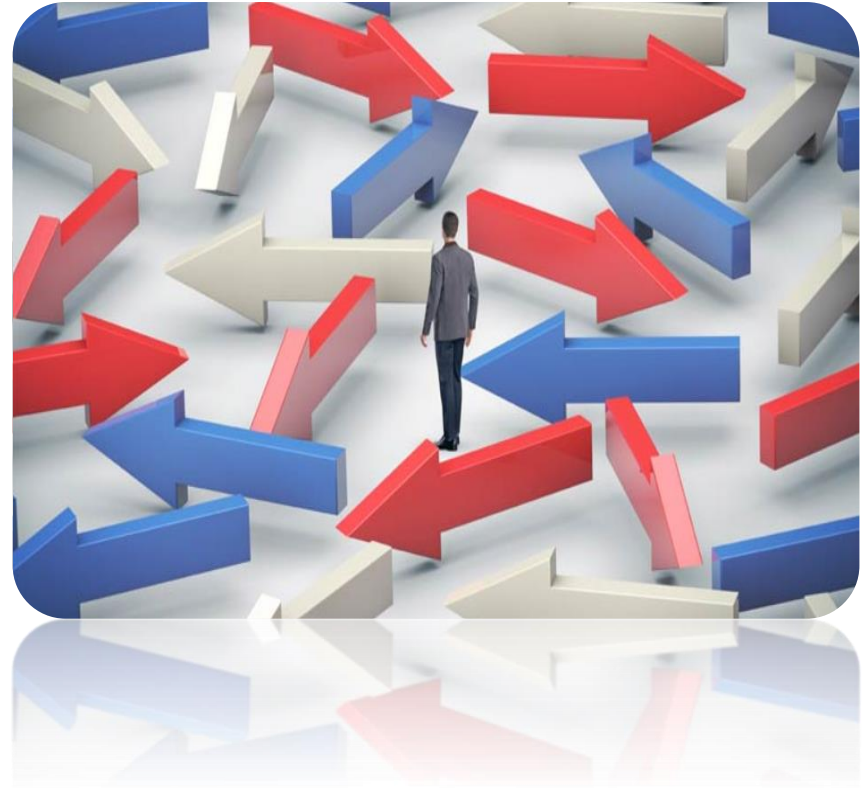- attack_type=Hostage Taking (Barricade Incident)

# How to stop Terrorism

- Global cooperation
- Making strict law against terrorism
- Education
- Good governance
- Terrorist Analysis

# Challenges

- Data Cleaning
- Data mining
- Deciding the flow of the presentation
- Team coordination ***

# **Conclusion**

- We can see by analysis that not even a single part of world is untouched by the terrorist attacks
- Terrorism activity has increases significantly in last two decade
- Asian and African country's are mostly affected.
- About 50 % of all the terrorist attacks were non-lethal
- We have lost around ~400K life since 1970
- Explosion / Bombing type of attack is mostly used by the terrorist
- More than 55 % of all the terrorist attacks were done on private citizens and properties
- Most attacked country by terrorist is Iraq followed by Pakistan, Afghanistan , India
- Border states of India are most affected by the terrorist activities
- Most affected state in India is Jammu and Kashmir
- homegrown terrorism is the biggest concern for India's security

# Q&A