



GLOBAL TERRORISM DATA ANALYSIS:

AN ANALYTICAL REVIEW OF TERRORISM TRENDS (1970–2015)

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Introduction to the Study:

- **Objectives:** Analyze global terrorism patterns, uncover trends, and identify critical insights.
- **Scope:** Covers data from 1970 to 2015 with a focus on attack methods, Geographical Insights, Perpetrator Analysis, Casualty and Impact Analysis.
- **Data Source:** Global Terrorism Database (GTD).
- **Relevance:** Highlights the importance of understanding terrorism to inform policy and preventive measures.



Major Insights from the Analysis

01 Trend Analysis

Terrorist attacks peaked in 2014–2015, indicating a need for intensified counter-terrorism measures during this period.

02 Geographical Insights

South Asia and the Middle East & North Africa are persistently targeted regions.

03 Attack Types and Targets

Bombing/Explosions constitute the most frequent attack methods, signifying the preference for impactful, high-damage tactics. Certain attack types, such as hijackings, have decreased significantly over time, reflecting changing strategies.

04 Perpetrator Analysis

- Taliban: Extensive operations in Afghanistan.
- ISIL: Dominant in Iraq and Syria.
- Shining Path (SL): Active in Peru.
- In India Communist Party of India - Maoist (CPI-Maoist)
- In Pakistan Tehrik-i-Taliban Pakistan (TTP)

Countries Most Affected:

- Iraq: Highest number of incidents, primarily involving ISIL.
- Pakistan: Frequent attacks by Tehrik-i-Taliban Pakistan (TTP).
- India: Significant activity from Maoist groups and Sikh extremists.

Most Active Groups:

- Taliban: Extensive operations in Afghanistan.
- ISIL: Dominant in Iraq and Syria.
- Shining Path (SL): Active in Peru

Target Types:

- Private citizens, property, and government entities are most frequently targeted.
- Military and police are consistent secondary targets.

Unclear Perpetrators:

- Nearly 46% of attacks are attributed to unknown groups, posing challenges for attribution.

Summary of Findings





Outliers and Exceptions

Extreme Cases:

- In Bangladesh->Dhaka->Dhaka in 1994 terrorist group Islamist Extremists attack on Police with 25000 perpetrator where 421 in group member are present they wound 200 police officer.
- In pakistan->punjab->Shantinagar in 1997 terrorist group Muslim Militants attack on Private&Citizen Property with 20000 perpetrator.
- Iraq Saladin state on 12 june 2014 Assailants abducted approximately 1686 soldiers from Camp Speicher in Tikrit city, Saladin governorate, Iraq. Two captives escaped custody and at least 1500, if not all of the remaining victims, are presumed dead. The Islamic State of Iraq and the Levant (ISIL) claimed responsibility and stated that the attacks were in revenge for the killing of ISIL leader Abdul-Rahman al-Beilawy.
- North America New York city where Hijacking was used as weapon to accomplish the terrorism on 9 september 2001 which is one of the most famous cases of terrorism named as "9/11" done by Al-Qaida Group by targeting world-trade center,bussniess,bank/commerace and this attack is claimed by video by Al-Qaida Group
- El Salvador (Central American Caribbean) done this attack for electricity using Boombing/explosion,Armed Assult and other weapon this atttack was done by Farabundo Marti National Liberation Front (FMLN) on 1983 october 4 where no record of nkill,nwound,nkillus,nwoundus but number of hostages are 17000,10000.
- There are 7 cases where terrorist demand for ransom amt in us dollor but not paid to them and all cases are of Hostage/Kidnapping and they kept for too many days like for 1282 days in Somalia where 2 goverment officer are get Kidnapped and one of them was killed by terrorist second case where terrorist kept Hostage for 674 days in Syria who is Journalists & Media third case where terrorist kept Hostage for 555 days in Syria who is from NGO after not getting ransom amt terrorist killed him/her.



Outliers and Exceptions

Unique Trends:

- Hijacking incidents prevalent before 2000, declining sharply afterward.
- Rare use of specific tactics, such as chemical or biological weapons.
- 54.75% times property get damaged due to terrorism attacks.
- Minor(Likely <\$1 million) property are damaged mostly 67% during terrorist attacks and only 0.000001% percentage Catastrophic get damaged.
- Most of time Hijackers/Kidnappers divert to unknown location then libya,iraq,afghanistan,colombia and many other..
- 1.53% chance terrorist demand ransom during Hijacking and Kidnapping
- 17.87% time terrorist cross thier national boundary and attack on different nationality which show how terrorist are so brain washed that they attack on different country.
- 3.03% is the suicide rate of terrorist when they killed themself to kill other.
- Iraq,Afghanistan,Pakistan,Nigeria,Isreal,Syria,Turkey,Libya,India and many more country in list those face suicide attacks from terrorist side.
- Only 9% time we have solid identification of perpetrator and rest of time the perpetrator attribution(s) for the incident are not suspected

Mixed Motivations:

- Cases involving inter-group conflicts or insurgency rather than clear terrorism motives.
- 13428 Times terrorist Group clamied that they done these attack and mostly they clamied by using Personal Claim,Posted to website,blog, Call(Post-incident) and etc which show how ruthless they are and how their mindset work which is concern for all citizens of any country.

Analytical Approach

DATA CLEANING:

- ADDRESSED NULL VALUES AND REDUNDANT FIELDS FROM 137 FEATURE TO ENSURE DATA QUALITY.
- CHANGE UTF CODE AS DEFAULT UTF-8 CODE DOESN'T WORK

EDA:

- VISUALIZATION OF TRENDS IN ATTACK TYPES, FREQUENCIES, AND GEOGRAPHICAL SPREAD.
- GROUPING AND AGGREGATION FOR MEANINGFUL INSIGHTS BY YEAR, REGION, AND TARGET.

TECHNIQUES USED:

- STATISTICAL ANALYSIS FOR TREND IDENTIFICATION.
- GEOSPATIAL ANALYSIS FOR REGIONAL IMPACT VISUALIZATION.
- USE BAR CHART, PIE CHART AND OTHER CHART TO SHOWCASE THE RESULT.

LIMITATIONS:

- INCOMPLETE DATA FOR CERTAIN YEARS OR REGIONS MOST DATA ARE INFORMAT FROM 1970-1977.
- HIGH PERCENTAGE OF ATTACKS WITH UNCLEAR PERPETRATOR ATTRIBUTION.
- DUPLICATED FEATURES WITH DIFFERENT NAME AND FORMAT.

Strategic Recommendations & Conclusion

- **INTELLIGENCE AND SECURITY:**
 - STRENGTHEN SURVEILLANCE AND INTELLIGENCE-SHARING MECHANISMS IN HIGH-RISK REGIONS.
 - DEPLOY ADVANCED TECHNOLOGY FOR EARLY DETECTION OF THREATS.
- **POLICY AND COLLABORATION:**
 - ENHANCE INTERNATIONAL COLLABORATION FOR COMBATING TRANSNATIONAL TERRORISM.
 - IMPLEMENT STRINGENT BORDER CONTROLS TO PREVENT WEAPON TRAFFICKING.
- **COMMUNITY ENGAGEMENT:**
 - EDUCATE COMMUNITIES TO RECOGNIZE AND REPORT SUSPICIOUS ACTIVITIES.
 - PROMOTE INITIATIVES TO ADDRESS ROOT CAUSES OF RADICALIZATION.
- **KEY TAKEAWAYS:**
 - TERRORISM IS A DYNAMIC AND EVOLVING THREAT THAT REQUIRES ADAPTIVE STRATEGIES.
 - UNDERSTANDING TRENDS AND PATTERNS THROUGH DATA ANALYSIS IS CRUCIAL FOR INFORMED DECISION-MAKING.
 - COLLABORATION BETWEEN GOVERNMENTS, ORGANIZATIONS, AND COMMUNITIES IS ESSENTIAL FOR COUNTER-TERRORISM EFFORTS.
 - EMPHASIS ON ADDRESSING ROOT CAUSES, SUCH AS ECONOMIC DISPARITY AND POLITICAL INSTABILITY.