GLOBAL TERRORISM FINANCING AND THE MINING INDUSTRY

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Abstract

The objective of this National Counterterrorism Center (NCTC) research project is to identify potential terrorist organizations that acquire funding from the mining sector.

- Attacks by terrorist organizations on sites connected to the mining industries result in significant financial damage and also provide funding opportunities for these extremist groups.
- This project aims to examine the 88 identified different terrorist organizations and their finance activities and regions in which they operate within the mining industry.
- This study examines the severity and features of terrorist attacks against targets with a mining-related focus to establish a general understanding of the connection between the mining industry and terrorism funding.

Introduction

Terrorism funding through mining sector can come from variety of sources such as, abduction for ransom, the exploitation of non-profit organizations, the illicit trade in minerals (oil, gold, diamonds), and more. The following are the leading directions for this study:

- The dimension of the said topic is widely distributed as there are multiple factors influencing the finances of terrorism through mining industry.
- From a wide range of possible options, we focused on the identified terrorism organizations from mining sector and followed the trace of their operating regions and actions to fund their activities.
- After data collection, cleansing and detailed study, we were able to provide an analysis on the finance activities of these 88 terrorist organizations.

Research Questions

In this data-driven study, our analysis has been focused on providing answers to the following research questions:

RQ1: Where do the terrorist organizations have bases of these operations?
RQ2: What are their primary mode of operation with regard to financing terrorism?
RQ3: Which terror-groups use these sources the most?
RQ4: Forecasting terrorism funding through the mining industry.

Data Collection Methodology

Base data for this analysis is taken from the Global Terrorism Database (GTD) which is supplemented with independently collected data on the terrorist organizations involved in attacking mining sectors.

- We took an subset of the GTD data to focus only on the mining sector related targets and events.
- There were about 25% missing values in the GTD data which we derived using machine learning models.
- We used DecisionTree and RandomForest Classifier to obtain the missing group names in the data.
- DecisionTree classifier reached a max of 79% accuracy and RandomForest yielded max 84% accuracy.
- For tuning the hyper-parameters of the RandomForest estimator, we performed a grid search and obtained 84% max accuracy with the below hyper parameters:

```
DecisionTree Classifier Max Accuracy: 79.0123%
RandomForest Classifier Max Accuracy: 83.9506%
-------------------------------------------------
Tuned Hyperparameters for RandomForest Classifier:
min_samples_leaf -- >  1
min_samples_split -- >  2
n_estimators -- >  65
```

- From the cleaned dataset, we derived 88 terrorist groups which indicated to be involved in exploiting mining sectors for terror funding.
- We have then manually gone through hundreds of articles on terrorist groups and their illegal activities and gathered data about their financing operations.
- We merged these two data based on the terrorist groups and created our final cleaned dataset to further our research.

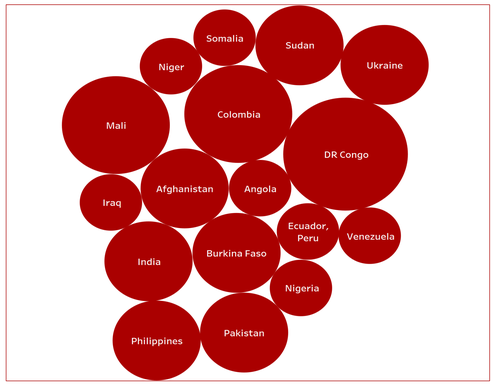
Data Description

The cleaned dataset for this research contains 20 attributes and 542 observations about the illegal funding operations of terrorist organizations.

- The data spans from year 1970 through 2020.
- The dataset contains region and country details about terrorism organizations funding through mining sectors.
- Our dataset tells whether an organization engages in setting up own mining arrangements or using extorsion / theft to fund their operation.

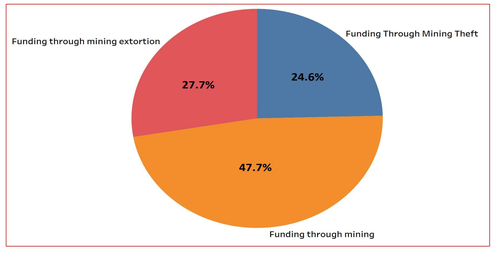
Results and Interpretations

Plot 1 – Operating Regions of Mining Funded Terrorist Groups



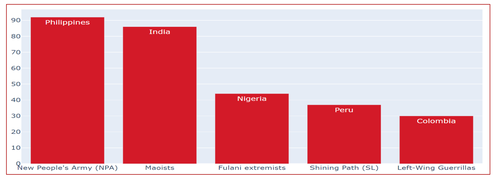
- Terrorist operating in DR Congo have most funding from mining operations, followed by Mali & Colombia.
- African region's terrorist groups funded mostly through mining operation than other region's.

Plot 2 –Terror Funding Distribution By Mining Related Activity



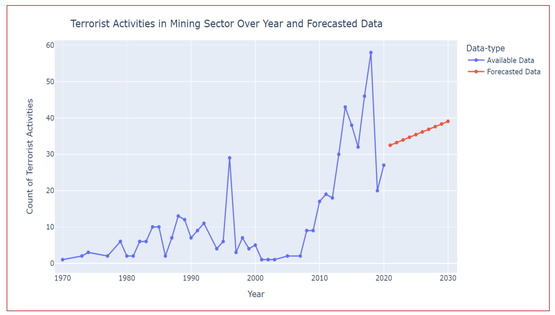
- Terrorist funding through owning mining operations is twice as significant as through mining theft.
- Funding through mining extortion is the most second used way for terrorist to generate funds.

Plot 3 – Individual Terror Groups & Regions Using Most Funds



- New People's Army(NPA) from Philippines is engaged in most funding through mining sector.
- Maoists(India), Fulani Extremist(Nigeria), Shining Path(Peru) & Left Wing Guerrillas(Colombia) are in the next rankings.

Plot 4 – Terrorism in Mining Industry Expected to Rise Over Time



- There was yearly increase and decrease in terrorist attack between 1970 and 2020.
- After 2008 we see sudden spike in terrorist attack with peak of 58 attacks in 2018.
- The Exponential smoothing forecasting model predicts rise in attacks in upcoming years.

Conclusion

- The result reveals a strong connection between terrorism funding and sponsorship from the mining industry, with the majority of funding coming from one's own illegal mining operation.
- The mining sector is a bigger source of funding for terrorists in African countries.
- Groups like New People's Army(NPA) , Maoists, Fulani Extremist etc. needs special attention to lower terror funding through mining.
- **Limitation:** The absence of data on funding for terrorism, improper database management, small sample sizes, a short research time, and the absence of trustworthy information sources are some of the major limitations of this study.
- **Future Scope:** More terrorist groups and their activities with updated data can be analyzed further following this method.

Resource and Reference

- Global Terrorism Database(GTD) can be downloaded from here: https://www.start.umd.edu/gtd/

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