Micro-Level Analysis of Civil Violence: An Event Data Analysis of Kenya, Georgia-Russia, and Mexico

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Abstract

Research on civil violence and political instability has yielded important baseline information about the conditions that have the potential to increase risks for mass violence, political instability, or state failure. Limits on data collection, analysis, and interpretation immediately before and during outbreaks of conflict, however, constrain analysts from identifying which conflict-prone country will descend into political instability or violence in time for a targeted intervention or effective response. This paper presents a conceptual framework for analyzing the heterogeneous and dynamic character of local conflict. This work is anchored in the need to describe conflict dynamics as they occur, to understand in real-time the political, economic, and social drivers and to gather high-resolution (e.g. local, disaggregated) data to analyze social instability. The paper demonstrates the effectiveness of such a framework and applies it to three case studies: the Kenyan presidential election of 2007, the Georgia-South Ossetian war in 2008, and the Mexico drug wars in 2010. The case-study results suggest that the analysis of high-resolution event data immediately prior to two of the conflicts could have enabled early detection and warning of the potential for large-scale civil violence. The third case provides retrospective analytical insight into local conflict dynamics. This paper argues that in an era of non-state actors, emergent conflict, and natural resource pressures, a new conceptual approach to event data collection and analytical process can provide low-cost, near real-time monitoring and evaluation of ongoing and potential conflicts in multiple languages and regions.

Introduction

Research in the field of civil violence and political instability has yielded important baseline information about the general conditions that can lead to mass violence, mass killings, and political instability.[1] Research projects such as the Political Instability Task Force (PITF),[2] the Failed States Index,[3] and the Peace and Conflict[4] report provide specific baselines for identifying the groups of countries most at risk for civil violence and political upheaval over a several-year time horizon. Unfortunately, such research tells little about the likelihood of imminent violence or the local-level and individual-level dynamics that will move some at-risk countries into active conflict in a given year.[5]

In a paper by the Political Instability Task Force (PITF), the project's principle finding after more than 10 years and the use of global data from 1955 to 2005 is that "regime type is overwhelmingly the dominant factor behind revolutions, ethnic wars, and adverse regime changes."[6] Further, PITF researchers point out that it is not "the degree of democracy or autocracy" that defines the potential for conflict, but rather how regimes choose their leaders.[7] Understanding the impact of regime type is important for long-term policy decisions, but it is increasingly evident that localized interactions play a determining role in the potential for local conflict. Understanding how local interactions affect the potential for conflict requires data about local attitudes, preferences, networks, and decision processes that have high resolution, both in space and in time. Such data are more difficult to gather than what is required to calculate the standard macro indicators.

Ethnographic studies or long-term social studies of communities are an important component of understanding civil violence, but they do not provide a systematic, multi-country analysis. The tension between macro data analysis that is conducted across multiple years and regions and isolated single-community, in-depth analysis is a fundamental feature of conflict studies. This paper uses a framework that falls in between these two methodological poles and addresses the need for data that is valid across regions and also has local-level detail. This paper argues that collecting and structuring civil violence event data from electronic news sources in real time and multiple languages can assist in the interpretation and understanding of conflicts.

Previous work has demonstrated the ability and benefits of scraping news articles in multiple languages and systematically structuring the results.[8] It has not, however, demonstrated the

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[1] David Nyheim, "Can Violence, War and State Collapse Be Prevented? The Future of Operational Conflict Early Warning and Response Systems." Organization for Economic Cooperation and Development, May 2008.
[2] Daniel C. Esty, et al. "Failed States and International Security: Causes, Prospects, and Consequences" The State Failure Project: Early Warning Research for U.S. Foreign Policy Planning, Purdue University, West Lafayette, February 25-27, 1998.
[3] *Failed States Index 2009*, The Fund for Peace, Washington, D.C. 2009.
[4] Peace and Conflict Report 2010.
[5] Kevin D. Jones, *The Dynamics of Civil Protests: A Case Study of Protests in the Kyrgyz Republic*, Doctoral Dissertation, University of Maryland, May 2007.
[6] Goldstone et al., 2.
[7] Goldstone et al., 2.
[8] Philip Schrodt, Jones, et al.

ability to conduct this type of analysis in real time, which could enable the use of event data to make informed policy decisions about an evolving conflict. The case studies in this paper detail an initial attempt to collect electronic news articles and structure data in a real-time environment. The results from the case studies are not comprehensive, nor do they claim to allow for the prediction of when violence will occur or how it will happen. They do demonstrate that micro-level event data can capture *who was doing what to whom,* information that can provide significant insight into the direction and shape of a conflict. The data can also begin to identify if events are outside the bounds of normal behavior for a specific region or group.

More work is needed to refine the process of event tracking and to enable public access to event data in real time. However, these initial results suggest that with a modest focus on the development of improved taxonomies, it is possible to track in real time ongoing violent events in a structured, systematic manner.

This paper does not detail the methodology of the coding and taxonomic processes. While these issues are important, adapting existing coding or taxonomies is an analytically simple, if time-consuming task. Developing a dictionary of terms can be difficult, but it is only limited by resources of time, not by any systematic empirical problem related to event analysis. This paper shows that the process of identifying, coding, and tracking can work across a wide range of conflict scenarios and that there is benefit in having open access to event data to track and monitor existing conflicts.

The primary flaw with most current political forecasting models is the quality of the data. Long-term macro-level data can only provide long-term forecasts. The systematic tracking of micro-level events could lead to better modeling tools that increase the relative confidence for political violence forecasts. The three cases presented each demonstrate a different potential for tracking, monitoring, and forecasting.

Literature Review

Conflict data models

The advent of systematic models for predicting conflict emerged in a post-Cold War period in which a number of intrastate conflicts were challenging traditional approaches to conflict prevention, including forecasting methodologies. These included large-scale wars or high-intensity conflicts with more than 1,000 deaths per year, such as in Rwanda, Burundi, and Zaire, but rather more frequently, it was low-intensity conflicts of 100 to 1,000 deaths per year and violent political conflicts with deaths under 100 per year that were on the rise. Though large-scale events were in decline, the international community's inability to develop a cohesive response to the Rwandan genocide spurred calls by international organizations for more effective

early warning systems.[9] This was part of a broader movement that emphasized conflict prevention over conflict resolution and management.

Conflict prevention scholars have done solid comparative analyses of the typology, methodologies, and effectiveness of various early warning models.[10] This paper will not repeat this task. While varied in their approach, these analyses validate "standardized indicator-based modeling" as a useful tool for risk assessment and early warning.[11] Broadly speaking, these studies identify different conditions or variables for conflict, such as which countries are dependent on primary commodities. Like many conflict prognostication models, these models seek to understand the role of state weakness or the role of economic development in exacerbating or preventing conflict.[12]

For the purposes of this paper, I separate the literature into four general categories related to conflict forecasting and data collection: risk assessment models, event data sets, early warning systems, and news aggregators. Risk assessment models are usually quantitative, structural, state-level models. In addition to the ones named in the introduction, PITF, the Failed States Index, and The Peace and Conflict Report, others include the Minorities at Risk Project,[13] Collier and Hoeffler's work,[14] and Fearon and Laitin's[15] work. Each of these models, while differing slightly in their selection and manipulation of key variables, are similar in their level of aggregation of data. They all rely on macro data from the state level collected on a yearly basis. These models and approaches provide a useful baseline for identifying which countries should receive focus over a several-year time horizon. While they apply different quantitative methods and have differing results, generally the set of countries most at risk are highly correlated across methodologies, even if they are for different reasons.

These models cannot capture the local-level and individual-level dynamics that will move some at-risk countries into active conflict in a given year. As such, there is a significant time lag in their ability to provide forecasting. The scope of near-term risk assessment, as well as theoretical early warning models, has typically been defined in years. Economist Paul Collier's models define probabilities of violent conflict within five-to-six year cycles.[16] The PITF model claims to

[9] David Nyheim, "Can Violence, War and State Collapse Be Prevented? The Future of Operational Conflict Early Warning and Response Systems." Organization for Economic Cooperation and Development, May 2008,14.

[10] See Hayward R. Alker, Ted Robert Gurr, and Kumar Rupesinghe, *Journeys Through Conflict: Narratives and Lessons*. (Lanham, Maryland: Rowman & Littlefield Publishers, Inc., 2001). Suzanne Verstergen, "Conflict Prognostication: Toward a Tentative Framework for Conflict Assessment", (The Hague: September 1999). Anna Matveeva,"Early Warning and Early Response: Conceptual and Empirical Dilemmas." European Centre for Conflict Prevention, Issue Paper No. 1, September 2006.

[11] Verstegen, 9.

[12] Goldstone, 2005; Jones, 2006.

[13] Ted Robert Gurr, *People Versus States: Minorities at Risk in the New Century*, (Washington: U.S. Institute of Peace Press, 2000).

[14] Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil Wars," World Bank Working Paper 2355, (Washington, D.C.: World Bank, 2000).

[15] James D. Fearon and David Laitin, "Ethnicity, Insurgency and Civil War," *American Political Science Review* 97 (1), 2003: 91-106.

[16] Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil Wars," World Bank Working Paper 2355, (Washington, D.C.: World Bank, 2000).

identify "countries which will have, or not have, major political crises two years after the date of observation." [17]

The key question that most current models and instruments are unable to answer is what is the potential for future instability in a region that is already identified as "high risk." As with any type of predictive models, one problem will always be the False Positive Rate. For example, the recent PITF model has a True Positive Rate for predicting instable countries within a two-year horizon of 85.7 percent and a False Positive Rate of 19 percent (their calculations).[18] And that's looking at the potential for conflict over a two-year horizon.

Looking at specific examples, none of the almost twenty-three countries involved in the 2010 Arab spring, except Djibouti, was listed in the Peace and Conflict top twenty-five countries for either 2008 or 2010.[19] For the Failed States Index, none of the countries involved in the violent overthrow of their leaders (Egypt, Tunisia, and Libya) was listed in the top thirty countries on any of the Fund for Peace indices since 2005.[20] This means that while these type of macro indicators may provide some useful ranking, they are not useful to identifying countries that may have large-scale civil violence and instability or to pinpointing specific countries that will experience violence in a given year.

The second category is large event data sets of violent events compiled from thousands of news reports. These include projects such as the Data on Armed Conflict,[21] the Kansas Events Data Set,[22] and Correlates of War.[23] These data sets, specifically the Data on Armed Conflict, provide rich, cross-country, longitudinal data for a multi-decade time periods. These data sets are useful for examining long-term trends and multi-year forecasts. The KEDS event data set (formerly of Kansas and now based at Penn State) is probably the one academic project closest to providing event data in near real-time. The KEDS data set uses an automatic coding process to collect event data from English language papers such as Reuters or AFP feeds.[24] The system organizes event data based on a fixed taxonomy.[25] Recent advances in data methodology and technology have allowed for the collection of event data sets at a local level, which have shown a limited ability to identify protests, riots, and small-scale conflict.[26]

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[17] Jack A. Goldstone, et al. "A Global Model for Forecasting Political Instability," *American Journal of Political Science*, v. 54, no. 1 (January 2010): 191.

[18] Goldstone et al., p. 201.

[19] Peace and Conflict 2008 and Peace and Conflict 2010.

[20] Failed States Index, 2005-2011.

[21] *Data on Armed Conflict*, Centre for the Study of Civil War, PRIO and Uppsala Conflict Data Program, 2008.

[22] Gerner and Schrodt. "The Kansas Even Data System: A Beginner's guide with an Application of the Study of Media Fatigue in the Palestinian Intifada." Presented at the American Political Science Association (Aug 18-Sept 1, 1996).

[23] Sarkees, Meredith Reid and Frank Wayman (2010). *Resort to War: 1816 - 2007*. CQ Press.

[24] Patrick T. Brandt, John R. Freeman, and Philip A. Schrodt, "Real Time, Time Series Forecasting of Political Conflict", Unpublished Manuscript, February 2009.

[25] Bond et al., "Integrated Data for Events Analysis (IDEA): An Event Typology for Automated Events Data Development." Journal of Peace Research (Dec 2003).

[26] Clionadh Raleigh, Andrew Linke, Havard Hegre and Joackim Karlsen. "Introducing ACLED: An Armed Conflict Location and Event Dataset," *Journal of Peace Research* 47, 5 1-10.

These types of data sets are necessary for longitudinal and panel studies of conflict over country and time. They provide an important baseline for comparison. But because of the design of the projects, some long-term violence that may be relevant to policy makers is not captured by these projects. For example, the Uppsala Conflict Data Program (UCDP) has very clear definitions of what constitutes conflict.[27] This does not suggest that the UCDP standards are inadequate, in fact because they are rigorously held constant over time, they allow for a necessary comparison as projects with more temporal data evolve. These data sets are necessary for long-range (yearly, bi-yearly) conflict forecasting, but are insufficient for efficient and timely monitoring or ongoing forecasts.

The third category is early warning systems or first-alert systems. These use short-term indicators based on actions taken by individuals or the state that are usually identified by field staff. These include IRIN—UN Office for the Coordination of Humanitarian Affairs,[28] the International Crisis Group (ICG),[29] and the Forum on Early Warning and Early Response (FEWER).[30] These projects, especially ICG, provide long-range analytical insight into conflict dynamics. Their strength is the high degree of qualitative knowledge regarding events transpiring in real time. The disadvantage is the lack of a systematic methodology that reaches across multiple countries in near-real time. An additional limitation is the lack of structured data that can be tracked for variation over time.

A variation of early warning systems is the crowd-sourcing websites that seek to aggregate voices on the ground into a coherent mapping of an event. The notable example in this category is Ushahidi which originated out of the Kenya presidential election violence discussed later in this paper.[31] Crowd-sourcing provides a useful mechanism for providing information on a very specific topic at a specific time. It is not as useful for identifying early warnings or trends towards violence. It is also highly dependent on users on the ground providing information. The location, time, and even motivation of the users may be highly biased, and there is no systematic way of addressing this bias in the data.

The last group is news aggregators. These are fast, usually updated automatically, and can provide information on a variety of topical or thematic areas. These include the European Media Monitor[32] and Reuters AlertNet.[33] There are numerous examples in this category and new websites are regularly created to help the end-user track and categorize streams of data. These provide a rich stream of qualitative news data that can assist in creating an early alert system, but again the lack of methodology in news collection or organization prevents the practitioner or scholar from reliably forecasting or modeling potential conflicts.

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[27] Ralph Sundberg and Lotta Harbom, "Systematic Data Collection, Experiences from the Uppsala Conflict Data Program," in *Understanding Peace Research*, ed. Kristine Hoglund and Magnus Oberg Routledge, NY 2011.
[28] http://irinnews.org/.
[29] http://www.crisisgroup.org/.
[30] http://www.fewer-international.org/.
[31] http://ushahidi.com/.
[32] http://emm.newsbrief.eu/overview.html.
[33] http://www.alertnet.org/.

Newer types of data, such as Twitter feeds, e-mail alerts, Facebook updates, and other forms of social media analysis have all proliferated in the past few years, as both users and analysts try to understand new applications and new ways to track this data. It is clear that these and other new technologies are changing the means of communications for protest leaders, supporters, and even repressive regimes. This stream of information is just one more tool that can be a useful indicator and barometer of conflict dynamics if it is captured and organized in a systematic method, but an open system with a verified taxonomy does not yet exist.

All four of the current categories of data collection and forecasting models provide useful functions, but none is able to provide a systematic, rigorous process to structure and analyze live event data in real time from across the globe. The below case studies present an initial foray into answering this challenge.

Value of Micro

Micro-level analysis is a distinct practical, empirical, and conceptual approach to event analysis, conflict tracking, and violence forecasting. Its greatest practical consideration is accurately capturing the most relevant resolution (in time and space) of the data. Its central conceptual goal is identifying how local interactions impact large-scale dynamics. Previous event-tracking methods have interpreted events at the macro level, and then, in the search for earlier causes, obtained micro-level data. With this varied approach, micro-level data is relevant regardless of the macro interpretation or if a large-scale event occurs.

Micro-level analysis also has conceptual limitations stemming from the need to accept the value and insights from micro-level data. Macro, cross-country analysis has significant benefits in its ability to have stable, fixed categories of data for twenty to thirty years, allowing long-term trends to emerge. It is also useful for cross-country analysis because of the clear categories embedded in data sets from the UCDP, the World Bank World Development Indicators (WDI), or Polity IV. But these benefits can also be seen as limitations, as these forms of analysis struggle to identify potential conflict points or time horizons.

The absence of accurate macro-level data often indicates a state's inability to provide accurate, transparent data collection. Failed or failing states rarely prioritize capturing accurate macro-data. Thus, when a state is labeled failed or failing, it doesn't necessarily mean anything about how conflict prone it is. Another way of thinking about this limitation is that although macro data clearly distinguishes Sweden from the Democratic Republic of Congo (DRC), this is less an issue of export to import ratio as it is an indication of the inability of the DRC to measure any of its economic activities. Also, the subtle differences and risks of conflict between the DRC and Nigeria, for example, would be impossible to identify with macro data sets.

One of the limitations of the current approach is the identification of the state as the level of analysis. In many of the states that are most at risk for civil conflict, the state often has very little control or legitimacy outside of the capitol. Lamb, in his analysis of the Medellín slums of Columbia, shows how nonstate actors have turned large sections of the city into their own

"statelets" where they provide "public services (adjudication of disputes, public safety, jobs, etc.) and enforced local, traditional social values."[34]

He finds clear differences in the levels of legitimacy of these armed nonstate actors, differences that are partially determined by the levels of resources that they were able to control. Actors who were relatively resource-poor won and held statelets by legitimizing their control internally: they provided public services (adjudication of disputes, public safety, jobs, etc.) and enforced local, traditional social values. Those who were relatively resource-rich "maintained control by force, coercion, and barter, and by avoiding illegitimacy: they maintained a relatively predictable daily living environment for the community." A key finding is that these nonstate actors, even those with resources, had to avoid illegitimate actions. They lost control when they lost legitimacy by acting in a manner that the population defined as illegitimate, such as overreaching their authority or through corruption.[35]

While Lamb's research provides insight in to managing security in highly unstable "statelets," for the purposes of this paper, it demonstrates the importance of a micro-level understanding of internal conflict dynamics. The radical fluctuations of violence in Columbia had very little to do with macro-level shifts and changes by the national government. Local-level interactions explain much of the fluctuations, and they could only be identified by analyzing the interactions of local nonstate actors and the general population. The case-study analysis from Mexico, presented at the end of this paper, is an early attempt to combine the micro-level insights that Lamb suggests are necessary into a real-time operating environment.

Another important factor in the analysis of localized conflict is its geographical distribution. In his case study analysis of Collier's data sets, Sambanis shows that for several countries in the case study, the areas of instability were completely isolated from the primary resource-rich sections of the country and that the zones of conflict that would lead an entire country to be labeled as conflict prone were often only isolated areas.[36] This insight highlights the need for geo-specific labels for conflict data.

The geo-spatial orientation of data can assist in identifying specific regions of a country that are at greatest risk for conflict and can pinpoint areas for conflict intervention. Gulden, in his extensive analysis of the Guatemalan conflict from the 1980s, shows how a village-level assessment can change the interpretation and understanding of a conflict. He found low levels of violence when ethnic communities were split evenly and no one group was able to dominate a region. Higher levels of violence existed in towns where the dominant ethnic group comprised 75 percent to 95 percent of the population.[37] Gulden's work is based on an extensive data set developed by human rights organizations over several years after the civil war, but with better

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[34] Robert Lamb, "How Nonstate Actors Govern in Medellin, Columbia, 1984-2009: Legitimacy and Governance amid Complex Violence," CISSM Policy Brief, August 2010.

[35] Lamb.

[36] Sambanis, Case Study Analysis of Civil Conflict.

[37] Tim Gulden, "Spatial and Temporal Patterns in Civil Violence: Guatemala 1977-1986," *Center on Social and Economic Dynamics Working Paper No. 26* (Washington, DC: Brookings Center on Social and Economic Dynamics, 2002), 3-7.

data collection systems, the same level of micro data could be collected in a compressed time frame, allowing for the real-time analysis of villages that may be at a higher risk for genocide and require real-time conflict prevention.

In a more recent paper, directly relevant to the case studies presented in this paper, Kniss combines geospatial conflict data from the 2007 Kenyan election with other data on economic inequality to provide important insights on village-level conflict zones. He finds that "local levels of violence throughout Kenya increased with the severity of horizontal inequity."[38] His results were based on micro-level data that had been structured and organized to allow a systematic quantitative analysis. Kniss's research was based in part on data from the Kenya case study presented in this paper and demonstrates how micro-level economic data combined with event data can provide additional insight into civil violence.

Micro-level data can often provide information that a country or a primary actor either purposely hides or alters to fit their agenda. Jones, in his analysis of the Kyrgyzstan election violence in both 2005 and 2010, finds that opposition leaders significantly misrepresented both their roles and their level of influence in the overthrow of the governments. By systematically tracking the local-level protests that existed for months prior to both government overthrows, Jones shows that contrary to popular (and western media and government) interpretation, "the role of international funding, western governments, and local civil society was minor and unimportant in determining the final outcome of the political protests."[39] In addition, he suggests that the April 7, 2010 "overthrow of the Kyrgyz government…was not a sudden event; rather it was a continuation of a long succession of protests and violence that had been occurring for years."[40] In this instance, local dynamics determined the final, macro outcome, even when politicians and policy leaders denied or attempted to reframe events.

Jones's research is also a relevant example of the importance of systematic data collection. Jones's 2005 data was based almost exclusively on field interviews conducted over several years throughout the country. The 2010 data utilized the data collection techniques presented in this paper, with limited field research to verify findings. Compared to 2005, the systematic data collection used in 2010 provided a much richer and more accurate data set, and was cheaper, faster, and, in general, more accurate. While on-the-ground field interviews and research and one-on-one interviews with key leaders can provide unique qualitative assessments, the ability to gather fast systematic data that captures local-level interactions is vital to creating a rapid policy response to evolving conflict environments.

Each of the individual research projects cited above contributes to the intellectual background and framework necessary for the development and design of a new methodology. Only by capturing micro-level violence data, disaggregated across time and space, will it be possible to

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[38] Michael Kniss, "Walking Kenya Back From the Brink: A Micro-Level Study of Horizontal Inequity and Civil Conflict Prevention," unpublished ms, May 3, 2010.
[39] Kevin Jones, "Dynamics of Political Protests."
[40] Kevin Jones, "A Culture of Protests: The Government Overthrow in The Kyrgyz Republic in 2010," CISSM Working Paper.

accurately track events as they unfold and, as importantly, determine the relative importance or impact of an isolated event.

Methodology

This research project's specific task has been to create a methodology that can track violent conflict at the local level, in local languages, in near-real-time, and with real-location accuracy. This methodology builds on the literature of predictive models for instability, but it is primarily a combination of an event data set and early warning systems, and adds an additional process that is similar to news aggregators. The method described below mixes quantitative and qualitative approaches, collecting qualitative information (news reports), coding them in a quantitative process (taxonomy), and providing both quantitative and qualitative outputs. The output consists of codes for all significant actors, actions, locations, and time.

The framework used in this project focused only on the actions or statements made related to political violence. Political violence is defined as actions that involve a physical attack on an individual or property that, through the stated goals of the organization (paramilitary rebels, government troops) or through the stated goals before or after an action, are related to the political sphere. When working with event datasets, it is often difficult to determine whether an event is an act of political or personal violence. For the purposes of this dataset, any suspected political violence was included. The goal of this project was not to collect all regional- or local-level data (economic, political, social, resources, climate, etc), but rather to specifically identify when and where acts of violence took place. The project collected data on the who, what, when, where, and how of violent events.

Additional indicators may be useful for future models, but this paper only focuses on violence that has occurred or statements about violence as a way to minimize the amount of data necessary to track and forecast future conflict. These constraints limited the project's focus to short-to-medium term projections (hours, days, weeks) not year-time forecasts. Many of the variables noted above do not change within short time periods and are of limited use in capturing the ongoing dynamics of conflict.

Statements about the likelihood of future conflict or those that responded to conflict were found to be integral to identifying conflict trends. As is discussed in more detail for the Georgia-Russia case study, statements about violence were a key leading indicator of future violence. Which groups chose to make public statements related to violence also provided useful indicators of levels of actual and perceived involvement.

The case studies presented here were developed over a two-year period for a government research contract that has now ended. The primary sources for these case study analyses were local-level papers that were available electronically. More than 75 percent of all news reports analyzed in these cases were from local or regional sources. The number of sources used in each case depended on the region, and ranged from more than a 1,000 for the Russia-Georgia case to

only a few hundred for the Mexico case. A news article's distribution did not impact its relative level of importance in each dataset. For example, an article syndicated in over 100 Russian newspapers corresponded to a single code, while a unique report from an Azeribaijan-based source also received its own code.[41]

The Kenya case study looks at a region with a long history of violence. Outside observers anticipated a peaceful Kenyan election in 2007, but instead, the proceedings led to widespread violence and political instability. Kenya is a False Negative case; it was predicted to be peaceful, but violence erupted. The Kenyan news reports compiled for this case study connect the outbreak of violence to local-level, emerging threats that can be identified on close examination as early as two to three months before the election. In other words, had they been looking at this local-level data, observes could have anticipated the increase in Kenya's vulnerability to large-scale violence.

The Georgia-Russia case study is an example of a True Positive. Interstate conflict was predicted by many commentators, and the violence actually occurred. The micro-data collected in the aftermath of the violence, however, provides unique insights into the process and scope of the violence. The final case study of Mexican drug wars investigates whether the same methodology for identifying political instability and the potential for cross-border war could be applied to evaluate the type of ongoing, complex political unrest present in Mexico. The Mexico case is also different because its data was collected in real-time, and it examined a specific sub-region, not an entire country.

The research for Kenya and Georgia-Russia was retrospective; however, the approach simulated contemporaneous searches, article collection, and coding. The analysts conducting the studies progressed day-by-day, as if they were operating in a real-time environment. Still, it is impossible to completely disregard some amount of human bias in the codes based on prior knowledge of the outcome. To decrease this bias, the studies employed multiple coders, with varying degrees of knowledge about the earlier conflict. The results from the multiple coders were compared, and no significant differences were identified.

Kenya

Introduction

This case-study analyzes the indicators and warnings for civil violence and political instability in the months prior to and after (May 1, 2007 – January 31, 2008) the Kenyan presidential and parliamentary elections on December 27, 2007. The international community regarded Kenya as an oasis of stability in East Africa and anticipated that the presidential elections would be an

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[41] NOTE: All local sources used on the project are captured as html text into a local article repository off line. For some of the citations, the original web address given for the article may no longer be functional since some websites re-use addresses and thus delete the original article or they delete articles without explanation. Citations given are for the external web address. If it is unavailable, please contact the author.

example in Africa of a peaceful democratic process. Yet simmering ethnic tensions linked to postcolonial land distribution policies boiled over after the questionable election results and lead to the deaths of 1,500 Kenyans. The profound politicization of the land reform issue during the presidential campaign, the presence and duration of localized violence in some areas, and the impact of political rhetoric on the electorate all contributed to the post-election catastrophe.

In 2002, Kenya's government received positive support from the international community after a successful and peaceful political transition. Many analysts expected a new period of democracy and the continuance of general stability in the East African state. The deaths of approximately 1,500 and the displacement of over 300,000 Kenyans in the aftermath of the disputed 2007 elections quickly dispelled the idea that Kenyan stability was assured. The International Crisis Group notes in its 2008 report "Kenya in Crisis" that what caught many by surprise was the "ferocity and the speed of the violence" following the 2007 Kenyan presidential and parliamentary elections when it seemed as if the country were teetering on the brink of civil war.[42] The optimistic view of Kenya on the eve of her political transition failed to take into account the turbulence transpiring across the country in the months and days leading up to the election.

Contrary to a common belief in the international media and analytical assessments about the peacefulness of Kenya prior to the post-election period, "violence was one of the themes that ran right through the whole campaign."[43] Most observers failed to connect the pre-election and post-election periods, crucially failing to see a violent narrative stretching back several months before the campaign season began in earnest.

The data compiled for this study came from 70 distinct Kenyan, diasporic and regional sources; 976 discrete incidents of interest were recorded. The authors of this case-study found that by tracing the outbreak of local-level emerging threats in Kenyan media as early as two to three months before the election, one could observe the increase in the vulnerability of Kenya to large-scale violence. Contrary to depictions in the international media, this conflict was not an unexpected or unforeseeable event.

Historical Background

Kenya gained independence from the United Kingdom in December 1963. Since the reintroduction of multiparty democracy in 1991, significant levels of violence have regularly marked election periods in Kenya. In 1992, President Daniel arap Moi secured the first of two consecutive presidential bids by exploiting ethnic tensions.[44] Moi assured victory by inciting populations in Western Kenya to commit acts of violence and ethnic cleansing against opposition supporters, thus disenfranchising voters who intended to vote against him.

Violence continued in the 1997 elections, where violent clashes between the police and protesters were notable in July, August, and later that year. In 2002, elections were violent, but

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[42] International Crisis Group, "Kenya in Crisis", Africa Report No 137, 21 February 2008.
[43] Cheeseman, Nic "The Kenyan Elections of 2007: An Introduction" p. 167.
[44] Oucho, John O. *Undercurrents of Ethnic Conflict in Kenya.* Leiden: Brill, 2002. 96. Print.

did not compare to the conflict generated in 1997. The number of killings associated with long-term conflicts in Western Kenya barely rose. In 2002, the desire to defeat President Moi's handpicked successor—as Moi was constitutionally obligated to relinquish power—unified Kenyans. Elections were violent—riots, protest rallies, and police violence were commonplace—but events did not compare to the conflict generated in 1997. Mwai Kibaki and Raila Odinga—son of and political heir to Oginga Odinga, Kenya's first opposition leader—joined forces behind a Kibaki presidency in the understanding that Kibaki would tailor the post of prime minister for Odinga.

Kibaki promised that he would only occupy the presidency for one term and that he would create a post of prime minister; he ultimately reneged on the deal.[45] In response to Kibaki's power-centralizing tendencies, which he tried to enshrine in a referendum, Odinga created the Orange Democratic Movement (ODM). The ODM became the biggest opposition party to Kibaki's Party of National Unity (PNU). The PNU and ODM were the largest parties fighting for supremacy in 2007, against a backdrop of violence that had been rising above its normal threshold since late 2006.

It is useful to provide a brief snap-shot of what information other international media and analytic sources provided prior to the December 2007 elections. On February 12, 2007, The Economist magazine's Economist Intelligence Unit printed this assessment about the upcoming presidential election in Kenya:

> "Socio-political tension will rise in the run-up to the polls as divisions based on ethnic identity and party allegiance intensify. *Tension is likely to spark sporadic violence, although we do not expect widespread disorder, especially given the peaceful transfer of power at the last election, in 2002.*"[46] [emphasis added]

With a little over a week to go before the election, in an article entitled "For All Its Flaws, an Example to Others," *The Economist* lauded Kenya, "as a haven of stability and prosperity in eastern Africa… the unusual sharpness of this election campaign is so encouraging."[47] *The New York Times* maintained that problems would emanate exclusively from Kenya's byzantine electoral rules and not from unresolved grievances or institutional weaknesses. According to the *New York Times*, Odinga's difficulty was that he faced a stiff challenge in his home constituency in a race he needed to win to qualify as a presidential candidate.[48]

Other international media outlets failed to alert their publics to the likelihood of widespread disorder or bloodshed following the elections. In the aftermath of the crisis, the British Broadcasting Corporation concluded that it neither fully anticipated the possibility for electoral malpractice, nor the dire consequences for the country in the event of a fixed election. In the latter case, Adam Mynott, the BBC's Kenya correspondent, said "We did say in the run up to the election that if it was a close result there would be increased tension… but we have a policy at

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[45] Mutua, Makau. *Kenya's Quest for Democracy: Taming Leviathan*. Boulder, Colo.: L. Rienner, 2008. Print.

[46] Economist Intelligence Unit, February 12, 2007, Kenya Country View.

[47] "For All Its Flaws, an Example to Others." *The Economist* 22 Dec. 2007: 12.

[48] Gettleman, Jeffrey. "Kenyans Vote in Test of Democracy." *New York Times* 28 Dec. 2007. Web.
<http://www.nytimes.com/2007/12/28/world/africa/28kenya.html?_r=1&scp=1&sq=kenyans%20vote%20in%20test%20of%20democracy&st=cse>.

the BBC in News of not predicting violence because that can incite violence."[49] Despite this position, the BBC World Trust Service writes in its post-election briefing that "international media have also done much to shape international perceptions of the political crisis in the country, and international reports in turn influence national public debate."[50]

Observations in Aggregate

Our dataset shows an escalation in indicators and warnings of civil violence in numerous regions before the outbreaks of widespread violence. The data show the potential for increased violence in two of Kenya's eight regions and the decreased proclivity to violence in four out of Kenya's eight regions. A review of all indicators and warnings recorded during the period of May 1, 2007 through December 27, 2007 (Election Day) shows two distinct periods of rising indicators and warnings: early May through mid-August and early/mid-October until Election Day. For the former period, events were concentrated on land violence in Western Kenya, especially the Mount Elgon region, as well as the police crackdown against Mungiki in Nairobi's slums. The latter period mostly recorded instances of politically related indicators and warnings, especially the trading of accusations by political parties and politically inspired violence.

The data showed that Rift Valley and Nairobi Provinces would be the regions with the greatest possibility of falling into deadly conflict following the 2007 elections. While the varied ethnic makeup of the Rift Valley indicates predisposition to violence in Kenya, it merits noting that past violence has not always been as disproportionately skewed to the Rift Valley as it was in 2007. In other words, the dataset offered hard, empirical evidence as to increased vulnerability to violence in the Rift Valley, instead of just assuming predisposition to violence because of the province's ethnic make-up and conflict history. The post-election outcome bore out the reality of what the analysis had indicated in these two provinces. Similarly, the data showed that Central, Eastern, Northeastern, and Coast Provinces would all have reduced or lowered levels of violence compared with the Rift Valley and Nairobi.

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[49] "Kenyan 2007 Elections and Their Aftermath: The Role of Media and Communication." *Policy Briefing* 1 (Apr. 2008): 14. *Http://www.bbc.co.uk/worldservice/trust/*. BBC World Service Trust, Apr. 2008. Web. 16 Aug. 2009. <http://downloads.bbc.co.uk/worldservice/trust/pdf/kenya_policy_briefing_08.pdf>.
[50] "Kenyan 2007 Elections and Their Aftermath: The Role of Media and Communication." *Policy Briefing* 1 (Apr. 2008): 14. *Http://www.bbc.co.uk/worldservice/trust/*. BBC World Service Trust, Apr. 2008. Web. 16 Aug. 2009. <http://downloads.bbc.co.uk/worldservice/trust/pdf/kenya_policy_briefing_08.pdf>:

Kenya Land Inequity and Violence
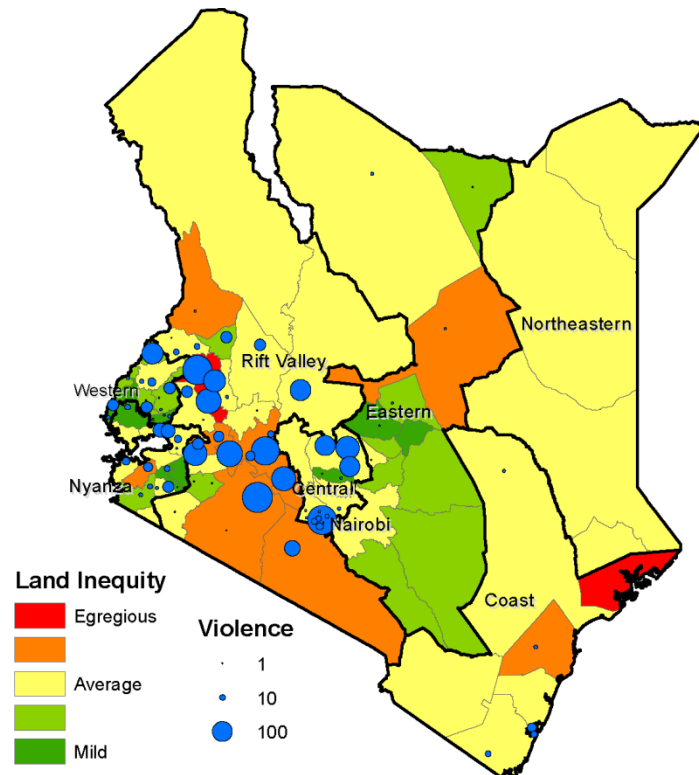
From Michael Kniss, "Walking Kenya Back From the Brink," 2010, unpublished paper.

Ethnic conflict over land in Rift Valley and Western Provinces

The violence in Kenya did not start after the elections. Both Rift Valley Province—which became synonymous with post-election strife in Kenya—and Western Province exhibited inordinately high amounts of indicators and warnings for civil conflict on an almost daily basis from May 1 until December 27, 2007. During this time period, events occurring in Rift Valley Province or Western Province made up 34.4 percent of all events. The geographic spread of violence over time pointed toward widespread disaffection and communal warring, which could be further inflamed by a triggering event such as elections.

Our data show an increase in the amount of attacks (indicators and warnings involving an element of physical violence) over time, especially their increase in earnest from early September until the election. The indicators and warnings in Rift Valley Province were not limited to a specific sub-region, with at least one indicator and warning in every single district of

the Rift Valley. The indicators and warnings pointed to anger over land distribution, harbored by ethnic groups in Western Kenya and exploited by opportunistic politicians as the root cause of civil conflict in the period leading up to the presidential and parliamentary elections of 2007.
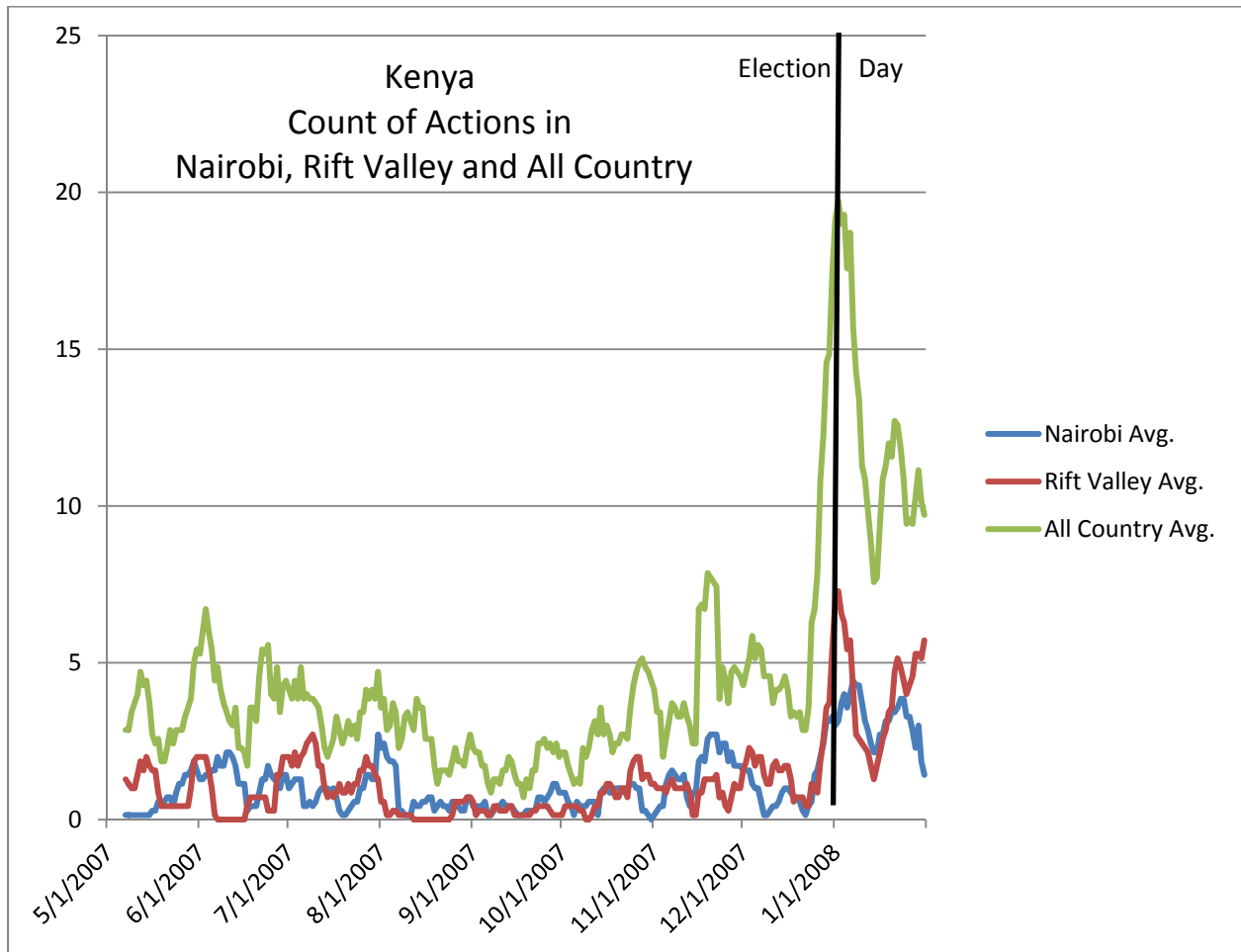
By the October campaign season, indicators and warnings in Western Kenya had become overtly political, as political parties served as proxies for ethnic discontent. While many of the indicators

and warnings captured in this case study accentuate the political nature of events in Rift Valley, it is important to understand that these events were not triggered by politics, so much as they were events orchestrated by politicians to use preexisting conflict for personal gain. Politics became a proxy for the ethnic-cum-economic grievances that have long marked this region of Kenya.

The campaign period was an anomaly, because it was an interregnum where ethnic conflict manifested itself politically. After the elections, the ethnic nature of these conflicts openly reasserted itself, as if to demonstrate that politics in Kenya was just a way for ethnic expressionism and ethnic alliances to become formalized.

Police Response to Ethnic Militias and Gangs

During the past several years, Kenya has experienced a sharp rise in ethnic vigilantism, typically by ethnic gangs and militias. Due to these groups' successful (and lucrative) forays into violence against their countrymen, the central government has stepped up its reaction in order to avoid being perceived as weak. The police and security forces that have confronted these gangs have often exhibited minimal self-control and disproportionate force. Overzealous in their attempts to crackdown on the Sabaot Land Defense Force (SLDF) and Mungiki, the Kenyan government succeeded only in alienating and oppressing huge swathes of its own population. Rising tensions in areas like Mount Elgon District and Mathare slum in Nairobi added to the volatility of the country in the lead-up to the tightly contested election. The Kenyan security apparatus's lack of discipline, as exhibited in their interaction with ethnic gangs, militias, and civilian populations in the pre-election period, can be seen as a harbinger of the police-led violence against civilian demonstrators in the post-election period.

Over 10 percent of all entries in this case study were related to discussion of the "Mungiki menace." The first several months of the study saw a steady increase in attacks by Mungiki against civilians, gang members, and the police. In September, the government was forced to admit that it had used excessive force in dealing with Mungiki. Startling enough as this admission was, the Kenya National Commission on Human Rights released a report stating that the police had killed over 500 Mungiki from June 2007 to October 2007.[51] The report indicated that the Kenyan government seemed willing to summarily execute its own people in order to quash fears of insecurity that emerged to threaten the incumbent government.

While most of Kenya experienced severe post-electoral violence, most pre-election violence was in Mount Elgon. From the beginning of the case study, fighting in the Mount Elgon District was constant and unrelenting. The problems in Mount Elgon were an alarming sign of Kenyans' recourse to violence in settling conflict. In the case study, approximately 6 percent of all entries involved Sabaot Land Defence Force operations in the Mount Elgon District and surrounding areas.

The transition from indicators and warnings based on gangland activity to data based on police assaults on the population is instructive in that it shows the lengths to which the state went to suppress insecurity. The inability of the police force to act with restraint pointed towards a potentially dangerous and wild force operating with virtually free license against Kenya's increasingly restless and mobile citizenry. Against this backdrop, the possibility of a bloody standoff between armed police forces and fed-up demonstrators in the post-election period is foreseeable. Indeed, nearly every person felled by a bullet in post-election strife died at the hands of the police.[52]

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[51] "Rights Body Gives More Evidence", November 8, 2007.
[52] Ashforth, Adam. "Ethnic Violence and the Prospects for Democracy in the Aftermath of the 2007 Kenyan Elections." *Public Culture* 21.1 (2009): 9-19. Print.

Disorganization, Fraud, Recriminations, and Violence During the Election Campaign

The third trend among the indicators and warnings recorded in the Kenya case study was a marked rise in political acrimony in advance of the election. This hostility took several forms, the most prominent of which was accusations against the government, predominantly from the ODM, of vote rigging. When plotted over time, the data show an increase in accusations made by political parties that starts in early September, increases through October, and peaks in November and December. From a global perspective, Odinga and the ODM appear to be preparing their supporters for an inevitable defeat by Kibaki's government, a premeditated defeat gained through electoral corruption. A steady increase in accusations against the government, bolstered by periodical stories illustrating the ineptitude of government institutions to carry out a fair election, undermined the integrity of the elections.

Indicators and warnings documenting chaos, disorganization, and fraud in the pre-election stage evidenced a manipulation of and lack of faith in Kenya's political institutions that many saw as only being able to be remedied through violence. The steady increase of these indicators and warnings of corruption and rigging were enough to prepare ODM partisans for an uprising in the case that Odinga did not win. The Kalenjin, the Luo, the Maasai, and associated ethnic communities supporting the ODM banner had already anticipated the possibility that the Kibaki/PNU government would do everything in its power to remain at the head of the government.

Kenya Case Study Impact

The three major trends in the Kenya case—ethnic conflict over land, extreme police response to ethnic gangs, and political recriminations—were visible several months prior to the election. This data suggests that tracking specific indicators of violence from electronic sources would have provided an early warning of the potential for widespread violence. This finding does not suggest that the same analytical processes can be universally applied to other regions; rather, it suggests tracking shifts in general local-level indicators over time could improve analysts' ability to identify the potential for widespread civil violence. Combined with other economic data, this type of micro-level event data could improve understanding of how a conflict could shift or change depending on economic and social incentives.

Georgia-Russia War Case Study

Background

This case study evaluates the use of foreign language media and a coding taxonomy to track and trend instances of political instability and civil violence in the Republic of Georgia and its environs during the eight months preceding the South Ossetian War (January 1, 2008 – August 8, 2008). The study used more than 900 local language sources and over 6,200 codes. The study highlighted the role of non-state actors as proxies for traditional states in regional conflicts. Traditional event coding and state-to-state constructs provide little insight into either early warning or conflict mitigation. This study argues that foreign language media in conjunction with an appropriate taxonomy can be used to elucidate trends related to political instability and violence in a complex interstate conflict with multiple non-traditional actors.

The dataset captured a large majority of the incidents relevant to escalating tensions and identified several important dynamic trends that led to the onset of war. Among these trends, three observations were key: First, the authors observed an increase in public statements and public relations campaigns by Russia, South Ossetia, Abkhazia, and Georgia as the conflict drew closer. Second, the event data revealed a shift in focus toward the breakaway region of South Ossetia by early August. While initial reports suggested that Abkhazia could be the primary focus of the war, the shift several weeks before the start of open war indicated that South Ossetia was the more likely location. Third, the monitoring system identified an increase in cooperation between Russian and Abkhazian/South Ossetian authorities leading up to August 8, 2008. During the summer of 2008, leadership from Georgia's breakaway regions frequently travelled to Moscow and met with high-level Russian officials.

As noted in the introduction, the potential for inter-state war between Georgia and Russia was widely anticipated. This analysis elucidates other key factors related to the war that could only be seen from a micro perspective. While these results are presented in retrospect, the data, which was collected as-if-in-real time, demonstrates that these patterns and trends could have been observed with a real-time tracking and monitoring system.

Data Results

The data from the research project identified 2,580 *Events* and cited 2,465 separate articles. Each *Event* can be comprised of either *Actions* or *Statements*. *Statements* are distinct from *Actions* because they are public comments either on a past *Action* or about a future *Action*. For example, an individual or government official could have Accused or Denied a past *Action* or they could have Announced a future *Action*. These distinctions between types of *Statements* are clearly subjective, but they provide for a range of insights and meanings beyond the narrow confines of a simple *Action* or *Statement*. This level of granularity allows an analyst to see trends as they develop and shift, and can provide a clear indication of the increasing volatility of a conflict.

Total Number of Articles
2465
Total Number of Events
2580
Statement Codes
1482
Action Codes
1098

Action codes can be broken down into different types. One useful category is *Hostile Actions*, which are codes that identify a specific hostile activity done either by one individual or, more often, a group of individuals to another party. For example, the code *Attack* includes any physical altercation. Some of these codes can only be accomplished by a government or organization, such as *Arrested, Seized, SpiedOn,* or *MovedForced*. It is important that these codes identify a discrete action between two individuals or two countries. In this case, the most common subject actor (person or organization initiating the action) was a government institution, such as the police or military; the most common object (person or organization receiving the action) was unrecognized states (this is the data code used for South Ossetia and Abkhazia). As mentioned above, some of these distinctions are subjective, but even accepting a degree of human fallibility, they provide a useful measurement of government and non-government activity.

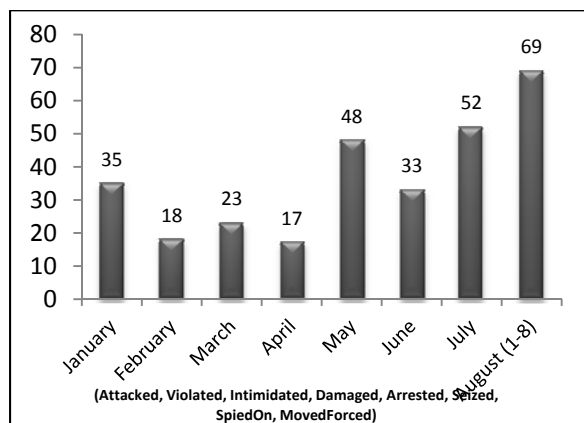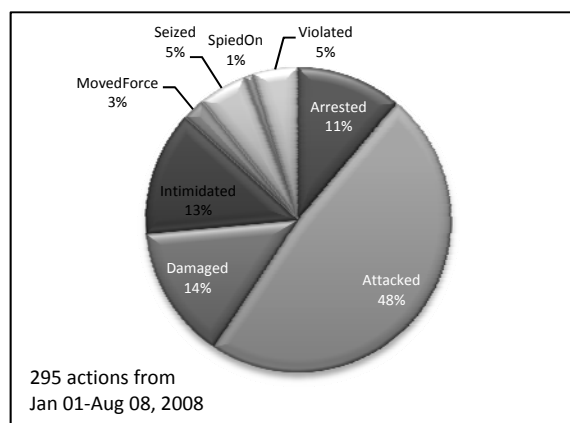**Figure 3 Hostile Actions by Month**   **Figure 4 Hostile Actions**

Figure 3: bar chart — January 35, February 18, March 23, April 17, May 48, June 33, July 52, August (1-8) 69. (Attacked, Violated, Intimidated, Damaged, Arrested, Seized, SpiedOn, MovedForced)

Figure 4: pie chart — Seized 5%, SpiedOn 1%, Violated 5%, MovedForce 3%, Arrested 11%, Intimidated 13%, Damaged 14%, Attacked 48%. 295 actions from Jan 01-Aug 08, 2008

As *Figure 4* shows, 48 percent of all hostile *Actions* were *Attacks*, which, for the purposes of this project, were defined as "when a human actor kills, injures another actor, attempts to kill or injure another actor, or uses force against another actor." This level of specificity about the nature of an attack allows the researcher to identify specific trends in types of violence against different parties.

The data derived from contemporaneous foreign language news articles highlight three key periods of growing instability: the public discontent following the Georgian presidential election in January; the increasingly bellicose rhetoric that followed the Bucharest NATO summit in April 2007; and the transition from increased tensions to frequent skirmishes between Ossetian militia, Russian peacekeepers, and Georgian troops in July and August.

Rise of Public Relations

Public statements and public relations campaigns capture the public "tit for tat" that usually accompanies contentious events; they also help gauge how states use the media to disseminate their message. Both sides of the Georgia-Russia conflict fully recognized the importance of public relations. Paul A Goble notes that, "both Russian and Georgia leaders were convinced that the way in which the media treated the war was just as important as what took place on the battlefield in determining the winners and the losers."[53] The frequency of "statements" from Russian, South Ossetian, Abkhazian, and Georgian officials during the month of June 2008 increased significantly, culminating with a large spike during the two weeks between June 28, 2008 and July 11, 2008 (*Figure 1*).

This spike in statements occurred during the start of Russia's "Kavkaz 2008" military exercises, which took place just north of Russia's border with Georgia. Prior to May 31, 2008, the mean number of statements per week during the first five months of the case study was only 30.2 (*Figure 1).* In comparison, the six weeks between May 31, 2008 and July 11, 2008 had a mean of 95.7 statements per week, with a large spike of 167 between July 5 and July 11.

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[53] Goble, p. 181.

The sudden increase in media statements could also be viewed as part of a larger preparation for war. Some analysts, including Dale Herspring of Kansas State University, viewed the "Kavkaz 2008" military exercise as a "complete dress rehearsal" for the war.[54] The spike in statements between May 31, 2008 and July 11, 2008 suggests that indeed it could have been a rehearsal on several fronts, including public relations.

Figure 1 – Statements by Russian, Abkhazian, South Ossetian, and Georgian Officials Compared with Recorded Actions per Week, Dec. 29, 2007 – Aug. 8, 2008
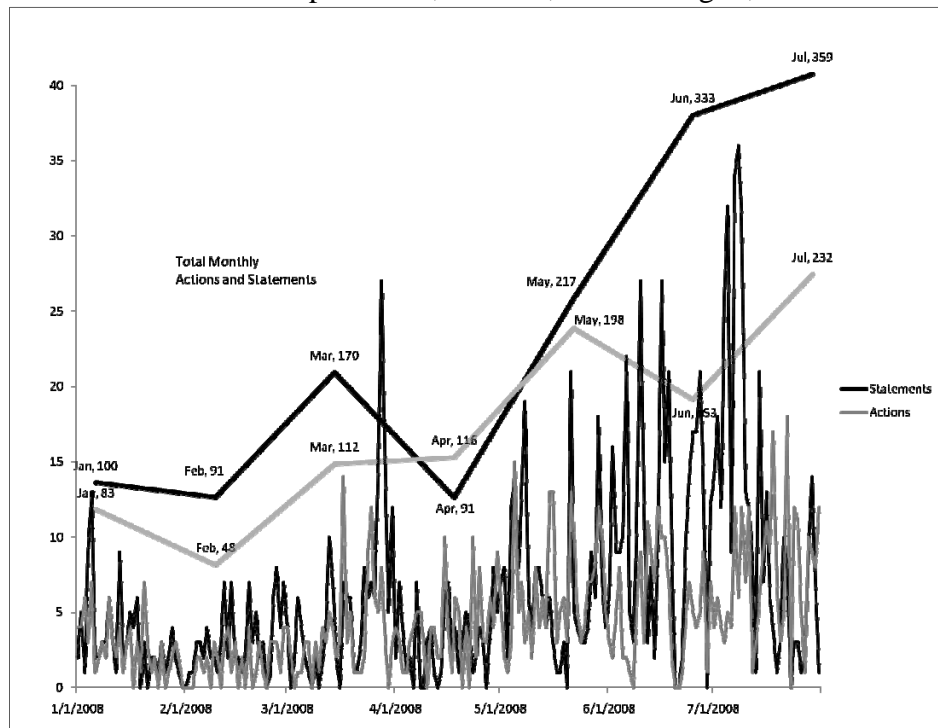
Finally, it is important to mention that the number of statements dropped substantially as the military exercise began its active phase on July 15, 2008 *(Figure 1)*. From July 12 until August 1, 2008, the dataset recorded a mean of 43.7 statements per week. In addition, the statements contained a more balanced mix of conciliatory and provocative messages. On July 14, 2008, Russia's Ministry of Foreign Affairs called on the United Nations to restart negotiations between Georgia and Abkhazia and encouraged them to sign a non-aggression pact.[55] A week later (and just two and a half weeks after his full mobilization of the South Ossetian militia), the South Ossetian president, Eduard Kokoity, insisted on the resumption of negotiations with Georgia.[56]

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[54] Thom Shanker, "Russians Melded Old-School Blitz with Modern Military Tactics," *New York Times,* 16 August 2008, http://www.nytimes.com/2008/08/17/world/europe/17military.html?_r=2

[55] *"MID RF: OON dolzhna prizvat' Tbilisi i Sukhumi k vozobnovvleniyu peregovorov"* [Ministry of Foreign Affairs of the Russian Federation: The UN Should Call on Tbilisi and Sukhumi to Revive Negotiations"], *Sovmestnii Proekt RIA Novosti i Novosti-Gruziya,* 14 July 2008, http://www.newsgeorgia.ru/geo1/20080714/42275300.html

[56] *"E. Kokoity nastaivaet na vozobnovlenii peregovorov s Gruziye"* ["E. Kokoity Insists on Reviving Negotiations with Georgia"], *Yandex.Novosti*, 22 July 2008, http://news.yandex.ru/yandsearch?cl4url=kp.ru/online/news/115917/&country=Russia&cat=0 .

The conciliatory tone from Russian, Abkhazian, and South Ossetian leadership dissipated once the "Kavkaz 2008" military exercise concluded on August 2, 2008. At the exercise's conclusion, Russian troops remained on the Georgian border instead of returning to their bases.[57]

Shift to South Ossetia

A spate of skirmishes, bombings, and provocative actions in both Abkhazia and South Ossetia also characterized the lead up to the war between Russia and Georgia. Throughout much of the time period examined in this study, violence was distributed fairly evenly between the two breakaway regions. The study's data from before late July 2008 could have pointed to either Abkhazia or South Ossetia as the most likely location for the outbreak of war. The data shifted dramatically toward South Ossetia at the very end of July, and this shift continued through the first week of August.

Following the string of explosions and attacks that took place in Abkhazia and South Ossetia between June 28 and July 6, there was a lull in violence for several weeks (*Figure 2)*. When the violence restarted in late July, the dataset clearly reflects a sharp focus on South Ossetia. Between August 1 and August 6, the dataset captured a total of 141 individual actions, 63 (or 45 percent) took place in South Ossetia, while 8 (or 5.6 percent) actions occurred in North Ossetia and only 5 (or 3.5%) actions were located in Abkhazia. The remaining actions took place in Russia and other nations that were engaged diplomatically in the conflict.

Additional news reports reinforced the idea that South Ossetia would be the center of confrontations. On July 31, Russian media reported that Russia military forces started military exercises in North Ossetia.[58] Previous portions of the "Kavkaz 2008" training operation occurred in Chechnya, Ingushetia, Kabardino-Balkariya, and Karachayevo-Cherkessia. Also, on August 2, South Ossetian officials started evacuating children, women, and the elderly to North Ossetia and Kabarino-Balkariya.[59] President Kokoity called for evacuations during a brief stop in Vladikavkaz following a trip to meet with high-level Russian officials in Moscow. Additional reports regarding the status of evacuations from Tskhinvali appeared in the media on August 3, 4, 5, 6, and 8.[60][61][62][63][64]

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*Note: The web address for this article is non-functional. See footnote #28 for additional information.

[57] Svante E. Cornell, Johanna Popjanevski and Niklas Nilasson, "Russia's War in Georgia" Causes and Implications for Georgia and the World," *Central Asia-Caucasus Institute Policy Paper,* August 2008, www.isdp.eu/files/publications/pp/08/0808Georgia-PP2.pdf *, p. 12.*

[58] *"V Severnoi Osetii nachalis' krupnomashtabniye ucheniya"* ["In North Ossetia a Large-Scale Training Exercise Has Begun"], *5-tv*, 31 July 2008, http://www.5-tv.ru/news/12467/ .

[59] *"V Yuzhnoi Osetii soburayutsya jb'yavit' nabor dobrovol'tsev"* ["In South Ossetia They Are Preparing to Gather Volunteers"], *Radio Mayak via quicknews.ru,* 2 August 2008, http://quicknews.ru/novosti-20631.html .

[60] *"Zonu gruzino-osetinskogo konflikta pokinuli bolee 2,5 tys. chelovek,"* [More than 2,500 People Have Fled the Georgia-Ossetian Conflict Zone], *Korrespondent*, 4 August 2008, http://korrespondent.net/world/542928 .

[61] *"Iz Yuzhnoi Osetii evakuirovany eshchyo 800 chelovek,"* [Another 800 People Have Been Evacuated From South Ossetia"], *MIGnews*, 4 August 2008, http://mignews.com.ua/categ451/articles/313046.html .

[62] *"Gruzinskiye snaipery pristrelivayut vintovki po osetinskim detyam,"* ["Georgian Snipers Aim Their Rifles at Ossetian Children"], *Izvestiya,* 5 August 2008, http://www.izvestia.ru/world/article3119172/ .

Increased Communication between Abkhazia, South Ossetia and Russia

Finally, local media coverage identified increased cooperation between Russian and Abkhazian/South Ossetian authorities leading up to August 8th. During the summer of 2008, leadership from Georgia's breakaway regions frequently traveled to Moscow and met with high-level Russian officials. Although perfunctory diplomatic meetings usually do not garner headlines, local sources usually provide brief articles on most diplomatic visits between leaders, and local media outlets constitute a significant portion of sources in the article repository.

During the first month and a half of the case study period, there were no reports of meetings involving officials from Abkhazia or South Ossetia; yet, from mid-June until the beginning of August, there were three distinct spikes in the number of meetings involving Abkhazian and South Ossetian officials *(Figure 3)*. The leaders primarily met with national and regional leaders from Russia and the reports occasionally detailed with whom they met. For instance, during the week of June 10, 2008, Kokoity traveled to Moscow and met with Grigorii Karasin, deputy head of Russia's Minister of Foreign Affairs and then headed south to Vladikavkaz where he met with Teimuraz Mamsurov, head of the Republic of North Ossetia-Alania, as well as Gennady Zyuganov, head of Russia's Communist Party, and his regional deputies.[65] [66] Following his visit to Russia, Kokoity met with his Abkhazian counterpart in Sukhumi.[67] In the meantime, Sergei Bagapsh greeted a delegation from the Zelenogradskii District near Moscow and held talks with Igor Maslov, deputy chief of Russia's Presidential Administration.[68] [69] While Bagapsh met with foreign delegations in Sukhumi, Sergei Shamba, Abkhazia's foreign minister, travelled to Turkey, home to a large Abkhaz expatriate population, to forge stronger ties between Turkey and Abkhazia as well as connect with the diaspora.[70]

[63] *"Yuznaya Osetiya ob'yavila o novom obstrele Tskhinvali,"* ["South Ossetia Announced New Shoot Out in Tskhinvali"], *Lenta.ru*, 7 August 2008, http://lenta.ru/news/2008/08/07/shootoff/ .

[64] *"Severnaya Osetiya gotova podderzhat' samiye zhestkiye mery pravitel'stva RF v otnoshenii Gruzii,"* ["North Ossetia is Ready to Support the Most Extreme Measures of the Russian Government with Relation to Georgia"], *Nakanunye.ru,* 8 August 2008, http://www.nakanune.ru/news/2008/08/08/2126653 .

[65] *"Rossiya i Yuzhnaya Osetiya obsudili konflikt s Gruziye,"* ["Russia and South Ossetia Discussed the Conflict with Georgia"], *15-i Region*, 10 June 2008, http://region15.ru/news/2008/06/10/19-03/ .

[66] *"Vstrecha G.A. Zyuganov i deputatov fraktsii KPRF s Glavoi Respubliki T.D. Mamsurovym I Prezidentom Yuzhnoi Osetii E. D. Kokoity,"* ["Meeting of G.A. Zyuganov and Deputies of the KPRF Faction with the Head of the Republic T.D. Mamsurov and President of South Ossetia E.D. Kokoity"], *Kommunisticheskaya Partiya Rossiiskoi Federatsii,* 14 June 2008, http://kprf.ru/rus_soc/57775.html .

[67] *"Prezident RYuO E. Kokoity provel vstrechu s prezidentom RA S.Bagapsh"* ["President of the Republic of South Ossetia, E. Kokoity, Held a Meeting with the President of the Republic of Abkhazianiania, S. Bagapsh"], *15-i Region,* 15 June 2008, http://region15.ru/news/2008/06/15/18-44/ .

[68] *"Prezident Abkhazii vyrazil nadezhdu na dal'neishee sotrudnichestvo s Rossiye,"* ["The President of Abkhazia Expressed Hope for Long-Term Cooperation with Russia"], *Abkhaziya – Strana Dushi,* 12 June 2008, http://www.abkhaziya.org/news_detail.html?nid=18779 .

[69] *Abkhaziya – Strana Dushi*, 13 June 2008, http://www.abkhaziya.org/news_detail.html?nid=18785 .

[70] *"Glava MID vstretilsya s Abkhazskoi diasporoi v Turtsii,"* ["The Head of the Ministry of Foreign Affairs Met with Abkhaz Diaspora in Turkey"], *Abkhaziya – Strana Dushi,* 10 June 2008, http://www.abkhaziya.org/news_detail.html?nid=18750 .

Figure 3 – Total Meetings Involving Abkhazian and South Ossetian Leaders, Jan. 1, 2008 – Aug. 9, 2008
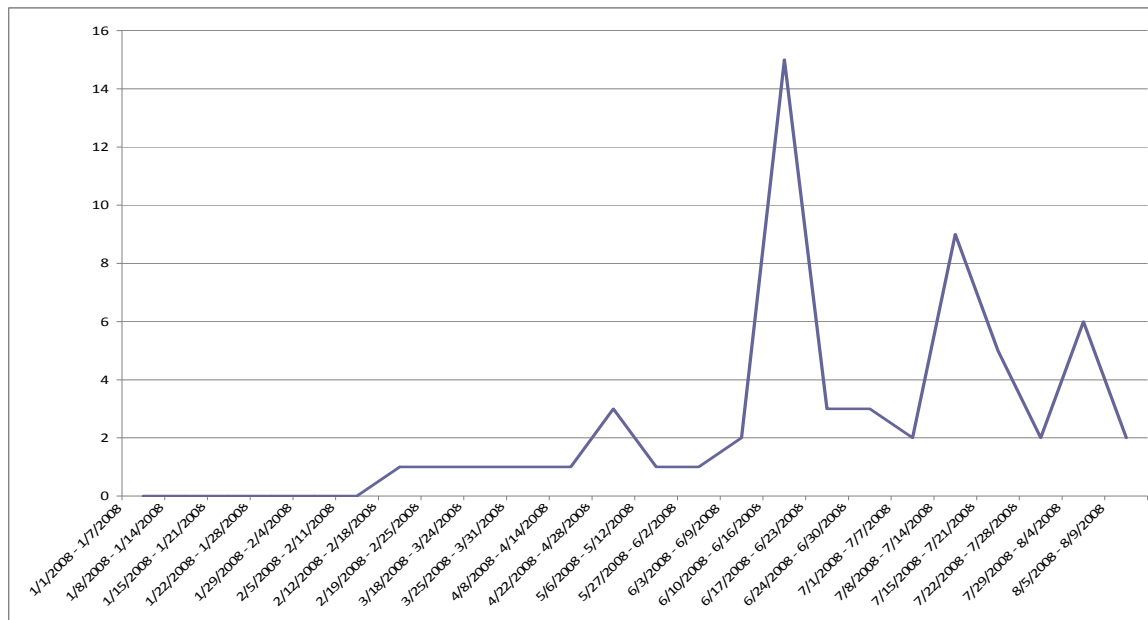
It is easy to speculate but difficult to discern what transpired during these meetings. Besides physically meeting, Abkhazian and South Ossetian leaders and Russian officials could have been sharing information and coordinating activities other ways. The increased frequency of face-to-face meetings, however, implies a high degree of importance connected with the interactions. This increase also demonstrates that it is possible to report on broad indications of increased coordination and cooperation through open source media reports.

Georgia-Russia War Case Study Impact

This case study demonstrates the level of granularity and specificity that can be obtained from the daily surveillance of local electronic news media. This type of data has the potential to increase regional analysts' understanding of events as they transpire, as well as provide insights regarding location, mechanism, and process. The August 2007 war was not a surprise to most analysts following the events; however, the manner in which it transpired and the impact of local dynamics were not anticipated or realized until months or even years after the events.

In a private round-table discussion after the war, intelligence analysts agreed that the level of micro data gathered as part of this case would have provided the "hard data" to reinforce their own "gut feelings" about the shift in conflict dynamics. A key feature of this case study is that the gathered data matched up with analysts' beliefs as events were unfolding, but they were unable to quantify or point to specific data points to reinforce their instincts. This data set would have provided that quantitative rigor.[71]

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[71] Personal communication with author, May 2009.

Mexico Drug Killings

Background

On March 13, 2010, assassins executed three people associated with the U.S. Consulate in Ciudad Juarez just south of the U.S. border. These were the first killings of U.S. government officials in Mexico since 1985. The American and Mexican mainstream media quickly insinuated that the attacks were motivated by the drug cartels' desire to send an explicit message to the U.S. Government either to dissuade the American government from embedding its agents in the Mexican military or as retribution for U.S. denial of immigration permits.[72] Real-time observation of instability in Mexico provided no empirical evidence to support this argument.

There are three arguments for why these killings were most likely not an attempt to send a message to the U.S. Government. First, the attacks fit a larger, discernible pattern of violence that continues to threaten security in Ciudad Juarez, the state of Chihuahua, and Northern Mexico. Second, the killing of family members of people linked to the drug trade has recently increased. Third, the shootings do not fit the pattern of killings used to send a message or to communicate to authorities.

This case study differs from the previous two because the articles were collected in real time and focused on one region within a country. In addition, it did not attempt to show when or where violence may occur, but to immediately analyze an event that had already occurred. No system can predict sudden gang violence, but the systematic collection of news reports can allow an analyst to interpret events against a valid baseline of activities.

Long-term patterns of violence

The event data set of real-time observations of destabilizing events in Mexico indicates that drug violence can be directed towards anyone who interferes with the normal business of cartel operations, including members of rival drug organizations, government officials, security forces, whistleblowers, and even innocent bystanders. During a two-month period in early 2010, gang members killed municipal police officers, army soldiers, and a Federal Investigations Agency agent. They opened fire on a police station and attempted to bomb a regional Attorney General's office. Gangs threatened the life of the mayor of Ciudad Juarez, Jose Ferriz, and on February 17, armed men went on a killing spree in the town of Guadalupe y Calvo, killing the mayor and the director of the local CERESO (Center for Social Readaptation) prison among others. On March 15, two days after the consulate shootings, armed men stormed the towns of Creel and San Juanito, executing seven people.

Expansion of Legitimate Targets

This case's data illustrates an increasing willingness on the part of many gangs to expand their range of "legitimate" targets. Notorious for their brutality, drug gangs have recently increased

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[72] http://www.nytimes.com/2010/03/16/world/americas/16juarez.html?ref=americas,
http://www.foreignpolicy.com/articles/2010/03/19/this_week_at_war_is_this_the_week_mexico_lost_the_drug_war

their willingness to attack family members of people linked to the drug trade, including the elderly and children. If a target is already dead, gangs have gone after the target's relatives. For example, on January 31, 2010, hit men belonging to the "Aztecas" gang—the alleged culprits behind the Consulate attacks—opened fire on a group of students attending a party in Ciudad Juarez, killing sixteen. February and March 2010 saw a further uptick in violence against civilians. On March 4, assassins made an unsuccessful attempt on the life of a woman related to the deceased CERESO prison director of Guadalupe y Calvo. On March 5, hit men murdered a young man and then, several hours later, proceeded to kill the man's father and uncles, as well as a friend of the family. In a particularly savage incident, on March 11, a group wielding high-powered rifles tore through a funeral procession for a man who had been shot dead the previous week, killing five adolescents and one old woman.

This litany of violence attests to the ruthlessness of the cartels, specifically, to the understanding that these gangs will go out of their way to intimidate the Mexican public, regardless of the identities of their victims. In this context, the U.S. Consulate staff and kin were probably not killed explicitly because of their affiliation with the Consulate. Lesley Enriquez, a locally hired employee at the Consulate, and her husband Arthur Redelfs, a detention officer at the El Paso County Jail, were gunned down after leaving a children's birthday party. Minutes earlier Jorge Salcido, the husband of another Consulate worker, was killed in similar fashion. If these victims were attacked for their association with the Consulate, one would have expected a more spectacular attack with the explicit purpose of sending a message. The details of the incident – that two white SUVs were targeted for attack, both of which contained males in their mid-30s– suggests that the attackers were probably hedging their bets. The fact that these people happened to be attached to the U.S. Government was incidental. Enriquez, who by dint of her proximity and relation to Redelfs was considered a legitimate target, was most likely caught in the crossfire as the gangs targeted her husband. Redelfs, as a prison officer, dealt daily with a powerful transnational drug gang known as Barrio Azteca. Barrio Azteca's allies across the border are the Aztecas, and it is they who authorities suspect carried out the shootings.

Communications to Governments

If the attacks were designed to send the United States a message, they are not consistent with the drug cartels' patterns of communicating threats that are captured in our data set. Open source data shows that Mexican drug trafficking organizations are explicit in their intentions, going so far as to communicate their intentions in writings known as *narcomensajes* ("drug messages"), which claim responsibility for an execution, threaten future attacks, or otherwise try to influence public opinion. The overriding theme of these messages is to convey an immediate threat to rivals, public authorities, civilians, or some combination thereof, which interfere with gang operations. While several such messages have been reported in local media throughout Chihuahua and Mexico in general, they have mostly dealt with the current feud between the Gulf Cartel and Los Zetas, or have been direct threats against Mexican public officials, such as the recent death threat against Ciudad Juarez's Mayor Jose Ferriz. There were no threats, direct or oblique, by the Juarez or any other cartel in the area leading up to the consulate killings that would have indicated an attack specifically aimed at U.S. authorities.

Mexico Case Study Impact

The empirical data suggests that the attacks on the three individuals tied to the U.S. Consulate in Ciudad Juarez fit the pattern of violence currently playing out across Mexico, and notably, in the state of Chihuahua. Recent attacks in the country indicate that civilian victims of gangs and drug trafficking organizations fit a broad range of characteristics. The shift in the scope of violence exemplified by the increase in attacks against innocents and even internationals is an alarming trend south of the border. When the links of the victims of the March 13, 2010 attacks to the U.S. Consulate are removed from the analysis, the killings can be viewed as yet another example of Mexican drug gangs eliminating potential threats to their business. The objective of the killings was not to openly challenge the U.S. Government, but rather the killings were part of Mexico's ever-intensifying inter-gang struggle to dominate the U.S. drug market. Whether or not the gangs target U.S. agents will likely depend on how great a perceived threat the U.S. poses to the viability of the drug cartels.

These conclusions were first written for an internal memo to the project's funder within days of this incident. At the time, these conclusions were contrary to all mainstream media accounts. In November 2010, almost exactly eight months after the incident, several members of the Azteca gang were taken into custody by U.S. officials in connection with the shootings. The shooters' statements corroborated the results of this analysis: one individual was targeted because of his connection with the gang in the prison, and all of the others were simply unfortunate collateral damage. This case study shows that the micro-data analysis can provide analysts with a valid baseline against which to compare alternative interpretations of ongoing events.

Conclusion

It is not empirically difficult to identify a set of countries that have a potential for widespread instability or civil violence. The difficulty for the academic and the policy maker is to identify from within this set of countries which ones are the most probable to have civil violence next week or next month. Which countries are shifting in the trends of attacks on civilians or attacks on government officials? What information do policy makers and practitioners need so that they can better anticipate, react, and respond to civil violence and potential state collapse?

These three case studies are primarily descriptive and have a small number of observations and a limited number of days covered; however, the results suggest that research and analysis could benefit from focusing on local dynamics within shorter timeframes. By tracking local events in high resolution it is possible to make informed analysis of potential and ongoing conflict dynamics. The data from these case studies suggest that tracking and monitoring attacks, threats, and statements immediately prior to and during civil conflict is both doable and analytically beneficial.

The analytic community needs to continue refining data collection and monitoring processes to provide rigorous tests to determine the veracity of data and forecasts. An important next step is to compare current data collections with other event-data collection methodologies that focus on similar areas to identify areas for improvement and modification.

Rather than revising prediction models, it is important to increase our ability to track and monitor emerging threats, such as political instability and civil violence, in a systematic, methodologically rigorous process that captures events across the globe in real time.

About the Author

Dr. Kevin Jones is a Research Scholar at the Center for International Security Studies at Maryland (CISSM). He has been a Non-Resident Fellow at the Brookings Institution, an IREX Fellow in Central Asia and a Guest Fellow at the Moscow office of the Carnegie Endowment for International Peace. Dr. Jones has experience in researching, implementing and managing projects on civil conflict, crisis response, political transition, and economic development throughout the United States, Central Asia, Caucasus, Russia, and Ukraine. The majority of his research and publications have examined the key components and dynamics of civil violence in order to effectively prevent and respond to violent conflict. Dr. Jones is an expert on Central Asia and specifically Kyrgyzstan. He lived in Kyrgyzstan for almost five years working with Peace Corps and USAID and is working on a book tentatively titled "The Dynamics of Political Protests" about the 2005 Kyrgyzstan Tulip Revolution.