

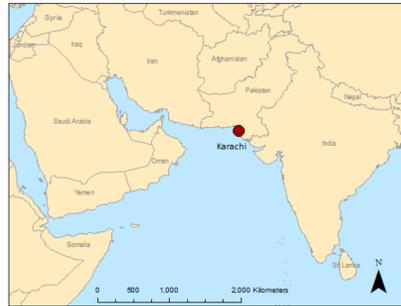
An Analysis of Violence Patterns in Karachi, 2008-2013

Cartography and Poster Design by Ali Jafri, May 5, 2015

Background

Since the establishment of Pakistan, the city of Karachi has undergone a massive demographic transition. The city has always been one of migrants and transient populations, and ethnic, political, sectarian, militant, and criminal cleavages have become established. More recently, economic growth, urbanization, and regional conflict have had a great impact on this port city, and many new residents have moved there; this has upset the already fragile makeup of the city. In 2008, the Pakistan People's Party (PPP) took power after national elections, and was the first civilian government to serve a full five-year term. Though they did not preside over Karachi's local government at the time, the law and order, and security situation in the city was complicated by a number of overlapping authorities. Over the course of the PPP's term, there

were a number of periodic flare-ups in the city; while these instances are not unique, an analysis of conflict over that time frame gives some context to understanding Karachi.



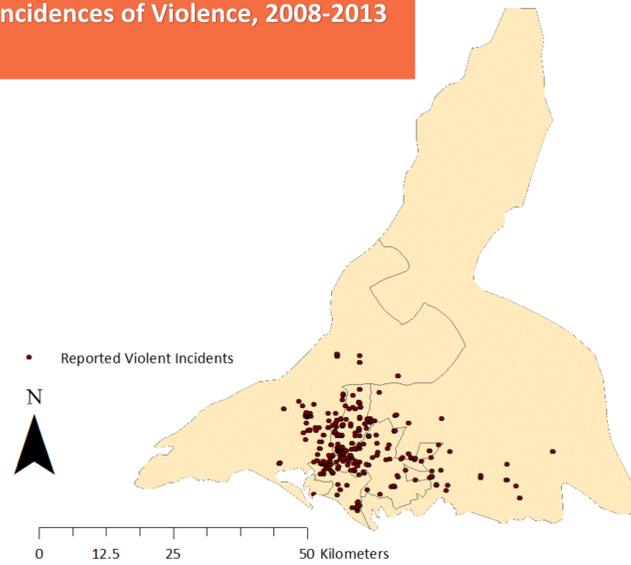
Methodology

After searching for conflict data, I came across the National Consortium for the Study of Terrorism and Responses to Terrorism (START), housed at the University of Maryland. Among their outputs is the Global Terrorism Database (GTD), which is an open-source dataset that has chronicled terrorist attacks from 1970 until 2013. There was a similar dataset compiled by a group of scholars based at the University of Chicago (referred to herein as the BFRS dataset); though this data was useful for general analysis, it did not have an easy-to-use spatial component. Using the GTD, I separated all of the events that took place in Pakistan, further filtered by year, and then by city. As mentioned before, the time frame that comprised the PPP's national administration was of particular interest because of the security, legal, and political dynamics that were in play. I created rasters based on administrative units from the Global Administrative Areas initiative (GADM). From that point, I used Kernel Smoothing techniques, and the Map Algebra function to measure year-to-year violence levels.

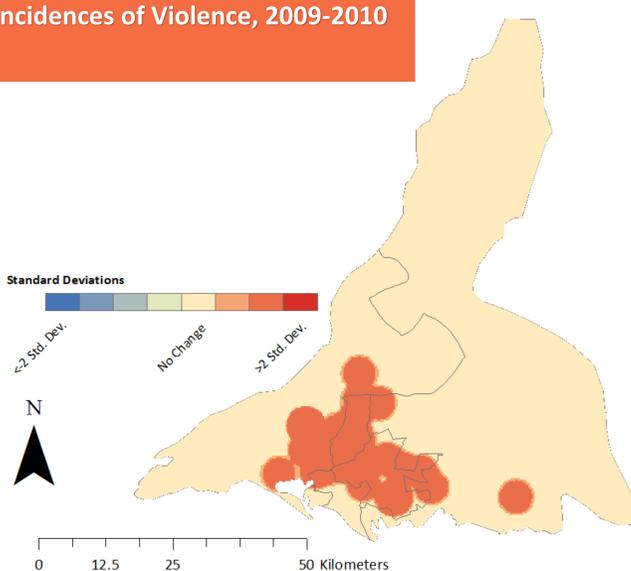


A policeman responds to a burning car after an attack in 2012 (Photo by AFP/File)

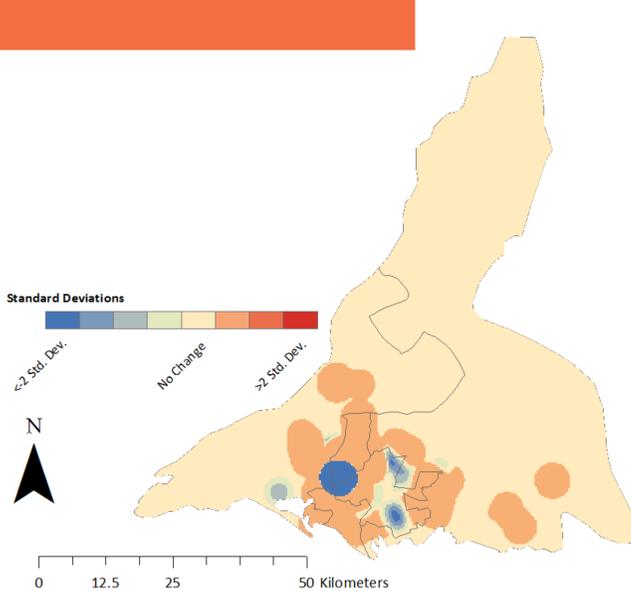
Incidences of Violence, 2008-2013



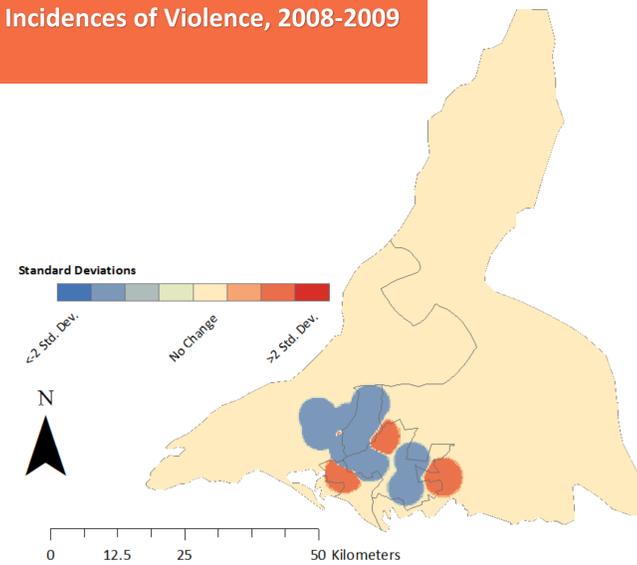
Incidences of Violence, 2009-2010



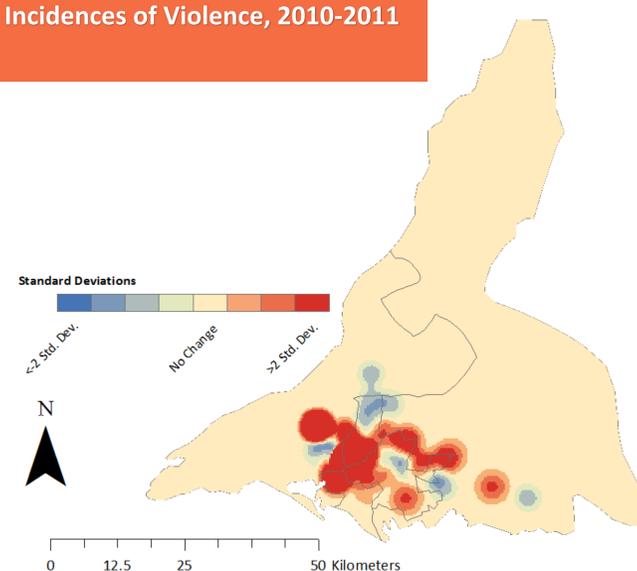
Incidences of Violence, 2011-2012



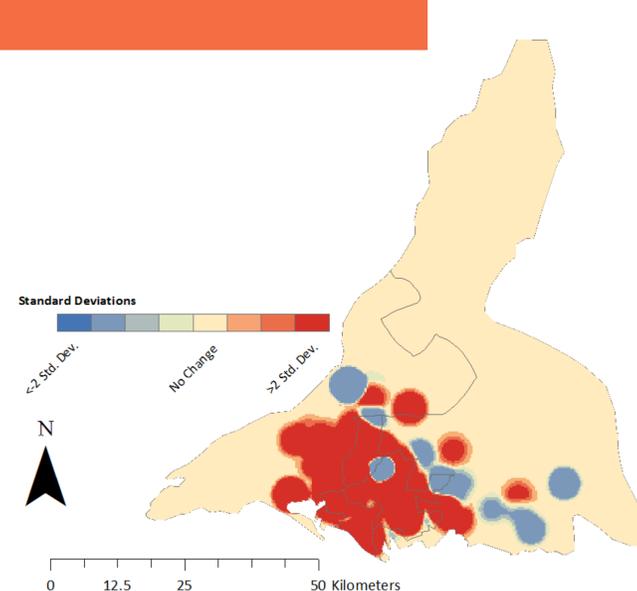
Incidences of Violence, 2008-2009



Incidences of Violence, 2010-2011

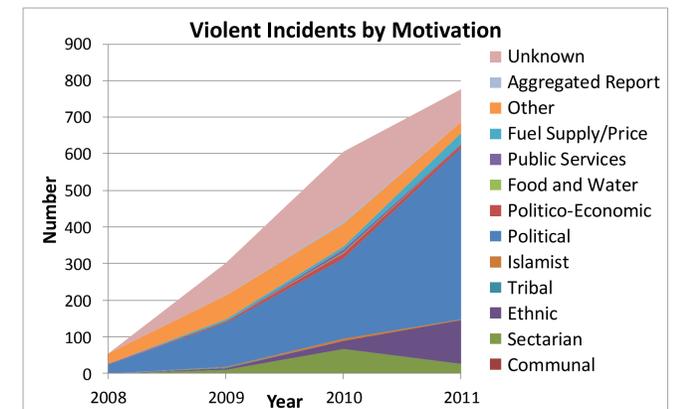


Incidences of Violence, 2012-2013



Limitations

The most obvious limitation is that both datasets are based on media reports. This means that the data are vulnerable to reporting inconsistencies, biases, erroneous journalism, and other methodological challenges. Another difficulty with the BFRS dataset was that it did not have associated latitudes and longitudes. The dataset was helpful in classifying different attacks; a chart by attack types is below. Another limitation was the lack of more geographically specific data. Often, incidences were tagged with an arbitrary latitude and longitude, even though many times, there was more specific data available. That is why point data can be deceiving. Since each point represents a unique incident, it does not account for multiple attacks that are tagged with the same coordinates; there were many such examples of this.



Results

The findings on the maps represent year-on-year changes in number of attacks. The standard deviation was used to set a baseline for visualizing the data. As mentioned above, the physical location of the clusters do not represent specific areas. Rather, they are the arbitrary locations with which the managers of the dataset chose to represent Karachi. A closer look at the findings shows a mixture of increases and decreases in violence levels. However, in the period from 2009-2010, there were virtually no areas where violence was decreasing. This is not necessarily unsurprising, because there were a number of major events, both locally, and nationwide, that influenced violence patterns in the city. All other years experienced results with some increases and some decreases in violence, but with intensity levels varying.

Sources

National Consortium for the Study of Terrorism and Responses to Terrorism (START), Global Terrorism Database (GTD), University of Maryland
 BFRS Political Violence in Pakistan Dataset, University of Chicago
 Database of Global Administrative Areas (GADM)
 ESRI Data Maps
 GfK
 Projection: WGS 1984, UTM Zone 42N