

Titling the sentenced: Armed groups in mining regions of Colombia

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Mining do not produce, it extracts, and usually that means a return almost instantaneous. This condition allows for big capital investors to build mines or exploit rivers but also that individuals, with no more capital than their tools, do the same in a smaller scale if the output can be concealed. Considering the absence of State institutions in some areas of Colombia, the high value the concerned good creates the possibility of exploiting the wealth legally (asking for government permission) or illegally (just doing it). In both cases this activity feeds an important capital flux that, under these conditions, can attract nonstate armed actors.

As seen in Sánchez de la Sierra (2020), the link between wealth extraction and armed agents can be evidenced economically through taxation mechanisms which implicitly suggest some kind of service exchange (in the case of Congo, para-State services). For the case of Colombia, can be hard to find this information as the armed-actors' activities are divers and the organization is complex. Nevertheless, a starting point would be to find some evidence that correlates the mining of easily concealed goods with the presence of armed groups.

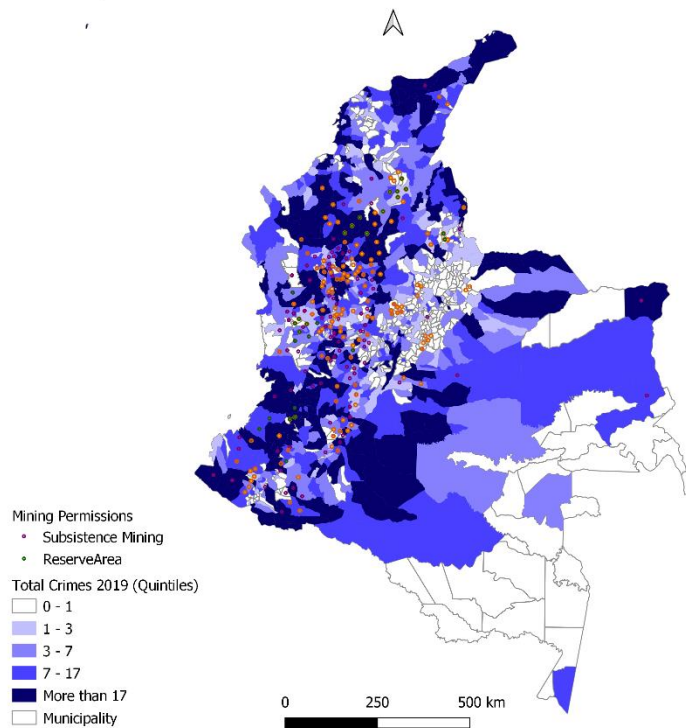
In the pursuit, it has been conducted a data base of mining with the data provided by the Registro Único de Comercialización de Minerales of the Agencia Nacional de Minería of Colombia, which enlist the current mining permissions and requests detailing the municipality and material extracted (sometimes more than one, so the titular may extract all or just one of them, that is unknow). From this data it was built a subsample of titles that includes precious metals (gold, silver and platinum), precious stones (specially emeralds, for which the country is particularly famous) and their derivatives, assuming that despite their non-purity characteristic, their values will still arrange a market for commercializing them, so *kind of* easily concealing them. Finally the contracts are distinguished by type: The **standard titles**, the ones in natural **reserve areas** -usually linked to ancient communities who mined before reservation act) and the **subsistence** titles, assigned to individuals in communities settled close to the mine. This data will be useful assuming that mining trend to happen in clusters, so currently the illegal mining would be close to legal one, and that both, legal and illegal miners, are exposed to armed groups influence.

The second data base, the crime one, includes information published by the National Police of Colombia. One may assume that the acts of Murder (excluding car-accident based ones), Terrorism, kidnapping and extortion are usually committed by crime organizations so the amount of these fact during 2019 (to compare it with current mining titles) would serve as indicator of armed groups presence. For instance, this kind of activities involve high costs, as the gun-related ones, and the requirement of high earnings in order to cover risk of being judicialized, so it can be expected they to be present in important wealth flux zones, like mining ones.

Mixing both crime data and the municipality sketch of Colombia it was possible to illustrate this continuous variable through choropleths classed by quintiles using Q-GIS software. The resulting the variety of villages included in the upper quintile (even fourth) can all considered then as "over the average" level of violence. Even when some of this cities present high crime amounts - as expected because of their population-, it can be sensible to is expected that, for small cities, differences in founding time or land characteristic prevent a strong correlation between populations count and crime amount.

Al information joint together presents most of mining titles are assigned all along the central and west mountain ranges were are also situated the higher measures of violence, converging spatially on a non-despicable quantity of cases (Figure 1).

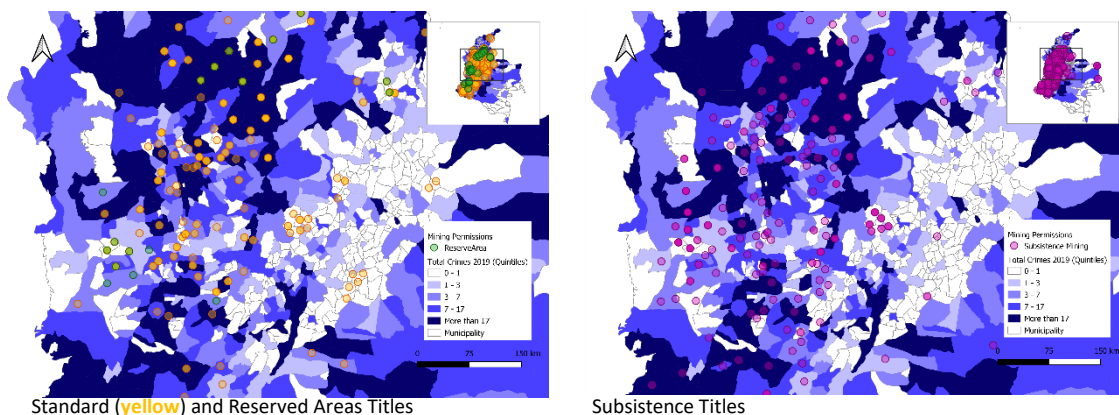
Figure 1 Kind of Easily Concealed Resources Mining Titles by Type Of Contract Vs. Municipal Crime Amount



Standard Mining Titles in **Yellow**. Data: National Police of Colombia, RUCOM-AMN.

Once the results are evaluated in detail, it can be seen that, as expected, the higher amounts of crimes are committed in municipalities where subsistence mining is present. This, along with the hypothesis proposed in which armed groups look profit mining recourses, this perhaps related to the possibility of camouflaging own illicit exploitations or of blackmailing authorized or unauthorized miners (Figure 2). Coherently, this points out that standard titles' distribution converge a bit less with high crimes amount, maybe because the legal status allows to operant in external markets or because big miners can be harder to extortionate.

Figure 2 Kind of Easily Concealed Resources Mining Titles by Type of Contract Vs. Municipal Crime Amount

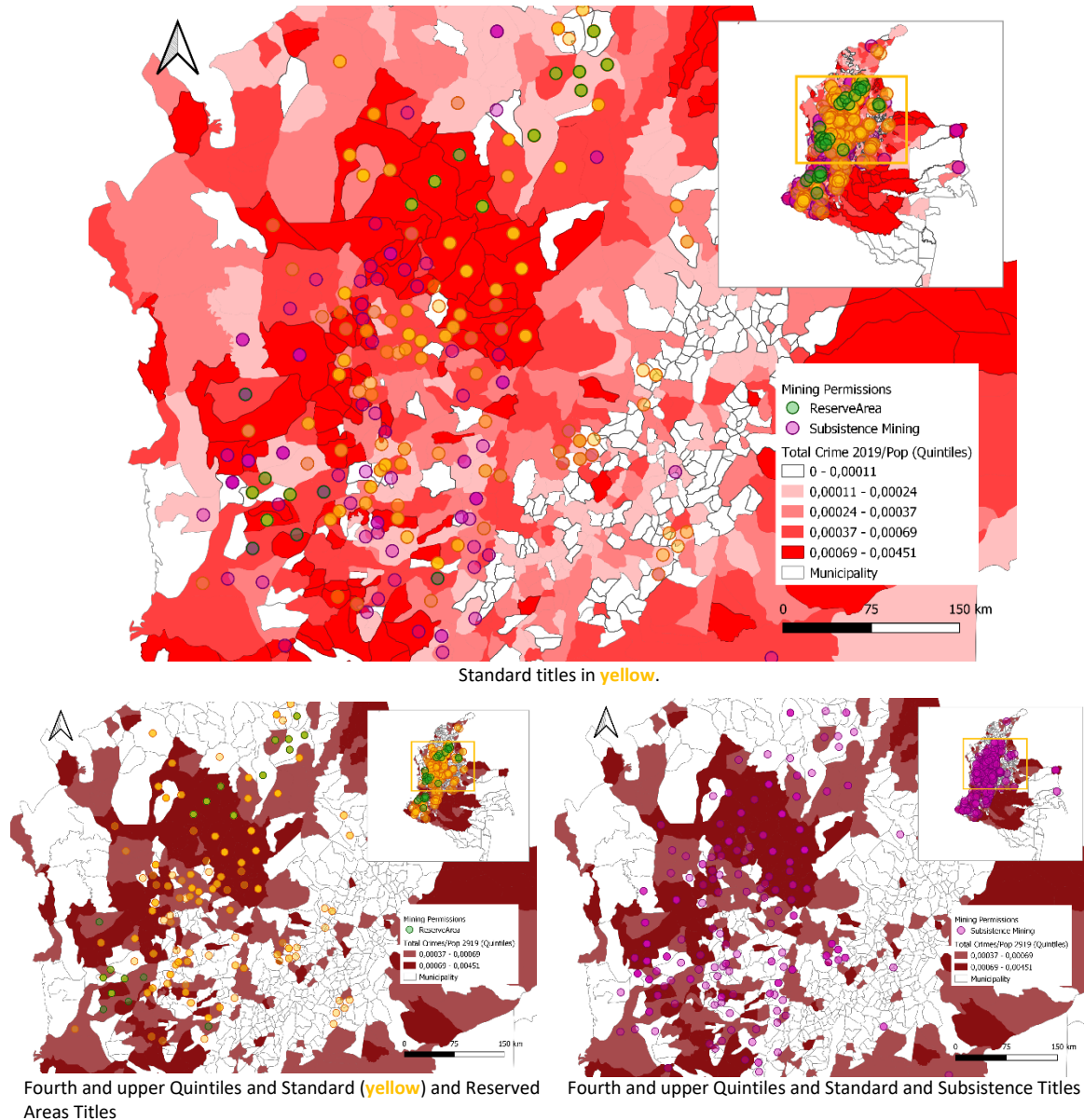


Data: National Police of Colombia, RUCOM-AMN.

Considering the assumption on the weak or null correlation between the crime commitment and the population of a municipality as a possible source of bias, it has been re-performed the comparison but considering the crime amount of each municipality per habitant. Using the Departamento Administrativo Nacional de Estadística's 2019 population projections (based on 2018 National Census), it can be calculate the

suffering of kidnaping, extortion, witnessing a terrorism act or being murdered in a year as a probability of occur, and as so, getting small and big cities comparable(Bogotá, for example, belongs no more to the fifth quintile). Graphed this, while the distribution of upper quintiles of violence keeps many concentrates in west and central range mountains, the apparent relation between the mining activities and higher violence rate, presumably performed by armed groups, seems to remain (Figure 3).

Figure 3 Kind Of Easily Concealed Resources Mining Titles By Type Of Contract Vs. Municipal Crime Amount Per Habitant



Data: National Police of Colombia, RUCOM-AMN

Even though, the evidence seems poor in comparison with what could be made with more precise information and statistic tools, it represents a starting clue for a researcher. Still far away from establishing a causal link between armed groups and mining of kind of easily concealed resources, these maps suggest a coexistence of both contexts across national territory. This, demands at least the intensive vigilance of the state in order to graphic not the order and economic development or mining regions but also the environment protection as long as illicit mining do not compensate it's ecological impact and as it would incur in non-regulated methods.

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The mentioned files can be found In the following Drive folder:

https://drive.google.com/drive/folders/1_v3ggxsxJ1qtSlu9jWlRhZvTYcspAXi?usp=sharing