

Grillo, Luciana; Kendra, Allison; Pastor, Alvaro; Manrique, Hernán

Article

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RESEARCH

Addressing Socio-Environmental Challenges and Unintended Consequences of Peruvian Drug Policy: An Analysis in Two Former Cocalero Valleys

Luciana Grillo¹, Allison Kendra², Alvaro Pastor¹ and Hernán Manrique³

¹ Pontificia Universidad Católica del Perú, PE

² Stanford University, US

³ KU Leuven, BE

Corresponding author: Allison Kendra (akendra@stanford.edu)

For decades, international governments and the Peruvian state have worked to reduce illicit coca cultivation in valleys that were once among the largest global producers of coca. The principal strategies used in these interventions are drug crop eradication and alternative development (AD), both of which have been operating for over forty years in Peru. These interventions have decreased illicit coca cultivation in targeted areas and increased the number of farmers engaged in alternative crops. However, socio-environmental factors affect farmer's experiences of these interventions at a micro level, sometimes causing unintended negative consequences. Drawing on qualitative research in the Upper Huallaga and Monzón Valleys, this article details the mechanisms through which socio-environmental vulnerabilities shaped how coca eradication and AD policies are experienced by current and former cocalero farmers. We argue that long-term coca eradication and AD policies in both valleys reproduced social and environmental precarities. In particular, we found that: participation in AD programs was commonly more attainable for farmers who had relatively higher access to resources; successful alternative crop cultivation was often limited by socio-environmental conditions; and ongoing coca eradication continued to push marginalized coca growers into more precarious positions, often leading them to replant coca in more distant forests. For these reasons, illicit coca cultivation continued, albeit at a lower scale and under greater challenges for farmers, alongside attempts to combat it. We conclude the article by discussing these findings in the context of recent scholarship and ongoing supply-side drug policies that claim to support social equity and environmental well-being.

Keywords: alternative development; drug crop eradication; socio-environmental challenges; Peru; coca

Introduction

For more than 40 years, Peru has been a testing ground for drug policies that seek to reduce the supply of drugs at their source. The main supply-side drug control policies applied in Peru have been the manual eradication of illicit coca crops and the implementation of alternative development programs.¹ Both components have historically been focused in the Upper Huallaga Basin, as the Upper Huallaga Valley (UHV) and later the Monzón Valley previously contained the largest areas of illicit coca cultivation in Peru. As a result of massive coca eradication in both valleys over recent decades, the regional distribution of illicit coca cultivation has shifted substantially.²

¹ Peru's current drug policy allows for the legal cultivation and trade of coca leaf through the Empresa Nacional de la Coca (ENACO). However, in the last two decades more than 90% of coca grown in Peru has been illegal and destined for illicit drug production (UNODC 2018). In addition, the replanting of coca leaf is penalized, according to Legislative Decree 1241 of 2015.

² Between the years 2000–2011, on average, 50% of Peru's illicit coca eradication was concentrated in San Martín, which includes

The reduction of coca crops as well as the increase in income per hectare of licit crops in both UHV and the Monzón Valley have been considered indicators of the success of the national drug policy (UNODC 2011; PCM 2020). Based on both cases, our research seeks to problematize the measurement of success only through such indicators. To this end, our research highlights some of the socio-environmental challenges and unintended consequences of long-term drug policy implementation, exploring how coca growers in the UHV and Monzón have experienced eradication and alternative development interventions under different schemes of implementation.

Due to the short-term effects illicit crop eradication generates on the environment and local communities,³ multiple political and civil society actors have called for a shift towards approaches aimed at sustainable development in drug-producing areas (Alimi 2017). This shift has broadened the definition of alternative development (AD), currently understood as a sustainable development strategy that seeks to improve the socio-economic situation of communities affected by illicit crops (UNODC 2019), as well as to ensure a sustainable use of natural resources, attempting to balance environmental concerns and commercial objectives (UNODC 2015b: 109).⁴

However, some scholars have criticized this shift and questioned its ability to enhance the well-being of targeted communities and the sustainable use of natural resources in practice. These studies have shed light on unintended impacts of various AD programs. For example, in drug crop producing areas of Afghanistan (Attewell 2017; Bradford 2019), Myanmar (Meehan 2020), Colombia (Ballve 2012; Ciro 2020; Parada-Hernández & Marín-Jaramillo 2021) and Peru (Grillo 2018; Huamán & Palacios 2018; van Dun, Cabieses & Metaal 2013),⁵ the promotion of global market chains and agricultural modernization under the framework of AD has in some cases reproduced vulnerabilities and risks that farmers experience in legal markets. Examples include: i) insecure access to land for crop cultivation and subsistence, especially for farmers who lease their land and work as harvesters, as well as for women growers; ii) privatization of land through large-scale land-grabbing processes that lead to the displacement of local populations; and iii) increased vulnerability of small producers through their exposure to the volatile prices of licit crops and their difficulties in accessing fertile land and inputs to improve soil productivity.

In light of this evidence, some scholars have argued that the recent shift in conceptualization of AD assumes a general tendency towards capital-oriented development (Buxton 2020; Meehan 2020). They argue this narrative assumes that illicit crops are associated with a lack of development that manifests itself in a concentration of poverty, lack of access to land and legal markets, and poor agro-productive infrastructure. Therefore, it is assumed that integration into global market chains and agricultural modernization will contribute to both reducing illicit crops and preventing their further expansion into tropical forests, thereby reducing deforestation (Buxton 2020; Dávalos, Sanchez & Armenteras 2016). However, as these scholars demonstrate, the relationship between alternative development, illicit crops and socio-environmental impacts in practice is more complex than these narratives suggest.

The data we present and analyze in this article speaks to a broader scholarly effort to examine the socio-environmental transformations driven by developmentalist efforts within drug control policy, including how their impacts are shaped by factors such as growers' socio-economic conditions (Ciro 2020; Grillo 2018), ecological factors (Attewell 2017) and gender (Parada-Hernández & Marín-Jaramillo 2021). In doing so, it contributes to a growing literature on these topics, including as they relate to Peru. In UHV and Monzón, coca eradication efforts have been shown to lead to a disruption of local dynamics, not only by affecting illegal economic activities, but also by generating large burdens on families dependent on coca cultivation to sustain their livelihoods (Heuser 2017b; van Dun 2012). Although the area of cultivated coca has been

the UHV (DEVIDA 2012: 18). Between the years 2010–2019, 25% of the total area eradicated nationally was concentrated in the Upper Huallaga Basin, which includes the UHV and Monzón (DIRANDRO 2020: 15). The UHV and Monzón have been replaced by new major sites of illicit coca production, especially the Valley of the Apurímac, Ene and Mantaro Rivers and various southwestern and northwestern emerging drug hubs (UNODC 2018).

³ Scholars have observed that aerial and manual eradication in the Andean region can lead to illicit coca production being displaced to tropical rainforests, biodiversity hotspots and Indigenous lands, causing further deforestation and the displacement of local populations (Dávalos et al. 2011; Killeen et al. 2008; Moreno-Sánchez, Kraybill & Thompson 2003; Rincón-Ruiz & Kallis 2013; Rincón-Ruiz et al. 2016; Salisbury & Fagan 2013).

⁴ Conceptual approaches to AD have shifted from a focus on drug crop substitution to a broader sustainable development scheme aimed at changing the economic structure of drug crop producing areas (see Alimi 2017; Brombacher & Westerbarkei 2019). For additional perspectives on the evolving nature of the AD concept and its successful implementation see Alimi 2019; Brombacher & Westerbarkei 2019; Diskul et al. 2019; Diskul et al. 2021.

⁵ Even in regards to the most recognized success story of long-standing alternative development in Thailand, Anderson (2017) argues that while this process helped to eliminate opium cultivation and improve the socio-economic conditions of the affected population, it had great cultural costs for hill tribes (Anderson 2017: 57).

successfully reduced by eradication and re-eradication, the inherent success of AD interventions in these regions requires more debate.

While the generation of an alternative economy for those affected by eradication is a primary goal of AD, conventional approaches involving a top-down design with little participation of grassroots farmers' organizations in decision-making processes often fail to take into account local agricultural expertise and farmers' social preferences with regards to specific crops. These approaches are likely not to enhance the participation of those most affected by eradication (Buxton 2015: 38; van Dun, Cabieses & Metaal 2013). As the case of the Monzón shows, farmers who benefit the most from AD programs are usually those who are easier to reach, are not fully dependent on coca, and have enough resources to help them successfully transition to an alternative economy, exacerbating existing patterns of uneven development (Grillo 2018). These patterns are further complicated by social and economic inequalities related to race, class, and gender in Peru (Thorp & Paredes 2010), including past and present discrimination against Indigenous and mestizo people on the basis of traditional coca use (Durand 2014; Morales 1989; van Dun 2009). Many scholars have shown how the war on drugs, as it is enacted in the US (Alexander 2012; Provine 2011), the Americas (Bourgois 2015; Paley 2015), and globally (Díaz-Cotto 2005; Muehlmann 2018), perpetuates racialized, gendered, and classed inequalities. The findings presented in this article contribute an analysis of how one form of the war on drugs, drug crop eradication and alternative development programs aimed at eliminating drug crop production, interacts with social inequalities in the two Peruvian areas of study described here.

Our research contributes to these literatures by presenting ethnographic and qualitative data that highlights linked socio-environmental components that remain under-considered in analyses of eradication and AD implementation. It further demonstrates how the implementation of coca crop control strategies is necessarily embedded within socio-environmental structures and inequalities, as well as within new forms of precarity following the opening of agro-industrial markets. These factors, we argue, shape how farmers participate in and respond to state anti-drug interventions. They remain relevant, even as the concept of AD shifts towards more encompassing narratives of sustainable development and proper sequencing between eradication and AD programs, because the complex local dynamics that exist in these areas will remain an underlying presence for AD programs to address and confront.

In this article, we shed light on the experiences of current and former coca growers immersed in long processes of socio-ecological transformation in areas that were previously major drug hubs. Rather than evaluate the effectiveness of particular eradication or AD programs, this article follows an anthropological approach to policy studies that analyzes how policies have been implemented and experienced in practice, critically examining power relations and patterns of inclusion and exclusion (Tate 2020). In doing so, it analyzes a long-standing process that has combined 'the stick' (eradication) with 'the carrot' (different development efforts), focusing on how coca farmers have perceived and experienced the implementation of anti-drug policies in both cocalero valleys.

The article is organized as follows. First, we outline the methodologies that form the basis of our research. Second, we present a brief history of drug policy implementation in the UHV and Monzón, highlighting the social, political, and environmental contexts that have circumscribed their implementation. Third, we present qualitative evidence from ethnographic and sociological fieldwork conducted in both valleys. In doing so, we discuss our three main findings about the ways that ongoing coca eradication and AD programs interact with social and environmental conditions in these regions: (1) participation in AD programs presented barriers for more marginalized farmers; (2) successful cultivation of alternative crops was limited by socio-environmental conditions that AD programs often did not account for or overcome; and (3) recurrent coca eradication sometimes resulted in the expansion of territory involved in its cultivation and increased precarity for farmers. Taken together, these findings suggest that Peruvian drug policy, as it's been implemented in the UHV and Monzón – the two most largely state-promoted cases of AD's success in Peru – reproduces socio-environmental inequalities, under conditions that are often not portrayed in the government's usual metrics of success. These metrics commonly include governmental expenditures in intervention areas, the amount of hectares of eradicated coca and derivations produced from that amount, such as the percentage of cocaine production and trade avoided. Our article concludes by discussing our findings in the context of recent scholarship and public policy.

Methodology

This article is based on ethnographic and sociological fieldwork, including semi-structured interviews and participant observation with mestizo and Indigenous farmers, community members, and state and development officials involved in the implementation of anti-drug policies and AD programs in the UHV and Monzón Valley of Peru. Specifically, this article presents and analyzes data from two separate fieldwork projects.

One project consisted of two weeks of fieldwork conducted in the Monzón Valley and Lima in 2018 (April; August–September). The research followed a simple case study strategy, which allows for the in-depth investigation of a contemporary and little-studied phenomenon within its real context, with the intention of exploring its configuration and clarifying the characteristics of other similar phenomena, contributing to the development of theoretical explanations (Della Porta & Keating 2013; Yin 2003). The case was studied using a qualitative approach, enabling data collection via observation, interviews and casual conversation and the exploration of how a phenomenon is interpreted by those who participate in it (Weiss 1994). Fieldwork in this valley was based in multiple former coca-growing small towns where eradication and AD programs were implemented, as well as in Tingo María, where local state officers were interviewed.

In this project, semi-structured interviews were conducted with 38 farmers and 16 state officials and employees engaged in illicit crop reduction and AD operations. Of the 38 farmers interviewed, 25 identified as men and 13 as women. Of them, 4 were young (15–29 years old), 33 were adults (30–59 years old) and 1 was an elder (>60 years old). They were approached through a snowball strategy started multiple times, which allowed access to groups of farmers in the same social network, while not limiting the study to a particular one. Fieldwork also included participant observation in chacras (agricultural plots) and cooperative offices, where it was possible to observe cacao and coffee cultivation, production, and commercialization. Among the state officials, employees and experts interviewed in Lima and the Monzón were engineers from the Soil Recovery Project, as well as public officials from Peru's anti-drug institution, DEVIDA (Comisión para el Desarrollo y Vida Sin Drogas), including at their Tingo María Zonal Office, Monzón Coordination Office, and central office in Lima.

The second project consisted of nearly two years of ethnographic fieldwork conducted in the UHV and Lima between 2015–2018 (June–August 2015; July–September 2016; August 2017–September 2018). Following a grounded ethnographic approach that treated each method as a partial, situated study (Clarke 2012), data was iteratively collected and analyzed throughout fieldwork, allowing patterns and themes to emerge in response to research questions while leaving open the possibility for new framings (Corbin & Strauss 2014). This constant comparative method allowed theoretical framings and interpretations to be made without overdetermining research findings, enabling inductive ethnographic research (Charmaz & Mitchell 2001). Fieldwork in the UHV was based in multiple current or former coca-growing small towns that participated in AD programs and produced alternative crops (cacao and coffee), as well as in Tocache and Tingo María, where local offices of state institutions were often located.

For this project, 57 UHV farmers and town residents and 26 officials engaged in coca eradication and AD operations were interviewed. UHV farmer and town resident interview respondents were selected via stratified sampling based on how long they had lived in the area (<10 years; 10–30 years; >30 years) and via snowball sampling. State and development official interview respondents were selected based on key institutional actors and snowball sampling that built off of local contacts. All of the people interviewed and involved in fieldwork were informed and consenting adults, including men, women, and gender-nonconforming people across different age ranges, life experiences, labor activities, socio-economic classes, abilities, and kinship structures.

This project also consisted of participant observation in the everyday practices of farmers, town residents, and AD program operators. These activities included those involved in the labor of cacao and coffee cultivation, processing, and local distribution, as well as those involved in other livelihood strategies. They also included participating in different operations of AD programs, such as attending field schools, meetings with local cooperatives and visits with national and international cacao buyers. Among the institutional actors involved, employees from DEVIDA, CORAH (Proyecto Especial de Control y Reducción de Cultivos Ilegales en el Alto Huallaga), CODEHUALLAGA (La Comisión Multisectorial para la Pacificación y Desarrollo Económico Social en la Zona del Huallaga), and USAID (The United States Agency for International Development) were included.

Both projects concerned topics that extend beyond the scope of this article but shared characteristics in common related to the topics this article discusses. In both projects, interview questions asked to farmers and town residents concerned their experiences with and perceptions of state projects, coca eradication, alternative development programs and alternative crop economies, as well as their experiences with and perceptions of their livelihood strategies, labor activities, finances, land ownership, and daily life. In both projects, interview questions asked to development officials concerned their experiences with and perceptions of the region prior to the implementation of eradication and AD programs, how these policies were implemented and the effects of these policies on the region. Rather than compare the UHV and Monzón directly, which our methodology does not allow for, this article discusses overarching themes that were

similar in our independent analyses of each region. This form of collaboration joins recent efforts by ethnographic and social science researchers in the co-production of knowledge, including in relation to subjects traditionally siloed into social and natural science divides (Choy et al. 2009). In co-authoring this paper together, we highlight the connections and nuances that we have seen across multiple sites in Peru in order to demonstrate both the longstanding and urgent stakes that exist at the intersection of illicit drug policies, the environment, and social and economic equity.

Drug policy implementation in the Upper Huallaga Valley and Monzón

Drug policy in Peru has long been considered to be highly influenced by international agendas and by a strict following of operational goals, favoring eradication over AD (Cotler 1999; Ponce 2016). Nonetheless, at the onset of contemporary drug policies in Peru, international cooperation agencies struggled to coordinate and target interventions given the lack of a national drug agency. It was only in 1996 that CONTRADROGAS (Comisión de Lucha contra el Consumo de Drogas), which would later become DEVIDA, was established as the national entity in charge of drug policy. Nonetheless, until 2007 DEVIDA was not entitled to administer the funds it obtained from international donors, but only to coordinate and supervise their application in programs and projects (DEVIDA 2006). Recent literature has shed light on various continued shortcomings and challenges of DEVIDA, such as its overreliance on international donors (Cabieses 2010; Manrique 2017; Torres 2013), its frictions with other government agencies (Zevallos 2015), as well as its limitations in articulating its objectives with those of local stakeholders (Zevallos & Casas 2019).

DEVIDA, as the coordinating agency of drug policy in Peru, deals with governmental offices at multiple levels. Coca eradication is carried out through CORAH (Proyecto Especial de Control y Reducción de Cultivos Ilegales en el Alto Huallaga)⁶ under the responsibility of the Ministry of the Interior and in coordination with DEVIDA. Meanwhile, as Peru moved from being considered a developing country and to a middle-income country instead, it received less aid from international donors, and it increased its use of public funds in the fight against drug trafficking (DEVIDA 2017a). In recent years, AD projects have been implemented through PIRDAIS (Programa Presupuestal de Desarrollo Alternativo Integral y Sostenible), financed mainly with public funds. Under PIRDAIS, DEVIDA coordinates with various offices of the central government, as well as with regional and local governments, to transfer public funds for the implementation of projects framed in the PIRDAIS dimensions (DEVIDA 2017b).⁷

The two regions this article discusses – the UHV, in the southern part of the San Martín region, and Monzón, in the eastern part of Huánuco (see **Figure 1**) – share similar characteristics in regard to their drug trade involvement but differ in terms of drug policy interventions and results. While both valleys have a long history of coca cultivation and once formed part of the legal cocaine industry at the onset of the 20th century (Gootenberg 2008), it was only after the failure of the state-led colonization of Peru's Upper Jungle during the 1960s–1970s that they emerged as key players in the illegal cocaine market (Paredes & Manrique 2018). Nonetheless, both valleys did not receive the same attention from Peru's government nor the international cooperation. Whereas the early implementation of eradication and AD in the 1980s was possible in some areas of the UHV that were less consumed by the armed conflict that was occurring in Peru at that time, these efforts remained absent in Monzón until recent years. Similarly, while drug policies have been implemented in the UHV over four decades via an extended network of international cooperation agencies, Monzón has been a recent recipient of these programs, mainly under the administration of DEVIDA.

The relative defeat of insurgent groups in the 1990s allowed more sections of the UHV to gradually become part of rural development programs and a long-delayed state-building process. However, the state remained unable to intervene in Monzón, which was still a stronghold of illicit coca cultivation under the protection of armed groups (Casas & Ramírez 2017; Heuser 2017a; Heuser 2017b). Under these circumstances, eradication and AD began to prioritize the San Martín provinces of the UHV. By the beginning of the 2000s, San Martín

⁶ While CORAH's name makes reference to the Upper Huallaga only, this office has been in charge of eradication at the national level since 1994.

⁷ PIRDAIS is an alternative development model that seeks to link actors across different levels (international, national and local) and sectors (state, private, and civil society) in order to address the economic, social, environmental, and political aspects that encourage illicit coca cultivation. Its dimensions are: i) economic, focused on the promotion of alternative products, business models for such products and improvement of productive infrastructure; ii) social, focused on reducing gaps in basic needs; iii) environmental, focused on recovering degraded areas and generating land management plans; and iv) political, focused on encouraging the participation of local civil organizations and strengthening the management capacity of local governments (DEVIDA 2017a: 35–36). Funding for AD programs by international cooperation was reduced, but its financial support for specific programs has not disappeared (DEVIDA 2017a: 77–78).

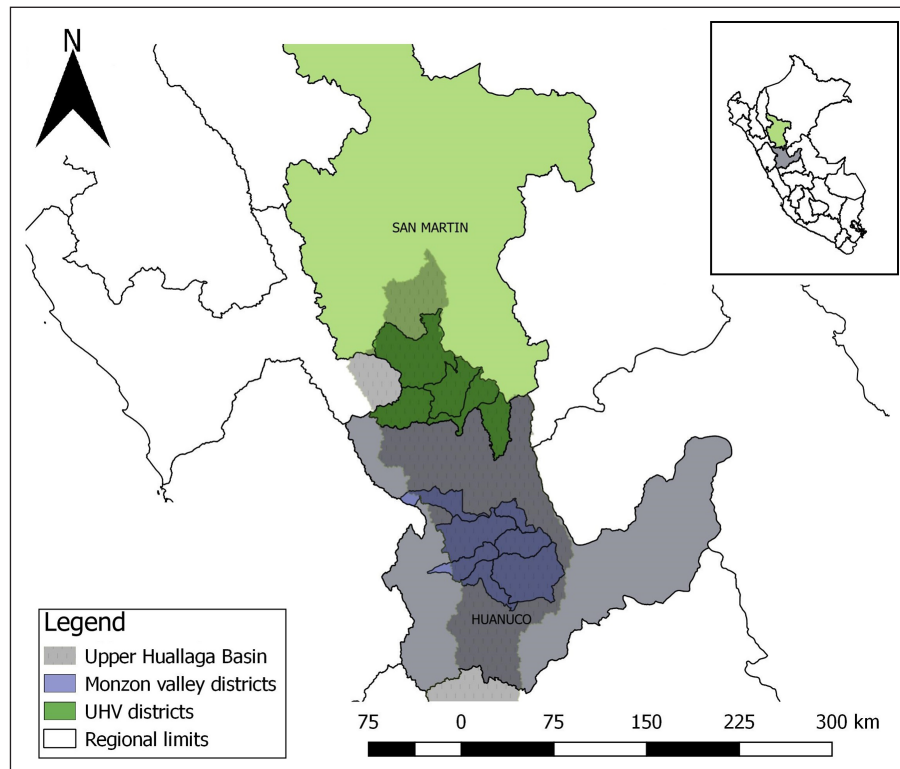


Figure 1: Map depicting the UHV and Monzón, both of which form part of the Upper Huallaga Basin.

had significantly reduced the hectares of cultivated coca (from more than 28,000 hectares to less than 1,500 hectares) and had the greatest share (~60%) of communities participating in AD programs at the national level (Manrique 2017). Meanwhile, Monzón increased coca cultivation and by the beginning of the 2000s, it had more than twice the amount of coca than the UHV (UNODC 2005), remaining one of the oldest and largest drug hubs where Peruvian drug policies had yet to be enforced.

During the last decade, San Martín and large areas of the UHV have been internationally accredited and recognized as successful cases of former cocallero valleys benefiting from AD (UNODC 2011b). The San Martín region became globally known not only for having left coca behind, but also for being among the leading producers of crops supported by AD programs (e.g., oil palm, cacao, and coffee). These experiences in San Martín were baptized as the ‘San Martín model’, with the aim of implementing its best practices in other cocallero valleys where drug policies did not have success or had not yet been implemented (UNODC 2011b) (see years 2003–2012 in **Figure 2**).

However, such elaboration of the San Martín experience as a model leaves aside the complex and non-linear history of drug trafficking and drug policy implementation in the region, which involved more than 30 years of trial-and-error policies supported by an extended network of (inter)national and local coalitions that could hardly be replicated elsewhere (Augusto 2018; Manrique 2017).⁸ This reductive interpretation of the San Martín experience ignores that while San Martín’s role in the drug trade decreased, the adjacent Monzón Valley experienced a massive boom of coca cultivation, which by 2012 accounted for 16% of the total hectares of illicit coca in Peru (DEVIDA 2015a). It also fails to acknowledge the deepening of social and economic vulnerabilities (e.g., food insecurity) for less privileged farmers who did not own land and who struggled to access fertile soils when participating in AD programs, as we will describe in our findings.

⁸ AD programs began being implemented in the UHV in 1981 with USAID projects that explicitly conditioned previous coca eradication before participation. By the mid-1980s, the United Nations International Drug Control Program (UNDCP) was also implementing small-scale AD programs in the UHV, although they did not demand previous eradication. USAID documents from the 1990s are clear about the need for focusing eradication and AD efforts in key and safe areas such as San Martín. In the midst of the fall of coca prices by the mid 1990s, USAID and UNDCP renewed their AD programs on a larger scale. In a path-dependent fashion, the German Agency GIZ established an ambitious AD program in the Tocache-Uchiza region (south of San Martín) in the early 2000s that supported the industrialization of agricultural products and the formalization of small-scale farmers without conditioning previous eradication. For further details on the multiple development cooperation programs and local coalitions operating in San Martín, see Manrique 2017 and Augusto 2018.

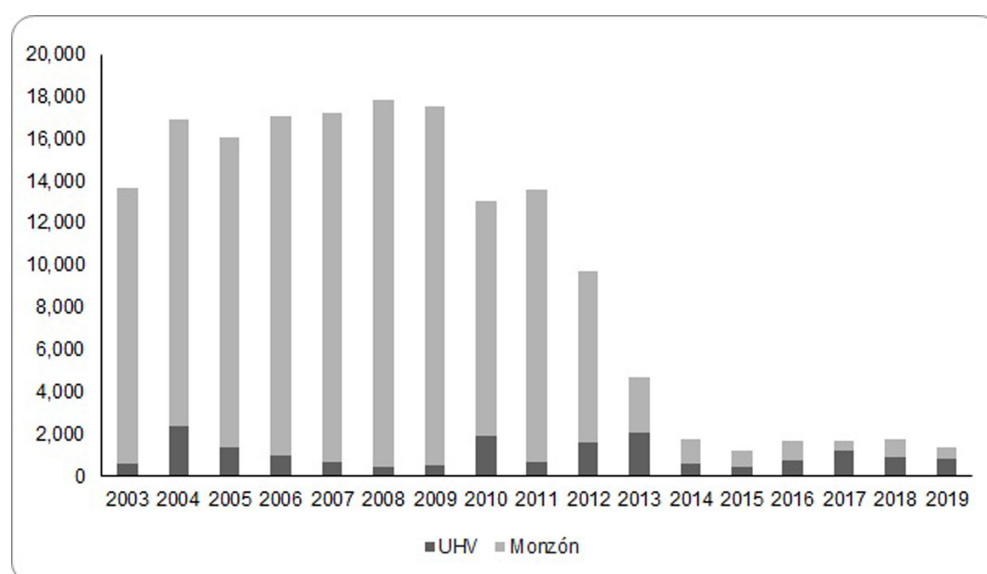


Figure 2: Coca cultivation (hectares) in the UHV and Monzón, 2003–2019. Source: Tabulated from UNODC 2004–2018 (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011a, 2012, 2013, 2014, 2015a, 2016, 2017, 2018). Data for the years 2018 and 2019 were taken from DEVIDA (2020b) and DEVIDA-SISCOD (N.D.).

After years of several unsuccessful eradication efforts in Monzón (besides effective selective military and police operations targeting high-profile local leaders), Peruvian security forces finally succeeded in conducting coca eradication in the valley in 2012 (Grillo 2018). The overall strategy of these interventions was divided into three stages: i) interdiction and anti-subversive police operations; ii) intensive forced eradication of illegal coca; and iii) post-eradication activities and AD programs (DEVIDA 2015a). Eradication efforts reduced illicit coca cultivation in Monzón dramatically (see years 2013–2019 in **Figure 2**). Between 2012–2013 alone, the amount of illicit coca dropped from more than 6,500 hectares to less than 250 hectares. As a consequence, in only one year, the valley went from producing 16% to less than 0.45% of the total national cultivated area (UNODC 2013; UNODC 2014). Although eradication was accompanied by immediate and short-term actions aimed at alleviating the socio-economic impacts of eradication (DEVIDA 2015; DEVIDA 2017a), the massive disruption of the local economy posed a great burden on families dependent on coca to sustain their livelihoods and access basic needs, in an area where more than 60% of the population lived in extreme poverty (Heuser 2017b).

Similar to the San Martín case, the Peruvian government sought to disseminate its intervention in Monzón as a state victory (see **Images 1–3**) and diffused publications and brochures about it nationally and internationally. The official narrative was framed both as a story of a ‘rescue’ from drug trafficking and terrorism and as proof that the government was capable of guaranteeing licit productive opportunities (DEVIDA 2015a). The state-led dissemination of the Monzón experience as an emblematic case of AD was swiftly followed by another governmental effort to show to the international community that Peru was capable of fighting drug trafficking while also championing AD. DEVIDA’s formalization of the ‘Peruvian Model of Alternative Development’ claimed that the state had been capable of stopping the illicit drug trade while generating a virtuous circle of AD, through a complex formula involving multidimensional security interventions, eradication, post-eradication programs, the generation of licit productive opportunities, and environmental recovery efforts (DEVIDA 2015b).

Despite the significant reduction in hectares of illicit coca, which has been the basis for proclaiming the success of the ‘Peruvian Model of Alternative Development’, coca is far from being eliminated in both of these regions (UNODC 2018). Available sources differ in their estimations of the amount of cultivated coca. While DEVIDA (2020b) claims that coca cultivation in the UHV and Monzón increased from 1,099 hectares to 1,527 hectares between 2015–2019, the White House Office of National Drug Control Policy (ONDCP 2020) recently reported a sharp increase in the amount of coca grown in these regions, from 1,800 hectares in 2018 to 3,780 hectares in 2019.⁹ These numbers reveal that coca replanting is frequent in both valleys.

⁹ A controversy exists regarding the measurement of coca crops between DEVIDA and the ONDCP. According to DEVIDA, the US entity does not account for coca that was eradicated in the previous year nor for coca destined for legal trade and therefore overestimates the cultivated area in Peru (see DEVIDA 2020a). The resultant differences have been referred to as a ‘dance of numbers’ between the two anti-drug bodies (Cabieses 2020).



Images 1, 2, and 3: Murals in the UHV and Monzón advertise alternative development programs.

Image 1 from Monzón Valley, 'The future is in your hands. Live calmly, live better,' shows a woman carrying a child, both holding cacao fruits; along with DEVIDA and USAID logos. Image 2 from Monzón Valley, 'Sow your future, reap peace and development. Alternative Development, the change is today,' shows a man carrying a full sack next to coffee and cacao plants; along with logos from DEVIDA and the Peruvian state. Image 3 from UHV contains murals with the same phrases and images, each with logos from DEVIDA and the Peruvian state. Photos by Luciana Grillo and Allison Kendra.

Maintaining both valleys ‘free’ of coca comes at a high cost for the Peruvian state, since it requires eradicating the same areas year after year as coca continues to be replanted. CORAH eradicated an average of more than 9,000 hectares of coca per year between 2013–2017 in both valleys, of which a large number of hectares consisted of coca that had been planted after previous eradications (UNODC 2018; DIRANDRO 2020).

Ethnographic and qualitative evidence from the UVH and Monzón

In this section, we present the findings of our anthropological and sociological research on the implementation and experience of coca eradication and AD programs in these two regions. Given that these policies were implemented during and prior to our fieldwork, our findings speak both to people’s past and present experiences with the implementation of eradication and alternative development. In analyzing this evidence, we discuss three ways that the implementation of coca eradication and AD programs interacted with social and environmental conditions in these regions: (1) participation in AD programs presented significant barriers for marginalized farmers with less access to financial, material and environmental resources; (2) successful cultivation of alternative crops was often limited by socio-environmental factors, such as land quality and investment capacity, in ways that AD programs did not account for or overcome; (3) recurrent eradication sometimes resulted in increased precarity for farmers and in the expansion of land involved in illicit coca cultivation, as farmers who were more dependent on coca often continued to replant it further into the forest.

Socio-environmental barriers to participation in alternative development

Our interviews, participant observation and analysis suggested that farmers in both valleys faced significant socio-environmental barriers to participating in AD programs. For example, the licit alternative crops that these programs promoted, such as cacao and coffee, required environmental and economic conditions to which not all farmers had access. These conditions usually consisted of factors such as a farmer’s ability to invest in the long-term, to have access to fertile lands, to have the suitable transport required to bring their products from agricultural fields to a marketplace and to have a connection to fair markets for their products. As such, these programs were based on implicit assumptions that needed to be met for their beneficiaries to find the proposed model suitable or potentially profitable.

As a result, the farmers who were most able to participate in AD projects were those who had access to land on which they could grow alternative crops, as well as access to finances to purchase fertilizers, soil testing and other agricultural technologies on which AD programs implicitly depended.¹⁰ They were also those who had enough savings or other forms of income to be able to wait the three or more years cacao and coffee cultivation require to become productive and potentially profitable. In these senses, the way in which AD programs were constructed and implemented often meant that the farmers most willing and able to participate in AD programs were those who had relatively greater privileges than their peers. Even if these relatively more privileged farmers still had to rely economically in some part on illicit coca, they met the social and financial conditions that allowed them to be willing and able to at least invest their resources on alternative crops as well.¹¹ Through these mechanisms, AD programs often implicitly excluded more marginalized coca farmers, unintentionally reproducing social inequalities.

These conditions also involved environmental factors. Given that coca tends to be grown as a monoculture that is planted continuously on the same plot of land, one of the liabilities linked to its cultivation is soil degradation. Unlike what sometimes occurs with crops that are grown for human consumption, farmers tended to use agrochemicals intensively and to turnover land minimally when growing illicit coca. In addition, given the characteristics of the plant, coca has greater facilities to grow on land that is less suitable for agriculture. As one farmer in Monzón observed,

¹⁰ In describing the conditions on which AD projects depended (e.g., access to land, as well as finances to purchase soil testing, etc.), we do not mean that the projects explicitly required that farmers had access to these resources in order to participate. Rather, we observed that these factors often ended up determining whether or not farmers (or, in some cases, AD officials) saw their participation as an option and whether they had more or less success when participating. We found that AD projects sometimes, but not always, provided certain resources (such as fertilizer or access to soil testing) to their participants, but that these provisions did not always match what farmers needed or were able to make use of in order to have success with the project.

¹¹ Another important component of this situation is that when the state conducted eradication, they did not always know whose coca they were eradicating, given that much of it was grown on untitled land. They also did not necessarily know where the affected farmers lived, given that coca fields could be far from the towns where farmers regularly resided, and that fields that were near to each other could belong to farmers who lived in different towns. For these reasons, there was often no guarantee that farmers who had their coca eradicated would be offered the opportunity to participate in AD projects.

If we make an analysis, these lands are not so, they are not so productive...Coca is a bush that grows anywhere. It is a, it is a very tolerant shrub to the acidity of the soil, so it is not like coffee, it is not like cacao or other plants that require very fertile land to live.

For these reasons, one of the inhibitors of participation in AD was related to the low productivity of land in these regions, especially land that belonged to farmers whose plots had been extensively used to grow coca and who had limited resources to allocate towards soil recovery. In contrast, participating in AD was more feasible for farmers whose plots were located near rivers and in the most productive areas of the region, as well as for those who had the social and economic ability to pay for soil recovery or to buy productive land. These differences were widely acknowledged by farmers, who recognized that some of them were in a more privileged position than others, having consequences on their ability to work with AD programs. As one farmer stated,

I am a cacao farmer right now, I have 10 hectares of cacao. People say 'Uh, how's it going? You have a lot of cacao. I have 1 hectare, 2 hectares and it is not enough, I lack this, I lack that'... There are still many problems, a lot of poverty in the, in the field. Because not all lands are fertile, in the lower part, the plains, the slopes.¹²

In some cases, farmers had access to high-quality land when AD programs arrived because they had already stopped, or even had never started, growing coca in their fields. These farmers not only counted on non-degraded hectares of land, but also usually had previous experience cultivating legal cash crops. Exemplifying this circumstance, some of the farmers who held the highest positions in local coffee or cacao cooperatives were those who had either never grown coca or had already shifted to licit crops before participating in AD projects.

Another factor that made more privileged farmers better suited to participation in AD was that participants were usually required to attend meetings and field schools. These meetings often occurred during daytime hours and sometimes lasted for the entire day. As a result, they often ended up excluding farmers who could not afford to take the day off of working (either in their own fields or in other forms of agricultural or non-agricultural labor), as well as women who worked at home to supervise young children or who were expected to be at home to provide meals. In contrast, farmers who were able to attend these meetings were often those who could regularly afford to have peones (day laborers) work in their fields or who were otherwise able to afford the cost involved in taking time away from their work. As one such farmer explained,

I'm a farmer and I have been with DEVIDA, ok? And from there I have withdrawn for the reason that I have not been able to go to the meetings, to the ECAs [field schools, known as Escuelas de Campo] that they pressured you, now and I, and I, and I have my family, I have to look after to give them el pan del día [daily bread]... Who answers you? From where does your family eat?

As a result of these circumstances, farmers who had to dedicate themselves to additional sporadic and temporary jobs sometimes needed to neglect their crops or were not able to fulfill the additional responsibilities that AD programs required, which often led them to withdraw from these programs or to not even consider enrolling in the first place.¹³

¹² There was a clear difference in access to services between farmers who lived in or close to towns and those who lived further away (mostly on their farms in forested mountains). As one farmer in Monzón explained, '[DEVIDA] says they support some [farmers], not all of them, not all of them, the real ones who need, they do not support. Rather, those who have, the ones they have supported the most here... that is, those who live here [in town] already have their business, they can already live, right? They still have [means of living]. The problem was for those who lived on the farm, right? They did not have, to say, their lots here. That was the, any support only in the city just, but very few on the farm, very little.' Because of the geographic characteristics of the UHV and Monzón Valley and the scarcity of roads, the further someone lived from a town center, the harder it was for them to participate in coffee and cacao economic circuits and to access state-led initiatives such as AD programs, as these markets and opportunities tended to be located in more urbanized centers.

¹³ It is worth emphasizing that, in comparison with coca eradication (which could affect any coca grower, without their prior consent, who did not have a certificate to grow coca legally), the AD programs that sometimes followed coca eradication were voluntary for participants. However, the vulnerable position in which farmers found themselves after the eradication of their coca reduced the range of opportunities to which they had access and problematizes the concept of voluntariness as a decision made from free will.

Socio-environmental barriers to successful cultivation of alternative crops

Second, our interviews, participant observation and analysis suggested that farmers who could and did participate in AD programs often struggled to obtain and sell their expected harvest of alternative crops and make a sustainable profit. Although these farmers often had access to larger plots and higher quality land, as well as other relative privileges as described above, they often had trouble seeing alternative crop cultivation as a profitable or promising option that would allow them to support themselves and their families. The factors that limited them were often circumscribed by pre-existing social and economic conditions that determined their access to resources, in ways that AD projects did not account for or overcome. Farmers who had less access to resources struggled more with the difficulties posed by factors such as their low expertise with export-quality crops, the crops' intensive growing techniques, the low productivity of their soils, the diseases and pests that plagued the crops (see **Images 4–6**) and the heavy dependency of alternative crops on fluctuating international market prices. One farmer in Monzón spoke to the difficulties he experienced in this process:



Images 4, 5 and 6: Photographs show cacao plants pruned of disease, as well as diseased and rotten cacao fruits, in different agricultural plots in the UHV and Monzón. Photos by Luciana Grillo and Allison Kendra.

Agriculture here is not so profitable, to say the least. Why? Because the fields are already sterile, that is, they no longer have much... it is not like a new field. The lands here, to say the least, are already exploited, and not even with fertilizer, now, no longer produces, no longer, no longer produces.

For these reasons, switching from coca to an alternative crop such as coffee or cacao required a significant amount of time, energy, and money. One estimate given to farmers by DEVIDA, as part of their promotion of AD, was that one hectare of cacao would require an investment of 4,848 nuevos soles (\$1,400) in the first year, during which time the crop would not generate income. DEVIDA therefore often recommended that farmers plant additional crops, such as bananas, alongside their alternative crops, constituting an often-insufficient approach to enhancing income diversity and food security. Moreover, this suggestion remained based in a strategy of monocropping that did not match the ecology and soil quality of affected zones (Cabieses 2010), furthering environmental vulnerabilities that were already present due to the extensive use of soil for coca production.

Estimates provided by DEVIDA for the costs and income involved in growing alternative crops are presented in **Tables 1** and **2**. They demonstrate how even in an imagined ideal scenario the investments farmers had to make to grow alternative crops often were not recovered until the third year, at which time farmers might receive their first profit. As **Table 2** shows, coffee not only required a higher initial investment than cacao, but it also took longer to become productive and generated less income.¹⁴ Farmers who grew coffee as an alternative crop were usually only able to recover their initial investment and receive their first profit in the sixth year. These examples demonstrate why growing alternative crops often required farmers to have other forms of sufficient income for the three to six years that it took for alternative crops to become potentially profitable.

Table 1: Estimated costs and income generated by cultivating one hectare of cacao (a common alternative crop) alongside banana. These figures are estimates made by DEVIDA as part of their promotion of alternative crops.¹⁵ Source: This information is provided in DEVIDA 2014a, DEVIDA 2014b.

Costs and incomes for one hectare of cacao (in nuevos soles)							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Costs	4848	2592	3093	2801	3011	3011	3011
Cacao incomes	0	476	2040	4760	8160	8160	8160
Banana incomes	0	4500	7500	4500	0	0	0
Profit	-4848	2384	6447	6459	5149	5149	5149

Table 2: Estimated costs and income generated by cultivating one hectare of coffee (a common alternative crop) alongside banana. These figures are estimates made by DEVIDA as part of their promotion of alternative crops. Source: This information is provided in DEVIDA 2014a, DEVIDA 2014b.

Costs and incomes for one hectare of coffee (in nuevos soles)							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Costs	3677.5	3323	6590.5	4266.5	5166.5	5566.5	5566.5
Coffee incomes	0	0	1400	2800	5600	7000	7000
Banana incomes	0	3000	4500	3000	1500	0	0
Profit	-3677.5	-323	-690.5	1533.5	1933.5	1433.5	1433.5

¹⁴ Often, AD projects in these valleys were either centered around coffee or cacao, but not both. That is, within an individual project, farmers did not often have the option of choosing which alternative crop to grow. Oftentimes the projects were funded or formed for the purpose of supporting the cultivation of one of these crops, which was justified by explaining that the conditions required for each crop were different. Some farmers had land that was suited to coffee but not to cacao and vice versa, which further constrained farmers' options.

¹⁵ DEVIDA calculated the figures shown in Tables 1 and 2 based on the case of a community in the Ucayali region, in the area of Puerto Inca, but information on how they calculated these figures and the proportion that DEVIDA promised to assume by delivering products was not provided. Furthermore, these estimates do not account for the many factors that can substantially impact income from cacao, coffee or banana at any time (such as price fluctuation, the quantity and quality of production, etc.). Data such as these are used to promote AD (both to its funders and potential participants), but they do not represent the outcomes that farmers are likely to experience given the heterogeneity we describe here. Additional information about the amount of land and resources farmers had prior to and during their participation in AD would help demonstrate the implicit inequalities involved in these processes.

The difficulties involved in successfully growing alternative crops were further aggravated by the fact that farmers' lands were often degraded, especially for farmers who didn't have other options besides continuing to cultivate the same plots where they had previously grown coca. Farmers perceived soil degradation as causing alternative crops to take longer to produce fruits, to produce at lower volumes, and to require greater investments. As one farmer in Monzón explained,

They make us plant for the sake of planting, in clayey [degraded] soil. In this part I have planted coffee, everything dried up. It dried up. Now I have just planted. The engineer told me 'plant guava,' so I planted guava here, that is why I am in [the] soil recovering [program].

As this farmer references, it was in response to the problem of this degradation that a soil recovery project was started in Monzón in 2015, supported by funds from DEVIDA. Although the program came too late for farmers who had already invested in unsuitable lands with earlier AD projects, this program was vastly approved by the farmers who were able to enroll in it, as it not only helped them recover their soils but also financially rewarded their participation. This program represents an example of efforts to address one of the inequalities that affected farmers' chances of successful cultivation of alternative crops via their participation in AD projects. However, such efforts remained uncommon and, furthermore, insufficient in addressing the widespread factors that contributed to the inequitable barriers described here and the unintended negative consequences involved in the implicit exclusion of more marginalized farmers.

Unintended socio-environmental consequences of ongoing coca eradication

Third, our interviews, participant observation and analysis suggested that ongoing coca eradication resulted in continuous detrimental socio-environmental consequences, especially in cases where farmers depended on illicit coca cultivation as their principal livelihood strategy. This research indicated that for farmers who had a small amount of land, land with low productivity or who depended on multiple forms of agricultural and non-agricultural labor, participating in AD programs was often not available as a viable option after eradication. Through the mechanisms involved in determining both who was able to participate in AD programs and who was in a position to be potentially successful in their attempts to do so, these programs built on existing social and economic inequalities. So too did ongoing coca eradication, generating profound consequences for farmers who primarily depended on coca and for the environments where they farmed. The story of a 67-year-old farmer in Monzón illustrates an experience common to many such farmers:

In '87... I came here from the mountains because they said that there is enough economy to live. Then I already started working, working in agriculture, as a day laborer [peón]. I got used to it so I started to plant a small amount of coca [mi coquita] ... It was rented land, equivalent to 1 hectare. There is where I used to grow my coca. When eradication came, they took it all... It left us without eating, we didn't even have enough to eat. When we were begging, when my children and my family were crying, they [CORAH] started pulling [out the coca], they didn't leave us anything.

After this farmer's coca was eradicated, he tried all of the options available to him. First, he planted coffee with the help of an AD program. 'DEVIDA came, registered us, offered us, gave us the bags, gave us seeds, we worked, worked, worked... nothing. Nothing turned out. Nothing. Nothing has worked so far,' he explained. During his first year he managed to grow 100 kilos of coffee and, from there, diseases such as roya began to dry up his production. Furthermore, to sell his coffee, he had to carry the beans from his farm to the town center where the intermediaries were located. 'Here [to the town], it is difficult to make coffee arrive. You come down [from the farm], it is high, you come down, it is heavy, with 10 kilos, 15 kilos just, well, you arrive very tired. Carrying, carrying it on your back. The motorcycle does not arrive (laughs), there is no road,' he explained. He eventually gave up cultivating alternative crops and cultivating coca. Instead, he and his wife precariously supported themselves through sporadic jobs and by eating the subsistence crops they grew. Unlike their children, who had left their studies to work in the city, the couple decided to stay in the valley as they reasoned that they wouldn't be able to get a paid job in the city given their age.

As this farmer and others we interviewed and observed described, the effect of eradication was often damaging for farmers whose livelihoods primarily depended on coca. It was also damaging for farmers who used the income from coca as a form of savings. Interviewed women who continued to grow coca in the UHV, even after repeated eradications, explained how tending and harvesting coca gave them income that they could control. One farmer explained how her husband worked at the nearby oil palm plantation, and

generally made decisions about how the income he earned there was spent. She was saving up to be able to do something better, and to be able to provide for their children. 'We plant coca for our children,' she explained. This phrase was commonly echoed by coca growers in the UHV, especially those who were mothers. In making this statement, they meant that the income they received from other crops and activities was sometimes enough to run their daily lives, and that whatever extra they could gain beyond that, they wanted to save and use for their children, so that their children could have better lives than them. Many of the interviewed women had come to the work of illicit coca farming after attempts to make a living by other means first. They also had faced barriers to opportunities, such as education, that might have provided them with more access to other livelihood options. Especially for farmers who had overcome social and economic disadvantages in order to have their own coca fields, each coca eradication they experienced took away years of accumulated labor.

The cost of starting over after eradication and re-eradication always entailed new expenditures and waiting times. Those who could afford to immediately replant their coca were often quick to do so. If they didn't have seedlings of their own, they often had to buy coca seeds. As they waited for the seeds to sprout, they made plans to grow coca in new fields, further into the forest. Their decision to grow coca in new and faraway plots unintentionally expanded the area dedicated to coca growing.¹⁶ The eradicators, uninvolved in how CORAH's decisions were being made at the directors' level, often suggested they replant their coca further away, causing farmers to speculate about when and where the next eradication could occur. Those without other options often replanted knowing that the cycle of replanting and eradication would likely be repeated.

After a new round of coca eradication in the UHV, one farmer again weighed her options about what to do next. 'If CORAH comes and eradicates it before you've been able to get enough profit from it,' she explained, 'you lose, because you had to invest in buying the seeds, and in the labor of planting them, maintaining the fields, harvesting. There are a lot of costs.' This farmer was able to weigh these costs against other options because she didn't only depend on coca. 'Coca is just the *caja chica* [small reserve of money],' she and others in her position repeated. She had enough land and capital to grow other crops too. Such was not the case for many farmers who repeatedly returned to coca.

A CORAH employee working in the UHV explained the state's logic in supporting repeated eradications. 'Farmers will continue to replant coca until they get tired of it,' he asserted. In his estimation, this change happened after their coca was eradicated three times or so. He explained that, after that point, most small-scale farmers decided it was no longer worth it to continue trying, out of fear that their coca would just be eradicated again, and in recognition of the costs they'd had to endure each time it was. The state used this logic to continue targeting farmers who repeatedly returned to illicit coca cultivation, even after eradication, in the hopes that eventually they would stop growing it.¹⁷

After coca eradication, if farmers couldn't participate in alternative development, replant coca, or engage in other local livelihood options, some of them chose to migrate to other areas. Often, this strategy was chosen by farmers who were not born in the valley, who had arrived to it looking for better economic opportunities, and who had a baseline of resources and prospects enough that they thought migrating would improve their quality of life. In addition, locals who had properties or welcoming contacts elsewhere sometimes migrated with their families or sent family members elsewhere to earn income and send remittances. Among the areas chosen for this type of migration, some were chosen for their ongoing links to the illicit coca trade. As described above, some of these areas gained relevance in the illicit coca economy due to the implementation of drug policies in the UHV and Monzón. One farmer in Monzón explained the ways these ties still persisted:

The current economy is still coca, but not because we produce a lot of coca here, but because our people... are following the drug trafficking route, but they have their families here, they live here... Those people go, work there; they go to harvest, they go to work, and they bring the economy here. They bring the economy, they bring the money, they bring a thousand, two thousand dollars, they

¹⁶ There were some cases where AD projects knowingly accepted that farmers continued to grow some coca while they waited for the alternative crops to become productive and potentially profitable. However, these are not necessarily the cases we are speaking to here. Rather, we are describing farmers who continued to plant coca because they did not have other feasible livelihood options and who often were not able to participate in AD projects due to the conditions of inequality described here.

¹⁷ In addition to repeated eradication, the state has sought to discourage the replanting of coca through Legislative Decree 1241, which penalizes the replanting of coca with sentences of 3 to 8 years in prison (Manrique 2015). Three interviewees in the Monzón Valley stated that there were already cases of farmers who, accused of replanting, had been cited by the Prosecutor's Office. Interviewees in the UHV also made decisions around if, where, and how to replant based on this decree.

leave it to their family, so that is the money that circulates here. It is not only the cacao, it is not only from coffee, it is also from the leaf, from coca, it is from drug trafficking.

In this sense, rather than being eliminated by the partial or total eradication of coca, the connection between these areas and drug trafficking has persisted in various ways. In the evidence we provided here, social and economic inequalities played an important role in determining how farmers responded to anti-drug interventions and adapted to its consequences in order to access their means of living. Together, this evidence suggests that Peru's anti-drug policies in some circumstances built on, rather than alleviated, problems of unequal access to the land and capital that farmers needed to possess in order to switch from illicit coca to licit alternative crops. While some found opportunities for economic development through participating in state-led anti-drug initiatives and AD programs, more marginalized farmers often became even more precarious after investing their scarce resources in alternative crops without much success. Furthermore, especially for farmers who were more dependent on illicit coca cultivation as their principal livelihood strategy, ongoing coca eradication often caused them to both lose their principal source of income and endure the costs of replanting coca if it remained their best livelihood option, expanding the coca agriculture frontier.

Conclusion and Policy Implications

The development and environmental discourses that fill the 'Peruvian Model of Alternative Development' and its promotion contrast with the experiences of many current or former coca farmers living in the Upper Huallaga and Monzón Valleys. Although these discourses do not commonly make the longer social and political context of coca cultivation and prohibition in Peru explicit, our findings showed that growing illicit coca as a means of making a living, even after repeated eradications, was racialized, classed, and gendered. In our fieldwork, we found that both men and women grew illicit coca, but that for some Indigenous and mestizo women in the UHV and Monzón, their access to work and financial autonomy was enabled by coca production and threatened by its eradication. Furthermore, we found that after eradication, social, economic, and political inequalities determined the options available to coca farmers and affected whether or not their decisions would result in enough living income. Those without other viable options besides replanting coca were often led to knowingly make themselves susceptible to continuous threats of eradication and criminalization.

In these ways, our research suggested that rather than alleviate the inequality that caused illicit coca cultivation to be the most viable livelihood option for some, the implementation of AD programs sometimes reproduced these inequalities instead. In some cases, they did so by not being able to provide adequate support to farmers who already had relatively lower levels of social and economic capital. Ultimately, our ethnographic and qualitative evidence pointed to three conclusions about the ways that ongoing coca eradication and AD programs interacted with social and environmental conditions in these two regions: (1) participation in AD programs often required access to an amount and quality of socio-environmental conditions which were unevenly distributed in the local territory; (2) AD participants' potential for success was often limited by socio-environmental factors in ways that its programming often did not account for or overcome; (3) recurrent coca eradication continued to have severe consequences for farmers who were already more marginalized and who were often implicitly excluded from participation in alternative development, leaving them with continuously reduced options after eradication and sometimes resulting in the expansion of the coca frontier as they replanted further into the forest. Taken together, these processes sometimes reproduced inequalities and contributed to unintended negative socio-environmental consequences in both regions.

This analysis demonstrates some of the ways that Peruvian drug policies continue to face challenges in their quest to ensure sustainable livelihoods and ecosystems in former cocalero valleys. Although a development-oriented and environmental discourse surrounding these policies has been on the rise, an imbalance between eradication and alternative development strategies remains prevalent. Indeed, Peru's new drug policy (PCM 2020) maintains that it will prioritize the mitigation of social and environmental damages generated by the illicit market of cocaine drugs and, to that end, will continue to combine eradication with alternative development programs. This new policy continues to point to the UHV and Monzón models as examples of success, without taking into account or challenging the unintended social and environmental consequences that these models reproduced. This article problematized these two emblematic cases of Peruvian drug policy by offering a closer look at the social and environmental constraints and unintended consequences that remained unaddressed by supply-side anti-drug efforts from the growers' experience and point of view.

Part of the reason for these continued discrepancies is that the success of long-term interventions in the UHV and Monzón Valley has been measured mainly through the reduction of coca hectares or the increase in the commercial value of licit crops. Continuing this trend, Peru's new drug policy seeks to measure its results through indicators such as the percentage of coca leaf destined for illicit drug production, the gross value of licit crop production, governmental expenditures in intervention areas, and the percentage of cocaine production and trade avoided (PCM 2020: 52–53). However, these indicators provide little information regarding the experiences of growers in their transition to licit economies, the role of ongoing illicit coca cultivation in making this transition possible or in guaranteeing access to livelihoods in the face of barriers to AD program participation. Our research demonstrates the importance of attending to the socio-environmental conditions that limit and/or shape the forms of growers' involvement in the illicit and licit agricultural economy. Without these considerations, the evidence presented in this article suggests that Peruvian drug policy will continue to reproduce existing structural inequalities in its areas of implementation.

Furthermore, in these processes, marginalized farmers seeking to survive and to escape from poverty through AD are exposed to a new set of risks and forms of precarity, related to the possibility to invest in the long-term, to have access to fertile lands and to articulate with the global agroindustrial market (Meehan 2020). Likewise, those who decide to replant their coca or migrate to other coca-growing areas expose themselves to increased criminalization by the state. The evidence shown here demonstrates that, as in other drug crop producing areas, these decisions are not part of a 'criminal motivation' but are instead a resilience strategy to maintain basic livelihoods in a context of limited opportunities (Gutierrez 2020). The emblematic cases considered here demonstrate why it is necessary to question the (dis)connection between drug policy and development. In fact, the shift towards the search for Sustainable Development Goals in drug policy has the great challenge of reorienting its short-term objectives, such as the reduction of coca hectares and the installation of hectares of licit crops, to approaches that seek development changes in the medium and long-term (Brombacher & Westerbarkei 2019). Rather than re-eradicating coca year after year from those who, not having succeeded within AD programs, found themselves replanting coca, policies should seek to identify and pay greater attention to supporting farmers with low levels of socio-economic capital and access to land, as well as to be alert to the inequalities they integrate into new legal market opportunities.

Finally, further investigations are required to analyze the complex relationship between coca cultivation, drug control policy and the environment in Peru. For example, the Ministry of Environment identified that between 2001–2013, the main direct cause of deforestation was the expansion of licit agriculture, representing 51.6% of the total area deforested in that time. In second place were livestock activities with 39.9%, followed by illegal/informal mining with 5.8%. Meanwhile, coca crops generated only 2.3% of deforestation in the same period (MINAM 2016: 45). Likewise, this report points out that in both San Martín and Huánuco, deforestation is mainly associated with agricultural activities of crops such as cacao, coffee, and oil palm, which have been promoted by AD programs in recent decades (MINAM 2016: 156–157). In these regards, additional research on the environmental impacts of drug policies in Peru and at subnational level has been relatively scarce. The lack of a strong reform-oriented agenda in Peruvian drug policy and limited open access to data pose significant challenges for researchers and policy makers. Further studies are required, using multiple methodologies (e.g., critical analyses from the social and natural sciences, including a critical geography approach to satellite image analysis), to unpack these complex relationships. Drawing on ethnographic evidence from two valleys that emblemize how Peru's drug policy has been implemented in recent decades, this article described some of the factors that exacerbate the social and environmental harms of recurrent coca eradication and that limit successful participation in AD. Critically attending to the structural conditions and lived experiences involved in illicit drug economies and their alternatives is essential to examining unintended socio-environmental consequences for people and environments where drug policies are implemented.

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Competing Interests

The authors have no competing interests to declare.

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