Urban Social Disorder Report

Introduction

The Urban Social Disorder (USD) dataset contains information on urban 'social disorder' events occurring in capitals and other major cities of the developing world for the 1960-2014 period [1]. The dataset was retrieved from Peace Research Institute Oslo (PRIO). This research institute conducts research to understand the processes that bring societies together or splits them apart. This project uses Geographical and Temporal themes to visualize the insights of the dataset. Two dashboards were created to answer the following questions about the dataset:

1. How do the number and type of events differ by region?
2. How has the frequency of events changed over time?
3. Are the duration of events different depending on the type of event?
4. What are the 10 biggest events?
5. How many deaths and participants are associated with USD events?

Visualizations

Dashboard A provides a general overview of the urban social disorder events and addresses questions 1, 2 and 3 above. It explores how the number and duration of events differ by type and region.

- The first visualisation shows a map of the world divided into the regions: Asia, Latin America, Middle East and North Africa and Sub-Saharan Africa. We can hover over individual countries to see the total number of events for that country.
- The second visualisation shows the frequency or number of events by year in the different regions. Here we see that in the mid-1980s there was a spike in the number of events in Latin America. This is not surprising given that the Central American Crisis started in the late 1970s and lasted over a decade with civil wars in multiple Central American countries. Since the 2000s most events have occurred in Asia or the Middle East and North Africa. The running total number of events each year is also included showing that overall, there have been twice as many events in Asia compared to other regions.
- The third visualization shows the frequency and running total number of events each year by type of event. Here we see that while Warfare events have not increased greatly through the years, Demonstration events have increased steadily in all regions, particularly Asia. We see a spike in the number of Terrorism events in the Middle East and North Africa in 2005, which is not surprising given the numerous conflicts in the region around that time.
- The fourth visualization shows the duration of events by region and type. Using the control, we can switch between maximum, minimum and average duration. Here we see that Demonstration and Riot tend to be of the greatest duration lasting up to 8 years.

Dashboard B explores the events in greater detail occurring around the world and addresses questions 4 and 5 above.

- Each event had a number of participants ranging from 0 to 10 or more than a million. To visualize this, we used a simple bar chart, which easily interprets how many participants are active at a specific event type.
- It is also interesting to know what type of audience is being attracted to these events. To visualize this, we have created a packed bubble visualization which shows the bubble with the largest bubble as the most popular group of audience at an event.
- With all the events occurring throughout the developing country. It was intriguing to find out what types of problematic events are occurring in these countries overtime. To visualize this, we have a stacked bar chart that shows the top 10 occurring events.
- The visualization of the map shows all the developing countries that shows the number of deaths throughout the years. To understand what could have caused the death in a specific country, we made the dashboard interactive. By selecting a country, we can get the number of participants, the problematic event, as well as the group that was participating.

Data Pre-processing

Manual preparation of the data was performed in Microsoft Excel before being imported into Tableau for visualization. The dataset has nominal and numeric features and its size is 9019 x 32. In the original dataset, the column PTYPE consists of a 2 digit numeric values, each representing a problem type. To make it more meaningful, each value was converted to the corresponding category text. For example PTYPE 10 represents “General Warfare” and PTYPE 20 represents “Intercommunal Warfare” and these nominal values were used in our analysis instead of the numeric codes. For Dashboard A, the dimension of PTYPE was further reduced from 12 to 5, to improve readability. That is, different subtypes of problem types were categorized as being of the same general type. For example, the original PTYPE categories of Organized Demonstration, Pro-Government Demonstration and Spontaneous Demonstration were combined under the single category of Demonstration. Similarly, column NPART consists of a 2 digit numeric value, each representing total number of participants (actors) and people directly affected by the event (targets). To make it more meaningful, each value was converted to the corresponding sum of actors and targets. For instance, NPART 1 represents “less than 10” and NPART 2 represent “10-100”.

Resources

1) Urdal, Henrik & Kristian Hoelscher, 2012. ‘Explaining urban social disorder and violence: An empirical study of event data from Asian and Sub-Saharan African cities’, International Interactions 38(4): 512–528.
2) “Urban Social Disorder Codebook, version 2.0”, Peace Research Institute Oslo.
    - https://www.prio.org/Data/Armed-Conflict/Urban-Social-Disorder/