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It's All About the Land: How Plan Colombia Contributed to Oil Palm Expansion and Forced Displacement in Colombia

Camila Ferguson-Sierra
Syracuse University

Abstract

Between the 1960s and 1980s, global land dedicated to monocultures for biofuels tripled and continues to increase (Gerber, 2011). While biofuels are considered sustainable alternatives to their nonrenewable counterparts (Pye, 2018), concerns have been raised regarding their environmental impact. Some of these crops, such as soybeans and corn, are known as flex crops, or crops with uses extending beyond the fuel industry and into food and other sectors. Another such crop is African or oil palm (*Elaeis guineensis*). Palm oil in its various forms is found virtually everywhere, extending from biodiesel blends to food and household items. Plantations have spread expanded from southeast Asia to Latin America in recent years. However, studies have shown that the expansion of oil palm plantations in the Global South has contributed to extensive environmental degradation through deforestation, disease and pest introduction, and extractive monocultures (Alfonso & Liliana, 2011; Delgado, 2013; Selfa et al., 2015; Vijay et al, 2016; Castañheira & Freire, 2017).

This project builds on existing literature discussing the relationship between the growing palm industry in Colombia, one of the top palm oil producing countries in the world, armed conflict, and United States interventions through foreign aid, as the phenomenon may have broader implications for food security and violence. To accomplish this, I use secondary Colombian agricultural census data, USAID disbursement data, and estimated displacement data to determine whether the implementation of Plan Colombia exacerbated conflict affected violence, palm oil hectarage, and increased United States interventions in Colombia. Compiling this information to plot trends over time in addition to conducting a single factor ANOVA for each factor showed that the six-years during which Plan Colombia occurred dramatically increased annual rates of displacement and established significant growth in palm oil hectarage countrywide. Additionally, I delve into the current peace process in Colombia, as the impacts of Plan Colombia are still relevant today.

IT'S ALL ABOUT THE LAND:

HOW PLAN COLOMBIA CONTRIBUTED TO OIL PALM EXPANSION AND FORCED DISPLACEMENT IN COLOMBIA

by

Camila O. Ferguson-Sierra

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Project Overview

Currently, Indonesia and Malaysia produce the bulk of palm oil consumed worldwide. However, in response to global demand for the product plantations have expanded quickly in Latin America over the last two decades (Bennett et. al, 2018). The oil palm industry now spans the coastal rural landscapes of Colombia, Argentina, and Brazil (Delgado & Dietz, 2013). Land converted to oil palm plantations more than doubled between 2000 and 2018, with Colombia and Peru experiencing the most rapid growth (Bennet et. al, 2018). This process followed a period of agrarian reform in Latin America from the 1960s to 1980s characterized by greater participation in a global marketplace through the expansion of exports (Kay, 2015). Corporations and governments established a series of neoliberal plans and development projects designed to both expand the area of production to Latin America and foster international economic partnerships (Kay, 2015; Bennet et. al, 2018). However, much of this development came at the cost of deforestation and land loss for rural and indigenous peoples (Kay, 2015; Bennet et. al, 2018). In some cases, companies convince community members to welcome them by providing resources otherwise neglected by national governments. These come either in the form of financial support and public services, or inputs for smallholder production to be shifted away from other crops in favor of palm oil (Bennet et. al, 2018).

Colombia has uniquely experienced the appropriation of land and resources through a national armed conflict that has lasted over half a century. Forced displacement at the hands of illegal armed groups, especially right-wing paramilitaries, has facilitated the conversion of

"abandoned" farmland and forests to plantations. Interestingly, a major uptick in hectarage devoted to oil palm plantations in Colombia coincided with the USAID foreign aid program Plan Colombia, which mainly operated from 2000-2006.

The purpose of this thesis is to explore the relationships between palm oil, armed conflict, and the USAID Plan Colombia. Colombia provides an important case for analysis because its palm oil industry is associated uniquely with armed conflict exacerbated by neoliberal foreign policies. It is a unitary republic, which consists of a state governed by a single central government located in the country's capital, Bogota. Unlike the United States, in which individual states have a level of sovereignty. Colombia is made up of 32 departments with respective governors who do not operate independently of the state. Each of these are further divide into municipalities. According to the United Nations High Commissioner for Refugees, "Colombia is considered a middle-income country with a democratic tradition and relatively strong institutions at the national level, [but] weak presence in many rural areas of the country" (UNHCR, 2006). This results in areas neglected by the state and makes them vulnerable to, in this case, hostile takeover by illegal armed forces. I argue that Plan Colombia influenced the palm oil industry "boom" that occurred in the 2000s while exacerbating the effects of armed conflict by way of forced displacement in Colombia.

Theoretical Framework

The exploitation of nature for human benefit and as a method of establishing power is a key part of liberalism, laying the foundation for modern day neoliberalism. In his Second Treatise of Government, John Locke (2003) asserts the popular belief that nature was given to

man by God, essentially providing a Divine right for its use "to the best advantage of life and convenience" (Locke et al., 2003: 111), or that nature itself holds no inherent value and must be "improved" through human labor to have value. In doing so, humans can claim ownership over land and resources, and applying labor to modify land or make use of raw materials is a basic form of claiming or creating private property. According to Locke, social order is created and maintained through private property and control over resources (Locke et al., 2003). This notion is not unique to Locke, however, and is used to justify the neoliberalization of nature we have increasingly witnessed in recent decades. Land continues to be viewed through a monetary lens and its ecosystem services[1], are subjected to assignments of value (Castaño, 2018). In short, assigning value to land and its natural processes imposes economic and political control and power over territories.

Neoliberalism is a political project that draws from the more traditional economic liberal notion and emphasizes the concepts of private property or privatization, free trade, free markets, and globalization (Harvey, 2003). Part of the globalization process is the cooperation between policymakers and transnational corporate elites (Avilés, 2008). Transnational corporations (TNCs) further their advancement by lobbying states and creating policy networks to establish and maintain control in areas of interest worldwide (Avilés, 2008), thus exercising and expanding political and economic power in a global market. Neoliberalism began to gain traction as a hegemonic ideological project through policies from major leaders such as Ronald Reagan and Margaret Thatcher in the 1980s and is now deeply embedded in modern forms of

[1] Life-sustaining benefits to humans produced by the natural environment, such as water filtration and air purification from plants.

capitalist accumulation (Harvey, 2003). Neoliberal policies practices emerged around 1980 as the development plan developed and implemented at Bretton Woods with the post-war establishment of the World Bank, International Monetary Fund and the General Agreement on Trade and Tariffs did not produce the widespread rise in incomes anticipated in the lower income countries. Rather, most countries accumulated huge debts with no growth and simply borrowed funds to pay interest. A new regime came into being during this time with much less flexibility allowed by borrowing countries through the mechanism of Structural Adjustment Programs. To service debt and fund state activities, national governments were required to cede decision-making control to international financial institutions (McMichael, 1996; Steger and Roy, 2010).

Marx's concept of primitive accumulation provides a foundational understanding of accumulation in a neoliberal regime. The process is characterized by commodification, privatization, displacement, and the seizure of common goods and spaces for private property rights (Harvey, 2003). The accumulation of capital itself cannot be perpetuated internally, however. The issue of overaccumulation, or "the lack of opportunities for profitable investment" (Harvey, 2003: 139) is a constant pressure on the capitalist system. Simply put, it is the point at which the continued reinvestment of surplus capital can reach a point where there is little to no return on investment. To circumvent overaccumulation, the capitalist can expand to new spaces or open new markets to generate both investment and consumer demand (Harvey, 2003). Currently, this occurs when actors in the Global North impose trade agreements on the Global South, allowing for capital accumulation through access to cheap labor and land and other inputs (Harvey, 2003). Investments continue until they are no longer profitable, thus

creating a cycle of expansion and exploitation through trade agreements and a growing global market. This epitomizes the need for capitalism to rely on “solutions external to itself” (Harvey, 2003) to remain stable.

The most widely used method of external expansion to fuel accumulation is accumulation by dispossession (ABD) (Harvey, 2003), a process in which neoliberal capitalist policies accrue capital in the hands of powerful entities (such as corporations) through the displacement of people from land they occupied previously. Dispossession in this case refers to the restriction or removal of access to resources like land, water, or food, as well as the removal of property rights (Harvey, 2002; Cáceres, 2015). It can be facilitated through potentially violent forceful eviction or land tenure disputes involving titles and incentives (Harvey, 2003; Cáceres, 2015; Castaño, 2018). In addition, “crises may be orchestrated, managed, and controlled to rationalize the system” (Harvey, 2003: 150). This is crucial for establishing the biofuel industry under the guise of rural development. Harvey suggests that government-supported credit systems are used as tools for ABD (2003). In a review of land grabs in Latin America, Borras et. al (2012) describe the lucrative mechanisms and discourses used to facilitate land grabs. They state that “the key mechanisms of land grabbing arise from this: food security, energy/fuel security, climate change mitigation strategies, and demands for natural resources by new centres of capital” (Borras et. al, 2012: 851).

These methods make up what Marin-Burgos & Clancy (2017) refer to as the expansion of commodity frontiers. A commodity frontier is zone beyond which commodity production will expand its level (Marin-Burgos & Clancy, 2017). This occurs through processes such as reorganization and redistribution of product and commodity chains to increase the level of

production to meet or create new demands (Marin-Burgos & Clancy, 2017). However, it is important to note that each commodity frontier will experience these changes very differently, as each locale comes with its own specific set of socioeconomic, political, and environmental dynamics which will affect the ways in which communities are impacted. For our purposes, I will be focusing on what this looks like in the palm oil industry, which is very land intensive.

The ABD or commodity frontier expansion for biofuel expansion begins with export states working in tandem with multinational corporations to implement the neoliberalization of nature (Bakker, 2015), or the "process of reforms and ideological transformations that [seeks to] implement the doctrine of neoliberalism, [which includes] privatization, marketization, deregulation, and reregulation" (Bakker, 2015: 447). Privatization, or the shift from public to private ownership of land, is a crucial step in the neoliberalization process (Fairhead et. al, 2012). These initiatives expand the control of transnational corporations (TNCs) over regions with renewable and nonrenewable resources, as well as ecosystem services. These once publicly accessible assets are assigned monetary value, and consequently commodified as their production and commercial exchange are now additional sources of income for TNCs and the State, a process of capitalist accumulation known as the neoliberalization of nature (Harvey, 2005; Bakker, 2015). With the rise of neoliberal policies pushed by corporations in the Global North, the 1990s witnessed an expansion of privatization and marketization of property rights in Latin America (Liverman & Vilas, 2006).

Socioenvironmental conflict often results directly from these actions and is experienced disproportionately in marginalized communities. It is especially serious in the case of natural resources since land, materials, and services provided by nature are becoming sparse in regions

with extractive development projects. Scarcity is a major driver of conflict because it results in unequal access and power dynamics (Homer-Dixon, 1994; Castaño, 2018). This engenders environmental racism by targeting marginalized groups with insufficient power to retaliate (Bullard & Clinton, 1994). Rural communities which rely on agriculture and traditional foodways are heavily impacted. Dispossession disrupts local activities and practices of food sovereignty as well as local markets (Castaño, 2018).

Moreover, the expansion of commodity frontiers also contributes to changes in the ecological landscape and biodiversity (Marin-Burgos & Clancy, 2017). It is not uncommon for disputes over land to develop, as some dynamics may include the exclusion of people through legal, illegal, and violent forms of claiming control over land (Peluso & Lund, 2011). These efforts often operate in the name of development, but are cases where "authorities, sovereignties, and hegemonies of the recent past have been or are currently being challenged by new enclosures, territorializations, and property regimes" (Peluso & Lund, 2011: 668). In other words, lands once managed by those who have historically lived there under traditional rights, often not officially documented, were acquired through violent measures or manipulative agreements, resulting in widespread displacement. Access to natural resources is revoked and management of privatized land is now up to the discretion of corporations, which is often supported by the state. Corporate ownership now creates a system in which production is up to the discretion of multinational actors and used as a tool for profit with little regard for the ecosystem and the people who once lived there.

While companies and states use a range of mechanisms to make land available for resource extraction, they all adhere to an underlying theme of accumulation by dispossession

(Harvey, 2003). Regardless of the method, dispossession makes way for a private company to establish either a mining site (in the case of fossil fuels) or a biofuel plantation. Biofuels provide a critical opportunity to curb the detrimental effects of fossil fuel operations and have grown in popularity as sustainable and more environmentally conscious sources of fuel. Unlike fossil fuels, biofuels are derived from living material such as plants. Popular biofuel crops include soybean, sugar cane, palm oil, and corn. However, the demand for plant-based fuels across the globe has skyrocketed, particularly in the transportation sector which has relied heavily on nonrenewable resources (Castiblanco et. al, 2013; Paterson & Lima, 2018). Biofuels provide an alternative to fossil fuels and may produce lower greenhouse gas (GHG) emissions in comparison. Supplying global demand for biomass or for biofuel requires significant plant material, and production and extraction processes involve intensive land use. Much of the land best suited for these operations is often already inhabited or provides public resources like drinking water and food.

Nevertheless, as with many commercial operations aiming to meet global demand, biofuel expansion has given rise to a newer form of land grabs, called *green grabs* in which the dispossession of land is justified in terms of environmental consciousness. This argument assumes that local communities may be mismanaging the land and that a private entity may better govern activities or use with more efficient land management practices. It is important to recognize that these sentiments are not new and reflect a long history of the removal of agency from poor and rural communities (Harvey, 2003; Fairhead et. al, 2012). The term green grab focuses on the appropriation of land under the guise, or in pursuit of, eco-friendly or sustainable development. In some cases, publicly owned land and resources are taken to make

way for “more efficient farming to alleviate pressure on forests” (Fairhead et. al, 2012: 238), or extracting or developing in one area while leaving other patches of forest intact.

The Miracle Fruit

The expansion of extractive projects in agriculture has broadened the use of commodity monocultures and “[corresponds] with the emergence of a global agroindustrial complex, called the food-feed-fuel complex” (Delgado & Dietz, 2013: 1, *personal translation*), referring to products that can be flexibly used for food, feed, or agrofuels. Crops which are cultivated to meet production needs across different sectors in this way are known as flex crops. Borras et. al (2012) state:

> ‘flex crops’: crops that have multiple uses (food, feed, fuel, industrial material) that can be easily and flexibly inter-changed: soya (feed, food, biodiesel), sugarcane (food, ethanol), oil palm (food, biodiesel, commercial/industrial uses), corn (food, feed, ethanol). It has resolved one difficult challenge in agriculture: diversified product portfolio to avoid devastating price shocks, but not easy to do and achieve because of the cost it entails (Borras, et. al, 2012: 851)

Palm Oil: Promise and Peril

The African Palm tree (*Elaeis guineensis*) (Atinmo & Bakre, 2003) originated in the West African tropical rainforest region but is now mass produced for commercial use worldwide. It is the highest yielding oil crop, producing ten times more oil per hectare than competitors such as soy (Atinmo & Bakre, 2003; Mingorance & Minelli, 2004; Mba et al., 2015; Hunsberger &

Alonso-Fradejas, 2016), which makes it relatively cheap to produce as well. In the past decade, palm oil has exceeded soybean oil as the most highly sought oil in the world (Mba et al., 2015). After an initial three to five years of growth, African palm trees can produce for up to approximately 25 years (Maher, 2015; Hurtado Lozano et. al, 2017; Castaño, 2018) and in a tropical habitat, *E. guineensis* promises longer term, continuous production of oil than crops which require biomass to be harvested or cut for use. In addition to this, the trees' high yield and minimal labor requirements after planting makes the industry incredibly profitable (Viloria, 2008; Hurtado Lozano et. al, 2017).

While the term palm oil is widely recognized and will be used for the purposes of this project, there are two types of oil extracted from African Palm fruit. The first is generally referred to as crude palm oil (CPO) or red palm oil and has been in production since the early 19th century (Atinmo & Bakre, 2003; Matthäus, 2007; Mba et al., 2015). CPO is extracted from the fleshy mesocarp of each fruit, which is up to 55% oil by weight (Atinmo & Bakre, 2003; Mba et al., 2015). The name red palm oil is due to its color, which ranges from light yellow to red orange as a result of high levels of carotenoids (Manorama & Rukmini, 1992; Atinmo & Bakre, 2003; Kellens et al., 2007; Mba et al., 2015). It is mostly used for food and biofuels (Paterson & Lima, 2018). The remaining kernel inside the fruit is the source palm kernel oil- PKO, which is also about 50% oil by weight. Unlike CPO, which is extracted in producing countries and exported as product, palm kernels themselves are shipped whole and PKO is extracted in importing countries (Paterson & Lima, 2018). This colorless oil remains solid in temperate climates much like coconut oil, for which it can be substituted (Atinmo & Bakre, 2003).

States, corporations, and organizations argue that palm oil is a promising product to use in addressing issues of food insecurity, poverty, climate change, and economic and rural development (Hunsberger & Alonso-Fradejas, 2016; Marin-Burgos & Clancy, 2017; Pye 2018). African palm's ability to produce two different types of palm oils with distinct properties has earned its designation as a flex crop. Palm oil (both CPO and PKO) is used in food, livestock, chemical, cosmetic, and energy sectors, making it an incredibly lucrative and highly sought crop (Atinmo & Bakre, 2003; Hunsberger & Alonso-Fradejas, 2016; Vijay et al, 2016; Paterson & Lima, 2018; Marin-Burgos & Clancy, 2017; Pye, 2018).

Food and Nutrition

Palm oil is commonly known for its myriad of uses in the food sector. In its simplest form, palm oil is used as consumable vegetable oil for cooking and serves as an alternative to soy and sunflower oil (Hunsberger & Alonso-Fradejas, 2016). Its potential expands through a process called fractionation, which separates liquid components, known as palm olein, from solid palm stearin through crystallization of the fatty elements (Kellens et al., 2007; Matthäus, 2007; Mba et al., 2015). Fractionation is different from hydrogenation, which is an irreversible process of extracting solid fats that produces trans fats and contributes to health concerns associated with them (Kellens et al., 2007; Matthäus, 2007; Mba et al., 2015).

Products of fractionation, known as fractions, increase the use value of palm oil because they have different chemical and physical properties than their source oil, and can be mixed with other products (Kellens et al., 2007). For example, palm olein has been blended with soybean oil, which increases the availability of vegetable oil in importing countries (Kellens et

al., 2007; Mba et al., 2015). Palm stearin, the solid fraction, is considered a healthier edible fat option because its ability to function as a solid fat on its own, means that hydrogenation is unnecessary, and trans fats are removed from the equation (Benade, 2003; Kellens et al., 2007; Matthäus, 2007; Mba et al., 2015). In other cases, oil and fractions have been blended to provide edible fat in infant formula and margarine (Mba et al., 2015). Since palm oil's low costs increases its accessibility and utility in making inexpensive products, it has become a more affordable option as a frying fat in addition to acting as a food ingredient. In fact, palm oil use exceeds the use of beef tallow in industrial frying (Mba et al., 2015).

In terms of nutrition, studies have shown that palm oil can address widespread vitamin A deficiencies. It is high in antioxidants and Beta (β) carotene, which is precursory to vitamin A and provides palm oil's characteristic red color. Though it is commonly used as a colorant in food and drink, studies have shown that β carotene can be used as a supplemental alternative to Vitamin A, and its consumption of CPO and CPO-based products do not have the same detrimental toxicological or nutritional effects brought about by the overconsumption of Vitamin A (Manorama & Rukmini, 1992; Benade, 2003; Mba et al., 2015).

Climate Change Mitigation

In relation to climate change mitigation, proponents of palm oil posit that plantations operate as planted forests (Pye, 2018), featuring perennial green biomass and the closed canopy that defines a tropical rainforest (MPOC, n.d). When considered this way, plantations are claimed to be able to address concerns about GHG emissions through carbon sequestration and oxygen production (MPOC, n.d; Pye, 2018; RSPO, 2019). Unlike other crops from which oil

is extracted from biomass, African Palm can produce continuously for roughly 25 years (Maher, 2015; Hurtado Lozano et. al, 2017; Castaño, 2018). While yield generally peaks after seven to ten years because it becomes more difficult to harvest as trees grow taller (Mingorance & Minelli, 2004; Palacios, 2012), soil does not need to be disturbed during productive years and additional carbon is not released into the atmosphere. Mills and refineries are constructed near the plantation landscape, allowing processing to happen on site (Hurtado Lozano et. al, 2017; Pye, 2018). With the combined high percentage of oil in fruit by weight, oil palm plantations are considered the most efficient models of production (MPOC, n.d; Hurtado Lozano et. al, 2017; RSPO, 2019).

Environmental Impacts

Despite these claims, the palm oil industry has come under fire for mirroring the extractivist paradigm of capitalist accumulation through appropriation of land, raw materials, and the negative effects on local biodiversity and people (Ewing & Msangi, 2009; Carlson et. al 2012; Edwards & Lawrence, 2012; Castiblanco et. al, 2013; Delgado & Dietz, 2013; Castaño, 2018). African Palm is cultivated primarily on plantations, which often requires large swathes of previously species-rich or fertile landscapes to be replaced with a monoculture. The conversion of tropical rainforests to plantations is especially detrimental (Paterson & Lima, 2018). Studies have highlighted the substantial release in GHG and volatile organic compound (VOC) emissions caused by their establishment because they are released through deforestation (Alfonso & Liliana, 2011; Selfa et al., 2015; Vijay et al, 2016; Castañheira & Freire, 2017; Paterson & Lima, 2018). This is because the higher rate of carbon uptake does not compensate for that released

when forests are cleared (Edwards & Lawrence, 2012) due to the low overall biomass of oil palm plantations compared to the forests they replace. Deforestation across Southeast Asia for plantations is also known to contribute to forest fires and major biodiversity loss, particularly in the case of peatland clearing (Pye, 2018; Paterson & Lima, 2018). Even though there are regulations restricting this activity, peatland is still drained illegally to clear the way for plantations (Paterson & Lima, 2018; Danielsen et. al, 2019). Danielsen et. al (2019) conclude that it would take up to 93 years to compensate for the sheer amount of carbon released from forest clearing with biofuel use, and over 600 years in the case of peatland clearing.

Peat draining and removal produces haze and black smoke, raises surface temperatures (Paterson & Lima, 2018; Pye, 2018). Despite the presence of the RSPO, "subtle management of monocultures does not prevent the conversion to monocultures" (Pye, 2018: 219) and the effects of deforestation project are irreversible. After establishment, plantations' reliance on fertilizers contributes to the release of copious nitrous oxide into the atmosphere (Paterson & Lima, 2018).

Between 1993 and 2012, global acreage of palm oil plantations expanded to 18 million hectares in producing countries (Hurtado Lozano et. al, 2017). It replaced a staggering 270,000 hectares of tropical forests per year between 2000 and 2011 in exporting countries (Vijay et al, 2016), producing about 50 million metric tons per year by 2012 (Paterson & Lima, 2018). Continuing expansion into new commodity frontiers will only continue spreading the biodiversity and habitat loss documented in southeast Asia to other regions such as Latin America (Ocampo-Peñuela et. al, 2018; Paterson & Lima, 2018). In addition to habitat destruction vis-à-vis deforestation, concerns over GHG emissions and food security have also

been documented in the literature (Vijay et al, 2016; Castanheira & Freire, 2017; Alfonso & Liliana, 2011; Selfa et al., 2015; Hamann, 2018).

These environmental problems have been documented in Malaysia, the world's second largest palm oil producer behind Indonesia. In 2014, palm oil generated approximately $12 billion USD in exports and accounted for 70 percent of the agricultural landscape (Pye, 2018). In a review of the industry in Malaysia, Oliver Pye describes plantations as "an industrial landscape of mills, refineries, ad fat-processing and chemical plants" (2018: 218).

Facing Criticism

Non-state market-driven (NSMDs) governance in flex crop production has developed to address these outcomes and to promote sustainability discourse in support of palm oil production in response to these socio-environmental critiques. Third party certification programs have become a major source of advocacy for 'ethical' consumerism through which companies can continue to encourage sales that fund more 'environmentally friendly' forms of production (Bartley, 2015). As more people cast their financial vote in support of these clean or ethical products, the resulting wave of "conscientious consumerism" (Bartley, 2015: 31) puts a social responsibility on the consumer to force corporations to change business, labor, or agricultural practices to meet the demand (Pye, 2018). Additionally, this perpetuates demand for a given commodity and justifies further expansion under the guise of ethics.

The current leading and most widely recognized multi-sectoral organization certifying "sustainable" production is the Roundtable for Sustainable Palm Oil (RSPO) (Pye, 2018), which has expanded considerably since its formation in 2004. It was initially formed in response to

campaigns noting palm oil's contribution to forest fires across Southeast Asia (Pye, 2018), and is comprised of stakeholders from various parts of the palm oil industry, from smallholders and large corporate producers to retailers and NGOs (MPOC, n.d.; RSPO, n.d.; Silva-Castañeda, 2012; Vijay et al., 2016). With this range of participants, the organization strives to engage with voices beyond that of multinational corporations and provide a platform for those impacted directly by the industry.

Certification for producers is dependent on the following criteria: transparency regarding management, natural resource conservation, and assessment of social and environmental impacts (MPOC, n.d; RSPO, n.d.; Vijay et al., 2016; Pye, 2018). By 2016, approximately 21 percent of global production was RSPO certified (van der Ven et. al, 2018). Certification allows corporations producing palm oil or using sustainable palm oil as an ingredient in products to be actors in sustainability efforts. By sourcing certified sustainable palm oil in food for example, one company may be considered more responsible than competitors and appeal to consumers making more "ethical" choices (Pye, 2018). As of June 2019, there were 3.89 million hectares of certified plantation land across 16 countries (RSPO, 2019).

Despite efforts to increase more sustainable production practices, the effectiveness of RSPO certifications has been heavily criticized (Castiblaco, 2013; Pye, 2018). The organization primarily certifies large corporations over smallholders, and only focuses on individual processing plants and plantations (Pye, 2018). Another problem with this approach is that an operation may have a certified plantation, but the certification does not include the rest of the mills and processing sites that exist on the same property. Critiques focus on the protection of

primary forests, which are regions untouched by human intervention, and those with a 'High Conservation Value' designation are protected and cannot be cleared for plantation development. This leaves secondary growth forests or previously cultivated or disturbed area, susceptible to deforestation. This process does little improve the effects of deforestation. Instead of a pristine new "forest," plantations are homogenous landscapes which cause ecosystem fragmentation (Castiblanco et al., 2013; Pye, 2018), or the division of natural landscapes leading to the reduction of habitat for wildlife. The remaining HCVAs are left with substantially lowered biodiversity than the forests that have been replaced (Pye, 2018). Lastly, issues of land tenure rights and labor regulations are excluded from criteria (Castiblanco et. al, 2013; Pye, 2018).

Van der Ven et. al (2018) analyze the third-party certification programs aimed at preventing negative outcomes from palm oil expansion, and they conclude that too many loopholes exist that continue to allow for the perpetuation of extractive practices. They state that, "simply put, NSMD systems are too sparsely used, weakly worded, and poorly enforces to reverse broader patterns of deforestation that plague agricultural commodity-driven economies" (van der Ven et. al, 2018: 149).

It is important to bear in mind that this consumer-based approach perpetuates issues of power, class, gender inequalities etc. by not also addressing the obstacles preventing disenfranchised people from participating. Products with certifications are often more costly and may not even be available in marginalized communities, and these dynamics are disregarded in favor of pushing consumers to vote with their dollar to create change. The industry's profitability does not go unnoticed by state governments and its expansion is

therefore unlikely to be slowed by consumer-based campaigns (Pye 2018). Since plantations are suited for tropical regions, exporting countries have access to a unique and important source of capital, so there if generally strong government support behind palm oil. Since palm oil is so closely tied to the landscape, corporations having closer relationships with state governments also includes issues of power and control over lands in resources (Peluso & Lund, 2011). It is not uncommon for states to grant corporate permits or tax subsidies to help facilitate expansion to new commodity frontiers (Hurtado Lozano et. al, 2017; Pye, 2018). This is also linked to corrupt or illegal agreements and processes to ensure development in target areas, such as disregarding emissions, pollution, or fires (Pye, 2018).

Displacement

Many target areas for palm oil production in exporting countries are inhabited by rural communities which have historically managed the landscapes. To neglect their protection would be to disrupt a close relationship between people and the natural resources they rely on for subsistence, as well as the power and class dynamics preventing them from being able to resist this sort of development. This form of displacement also indirectly contributes to deforestation, as people are often forced to clear new land to inhabit (Castiblanco et. al, 2013).

Other forms of dispossession occur through smallholder recruitment. Financial incentives and production targets are commonly implemented to welcome smallholders to the industry to boost production for export (Zoomers, 2010; Hall, et. al, 2015). However, these often-informal agreements result in the loss of control over agricultural landscapes, or the rights to inhabit the land itself. Cases in Colombia highlight manipulative practices in which the

State encourages small scale farmers to shift production from food crops to palm oil in partnership with larger corporations (Avila et. al, 2018). Engaging with smallholders is promoted through discourse depicting the industry as "an environmentally sustainable way to economic prosperity" (Bennett et. al, 2018: 39). This language has perpetuated the misconception that palm oil is a sustainable alternative to its nonrenewable counterparts. As Selfa et. al (2015) put it,

> As with any development intervention, policies and programs designed to expand the bioenergy sector should incorporate systematic efforts to evaluate how development benefits are distributed and whether any social groups are adversely affected by the development. [Our] comparative case studies have identified specific negative social impacts affecting the livelihoods of people in three Latin American nations. These include increases in food insecurity, loss of income, land concentration, and the loss of access to land and natural resources, which are especially affecting peasant farmers, poor communities, and indigenous peoples (Selfa et. al, 2015: 1326).

Palm oil might appear to be a crucial step in solving nutritional deficiencies, increasing accessibility to a renewable fuel source, and producing many staple products at more affordable prices. While palm oil has changed a commercial landscape previously dominated by nonrenewable resources and more agronomically-intensive crops, the supporting discourse claiming it to be a miracle product is problematic. The consequences of palm oil's establishment and expansion in producing countries are severe, and the lack of transparency and complete information in its marketing contributes to continued consumer demand and expansion across

tropical agricultural land based on a false premise that palm oil is a sustainable alternative to other fuels, including competing biofuels.

Armed Conflict and Plan Colombia

Colombia is a critical case for analyzing the growth of the industry because palm oil is closely tied to armed conflict exacerbated by US foreign policy. Oil palm plantation expansion can be attributed to Plan Colombia, a USAID program which established diplomatic and military relationships between the United States and Colombia (Avilés, 2008; Paley, 2015). These programs focused largely on border control, reducing drug trafficking between nations, and promoting national security of participating countries.

Conflict Overview

The latest period of armed conflict in Colombia has existed for over 60 years and is considered the oldest conflict in the western hemisphere (Melamed & Espitia, 2017). Over the course of several decades, conflict generated a staggering death toll in the hundreds of thousands, many of whom were civilians (World Peace Foundation, 2016; Melamed & Espitia, 2017). In addition to this, there were massive amounts of forced displacement to urban areas and Venezuela, kidnappings, sexual violence, and forced recruitments of adolescents across the country (Bailey, 1967; Melamed & Espitia, 2017). The United Nations High Commissioner for Refugees states,

> [The] conflict is characterized by widespread use of landmines, recruitment of child soldiers, the practice of blockading communities as well as systematic violation of the principle of distinction between combatants and civilians and other principles of international humanitarian law by the irregular armed groups. It is also important to note that income distribution within Colombian society is highly unequal with 62% of the population living below the poverty line and 28% living in extreme poverty. In sum, Colombia is plagued by a humanitarian crisis of enormous magnitude (UNHCR, 2006: 2).

Conflict reached all corners of the country and only estimates exist for the number of deaths, human rights violations, and other acts of terror (Bailey, 1967). Part of the reason for this is that in many cases, violence was carried out or ordered by people in positions of power who kept their actions undocumented or unofficial (Bailey, 1967). Partisan rivalry is not unfamiliar to Colombia, which previously experienced a civil war between the Conservative and Liberal parties starting in 1876 (Bailey, 1967). In this case, though, the widespread deaths mostly affected the fighting forces (Bailey, 1967). The current, ongoing armed conflict in Colombia differs in that it is not one long-term or isolated incident and it also affected civilians profoundly (Bailey, 1967). The focus of analysis for many is centered on Cold War era conflict consisting of the organization of armed Communist guerrilla groups in the 1960s (Melamed & Espitia, 2017), but there are various periods of partisan rivalry-based violence between the Colombian Liberal Party and Conservative Party providing catalysts dating back to the 1930s and 1940s (Bailey, 1967; World Peace Foundation, 2016; Garrard et al., 2019).

In 1930, the election of Liberal Enrique Olaya Herrera ended a period of Conservative Party control (Bailey, 1967; World Peace Foundation, 2016). Anti-Conservatives celebrated this win with assassinations and property destruction erupted in the departments[2] of Santander and Boyacá (Bailey, 1967; World Peace Foundation, 2016). The Liberal Party maintained executive control of the government for 16 years until the Liberal party became divided between moderates and reformists, resulting in the election of Conservative Mariano Ospina Pérez in 1946 (Bailey, 1967; World Peace Foundation, 2016). Conservatives responded just as violently in celebration, and partisan conflict began to escalate once more. However, it did not subside this time (Bailey, 1967; World Peace Foundation, 2016).

Nearing the next election, the popular Liberal leader Jorge Eliécer Gaitán, who had lost in 1946, was assassinated on April 9, 1948 in Bogotá (World Peace Foundation, 2016; Melamed & Espitia, 2017; Garrard et al., 2019; Díaz et. al, 2020). The Liberal Party held a majority and gained significant popularity in rural areas, largely because Gaitán's populist platform appealed to peasants and working people (Bailey, 1967). During his career as an attorney, he notably and harshly critiqued the national armed forces' brutal massacre of the United Fruit Company workers on strike for improved working conditions in 1928 (Garrard et al., 2019). Gaitán was also a proponent of labor reform and unions, agrarian reform, and women's suffrage (Garrard et al., 2019). His death marked the beginning of the period known as *La Violencia* in Colombia (Díaz et. al, 2020). The two days following the assassination were filled with bloodshed, sexual violence, and property destruction targeting conservatives, followed by the almost complete restructuring of the police to a conservative force to address them (Bailey, 1967). From 1948 to

[2] Colombia is a unitary republic made up of 32 departments, each of which has a governor.

1958, systematic and politically charged violence ravaged the country with approximately 112,000 deaths between 1948 and 1950 alone, and 300,000 by the 1960s (World Peace Foundation, 2016; Garrard et al., 2019). Another estimated two million people either migrated or were displaced (World Peace Foundation, 2016).

La Violencia peaked in the late 1940s and early 1950s as armed groups consisting of militarized peasants on either side of the political spectrum formed and mobilized (World Peace Foundation, 2016). With the number of these militias forming with Liberal and Communist roots, the Colombian government deployed the national armed forces to quell the insurgents (World Peace Foundation, 2016; Melamed & Espitia, 2017). Pérez's Conservative successor, Laureano Gómez Castro, took office in 1950 until the successful military coup by army general Gustavo Rojas Pinilla in 1953 (Bailey, 1967; World Peace Foundation, 2016; Melamed & Espitia, 2017).

By this point in the conflict, violence occurred at all levels. The national army and police fought alongside government hired Conservative paramilitaries made up of peasants against Liberal and Communist-driven guerrillas (Melamed & Espitia, 2017). Conservative forces became more organized and unofficial armed groups received government support and even Conservative local officials mobilized peasants within their jurisdiction to help engage in anti-Communist and anti-Liberal battles as well as further their personal political agendas (World Peace Foundation, 2016). It is important to bear in mind the importance of the role of the militarization of peasants in this conflict. With virtually no power to oppose participation in local battles, peasants were often put in positions to fight with each other (World Peace Foundation, 2016; Melamed & Espitia, 2017). This shift broadened the conflict from one of

partisan rivalry to conflict over land and resources as they were seized by armed groups, concentrating more extreme forms of violence in rural and predominately agrarian regions of the country (Bailey, 1967; Maher, 2015; World Peace Foundation, 2016; Hurtado Lozano et. al, 2017; Melamed & Espitia, 2017). Civilians were consequently entangled in conflict as guerrillas, paramilitaries, and the national army clashed on their lands (Melamed & Espitia, 2017). In the Department of Tolima alone, 34,730 farms were abandoned and the equivalent of 400-500 million US dollars' worth of property were demolished between 1946 and 1958 (Bailey, 1967). *La Violencia* ushered in a new era of terror, with armed groups employing new methods of violence and fearmongering. Norman A. Bailey (1967) affirms,

> Certain techniques of death and torture became so common and widespread that they were given names, such as *picar para tamal*, which consisted of cutting up the body of the living victim into small pieces, bit by bit. Or "*bocachiquiar*", a process which involved making hundreds of small body punctures from which the victim slowly bled to death. Ingenious forms of quartering and beheading were invented and given such names as the "*corte de mica*", "*corte de franela*", "*corte de corbata*", and so on. Crucifixions and hangings were commonplace, political "prisoners" were thrown from airplanes in flight, infants were bayoneted, schoolchildren, some as young as eight years old, were raped en masse, unborn infants were removed by crude Caesarian section and replaced by roosters, ears were cut off, scalps removed, and so on (Bailey, 1967: 562).

Rojas Pinilla's administration took strong action against civil warfare and violence was reduced significantly under Martial Law (World Peace Foundation, 2016; Melamed & Espitia, 2017). A major contribution to this was the granting of general amnesty for guerrillas who

agreed to lay down their arms, which was accepted by several thousand fighters (Bailey, 1967; World Peace Foundation, 2016; Melamed & Espitia, 2017). However, violence did not disappear completely. Rural areas without significant official State presence continued to experience fighting between the army and armed peasants and guerrillas, and many who were affected by ongoing bloodshed participated in robberies or joined armed groups themselves (World Peace Foundation, 2016). By the mid-1950s, conflicting forces consisted of people at all levels of society and even bandits and militias were working with and hired by corrupt officials to secure territories, hoard resources, and assure the cooperation of rural people in vulnerable areas (Bailey, 1967). Farmers were disproportionately affected and forced to give up critical crops such as coffee, cacao, and sugar, while others were forced to sell their land well below market price (Bailey, 1967).

Though he is credited for the reduction of violence during his rule, Rojas Pinilla was also heavily criticized for corruption and maladministration (Bailey, 1967; Melamed & Espitia, 2017). This resulted the 1957 formation of the *Frente Nacional*[3] four years after the coup, an agreement between the Colombian Liberal and Conservative parties to begin alternating presidencies and bring back civilian leadership (Bailey, 1967; World Peace Foundation, 2016; Melamed & Espitia, 2017). This reinstated the centralized power of government in the state but also sparked mobilization among more radical leftists in the form of newer and more organized guerrilla groups. Those in opposition to the *Frente Nacional* felt that the effort diminished political freedom by limiting the democratic process (World Peace Foundation, 2016; Melamed

[3] National Front

& Espitia, 2017). In addition, the Conservative party began to build strength through the police and public forces by replacing leaders with their own in response (Bailey, 1967).

During the Cold War era, Communism became increasingly popular in Latin America and was heavily influenced by the Cuban Revolution, much to the disdain of the United States and Catholic Church (Melamed & Espitia, 2017). With new leftist movements gaining traction, the United States increased its presence in Latin American countries. In 1961, John F. Kennedy launched the Alliance for Progress, a plan to solidify economic relationships with target countries through antipoverty efforts as well as providing support for counterinsurgency efforts (Melamed & Espitia, 2017).

The largest of the so-called insurgents is known as the *Fuerzas Armadas Revolucionarias Colombianas*[4], or the FARC. Originally a smaller group based in rural areas, the FARC consisted mainly of armed peasants who began to mobilize during Pérez's presidency. They initially organized under the name *Bloque Sur*[5] in response to an army attack in what was referred to as the Republic of Marquetalia in the interior region's Department of Tolima, which served as one of several armed peasant-led communist or "soviet" strongholds in the country (Bailey, 1967; Melamed & Espitia, 2017; Díaz et. al, 2020). In 1964, they were renamed as the FARC and were led by Manuel "*Tirofijo*" (Sureshot) Marulanda (Bailey, 1967; Garrard et al., 2019)

The attack in Marquetalia is considered part of the United States Plan LASO, or the Latin American Security Operation in 1962, which deployed military support, training, and strategy from the United States to target the republics strongholds (Bailey, 1967; Melamed & Espitia,

[4] Revolutionary Armed Forces of Colombia
[5] Southern Bloc

2017). Unfortunately, these targets were also agricultural areas and were decimated by bombing (Melamed & Espitia, 2017). The other well-known guerrilla force is the *Ejército de Liberación Nacional*[6] (ELN). Though smaller in size, the ELN was formed in Santander in the northern region of Colombia and consisted of around 5,000 troops (Melamed & Espitia, 2017; Garrard et al., 2019). Unlike the FARC, the ELN was not created by peasants and were directly influenced by Marx and the Cuban Revolution (Melamed & Espitia, 2017). One of the most influential but brief leaders of the group was Father Camilo Torres, who was a sociologist and Catholic Priest, but was killed in combat in 1965 (Garrard et al., 2019). The ELN approached things a bit differently, and engaged in kidnappings for ransom, targeting even United States oil executives to gain capital, as well as working with narcotraffickers (Garrard et al., 2019). Many members of the ELN trained in combat in Cuba, and later they quietly gained assistance from Venezuela's Hugo Chávez (Garrard et al., 2019). During this time, drug-related groups increased their presence in areas of conflict (Hurtado Lozano et. al, 2017).

By the 1990s, the death rate in Colombia was one of the highest in the world and still exhibited gruesome methods of instilling terror such as the "necktie," where the tongues of dead bodies were pulled through slit throats (Garrard et al., 2019). Despite intervention from the United States thus far, the national army and police forces could not suppress the growing guerrilla troops and opted to increase the employment of the right-wing paramilitary known as *Autodefensas Unidas de Colombia*[7] (AUC) to broaden their reach (Fergusson et. al, 2014; Hurtado Lozano et. al, 2014; Maher, 2015; Garrard et al., 2019). Bear in mind that the link that

[6] National Liberation Army of Colombia

[7] United Self Defense Forces of Colombia

exists between Colombian national army and the AUC means that the paramilitaries carry out unofficial government operations against guerrillas, which are often very visible and egregious acts of violence (Avilés, 2008; Delgado-Ramos & Romano, 2011). As such, the national army is known for being supportive of paramilitary efforts and the narcotraffickers that help fund them (Avilés, 2008; Chalk, 2011). Since the AUC is not an official part of the national army, they are able to operate independently and outside the rule of law while the government's role in operations maintains a low profile (Delgado-Ramos & Romano, 2011). Their alliance with the conservative party meant that they perpetuated anti-communism rhetoric to defend the seizure of resources and violence (Garrard et al., 2019). In fact, they produced *more* deaths in Colombia than the FARC (Garrard et al., 2019).

During the 1990s, the FARC and the national army agreed to a ceasefire which resulted in a semblance of peace in urban centers while the FARC continued to expand control over rural territories out of the scope of the upper class (Garrard et al., 2019). Acreage dedicated to coca production in Colombia increased from 13,500ha in the beginning of the 1990s to 122,500ha by 1999, and was a significant source of income for the FARC, ELN, and the AUC, as well as cocaine for the U.S. market (Avilés, 2008; Garrard et al., 2019).

Increased presence of armed forces contributes greatly to social unrest and extractive measures in target regions. It generates countless refugees who flee to urban areas and drastically affects the landscapes they once inhabited (Fergusson et. al, 2014). Natural resources specifically continue to spark tension between opposing parties and are weaponized to gain a strategic advantage. This occurs through the destruction or increased exploitation of, or restriction of access to natural resources such as water, metals, etc. (Stevens et al., 2011;

Fergusson et. al, 2014). Despite the intent of these tactics to weaken 'enemy' armed forces, the consequences are suffered by civilians who may continue to live in the areas under conflict. Local economies are disrupted while agricultural landscapes are seized for illicit crop production (Fergusson et. al, 2014). In many cases, increased presence of armed forces may lead to a rising demand for resources and result in unsustainable and extractive handling of forest products (Machlis & Hanson, 2008; Fergusson et. al, 2014; Castro-Nuñez et al., 2017; Negret et al., 2019). Using satellite-based estimates, Fergusson et. al (2014) concluded that between 1990 and 2010, the intensification of paramilitary presence contributed to major deforestation and increased presence of coca producers in target areas (Fergusson et. al, 2014).

Plan Colombia

Plan Colombia, a military and diplomatic "counter-narcotics and development plan" (Avilés, 2008) was introduced in Colombia and signed into law by President Bill Clinton in July 2000 (Avilés, 2008). This six-year program invested $1.6 billion USD and provided military and police support and training to increase the Colombian state's counter-insurgency capacity against militarized guerrilla groups; specifically, the FARC and the ELN (Avilés, 2008; Delgado-Ramos & Romano, 2011; Paley, 2015; Maher, 2015; Camacho & Mejía, 2017). These efforts were concentrated mainly in strategic areas, such as borders shared with neighboring countries, and territories housing natural resources of importance to the United States. In addition, the plan included market strategies and free trade agreements between the two nations to bolster trade relationships and mitigate poverty in rural Colombia (Avilés, 2008;

Delgado-Ramos & Romano, 2011). By 2005, the United States had sent hundreds of military personnel and private military contractors to Colombia (Paley, 2015).

Arguments for intervention in Colombia stressed that addressing the largest sites of coca production would lessen the amount of cocaine entering the United States (Aviles, 2008; Delgado-Ramos & Romano, 2011). In the matter of national security, drugs contribute to unemployment and corruption, destabilizing the socioeconomic and political systems in place (Aviles, 2008; Delgado-Ramos & Romano, 2011). As such, it is deemed critical to boost these countries' "integration into capitalist globalization" (Aviles, 2008) by shifting production away from illicit crops through a combination of military and economic development strategies. Political discourse in the United States largely focuses on reinforcing national security and government stability (Aviles, 2008; Delgado-Ramos & Romano, 2011). Adhering to the military-based National Security Doctrine of the United States, counter insurgency[8] plans between the US and Latin American countries are often adopted to minimize potential threats entering the US by building the political armed forces of participating States (Aviles, 2008; Delgado-Ramos & Romano, 2011; Maher & Thomson, 2011).

Here, activity near or on drug production sites is considered justification to increase policing target areas, as they are current or potential threats to national security. Unfortunately, this approach tends to criminalize forms of social resistance and affects civilians living in target areas (Delgado-Ramos & Romano, 2011). The emphasis on border protection and control also creates a seemingly official reason for the United States to intervene in Latin

[8] Per the National Security Doctrine, "insurgency" is defined as the "systematic use of violence to overthrow and undermine established political and social order" (Delgado-Ramos & Romano, 2011).

America under the guise of working towards common goals for security and economic development (Delgado-Ramos & Romano, 2011). This in turn continues the extension of political power internationally, an imperialist and expansionist venture to protect the highly coveted resources and markets for corporate investments such as oil (Avilés. 2008; Delgado-Ramos & Romano, 2011). As global dependence on raw materials and energy continues, there is a strong connection between natural resources and efforts towards security and stability in exporting countries (Avilés. 2008; Delgado-Ramos & Romano, 2011).

The majority of Plan Colombia took place during the Uribe administration in Colombia (2002-2010), which overlapped with George W. Bush's administration in the United States (Chalk, 2011; Paley, 2015; Garrard et al., 2019). The initial proposed plan aimed to establish a peace process with the FARC, promote development in rural areas, and increase exports from Colombia (Avilés, 2008). The final Plan Colombia included these in addition to input from TNCs and other corporate actors, the United States, and Colombian representatives (Avilés, 2008).

After the September 11th attacks on the World Trade Center in New York City, George W. Bush included guerrillas in Colombia on the official list of terrorist organizations and increased United States support against insurgents (Garrard et al., 2019). Those in support of the initiative argued that it would help develop a United States style of justice system by expanding policing in Colombia (Paley, 2015). While the United States made up nearly half of demand for cocaine on the market, "support" mainly intended to impede the supply of cocaine from Colombia but were also extended to FARC strongholds outside of coca cultivated areas (Avilés, 2008; Chalk, 2011). These efforts came in the form of special training for armed forces and police (Delgado-Ramos & Romano, 2011; Paley, 2015; Garrard et al., 2019), as well as the

transfer of ground-based radar systems, helicopter troop carriers, and various forms of heavy artillery; the institution of in-country training programs aimed at augmenting coastal surveillance and interdiction, port security, containerized cargo inspections, and high-speed pursuit tactics; the deployment of U.S. special forces advisers to create elite antidrug units in both the police and army; and the provision of technical advice and equipment to facilitate ground and aerial crop-eradication efforts (Chalk, 2011; Camacho & Mejía, 2017).

With this, Uribe expanded the national army and police force from 120,000 to 180,000 and 90,000 to 120,000, respectively (Garrard et al., 2019). His work with the United States earned him recognition as an important ally in the "war on terror" initiative and positive approval ratings in Colombia (Garrard et al., 2019). Additionally, Uribe began new negotiations with guerrillas and the AUC to demobilize by offering reduced sentences and preventing extradition to the United States for fighters involved in narcotrafficking (Garrard et al., 2019).

Despite the plethora of approaches to weaken the drug trade, Plan Colombia failed as an effort to diminish cocaine produced in Colombia. Aerial crop spraying programs distributed potent herbicide widely, a form of chemical warfare across coca regions (Chalk, 2011; Paley, 2015). The herbicide in question was the glyphosate contained in the commercial herbicide Roundup® mixed with a Colombian-owned surfactant called Cosmo-Flux 411F, which is an additive that decreases surface tension and allows the herbicide to penetrate surfaces more deeply (U.S. Department of State, n.d; Chalk, 2011; Henao-Muñoz et al., 2013; Camacho & Mejía, 2017).

Widespread application of this fortified glysophate by air has been noted to affect legal crops and peasants living in target regions (U.S. Department of State, n.d; Paley, 2015). On top

of that, it did little to curb coca cultivation even though the United States invested over $8 billion USD into the plan between 2000 and 2009 (Paley, 2015). Despite aerial spraying programs and manual eradication, coca producers developed methods to combat herbicide. These include applying molasses to the plants to prevent the herbicide from penetrating plant tissue (Mejía, 2014; Mejía, 2016). Violent confrontations were also reported, with cases of armed groups using land mines or violent confrontation to combat manual eradication efforts (Mejía, 2016). There were 116,000 hectares of land dedicated to coca in 2009 and Colombia still supplied most of the cocaine on the market (Chalk, 2011). In more recent years, reports of glyphosate being carcinogenic (Mejía, 2016), contributing to miscarriages, and having "dermatological and respiratory [impacts] on humans" (Camacho & Mejía, 2017).

As an economic endeavor, however, Plan Colombia greatly benefited the United States, Colombia, and TNCs (Avilés, 2008; Paley, 2015). New policing and military tactics backed by the United States supported security in areas with coveted natural resources coupled with policy networks supporting foreign investment progressed integration into the global market (Avilés, 2008). Global coffee prices had begun to decrease as more competing exporters were introduced and Colombia's agrarian sector suffered because joining this growing international marketplace contributed to unemployment (Avilés, 2008). *Campesinos* in neglected rural areas struggled with little to no government support, and the combination of economic hardships coupled with a declining agricultural sector pushed many towards the more lucrative businesses of coca and poppy production (Avilés, 2008; Mejía, 2016). Colombia soon became the largest producer of cocaine entering the United States, leading to new efforts by the United States to eradicate its supply.

Colombia experienced consistent GDP growth throughout the 2000s and during Uribe's presidency, a quarter of which was accounted for by international trade (Maher, 2015). Economic growth also coincided with increased violence, particularly regarding palm oil. This only increased with rising global demand for palm oil and resulted in forced displacement and violent forms of intimidation by the national army and right-wing paramilitaries as a land clearing tactic. Abandoned land is then made available for the establishment of palm plantations (Maher, 2015).

These measures used to enforce and extend Plan Colombia, laid the foundation for the free trade agreement and the 2008 Mérida Initiative, a similar military training and surveillance counter narcotics plan in Mexico (Delgado-Ramos & Romano, 2011; Chalk, 2011; Paley, 2015). The agreement intended to impose tariffs to cover losses from the drug trade and increase employment (Paley, 2015) and continued to strengthen Colombia's capacity for foreign investment and business ventures. Uribe's successor, Juan Manuel Santos, took office in 2010 and was previously his defense minister (Garrard et al., 2019). Santos maintained Uribe's hardline policies against insurgents, but also expanded the use of false positives[9] in target regions, a method often carried out by the AUC (Garrard et al., 2019). In 2016, an armistice was negotiated and signed in November (Garrard et al., 2019).

[9] False positives- the practice of counting or dressing civilians up as guerrillas in order to make it seem as though the counterinsurgency measures were more successful than they were (Garrard et al., 2019).

Palm Oil and Exacerbated Conflict

African palm is not new to Colombia and has been cultivated in the country for over 60 years, with plantations on record as early as 1945 (Marin-Burgos & Clancy, 2017; Hurtado Lozano et. al, 2017). Development of the industry expanded between 1990 and 2010, as the country explored new export markets. Colombia has grown from roughly 5,000 hectares of land dedicated to palm oil in 1962 to 540,000 hectares in 2020 (INALDE, 2019). The first decade in the 2000s brought a 229% increase in price per ton of palm oil (Hurtado Lozano et. al, 2017; Marin-Burgos & Clancy, 2017), which coincides with the economic growth witnessed during Plan Colombia. During that same decade, Colombia became the largest producer in Latin America and fifth largest in the world (Hurtado Lozano et. al, 2017; Marin-Burgos & Clancy, 2017).

There is a direct relationship between displacement and palm oil. Palm oil production is a lucrative business which attracts armed groups engaging in illegal activity (Hurtado Lozano et. al, 2017). Though plantations require relatively little post-establishment labor in terms of maintenance, harvesting is an expensive and intensive process (Maher, 2015). It also occurs year-round to keep up with fruit production, so operating an oil palm plantation requires a significant amount of consistent capital in addition to the high upfront cost of establishment (Palacios, 2012; Maher, 2015). For that reason, there is a push for larger operations to increase production to make up for the invested capital (Palacios, 2012). The industry grew drastically alongside increased levels of forced displacement, violence, and disappearances between the 1980s and 1990s (Hurtado Lozano et. al, 2017). Each of the armed groups have targeted palm growing regions, and palm operations have been linked with violence most perpetrated by

paramilitaries (Ocampo Valencia, 2009). The AUC began to intensify and grow their presence in areas producing palm, bananas, and livestock, and offered locals “protection” in exchange for imposed illegal taxes (Hurtado Lozano et. al, 2017), a violent form of coercion also referred to as “gunpoint conservation” (Fergusson et. al, 2014).

Rising demand for palm oil brought a matching rise in demand for land, and displacement became a tool to clear land to secure territory and sell “abandoned” land to companies for new plantations (Lozano et. al, 2017). As with any expansion of a commodity frontier, continuing demand requires more land, more technology, and is an ongoing process (Marin-Burgos & Clancy, 2017). Dispossession of land through extortion, coercion, and violence helped to secure these for corporate and state interests (Hurtado Lozano et. al, 2017), greatly affecting small scale farmers and making it difficult for small-scale palm growers to compete for land (Hurtado Lozano et. al, 2017). This tends to occur on a larger scale in efforts to clear land for palm oil than to produce illicit crops (Palacios, 2012) because target areas often have less government presence (Hurtado Lozano et. al, 2017), allowing extortion by the AUC and conflict between armed groups to continue unchecked.

From 1990 and 2013, there were 348,280 reported registered victims of forced displacement, 87 percent of which occurred during the ten-year palm oil boom. Given global recognition of environmental degradation and human rights violations due to biofuel development projects, these crises have created new opportunities for the construction of a sustainability narrative to promote the palm oil industry. Maher (2015) argued that the expansion of plantations in Colombia, the fourth largest producer and exporter of palm oil worldwide, has been facilitated in large part by ongoing warfare. He states,

> [In] the case of palm oil, violence perpetrated by Colombia's public security forces and paramilitaries has cleared and secured areas for the expansion of African palm cultivation, production and exportation. Moreover, these armed actors have created a model of 'peaceful' industrial relations underpinned by violence. This violence has lowered labour costs and facilitated the greater precariousness of labour conditions, ensuring that the benefits of economic growth related to palm oil are largely realised by palm oil companies vis-a`-vis palm oil workers. Violence has thus created an attractive business climate for both domestic and foreign capital (Maher, 2015: 321).

His findings suggests that specific forms of violence in civil warfare can contribute to the exposure of areas vulnerable to the industry. As part of Plan Colombia, palm oil development inherently targeted areas with narcotraffickers and guerrillas (Marin-Burgos & Clancy, 2017). Funding supported "land intensive technology" (Hurtado Lozano et. al, 2017: 442) for plantations such as refineries and mills in addition to cropland (Pye, 2018). In the department of Magdalena alone, 348,280 victims of displacement were registered in between 1990 and 2013, and over 80 percent of them were expelled between 2000 and 2010 (Hurtado Lozano et. al, 2017), which overlaps with Plan Colombia. The department of Magdalena specifically, accounted for ten percent of nationwide palm production, with palm oil dominating 62% of the agricultural landscape (Hurtado Lozano et. al, 2017). Forceful eviction due to palm oil in this department exceeded that caused by confrontations between opposing armed forces (Hurtado Lozano et. al, 2017). This is also the case in Indonesia, the largest exporter of palm oil, where internal conflicts include struggles over land tenure, and many are located on the island of Sumatra, where the bulk of palm oil is produced.

Aftermath

Plan Colombia ended in 2006, but its effects are still felt to this day. High rates of displacement continue, and guerrilla and paramilitary groups are still active. As a counter narcotics strategy, the Plan failed spectacularly to eradicate illicit crop production (Paley, 2015). Cocaine continued to make its way unhindered to the United States (Paley, 2015). The real "success" of the Plan lies in securing territories for corporate interests, particularly in underground resource, oil, and gas sectors (Fergusson et. al, 2014; Paley, 2015). Displacement served as useful tool to grow the economy through the eviction of people from land which would later be "occupied and exploited by transnational corporations" (Paley, 2015: 117) all under the guise of addressing the illegal drug trade (Maher, 2015; Paley, 2015).

Colombia is among the most biodiverse countries to have experienced growth in agribusiness, and more specifically, palm oil (Ocampo-Peñuela et. al, 2018). However, the environmental degradation caused by intensified conflict and palm plantations is both arduous and costly, especially at sites of violent confrontation and massacre (Fergusson et. al, 2014). Gunpoint conservation and other terror tactics prevented conservation and local land management efforts, and many lands seized by armed groups were quickly cleared to establish ranches or coca plantations (Fergusson et. al, 2014). Current literature establishes connections between palm oil and violence, palm oil and environmental degradation, USAID and increased violence, and palm oil as part of Plan Colombia. However, few authors link these connections systematically.

Methods

To illustrate the connections between these three elements, I designated indicator variables with available data to represent each. Displacement represents increased violence over time because exact numbers of death are impossible to determine because of methods used to disappear victims and dispose of bodies. Displacement estimates are available through Colombia's Red Nacional de Información (RNI) through Unidad para las Víctimas[10]. RNI sources information from departmental and municipal governments and victims to provide support for victims of armed conflict in accordance with Ley 1448 de 2011[11], which states,

> La presente ley tiene por objeto establecer un conjunto de medidas judiciales, administrativas, sociales y económicas, individuales y colectivas, en beneficio de las víctimas de las violaciones contempladas en el artículo 3º de la presente ley, dentro de un marco de justicia transicional, que posibiliten hacer efectivo el goce de sus derechos a la verdad, la justicia y la reparación con garantía de no repetición, de modo que se reconozca su condición de víctimas y se dignifique a través de la materialización de sus derechos constitucionales (Congreso de Colombia, 2016).

> The purpose of this law is to establish a set of judicial, administrative, social and economic measures, individual and collective, for the benefit of the victims of the violations contemplated in article 3 of this law, within a framework of transitional justice, which makes it possible to enjoy their rights to truth, justice, and reparation with a guarantee of

[10] National Information Network within Colombia's national Victims' Unit
[11] Law 1448 of 2011

> non-repetition, so that their status as victims is recognized and dignified through the materialization of their constitutional rights (Congreso de Colombia, 2016; *personal translation*).

The data provided through the RNI represents estimates of the number of people expelled[12], received[13], and declared[14] over time.

As a USAID initiative, Plan Colombia is tracked through annual USAID disbursements to Colombia via the USAID (USAID, n.d.) as a measure of investment over time. The USAID site provides data regarding monetary commitments to each country receiving aid, as well as the actual annual disbursements. Aid to Colombia was documented as early as the 1940s.

Last, palm oil hectarage was available from two sources. Fedepalma, or La Federación Nacional de Cultivadores de Palma de Aceite[15], a corporate organization supporting the growth and development of the palm industry in Colombia. They were formed in the 1960s and work with *palmeros*[16] with operations of all sizes, promoting competitive business strategy, programming, and market research to help ensure the success of the Colombian palm sector. Fedepalma produces annual data regarding current and developing hectarage are available, as

[12] The number of people expelled approximates people evicted from their lands each year.
[13] The number of people received approximates the inflow of people to new destinations, such as urban areas, after being removed from their lands. This generally aligns with the number expelled.
[14] The number of people declared reflects the number of people who came forward to formally report displacement. It is important to consider factors that affect the number of declared victims of displacement, as threats, terror tactics, etc., may prevent them from coming forward.
[15] National Federation of Oil Palm Growers of Colombia
[16] Palm growers

well as information about processing and scientific research and programming (Fedepalma, 2016)[17].

Agronet is the Network of Information and Communication of Agriculture and Livestock in Colombia through the Ministerio de Agricultura y Desarrollo Rural[18], which provides palm oil hectarage through agricultural census data (Agronet, 2017). I chose to include this additional source to highlight the difference between available corporate and state information, as the data provided by the Ministerio are notably different than that of Fedepalma (Figure 4), and national data are available beginning in 1987. This is likely because the agricultural census in Colombia was inconsistently conducted over several years (Acosta Moreno & Pérez Gómez, 2011).

To demonstrate the impact of Plan Colombia, I chose to include national data extending beyond the six years of the program, both before and after the period 2000 to 2006. Available data from these sources extended from 1985 to 2019 *(Table 1, below)*, which allows us to view trends prior to, during, and after Plan Colombia.

[17] While Fedepalma offers spreadsheets of data on palm hectarage, there are also PDF files which include graphs as well as annual hectarage. When downloading an Excel data file for the given date range, I discovered that the first several numbers were inconsistent with the PDF files. The hectarage reflected in this dataset has been compiled from the PDF versions of the data, for which users must manually enter date ranges and download the corresponding PDF files (Fedepalma, 2016).

[18] Ministry of Agriculture and Rural Development

Year	USAID Investment (USD)	Palm Oil (established + in development) (ha)		Displacement		
		FEDEPALMA	MinAg	Expelled	Received	Declared
1985	24,880,769.00			14,666	11,526	2
1986	25,323,190.00			16,281	13,245	2
1987	26,384,846.00	78,396.00	51,560.00	20,085	15,943	2
1988	27,745,745.00	94,412.00	62,870.00	34,451	26,607	8
1989	131,500,603.00	103,396.00	76,135.00	30,760	23,962	25
1990	198,755,919.00	111,380.00	89,671.00	39,483	32,343	281
1991	129,418,062.00	116,694.00	97,604.00	34,723	28,818	4
1992	138,115,251.00	120,942.00	108,510.00	45,978	38,232	25
1993	133,054,319.00	123,070.00	113,395.00	51,605	43,402	4
1994	48,564,887.00	125,856.00	125,321.00	56,119	46,565	31
1995	44,602,037.00	130,400.00	131,067.00	109,457	93,793	356
1996	32,152,842.00	135,459.00	133,688.00	142,035	114,442	3,481
1997	158,191,051.00	134,648.00	145,134.00	254,050	218,954	16,305
1998	172,758,898.00	144,589.00	147,493.00	247,208	222,787	61,637
1999	478,968,756.00	150,851.00	148,644.00	281,308	235,501	50,907
2000	1,684,925,135.00	158,019.00	147,439.00	607,563	584,634	331,175
2001	371,670,209.00	175,455.00	154,331.00	666,436	647,385	443,459
2002	740,714,176.00	194,431.00	155,208.00	772,255	745,023	529,087
2003	934,282,778.00	211,265.00	167,361.00	466,396	448,963	277,477
2004	836,099,283.00	229,199.00	180,227.00	425,706	418,294	258,238
2005	902,370,725.00	259,751.00	192,970.00	485,386	477,586	317,534
2006	1,528,288,974.00	291,831.00	208,875.00	464,755	471,917	382,675
2007	460,958,881.00	307,482.00	221,601.00	484,840	494,287	466,536
2008	853,052,302.00	325,327.00	246,586.00	427,360	453,059	524,143
2009	1,018,057,221.00	352,004.00	258,907.00	257,486	283,009	448,932
2010	928,610,882.00	379,611.00	284,241.00	200,669	219,259	395,422
2011	454,191,714.00	405,656.00	334,416.00	239,473	250,497	453,077
2012	784,088,686.00	426,795.00	344,643.00	240,892	223,524	536,952
2013	279,390,746.00	456,419.00	379,966.00	260,706	251,858	741,152
2014	610,249,639.00	470,219.00	430,634.00	251,796	252,612	783,887
2015	899,215,689.00	487,748.00	479,663.00	188,847	177,345	690,853
2016	346,191,271.00	505,966.00	498,962.00	104,263	94,032	143,191
2017	551,965,767.00	523,458.00	528,351.00	98,576	83,226	137,457
2018	526,211,671.00	547,756.00		137,909	115,323	161,631
2019	800,747,494.00	568,386.00		74,772	61,609	101,499

Table 1. Compiled USAID, Palm Oil hectarage, and National Displacement data from 1987-2019 (Fedepalma, 2016; Agronet, 2017; Unidad Para Las Víctimas, 2020; USAID, n.d.)

To accommodate outliers and better represent the trend of USAID investment over time, I also created a chart of 3-year averages, consisting of the mean of a given year and the two before it *(Table 2, below)*. After compiling data, I plotted each variable over time.

Year	3 Year Avg. USAID (USD)
1987	25,529,601.67
1988	26,484,593.67
1989	61,877,064.67
1990	119,334,089.00
1991	153,224,861.33
1992	155,429,744.00
1993	133,529,210.67
1994	106,578,152.33
1995	75,407,081.00
1996	41,773,255.33
1997	78,315,310.00
1998	121,034,263.67
1999	269,972,901.67
2000	778,884,263.00
2001	845,188,033.33
2002	932,436,506.67
2003	682,222,387.67
2004	837,032,079.00
2005	890,917,595.33
2006	1,088,919,660.67
2007	963,872,860.00
2008	947,433,385.67
2009	777,356,134.67
2010	933,240,135.00
2011	800,286,605.67
2012	722,297,094.00
2013	505,890,382.00
2014	557,909,690.33
2015	596,285,358.00
2016	618,552,199.67
2017	599,124,242.33
2018	539,088,719.00
2019	626,308,310.67
2020	557,359,194.00

Table 2. 3-year Average of annual USAID disbursements

Additionally, I conducted a one-way or single factor analysis of variance (ANOVA), which is a method used to compare the means of samples across separate groups (Babbie, 2013; Christensen, 2018; Hess & Hess, 2018). In other words, the mean of each group is compared to its counterparts to determine whether the groups are statistically significant or independent from one another. In this case, I sought to compare displacement, USAID funding, and palm oil hectarage data pre-Plan Colombia (1985-1999), during Plan Colombia (2000-2006), and post-Plan Colombia (2007-2019). A significant difference between the means of these periods would

show whether the years of Plan Colombia indicate that Plan Colombia may have impacted or influenced changes in displacement and palm oil hectarage. A Tukey Test would have provided the exact differences between the means of each time period, but it requires equal observations across the groups, which were not available for this dataset.

Results

USAID

Though USAID investment in Colombia existed prior to Plan Colombia the implementation of the program greatly increased annual disbursements over time *(Figure 1, Figure 2)*. Between just 2000 and 2006, USAID under Plan Colombia exceeded $6.9 billion USD, a drastic change from the $1.7 billion invested from 1985 to 1999 *(Table 3)*. The trend of higher disbursements continues after 2006, with over $8.8 billion USD invested through 2019[19]. This supports that Plan Colombia not only increased United States investment in Colombia, but also that it set a precedent for additional funding and a closer financial relationship between the two countries.

[19] $1 U.S. in 1985 equaled $1.60 U.S. in 2000 and $2.46 in 2019. These are increases of 60% and 238% respectively. USAID expenditures increased approximately 2900% from 1985 to 2000 and 2042% from 1985 to 2019 (calculated via https://www.in2013dollars.com/).

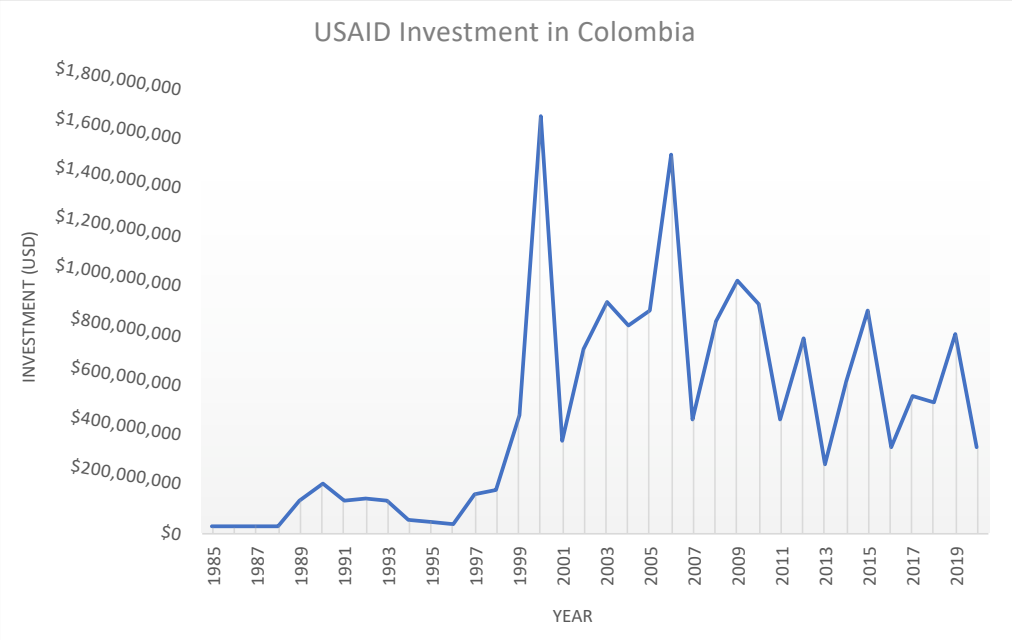

Figure 1. USAID Investment (USD) 1985-2019

	Total USAID (USD)		
	Pre-Plan (1985-1999)	Plan Colombia (2000-2006)	Post-Plan (2007-2019)
	24,880,769.00	1,684,925,135.00	460,958,881.00
	25,323,190.00	371,670,209.00	853,052,302.00
	26,384,846.00	740,714,176.00	1,018,057,221.00
	27,745,745.00	934,282,778.00	928,610,882.00
	131,500,603.00	836,099,283.00	454,191,714.00
	198,755,919.00	902,370,725.00	784,088,686.00
	129,418,062.00	1,528,288,974.00	279,390,746.00
	138,115,251.00		610,249,639.00
	133,054,319.00		899,215,689.00
	48,564,887.00		346,191,271.00
	44,602,037.00		551,965,767.00
	32,152,842.00		526,211,671.00
	158,191,051.00		800,747,494.00
	172,758,898.00		345,118,417.00
	478,968,756.00		
Total	1,770,417,175.00	6,998,351,280.00	8,858,050,380.00

Table 3. USAID Investment (USD) Pre-Plan Colombia, During Plan Colombia, and Post-Plan Colombia

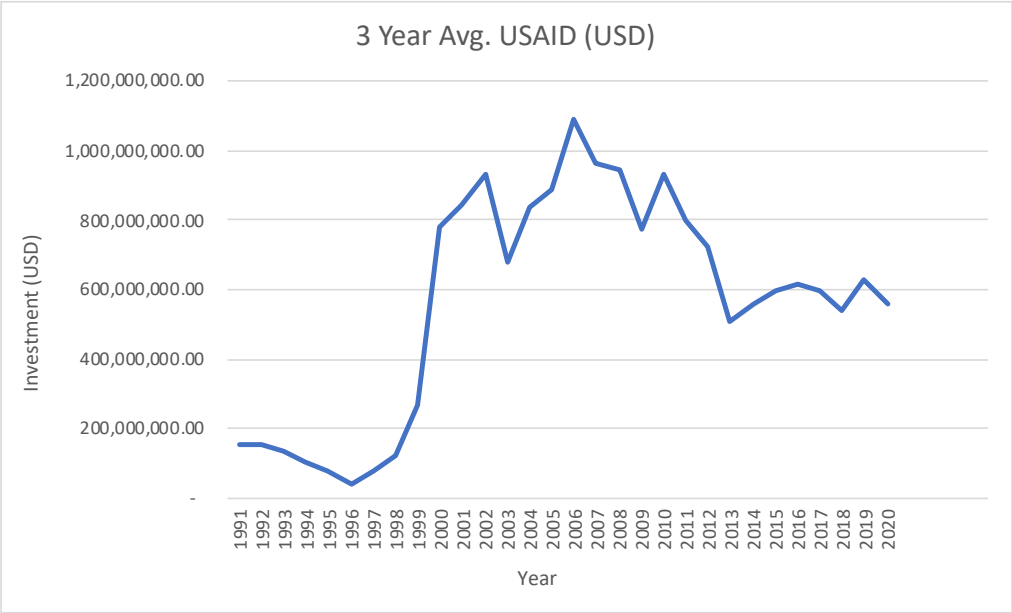

Figure 2. 3-Year Averages, USAID Investment (USD) Over Time

	3 Yr Avg USAID (USD)		
	Pre-Plan (1985-1999)	Plan Colombia (2000-2006)	Post-Plan (2007-2019)
	25,529,601.67	778,884,263.00	963,872,860.00
	26,484,593.67	845,188,033.33	947,433,385.67
	61,877,064.67	932,436,506.67	777,356,134.67
	119,334,089.00	682,222,387.67	933,240,135.00
	153,224,861.33	837,032,079.00	800,286,605.67
	155,429,744.00	890,917,595.33	722,297,094.00
	133,529,210.67	1,088,919,660.67	505,890,382.00
	106,578,152.33		557,909,690.33
	75,407,081.00		596,285,358.00
	41,773,255.33		618,552,199.67
	78,315,310.00		599,124,242.33
	121,034,263.67		539,088,719.00
	269,972,901.67		626,308,310.67
			557,359,194.00
Total	1,368,490,129.00	6,055,600,525.67	9,745,004,311.00

Table 4. 3-Year Average USAID Investment (USD) Pre-Plan Colombia, During Plan Colombia, and Post-Plan Colombia

The single factor ANOVA for USAID and the 3-year averages show that there are significant differences between disbursements before, during, and after Plan Colombia at a

confidence level of 0.05, with p-values of 2.6006E-08 and 7.6147E-15, respectively *(Table 5, Table 6)*.

SUMMARY: USAID						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Pre-Plan (1985-1999)	15	1770417175	118027812	1.384E+16		
During Plan (2000-2006)	7	6998351280	999764469	2.0849E+17		
Post-Plan (2007-2019)	14	8858050380	632717884	5.9704E+16		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	4.17962E+18	2	2.0898E+18	31.0527878	2.6006E-08	3.28491765
Within Groups	2.22086E+18	33	6.7299E+16			
Total	6.40048E+18	35				

Table 5. USAID Single Factor ANOVA, alpha = 0.05

SUMMARY: USAID 3-Year Average						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Pre-Plan (1985-1999)	13	1368490129	105268471	4.4407E+15		
During Plan (2000-2006)	7	6055600526	865085789	1.6226E+16		
Post-Plan (2007-2019)	14	9745004311	696071737	2.6052E+16		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	3.49596E+18	2	1.748E+18	110.738937	7.6146E-15	3.30481725
Within Groups	4.89325E+17	31	1.5785E+16			
Total	3.98528E+18	33				

Table 6. USAID 3-Year Avg. Single Factor ANOVA, alpha = 0.05

Palm Oil

Though palm oil plantations have existed in Colombia for decades, hectarage began to increase faster during Plan Colombia. This is the case in the data for both Fedepalma and Agronet *(Figure 3)*, despite Agronet reporting lower numbers. Note that the data from Fedepalma includes plantations in development in addition to those already established.

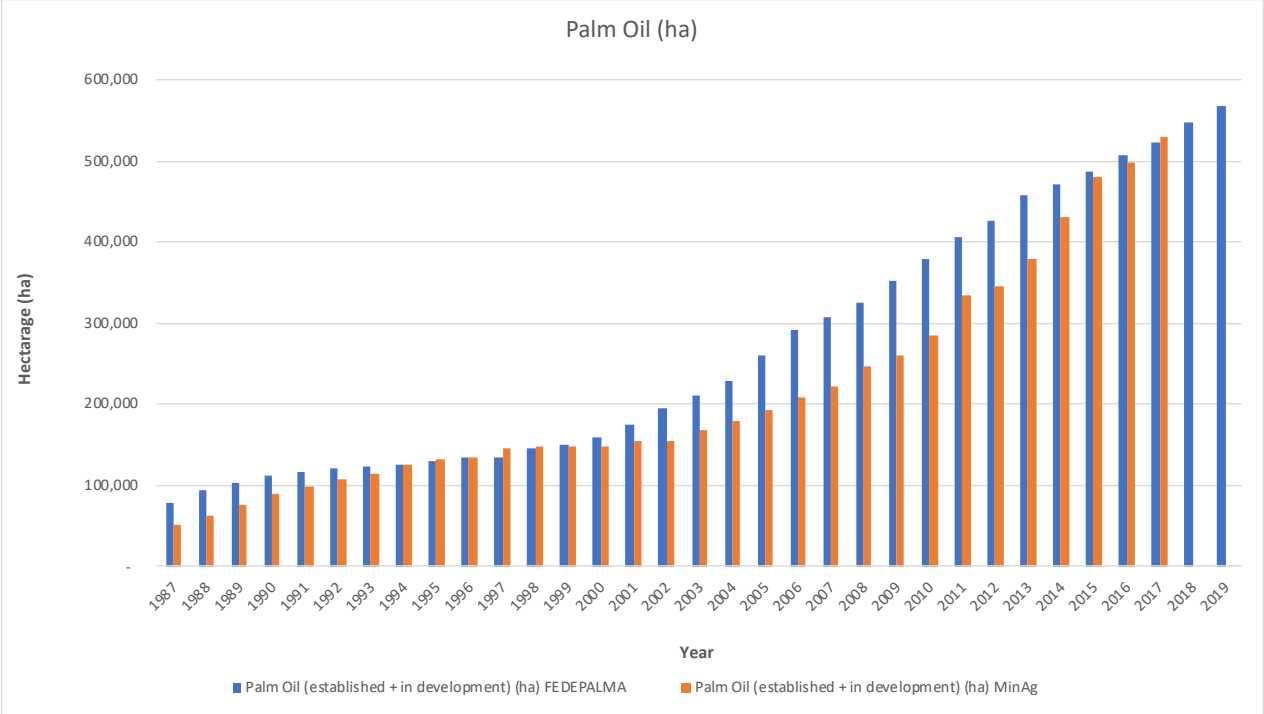

Figure 3. Palm oil hectarage 1987-2019 (Fedepalma, 2016; Agronet, 2017)

FEDEPALMA (ha)			
	Pre-Plan Colombia	Plan Colombia	Post-Plan Colombia
	78,396	158,019	307,482
	94,412	175,455	325,327
	103,396	194,431	352,004
	111,380	211,265	379,611
	116,694	229,199	405,656
	120,942	259,751	426,795
	123,070	291,831	456,419
	125,856		470,219
	130,400		487,748
	135,459		505,966
	134,648		523,458
	144,589		
	150,851		
Total	1,570,093	1,519,951	4,640,685

Table 7. Palm oil hectarage (current and in development) pre-Plan Colombia (1987-1999), during Plan Colombia (2000-2006), and post-Plan Colombia (2007-2017) (Fedepalma, 2016)

Agronet (ha)			
	Pre-Plan Colombia	Plan Colombia	Post-Plan Colombia
	51,560	147,439	221,601
	62,870	154,331	246,586
	76,135	155,208	258,907
	89,671	167,361	284,241
	97,604	180,227	334,416
	108,510	192,970	344,643
	113,395	208,875	379,966
	125,321		430,634
	131,067		479,663
	133,688		498,962
	145,134		528,351
	147,493		
	148,644		
Total	1,431,092	1,206,411	4,007,970

Table 8. Palm oil hectarage pre-Plan Colombia (1987-1999), during Plan Colombia (2000-2006), and post-Plan Colombia (2007-2017) (Agronet, 2017)

The single factor ANOVA for palm oil hectarage, as reported by both Agronet and Fedepalma, showed a significant difference between the means of each period at a 0.05 level of confidence. The p-values for Fedepalma and Agronet were 9.043E-14 and 3.205E-09, respectively *(Table 9, Table 10)*.

SUMMARY: Fedepalma						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Pre-Plan Colombia	13	1570093	120776.3846	408453505.8		
Plan Colombia	7	1519951	217135.8571	2220501389		
Post-Plan Colombia	11	4640685	421880.4545	5462282369		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5.496E+11	2	2.74802E+11	105.6244562	9.043E-14	5.45293692
Within Groups	7.2847E+10	28	2601688361			
Total	6.2245E+11	30				

Table 9. Fedepalma Single Factor ANOVA, alpha = 0.05

SUMMARY: Agronet						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Pre-Plan Colombia	13	1431092	110084	1061420566		
Plan Colombia	7	1206411	172344.4286	514214584		
Post-Plan Colombia	11	4007970	364360.9091	11601695835		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	4.0122E+11	2	2.00608E+11	42.60502443	3.205E-09	5.45293692
Within Groups	1.3184E+11	28	4708546166			
Total	5.3305E+11	30				

Table 10. Agronet Single Factor ANOVA, alpha = 0.05

Displacement

Annual displacement, specifically the numbers of people expelled and received, as declared as reported by the Unidad Para Las Víctimas (2020) exponentially increased beginning in 1999 and continued at higher rates during Plan Colombia. After 2006, these numbers decreased considerably *(Figure 4)*.

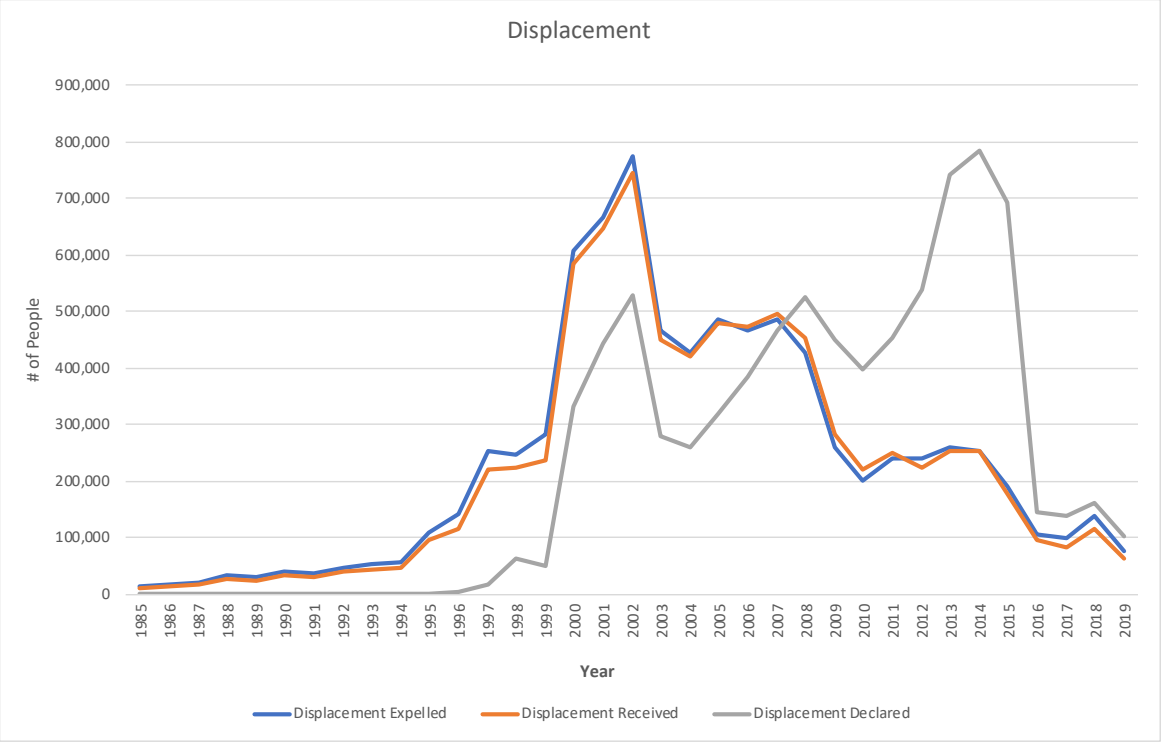

Figure 4. Annual Displacement: # of people expelled, received, and declared (Unidad Para Las Víctimas, 2020)

According to the data provided by Unidad Para Las Víctimas (2020), the estimated numbers of people expelled and received across the country skyrocketed at the start of Plan Colombia and more than doubled during Plan Colombia, when compared to previous years. Both remained at higher rates in subsequent years *(Figure 4, Table 11, Table 12)*. Conversely, while the number of declared victims dramatically increased during Plan Colombia, it soared to almost 5.6 million after Plan Colombia *(Figure 4, Table 13)*.

# Expelled			
	Pre-Plan (1985-1999)	Plan Colombia (2000-2006)	Post-Plan (2007-2019)
	14,666	607,563	484,840
	16,281	666,436	427,360
	20,085	772,255	257,486
	34,451	466,396	200,669
	30,760	425,706	239,473
	39,483	485,386	240,892
	34,723	464,755	260,706
	45,978		251,796
	51,605		188,847
	56,119		104,263
	109,457		98,576
	142,035		137,909
	254,050		74,772
	247,208		
	281,308		
Total	1,378,209	3,888,497	2,967,589

Table 11. Number of people expelled pre-Plan Colombia, during Plan Colombia, and post-Plan Colombia (Unidad Para Las Víctimas, 2020)

# Received			
	Pre-Plan (1985-1999)	Plan Colombia (2000-2006)	Post-Plan (2007-2019)
	11,526	584,634	494,287
	13,245	647,385	453,059
	15,943	745,023	283,009
	26,607	448,963	219,259
	23,962	418,294	250,497
	32,343	477,586	223,524
	28,818	471,917	251,858
	38,232		252,612
	43,402		177,345
	46,565		94,032
	93,793		83,226
	114,442		115,323
	218,954		61,609
	222,787		
	235,501		
Total	1,166,120	3,793,802	2,959,640

Table 12. Number of people received pre-Plan Colombia, during Plan Colombia, and post-Plan Colombia (Unidad Para Las Víctimas, 2020)

# Declared			
	Pre-Plan (1985-1999)	Plan Colombia (2000-2006)	Post-Plan (2007-2019)
	2	331,175	466,536
	2	443,459	524,143
	2	529,087	448,932
	8	277,477	395,422
	25	258,238	453,077
	281	317,534	536,952
	4	382,675	741,152
	25		783,887
	4		690,853
	31		143,191
	356		137,457
	3,481		161,631
	16,305		101,499
	61,637		
	50,907		
Total	133,070	2,539,645	5,584,732

Table 13. Number of people declared pre-Plan Colombia, during Plan Colombia, and post-Plan Colombia (Unidad Para Las Víctimas, 2020)

Last, the single factor ANOVA for each of the three displacement variables showed significant differences between the means of estimates pre-Plan Colombia, during Plan Colombia, and post-Plan Colombia at a 0.05 level of confidence. The p-values for the number of expelled and received people were 1.3894E-09 and 1.03E-09, respectively *(Table 14, Table 15)*. The p-value for the number of declared victims of displacement was 3.9932E-08 *(Table 16)*.

SUMMARY: # of People Expelled						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Pre-Plan (1985-1999)	15	1378209	91880.6	8858507306		
During Plan (2000-2006)	7	3888497	555499.5714	1.6656E+10		
Post-Plan (2007-2019)	13	2967589	228276.0769	1.4537E+10		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.02687E+12	2	5.13436E+11	41.2392631	1.3894E-09	3.29453682
Within Groups	3.98406E+11	32	12450180557			
Total	1.42528E+12	34				

Table 14. Single Factor ANOVA: # of people Expelled (Unidad Para Las Víctimas, 2020)

SUMMARY: # of People Received						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Pre-Plan (1985-1999)	15	1166120	77741.33333	6679202167		
During Plan (2000-2006)	7	3793802	541971.7143	1.4527E+10		
Post-Plan (2007-2019)	13	2959640	227664.6154	1.7351E+10		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.02861E+12	2	5.14305E+11	42.3200455	1.03E-09	3.29453682
Within Groups	3.88888E+11	32	12152748778			
Total	1.4175E+12	34				

Table 15. Single Factor ANOVA: # of people Received (Unidad Para Las Víctimas, 2020)

SUMMARY: # of People Declared						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Pre-Plan (1985-1999)	15	133070	8871.333333	392022321		
During Plan (2000-2006)	7	2539645	362806.4286	9302438923		
Post-Plan (2007-2019)	13	5584732	429594.7692	5.5133E+10		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.3736E+12	2	6.86798E+11	30.4021072	3.9932E-08	3.29453682
Within Groups	7.22895E+11	32	22590482248			
Total	2.09649E+12	34				

Table 16. Single Factor ANOVA: # of people Declared (Unidad Para Las Víctimas, 2020)

The One-way ANOVA results align with the plots over time. Therefore, Plan Colombia significantly influenced the financial relationship between the United States and Colombia. USAID investment was lower and significantly different prior to the program's implementation and continued to increase after the program's end. Palm oil hectarage and displacement were both significantly different across each period, and drastically increased during Plan Colombia. The continuing trends post-Plan Colombia indicate that the program did in fact have an important impact which continues to influence the political and economic relationship between the two countries.

Discussion

While most research regarding the impacts of palm oil focuses on environmental degradation and market-based campaigns to promote sustainability discourse, it is important to assess the ways in which government-supported violence, especially as part of United States-supported efforts to combat the illegal drug trade, create space for expanding plantations which in turn exacerbate tensions over land and resources. Current events are paving the way for new conversations regarding the connections between palm oil, USAID and United States interventions, and armed conflict.

Plan Colombia was initially a six-year program, but it established a closer relationship between Colombia and the United States which still exists today. Trends after 2006 correspond with the ongoing relationship between the United States and Colombia, with Plan Colombia laying a foundation for new initiatives and recommendations by the U.S. government. Colombia has since embarked on an internationally recognized and official peace process with the FARC,

in which the guerrillas agreed to demobilize and forfeit their arms to the United Nations in 2016 (Office of the Press Secretary, 2016). Other stipulations include the Colombian government agreeing to not extradite FARC leaders to the United States to face punishment for their crimes. United States government officials have referred to Plan Colombia as a point of pride for laying the foundation for this agreement while also allowed for the continued cooperation between the two nations (Corker et. al, 2017). In a hearing before the Subcommittee on Western Hemisphere, Transnational Crime, Civilian Security, Democracy, Human Rights, and Global Women's Issues under the Committee on Foreign Relations of the United States Senate, Senator Marco Rubio stated

> The result of it is the Colombian military is now the best armed and trained in Latin America. It is a reliable security partner for the United States. It is also exporting its expertise to help build the capacity and the capability of other countries in the region, particularly in Central America (Corker et. al, 2017).

Rubio credits Colombia's latest peace process, which began in 2012, to Plan Colombia's "success." In another subcommittee hearing under the Committee of Foreign Affairs, Congressman Jeff Duncan urged Colombia to overturn the decision to end aerial crop spraying methods and to not extradite FARC leaders to the United States because they threatened to undo progress made under Plan Colombia, warning

> We stand with you in your pursuit of peace, but do not give up the military successes we have achieved together at the negotiating table (Royce et. al, 2015)

Efforts made have been repeatedly applauded by the United States government, as noted in these subcommittee hearings from the Committees of Foreign Affairs and Foreign Relations. It is no secret that the FARC is the largest of the guerrilla organizations fighting in the ongoing conflict, but this apparent scapegoating tactic completely removes acts of terror and human rights violations committed by right-wing paramilitaries, which may only be mentioned once or twice in hearings (Royce et. al, 2015; Corker et. al, 2017). In fact, the disregard for paramilitarism extended to declarations that it ended altogether, courtesy of former President Uribe stating that only guerrillas and narcotraffickers remained in Colombia after Plan Colombia (Maher & Thomson, 2011).

USAID and the Peace Process- Has it worked?

To complement the peace agreement, the Obama and Manuel Santos administrations negotiated various aid packages to be sent to Colombia to support a new initiative called Peace Colombia, requesting $390 million to $450 million USD (Office of the Press Secretary, 2016), which includes the Economic Support Funds (ESF) program through USAID for $187.3 million USD (Isacson, 2016). The Washington Office on Latin America reported that ESF

> would support the Colombian government's "Territorial Peace" efforts to establish a state presence in historically abandoned parts of the country, as well as programs for victims, ethnic minorities, the justice system, human rights, and peacebuilding. While

> programs like these are necessary for Colombia's post-conflict success, ESF would only increase by US$46 million over 2016 levels, to a total that is lower than this account was in 2008-2010. The ESF component of the aid package is, frankly, too low (Isacson, 2016).

Since embarking on this journey, however, other armed groups have occupied space abandoned by those who laid down their arms, followed by former combatants taking up arms once again. Dispossession is still used as a method of gaining control over land, especially by paramilitaries (Maher & Thompson, 2018). Upticks in violence show that the armed conflict is far from over. News reports in 2019 outline the ways in which the peace agreement has failed, attributing much of this to the failure of the state to uphold promises and agreed upon stipulations, such as subsidies and access to critical resources in neglected rural areas to support education and wellbeing (Casey, 2019; Grattan, 2020). On the other hand, reports also state that the FARC have also failed to meet terms of the agreement, including turning over assets by a given deadline (Bocanegra, 2020).

Regardless, the conflict continues. Demobilized personnel, human rights leaders, and civilians have been threatened, assassinated, and killed, while armed groups excluded from the agreement establish themselves in areas previously controlled by the FARC (Maher & Thompson, 2018; Casey, 2019; Grattan, 2020, Bocanegra, 2020; Cano, 2021; Rueda, 2021a; Rueda, 2021b; WOLA, 2021). Buenaventura, the largest port city in the country for example, gained international media attention for the significant uptick in homicides and intensified presence of illegal armed groups in the past few months. Displaced and Afrodescendant Colombians have been subjected to terror tactics and additional internal displacement in addition to a lack of resources, sparking protests and violence (Alsema, 2021; Grattan, 2021,

WOLA, 2021). Counter-narcotics efforts also continue to fail. With the current administration still failing to support historically neglected communities, farmers without the capital to cultivate legal crops have returned to coca production (Casey, 2019).

A critical part of this peace process is the truth commission, or the *Comisión de la Verdad*, which was established in accordance with the 2017 Presidential Decree 588 (Laing, 2018; Comisión de la Verdad, 2020). In a 2018 state address, President Duque declared a commitment to victims and investing a considerable budget into reparations (Presidencia de la República, 2019). The Decree's mandate charged the Comisión to establish an official space to officially recognize human rights violations and impacts of armed conflict including effects on society and the democratic process, paramilitarism, the connection between illicit crops and conflict, and factors contributing to the persistence of violence, among others (Comisión, 2020). Since its inception following the signing of the signed 2016 peace agreement with the FARC, the Comisión has collected testimonies in various formats from ex-combatants, leaders, and victims, particularly women and marginalized groups (Comisión, 2020; Romero, 2020). Critical stories have come to light, including admissions of racially charged attacks from leaders of the AUC and FARC, testifying that they did target Afro-descendant, *Raizal*, and *Palenquera* communities, whom are members of the African Diaspora in Colombia (Aristizábal, 2020). Additionally, they have updated reports of current incidents of violence (Colprensa, 2020; Comisión, 2020; Romero, 2020).

Now, United States President Joe Biden is collaborating with President Duque to continue close collaboration between Colombia and the United States (Suesca, 2021). In a recent event hosted by the Atlantic Council, United States Senators Roy Blunt and Benjamin

Carson were congratulatory towards Colombia's lower rates of homicide in the last 20 years and expressed hopes of "[strengthening the] bilateral partnership with Colombia" (Atlantic Council, 2021). Consistent with sentiments expressed in hearing, Biden has supported the reintroduction of aerial crop spraying, to which Duque has agreed (Hernandez & Payares-Montoya, 2020; Bureau of International Narcotics and Law Enforcement Affairs, 2021).

Overall, violence in Colombia continues and United States foreign aid only serves to support harmful policing, illegal paramilitaries, and other detrimental measures such as aerial spraying programs. At the time of finalizing this thesis in May 2021, Colombia is in the midst of nationwide protests over President Duque's withdrawal of critical tax reform. Protestors are being met with extreme violence from national police and military forces in addition to severe internet censorship (Daniels, 2021; Nugent, 2021; Pozzebon, 2021.; Sesin, 2021; Tucker, 2021). State responses to protests clearly show the disregard for citizens' lives and wellbeing, which aligns with state and military actions throughout periods of ongoing conflict.

Case for Additional Research

My hope is that future projects will explore these connections together and in more specific and regional contexts because it is important to understand the history of the conflict and the relationship that the United states has with Colombia. Culture, identity, and food vary drastically across the different regions in Colombia, which means that the experience of terror and displacement is tied to place as well, and it would be a disservice to only discuss these connections in a national context.

I want to highlight the effects of Plan Colombia on Montes de Maria region of Colombia (Figure 5) because it is a unique region because of its ecological diversity and because it is home to large Afro-descendant and Indigenous communities- these characteristics which make it particularly vulnerable to the types of external forces I have described.

Figure 5. Map of Montes de María Region of Colombia (WOLA, 2012)

From an ecological standpoint, the region is significant because of its biodiversity. Considered an "agricultural food pantry" (Avila et al., 2017), the area is the site of cultivation for many varieties of crops that are central to the country's cuisine (Avila et al., 2017). This landscape has drawn significant attention from transnational corporations (TNCs) due to its fertility and abundance of underground resources. As such, it has shifted to become the epicenter of civil warfare between leftist guerillas defending their land and villages and right-

wing, government-supported paramilitary forces assisting in the eviction of peoples. In their review of the business in Colombia, Hurtado Lozano et. al (2017) state:

> The reduced costs of this agribusiness attracted the presence of illegal armed actors. During the 1980s and 1990s, guerrilla organizations became untraceable entrepreneurs of extortion and kidnappings. However, in 2000 the paramilitary groups imposed their political and military power in flat areas where palm and banana plantations existed, and cattle grazed. They also "taxed" local populations for their provision of security (protection money): a practice made possible by the weak presence of government institutions (Hurtado Lozano et. al, 2017: 450).

The expansion of oil palm plantations, as would be expected, has begun to affect food production in the region, since the monocultures currently represent 47.1% of the total cultivated land (Avila et al., 2017). As a result, many varieties of nutritional keystone crops, which are responsible for providing most nutritional requirements for those living in the region, have begun to disappear from local markets (Avila et al., 2017). According to the Department of Social Prosperity and World Food Program's food insecurity mapping system, over 73 percent of municipalities in the department of Bolivar are at high risk of food insecurity. This is largely due to the replacement of such food crops in favor of oil palm (Avila et al., 2017). I argue that this is a key area to focus research, as the loss of keystone crops at the center of national and regional foodways is not only a critical loss of biodiversity, but also a loss of cultural and traditional agricultural knowledge.

Conclusion

While much of the literature draws connections between palm oil and violence, Plan Colombia and palm oil, and armed conflict and USAID investment, my results help to draw each of these arguments together. Single factor ANOVA results suggest that, because there is a significant difference in the means of all variables before, during, and after Plan Colombia's implementation, the USAID program helped to facilitate the expansion of palm oil plantations and increased displacement. In short, the rapid expansion of palm oil hectarage alongside increased violence and Plan Colombia was not coincidental. United States foreign aid allegedly aimed at diminishing the drug trade ultimately provided funds for increased policing via the national army and police force, as well as indirect funding for the paramilitary forces operating alongside them and helped to violently clear people from their lands. Moreover, these newly "abandoned" lands became prime targets for oil palm plantations, which began to grow rapidly while displacement soared during Plan Colombia.

The testimonials gathered through the Comisión de la Verdad and current trials for those answering for their crimes are creating the opportunity for a new era of accountability and recognition for acts of terror. This thesis hopes to contribute to this new vein of the conversation regarding armed conflict in Colombia by highlighting the connections between commercial development for palm oil, displacement, and United States foreign aid.

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Curriculum Vitae

Camila O. Ferguson-Sierra

M.S. Food Studies
David B. Falk College of Sports & Human Dynamics
Syracuse University

Phone: (845) 901-3098
Email: cofergus@syr.edu

Education

2018-2021	**Master of Science Candidate, Food Studies**, Department of Nutrition and Food Studies, Falk College, Syracuse University. Graduation, May 2021.
2014-2018	**Bachelor of Science, Conservation Biology**, Department of Environmental and Forest Biology, SUNY College of Environmental Science and Forestry.

Employment

2019-2020	**Teaching Mentor, Graduate School**, Syracuse University. Syracuse, NY.
2019-2020	**Sales Associate**, H&M, Destiny USA. Syracuse, NY.
2019	**CBD Sales Associate**, Head + Heal/Main Street Farms, CNY Regional Market. Syracuse, NY.
2018-2020	**Graduate Teaching Assistant**, Department of Public Health, Food Studies and Nutrition, Falk College, Syracuse University. Syracuse, NY.
2018-2020	**Library Clerk**, Moon Library, SUNY College of Environmental Science and Forestry. Syracuse, NY
2016-2019	**Research Aide**, Forest Ecology Lab, Department of Forest and Natura Resources Management, SUNY College of Environmental Science and Forestry, Syracuse, NY.
2015- 2018	**Circulation Desk Student Assistant**, Moon Library, SUNY College of Environmental Science and Forestry. Syracuse, NY.

Internships and Education-Related Experience

2019-2020 **Co-Chair**, Sub-committee for Graduate Students, Falk College Diversity and Inclusion Committee, Syracuse University. Syracuse, NY.

2018-2020 **Future Professoriate Program Participant**, Graduate School, Syracuse University. Syracuse, NY.

2018-2020 **Graduate Advisor**, Caribbean Student Association, Syracuse University. Syracuse, NY

2018 **Undergraduate Teaching Assistant**, Department of Environmental and Forest Biology, SUNY College of Environmental Science and Forestry, Syracuse, NY.

2016-2018 **Event Coordinator**, Caribbean Student Association, Syracuse, University. Syracuse, NY.

2015 **Aquatic Ecology Intern**, Cape Cod National Seashore, Truro, MA.

Conference Presentations

Ferguson-Sierra, Camila. "**USAID and Armed Conflict: How the War on Drugs Facilitated the Expansion of Palm Oil and US Intervention in Colombia**." Association for the Study of Food and Society (ASFS)/ Agriculture, Food, and Human Values Society (AFHVS)/Canadian Association for Food Studies (CAFS)/the Society for the Anthropology of Food and Nutrition (SAFN) Just Food Conference. Virtual Conference hosted by the Culinary Institute of America & New York University. June 2021

Ferguson-Sierra, Camila. "**Palm Oil, Violence, and Agricultural Knowledge Production in Montes de María, Colombia**." Association for the Study of Food and Society/Agriculture, Food, and Human Values Society Annual Conference. Athens, GA. May 2020*

*Accepted abstract, conference cancelled due to COVID-19.

Ferguson-Sierra, Camila. "**Palm Oil, Food Insecurity, and Land in Colombia: A Literature Review**." Association for the Study of Food and Society/Agriculture, Food, and Human Values Society Annual Conference. Anchorage, AK. June, 2019.

Guest Lectures

Title: "Land and Green Grabs, Privilege, and Power in Conservation.
Course: EFB 496. Integrating Conservation and Agriculture, SUNY ESF.
Location: Syracuse, NY.
Date: April 2020

Title: "Palm Oil and Armed Conflict in Colombia"
Course: FST 204. Food, Identity, and Power, Syracuse University.
Location: Syracuse, NY.
Date: April 2019

Title: "Privilege, Power, and Food Justice."
Course: EFB 496. Integrating Conservation and Agriculture, SUNY ESF.
Location: Syracuse, NY.
Date: March 2019

Teaching Assistantships

- FST 204: Food, Identity, and Power (Syracuse University)
- FST 300: Climate Change and the Food System (Syracuse University)
- FST 304: Farm to Fork (Syracuse University)
- EFB 211: Diversity of Life II Lab (Undergraduate, SUNY ESF)

Honors and Certifications

- 1st Place Shields Research Award Winner, Cranberry Lake Biological Station. July 2015.

Professional Affiliations

- Agriculture, Food, and Human Values Society (AFHVS), 2019-present
- Latin American Studies Association (LASA), 2019-present

Key Skills

- Heritage speaker of Spanish
- Microsoft Suite
- Google Suite
- Meeting and Online Teaching: Zoom, Blackboard Ultra, Microsoft Teams
- Statistics/Survey Tools: Qualtrics, Excel, Minitab