

Cannabis plantations as an aspect of population survival and as a public policy and security issue in the northeast region of Brazil

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Abstract

Based on historical and structural data, this article aims to discuss the cultivation of cannabis as a social and political issue in Brazil. The objective was to analyze the genesis of the issue of illegal plantations, its evolution, the governmental response and its consequences for public security and agricultural policies in the São Francisco Valley region, in the Northeast of Brazil. Qualitative methodologies were used with emphasis on the descriptive analysis of the phenomenon. The result is that the state steps that affected the environment, the Brazilian drug policy, the inefficient agricultural policy for the semi-arid region and the plantation eradication measures are directly and indirectly related to the continuation of the plantations as relevant economic and criminal activities.

Key words: illicit crops, drugs, public policy, Brazil, police.

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Las plantaciones de cannabis como un aspecto de la supervivencia de la población y como cuestión de política pública y seguridad en la región Noroeste de Brasil

Resumen

El presente artículo pretende discutir, sobre la base de datos históricos y estructurales, el cultivo de cannabis como una cuestión social y política en Brasil. El objetivo fue analizar la génesis de la cuestión de las plantaciones ilegales, su evolución, la respuesta gubernamental y sus consecuencias para la seguridad pública y las políticas agrícolas en la región del Valle de São Francisco, en el noreste de Brasil. Se utilizaron metodologías cualitativas con énfasis en el análisis descriptivo del fenómeno. El resultado es que las medidas estatales que afectaron el medio ambiente, la política de drogas brasileña, la política agrícola ineficiente para la región semiárida y las medidas de erradicación de plantaciones, están relacionadas directa e indirectamente con la continuación de las plantaciones como actividades económicas y delictivas relevantes.

Palabras clave: cultivos ilícitos, drogas, políticas públicas, Brasil, policía.

Introduction

Drugs are a highly contentious issue in Brazil. Over recent decades, the greater organization of gangs involved in the illegal drug trade in large and medium sized Brazilian cities has negatively affected the day-to-day life of their inhabitants. A significant part of the male prison population is carrying out sentences for criminal convictions related to Drug Laws and the majority of the female prison population is incarcerated for the sale of proscribed drugs (Fraga, Silva & Martins, 2017). There is a connection in specific Brazilian cities, between increases in the illegal drug trade and a higher homicide rate, given that the sale of illegal psychoactive substances in Brazilian cities is marked by violence stemming from conflicts between gangs and confrontations between police and traffickers (Ribeiro & Cano, 2016).

Brazilian urban territories are experiencing the consequences of a model of combatting drug trafficking which has as one of its main strategies direct confrontation in densely populated areas (Alvarez, Fraga & Campos, 2017). The populations of *favelas* and lower class neighborhoods particularly, suffer from constant conflicts fought using weapons with significant destructive potential, such as machine guns and submachine guns, both of the police and drug traffickers. The continuation of these conflicts leads to these urban populations being held hostage by public policy and criminal actions that, not uncommonly, violate human rights, involving the invasion of property, summary execution of individuals and abuses of authority (Misse, 2007).

The urban drug trade, characterized by violence in the way it is run and how it is dealt with in many Brazilian cities, mobilizes both public and private agents. In Rio de Janeiro, a public security intervention by the federal government, which mobilized the armed forces, has realized actions in *favelas* with reports of abuses leading to the death of individuals unrelated to the local drug trade. Not without reason, this situation constantly brings the issue of drugs in Brazil to the fore, focused on the urban context and on the sale of drugs such as cocaine, marijuana and crack.

Although Brazil does not stand out in the regional or global context as a major cannabis producing country, it produces a significant marijuana crop. Brazilian production however, is not exported as it is consumed locally. Nevertheless, most of the marijuana consumed recreationally in Brazil comes from Paraguay. At the same time, the Brazilian region where cannabis is mainly cultivated is one of the poorest.

Having made these initial observations, the objective of the present article is to discuss the question of cannabis cultivation in Brazil, the actors involved, its increase over recent decades and, notably, to analyze the role that the Brazilian state plays. The article focuses on the emergence of the issue of illegal plantations, their evolution and the governmental responses and their consequences for public security and agricultural policies in the São Francisco Valley region in the Brazilian Northeast.

In this text, we will defend the thesis that the Brazilian state action in the mere repression without counterparts of alternative development, whether in the construction of hydroelectric dams that displaced a significant population contingent produces social inequalities and maintains the illegal production of cannabis in the interior of the Northeast region at stable levels.

Methodology

This article is based on reflections emerging from data and information of two research projects financed by the Conselho Nacional de Pesquisa (CNPq) and the Fundação de Apoio à Pesquisa de Minas Gerais (FAPEMIG). In these studies, a number of methodologies of a comprehensive character were applied, involving the consultation of official documents of Federal Government agencies such as the Federal Police, related to the objectives of operations for repression of illegal cannabis plantations and interviews with police agents and officers. These studies sought to determine what the strategies implemented by the federal Police for combatting illegal plantations were.

In this article, content analysis was used as the analysis methodology. This analysis was carried out based on documents made available by the Federal Police found on its website, in criminal proceedings on cannabis planting between the 1980s and 1990s found in the Cabrobo and Santa Maria da Boa Vista counties. Thirty court cases were analyzed between 1990 to 2019. And three police officers involved in eradication actions and the chief of police of the Federal Police were interviewed.

Historical origins of marijuana use and cannabis planting in Brazil

Reports of cannabis cultivation in Brazil date from the 18th century with its consumption for recreational purposes during this period being more widespread amongst men and women brought by force under slavery during the colonial period. Its cultivation was undertaken in areas near to *senzalas* (living quarters of enslaved people) (Lucena, 1934).

Studies indicate that the plant was not native to any of the six large biomes present in the Brazilian territories (Carlini, 2006; Dias, 1945). The most accepted version is that it was introduced into the country from seeds brought from the African continent by enslaved peoples and by Portuguese colonizers who planned to cultivate hemp for textile production (from the mid-18th to the early 19th centuries) in an attempt to reduce hemp importations from Portugal (Clarke & Merlin, 2013; Menz, 2005) or as an effort by the Portuguese crown to consolidate the population growth of its colony (Bento, 1992).

In the 18th century, the Portuguese crown itself, began to encourage the plant's cultivation. In a letter addressed to the General-Captain and Governor of the Captaincy of São Paulo, the Viceroy of Portugal made know the shipment of sixteen sacks of hemp seeds to the Port of Santos to be cultivated in Brazilian territory, since this agricultural crop was of interest to the Crown (Carline, 2006). There are also reports of successful tests of the cultivation of the plant for textiles purposes in Santa Catarina and in the Rio Grande do Sul, during the colonial era (Brandão, 2014).

However, there are no records of the success of this undertaking and hemp did not become an important commercial product during the period of the Brazilian colony, nor are there any historical reports of its having become an important crop more generally (Brandão, 2014).

Cannabis was not then an important crop, even if marijuana consumption by enslaved peoples was tolerated if not actually encouraged as a way to avoid conflict and insubordination (Freyre, 1985; Pernambucano, 1937). Consequently, it was not uncommon to find small cannabis crops near traditional crops such as sugar cane during the colonial and imperial periods in Brazil (Freyre, 1985).

At the beginning of the 20th century, in the most widely circulating newspapers in cities such as São Luiz, Rio de Janeiro and São Paulo, it was possible to observe stories in which *diamba* was a subject of concern on the part of public health and judicial authorities, or the target of greater repression by police (Fraga, 2017).

The connection of marijuana with stigmatized groups such as freed peoples, descendants of enslaved individuals and *capoeiristas*¹, and the concern about its influence on criminal activities or its impact on the effective performance of rural or urban laborers led to the greater repression of its use, production and cultivation and the creation of laws that restricted these practices (Fraga & Silva, 2017). During this period, attempts to eradicate and prohibit marijuana were no more than racist persecution (MacRae, 2016).

According to Saad (2013), professionals in the emerging field of Legal Medicine in Brazil, amongst whom Rodrigues Dória stands out, inspired by theories of scientific

¹ *Capoeira* is a style of martial arts that emerged within the context of colonial slavery in Brazil, practiced by enslaved Africans. The practitioners of this martial art are known as *capoeiristas*.

racism or “racialism”, as well as biological determinism, promoted the association between the poor, the descendants of enslaved peoples, and marijuana, thereby suggesting a direct relationship between crime and the poor. This discourse became widespread amongst medical and police authorities and remains up to the present day (SAAD, 2013). The medical discourse at the start of the 20th century had a strong influence such that the process of criminalization of marijuana in Brazil was marked by racism, based on the idea that its consumption represented a threat to modernity, progress and Brazil’s development.

Cannabis planting in the São Francisco Valley: history, actors and state actions

The São Francisco River played an important role in the settlement and control of the country’s interior. Boats that functioned in the trade between the semiarid and coastal Brazilian regions navigated its waters. Additionally, it connects the northeastern *Sertão* with the southeast, the richest region of the country. Burton (1977) a pioneering researcher who, in the 19th century, carried out studies of the river and participated in exploratory expeditions, analyzed its role as a communication and trade route for the economically more developed regions with the poorer regions of Brazil. According to Burton, the river played a decisive role in avoiding product and food scarcity, guaranteeing the movement of the surplus from the productive, central regions, notably during the long periods of drought characteristic of the region, which affected the fragile productive agricultural infrastructure.

The middle and lower middle Sao Francisco regions are among the poorest in Brazil, where, due to long droughts, small-scale farmers find difficulties in cultivating traditional (Villa, 2001). Farming products such as cotton and onion, and family farming survives with immense difficulties. This region is also the largest producer of cannabis in Brazil, harbouring constantly expanding production in the past years. Historically, the town called Vale do Sao Francisco developed slowly thanks to extensive cattlebreeding, which is essential for sugar-cane cultivation, a basic genre in the global market mainly after the 16th century (Camelo Filho, 2005). Sugar was an important agricultural product in colonial Brazil and was one of the first monoculture activities that characterized Brazilian agriculture for centuries. The Sao Francisco River played an essential role in the development of this town and the control of interior regions, as vessels sailed down its waters enabling trade between the semiarid regions and coastal regions of Brazil, in addition to narrowing the distance between the north-eastern sertao (backcountry) and the richer South-

eastern region. In the 19th century, Burton (1977), a pioneering researcher, conducted studies on the river and participated in exploration expeditions. He analysed its role as a communications and trade channel between economically developed regions and the poorer regions. According to Burton, the river prevented product and food scarcity, assuring transportation of surpluses from productive and central regions, namely during long characteristically dry weather periods that affect the fragile productive farming structure. Burton (1977) was also a pioneer in identifying adequate conditions along the margins of the Sao Francisco River for the cultivation of cannabis. The British explorer, however, referred to the possibility of crops for fabric production from hemp fibres, which was valued by the market and widely adopted at the time.

Only in the post Second World War period did significant changes come about, in the sense of promoting government interventions, through measures and programs seeking to integrate the north and south of the country, and to improve use of the river water as resource (Iulianelli, 2006). To this end, two measures were prioritized by the governments: hydroelectric dam construction at specific points along the river for energy generation and irrigated farming, along the lines of an agribusiness model.

According to Fraga and Iulianelli (2011), the increase in cannabis planting in the São Francisco Valley Region is directly related to structural changes that have occurred in the region in the last four decades, such as the construction of hydroelectric plants that displaced human populations in cities that were flooded and, previously, disputes between family groups that already existed and were moved to marijuana plantations. Added to these two factors are the difficulties of surviving in a semi-arid region. Information contained in documents such as the CPI Report on Narcotrafficking of the Legislative Assembly of the State of Pernambuco (2000), these disputes migrated to the struggle to control the illegal planting business.

The region was the target of governmental interventions in an attempt to exploit the São Francisco River through the construction of hydroelectric infrastructure at specific points along the river for energy generation. Three dams were constructed: Xingó, Paulo Afonso and Itaparica in the 1980s, that decisively affected the region (Iulianelli, 2006). Numerous cities were submerged, which led to significant population displacements and the consequent movement of the struggle of rural workers, unhappy about only receiving monetary compensation, but without adequate public resettlement policies for the affected population (Iulianelli, 2006).

The São Francisco Valley, despite its potential and the numerous proposals for investment that the Brazilian state has proposed, presents cities with average to low human development indices and chronically poor economic indicators (Camelo Filho, 2005). The region was notably the scene, at the start of the 20th century, of numerous social conflicts. Battles between landholders and indigenous populations, quilombolas, and small-scale farmers took place, involving the use of private militias leading to family feuds and deaths quads which, in some cities, persist until the present day. These disputes were and are responsible for increases in levels of violence in the region. These battles provided the historical background for the emergence of the so-called “colonels”, individuals who hold local political and economic power, with an ability to command and determine the law and order in their cities and surrounding areas (Fraga, 2006).

On the other hand, large scale agriculture of tropical fruits, which receives government subsidies, developed with irrigated farming, and wine production that emerged in some municipalities of the region, presented a modern form of mechanized production, which saves on the use of labor force, but which does not act therefore, as a significant employment alternative.

The cannabis produced in the São Francisco Valley is destined for the domestic market. Information provided by ex-farmers and the Federal Police indicates that the production of the Lower São Francisco is destined for the consumer market in the northeastern region itself. The emergence of large consumer markets in the southeastern and southern states closer to productive regions in Paraguay, which led to the concomitant establishment of a well-organized distribution network for cannabis of better commercial value, channeled the cannabis production from the lower São Francisco toward the main northeastern capitals.

Therefore, the cannabis production from this region is not destined for Brazil’s main consumer markets such as Rio de Janeiro and São Paulo, whose demands are met by the cannabis coming from Paraguay, which supplies the majority of the domestic market. Over the last five years, the cannabis produced in Paraguay, which up until then was not found in capitals of the northeastern states, which were normally supplied by cannabis from the São Francisco Valley, also reached this region of the domestic market.

Rural workers and involvement in illegal planting: survival strategies and state omission

In 1986, after years of struggle, rural workers managed to be resettled on irrigated land for 6,000 families. However, despite all the struggle and conquests, throughout recent decades, really effective programs to finance family agriculture have not been rolled out, which would be a fundamental step, not only to establish people in the region, but also, to guarantee the production of traditional crops such as onion and cotton.

Regardless, projects initially proposed for rural workers to be able to access land in the São Francisco Valley, such as the creation of the Program for Rural Valorization (PRONAF), were insufficient to alter the situation in terms of the technical difficulties and for assistance to small landholders (Belik, 2011). As Tonneau, Aquino and Teixeira (2005) showed, the implementation and functioning of the Program, led to an exclusion of poorer family farmers, mainly, those established in the Brazilian Northeast.

Therefore, the coexistence of irrigated and unirrigated areas stimulated the growth of cannabis cultivation during the cotton crisis of the 1980s. The appropriation of irrigated areas occurred however, in the context of the construction of the Itaparica Hydroelectric dam, one of the main drivers of the spread of cannabis cultivation in the caatinga and along the riverbanks (Bicalho, 1995). In the municipalities affected by the flood waters provoked by the dams, the areas dedicated to irrigation were scarce and the return to dry farming, previously widespread, did not appear to be a viable solution, due to presenting low levels of productivity (Bicalho, 1995; Iulianeli, 2006; Fraga, 2016).

Therefore, although a significant majority of rural workers are not involved with illegal cannabis cultivation, it presents itself as an alternative source of income for many. Illegal cannabis plantations in the São Francisco Valley present difficulties similar to those observed by researchers who undertook studies in other countries for the survival of populations being areas with few subsidies or poor conditions to undertake legal farming (Laniel, 2001; Labrousse, 2004). The impact of scarce resources on the illicit drug economy can be understood to be there's cult of the legal production that at certain times, does not manage to assimilate rural workers into the legal jobs market, and at others, expels them from legal cultivation (Afsahi, 2017).

In these contexts, cannabis appears as a compensatory crop in regions largely dedicated to income crops for exportation, and in zones subjected to ecological degradation and to a reduction of arable land (Laniel & Perez, 2004; Afsahi, 2015). The cultivation period for cannabis in these locations, varies, generally from three to six months. Therefore, it is typically a short cycle crop that provides a quick return on investment, in addition to being a more attractive product on the market. In this respect, farming in Brazil is like situations observed in other countries.

In the São Francisco Valley, despite reports of the existence of the plant since the 19th century (Burton, 1977) and of established recreational use within the local context (Pierson, 1972), the increase of this illicit productive activity can be attributed to numerous factors. As we have previously indicated, the majority of these are associated with governmental action or omission, but not connected to traditional or religious uses of the plant. Firstly, starting from the 1970s, there was an intensification in the demand in the domestic marijuana market in Brazil. Therefore, the region, where small scale production from the start of the 20th century (Pernambucano, 1937) destined for an emerging market was already present, expanded production, intensifying in the 1980s. Additionally, the displacement of people due to the construction of dams on the São Francisco River, which hampered farmers still further, generated an available pool of labor for this type of activity. Further, the emergence of local gangs that managed to organize production on a larger scale and distribute the product in a more effective manner, was also a fundamental factor.

The displacement of populations had another negative effect on family farming: the emergence of a new generation of farmers who grew up without contact with agricultural labor. Paradoxically, many youths had their first contact with farming through cannabis production. Finally, government investment for the development of the region privileged the farming industry to the detriment of family farming. The northeastern region of Brazil concentrates 70% of family agriculture, but only receives 30% of the resources from the National Support Program for Family Agriculture (PRONAF) (Fraga, 2015; Fraga, Silva & Martins, 2017). Therefore, governmental measures and policies have played a significant role in maintaining the conditions and elements of cannabis farming in the region.

Over recent decades, therefore, the difficulties for survival in a semiarid region together with a lack of public policy for rural workers and family agriculture, which could represent a real possibility for improvement to their quality of life,

has shaped the structure of illicit plantations in the region. In addition to these factors, infrastructure works that provoked mass displacement, repressive policies for plantations that presented no real alternatives for illicit farming, be it through measures to substitute plantations or through the creation of areas for alternative developments, together with investments in the farming industry that built high way infrastructure allowing the distribution of the marijuana produced, generated the conditions for the consolidation of the Marijuana Polygon, the pejorative name given to the region (Iulianelli, 2006). Additionally, demand for marijuana and the existence of organized crime that migrated to this type of activity also served to reinforce this outcome.

In this manner, a percentage of rural workers were compelled to become involved in illicit cultivation. The introduction of rural workers into this environment took place in diverse ways. As such, during the 1980s and 1990s, greater organization for larger scale cultivation took place in the São Francisco Valley. New interactions and relations were established, with new actors emerging, which transformed the landscape and context of the *caatinga*. During this period, illicit networks were established that allowed the expansion and stabilization of the business model that would be intensified at the end of the 1980s, and, mainly, during the 1990s. These networks have been maintained up until the present day, despite changes and redefinitions of roles and actors.

The consolidation and organization of local criminal networks, in addition to other factors, made possible the migration of determined family struggles and conflicts for political control and local power, and for the domination of the illicit activity that had started to generate profit and wealth. The involvement of specific families in other illegal businesses such as clandestine mining, political crimes, assassinations, corruption involving public money and other infractions related to local power dynamics, was another important factor for the establishment of criminal networks for the distribution of cannabis production.

The forms of involvement of rural workers with cannabis cultivation varies. Often, there is an invitation from someone already engaged in illegal cultivation. However, it is not uncommon for the farmers to seek entry into production, contacting individuals active in the criminal network. Many farmers recognize that, despite the dangers presented by placing themselves in such a risky environment, cannabis farming will give them returns that no other agricultural activity can provide (Fraga, 2015).

Over the decades during which cultivation has established itself more decisively, the relation of these actors to production has shaped itself in terms of repressive measures. If up until the 1980s, it was not difficult to find plantations near to the main highways or in areas of land of which the farmers themselves were owners, starting from the second half of the 1990s and in the 2000s, new strategies for situating plantations were adopted (Fraga, 2014). These sites were generally on islands that formed in the São Francisco River, notably in the municipalities of Orocó and Cabrobó, or in areas belonging to the state, such as in the *caatinga*, where camps for cultivation were set up. In these locations, generally far from cities, farmers remain for four months, the period that goes from the start of planting until harvesting. Under these conditions, the worker receives a wage or works as a *meieiro*, that is, provides the labor and subsequently divides the profits from the sales with the individual who contracted them. Logically, everything invested in seeds, food and camp infrastructure is discounted and the farmers have no control over the sale price.

Another form of entry into production is through family agriculture. In this case, the whole family is involved and at the end of the harvest, the product is sold. Generally, due to questions of security, and to avoid capture, the location of the plantation is situated outside their property on land where the landowner is unknown. Women have an important role in cultivation, separating the male plants from the female ones. With the increase of repression in recent years, their participation in the system of family agriculture throughout marijuana production in the region has increased. More recently, there have been changes in terms of the acceleration of the cultivation cycle and increased productivity using pesticides. Therefore, productivity increased without there being a commensurate expansion in cultivated area in the São Francisco Valley region. These changes, which need to be further investigated, are connected to forms of resistance to repressive measures on the part of groups and actors (Fraga, Silva & Martins, 2017).

A police chief said that actuality in the operations, the camps that were common until the 2000s are no longer found, since, according to his assessment, there were changes in the rules and in the management of the plantations.

Today, when we arrive at the marijuana plantation, there is no longer any camp where the planter stayed for ninety days, eighty-five days. We don't find that anymore. Today, he goes every day to water the plantation and leaves. We have observed this. The truth is that we have met few people in

the marijuana field. Because? As we use a helicopter, the noise is deafening. So, when people hear the noise of the aircraft, they escape from the place, hide, enter the river, it is, in some hole, anyway. But sometimes we are lucky to be able to arrest people inside the pot plantation. Last year, we entered a farm in the municipality of Inajá. When we arrived at five in the morning, we entered the plantation and found two men sleeping in a tent. A camping tent. It was not an old tent, the old ones that you could see on canvas. Camping tent. And there were several bottles of cachaça inside, that is, they were still drunk. (Police chief, 38 years old, July 2017)

The repression strategies of Brazilian governments: from 1940 to the present day

Starting from the second half of the 19th century, national and municipal laws such as the Penal Code of 1940 and the Law of 1971 were enacted seeking to combat cannabis cultivation, production, and use (Fraga & Silva, 2017). These laws, despite recognizing the activities of sale and cultivation of certain plants with psychoactive properties as distinct initiatives, treated them with the same penal typology.

Therefore, in the 1940s, federal and state governments, mainly in the Brazilian northeast, had already mobilized agents and undertaken studies seeking to reduce cannabis production and use. While still only presenting low levels, it was already a concern for authorities, being viewed as a sanitation and public health concern but as requiring repressive measures (Fraga & Silva, 2017). In 1946, the official report of the Commission of States of the Brazilian Northeast, recognized the lower São Francisco region, in the states of Sergipe and Alagoas, as one of the largest cannabis producing regions in Brazil, together with Maranhão and Pará States (Fraga & Silva, 2018).

The report also outlined specific measures that needed to be taken by police and other governmental agencies, with an emphasis on the destruction of marijuana plantations, the restriction of production to medical and industrial purposes, and the establishment of a limited number of plantations under the oversight of the State Commission for Regulation of Narcotics (CEFE), to study marijuana from a clinical, pharmacological, psychological, and sociological perspective.

The following year, the National Commission of Regulation of Narcotics (CNFE) established norms to be followed by all the federal units in relation to the destruction of cannabis plants (Pernambucano, 1937). Despite the efforts of the CNFE, the eradication measures for plantations were limited, only being carried out on

smaller plantations. Additionally, during this period, the preoccupations that drove the eradication measures were less the criminal aspect and more related to health concerns (Fraga & Silva, 2017), with the eradication of plantations being coordinated by the Ministry of Agriculture and conducted by the police.

In the 1970s, within the context of growing consumption by the middle classes and the counterculture movement (Misse, 2007), there was a significant increase in the frequency of eradications, however still at the scale of small interventions (Henman, 1986). The issue started to receive a more punitive response, in the sense of a criminalization of practices, typical of the Military Dictatorship established in the country in 1964. During this period, the eradication of plantations was coordinated by the Federal Police. However, in the 1980s, increased cannabis production, especially in the region of the São Francisco River, led to an intensification of these eradication measures as well as an increase in the number of plants destroyed. The actions became more frequent but remained relatively unsystematic. If the Federal Police acted in an unsystematic manner in the 1970s, reacting to reports by arresting people who were involved in marijuana production, subsequently, these actions were intensified (Fraga & Silva, 2017). In comparison with the prior decade, the number of plants eradicated or seized, and the quantities of processed marijuana ready for sale that were seized, increased. In the 1980s, despite the end of the authoritarian regime, there were no significant changes in the *modus operandi* of the Federal Police in terms of operations for eradicating plantations or of the repression that continued to present initiatives that contravened due legal process.

Many of these actions, be they in the 1970s or 80s, showed signs of serious legal and human rights violations (Henman, 1986). A study conducted in cases of individuals accused of involvement in cannabis cultivation in two counties of the São Francisco Valley Region, between 1974 and 1985, showed that around 20% of cases presented some irregularity such as illiterate individuals who signed confessions, preventative detention without legal grounds, and allegations of confessions obtained under torture, amongst other violations (Fraga, 2016).

The 1990s were decisive for the implementation of a more systematic eradication strategy for illegal plantations in the São Francisco Valley, in the Brazilian Northeast. This region consolidated itself as the main producer of cannabis in Brazil, overtaking other areas which, in prior decades, also stood out as producing regions, such as the states of Maranhão and Pará (Fraga, 2006).

During this period, certain conditions contributed to the greater attention of the Brazilian authorities in intensifying the eradication of plantations and the efforts to uncover gangs that organized around this illegal activity. These included: intensification of violence reflected in increased homicide rates in cities of the region, a higher number of robberies on the highways, and increased cannabis production that involved the participation of local groups, which competed for production and distribution in consumer markets (Iulianelli, 2006).

Operation Mandacaru, in 1999, was a benchmark for the repression of illegal cannabis plantations in Brazil. It was an intervention coordinated by the then recently created National Anti-Drug Secretary (SENAD) that lasted 53 days, being considered the longest operation up until that time, for the repression of illegal plantations in Brazil. It was a spectacular initiative, which mobilized around 1,500 agents from various Federal Government agencies: costing a huge sum, around 3.8 million dollars (Fraga & Silva, 2017). The action led to conflict between the SENAD and the Federal Police, which always headed up eradication operations and which resented not having coordinated this important operation. The SENAD was created by the government of Fernando Henrique Cardoso in the context of the country's adherence to the Guiding Principles for the Reduction of Demand for Drugs (Garcia, Leal & Abreu, 2008). However, over time, it lost its policing role, concentrating more on general drug policy issues.

During the 1990s, plantation eradication measures were more systematic, occurring two to three times a year in the cities where the plantations were most common such as Orocó, Cabrobó, Santa Maria da Boa Vista and Belém do São Francisco. The Federal Police obtained new planes for surveillance, facilitating movement above the *caatinga*, a type of vegetation that hampers mobility, in addition to using satellite imaging that allowed the localization of plantations (Fraga, 2015).

Starting from the 1990s, the strategy of plantation eradication operations was to carry out actions in periods near to harvest times, seeking to generate liabilities for those who financed cultivation, interfering with the harvesting and distribution of the product and consequently, preventing profit or, at least, the recouping of the investment, due to being unable to harvest or distribute the product.

The development of this illegal productive activity can be attributed to diverse factors. The Brazilian government primarily invested in combatting the problem, with police measures of plantation eradication and imprisonment of those involved, mainly those at the lower levels of the production chain. Important initiatives such as incentives to produce other legal agricultural crops, land appropriation programs for agricultural reform, and principally, targeted financing for small farmers in the region, were not implemented. Another important factor is the tendency of this type of criminal activity to migrate to other regions or locations where it was not established, reorganizing itself while maintaining its characteristics and supplying the previously established market and, not uncommonly, taking over new areas. Over the last five years, plantations of significant size have been found in locations and states outside the region, such as Piauí and Pará and in cities such as Uruçuca in southern Bahia. The most accepted hypothesis for the emergence of these plantations in other locations is that gangs migrate to areas with less monitoring and come into contact with local groups.

In the 2000s and 2010s, tens of operations were carried out, always under the auspices of the Federal Police, frequently in conjunction with the state police of Bahia and Pernambuco. The operations, which varied on average from between 2 to 3 years, in the São Francisco Valley Region followed the same pattern of location and destruction. However, the repressive measures were unable to put an end to cannabis cultivation. According to the data shown in Table 1, during 13 years of action between 2005 and 2017, the number of marijuana plants eradicated did not change. There were only reductions in terms of the annual figures prior to 2002 (Table 1).

Table 1. Cannabis plants destroyed in enforced eradication by Federal Police operations (2005-2017)

Year	Number of enforced eradication operations	(cannabis plants million)
2005	2	1,822
2006	3	2,095
2007	1	0,131
2008	3	2,131
2009	4	1,652
2010	4	1,026
2011	3	0,847
2012	3	0,537
2013	3	0,719
2014	2	1,080
2015	3	0,806
2016	2	0,359
2017	4	1,800

Source: Federal Police Operations.

Another finding of interest is the ever-smaller number of people arrested in these operations. From 1990 to 2000, the number of people arrested was much higher. In Operation Mandacaru alone, in the 1990s, 200 people directly and indirectly involved in cultivation were arrested. More recently, in research undertaken into illicit cultivation in the counties of Belém do São Francisco and Orocó, a significant number of police investigations in which the Federal Police solicited the dismissal of the case due to crime without responsible parties was observed. This expression designates crimes in which it is impossible to identify the responsible parties (Fraga, 2016). This may indicate that the actors involved had prior warning which allowed them to flee the location prior to the arrival of the police.

Therefore, despite all the repressive efforts of the Brazilian Government in various plantation eradication operations over recent decades, including the establishment of a specific Federal Police station in the region, seeking to improve the repressive apparatus, and despite the arrests realized over two decades of people involved

in cultivation, production in the São Francisco Valley continues to be significant. The eradication of cannabis plants has not been, therefore, sufficient to eliminate these types of plantation.

An interviewed police officer said that although the size of the plantations has decreased, productivity has increased.

Policeman — Few crops are found today on the continent. Most are on the islands of the São Francisco River. So yeah, basically that. And another interesting thing is that, the gardens have decreased in size. Planters prefer to grow a small garden here, plant a smaller one there. It is difficult to find a plantation of forty thousand plants. What we, the Federal Police, already consider a large plantation, currently. This year we managed to get only one large garden, with more than forty thousand plants. You asked me how this calculation is done. What happens? Usually in each pit, we call it a pit, they plant 3 to 4 marijuana plants, you know. In the past we used to do the following calculation, each 3 feet of marijuana yielded 1 kilogram of marijuana. Today each foot yields 700 grams. Now, then, the size of the plant has increased a lot. And why did the size of the plant increase so much? Because they are using follicular stimulants, fertilizers. So today, from each pit, you can take about 3 kilograms of marijuana, 2 and a half to 3 kilograms of marijuana.

Interviewer — In other words, it has increased productivity, isn't it?

Policeman — Exactly. So they reduced the number of plantations, but the productivity is either the same or perhaps increased. So the bill is more or less this. (Policeman, 35 years old, September 2017)

The eradication measures in the São Francisco Valley are realized manually. However, as other authors observed in particular contexts (Youngers & Rosin, 2005; Maldonado, 2009) eradication measures in Brazil were found to lead to outcomes contrary to their aims. Instead, they expanded illegal plantations to areas where their presence had not been observed previously, absorbing more people and new actors into these illicit practices and intensifying activity in areas where cultivation was already present, with new productive cycles after a hiatus of unproductive periods. Even the policies of substitution of plantations were found to be ineffective, with a portion of the farmers who opted for this alternative returning to illegal cultivation, due to legal crops being uncompetitive on the market and due to projects that failed to follow through on all of the promised initiatives (Maldonado, 2015).

Illegal plantations in the São Francisco Valley: public actions as factors configuring the “Marijuana Polygon”

The Brazilian government’s repressive strategies and the interest groups behind the criminal activities, conceal profound questions regarding the growth of cannabis cultivation in the São Francisco Valley region, that require evaluation. The region presents problems for agricultural development, given the semiarid climate. Due to long drought periods, small farmers encounter difficulties for the cultivation of traditional agricultural crops, such as cotton and onions and family agriculture survives only with great difficulty (Fraga, 2006).

Illicit cultivation in Brazil, which has gained force starting from the 1980s, has a clear relation to government measures. Unwilling to prioritize the development of the Brazilian semiarid region as an important step to diminish social inequality and to provide the region’s population with better quality of life, the Brazilian State invested in actions in the region that did not provide any direct benefits for the population. To the contrary, its population was the subject of measures where they had no access to the decision making process.

In a study of the Mexican context, Maldonado (2015) reported that in communities or regions where there was cultivation of plants for illicit drug production, the communities were poor, relatively isolated from large cities and without access to public sanitation, health or security infrastructure. The author also highlighted that the dismantling of the state dramatically affected social reproduction, economic mobility and investment in development and well-fare, leading to the emergence of a criminal network around illegal cultivation.

The intervention of the Brazilian state over decades was an important factor in the growth of marijuana cultivation in the São Francisco Valley region in Brazil. As already exposed in this article, four actions were decisive for increasing cannabis culture in the region: The agribusiness of tropical fruits for export that led the government to build road roads that also facilitated the flow of marijuana; the construction of hydroelectric plants along the São Francisco River displaced populations and hampered their survival; the strategies to combat planting that are linked, only to the destruction of plantations without a counterpart of investment in family farming and in supporting their development in the region; and the largest organization of criminal groups from family feuds. In the first

three factors, the state is responsible for its direct action and, in the fourth factor, for its omission.

Garland (2001) when explaining the culture of control and criminal justice in the USA and Great Britain between the 1970s and 2000s, combines criminological changes with institutional and legal practices. Garland points out that state action in both countries has shaped the configuration of crime, as greater repression, increased incarceration, and the abandonment of a state of criminal well-being represented changes in the view of criminality and the penalties applied. The case of increased cannabis planting in the São Francisco River Region since the 1980s is linked to the way in which the Brazilian government, in various administrations, has produced inequalities with its actions.

Discussions in the Supreme Court and in the Brazilian Congress seem to point towards decriminalization of cannabis for medicinal purposes and for personal use. However, these measures will not affect, over the short and medium terms, other measures that seek to legalize cannabis cultivation in the region, even for medicinal use or for the use of hemp for industrial purposes.

Final considerations

Illegal cannabis cultivation in Brazil grew in direct relation to state intervention and, as in other countries, is the result of an absence of social and agricultural policies for vulnerable rural workers and populations who confront difficulties in surviving on traditional agriculture. There is a direct relationship between illegal and legal plantations in these contexts, given the involvement of farmers in illegal cultivation due to difficulties related to traditional agriculture. Various studies (Laniel & Perez, 2004; Chouvy & Laniel, 2004) highlight this relationship.

However, cannabis was also observed to be responsible in some contexts for improvements to quality of life, as studies by Alhama, Mesa & Domínguez (2006) show. Therefore, it can be responsible for the establishment of populations, stemming migration and reverting migratory processes (Labrousse & Romero, 2002). This can also be observed in the São Francisco Valley where rural workers who manage to improve their quality of life using resources obtained through farming are able to move to other, legal activities (Fraga & Iulianelli, 2011) and can avoid moving to other northeastern capitals or to the southeast of Brazil.

The question that emerges for us today relates to the need to change drug policy and state interventions in the region. The continuation of eradication measures will only further strengthen the criminal organizations that tend to gravitate toward cultivation. This particularly involves the possibility that criminal groups who compete for the drug trade in southeastern Brazil, and that are currently presenting the Northeast, could gravitate towards this type of criminal activity.

On the other hand, the possibility of cannabis becoming an important product in the region, through its legal use for commercial purposes, notably in cooperative systems, could represent an important change for the area's development. In the absence of such an approach, it is more than likely that the cycle of repression, exploitation and criminalization will continue to play itself out.

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