

Narco Violence in Mexico: A Spatial Analysis of Drug-Related Bloodshed

by MÓNICA MEDEL

Mónica Medel, who graduated with an MA from LLILAS in 2012, received the award for Best LLILAS Student paper at the ILASSA32 Conference in February. Her paper is reprinted here in an abridged version. The full-text version with complete references and graphics is available in the LANIC Etext Collection/LLILAS Archive at <http://lanic.utexas.edu/project/etext/LLILAS/ILASSA/2012/>.

I

Introduction

Organized crime is violent by definition (Geis 1966). Criminal syndicates pursuing profit through illegal means often face threats from new competitors who look to rip away segments of their business and steal their profits. Intimidation and violence against rivals, coupled with a demand for unwavering loyalty from members of one's own gang, are the typical responses of threatened organizations attempting to preserve the status quo and retain control over their illicit operations (Conklin 2007: 316). As with other types of crime, organized crime has a spatial component as well (Rossmo 2000; Chainey and Ratcliffe 2005; Ridgeway and Tita 2007). It is committed in a certain area, and the offenders generally occupy a distinctive geographical zone (Herbert 1976) where they enforce rules that carry punishments if they are not followed. Mexican drug organizations certainly have been territorial since the beginnings of drug cultivation in Mexico almost a century ago. But violence generally remained clustered in certain areas where production and smuggling were most pervasive: specifically, the Pacific Coast along the Sierra Madre Mountains (Astorga 2005).

It was when Mexico began to become the main drug supplier for the United States that violence levels increased sharply. Also, the unprecedented wave of brutality began spiking in 2000 when opposition party President Vicente Fox took office, ending 71 years of single party rule by the Institutional Revolutionary Party (PRI). That prompted the emergence of new political powerbrokers and a series of fresh strategies against drug producers and smugglers, many of whom had been openly protected by the old regime in exchange for bribes. Things have only gotten worse more recently. Drug violence has killed nearly 50,000 people in the last six years, and claimed 15,273 victims in 2010 alone, according to Mexican government figures. Killings not only skyrocketed, they also became more brutal, featuring beheadings, victims dumped in mass graves, and corpses hung from crowded highway overpasses or tossed into rush hour traffic.



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The powerful illicit narcotics trade of today's Mexico didn't happen by accident. The country's close proximity to the United States, the world's economic powerhouse and also the largest global market for illegal drugs, pushed Mexican syndicates toward developing drug-trafficking prowess. But the shift in the country's drug smuggling hierarchy after Fox took power was also heavily influenced by a larger, international reorganization of the illegal narcotics market — a reorganization that was decades in the making. Mexico had long produced drugs like marijuana and opium poppy, but its kingpins gained stature in the late 1980s and early 1990s when they began smuggling cocaine. Then, unexpected help came from Washington. A U.S.-led crackdown on Caribbean smuggling routes that had moved cocaine from the jungles of South America to Miami via tropical islands forced gangs to alter how they smuggled cocaine into the U.S., pushing the flow of illegal narcotics toward Central and South America. American authorities also helped bring down the Cali and Medellín cartels in Colombia, leaving a power vacuum that Mexican-based drug gangs had little trouble filling (Cook 2007: 1).

By the early 2000s, cocaine was flowing north through Mexican territory as seamlessly as native drugs like heroin and opium poppy always had, and Mexican trafficking groups had supplanted all others around the hemisphere as the top source of illegal drugs reaching the United States (INCS 2008, 2009). It was then that violence reached unprecedented levels.

Hypothesis and Methodology

The central hypothesis of this study is that there is a relationship between areas that are drug hubs (i.e., municipalities that produce and/or smuggle at least two types of drugs) and the number of killings taking place there. Killings spread out across the country as new municipalities become drug hubs over time.

Determining Areas under Study

Tracking correlations between demographic data and the main drug-smuggling and production areas of Mexico can help us better understand the dynamics of drug-related violence over time. Due to the lack of demographic data disaggregated to the municipal level, population density and marginalization were selected as main descriptors. Marginalization is defined by Mexico's Secretary of Social Development (SEDESOL) as an index that integrates poverty levels, access to education and health benefits, as well as the level of development of basic and productive infrastructure in the country's different municipalities. Population data was obtained from Mexico's

Institute of Statistics and Geography (INEGI), while the data on drug-related killings corresponds to the database released by the Office of Mexico's Presidency in January 2011. This study included only the municipalities that had had at least one drug-related homicide every year (2007–2010), because the inclusion of municipalities with no crime could bias the results. The data on drug eradications (marijuana and opium poppies) and seizures (cocaine and methamphetamine labs) was obtained through a Freedom of Information Act Request (FOIA) by the author of this paper.

Times Series Analysis

Drug production areas are determined by certain physical characteristics like soil type, altitude, and climate, and thus are not very likely to totally change locations from one year to another, but rather expand to new, better, and/or safer places. Taking this caveat into consideration, the study determined the main producers for the total four-year period by querying the data to select only the municipalities where drug eradications of marijuana and opium poppy of at least 10 hectares had occurred each year, between 2007 and 2010. The process that was followed to establish the main cocaine smugglers was different. Considering that cocaine started being heavily smuggled through Mexico only in the late 1990s, and cocaine seizures greatly shift year after year, just those municipalities were selected where at least 10 kilograms of cocaine were seized in at least one of the four years under study. For synthetic drug labs, which have been developed still more recently, the count followed municipalities where at least one lab was seized in one of the four years between 2007 and 2010. The areas of drug-related killings for each year of the period being studied were

determined by establishing the homicide rate per 100,000 people.

Drug Hubs and Killings Distribution

To determine the relationship between these two factors, data on drugs was queried to calculate the many possible combinations of two and three different drugs for production and/or smuggling. Using factorials, the combinations were determined as 6 for the former ($4C2 = 6$) and 4 for the latter ($4C3 = 4$). After determining the combinations for every series, an algorithm was created using Boolean algebra to detect by iteration those municipalities that fulfilled the requirements for every combination. To complete the process, municipalities with more than 10 killings for each of the years under analysis were selected by querying the data.

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Analysis

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The main areas for marijuana, opium poppy, and synthetic drugs are located along the Sierra Madre Mountains, particularly on the Pacific Coast, while cocaine shipments have been detected on both the Caribbean and the Pacific Coasts, and even more often in areas bordering the United States and near major ports and highways.

A time series analysis showed a progression, both in killing rates and in their spread along the Pacific Coast and the border with the U.S. By 2007, the situation seemed more under control, with drug-related killings limited to certain areas including the border cities of Tijuana and Juárez and the coastal region of Guerrero state and the areas surrounding Culiacán, the capital of Sinaloa state. Only a few municipalities had a drug-related homicide rate of more than 40.1 per 100,000 people, which is fairly high in comparison to international figures and the rate reported by Mexico to the United Nations Office on Drugs and Crime (UNODC), which for 2007 was 8.1 per 100,000 for the whole country (UNODC 2011).

For 2010, killings were totally out of control, with most of the municipalities hardest hit recording homicide rates above 25.1 per 100,000 people. That compares to 21.6 in Panama, 24.9 in the Dominican Republic, 11.3 in Costa Rica, 33.4 in Colombia, 4.6 in the U.S., 1.2 in Ireland, and 0.8 in Germany for the same year (UNODC 2011). Mexico, meanwhile, officially reported a national homicide rate of 12.7, 17.7, and 21.5 homicides per 100,000 people, respectively, for the years 2008, 2009, and 2010.

Again, an overlay analysis showed a spatial relationship between the areas hardest hit by drug-related killings and municipalities that are drug hubs, defined as those areas that produce or smuggle two and three different drugs in the same year. The maps (see full-text online version) show that these areas are not necessarily the main producers. The series also shows a relationship between killings and the main highways (those that have at least four lanes).

The series shows how the number of drug hubs across the country has been increasing since 2007, particularly in the areas near the cities of Acapulco, Morelia, and Chihuahua. From 254 municipalities that were two-drug hubs in 2007, the number jumped to 307 in 2010, while the three-drug hubs went from 20 to 87 in the same period.

These maps also show an increasing concentration of killings around Mexico City, especially in Morelos and Mexico states over time. Meanwhile, gruesome homicides started appearing along the Gulf Coast, a territory in dispute between the Zetas and the Gulf drug cartels, in an area where no drug hubs have yet been detected because of insufficient available data.

Conclusions and Policy Implications

It is easy to discern that not all the municipalities that are main producers of at least one drug are necessarily violent. Conversely, municipalities that bear the brunt of drug-related homicides tend to become drug hubs because they are well connected via infrastructure or close to main highways. But drug hubs are not necessarily in main production areas and vice versa. A good example of this is the state of Oaxaca, which has many municipalities that have been

traditional producers of marijuana. There are almost no drug hubs there, however, and no related killings reported.

One of the main conclusions of this study is that violence is not strictly tied to drug trafficking and production but also to marginalization. Municipalities that are drug hubs coincide with areas of great marginalization in Nayarit, Guerrero, and Michoacán states, as well as in the “Golden Triangle” of heightened narcotics production located in the conjunction of Durango, Chihuahua, and Sinaloa states.

The fact that homicides in 2010 greatly increased along the Gulf Coast, particularly in Tamaulipas state—where the data collected does not allow us to determine whether drug hubs exist there—may indicate the changing business of the drug organizations. The Gulf Coast is an area in dispute between the fierce Zetas and Gulf cartels, and the Zetas have become known for kidnapping immigrants heading north in an attempt to sneak into the U.S. Zeta operatives then often kill the immigrants they kidnap. In this way, the growing drug-related violence in this area suggests that, in the ever-evolving environment in which drug organizations develop, trafficking is only one of the criminal activities in which cartels now engage. Therefore, their new crimes may very well cause much greater, and new forms of, violence in the near future.

This paper’s analysis indicates that any serious effort at reducing Mexico’s growing drug violence should start with further study of the country’s elaborate transportation networks for illegal drugs, as well as additional research to determine which kind of narcotic has more incidence in the killings. ✨

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