



The U.S. Fentanyl Boom and the Mexican Opium Crisis

Finding Opportunities Amidst Violence?

BRIEFING PAPER SERIES

*Building Resilient Communities in Mexico: Civic
Responses to Crime and Violence*

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ABOUT THIS BRIEFING PAPER SERIES

This briefing paper is part of a multiyear effort by the Mexico Institute at the Woodrow Wilson International Center for Scholars and the Justice in Mexico program at the University of San Diego to analyze the challenges and opportunities for improving citizen security in Mexico. In particular, the papers produced for this series focus on identifying ways to promote community resilience in the face of crime and violence. The findings are intended to provide useful observations about the role of civil society in promoting citizen security, along with concrete policy options for the Mexican and U.S. governments to enhance civic engagement, encourage civic partnerships, and embolden citizens' efforts to bolster the rule of law in Mexico.

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EXECUTIVE SUMMARY

- **This report examines the effects of the upsurge in U.S. fentanyl use on opium producing areas in Mexico.** By using available quantitative data on Mexican opium production as well as qualitative field research from opium producing communities in Nayarit and Guerrero, this paper offers valuable insights into Mexico's illicit drug trade. In particular, this paper demonstrates the extent to which certain villages in the Golden Triangle, but also in Guerrero, Nayarit, and Oaxaca rely on opium production for survival.
- **The authors estimate that the opium economy channeled around 19 billion pesos (\$1 billion dollars) to some of the poorest communities in Mexico in 2017.** This is a vast amount, nearly three times the total legal agricultural output of the entire state of Guerrero. Up to around 2017, opium growers in Mexico were earning around 20,000 pesos (\$1,050 dollars) a kilo of raw opium, and families could bring in up to 200,000 pesos (\$10,500 dollars) per year.
- **With the upsurge in fentanyl use, the demand for Mexican heroin has fallen sharply, by an estimated 7 billion pesos (\$364 million dollars).** This has had an immediate knock-on for opium producers. Farmers are now being paid around 6000 to 8000 pesos (\$315 – 415 dollars) per kilo of raw opium. These losses have caused farmers' profits to disappear, village economies to dry up; and out-migration to increase.
- **These findings have important implications for public security in Mexico, as well as major ramifications for international counter-drug efforts.** Criminal groups in Mexico are nothing if not supple and adaptable to change. If current trends continue in the coming years, such groups may continue to dominate poppy-growing regions through other industries including illegal logging, illegal mining or the production of synthetic drugs.
- **While legalization and crop substitution have been touted as possible alternatives, these should not be conceived of as silver bullets.** However, if properly researched and managed, both policies could be introduced relatively cheaply and effectively. Initially at least, they would loosen the grip of organized crime groups on the regions and tie farmers to licit international markets. Combined with other broader security policies, they could integrate these marginalized areas into the country for good.
- **Resolving this crisis requires further in-depth, policy-focused research in Mexico.** It is urgent to design policies that are based on solid, updated knowledge about local dynamics of violence in the country. Any political response must be based on further research and diagnosis, conducted in the most critical opium producing regions of the country.
- **Mexican government officials and international aid agencies should work to strengthen programs to promote long-term crop-substitution and economic development opportunities.** Such policies are urgently needed to encourage local

agricultural producers to focus on legitimate, locally sustainable crops and alternative industries.

- **Recent proposals to legalize opium for the pharmaceutical industry should be considered seriously.** Yet, legalization would only solve a one part of the issue, since Mexican demand for legal opioids is massively lower than the country's current illegal production. Hence, the solution must be articulated both at the national and international level, in order to tackle supply and demand simultaneously.

The U.S. Fentanyl Boom and the Mexican Opium Crisis

Finding Opportunities Amidst Violence?

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Overview

This report analyzes the socio-political effects of U.S. fentanyl use on the opium and heroin economy in Mexico. Drawing on fieldwork conducted in two poppy-producing regions of Mexico, one in the State of Nayarit, one in the State of Guerrero, our report shows that the dramatic upswing of fentanyl use in the United States is generating a parallel and rapid collapse in the price offered for raw opium in rural Mexico. This is already having very serious social and economic effects in the country's poorest rural regions. Yet, this economic emergency – and the outstanding fact that growing drugs is no longer profitable – also opens the possibility of wresting Mexico's opium-growing regions from the control of Mexico's Drug Trafficking Organizations (DTOs). This report aims at addressing several possible solutions including crop substitution or opium legalization for medicinal use, and evaluating how realistic they are in the Mexican context.

This report is based on data-analysis, as well as on original fieldwork conducted by the authors in Mexico. In that sense, it represents an unprecedented focus on local, socio-economic dynamics of the Mexican opium-heroin trade.¹ Such a blend allows us to go beyond most analysis and demonstrate that there shall be no miracle, single-sided cure to the Mexican Opium Crisis.

The National-Level Significance of Mexican Opium Production

Before addressing current trends, we must first understand the wider history of opium production in Mexico, the scale of its importance to rural regional economies, and the depth of its ties to the U.S. market for illicit drugs.

The illicit cultivation of opium poppies in Mexico began in the 1920s. At first it was the preserve of a few hundred farming families, whom Mexican merchants paid to produce opium that they then processed into “black tar” heroin and smuggled over the border to the United States. U.S. addicts saw Mexican heroin as inferior to that produced in Asia, and it

¹ All the opium harvested in Mexico goes towards the production of heroin. As a result, we have used the terms interchangeably when referring to the trade.

never accounted for more than 5 to 10% of the U.S. market.² Accordingly, low returns limited Mexican opium production to the ten municipalities of the 'Golden Triangle' spanning the mountains of Sinaloa, Durango, and Chihuahua. Occasional entrepreneurial forays into poppy cultivation also took place in the neighboring states of Jalisco and Sonora.³

Everything began to change in the late 1960s. First, drug traffickers moved south through the Sierra Madre Occidental, and started to pay peasants to grow marijuana for the growing U.S. market.⁴ Then, when the so-called French Connection linking U.S. demand to European heroin suppliers dried up in the early 1970s, Mexican traffickers moved to fill the void. Marijuana growers in the states of Jalisco, Michoacán, Guerrero, Oaxaca, and even Chiapas turned to growing opium and producing heroin. By the late 1970s, this first wave of widespread opium production had started to decline due to mixture of chemical spraying, military force, and perhaps most importantly, market forces.⁵ By 1978, new sources of good quality Asian heroin had become available; U.S. drug takers were moving away from heroin towards cocaine; and, finally, Mexican traffickers found that cocaine was more profitable than heroin, and that smuggling it took less risk, less organization, and less effort.

² Eric Schneider, *Smack, Heroin and the American City* (Philadelphia: University of Pennsylvania Press, 2008).

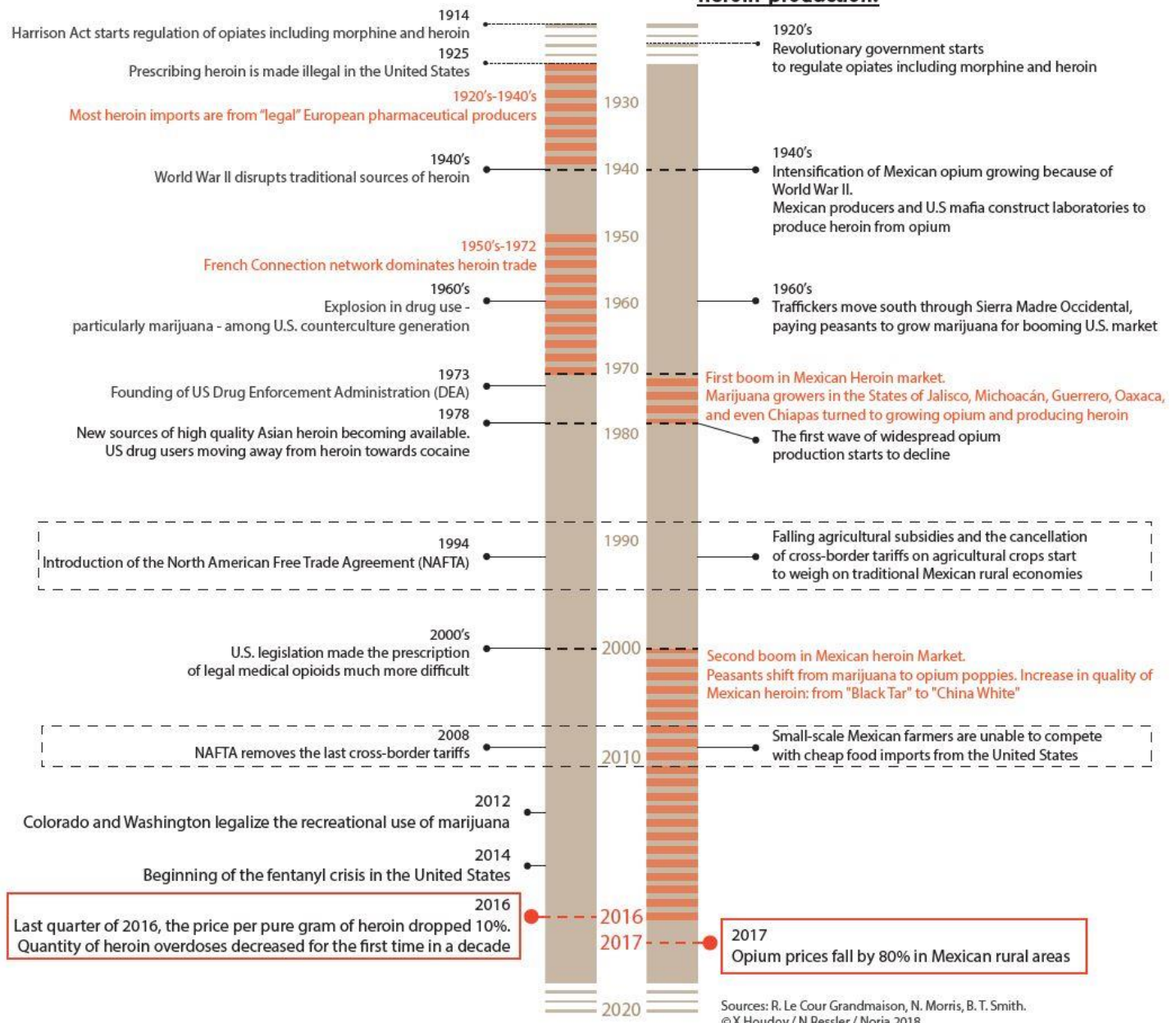
³ According to documents from the National Archive and Records Administration (NARA), Record Group (RG) 170 and the Casas de la Cultura Jurídica, Mazatlán, Tijuana and Ciudad Juárez, these were Badiraguato, Mocorrito, Cosala, Sinaloa de Leyva, Culiacán (all in Sinaloa); Tepehuanes, Tamazula, Topia, (all in Durango); and Guadalupe de Calvo and Parral (both in Chihuahua).

⁴ For the best introduction see Jerry Kamstra, *Weed: Diary of a Dope Smuggler* (London: Harper & Row, 1974).

⁵ Maria Celia Toro, *Mexico's "War" on Drugs, Causes and Consequences*, (London, Lynne Reiner, 1995)

Evolution of US drug market, 1920-2018 ...

... and the dynamics of Mexican opium and heroin production.



During the 1990s and early 2000s, a mixture of forces affecting both the supply and demand side of the international drug trade reignited Mexican opium production. In Mexico, the introduction of “neoliberal” economic policies that resulted in falling agricultural subsidies and increased price competition—caused by the cancellation of cross-border tariffs on agricultural crops—started to weigh on traditional Mexican rural economies. The inauguration of the North American Free Trade Agreement (NAFTA) in 1994 solidified the trend. And by 2008, the last cross-border tariffs were removed. Small-scale Mexican farmers were now unable to compete with cheap food imports from the United States as well as

further afield.⁶ Many migrated to Mexican cities; many moved to the United States; and many of those that stayed attempted to eke out a living by growing the last profitable crop – narcotics. In Guerrero, for example, coffee production fell 88% between 2003 and 2016. The vast majority of former coffee land was then used to grow drugs.⁷

At first, many peasants concentrated on producing marijuana for the U.S. market. But by the early 2000s, shifts in U.S. demand drove parallel shifts in the Mexican countryside. First, as U.S. legislation made the prescription of legal medical opioids much more difficult, U.S. opioid addicts turned to illegal heroin in order to get their fix. The move created a booming potential market for Mexican heroin.⁸ Second, U.S. states, starting with Colorado and Washington in 2012, began to legalize the recreational use of marijuana. As more and more marijuana was grown in the United States, the price for poorer quality, less chemically enhanced Mexican marijuana sunk. Together, the changes pushed Mexican trafficking networks and farmers alike towards the exploitation of opium poppies.

The statistics offered by the United Nations Office on Drugs and Crime (UNODC) capture this growth in opium production extremely clearly. In 2000, the UNODC estimated that Mexico produced 1900 hectares of opium poppies, or around 41 tons of raw opium. By 2009 (the year after corn subsidies were removed), the number of hectares devoted to opium had grown tenfold to 19,500 hectares, yielding 425 tons of raw opium. Five years later, poppy plantations covered 26,000 hectares, and Mexico produced nearly 500 tons of raw opium. Recent estimates are even higher.⁹ Though the Mexican government has refused to accept these figures, the U.S. government claims that in 2016 the country had 32,000 hectares devoted to opium. In 2017, it had 44,100 hectares.¹⁰

⁶ For a good introduction, see James B. Greenberg, Anne Browning-Aiken, William L. Alexander, Thomas Weaver, (eds.), *Neoliberalism and Commodity Production in Mexico* (Boulder: University Press of Colorado, 2012).

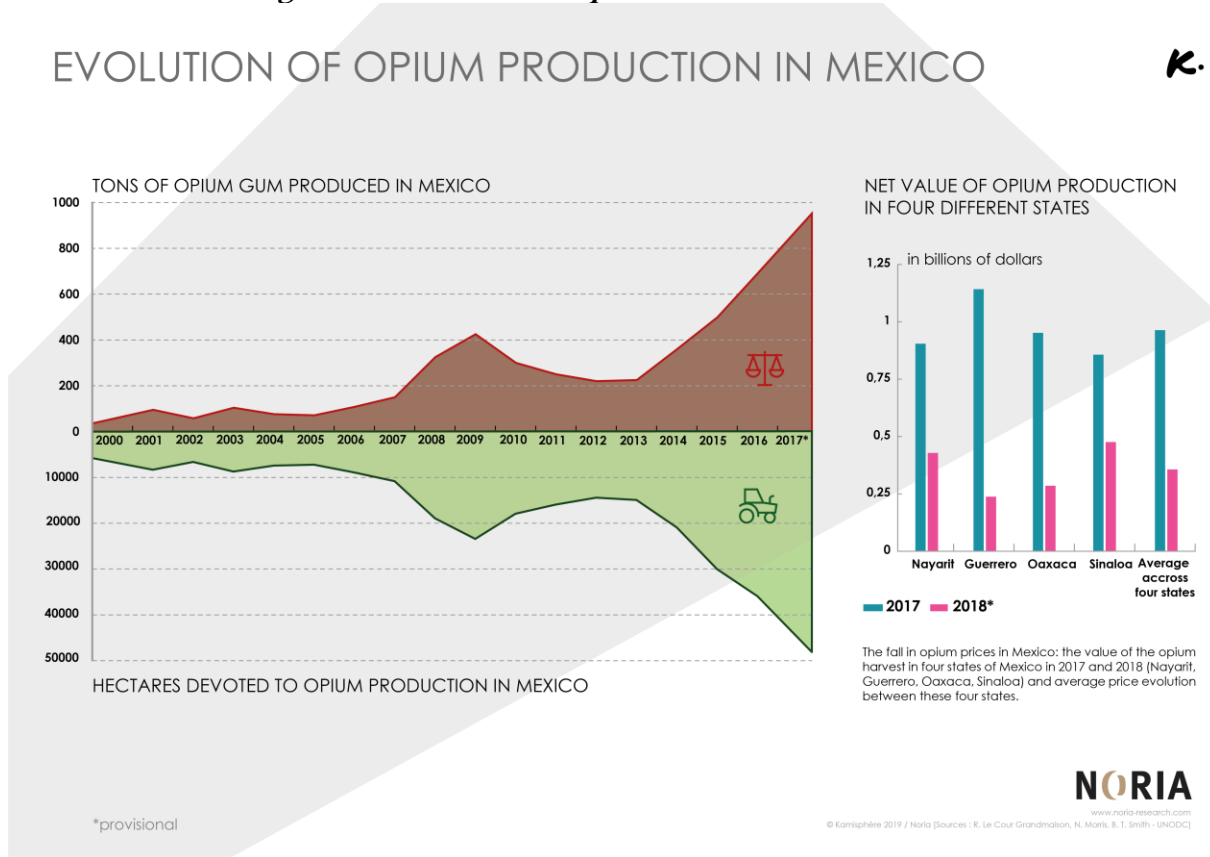
⁷ Michel Lohmuller, *InSight Crime*, 16 Sept. 2016, “Agricultores cambian café por amapola en centro de heroína en México,” <https://es.insightcrime.org/noticias/noticias-del-dia/agricultores-cambian-cafe-amapola-centro-heroina-mexico/>

⁸ Sam Quinones, *Dreamland: The True Tale of America’s Opium Epidemic* (New York: Bloomsbury, 2015); Beth Macey, *Dopesick: Dealers, Doctors and the Drug Company that Addicted America* (New York: Apollo, 2018).

⁹ Unless stated, all figures are taken from the annual reports of the UNODC, “World Drugs Report” from 2000 to 2018. Most years are collected together in UNODC, ‘Los opioides, cerca de ser la mayor amenaza del consumo de drogas,’ <http://www.unodc.org/unodc/es/frontpage/2018/June/cocaine-and-opium-production-worldwide-hit-absolute-record-highs---major-threat-to-public-health-says-un-study.html?ref=fs4>

¹⁰ “New Annual Data Released by White House Drug Policy Office Shows Record High Poppy Cultivation and Potential Heroin Production in Mexico,” White House Briefing, 20 Jul. 2018, <https://www.whitehouse.gov/briefings-statements/new-annual-data-released-white-house-drug-policy-office-shows-record-high-poppy-cultivation-potential-heroin-production-mexico/>

Figure 1. Evolution of Opium Production in Mexico



Source: R. Le Cour Grandmaison, N. Morris, B. T. Smith – UNODC © Kamisphère 2019/Noria.

The geographical spread of opium production in the last decade shows a great deal of continuity with the map of opium production during the 1970s. Such continuity suggests the importance of historical traditions of drug production even outside the famous opium-producing municipalities of the Golden Triangle. As a result, most opium continues to be grown in a line down the Sierra Madre Occidental from Sonora, Chihuahua, Sinaloa, Durango and Nayarit, through Jalisco, Colima, Michoacán and Guerrero, down to Oaxaca and Chiapas. But the demand for opium has also driven poppy growing outside these traditional hotspots.

In fact, a SEDENA report, accessed via a Freedom of Information Act request by journalist Humberto Padgett, claims that between 1995 and 2015 opium has been found and destroyed in 18 states (out of 32 Mexican states), including places with no real tradition of drug production like Coahuila, Veracruz, Hidalgo and Puebla. The same report also claims that opium has been found in a staggering 859 municipalities throughout the republic (34% of the total municipalities in the country). No doubt some of these are the kind of very small municipalities found particularly in the state of Oaxaca (which on its own contains 570 municipalities). But the idea that a third of Mexican municipalities have been involved in

opium production shows the level of the problem. Furthermore these figures were gathered *before* the doubling in opium production claimed by the DEA over the past two years.¹¹

Figure 2. Main Areas of Opium Production in Mexico, 2016



Though opium production has expanded geographically, certain regions still produce the vast majority of Mexico's crop. They include Guerrero, where every one of the state's 81 municipalities has been involved at some level in opium production, where the military claimed that 1287 communities were involved in opium production in 2016, and where Padgett claims 60% of Mexican opium is grown.¹² They also still include the Golden Triangle, where Padgett claims around 25% of Mexican opium is produced.¹³ Furthermore, even beyond this general panorama certain municipalities stand out. Between 2007 and 2015, the top four municipalities for opium eradication were Badiraguato, Sinaloa (27,300 hectares destroyed), Guadalupe y Calvo, Chihuahua (26,200 hectares), General Heliodoro Castro, Guerrero (15,800 hectares) and Tamazula, Durango (15,000 hectares).¹⁴

The U.S. Fentanyl Crisis

For many years, fentanyl – a synthetic opioid used in hospitals as an anesthetic and for the treatment of severe pain – was rarely found on U.S. streets. It was at best a niche drug, used

¹¹ Email communication with Humberto Padgett, 3 Nov. 2018; Humberto Padgett, *Guerrero. Los hombres de verde y la dama de rojo. Crónicas de la Nación Gomera* (Mexico City: Tendencias, 2015).

¹² See Padgett, *Guerrero* and "Amapola sostiene a 1,287 poblados; Guerrero, monarca de la heroína," *Excelsior*, 20 April 2016, <https://www.excelsior.com.mx/nacional/2016/04/20/1087674>

¹³ Padgett, *Guerrero*.

¹⁴ "Ubican a Tamazula en zona de Guerra," *Hojas Políticas*, 23 Oct. 2016.

occasionally by those addicted to prescription opioids, or as a heroin substitute by users desperate for a quick, cheap fix.¹⁵ But, starting around 2014, more and more American addicts have turned to the drug. First, it is a question of strength: fentanyl is 30 to 50 times stronger than heroin.¹⁶ Second, it is an issue of supply, as fentanyl manufacturers in China have used the dark web to advertise fentanyl to American dealers as a profitable alternative to heroin,¹⁷ shipping it to cities across the United States cheaply and easily via the Postal Service, DHL and Fedex.¹⁸

DEA spokespeople confirm that fentanyl has cut into the use of heroin – the traditional go-to narcotic for U.S. opioid addicts.¹⁹ This shift is difficult to quantify, as small amounts of fentanyl are often added to poor quality heroin to increase its potency, while in other cases, fentanyl itself is bulked out with inert fillers and marketed as heroin.²⁰ But the signs of decreasing demand for heroin are clear: in the last quarter of 2016, the price per pure gram of heroin dropped 10%,²¹ while in the same year the quantity of heroin overdoses decreased for the first time in a decade.²² More recently, in 2018, a pioneering study in Vancouver found that 80% of drugs marketed locally as ‘heroin’ actually contained no heroin at all; instead, most contained fentanyl.²³

¹⁵ P. Jenkins, *Synthetic panics: The symbolic politics of designer drugs* New York: New York University Press. 1999. Newsweek Staff (1993). Drug wizard of Wichita. from <http://www.newsweek.com/drug-wizard-wichita-193682>. Retrieved October 29 2018.

¹⁶ DEA factsheets, Fentanyl, <https://www.dea.gov/factsheets/fentanyl> Retrieved October 29 2018

¹⁷ Michael Gilberta, Nabarun Dasgupta, “Silicon to syringe: Cryptomarkets and disruptive innovation in opioid supply chains,” *International Journal of Drug Policy* 46 (2017) 160–167.

¹⁸ U.S. Senate, Committee on Homeland Security and Governmental Affairs, Permanent Subcommittee on Investigations, *Combatting the Opioid Crisis: Exploiting Vulnerabilities in International Mail*, Washington, D.C., staff report, 2018. Olga Khazan, “The Surprising Ease of Buying Fentanyl Online,” *The Atlantic*, 12 Jan 2018, <https://www.theatlantic.com/health/archive/2018/01/the-surprising-ease-of-buying-fentanyl-online/551915/> Retrieved October 29 2018.

¹⁹ Quoted in “El nuevo ‘dilema’ del negocio narco en México: productores de amapola sufren por el éxito del fentanilo,” *Infobae*, 24 May 2018, <https://www.infobae.com/america/mexico/2018/05/24/el-nuevo-dilema-del-negocio-narco-en-mexico-productores-de-amapola-sufren-por-el-exito-del-fentanilo/> Retrieved October 29 2018.

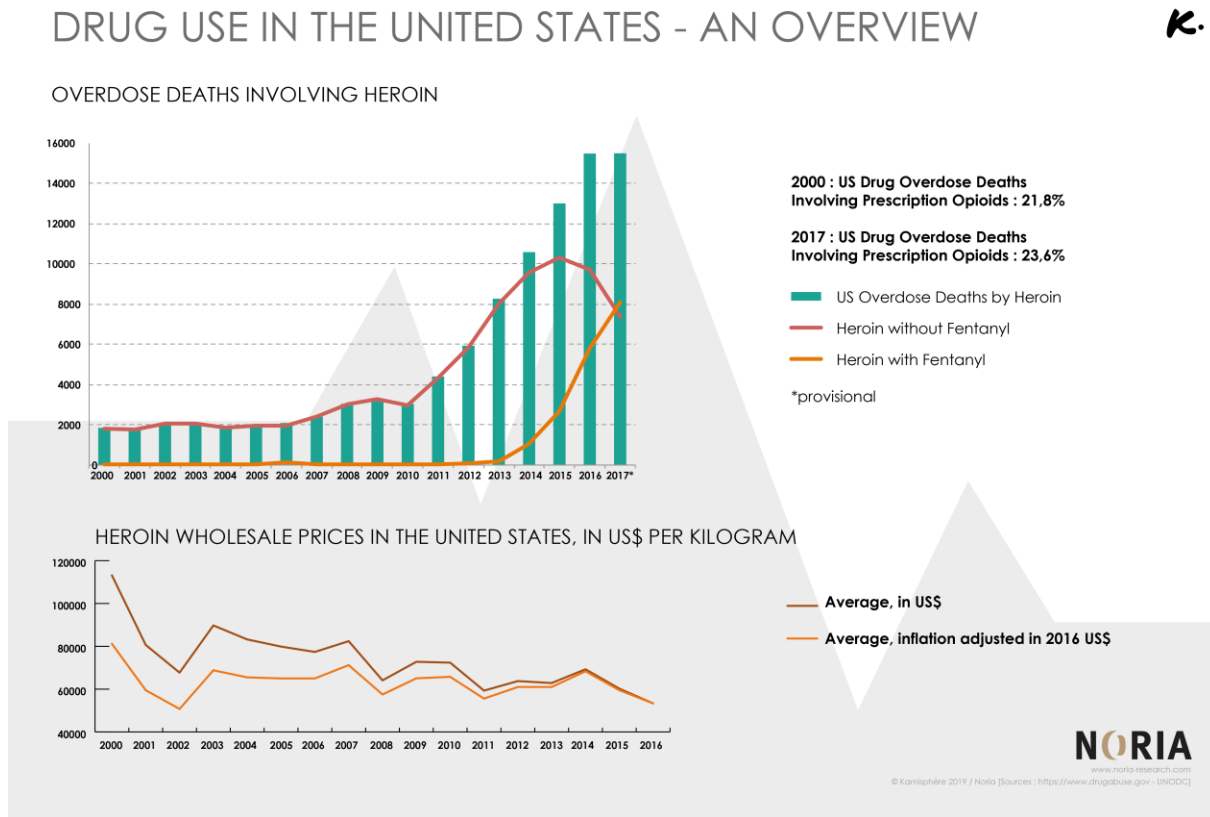
²⁰ Daniel Ciccarone, “Fentanyl in the U.S. heroin supply: A rapidly changing risk environment,” *International Journal of Drug Policy* 46 (2017), 107–111; Nadia Fairbairn, Phillip O. Coffin, Alexander Y. Walley, “Naloxone for heroin, prescription opioid, and illicitly made fentanyl overdoses: Challenges and innovations responding to a dynamic epidemic,” *International Journal of Drug Policy* 46 (2017), 172–9; Daniel Ciccarone, Jeff Ondocsin, Sarah G. Mars, “Heroin uncertainties: Exploring users’ perceptions of fentanyl-adulterated and -substituted ‘heroin’,” *International Journal of Drug Policy* 46 (2017), 146–52.

²¹ DEA, 2018 National Drug Threat Assessment (NDTA), <https://www.dea.gov/sites/default/files/2018-11/DIR-032-18%202018%20NDTA%20%5Bfinal%5D%20low%20resolutionasof110218notcomp.pdf>

²² Bryce Pardo, “Evolution of the U.S. overdose crisis, Understanding China’s Role in the Production and Supply of Synthetic Opioids,” (2018) https://www.rand.org/content/dam/rand/pubs/testimonies/CT400/CT497/RAND_CT497.pdf

²³ Andrea Woo, “Nearly all drugs sold as heroin in Vancouver contain fentanyl, study finds” *Globe and Mail*, 31 Jul. 2018. <https://www.theglobeandmail.com/canada/british-columbia/article-nearly-all-street-drugs-in-vancouver-contain-fentanyl-study-finds/> Retrieved October 29 2018.

Figure 3. Drug Use in the United States – An Overview



Source: <https://www.drugabuse.gov> – UNODC © Kamisphère / Noria.

The rise in fentanyl use in the United States has generated plenty of headlines. Because of its potency, fentanyl has caused a rapid increase in the number of overdoses attributed to synthetic opioids. They have risen tenfold in just four years, from around 3000 in 2013 to nearly 30,000 in 2017.²⁴ Fentanyl is now involved in 60% of total opioid deaths,²⁵ including those of high-profile celebrities including Prince, Tom Petty, and Philip Seymour Hoffman.²⁶

The Senate has launched investigations into the sources of the drug, its transportation to the United States, and its production. There have been calls for China to stop the production of fentanyl precursor chemicals, which it finally did in February 2018.²⁷ And there have been alarmist tales of fentanyl being mixed with all sorts of other leisure drugs, including cocaine

²⁴ <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

²⁵ DEA Intelligence Brief, “Fentanyl Remains the Most Significant Synthetic Opioid Threat and Poses the Greatest Threat to the Opioid User Market in the United States,” May 2018. <https://www.dea.gov/sites/default/files/2018-07/PRB-DIB-003-18.pdf> Retrieved October 29 2018.

²⁶ Dan Browne, “Music’s Fentanyl Crisis: Inside the Drug that Killed Tom Petty and Prince”, *Rolling Stone*, June 20 2018, <https://www.rollingstone.com/music/music-features/musics-fentanyl-crisis-inside-the-drug-that-killed-prince-and-tom-petty-666019/> Retrieved January 17 2019.

²⁷ Pardo, “Evolution”.

and marijuana.²⁸ In fact, fentanyl use has become so prevalent that in some quarters of the U.S. press, the national opioid crisis has been rechristened “the fentanyl crisis.”²⁹

The Mexican Opium Crisis

As well as leaving a bloody trail of dead consumers and fractured communities across the United States, rising fentanyl use has led to another crisis south of the border. Falling demand for heroin in the world’s biggest drugs market has radically decreased the price paid for the raw opium produced in rural Mexico – until recently the source of more than 90% of the heroin consumed in the United States. In this paper, we use two case studies – one of a village in the Sierra Madre del Sur, near Chilpancingo, the capital of Guerrero, and another of a village in the municipality of Del Nayar, Nayarit – to demonstrate the extent of this economic decline, and to outline its broader socio-economic effects. Extrapolating out from these examples to other opium-producing regions, we argue that the side-effects of rising U.S. fentanyl use include the development of a parallel economic catastrophe in rural Mexico, which we have termed the “Mexican opium crisis”.

Case Studies: Nayarit and Guerrero

Our cases studies, which for obvious security reasons we will call Village ‘A’ (for Nayarit) and Village ‘B’ (for Guerrero), are communities in mountainous and extremely marginalized regions of rural Mexico, whose inhabitants depend for their livelihoods on opium production.

Village A is located in the Sierra Madre Occidental range, in the municipality of Del Nayar, northern Nayarit, close to the state’s borders with Durango, Jalisco and Zacatecas. Village B lies in the Sierra Madre del Sur, located on a strategic commercial corridor through Guerrero’s mountains that connects the Pacific coast to highways that ultimately reach the United States.

Both communities are far poorer than the national average: in Village A and the surrounding region, 91% of the population officially live in poverty, and 61.6% in ‘extreme poverty’; 60% of homes have no access to electricity, 51% of homes have no piped water, and 29% have dirt floors; while 33.7% of the inhabitants above 15 years old are illiterate (in comparison, in Nayarit’s state capital, Tepic, only 3.1% of the population is illiterate).³⁰ Meanwhile, in Village B and the surrounding area, more than 33% of the population live in “extreme poverty” (compared to the statewide average of 24.5%), while 35.6% have an income that is “inferior to the level of minimum economic welfare.”³¹

²⁸ Scott Neuman, “Dozens Overdose In Connecticut Park On Tainted Synthetic Marijuana,” *NPR*, 16 Aug. 2018, <https://www.npr.org/2018/08/16/639133355/dozens-overdose-in-connecticut-park-on-tainted-synthetic-marijuana?t=1541519778603> Retrieved October 29 2018.

²⁹ “Editorial: The Opioid Crisis is now a Fentanyl Crisis,” *Bloomberg*, 10 Sept. 2018. <https://www.bloomberg.com/news/audio/2018-09-10/the-opioid-crisis-is-now-a-fentanyl-crisis-editorial> Retrieved October 29 2018.

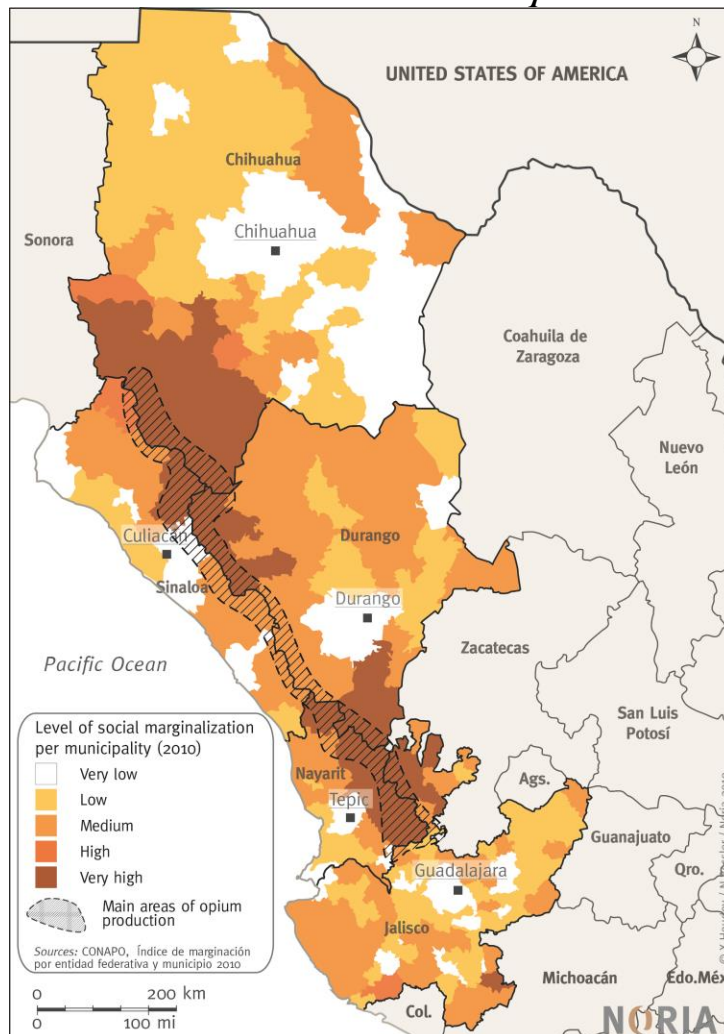
³⁰ CONAPO, *Indices de marginacion*

³¹ Anuario Estadístico y Geográfico de Guerrero 2015, INEGI, http://internet.contenidos.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/anuarios_2015/702825076900.pdf

In addition to suffering severe marginalization, both villages have long been on the frontlines Mexico's 'Drug War,' and the violence, insecurity and social breakdown that has accompanied this conflict. In 2017, then the most violent year officially registered in Mexican history, Guerrero was the second most violent state in the country with 2,575 homicides, and a homicide rate of 71 per 100,000 inhabitants– the second highest state homicide rate in Mexico.³² Nayarit's municipality of Del Nayar also has a higher homicide rate than the national average, in 2010 it suffered 30 murders; in 2011 34 murders; and in 2012, 32 murders; giving an average annual homicide rate for those years of around 100 per 100,000 individuals.

Some of this violence concerns fights over strategic transport routes for other drugs like cocaine. But much of it, whether publicized as such or not, is about control of the valuable opium market. Over the past decade, multiple different groups have sought monopoly over the buying up of the product in both villages.

Figure 4. Levels of Social Exclusion in Mexico's Opium Production Areas 1/2



³² Nat's America wide average.

The ‘Opium Crisis’ in Village A

Village A is home to a total of around 5000 individuals, the vast majority of whom belong to the indigenous Cora (or *Naayari*) people who dominate the mountains of Nayarit. They have traditionally depended for survival on subsistence agriculture, hunting and gathering, the success of which relies on their dispersion across their community’s varied ecological niches, including pine forests, oak forests, canyon-side scrublands and low-lying subtropical zones irrigated by rivers and streams. The inhabitants of Village A therefore live most of the year not in the village’s center, but rather in small ranches scattered across the village’s 90,000 hectares of state-recognized, communally-owned territory. Wild and domesticated animals, and gathered and cultivated fruits, vegetables, mushrooms, cacti and a range of agaves, form an important part of local diets.³³ But local people depend above all on stores of squash, beans, and maize – grown in small plots cleared using slash and burn techniques and shifted every few years – to get them through the lean months of the dry season.

Since at least the mid-twentieth century, many of the inhabitants of Village A have also used the dry season – during which the cultivation of their traditional subsistence crops was impossible – as an opportunity to work on the tobacco plantations of Nayarit’s Pacific coast. Conditions were harsh, and wages low, but the villagers were able to earn cash to invest in livestock (particularly cows, ownership of which confers important prestige); to finance local religious celebrations and other ritual activities; to supplement local diets with bought foods such as rice, pasta, cooking oil, soya protein and extra meat; to buy beer, tequila and other alcoholic drinks; to purchase pick-up trucks and gasoline on which to run them; and to obtain other products, such as medicines, clothing, livestock, and non-traditional housing materials, such as bricks, breeze-blocks and aluminum or asbestos roofing.

However, from the mid-1980s, the cultivation of opium poppies and, to a lesser extent, marijuana has allowed local people to earn cash without having to spend the dry season on the coast. Instead, by supplementing their rainy-season cultivation of traditional subsistence crops with poppies (which require a plentiful supply of water), and then growing marijuana (which is resistant to drought) during the dry season, the people of Village A and neighboring communities could earn substantial amounts of cash without leaving their homelands. This enabled them not only to continue to finance, but also to more regularly attend, the syncretic rituals and celebrations that are central not only to local religious life, but also to communal political organization.

As the communal territory of Village A is particularly conducive to poppy cultivation, it quickly gained a reputation as one of Nayarit’s prime opium-producing communities. According to local informants, teachers who had previously worked close to Nayarit’s border with Sinaloa first introduced poppies and marijuana there in the 1980s. The teachers explained that the seeds would grow into crops that were far more valuable than any of the other cash crops – such as oats, alfalfa or peaches – with which the villagers had occasionally experimented in the past (with little commercial success). The villagers, who knew little

³³ Today, deer and other large animals have become rare due to human population growth and overhunting, while fish and crustaceans have disappeared from some rivers and arroyos due to pollution and the construction of hydroelectric dams. Government-run shops have made up for the decline in wild food sources.

about the laws prohibiting the cultivation of either poppies or marijuana, saw in both crops a convenient way of supplementing their traditional subsistence activities.

In much the same manner as they traditionally cultivated maize, villagers sowed poppies and marijuana in small plots carved using swidden techniques from the local forests (whose tree cover hid these crops from prying eyes). They sold the products to the same teachers who had first given them the seeds. Since the 1930s, teachers had served as mediators between Village A and state and federal government agencies, and now became bridges between local peasants and regional drug-trafficking networks, buying up the local opium and marijuana crops and selling them on to regional DTOs affiliated with the Sinaloa Federation. These DTOs took charge of processing the opium into heroin; the people of Village A remained peasants, rather than drug technicians, with little knowledge of the wider world of the drug trade, nor even of the use to which the opium they produced was being put.

In the early 1990s, the Mexican army and police forces sent teams of soldiers to Village A to destroy crops and arrest growers. Some of the villagers resisted such efforts, attacking their persecutors with .22 hunting rifles or shotguns, or even investing in heavier weaponry with which to protect themselves, their families and their crops. The weapon of choice was the AK-47 automatic rifle, purchased from corrupt officials or drug traffickers. A few young men were killed, and many more were arrested and imprisoned in state or federal jails (where some came into close contact with higher-level members of DTOs). But despite the risk of imprisonment or even death, the disintegration of the regional and national agricultural economies following the signing of NAFTA in 1994 pushed increasing numbers of Village A's inhabitants to become ever more dependent for cash income on opium and marijuana production.

By early 2013, when the data on drug production in Village A used in this study began to be collected, at least 75% of local households – a total of around 3,750 men, women and children – were dependent for most of their annual cash incomes on illicit crop production (supplemented by the sale of handicrafts, and government cash transfer programs such as 'Oportunidades'). By this point, a precipitous decline in the price of marijuana had encouraged most of the young men engaged in illicit crop cultivation to abandon the former in favor of the opium poppy. This shift, together with the constant risk of crop destruction by state forces and other losses caused by hail storms, sudden frosts or plagues of insects, encouraged villagers to grow poppies during the dry season as well as the rainy season, which required investment in small-scale irrigation infrastructure. They also tried to increase their yields by investing in commercial fertilizers and pesticides.



Poppy field in Guerrero, Mexico © R. Le Cour Grandmaison / Noria Research

The poppies continued to be grown on small swidden plots, usually less than a hectare in size. But these were located in ever more remote, rugged areas far from the center of the community (and thus from the police and soldiers who periodically arrived there in search of illicit crops). Due to the practicalities of setting up gravity-fed irrigation systems, these plots are usually located close to streams; and given that the streams located furthest from the center of Village A often mark its boundaries with lands belonging to neighboring villages, the rise in irrigated poppy cultivation has exacerbated inter-communal territorial conflicts, sometimes resulting in outbreaks of violence (which became more severe as more local people gained access to automatic weapons). However, the sale of opium to a select few local middlemen – increasingly villagers who had become friends with members of DTOs in prison, rather than teachers – enabled the people of Village A to resist the migratory pressures faced by peasants in most of rural Mexico. It also allowed them to continue financing and taking part in the ceremonies around which communal political and religious life revolves, helping them to withstand the acculturative pressures emanating from mainstream, mestizo Mexican society.

Our data indicates that in late 2013 the price of raw opium gum offered to farmers in Village A was 15,000 pesos (\$1,175 dollars) per kilo. This price remained stable into late 2014. In this period, a single poppy plant was reported to produce between 4-5g of raw opium. Around 10 plants could be planted per square meter. Thus, a single hectare plot gave a typical opium producer in Village A between 4-5kgs of opium per season, assuming their harvests were not negatively affected by army raids, hailstorms, frosts, disease or insect attacks. Thus, they could expect a net return of between 60,000 – 75,000 pesos (\$4,700 and

\$5,880 dollars) every six months (minus the costs of fertilizer, irrigation equipment and their own labor, etc).³⁴

The exhaustion of the soil in the limited plots of land in which opium cultivation was possible, and increasingly severe plagues of insects and disease, necessitated villagers' increasing use of fertilizers and pesticides. This ate into local profits, and forced villagers to spend ever more time supervising poppy plots in remote areas, obstructing their ability to simultaneously cultivate corn, beans and other traditional subsistence crops in plots closer to the village. The young men directly involved in opium cultivation, as well as the families these men were forced to leave alone in their *rancherías* for weeks at a time, were also increasingly exposed to the risk of attack both by elements of the Mexican security forces, and by armed commandos representing the various DTOs fighting for control of the regional drug trade.

And as merchants tried to take advantage of the increasing monetization of the local economy by importing ever larger quantities of commercially-produced alcohol into the village, social problems related to excessive drinking – namely chronic alcoholism, domestic abuse and drunken, often lethal violence between heavily-armed young men – climbed exponentially. But those who avoided arrest, murder, or alcohol-induced illness continued to benefit from a steady growth in the price of raw opium from 2014 to 2017, due to the increasing demand for heroin in the United States. By early 2017, the price of opium in Village A had risen to a record high of 18,000 - 20,000 pesos (\$950 - \$1,050 dollars) per kilo, meaning that a 1 hectare plot of poppies cultivated during both the rainy and dry seasons could give a peasant family a net return of up to 200,000 pesos (\$10,580 dollars) per year.³⁵

However, the last year has seen a radical drop in the price of opium in Village A. By mid-2018, this figure had fallen to a historic low of around 8,000 pesos (\$420 dollars) per kilo, meaning that the cultivation of a 1 hectare plot of poppies gave an annual net return of only 64,000 – 80,000 pesos (\$ 3,330 – 4,160 dollars), a decline of more than 50% in a single year.³⁶ When we factor into this figure the costs of labor, the risks of death or imprisonment, and the costs of production – including increasing outlay on fertilizers, pesticides, irrigation equipment, and store-bought food (to compensate for the fall in subsistence crop production associated with opium cultivation) – it becomes clear that the production of opium has suddenly become much less attractive to the people of Village A as a survival strategy.

As a result, during 2018 local informants have reported a relative decline in the total area of communally-owned land being used for opium production in Village A; and a sharp increase in the number of local people who had left the village in search of work either in nearby cities such as Tepic or on the plantations of the Nayarit coast.

Other villagers, who as autonomous poppy cultivators had previously had little contact with regional DTOs, have been directly contracted by the latter to work as wage-laborers on

³⁴ The conversion from Mexican pesos to US dollars is here based on the 2013 average conversion rate of 12.76 pesos to the dollar

³⁵ The conversion from Mexican pesos to US dollars is here based on the 2017 average conversion rate of 18.91 pesos to the dollar

³⁶ The conversion from Mexican pesos to US dollars is here based on the 2018 average conversion rate of 19.22 pesos to the dollar

poppy plantations in other parts of Mexico, namely in the Golden Triangle zones of Sinaloa, Durango and Chihuahua. Working for subsistence wages of 150 – 200 pesos (\$7.80 – 10.40 dollars) per day, men, women and children, living in unsanitary conditions in temporary labor camps close to the poppy fields, risk illness and/or violent abuse at the hands of armed members of DTOs.³⁷ The children are also deprived of the chance to attend school, while their increasingly direct dependence on DTOs becomes deeper, their distance from the Mexican state grows, and they become ever more disconnected from the ritual practices upon which social and political life in Village A is founded, exacerbating local processes of social breakdown, and attendant rises in interpersonal violence.

The ‘Opium Crisis’ in Village ‘B’

Village B lies in Guerrero’s Sierra Madre del Sur. It is one of a succession of small villages – each home to between 500 to 1000 inhabitants – located on the crest of a mountain range that reaches 2400 meters above sea level. The region forms a strategic commercial corridor that connects the Pacific coast of Guerrero with mainland highways that go north all the way to the United States. As one local farmer recalls,

“This area has always been a necessary route and a conflictive zone... Mainly because it is the main door to access the sierra. This is a crucial region, you have to understand that.”

The region has been producing opium and heroin since at least the 1960s, when Sinaloans brought poppy seeds to the mountains of Guerrero. Yet massive current poppy cultivation in the area around Village B is heavily related to the second boom of the U.S. demand for heroin that occurred in the 2000s. This context also pushed traffickers to improve the quality of the heroin produced locally, moving from Mexico “black tar” to “China white”.

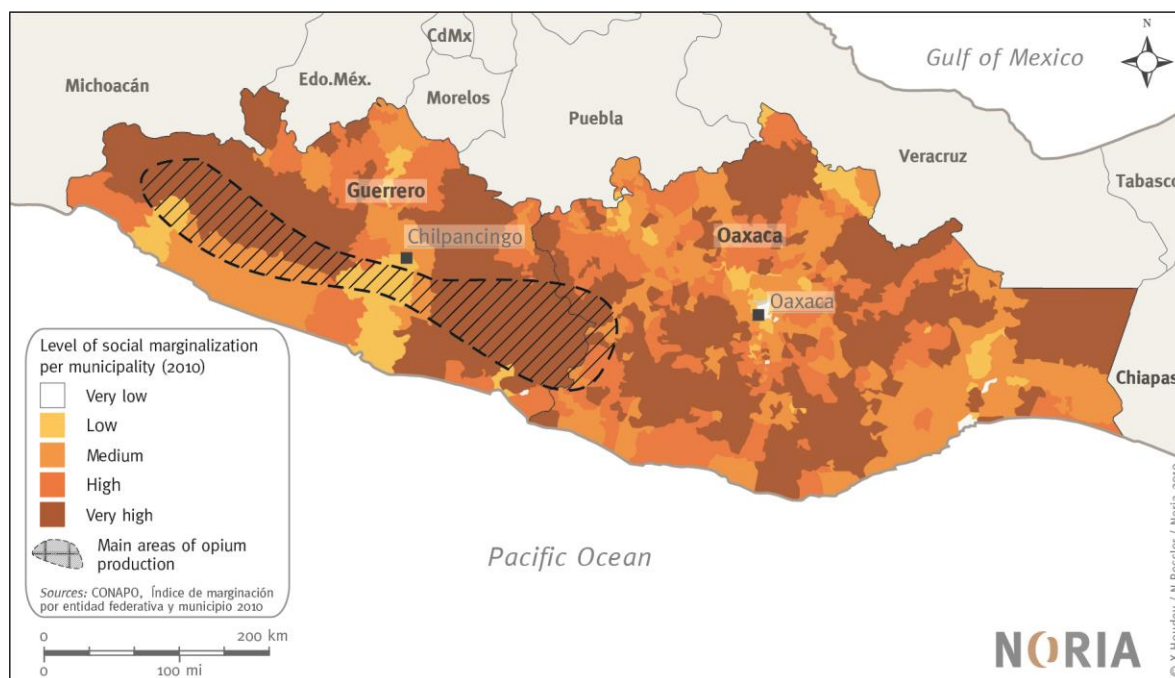
Based on evidence presented in several academic and media publications, as well as on fieldwork conducted in the region in 2018, it appears that most of the male population of this area works in poppy production. Some of them participate as a secondary activity, helping a family member or a relative during peak times of the production, when labor force is most needed: this is especially true at the beginning of each productive season, when farmers need to clean and prepare the fields for sowing, and four months later, during harvest.

In that sense, most of the local population is engaged in farming activities that are related to the growing of poppies, and the eventual harvesting (*la raya*) of raw opium paste (or *goma*). Unlike in Village A, some local people also participate in the next phase, the transformation of opium paste into pure heroin. A local drug boss and his “employees” including both men and women, control this process. Numbering from 50 to 100 individuals according to the task at hand, they include armed men working as *sicarios*, women working as lookouts (or *halcones*), and other local people, including young kids, who help the drug boss in different daily activities. Most of these people – including the drug boss – were born and raised in the same area, and so the rest of the local population do not consider them as constituting a drug cartel; even though the boss and his employees control the laboratories in which the *cocineros*

³⁷ The conversion from Mexican pesos to US dollars is here based on the 2018 average conversion rate of 19.22 pesos to the dollar

– the “cooks” – have moved from the historic middle or low-quality “Mexican black tar” to the refined, high-quality heroin called “China white,” bound for the United States.

Figure 5. Levels of Social Exclusion in Mexico’s Opium Production Areas 2/2



In the Sierra Madre del Sur, and, it would appear, in most of Guerrero, poppy cultivation offers three harvesting sessions per year (rather than the two harvests common in Nayarit). Local people refer to this production cycle as the ‘complete season’ (*temporada completa*). It includes a ‘wet’ harvest, which takes place during the rainy season from June-July to October-November: it produces the cheapest, weakest batch of the year as the opium tends to be ‘watery’; then, from November-December to February-March, there is the *sereno* period, an intermediary season both in terms of prices and quality; and then, finally, comes the dry season production (the *secas*), which is harvested around April-May, and gives the strongest and most profitable product.

Contrary to what has been observed and described in other areas of the country, in the Village B the poppy fields are not relegated to small patches on remote mountainsides, but start right outside of the villages, sometimes as close as a hundred meters from the main, paved road. From there, they extend to cover most of the slopes and ravines in the area. During our fieldwork, we visited poppy fields that were only 15 minutes of easy walking away, as well as extensions that were more isolated and required a several hours hiking.

Even here it must be noted that most of the poppy fields were not really hidden, and that most of them were visible from a considerable distance away, especially when the poppy flowers were in bloom and covered the sierra in thousands of red dots. It is also crucial to mention that this part of the municipality hosts a semi-permanent Army base, which is located on top of a hill, and allows soldiers to patrol the area day and night.



Poppy field after being destroyed by the Army in Guerrero © R. Le Cour Grandmaison / Noria Research

Common views of opium production hold that the practice is systematically hidden in remote, hostile, and inaccessible areas. In this part of Guerrero, however, poppy production is both connected to local knowledge – people *know* how to produce the best quality possible opium paste – and to the social and/or family ties of the inhabitants. In these villages, everybody knows everyone else; and everyone also knows exactly where each person's poppy field or parcel is located. Locals also know perfectly well who is 'doing fine,' who had a 'rough season,' or who had his fields destroyed by the army. In fact, contrary to what macro-analysis tends to convey, in the Sierra Madre del Sur, drug production, and especially 'natural' drug production such as that tied up with poppy cultivation, is rooted in very strong, and very local, social dynamics, where the entire production chain is concentrated in the villages, from poppy and opium base extraction, to heroin production in the local laboratories.

The laboratories are located in the very same villages in which farmers grow the poppies. In this area of Guerrero, the local drug boss assumes the role of the "*acaparador*" – literally the "grabber", or the "gatherer". This designates the person that is simultaneously able to "offer protection" to the local farmers and growers, and assure them that he will buy, with no exception, their entire crop. Therefore, the local production scheme and market runs as a closed economy. It relies on the assurance for growers that the *acaparador* will buy their production as long as they respect a certain level of purity and quality of the opium paste, and the assurance, for the local drug boss – through a regime of coercion and protection – that he will be able to produce heroin on a constant basis. Then, the *acaparador* sells the pure

heroin to a bigger organization, capable of transporting and distributing it to the United States, since he does not have this ability himself. According to local knowledge, this part of the trade is now controlled by the Cartel Jalisco Nueva Generacion (CJNG).

The local dimension of the production and the trade has decisive implications for the drugs economy. Since more than 95% of the local male population is involved in poppy production it ensures, when the market is up, a constant economic bonanza for the entire region. One local explained:

‘When the business is good, it is good for everybody, you have economic fluidity around here [*habia buena fluidez economica por aca*]... People were spending their money locally, they would buy cement, or tiles to the shopkeeper here, in order to improve their houses you know... They would buy fertilizers for their lands, throw good parties for their daughters and the *quinceañeras*... weddings and all these stuff... So the money would circulate in the village.’

Until mid-2017, and the start of the ‘opium crisis,’ a local farmer could make around 80,000 pesos (\$4,230 dollars) a year through poppy cultivation. The farmers who had more economic capital to invest, especially in order to recruit day laborers, buy machines and install irrigation systems, could make around 200,000 pesos (\$10,580 dollars) a year. The locals agree that ‘this was before the crisis,’ from 2016 to 2017, which looking back seems to be when prices peaked. Back then, a kilo of opium base paste would be sold to the *acaparador*, for a price that, according to the season, ranged between 20,000 and 28,000 pesos (\$1,060 – 1,480 dollars).³⁸

Then, the crisis hit: between October of 2017 and summer of 2018 the prices dropped to a historic low of 6,000 pesos (\$315 dollars) a kilo, while certain farmers were mentioning rumors of prices going even lower, around 4,000 pesos (\$208 dollars) a kilo.³⁹ When asked about the reason for this economic collapse, all locals were adamant that the crisis was provoked by the *gringos*, and a “new synthetic drug sold there,” stating that “the *gringos* now have a new stuff, they don’t like heroin any more, that’s why we don’t sell...” Given this critical situation, some farmers considered quitting poppy cultivation, and said that emigration from their native land would be their only viable option if the U.S. demand failed to rebound. Similarly, the local drug boss was also extremely worried about the fall in U.S. demand, as he felt he could lose his socio-economical power in and leverage over the region, as his role a protective “drug boss” would mean nothing if the need for heroin disappeared.

³⁸ The conversion from Mexican pesos to US dollars is here based on the 2017 average conversion rate of 18.91 pesos to the dollar

³⁹ The conversion from Mexican pesos to US dollars is here based on the 2018 average conversion rate of 19.22 pesos to the dollar

General Price Trends and the National Effect

The two case studies outlined above raise a series of important questions.

- Do Case Studies 1 and 2 reflect broader trends in the Mexican countryside? If so, where?
- Have these other regions witnessed a similar downward trend in the price paid for opium?
- Finally, what are the potential national effects of this opium crisis?



Heroin laboratory in the Sierra Madre del Sur, Guerrero © R. Le Cour Grandmaison / Noria Research

Answering some of these questions fully requires further research in Mexico. Yet, the information on prices collected from Villages A and B can be supplemented with information from informants in other key opium-producing regions of Mexico, such as the 'Golden Triangle' municipalities of Sinaloa, and the rugged Mixteca region of Oaxaca. In the Sierra de Sinaloa, there has been a very similar drop off in the price offered for a kilo of opium from around 18,000 pesos (\$950 dollars) in 2017 to between 8,000 pesos and 12,000 pesos (\$415 – 625 dollars) a kilo offered for the 2018 harvest. In Oaxaca, there has also been the same declining trend, from around 20,000 pesos (\$10,060 dollars) per kilo offered in 2017, to around 6,000 pesos (\$315 dollars) a kilo offered this year.

Together these figures suggest certain regional differences in opium prices. One might surmise that they depend on a wide variety of factors including the quality of opium, the relative bargaining power of the community, the coercive power of the controlling DTO, the competition from other

DTOs, distance from markets and supply routes, retail prices in the United States, and variance in the charges for official protection. But, they all show one very clear trend. Opium prices are on the decline and the effect is on a very large scale.

By combining UNODC estimates of opium production and the different prices offered for opium gum, we can estimate a) the amount of money that was entering the Mexican countryside from the opium trade in 2017 and b) how much this has fallen over the past year. It should be noted that these are supply side estimates and do not take into account actual levels of demand or consumption and have not been modified by estimates of crop damage or seizure or other factors that could reduce revenues.

Figure 6. Estimates of Net Value of Opium Production in Selected Mexican States

YEAR	Net Value (in billions of pesos, bdp) of opium crop (according to price from Nayarit)	Net Value of opium crop (according to price from Guerrero)	Net Value of opium crop (according to price from Oaxaca)	Net Value of opium crop (according to price from Sinaloa)	Net Value of opium crop (according to average price across four states)
2017	18.088 bdp	22.848 bdp	19.040 bdp	17.136 bdp	19.278 bdp
2018⁴⁰	8.568 bdp	4.760 bdp	5.712 bdp	9.520 bdp	7.140 bdp

Source: UNODC.

The figures then tell two stories. On the one hand, they demonstrate the sheer value of the opium crop to the very poorest regions of rural Mexico over the past few years. 774 of the 849 opium-growing municipalities have poverty levels higher than the national average. Famed opium-producing municipalities, like Badiraguato, but also less lauded centers like Villages A and B, have more than a third of the population living in extreme poverty.

The value of the opium crop in 2017 was probably around 19 billion pesos (\$1 billion dollars) – that is, significantly more than the total value of the beans (16 billion pesos, or \$846 million dollars), wheat (13 billion pesos, or \$687 million dollars), or cotton (12 billion pesos, or \$636 million dollars) then produced in Mexico. More tellingly, perhaps, the value of the opium crop in 2017 outstripped the entire value of agricultural output in 26 of Mexico’s 32 states, including Guerrero (7 billion pesos, \$370 million dollars), Oaxaca (4 billion pesos, \$212 million dollars), and Puebla (11 billion, \$582 million dollars). To put it another way, if 60% of opium is produced in Guerrero, opium production outstrips legal agricultural production there by about 2.5 billion pesos (\$132 million dollars).⁴¹

On the other hand, these figures demonstrate the radical decrease in the value of the opium crop over the past year. In 2018, Mexican opium farmers will probably make around 7 billion pesos (\$364 million dollars) or (if we take the Guerrero figures as indicative) even as little as 5 billion pesos (\$260 million dollars) from opium. Such amounts suggest a decrease of earnings in the poorest areas of Mexico of as much as 63%. As the case studies of Guerrero and Nayarit demonstrate, in municipalities where beyond subsistence farming opium has become the sole game in town, this is causing a series of very serious secondary economic effects. Many local peasants are not even making back their investment on the product; many families are losing their sole source of income; the amount of money flowing into the local economy has dried up almost completely; and many are leaving their villages for temporary agricultural work or even to work directly for the cartels.

The economic consequences of this crisis are stark and somber. Since the introduction of NAFTA, two social processes have formed a safety net for rural Mexicans. The first has been migration to the United States; the second has been the cultivation of illicit drug crops. The first is no longer an option because of the Trump administration’s clampdowns in the

⁴⁰ Using the same area of opium growing as in 2017.

⁴¹ Anuario Estadístico de la Producción Agrícola, <https://nube.siap.gob.mx/cierreagricola/>

United States, and the ever-growing costs and dangers associated with trying to cross the border illegally. The second might be about to close down. The Mexican opium crisis looks like it might ruin the poorest areas of rural Mexico for good.

From Crisis to Opportunity: A Way Out for Mexico's Opium Growers?

If the prognosis is bad, the current opium crisis may also provide an opportunity to move the poorer regions of rural Mexico away from their dependency on illegal crops, and, in so doing, wrest control of these areas from DTOs.

For Mexican farmers, the declining price of opium shifts the cost-benefit analysis of their continuing to cultivate poppies. Previously, the dangers that came with such cultivation – including jail, torture or even death – were outweighed by staggeringly high returns (of up to 20,000 pesos, or \$10,050 dollars, a kilo) on an agricultural crop that could be grown on rugged and infertile mountain terrain. However, as the price of opium in Mexico continues to slip, two ideas that have been floating around for years, but are now gaining greater political traction, appear genuine possibilities for change.

1) *Legalization and its Limits*

The first widely-touted solution to the poverty and violence bound up with Mexico's Drug War is the legalization and regulation of opium production for medicinal use. Peasants would cultivate poppies and sell their opium harvests to private pharmaceutical companies, who would then convert the opium to morphine and use it for pain relief in Mexican hospitals. The idea has been around for at least two years, when the governor of Guerrero, Héctor Astudillo, suggested the move could help the Guerrero economy and stem the violence. Since then calls for opium legalization have gathered pace.⁴² The governor has been joined by former Mexican presidents, influential Mexican think tanks, the incoming Minister of the Interior, Olga Sánchez Cordero, and even members of the Mexican military.⁴³ In August 2018 the local Guerrero congress sent an initiative to the Mexican Senate asking for legalization of growing opium for medical use be implemented.⁴⁴ As of November 2018, the proposal is being studied by bureaucrats in the various Mexican institutions.

The arguments of the pro-legalization crowd are summed up in the Guerrero Congress's bill, which claims that legalized opium would:

- Still bring in considerable amounts of money to opium-growing communities.
- Offer tax returns for the government.

⁴² Zorayda Gallegos, "México estudia legalizar el opio con fines medicos," *El País*, 12 May 2016, https://elpais.com/internacional/2016/05/11/mexico/1463003743_175243.html

⁴³ "Hasta que México no regule las drogas será imposible una pacificación del país," *El País*, 22 Jul. 2018; "El jefe del ejército mexicano cree que la legalización de la amapola ayudaría a poner fin a la violencia," *El País*, 6 Oct. 2018; Ignacio Fariza, "El expresidente Zedillo urge a México a pasar de la prohibición a la regulación de las drogas," *El País*, 25 Sept. 2018.

⁴⁴ Congreso del Estado de Guerrero, Iniciativa Con Proyecto de Decreto que Adiciona y Reforma Diversas Disposiciones de la Ley General de Salud, del Código Federal Penal, y del Código Nacional de Procedimientos Penales, 17 Aug. 2018.

- Offer legal jobs for Guerrero inhabitants in both opium farming, and possibly even in pharmaceutical manufacture.
- Provide morphine for a Mexican health infrastructure, which still imports the drug from outside and often suffers severe shortages of such legal opioids.
- Gradually diminish the influence of DTOs and, as a result, the violence endemic to the Guerrero countryside.⁴⁵

In many ways, our research is grist to this mill. The peasants now receiving pitiful returns from illegal opium growing are much more likely to turn to the safer rewards which can be drawn from the suggested legal industry. Furthermore, legalization can be done relatively cheaply, as there is now no longer the need for the government or private pharmaceutical companies to compete with the stratospheric prices traditionally paid for opium by the DTOs.

However, unlike many commentators, we do not see legalization as a silver bullet for the problems of Mexico's opium-growing regions. First, there are the legal barriers to change, both in Mexico, and in the United Nations system.⁴⁶ Therefore, there shall be no unique Mexican response to the issue. Revising international norms on legal opioid production is indispensable to a coherent, comprehensive, long-term improvement of the accessibility to efficient and controlled drugs for the population in need.

Second, the link between legalization and decreasing violence seems overly simplistic. Much of the violence in the Mexican countryside now revolves not solely around competition between traditional DTOs over drugs but rather is an extension of broader problems including judicial impunity, political competition, police corruption, kidnapping, extortion, illegal logging and mining, and unresolved blood feuds.

Third, and perhaps most interestingly from the perspective of our research, there are queries over whether legal production of opium would affect all but a small quantity of opium growing areas. Here, there seems to be considerable disagreement over the possible market for legal opioids in Mexico. More conservative commentators claim that world demand for legal opioids is relatively small and legal production is already outstripping global demand. Currently Mexico imports only 0.7 tons of morphine. This would need only 7 tons of opium to produce. Seven tons is only 0.73% of current Mexican opium production.⁴⁷ It could be grown on 321 hectares of land. It would, in short, probably not even fulfill opium production in a single Guerrero village.

Therefore, the situation opens a series of questions that remain unanswered: How would the Mexican government choose over different regions which one would "the one" to produce legal morphine? What would happen to the rest of the communities? What would be done

⁴⁵ Ibid.

⁴⁶ The three international agreement that stand in its way are the Convención Única sobre Estupefacientes 1961; Convenio sobre sustancias Sicotrópicas 1971; Convención de las Naciones Unidas contra el Tráfico Ilícito de Estupefacientes y Sustancias Sicotrópicas 1988.

⁴⁷ See Human Rights Watch. 2014. Asegurando el derecho a los cuidados paliativos en México.: <https://www.hrw.org/es/report/2014/10/28/cuidar-cuando-no-es-posible-curar/asegurando-el-derecho-los-cuidados-paliativos-en> or Ruben Aguilar, "Falta morfina en México," *El Economista*, 23 Oct. 2018, <https://www.eleconomista.com.mx/opinion/Falta-morfina-en-Mexico-20181024-0012.html>

with the remaining 99% of illegal, or legal opium production? How would the Mexican government deal with the International Narcotics Control Board (INCB) and the current legal system regulating the production of morphine? All these questions shall be addressed by further in-depth research.

Others claim that the reason that Mexico imports so little morphine is because the Mexican medical establishment – like its counterparts in most underdeveloped nations – is extremely reluctant to treat pain effectively with the use of opioids (low- and middle- income countries only have access to 9% of the world's legal morphine).⁴⁸ A recent study claims that Mexico actually requires 20 tons of morphine per year to treat sufferers of chronic pain.⁴⁹ This would require 200 tons or 21% of Mexico's current illegal opium production. It would need 9265 hectares of poppy fields to produce.

The latter argument rather presupposes that what the world needs is more rather than less legal opioid users. It seems to us that it was exactly these attitudes, pushed by large pharmaceutical companies in the United States, that got us into the situation in the first place.⁵⁰ Furthermore, the Mexican medical establishment is not necessarily prepared to prescribe and regulate these drugs. Nevertheless, it also suggests that legalization of opium for medical morphine production may not be a one-stop solution, but could at least be a start.

2) Crop Substitution

In addition to the legalization and regulation of opium production, Mexican media commentators, security experts and politicians also frequently refer to crop substitution programs as a potential “miracle” solution to Mexico's drug crisis. For example, during the series of presidential debates held in the run-up to the 2018 general election, Andrés Manuel López Obrador, now Mexico's president-elect, suggested that poppy cultivation in Guerrero could be substituted for maize, in order to provide local peasants with an “honest” way of sustaining themselves and their families, while depriving DTOs of access to the raw materials for heroin production.⁵¹

Such programs have been attempted in many nations battling illicit drug production. Nor is AMLO the first Mexican politician to suggest crop substitution as a “way out” for the nation's drug-growing peasantry. In 1978, the governor of Sinaloa, Alfonso Calderón, suggested that crop substitution could be used to offset the adverse effects of drug crop destruction during Operation Condor, which caused unemployment and a economic downturn in the mountains of the Golden Triangle, in turn pushing ‘at least 14 percent’ of local *campesinos* to resume illicit cultivation. Governor Calderón demanded government investment in mining and forestry programs in the region as alternatives to poppy cultivation, as well as the construction of ‘infrastructure that would foster development in the Sierra Madres.’ José López Portillo publically backed this idea during his presidential campaign, but after his election he refused to support crop substitution efforts in key drug-

⁴⁸ “Aceso seguro y equilibrado a los opiodes para el uso medico”

<http://www.oas.org/cicaddocs/Document.aspx?Id=4494>

⁴⁹ Ruben Aguilar, “Falta morfina en México,” *El Economista*, 23 Oct. 2018;

<https://www.eleconomista.com.mx/opinion/Falta-morfina-en-Mexico-20181024-0012.html>

⁵⁰ See Quinones, *Dreamland*.

⁵¹ <http://www.milenio.com/negocios/guerrero-sembrar-enervantes-rentable-maiz-productores>

growing regions, due to criticism that such a program would “reward” peasants for having engaging in illegal activity.⁵²

Throughout the second half of the twentieth century, Mexican federal government agencies, such as the Nacional Indigenous Institute (INI), also carried out other projects designed to encourage rural Mexico’s economic development. These were not crop substitution programmes, but more general initiatives that sought to create profitable logging and commercial crop industries in the country’s most marginalised regions (including the Sierras of Nayarit and Guerrero where the case-studies outlined above were carried out). However, the distribution of tractors, fertilizers, fruit trees and ‘improved’ seed, and the creation of communal logging, fishing and tourism cooperatives, was carried out in a top-down manner with little on-the-ground consultation with those whom such projects were designed to benefit. Most equipment and other materials soon ended up in the hands of local political bosses (in many cases the same men who today have monopolies on the most profitable aspects of drug production and processing). Thus a lack of political will to implement crop substitution programmes, and the abject failure of other state-led rural development



Sierra Madre del Sur, state of Guerrero, Mexico © R.
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initiatives, did little to improve the lives of the vast majority of the rural poor, who had little choice but to continue trying to eke out a living through subsistence farming and small-scale poppy cultivation.

In countries where crop substitution programs *have* been implemented, their success has also been limited by one simple fact: illicit drug crops tend to command a higher price, thanks to the laws of international supply and demand, than their legal alternatives. Empirical research also shows that “achieving economic viability and competitiveness poses major difficulties” for substitution programs, given that “some agronomically viable licit crops are not economically viable, while others are economically viable but not competitive with licit crops produced elsewhere or with illicit crops.”

But even if viable crops are found, and the obstacles to getting these crops to market are solved (often involving significant state investment in

transportation infrastructure and marketing), peasants across the world have remained

⁵² “Lopez Portillo Suggests Campesino Aid as Alternative to Drug Production” 18 May 1976, Central Foreign Policy Files, 1973-1979, RG59, NARA AAD; cf. “FY 1977 Narcotics Control Action Plan.” 20 August 1975, Box 20, Bureau of International Narcotics Matters, Country Files, 1970-1978, NARA-CP”

reluctant to give up the cultivation of illicit crops due to “the consistently higher prices paid for illicit crops by traffickers.”⁵³ For example, despite the Colombian government’s investment in intensive coca-substitution programmes since 2016, coca production has actually increased during the same period because “farmers say they can earn ten times more growing coca than any other crop.”⁵⁴

In Mexico, similar, market-driven failures have been observed for the past half-century. In 1993, for example, two thirds of the nation’s 12,000 hectares of opium poppy were forcibly eradicated by the army; but by 1994 the total hectareage of opium poppy had actually increased, as, “although eradication undoubtedly increases risks and costs, the proximity of the U.S. heroin market appears to have maintained profit margins and ensured continued opium production.”⁵⁵ In the last year, however, this has changed. The sudden, fentanyl-induced drop in U.S. demand for heroin means that opium poppies no longer represent a profitable business for the inhabitants of Mexico’s poorest and most peripheral regions.

This is especially true in regions such as those featured in the case studies above. Here concerns over opium prices have coalesced with environmental concerns over the decreasing fertility of their lands – in part a result of the Army’s fumigation campaigns. This has encouraged the overuse of expensive chemical fertilizers for poppy production, eating into local profits even during times of opium-induced economic bonanza, and pushing farmers towards the use of stronger and more dangerous products. Poppy cultivators in many regions are therefore being sucked into a vicious cycle of steadily increasing expenditure and decreasing profits, which, if not halted soon, may damage local lands and water supplies in ways that not only endanger public health, but also undermine the potential success of crop substitution. As one farmer in Village B explained:

‘The land is less and less fertile, so you have to use more and more chemical products, which makes the plant lose its force... And the *goma* too. Before, like... let’s say 10 years ago, more or less, you didn’t need much chemicals around here... You didn’t need to fumigate so much... Even during the rainy season, the *goma* would give you great profit... In order to produce one kilo of powder, during the rainy season, you needed like... maybe 20 kilos of *goma*, more or less... Today, for the rainy stuff, it’s more like 26, 27 kilos that you have to produce... And for the dry one, it was around 9, maybe 10 kilos... Now you have to put more than 12, 13 kilos... Everything is weaker.’

Such concerns suggest that crop substitution may provide a workable and an environmentally helpful solution to both the Mexican opium crisis and the current poverty and violence in opium growing communities.

⁵³ Graham Farrell, ‘A Global Empirical Review of Drug Crop Eradication and United Nations Crop Substitution and Alternative Development Strategies,’ *Journal of Drug Issues* (March 1998), p. 403. [DOI: 10.1177/002204269802800207]

⁵⁴ <https://www.insightcrime.org/news/analysis/colombia-new-crop-substitution-plan-facing-old-obstacles-report/>

⁵⁵ Graham Farrell, ‘A Global Empirical Review of Drug Crop Eradication and United Nations Crop Substitution and Alternative Development Strategies,’ *Journal of Drug Issues* (march 1998), p.403 [DOI: 10.1177/002204269802800207]

Conclusions

This report has examined the effects of the upsurge in U.S. fentanyl use on opium producing areas in Mexico. By using available quantitative data on Mexican opium production as well as qualitative field research from opium producing communities in Nayarit and Guerrero, this paper offers valuable insights into Mexico's illicit drug trade. In particular, this paper demonstrates the extent to which certain villages in the Golden Triangle, but also in Guerrero, Nayarit, and Oaxaca rely on opium production for survival. Since marijuana legalization started in earnest in the United States, opium has become the key crop for many farmers and sustained regional economies, religious ceremonies, and intra-community relations, while also stemming out-migration. Up to around 2017, opium growers in Mexico were earning around 20,000 pesos (\$1,050 dollars) a kilo of raw opium, and families could bring in up to 200,000 pesos (\$10,500 dollars) per year. In fact, in 2017, we estimate that the opium economy channeled around 19 billion pesos (\$1 billion dollars) to some of the poorest communities in Mexico. This is a vast amount, nearly three times the total legal agricultural output of the entire state of Guerrero.

Additionally, this paper demonstrates that, with the upsurge in fentanyl use, the demand for Mexican heroin has fallen sharply. This has had an immediate knock-on for opium producers. Farmers are now being paid around 6000 to 8000 pesos (\$315 – 415 dollars) per kilo of raw opium. The total money being paid to opium producing villages has fallen to around 7 billion pesos (\$364 million dollars). This is already starting to have effects in opium producing communities. Farmers are no longer able to make a profit from opium once fertilizers and other capital inputs have been taken into account; village economies are starting to dry up; and out migration is on the up.

These findings have important implications for public security in Mexico, as well as major ramifications for international counter-drug efforts. While the fentanyl crisis is causing an alternative “opium crisis” in rural Mexico, it also offers certain opportunities for reforms.

The two most high-profile reforms suggested so far are legalization and crop substitution. These should not be conceived of as silver bullets. Mexico's capacity for opium production greatly exceeds the country's demand for legitimate medical use, which suggests that the legalization of opium for medical use in Mexico would not provide adequate demand to offset the economic losses suffered by current producers. Likewise, the authors also demonstrate that government promotion of crop substitution would not be likely to fully make up for these losses.

Furthermore, the reduction of heroin production will not inevitably lead to a stable and lasting peace. Criminal groups in Mexico are nothing if not supple and adaptable to change. Over the past decade they have diversified widely. And in the coming years, they may continue to dominate poppy-growing regions through other industries including illegal logging, illegal mining or the production of synthetic drugs.

Yet, despite these concerns, if properly researched and managed, both policies could be introduced relatively cheaply and effectively. Initially at least, they would loosen the grip of organized crime groups on the regions and tie farmers to licit international markets.

Combined with other broader security policies, they could integrate these marginalized areas into the country for good.

- This report is a first qualitative step towards better understanding of the Mexican opium market, and the crisis currently affecting it. Yet, any political response must be based on further research and diagnosis, conducted in the most critical regions of the country. It is urgent to design policies that are based on solid, updated knowledge about local dynamics of violence in the country. The situations in Guerrero, Nayarit, or Sinaloa differ significantly from each other and require the construction of local knowledge in order to offer adequate answers to a wide array of challenges. The crisis definitely represents an opportunity for ambitious, and urgent research in Mexico.
- Mexican government officials and international aid agencies should work to strengthen programs to promote long-term crop-substitution and economic development opportunities to encourage local agricultural producers to focus on legitimate, locally sustainable crops and alternative industries.
- To do this, the Mexican government, in league with national and international actors, should rapidly commit to multiple surveys of the viability of crop substitution in one or more of these poppy-growing areas. Community input should be taken seriously and issues including sustainability, market stability, transport, and soil-, altitude, climate, and water-suitability should be taken into account. Experience and best practices coming from other countries must be taken into account, as well as a comprehensive, long-term economic development agenda.
- These surveys should lead to several trial crop substitution programmes in different areas of the country. Given the fall in opium prices, this would be reasonably inexpensive. For example, in Village A, we suggest that the replacement crop will have to generate no more than \$4 million dollars a year (or \$800 dollars per head of population) in order to supplant the economic attractions of opium growing.⁵⁶
- Recent proposals to legalize opium for the pharmaceutical industry should be considered seriously. Yet, legalization would only solve a one part of the issue, since Mexican demand for legal opioids is massively lower than the country's current illegal production. Hence, the solution must be articulated both at the national and international level, in order to tackle supply and demand simultaneously.

⁵⁶ The figure is drawn from an estimate of how much opium growing has generated on average for the past five years.