

Is force eradication of coca crops effective?

The evidence says no

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In Colombia, several attempts have been made to control **coca leaf** production through **aerial eradication, manual eradication, and voluntary crop substitution**. Available results from areas throughout the country suggest that these measures have not been successful and have instead had negative effects on the population. **Rigorous studies** on the effectiveness of anti-drug policies indicate that measures that attack the strongest links in the value chain of the drug trade, such as **seizures**, have better results than eradication mechanisms. More research is needed to evaluate the impact and efficiency of **sustainable development** and state strengthening policies as these approaches seem to have a greater long-term impact and fewer negative side effects on civilian population, though requiring greater investment.

Colombian policies for coca crop elimination

The main tool to reduce coca crops in Colombia has been eradication. Colombia has mainly used 3 eradication methods: manual eradication, aerial eradication, and

voluntary crop substitution. Aerial spraying began in 1994 and its results are not yet clear (Dávalos 2016). Studies analyzing data between 1988 and 2008 concluded that spraying did not have a major impact on coca crop reduction. Other studies using data after 2000 found that spraying did reduce crops, especially after the implementation of Plan Colombia. But, even if crops decreased in places where aerial spraying took place, they soon began to grow again in other regions of the country such as the Pacific coast, which today is one of the regions of Colombia most affected by drug trafficking.

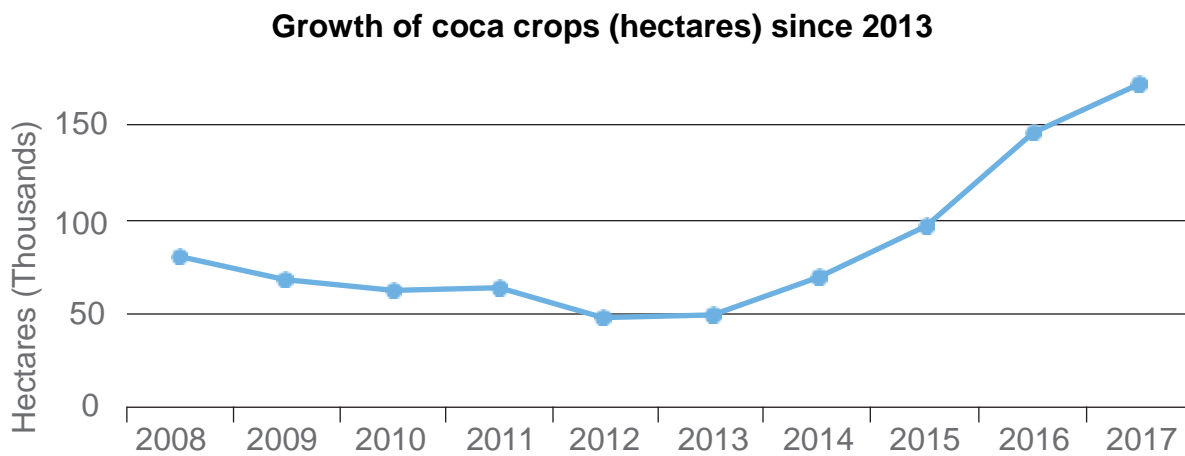
The Government of President Santos suspended aerial spraying with glyphosate in 2015, after the World Health Organization published studies that concluded that the herbicide has negative effects on animal health and could be related to cancer in humans (BBC , 2015). During the peace agreements, the Government shifted toward a policy of voluntary substitution. Today, Colombia reports 54,000 families participating in the Comprehensive National Program for the Substitution of Illicit Crops and 26,219 hectares have been eradicated (UNODC, 2018).

THE PEACE AGREEMENT

After signing the agreement with the FARC, the Colombian government faced many challenges in peace-building. Lack of infrastructure, high concentration of land ownership, and low competition in the agricultural sector make it difficult to implement a comprehensive and transformative policy. Currently, one of the biggest challenges is substitution of illegal crops.

In 2016, 68.5% of the world's coca crops were located in Colombia and in 2017 the country became the largest producer of coca leaf and cocaine. That year 171,000 hectares of coca were registered, the highest since measuring crops was initiated. In early 2018, threats from President Trump regarding Colombia's decertification in the fight against drugs added to already high national and international concern for the rapid growth of coca crops, which pressured the Colombian Government into taking that reaped only short-term results. In seeking alternatives to aerial spraying with glyphosate, the Santos Government proposed using drones and 'caterpillars' (small tractors), two innovations that aim at mitigating the loss of human lives and environmental damage, by spraying from a height similar to that of manual fumigation. Although pilot tests were initiated, their effectiveness and safety have not yet been evaluated.

The Government of President Duque has declared his decision to continue aerial spraying of herbicides using drones to control coca leaf production. According to the Government, if the drone strategy becomes a large-scale initiative, the costs of forced eradication would decrease. The pilot test cost 78 million pesos and operations are expected to cost 21 million pesos. The Government stated that manual eradication of one hectare currently costs about 6 million pesos, while eradication with drones that costs 600,000 pesos. The drones could eradicate at least 15 hectares a day.



Source: UNODC 2018

THE EVIDENCE EFFECTIVENESS OF FORCED ERADICATION

Multiple studies have questioned the effectiveness of forced eradication as a control measure for cocaine production. A study on the industry value chain, conducted by Mejía and Rico (2011), confirmed that the destruction of laboratories and seizures have been

more effective than crop eradication in the fight against drugs. The poor effectiveness of eradication is mainly due to the fact that reseeded is relatively easy and low cost. The value of coca leaf production is very small compared to the other links in the chain and replacing one planted hectare is easier than replacing seized final product. Continuing with this idea, Cote (2017) shows that seizures of intermediate products, such as coca paste, also reduce crop areas.

Mejía, Restrepo and Rozo (2015) found that the cost of eradicating a hectare of coca leaf with aerial spraying is greater than its market value.

The effect of spraying an additional hectare reduces total crop area by only 2% (for one full hectare sprayed only net 0.02% is eradicated). This small effect does not justify the enormous monetary cost and loss of human life as a result of aerial spraying.

Forced eradication also changes crop dynamics. For example, growers respond by shortening harvest times and accelerating crop growth (Manrique, 2004). These two effects mean continual, forced eradication is increasingly expensive.

Finally, forced eradication tends to move crops - as well as the presence of illegal armed actors - to other areas of the country. This is how in 2010, when the country reduced coca crops by 57%, new crops appeared in areas where coca was not traditionally planted or where crop areas were very small, such as in the states of Córdoba and Chocó (UNODC , 2018).

HEALTH EFFECTS

Exposure to glyphosate from aerial spraying campaigns on coca crops

increases the likelihood of dermatological problems and abortions (Mejía & Camacho, 2017). The United Nations Drug Observatory concludes that glyphosate exposure negatively affects animals, plants, and ecosystems, so the hypothetical risks to human health cannot be fully ruled out (UNODC, 2018). In August 2018, a United States court ruling ordered Monsanto to payout 78 million dollars, arguing that the company acted with malice in hiding the potentially carcinogenic nature of glyphosate.

Several governments are currently opposed to the use of glyphosate. France and eight additional European Union countries plan to replace the use of this herbicide within a three year period. Nicolas Hulot, France's Minister of Ecology, led the opposition against Monsanto and has called for further action to avoid more damage. Yet other European countries, including Spain, believe that the evidence is not enough to ban its use.

LOSS OF HUMAN LIVES AND DISPLACEMENT

Over the last 10 years, Colombia sacrificed hundreds of lives to forced eradication programs. A total of 197

deaths are accounted for as a result of these programs, 52 of which were civilian.

Additionally, 687 people were injured (244 civilians), and 33 individuals have been

maimed by land mines and explosives. Forced eradication also displaced populations

towards hard-to-reach areas and natural parks, deepening social conflict and tensions

between the communities and the state (Dávalos, Sanchez, & Armenteras, 2016).

ENVIRONMENTAL EFFECTS

The environmental consequences of the use of glyphosate include contamination of water sources, soil,

and crops (WHO, 2015). A United Nations study shows that eradication displaces coca

crops to new and virgin forests generating more deforestation (Ruiz & Kallis); (Dávalos,

Sanchez, & Armenteras, 2016).

ERADICATION AND GOVERNANCE

Aerial spraying negatively affects trust in state institutions.

According to Zuleta (2017), aerial

spraying with herbicides can reduce community trust in institutions and further complicate the implementation of the Peace Agreements. Felbab-Brown (2005) argues that forced eradication programs only strengthen the bonds between belligerents and local populations, and deprive the government of vital intelligence in its fight against these illegal groups. On the other hand, Rodríguez (2017) demonstrates that spraying increases child labor, school dropout, and lags in education for rural children.

ERRADICATION ALTERNATIVES

Policies implemented by the Colombian government to eradicate coca crops and substitute them have been unsuccessful. Strengthening the presence of the state and the supply of public goods and services in conjunction with the voluntary substitution are available alternatives that entail greater investment but also ensure greater long-term impact. However, studies that rigorously research its effects are still lacking.

Manual and aerial eradication have immediate effects, but they involve sacrificing long-term results and have negative effects on the most vulnerable communities (Garzón, 2018).

EFFECTIVENESS AND COSTS OF ERADICATION METHODS

	Short term effectiveness	Long term effectiveness	Costs	Collateral damage
Strengthening the State presence and offer public goods and services	Low	High	High	Low
Voluntary substitution with technical and security assistance	Low	High	High-medium	Low
Manual forced eradication	High-medium	Low	High-medium	High
Aerial eradication using drones	High	Low	High-medium	High-medium
Air eradication using light aircraft	High-medium	Low	High-medium	High

Based on Isacson (2018) and Garzón (2018)

The National Integral Substitution Program (PNIS) was implemented in 36 municipalities where 52% of coca crops reported in 2016 were concentrated. Resources were designated for farming families that upheld their substitution commitments. In December 2017, 28,660 families, 53% of the total families in the program, received an allocation of \$ 12 million; the remaining 47% is being validated.

In order for the results of a policy that uses economic incentives, such as voluntary substitution, to have long-term impact, large economic and resource investments are needed, alongside stronger state presence in areas where it has historically been absent. Dávalos (2016) shows that government policy has systematically failed to strengthen its institutions in areas controlled by illegal armed groups. Evidence of this are the 311 assassinated social leaders recorded between January 1, 2016 and July 30, 2018 in territories where illegal activities and illegal crops are deep-rooted (UNODC, 2018). This proves that the state is still very weak in these areas.

However, in municipalities where substitution began, progress is being made in improving tertiary roads and developing rapid infrastructure. In 70% of municipalities crop substitution was implemented, alongside plans for small community infrastructure . In 2016, the National Land Agency opened the “Formalize to Substitute” program that, until December 2017, reached 27 municipalities, 11 of which coincided with the Comprehensive National Substitution Program. For the first time, the Colombian State has a program that encourages formalization and access to land in areas vulnerable to the presence of illegal crops. We need to rigorously monitor these municipalities to establish the efficiency and sustainability of this approach.

Social investment in education, health and infrastructure prevents coca crops; eradication, even investment in alternative development does not reduce illicit crops (Dávalos, Sanchez, & Armenteras, 2016).

RECOMMENDATIONS

Eradication of illicit crops in Colombia has been a weak, short-term solution to a substantive problem marked by a weak, inefficient state and sometimes considered illegitimate by local populations. After years of trying to reduce coca crops, the country currently has the largest amount of land dedicated to coca crops since records began.

Empirical evidence suggests that cocaine seizures and dismantling local drug trafficking networks reduces the amount of cocaine entering the market. Additionally, these policies can also reduce illegal crops, because demand for coca leaf responds significantly to this type of intervention. Although there are still no studies that measure the impact of policy aimed at strengthening the state, especially in regard to its effectiveness and legitimacy, available literature on state-building and development suggests that this is the best alternative.

It is also essential to make the international community recognize the merit of the efforts of producing countries that do not necessarily reduce crops in the long term, but do reduce the amount of cocaine entering the market. Because the struggle of producing countries is still measured according to the total crop areas, governments have little incentive to devote resources to seizures and destroying laboratories. Moreover, international pressure pushes them towards short-term policies that are not only ineffective but can worsen the situation in the longer term. It is time to look for policies that reduce damage to vulnerable populations and can have a real long-term effect.

CESED newsletters are a tool designed to facilitate access to evidence and information resulting from research on safety and drugs in Latin America. The Center for Studies on Safety and Drugs (CESED) seeks to promote a broad and informed debate on drug and safety policies in Colombia.

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