



**DRIVERS OF
DEFORESTATION
IN THE COLOMBIAN
AMAZON**

2024



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Introduction

The Amazon is the most extensive rainforest on Earth. In a world where rainforests are disappearing at an alarming rate while the climate is changing, it is of great importance to safeguard the Amazon region. In Colombia, 35% of the land is covered by rainforest. But its Amazon is at risk: the globally surging demand for commodities such as beef, palm oil, gold and illicit crops for illicit use drives deforestation, severely affecting nature and Indigenous peoples and local communities.

To contribute to safeguarding the Colombian Amazon, IUCN NL aims to end forest crime and improve the territorial rights of Indigenous peoples and local communities. Because they are the forest's best guardians.

We do this together with Colombian nature organisations FCDS and Ambiente y Sociedad, and news platform Mongabay. The project **Amazon rights in focus: peoples and forest protection** is supported by the Norwegian Agency for Development Cooperation (NORAD).

No driver is an island

This publication is a compilation of six previously published articles on the drivers of deforestation in the Colombian Amazon. Even though the drivers are presented separately, it is important to point out that they are interconnected; the inhabitants of the Amazon region often face multiple challenges simultaneously.

While the articles focus on the Colombian context, dynamics of deforestation are not limited by borders. Related activities, such as gold mining, literally cross borders and are pushed by a growing global demand. Deforestation is often linked to (inter)national illegal networks and connected with corrupt activities and armed groups.

Indigenous peoples and local communities

Research shows that nature management by communities is a highly effective form of conservation. The deforestation rate in areas where Indigenous communities live is much lower. Moreover, the greatest successes for conservation and well-being are achieved when Indigenous and local communities are in charge.

Despite the evidence, Indigenous peoples and local communities are often not (sufficiently) included in decision-making processes about their territory and its natural resources.

Deforestation and related activities frequently cause socio-environmental conflicts. Resistance is not without risk: Amazon people standing up for their rights often face intimidation, violence and even death.

Colombia is the world's deadliest country for environmental defenders.

According to Global Witness, Colombia's is the world's deadliest country for environmental defenders. In 2023, 60 Colombian environmental human rights defenders were killed: more than a third of that year's total worldwide.

Improving territorial rights and livelihoods

Understanding the dynamics of deforestation enables NGOs, researchers and others, to take the next steps to end forest crime, protect environmental rights and stop deforestation.

But understanding alone is not enough. Together with our partners, we therefore work on improving the territorial rights and livelihoods of Indigenous peoples and local communities in the Colombian Amazon.

- [Read more about Amazon rights in focus.](#)

Drivers of deforestation in the Colombia Amazon

Deforestation is threatening the Colombian Amazon. Not only biodiversity, but also Indigenous peoples and local communities are victims of deforestation. It threatens their traditional livelihoods, culture and access to natural resources. Deforestation also increases climate change.

1. Land grabbing

2. Illegal logging

3. Cattle ranching

4. Illicit crops

6. Mining and oil extraction

5. Industrial agriculture

6 activities drive deforestation



1 Land grabbing



Colombia is one of the most biodiverse countries in the world, but its forests are disappearing at a rapid pace. In 2021, the country lost a forest area comparable to the size of its capital city Bogota, despite the country's anti-deforestation law. Its Amazon region has been most affected. Deforestation causes irreparable damage to one of the most biodiverse ecosystems in the world, while its conservation is key to mitigating climate change and safeguarding biodiversity.

In the complex Colombian sociopolitical context, land appropriation implies deforestation. Areas devoid of trees are seen as more useful to people and companies claiming land. In the current post-conflict context, forests that were previously inaccessible are now being destroyed at a rapid pace. The appropriation of land, or land grabbing, can therefore be perceived as the underlying cause of all deforestation.

Land grabbing: an overview

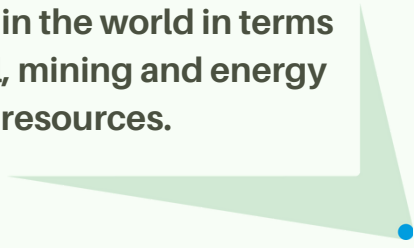
The perception of land as a highly profitable commodity is the basis of land grabbing. In a broad sense, land grabbing refers to the appropriation of extensive amounts of land by entities, governments or individuals with the aim of 'controlling the benefits of its use' (Transnational Institute, 2013). Such uses range from the extraction of natural resources, like minerals and wood, to growing industrial crops and even speculation: the purchase of land with the expectation of selling it at higher prices. Owning land implies a wide range of income options.

Land grabbing affects territories and the communities inhabiting them. Areas previously dominated by small-scale agriculture are transformed into large projects demanding more and more resources, as large-scale businesses require large investments and considerable space for their development. This has not only a major impact on landscapes; increasing privatisation of land also threatens local economies and displaces Indigenous peoples and rural communities.

People staying in their area of origin are often forced to become part of the illegal chain of land appropriation.

Deforestation destroys ecosystems of high ecological and cultural value, including protected areas, Indigenous reserves and collective territories of Afro-Colombian communities. Tinigua National Park, Sierra de la Macarena National Park, Serranía del Chiribiquete National Park are all examples of areas of high natural and cultural value threatened by occupation and deforestation.

Colombia is one of the richest countries in the world in terms of natural, mining and energy resources.



Land is power

'Land is power in Colombia,' said researcher Daniel Henryk Rasolt in 2020. Colombia is one of the richest countries in the world in terms of natural, mining and energy resources. No less than 52% of its land is covered by forests.

The country's water resources are among the most abundant in the region, and Colombia has large reserves of oil, gas and metals. On its fertile soils almost any type of crop flourishes. Colombia offers endless possibilities for highly profitable land use.

Their wealthy land contrasts with the poverty in rural communities. Colombia is the most inequitable country in terms of distribution of land on the continent, after Brazil. Meanwhile, companies and wealthy people claim an increasing amount of territory: '1% of the largest landholdings now occupy 81% of productive land' (Oxfam, 2017). This land is, for example, used for sugar cane, palm oil and other plantations, gold mining, oil extraction and – most frequent – cattle ranching.

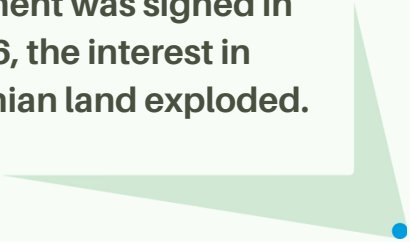
In the context of the Colombian armed conflict, violence and crime have played an important role in land grabbing. The origin of the conflict was precisely the dispute over land. These realities intermingle, for example, with the cultivation of illicit crops, money laundering and general territorial control for illegal operations. FARC dissidents, paramilitaries and criminal gangs and even state actors, such as politicians and military forces, may be part of criminal networks.

A growing interest in land

During more than 50 years of internal conflict the Amazonian departments were controlled by the guerrillas, making these areas dangerous and inaccessible to investors. After the Colombian peace agreement was signed in 2016, the interest in Amazonian land exploded. The consequences were devastating.

In 2017, deforestation figures were the most alarming in recent history. More than 219,000 hectares of forest were razed that year, over twice as much compared to the average per year between 2001 and 2015.

After the Colombian peace agreement was signed in 2016, the interest in Amazonian land exploded.



The Amazon region is part of the Forest Reserve Areas, declared by the national government for the development of the forestry economy and protection of soil, water and wildlife. Within these areas, there are large "baldíos" (wasteland) owned by the state, which can be awarded to landless peasants demonstrating to productively use the land.

Large landowners, some of them being part of political elites, however, have taken advantage of this route to further grow their properties. They are often helped by corrupt judges.

Three stages of land grabbing

According to Insight Crime and Igarapé Institute (2021), three stages are identified in land-grabbing processes: clearing, occupation and commercialisation.

The process of "clearing" consists of the elimination of the forest through fires or felling. Once the land is cleared it is ready to be occupied, often by keeping large amounts of livestock or growing agricultural crops. These types of activities proof "productive use", meaning the rights to the land can be claimed.

Once they own the property title, landowners can access government subsidies for the development of productive activities. The larger the property, the higher the subsidy, which only further increases inequality. An example of this is the *Agro Ingreso Seguro* programme, one of the biggest corruption scandals in Colombia's recent history.

Commercialisation is the last stage in the land-grabbing process. After the property title is claimed, the land is usually sold to other investors.

Complex problem, tangible impact

Land grabbing in Colombia is a complex problem involving actors at different levels that are part of national and international power systems. The local impact, however, is often very tangible: deforestation causes a severe loss of biodiversity and affects people who have been living in the forest for generations.

2 Illegal logging

In the Colombian Amazon, the illegal extraction and trafficking of timber has been a persistent driver of deforestation. The global demand, led by India and China, for timber became a threat to the forest even before cattle ranching and growing illicit crops. Logging causes drastic changes in land use throughout the Amazon region, where dense forests become deserted areas.

More than 52% of Colombia is covered by forests, of which more than 100,000 hectares on average are deforested every year, according to IDEAM. Currently, 10% of this figure is caused by illegal logging. The destruction of the rainforest causes a great loss of biodiversity and is one of the main sources of CO₂ being released into the atmosphere. Between 2000 and 2015, deforestation was responsible for up to 57% of the country's total emissions.

Construction of roads

Constructing (illegal) roads in the rainforest enables other high-impact extractive activities, creating the perfect circumstances for illegal occupation and the transformation of remote, dense forest areas. These roads foster the expansion of illegal sectors. In 2022, FCDS identified 26,915 km of open roads in forest areas parallel to rivers, some of them leading to protected areas.

It is estimated that 47% of the wood sold in Colombia is of illegal origin.

A threat to biodiversity

It is estimated that 47% of the wood sold in Colombia is of illegal origin. The timber sector in Colombia is considered unproductive and noncompetitive, because the areas suitable for commercial forest plantations are not being used as such.

Despite the fact that Colombia has a potential of 17 million hectares suitable for timber production, only 540,430 hectares of legal forest plantations are registered. So where does the wood for the global timber market come from? Around 80% of the timber sold in the country is extracted from natural forests, threatening species in one of the most biodiverse areas in the world.

The Amazon is among the Colombian regions most affected. Because of its richness in tree species of high economic value, the rainforest is an important source of timber. Due to its density, it has almost inaccessible areas with little or no state presence and few economic opportunities for local communities.

In the departments of Caquetá, Putumayo and Amazonas alone, more than 359,000 cubic metre of wood was extracted between 2012 and 2017. In the extreme northwest of this region one finds the so-called 'deforestation arc': the strategic area located between the Andean region, the plains of Orinoquía and the deep Amazon. In this arc, 56% of the national deforestation takes place.

Corruption and lack of transparency

The country's logging sector is permeated by informality and illegality. Between 2008 and 2019, 40% of the Colombian timber was reported fraudulent on the international market. Global Financial Integrity (2021) analysed the financial data of the sector. They found the Colombian export figures to be lower than those reported by other countries: a difference of 65.6 million dollars. China and India are the main export countries for Colombia's timber.

Corruption and a lack of transparency are present in all aspects of the chain. Institutional weaknesses, in terms of control, exacerbate illegal practices. This includes obtaining permits in an irregular manner, unauthorised extraction, felling protected tree species, logging more trees than authorised, tax evasion and fraudulent export billing.

Illegal logging and timber trade involves USD 750 million per year.

It is estimated that illegal logging and timber trade involves USD 750 million per year. Criminal and armed groups profit from laundering money, obtained through other illegal activities, through the logging sector.

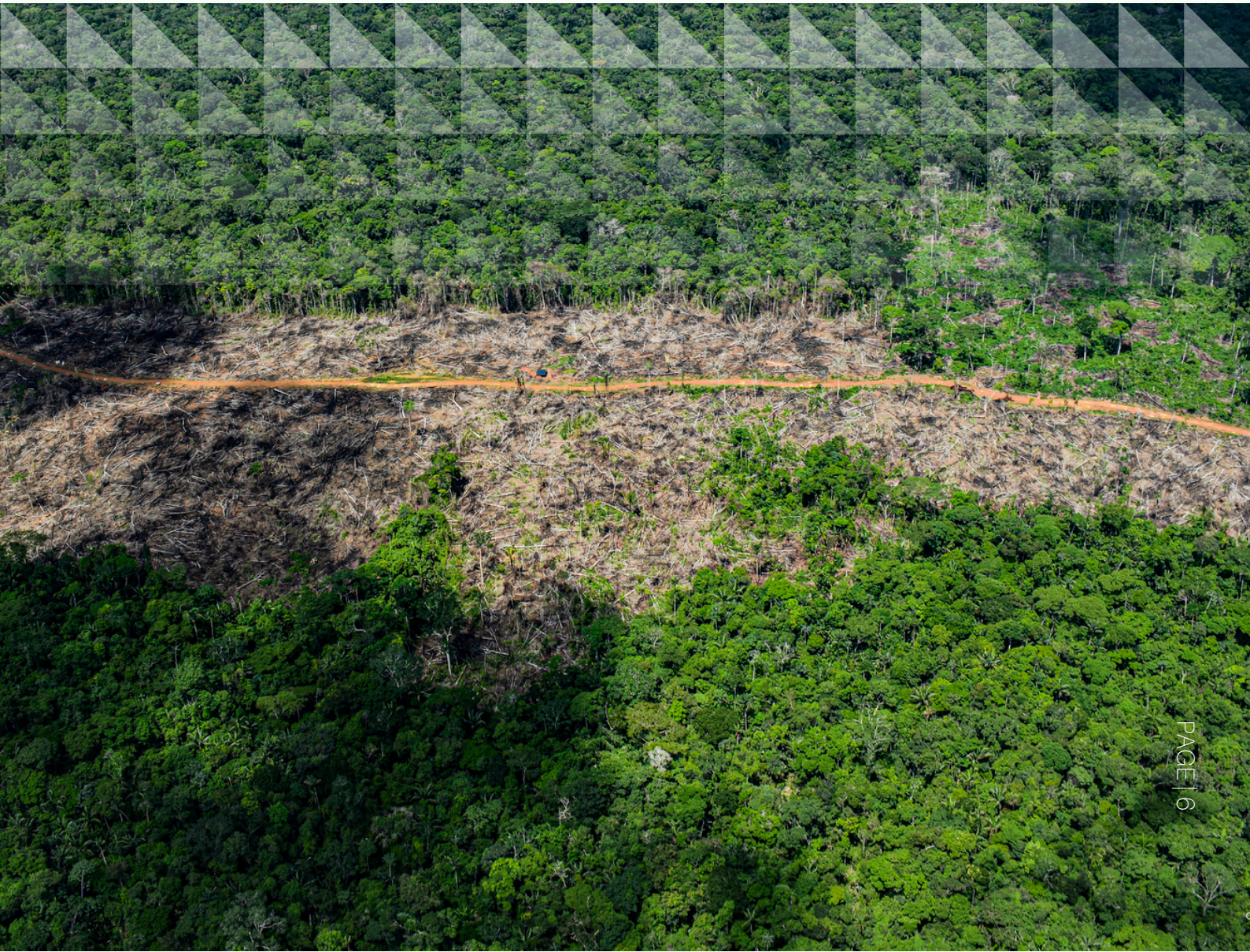
Three stages of illegal timber production

A study by the Environmental Investigation Agency (2019) identifies three stages of logging in the Amazon region: extraction, processing and transportation. Extraction is carried out in private and public areas, including the forests on Indigenous territories and national parks.


Timber transport through Putumayo

The Putumayo River, bordering Colombia with Peru, and the Amazon River, entering from Brazil, are being used to transport timber upstream, passing only few control points. Some of the logs are sawn into strips to make them easier to transport by truck, while others are transported uncut.

Subsequently, the wood arrives at Puerto Asis in the department of Putumayo, where it is taken to processing and commercialisation points in Caquetá.



3 Cattle ranching



Due to the high demand for meat, cattle ranching is the main driver of deforestation globally. This is also the case in Colombia. Together with land grabbing, cattle ranching is the major cause of environmental degradation and deforestation. Driven by the global demand for meat, pastures are replacing forests at a rapid pace in the Amazon.

The transformation of primary forests into pasture for cattle ranching represents 50% of the national deforestation rate registered between 2005 and 2015. Currently, they occupy 36.6% of the country's total area, more than double of the land suitable for this use.

A land of cows

'Cows in Colombia have more land than peasants,' says Carlos Suescún, professor at the National University of Colombia. In 2015, figures of the Censo Nacional Agropecuario showed that on some large-scale farms one cow has a grazing area up to 3.5 hectares, while a small-scale, local farmer on average owns 1.4 hectares.

In 2017, one of the years with the highest deforestation in the country, more than 183,000 hectares were lost in the Amazon region alone, mainly due to illegal appropriation of land for cattle ranching.

The livestock population in La Macarena National Park has increased more than sevenfold between 2016 and 2019.



Main drivers of deforestation

Land grabbing and cattle ranching are connected drivers of deforestation; together they form the greatest cause of environmental degradation. As mentioned in the first chapter, deforested areas in the Colombian Amazon are occupied with cattle to prove that the land is used in order to be able to claim property titles from the authorities.

According to Bram Ebus (2023), researcher at the Crisis Group, introducing livestock is also a way to show other appropriators that the land has already been taken.

There is evidence of a direct relationship between the increase in the number of heads of cattle and the increase in hectares of deforested forest. In the northern municipalities of the Amazon region alone, it is estimated that 2 million cattle were registered in 2019, almost double the figure of 2016. In turn, deforestation reached a total of 300,415 hectares.

Cows as guardians of land ownership

Although cattle ranching is prohibited within the national parks, the livestock population in La Macarena National Park has increased more than sevenfold between 2016 and 2019. In the northern area, adjacent to the Chiribiquete National Natural Park, the number of cows tripled and 17,000 hectares of forest was destroyed. According to Rodrigo Botero of FCDS (2020), the Yaguara II and Nukak-Maku Indigenous reserves face the occupation of their territories because of this development.

'The real function of cattle is not to sell meat or leather, it is to be guardians of land ownership,' said Colombian sociologist and lawyer Alejandro Reyes (2022). Although keeping livestock is a means rather than an end, the profit made is still an additional benefit.

The invisible cattle chain

The large-scale cattle business is permeated by illegality and violence, including corruption, extortion, cattle "laundering", financing of armed groups and displacement of communities.

A report of the Environmental Investigation Agency (2021), shows how keeping large groups of livestock within deforested areas in La Macarena and Chiribiquete National Parks, involves criminal activities from the start to the end of the production chain.

Despite the trail of illegality, corruption, deforestation and violence, cattle meat from the Amazon ends up in large supermarket chains.

At the beginning of this chain, large investors based in the cities often run the operations. It is common for them to pay small amounts of money to vulnerable communities for the felling and burning of the forest and to the take care of livestock.

While raising the animals, both small and large producers are forced to pay fees for each head of cattle to armed groups. After the Peace Agreement in 2016, FARC dissidents, Autodefensas Gaitanistas, ELN and other non-state armed groups have strengthened their positions in the Amazon region. These groups (violently) control businesses in the region and obtain profits from extortion.

Cattle raised in protected areas is officially illegal and therefore cannot be registered in the agricultural records of the authorities, or even be vaccinated. These animals cannot be slaughtered or sold. At this point, a new actor jumps in: a rancher in the region in the possession of the required permits is paid to make the cattle part of their herd. This step in the process is known as cattle laundering.

Despite the trail of illegality, corruption, deforestation and violence, cattle meat from the Amazon region ends up in large supermarket chains. Consumers buy these products without realising that they are indirectly financing the deforestation of one of the most biodiverse areas in the world.



4 Crops for illicit use



The accelerated loss of the Colombian Amazon region is the result of the interrelationship between the global market demand, corruption in government institutions, the socio-economic situation in Colombia's rural areas and the armed conflict. In this chapter, we analyse the role of crops for illicit use, and coca in particular, in deforestation.

In Colombia, growing crops for illicit use is historically linked to violence. It does not only affect Indigenous peoples and other local communities, but also severely damages the environment.

Coca: a sacred plant

For Amazonian and Andean Indigenous communities, the use of the coca leaf is fundamental to their way of life. Coca is considered a sacred plant of great nutritional, spiritual and healing value, and some ancestral practices include the use and cultivation of the plant.

Appropriation of the coca leaf

In the mid-1980s, the use of the coca leaf was appropriated and disrupted by drug traffickers and armed groups in Colombia. It was a response to the growing global demand for cocaine, the narcotic extracted from coca leaves after a chemical treatment. Armed groups involved in drugs trafficking violently took control of rural territories, turning cocaine into the main driver of the armed conflict in Colombia.

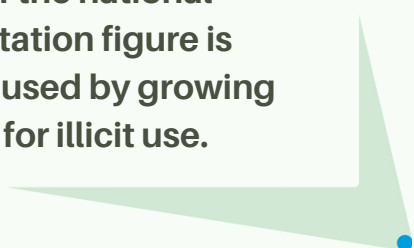
According to a report by the United Nations Office on Drugs and Crime (UNODC, 2022), it is estimated that in 2021, 204,000 Colombian hectares were used for growing crops for illicit use. A record figure, breaking the subtle decrease between 2018 and 2020.

UNODC also indicates that more than 50% of the country's illicit crops are grown in protected areas and the territories of Indigenous and Afro-descendant communities.

Illicit crops and deforestation

The Institute of Hydrology, Meteorology and Environmental Studies (IDEAM, 2019) has identified two different types of relationship between the expansion of illicit crops and deforestation: direct and indirect. In the first case, forest areas are replaced by new coca plantations, while in the second plantations are expanded by destroying adjacent natural areas.

7.5% of the national deforestation figure is directly caused by growing crops for illicit use.



In 2020, more than 50,000 hectares of forest was cleared, of which 12,939 hectares were replaced by coca crops. This is equivalent to 7.5% of the national deforestation figure.

In addition, 38,449 hectares of forest was cut in areas close to existing crops with the aim to expand the plantations.

Impact on nature and people

The illicit crop sector does not only deforest to establish plantations, but also for the construction of processing laboratories, and for the development of illegal roads and clandestine tracks important to mobilising drugs and for the invasion of new areas.

Producing cocaine impacts the environment severely. The discharge of chemical substances pollute rivers and affect the physico-chemical conditions of the soil. It is estimated that 3.5 tons of chemical residues are discharged into water sources and soils every year for each hectare of coca processed.

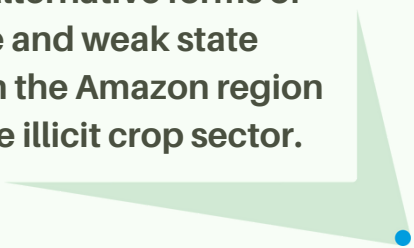
In addition to the fatal consequences the aerial spraying of illicit crops has on biodiversity, other crops and, above all, on the health of the inhabitants of the area.

Enclave for a hidden sector

The Amazon region is a perfect enclave for this hidden sector, as crops are located in jungle areas that are difficult to access, complicating detection and intervention. The Amazonian departments, in addition to presenting the highest deforestation figures at the national level, also contain 19.5% of the areas with coca crops.

Putumayo and Caquetá present the highest figures: 31,874 hectares of coca were registered in 2021, an increase of 45% compared to the previous year. The ecosystems of national parks and Indigenous territories are also affected by the invasion of illicit crops. Of these areas, Sierra de La Macarena National Park and the Nukak National Natural present the highest planting densities of coca plantations.

A lack of alternative forms of income and weak state presence in the Amazon region benefit the illicit crop sector.



The difficult socio-economic situation of Indigenous and peasant communities in Colombia and the weak presence of the state contribute to the illicit crop sector being able to operate without real interference. In a region with few economic alternatives for small-scale producers and little infrastructure for production and marketing, coca cultivation and cattle ranching are perceived by many as the only source of income.

The cultivation of crops for illicit use represents the most profitable agricultural activity in the country's vulnerable regions. As discussed in the chapter on land grabbing, peasant communities face many challenges when formally accessing land. They are often threatened by armed groups and the alternatives proposed in the peace agreement are not followed.

The war on drugs and deforestation

The Colombian government has carried out strategies to stop deforestation and end the expansion of illicit crops. In 2019, Operation Artemisa was launched, a military strategy involving more than 23,000 members of the armed forces to stop deforestation and drug trafficking.

The results of the operation were far from successful. Deforestation grew from 158,894 hectares in 2019 to 174,103 in 2021. The operation has reignited the conflict in the region and Indigenous and other local communities have denounced the violation of their rights. Operation Artemisa has been criticised by human rights organisations.

Another initiative to put a halt to the Colombian illicit crops sector is the National Plan for the Substitution of Illicit Use Crops (PNIS), developed within the framework of the Peace Agreement negotiations. The plan seeks to promote the voluntary substitution of illicit crop cultivation by stimulating alternative forms of livelihood.

But the conditions of the agreement changed over time, because of which farmers who replaced coca with another crop under the original rules, will now no longer be guaranteed land rights. This only further exacerbates land conflicts.

Global demand for cocaine

As cocaine continues to be one of the most consumed drugs worldwide, the problems in the Colombian Amazon continue. It is estimated that about 20 million people around the globe use cocaine, mainly in Europe and North America.

Many of the consumers may be not aware of the trail of blood, violence, poverty and environmental degradation that it causes in Colombia and other countries.



Industrial agriculture

At a global scale, agricultural expansion, including cropland and cattle grazing, is responsible for 90% of the deforestation between 2000 and 2018. South America is affected the most: 68 million hectares of forest were lost in the same period, of which 25% due to croplands. This chapter elaborates on industrial agriculture, and especially the palm oil sector, as a growing driver of deforestation in the Amazon.

The process of growing crops at an industrial scale often starts with the appropriation of large extensions of land, driven by large national and foreign capital. The impact on the area is enormous. By destroying large plots of forests, industrial agriculture causes major biodiversity loss.

Impact on people

In addition to its impact on nature, large-scale agriculture puts the livelihoods of Indigenous and other local communities at risk, as their crops become affected by fumigation and pesticides used for large monocultures. Due to the expansion of industrial agriculture, access to water becomes limited, rivers polluted and the soil quality decreases.

Colombia is the fourth producer of palm oil in the world and the first in the Americas.

In Colombia, large-scale agriculture is also associated with dynamics of violence, dispossession, forced displacement, labour exploitation, violation of human rights and invasion of Indigenous and Afro-Colombian territories.

Palm oil: raising the alarm

In the Colombian Amazon region, oil palm and, to a lesser degree, eucalyptus are the main industrial crops. Palm oil is the most consumed vegetable oil in the world and its use ranges from biofuel production to soaps for domestic use. Colombia is the fourth producer of palm oil in the world and the first in the Americas; it is currently grown in 21 of the country's 32 departments.

The palm oil sector is growing significantly. The year 2021 showed record figures: 1,706,000 tons of palm oil was produced, gaining a profit of 7.5 billion Colombian Pesos (approximately 1.5 million euro's).

Because of the growth in demand, the palm oil sector is increasingly attracting the attention of investors in the Colombian Amazon, but also in other Amazon countries, such as Peru. Taking into account the disastrous history of palm oil businesses in the region, alarms must be raised.

Forced displacement

The expansion of palm oil in Colombia has been strongly related to the appropriation of land and forced displacement of Indigenous peoples and local communities. Armed groups play an important role in this process. They invest in businesses, but are also commissioned by large palm oil companies to violently pressure people living in the area.

Companies and armed groups join forces to illegally evict and occupy peasant lands. They often intimidate people to force them to sell their land at very low prices.

The communities of Curvaradó and Jiguamiandó in the Colombian Pacific region, registered more than 3,000 forcefully displaced people and 20,000 people dispossessed of their land through illegal appropriation by large palm oil companies and powerful individuals. These actions were carried out by paramilitary groups with the participation of the national army and involved the assassination of community leaders and others.

From forest to large-scale plantation

The first phase of the deforestation process is, like of all drivers, land appropriation. After burning and felling the forest to prepare the soil, large palm plantations are created. Most of them are located in Colombia's Amazonian departments with the highest rates of deforestation: Meta and Guaviare. In 2020, these departments lost approximately 23,800 hectares and 15,000 hectares of forest respectively.

Protected areas and Indigenous reserves in the Amazon are also being affected by this force driven by the global market.

Research of FCDS (2022) shows the impact of industrial agriculture in the extreme north of the reserve of the Nukak-Maku, one of the Indigenous communities hit hardest by the land grabbing boom. Like the neighbouring Chiribiquete National Park, this reserve was declared natural and cultural heritage of humanity. Still, hectares of forest have been eliminated for palm cultivation.

As mentioned, armed groups also invest in agro-industrial businesses. In legal statements, former paramilitary chiefs admitted dispossessing thousands of hectares of land from peasant communities in the departments of Meta and Guaviare for the development of industrial agriculture. This concerned large-scale plantation with up to 3,000 hectares of oil palm trees.

Plan Colombia Framework

Between 2000 and 2015, Colombia received economic support from the United States for the promotion of palm plantations as an alternative for growing illicit crops (coca) as part of Plan Colombia Framework. Although the initiative includes some success stories of small producers, due to corruption in the highest echelons of political power, large industrial investors and politicians mainly benefitted.

Even drug traffickers and paramilitaries gained through the initiative, by illegally appropriating the resources through the Agro Ingreso Seguro programme.

70% of the Colombian palm oil is exported to Europe, where the Netherlands is the main buyer.



Responsible supply chain

According to the National Federation of Oil Palm Growers of Colombia (Fedepalma), 70% of the Colombian palm oil is exported to Europe. The Netherlands is the largest European buyer: export to the small country grew from 2% in 2012 to 11% in 2017. In 2018, the Dutch sector signed an agreement to responsibly manage the supply chain.

The Colombian authorities have zero-deforestation agreements with palm oil producing federations. Despite the fact that the federations have promised not to buy palm oil from farms in protected areas, it is estimated that 4,455 hectares of forest were replaced by these crops.

The economic associations assure that it is a very low figure compared to other factors of deforestation. The problem, however, steadily continues to gain ground in the Amazon forests.



Mining, oil and gas

Mineral mining and oil and gas exploitation are among the most lucrative sectors in Colombia, and attract a large number of legal and illegal investors. Like other drivers of deforestation in the Colombian Amazon, the extraction of these resources has a significant impact on forests and the people inhabiting them. The related activities do not only push deforestation, but also cause irreversible damage to the quality of ecosystems.

The Amazon harbors substantial reserves of oil, gas, and minerals. Throughout the Amazon countries, multinational corporations, particularly those operating in Brazil, Peru, Colombia, Ecuador, and Bolivia, spearhead extensive exploitation of these natural resources. Their activities have a major environmental and social impact.

Mining and oil exploitation in the Amazon

Mineral reserves of the Amazon include gold, bauxite, copper, coltan, uranium, zinc, coal, gem stones, and building materials. According to the World Resources Institute (WRI, 2020), large-scale mining concessions in the Amazon region cover an area of approximately 1.3 million square kilometres. An estimated 45% of this area is being actively exploited, while the remaining 55% is classified as pending areas awaiting procedures for the start of activity or open to bidding.

**Mining concessions cover
1.3 million square kilometres
of the Amazon .**

Numerous Indigenous territories are affected by the presence of multiple overlapping permits of mining corporations. It is estimated that an area of approximately 57,000 km², equal to over 10 percent, overlaps with Indigenous land. It is estimated that industrial mining concessions cover more than 18 percent of the total area.

Between 2001 and 2018, mining and related activities destroyed more than 400,000 hectares of Colombian forest. This concerns both direct and indirect deforestation through the construction of associated infrastructure, such as the mining camps and (illegal) roads.

Spreading though the entire region, the oil and gas projects in the extreme west of the Amazon rainforest currently cover 733,414 km². In Colombia, a large part of these activities takes place in the departments of Putumayo, Caquetá and Meta.

Exploitation rights

According to the WRI study (2020), banks and international investment funds have financed hydrocarbon extraction projects with great economic profit. It is estimated that extraction activities take place in 450,000 square kilometres of Indigenous territories, affecting 31 percent of their land.

Exploitation rights are often granted to foreign companies frequently ignoring the rights of local communities. 'Governments own mineral resources, Indigenous peoples cannot prohibit the entry of miners who have government permits, nor can they fully access the minerals in their territories,' says Patricia Quijano Vallejos, co-author of the WRI study. The report also indicates a relationship between deforestation and mining. In Colombia, the researchers observed Indigenous territories where mining activities takes place presenting a deforestation rate twice as high as those without mining.

Between 2001 and 2018, more than 400,000 hectares of forest were destroyed. This concerns both direct and indirect deforestation through the construction of associated infrastructure, such as the mining camps and (illegal) roads. This kind of infrastructure paves the way for other extractive activities that further drive deforestation.

Illegal and legal activities

In the Colombian Amazon, mineral and oil exploitation takes place both legally and illegally. Large-scale concessions are mostly granted to foreign companies. Only in 2018, 188 mining

exploitation titles were registered for 122,571 hectares in mainly the departments of Guainía, Caquetá, Putumayo and Guaviare.

The number of applications increases year after year in areas that should be protected. Actors exploiting the Amazon resources illegally make use of heavy machinery in the forest and its rivers to open new fronts for extraction.

Both the increase in applications for concessions and illegal activities generates distress within Indigenous and peasant communities, displacing local artisanal miners who have historically been using traditional, small-scale methods.



Official mining concessions and illegal activities in the Amazon region in 2021. Source: RAISG via the Amazon Assessment Report 2021. © Science Panel for the Amazon

Affected ecosystems and drinking water

Alluvial mining is used to obtain gold in the Amazon basin and the Atabapo, Inirida, Apaporis, Yarí, Caquetá, Putumayo, Puré, and Cotuhé rivers. With this technique, (parts of the) river bed is removed to search for gold or gem stones. Especially when heavy machinery is used, alluvial mining affects the physical and chemical characteristics of water and riverbeds. In addition, the use of toxic substances, such as mercury, poisons the ecosystem and damage the water source of the people in the area.

New studies reveal concerning levels of mercury exposure among individuals from the Miraña and Bora Indigenous communities. The Colombian government prohibited the use and import of mercury in 2021, leading to the rise transnational illegal trafficking networks selling Mexican mercury on the black market in Peru, Bolivia and Colombia.

Globally, mining and extractive activities are the second largest sector linked to the death of defenders.

Indigenous environmental defenders

Because mineral mining and oil extraction are very lucrative businesses, even more than cocaine, armed groups have been controlling the exploitation zones and are investors, leading to acts of violence and intimidation.

Both legal and illegal exploitation of the Amazon's natural resources, however, are a threat to the safety of the region's inhabitants.

Indigenous communities have responded to these threats by demanding the protection of their territories from extractive activities, for example in the Yaigojé Apaporis Reserve. The Siona community has organised to defend their ancestral territories from multinationals and organised crime groups that seek participation in these businesses.

Defending these territories comes with a high price. For years, Colombia has been one of the countries with the highest number environmental human rights defenders killed. Globally, mining and extractive activities are the second largest sector linked to the death of defenders.

Small steps forward?

Still, the efforts of environmental human rights defenders and others lead to small steps forward. In 2021, the Colombian Congress reported an initiative seeking to prohibit oil exploitation in the country's Amazon region, but up to date there are no indications of its approval. In 2022, the Colombian Council of State decided to review mining activities carried out in areas of environmental importance, thanks to the work of more than seven years of civil society organisations.

But even though the current government has presented a new proposal to declare temporary protected areas to avoid the granting of new concessions in sensitive natural areas, the exploitation rights granted before the application of the proposed law remain.





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