REDD+ and the Climate rent: The reorganization of value relations through forest conservation in Colombia

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List of Acronyms

AFOLU	Agriculture, Forestry and Other Land Uses
COP	Conference of the Parties
FAO	Food and Agriculture Organization
GHG	Greenhouse Gases
IDEAM	Instituto de Hidrología, Meteorología y Estudios Ambientales – Institute of Hidrology, Metereology and Environmental Studies
MADS	Ministerio de Ambiente y Desarrollo Sostenible - Ministry of Environment and Sustainable Development
REDD+	Reducing Emissions from Deforestation and forest Degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body

Abstract

This study aims to understand the ways in which projects for Reducing Emissions from Deforestation and forest Degradation (REDD+) are redefining social relations of value in the context of climate changing capitalism. REDD+ has progressively grown in importance as a climate change mitigation strategy for its cost efficiency and its capacity to direct finance to forest conservation through the creation of carbon credits. This study focus on the way in which Colombia has adopted it as a pivotal strategy to protect forests and reduce emissions and pay attention to the way in which this deployment transform relations of value. The main research question is how are REDD+ projects reshaping value relations and transforming social relations in Colombia? The questions are addressed through an analysis of 20 REDD+ projects developed with the objective of producing carbon credits for the voluntary carbon market. The configuration of property rights over the credits are analysed as a process of creation of a climate rent, through which value is not produced as result of a commodification of nature, but rather grabbed and distributed. The analysis of the 20 projects results in a typology of the diverse arrangements in which REDD+ is taking place in the country, and in a theorization of the conditions through which the distributive arrangements of the climate rent are established. Here, the main finding is that in the structure of REDD+ projects operate a process of hierarchisation of costs where those associated with the development of tasks that require managerial, and bureaucratic capabilities are valued as essential for the project and others, such as everyday practices of care performed by the land-owning communities, are deemed as natural characteristics of 'environmentally friendly communities' and thus, not worthy of the same kind of compensation.

Keywords

REDD+, climate change, rent theory, value grabbing, Marxism

Chapter 1
Introduction

As awareness of climate change expands in the face of growing the evidence of its dramatic effects, discussions around different kinds of mitigation policies have come to the forefront of policy debates. Carbon offset initiatives and particularly projects within the 'Reducing Emissions from Deforestation and forest Degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks' (REDD+) initiative have created opportunities for large-scale investment in the protection of forests, especially in developing countries. To date, 65 countries across Africa, Asia-Pacific and Latin America and the Caribbean have adopted national state-managed REDD+ programs as pivotal elements of their strategies to meet their mitigation goals set in the United Nations Framework Convention on Climate Change (UNFCCC), and the following Conferences of the Parties (COPs). Equally relevant has been the fast growth of voluntary carbon markets. In this framework, REDD+ projects structured by private actors offer carbon credits to private actors (from individuals to corporations) who voluntarily want to sustain claims about the offsetting of their carbon footprint.

In Colombia, successive governments have been enthusiastic about 'nature-based' solutions to the climate crisis and have exalted the role the country can play in climate mitigation. This happens against the background of an environmental crisis of growing deforestation in Colombia, with over 6 million hectares of forest lost between 1990 and 2016 (MADS - IDEAM, 2018). Not only has this resulted in significant ecosystem degradation in certain areas but has also turned deforestation into the main source of greenhouse gases emissions of the country (IDEAM, PNUD, MADS, DNP, Cancillería, 2016). Thus, the promotion of international initiatives for preventing deforestation has been identified by different Colombian governments as a unique opportunity to attract funding from donors, and for advancing the countries' own environmental commitments. After signing a Peace Agreement in 2016 with the FARC guerrilla, the Colombian government of Juan Manuel Santos (2010-2018) issued a law taxing carbon emissions, and at the same time, created a mechanism to boost voluntary carbon markets, by allowing firms to offset their carbon tax bill with carbon credits: According to the government's vision, the voluntary carbon market created opportunities for reducing carbon emissions while at the same time, channelling finances to support the sustainable development of poor rural communities that depended on the forest for their livelihoods. (MADS - IDEAM, 2018). The next administration, under president Ivan Duque (2018-2022) continued to define carbon offsetting, and particularly, the production of carbon credits produced through REDD+, as a pivotal climate change mitigation strategy. In COP 26, the Government committed to reducing greenhouse gases emissions by 51% by 2030, prioritizing those produced by deforestation (MADS, 2021a). This commitment is reflected in the Integrated Strategy to Control Deforestation and Manage Forests, where REDD+ is defined as the key instrument to create a more sustainable relationship with forests while providing alternative livelihoods for forest-based communities (MADS - IDEAM, 2018).

Although the full integration of REDD+ into the environmental public policy of Colombia was finalized in 2018, different projects developed by private actors had proliferated since 2010, to the point of establishing Colombia as one of the countries with a

"high density" of REDD+ projects, according to specialists (Simonet, et al., 2018). Located in different regions of the country and following a diverse set of institutional arrangements, REDD+ projects cover by now an important portion of the forested land and involve a growing number of rural groups including indigenous and Afro-Colombian communities. In a context of highly concentrated land ownership, high deforestation rates, and growing prevalence of socio-environmental conflicts, the implementation of REDD+ has sparked controversies.

Promoters of REDD+ in the country have regarded the mechanism as a powerful instrument to protect forests and biodiversity, reduce carbon emissions, promote economic development, and create value that support the livelihoods of marginalized rural communities (Asocarbono, 2021). Considerations of its cost-efficiency vis-à-vis other greenhouse gas emission mitigation strategies, plus its stated benefits in terms of governance strengthening, economic development and ecosystem restoration, explain its appeal among power brokers both in the public and private sector, and in the global and local arena (Dehm, 2021; Simonet, et al., 2019; Barr & Sayer, 2012; UNFCCC, 2022). Moreover, supporters of the mechanism in Colombia have insisted on the fact that all REDD+ projects are developed through voluntary agreements between project developers and landowners where free, prior, and informed consent is a defining value.

On the other hand, critiques to REDD+ have been raised from very different quarters. Some consider that although carbon markets are fundamental for mitigating climate change, there are a lot of problems of environmental integrity in credits produced through prevention of deforestation. These include concerns about the permanency of the offsets these projects can grant (Hodgson & Nauman , 2021), and doubts about the accuracy and quality of the calculations of emissions reduced by these projects (Astor, 2022). From a different perspective, environmental activists have warned against what they see as the latest movement of enclosure, privatization, and assertion of colonial dominance over Global South forests. In Colombia, these arguments have been voiced by some environmental NGO's like CENSAT Agua Viva (Amigos de la Tierra Internacional, 2010), by political organizations with strong rural grassroots bases like Marcha Patriótica, and by agrarian workers unions like Fensuagro (Orduz Salinas, 2015). For them, REDD+ is a mechanism that can set restrictions of access and use of forests to the rural communities that depend on forests for their livelihood. They perceive REDD+ as a movement for the *commodification of nature* that is likely to accelerate processes of social differentiation at best, and straight dispossession at worst (Marcha de la cumbre de los pueblos, 2014). These critics also point out that REDD+ is a mechanism aimed at greenwashing and justifying the continuous extraction of fossil fuels and its use by polluting industries, displacing the responsibility of stopping climate change to the communities that live in the forest (World Rainforest Movement and others, 2021; Lohmann, 2022; Marcha de la cumbre de los pueblos, 2014).[1]

In the academic literature, REDD+ has also become the focus of numerous studies. On the one hand, the most prominent strand has evaluated the efficiency of REDD+ in accomplishing its stated goals from a neo-institutionalist approach (see Angelsen, 2018 for

[1] It is important to note that despite these strong criticisms, rural and environmental movements in Colombia have not led big mobilizations against REDD+ to this date. Instead, most of the collective actions have been targeted against the militarization of conservation policies aimed to expel settlements from National Parks **Fuente especificada no válida.**. Although the phenomenon of militarized conservation has been also present in REDD+ projects in Colombia, the biggest mobilizations have targeted a different problem related with a different kind of environmental zoning.

an example). This field of the literature has been criticized for depoliticizing processes that are inherently political, such as measuring carbon storage, the incorporation of local communities as 'participants' not as 'employees' thus making invisible their labour contribution, and the conflicts over the distribution of the end benefits. Instead, these processes are presented as amenable to technical fixes that allow a more efficient valuation of ecosystem services (Foster, 2022), or of technocratic mechanisms in line with neoliberal discourses of good governance (Neimark, et al., 2020). Moreover, this literature often neglects the trajectories of agrarian change in which REDD+ projects are located, neglecting thus the particular characteristics of the people that participate in these projects and presenting them simply as people living in poverty and in urgent need for development interventions.

Critical scholars, in contrast, have put REDD+ in a broader context, in terms of its impacts and of its relationship with transformations of capitalism. According to Dehm, this critical strand of scholarship is not only concerned with exposing how REDD+ is a 'problematic false solution', but also with understanding the 'productive effects' that REDD+ has had as it gains traction through massive investments and worldwide adoption (Dehm, 2021, p. 4). An important contribution in this line has been made by scholars in the Marxist tradition who have understood carbon markets, REDD+, and other schemes of Payment for Ecosystem Services, as another expression of the ongoing commodification of nature that provides new avenues for capital accumulation (Smith, 2007; Bumpus & Liverman, 2008; Benjaminsen & Kaarhus, 2018). From there, the opportunities for profit that these kinds of projects entail are understood as the result of processes of individuation, privatization, abstraction, and valuation of specific parts of nature that are transformed into commodities (Castree, 2003).

More recent contributions, however, have pointed out the problems that this conceptualization might bring. Feli (2014) and Andreucci et al. (2017), for example, have drawn attention to the fact that the commodification of nature as strategy of accumulation thesis renders communities in these projects as victims of the unstoppable pressure to integrate them into circuits of commodity production and exchange, as if they were outside of the market in the first place. Moreover, it provides an unsatisfactory answer to the question about the value relations that mediate the process of creating carbon credits. If these were understood as commodities, it could be assumed that value is created from nowhere, or from activities like measuring carbon (Apostolopoulou, 2020). Instead, they propose, carbon credits should be understood as rents. This way, climate change mitigation strategies aimed to limit the emission of GHG through market mechanisms are not seen as "the expression of a one-dimensional advance of capital but rather [as a] process characterised by internal contradictions and barriers to capital's accumulation" (Feli, 2014, p. 255). The conceptualization of what has been labelled as the ***climate rent*** brings to the forefront the fact that recognition of property rights over carbon by the state shape particular kinds of distributive relations and class configurations. Thus, this perspective has provided the theoretical basis for forming a more nuanced view of how value relations are being shaped in the context of climate-changing capitalism by mechanisms such as REDD+. Despite the relevance of these contributions, empirical research into how REDD+ projects are facilitating the establishment of rent relations remains limited (see Apostolopoulou, 2020 for an exception on biodiversity offsets).

On a different note, research of REDD+ projects have in many cases, been based on single case studies or in studies that focus on particular regions. Research of REDD+ in

Colombia has followed the same trajectory, with studies that have either focused on the implementation of a public REDD+ project in the Amazon region (Hein, et al., 2020; Krause, 2020; Furumo & Lambin, 2020), or in particular private projects in the Amazon (Diaz, 2021) or in the Pacific (Carrillo Cubides, 2017; Gilbertson, 2021). While this has been useful for providing rich accounts of how the participants perceive the projects, a systematic analysis of the variations between REDD+ projects in the country, and of the different interaction of elements that determine the particular configurations of these, is still missing.

Building on the contributions about the climate rent, and trying to fill the identified gaps, this research paper looks at how REDD+ projects in Colombia are being deployed in different land tenure settings and engaging with different kinds of social arrangements. I argue that the establishment of new arrangements over the property of carbon credits created in 20 REDD+ projects along the country should be understood as a dynamic of *rent creation* and, as such, the kinds of distributional conflicts they create should be studied from the perspective of rents, rather than from the more influential perspective of the commodification of nature. To do so, this research paper is organized as it follows: First, the methodological tenets of this research are presented. Secondly, REDD+ as a mechanism for protecting forests and producing rents is located in the context of broad processes of agrarian change and environmental policy making in Colombia. This provides an understanding of some of the historical trajectories that shape the implementation of REDD+ as well as of its effects on populations in specific contexts. Third, I classify the 20 projects according to the interaction between three factors: land ownership, property and use rights of the carbon credit and the constellation of actors involved in the creation of such credit. This is used to show how different configurations can imply different kinds of conflicts around the appropriation and use of the revenues generated by the projects. Fourth, I examine the interaction between the elements that shape distributive arrangements over the carbon rent in light of Marx's rent theory. This will help us understand how the establishment of rent relations implies a political process of simultaneous valuation and devaluation of determinate capacities, skills, and practices of the different actors involved. By doing this, the paper provides a fresh perspective on the class dimension of the socio-environmental conflicts that are shaping climate changing capitalism in Colombia and elsewhere where REDD+ is being implemented.

Chapter 2
Research design and analytical framework

The present research is grounded on the tradition of Marxist political economy. This framework is rooted in the work of Karl Marx and the critical scholarship inspired by it. Historical materialism focuses on providing concrete analysis of social change with a particular emphasis on the processes that shape ecologic-historical structures of social relations, on the immanent contradictions of those structures, and on the ways in which transformative political action can emerge from them. This framework does this by paying attention to how social relations of production and reproduction are structured in historically specific ways as result of relationships of value, surplus value, and social abstract labour. These relations are expressed "in 'phenomenal forms' like the divisions of capitalist revenue (profit, interest, rent), social divisions of labour and indeed social classes" (Bernstein, 2021, p. 19). As such, social relations of property are a key institutional feature that shape social relations of production and reproduction. As was specified in the introduction, recent contributions on the Marxist tradition to the study of carbon markets and Payment for Ecosystem Services schemes like REDD+ provide an historically informed lens to analyse the reconfiguration of social relations in climate-changing capitalism by following the production and distribution of value.

Along these lines, the main research question that I seek to answer is:

How are REDD+ projects reshaping value relations and transforming social relations in Colombia?

My sub-questions are:

1. *How is REDD+ being implemented in Colombia as a climate change mitigation strategy and how does REDD+ projects interact with historical trajectories of agrarian change?*

2. *Which are the different kinds of REDD+ projects that are being implemented in Colombia and how do they vary depending on different kinds of property relations and of the actors that participate in them?*

3. *How different kinds of REDD+ projects structure relations of distribution of value?*

4. *Which are the conditions that shape distributive arrangements in REDD+ projects?*

My approach to those questions was limited by the access to available information. The main data source for this research were project documents of different REDD+ projects in Colombia. These documents were extracted from the Verra Registry[2]. In order to produce carbon credits tradeable in the voluntary market, REDD+ projects have to be registered before a competent and recognized validation and verification body (VVB). The most used

[2] https://registry.verra.org/

worldwide is the Verified Carbon Standard (VCS), owned by Verra[3]. To date, the Verra registry contains 30 REDD+ projects located in Colombia. Of these 30, 20 were selected to make up the sample. This selection was made based on considerations of the quality of the documents available (in terms of completeness), of the regional diversity of the projects, and of the diversity of land ownership settings in which they were developed. These documents were written by the developers of each project (or by consultancy firms experienced in this task contracted by them). They contain general descriptions of the project, of their objectives, and of the activities they plan to develop in order to achieve their objectives. They also provide background information of the landowners and of the project area (land cover, precipitations, altitude variations, biodiversity, etc.), information on the status of the property rights of the land, on the way that rights over the carbon credits are going to be defined, and indications of how the carbon stocks are going to be measured, calculated, and modelled, among other issues. Although these are very rich and long documents, their veracity should be taken with caution, given that they contain a mix of verifiable information with highly abstracted and idealized narratives about the intentions of the project developer. Additional information about the results of the projects is only available for a handful of cases, specifically for the projects developed by USAID in the Pacific region.

On these conditions, my analysis of the reconfiguration of social relations that REDD+ projects promoted is focused on some specific issues that can be found on the project documents. These are the conditions of land ownership in the project area, the definition of property, access and use of the carbon credits, and the actors involved in the project development, management, and implementation. The choice of focusing the analysis on the rent relations was also influenced by the availability of information in these documents.

The information extracted from the project documents was organized and classified, and the typologies presented in chapter 4 were built based on my analysis of this information. The same information supported the analysis developed in chapter 5. Available information on internet about each project, as well as journalistic reports was used for complementing the analysis and especially for mentioning the conflicts that some REDD+ projects have prompted. Access to people involved in the projects was difficult and only possible during the last part of the research. For this reason, the only three possible interviews (mainly employees of Fondo Acción, an NGO that plays the role of trust fund for the projects developed by USAID in the Pacific coast), were used to complement information or to confirm data collected through the analysis of the project documents. These limitations also conditioned the possibility of carrying a quantitative analysis of the rent relations and of the distribution of value among the different actors that participate in each REDD+ project.

The research was carried out throughout the months of July-November 2022 from The Hague, in the Netherlands. In this sense, it was desk-based and done mainly through the use of publicly available sources. The ethical consideration that arises from here is that in my analysis of the projects, the perspective of landowners is absent for the most part. Despite how meaningful and important it could be for providing a more nuanced and richer analysis of the projects, of their interactions, and of the processes of decision making, it was not

[3] REDD+ projects implemented in Colombia can also be registered in one of, at least, other three registries. These are: Cercarbono – Ecoregistry, COLCX and ProClima. Although Verra is the oldest registry, others have currently more registered projects. This also constitutes a limit of the research. Notwithstanding this, the election of the Verra registry as the main source of project documents is also supported with the fact that other registries provide less information about the projects to the public than Verra does.

possible to contact them on time. Acknowledging these limitations, this research paper focused on the analysis of formal relations that could be inferred from the available information. However, research that takes into consideration these perspectives is needed and should be a area of further enquiry in years to come.

Chapter 3
REDD+ in context: agrarian change and climate change policy in Colombia

Colombia is a highly biodiverse country located in the northern part of South America. Its geography is characterized by the division of the Andean Mountain Range into three mountain chains that creates two fertile inter-Andean valleys. The most densely populated areas have been traditionally located in the Andes, while significant indigenous populations have inhabited in both the Pacific and Caribbean coasts, as well as in the forests and savannas in the eastern plains and the Amazon in the southeast of the country. In 2017, the country had over 59.311.350 hectares of forests, which means that over 52,6% of its total surface of its territory is covered by forests (IDEAM, 2020). The particular configuration of REDD+ in Colombia interacts with historical trajectories of agrarian change that explain processes of expansion of the agricultural frontier, and of growing deforestation. Moreover, these historical processes, have also defined the population processes of the regions in which REDD+ projects are concentrating in Colombia. Although the space is limited to provide an extensive review of these issues, in this chapter I locate the deployment of REDD+ projects in the context of national trajectories of agrarian change to then describe some of the general characteristics that REDD+ has adopted in the country. The main elements of the trajectories of agrarian change that I bring to the discussion are the consolidation of a polarized agrarian structure and its impacts on the expansion of the agrarian frontier, and the configuration of a racially differentiated population that has had implications in a particular shaping of the land tenure regime. Next, I provide a brief description of how REDD+ works in Colombia in order to locate the analysis I advance in chapters 4 and 5.

Historical dynamics of land concentration and frontier expansion

The historical expansion of the agricultural frontier in Colombia is closely related to the configuration of a rigid bimodal agrarian structure, where big privately-owned estates coexist with very small *minifundios* (García-Nossa, 1973; Fajardo, 2022). Historians have explained this as the result of a particular model of development that favoured the concession of private property titles in former public lands to wealthy individuals that committed themselves to develop agricultural enterprises for export commodities. From 1850 onwards, the state granted private property rights to those economic and military elites engaged in the large-scale clearing of land for the production of export commodities like tobacco, coffee, cotton, banana, rubber, and timber (LeGrand, 1988; Dominguez & Gomez, 1990). Although by the end of the 19th century the state also promoted the access to land for small producers, their property rights were often poorly defined. Taking advantage of this, politically connected large-scale landowners participated in many cases in processes of expulsion and dispossession of frontier settlers and small-scale farmers (LeGrand, 1988). As a result this, land was already dramatically concentrated by the early 20th century (Fajardo, 2014; Machado, 2009).

This process was fraught and violent. On the one hand, landed elites were effective in using violence to expand their lands and in preventing the collective action of organized workers demanding for their rights (Gutiérrez-Sanín & Vargas, 2017). On the other hand,

organized movements of poor people have participated in direct actions to either resist expulsion, or to push for redistributive policies through land occupations (Zamosc, 1986). Moreover, the history of the armed conflict that beleaguered the country during the 1940-1954 period, and then since 1960s to these days, is closely linked to unresolved agrarian conflicts (Gutiérrez-Sanín, 2015).

During the 1960s, liberal governments tried to conduct an agrarian reform in order to deactivate the escalating agrarian conflicts. Scholars agree that these efforts did little to effectively redistribute land (Machado, 2009). Instead, the agrarian reform focused on granting titles over state-owned lands located in the less commercially integrated areas of the northern Amazon and the Eastern Plains (Vásquez, 2015; Molano, 1987). Away from the main markets, these areas confronted settlers with many difficulties in securing a sustainable livelihood. Pressured by debt, many settlers ended up selling their estates in order to penetrate deeper into the forest to clear new plots of land (Molano, 1987). This, in turn, results in new cycles of land concentration and agricultural frontier expansion.

The historical concentration of land has, in turn, configured two dynamics that are relevant for the analysis of REDD+ projects that I aim to advance here: First, a population process of the agrarian frontiers along class lines. Landless peasants are usually those who are forced to move beyond the frontier, although in historical cycles land gets concentrated back again in the hands of big landowners who, in many cases, are not interested in adopting intensive forms of production but rather dedicate themselves to accumulate social power - *rentiers* (Fajardo, 2014). This brings us to the second dynamic: the configuration of this landed class has been many times represented as the configuration of a rentier class that also uses their social power to access to the state in order to appropriate rents that come from the extraction of fossil fuels (Gutiérrez-Sanín & Zuluaga, 2011).

Racialized marginalization

The population living in forested areas has been targeted for the development of projects like REDD+ are in most cases, racialized. This should not be taken as a given, but rather understood as the result of diverse historical trajectories of dispossession and expulsion. Since colonial times and throughout the 19th and 20th centuries, independent settlements of black communities have established in areas away from the most commercially integrated regions. These settlements were formed by runaway-slaves who escaped from enslavement and forced labour regimes that dynamized the production in the mines and Haciendas of the inter-Andean Valleys (Oslender, 2016). These settlements are located on the Pacific Lowlands, along the San Juan and Atrato rivers, and on the forests inside the Caribbean plains (Fajardo, 2022, pp. 10-15). The difficult access to these areas provided refuge to the communities that settled there. On the other hand, it has also difficulted the connection of its economies into the national and global markets. Notwithstanding this, these lands have been under siege from various attempts to expand mining, oil extraction and agro-industry both of sugarcane and oil palm during the 20th century (Fajardo, 2022, p. 15)

Population processes of the Amazon and Eastern Plains are more diverse and include the settlement of at least 26 indigenous ethno-linguistic groups that arrived through different processes, some of which imply the navigation of the Amazon River and its affluents since at least 4000 years (Morcote-Ríos, et al., 2006). However, since the 19th century, the rubber

boom created enormous pressure over some of these populations who were located in Putumayo, Caquetá, Guaviare, and Amazonas valleys. Settlers were able to extract rubber for the international market with enormous cruelty, using forced labour and through a system of debt that enabled unpaid appropriation of labour from indigenous populations (Molano, 1987). Equally, the expansion of large privately owned estates in the region has been noted as one of the prevailing legacies of the rubber boom (Barham & Coomes, 1994). This entailed a process of privatization of land resulting in some indigenous communities becoming displaced deeper into the forest to escape the reach of the rubber barons. Other indigenous communities have experienced similar processes of dispossession and dislocation to less fertile areas along mountain ranges.

Land property configurations

The intensification of struggles by indigenous and Afro-Colombians for their rights to territorial and cultural autonomy during the second half of the 20th century resulted in important victories. These victories materialized in the recognition in the new Constitution of 1991 of Colombia as a multiethnic and culturally diverse state that granted the right of indigenous and Afro-Colombians to own collective land titles.

Collective land titles of indigenous populations date back to colonial times, when *resguardos* (reserves) were created to concentrate indigenous populations and exploit their labour power (Fajardo, 2022). After independence, these titles were largely ignored by successive governments, although the Law 89 of 1890 recognized their existence and set out their main legal characteristics (Herrera Arango, 2018). Indigenous reserves are defined as not alienable, meaning that cannot be divided nor sold. These lands also cannot be rented. Autonomous authorities are able to govern inside them according to their customs and rules. The political authority of each indigenous community is represented by *cabildos* (van de Sandt, 2007). The number of indigenous reserves has increased since the 1960s, and significantly since the 1980s. According to the National Land Agency, there are 827 registered reserves that occupy 37,807,238 hectares (Agencia Nacional de Tierras, 2022a).

Struggles led by Afro-Colombian organizations, among which the *Proceso de Comunidades Negras* (PCN) outstands, resulted during the 1990s in the recognition of their right to collective territories administered by Community Councils of Afro-Colombian Communities (Oslender, 2016). The Constitution of 1991 recognized for the first time the black communities as a differentiated social group with rights to territory. These rights were later regulated by the Law 70 of 1993, that defined the capacity of the state to title collective land titles to Community Councils -a new political-administrative entity- with rights of "access, extraction, management, and exclusion" (Vélez, et al., 2020, p. 4). These titles are also not alienable, cannot be divided, rented, nor used as collateral when applying for credit. Currently, 5,691,756 hectares are registered to 236 collective territories of Afro-Colombian Communities (Agencia Nacional de Tierras, 2022b).

The effective legal recognition and protection of these collective land titles has been fundamental to change the dynamics of agrarian change described before. Numerous studies have considered that collective titling has been an effective strategy against processes of land grabbing and displacement (Cárdenas, 2012; Grajales, 2015). Although the legal recognition has not been sufficient to prevent incursions of corporate and illegal actors to exploit

minerals or grow coca and oil palm in these territories, it has though been a useful resource for the community to resist against them (Fajardo, 2022; Rojas, 2022, Forthcoming).

As will be explored bellow in Chapters 4 and 5, secure land rights are an attractive condition for developers of REDD+ projects, given that it reduces the uncertainty over the investment and reduces the risk of promoting conflicts over land through their implementation. On the other hand, given that these territories are governed by autonomous authorities that have control over large portions of land, the negotiation for the establishment of agreements between landowners and project developers is easier than in the case of several disperse private proprietors. This explains why most of the REDD+ projects that are being currently implemented in this kind of land. However, what I wanted to show in this section is that the population processes of the territories in which these projects are being developed has been shaped by particular trajectories of agrarian change. The key features of such trajectories are undefeated land concentration, insecure land rights for smallholders, dispossession and agricultural frontier expansion that is expressed in growing rates of deforestation. These dynamics of frontier expansion have also been shaped along lines of ethnic differences related to the colonial past of the country. The implementation of REDD+ is thus, in no sense, abstracted from the revised historical dynamics.

REDD+ in Colombia: General features

REDD+ has been adopted since 2015 by successive governments of Colombia as the heart of the national strategy to protect forests while providing livelihoods to the inhabitants of forested areas. Such initiative has been justified on three argumentative lines. First, the country's vast forest coverage makes it particularly apt for the promotion of these projects. Accordingly, important efforts by Colombian governments have been made to represent the country as a key biodiversity and forest hotspot requiring international funding for its conservation (Hein, et al., 2020). Second, according to the last report of the Intergovernmental Panel on Climate Change, Agriculture, Forestry and Other Land Uses (AFOLU) account for about 13% - 21% of global total human-caused GHG emissions (IPCC, 2022, p. 149). Moreover, deforestation is responsible for about half of GHG emissions related to AFOLU. In Colombia, deforestation is the most polluting activity in terms of emissions of GHG, causing over 36% of the total national emissions (IDEAM, PNUD, MADS, DNP, Cancillería, 2016). In this sense, REDD+ projects have been identified by the government as valuable tools for accomplishing the country's emission reduction targets, as well as for reformulating relations with developed nations in terms of the ecosystem services Colombia can offer. This, in turn, posits REDD+ as a mechanism for attracting investment and promoting rural development (MADS - IDEAM, 2018). A third justification has been the prevision that the signing of the Peace Agreement between the Government and the Revolutionary Armed Forces of Colombia – People's Army (Fuerzas Armadas Revolucionarias de Colombia – Ejército del Pueblo, FARC-EP) would increase deforestation in the areas where the insurgency exercised territorial control before (Furumo & Lambin, 2020; Fajardo & Salgado, 2017; Krause, 2020).

In the broadest sense, there are 2 kinds of REDD+ initiatives in the country. On the one hand, there are national REDD+ programs administered by the central government. On the other hand, there are private REDD+ projects that produce carbon credits for the voluntary market. Colombia currently implements two national REDD+ programs. One has a particular focus on the Amazon, Visión Amazonía, while the other targets the forests

located in the Orinoquía (Biocarbono Orinoquía). Both projects aim to protect the forests and the carbon stocks in each region. Visión Amazonía has 5 different strategies for achieving results. The first is strengthening the capacities of local communities in forest governance and management. The second is to strengthen the environmental management capacities of local governments in the region. The third is supporting agri-environmental productive activities through the destination of "green finances" or through the subsidized promotion of agroforestry, silviculture, forest plantations, ecotourism and other "green projects". The fourth strategy focuses on supporting projects of rural development and governance strengthening proposed by indigenous communities. The fifth is named enabling conditions and refers to the development of the necessary institutional infrastructure that the state has to provide for REDD+ to work. This includes a national deforestation monitoring system, a forest inventory, a system for the protection and guarantee of social safeguards for the communities that participate in the program, and a system for early alerts of deforestation (MADS, 2020b). Biocarbono Orinoquía has similar strategies but given that the agricultural markets of this region are much more integrated into the national and international circuits of commodity exchange, some of the activities of the program are more focused in supporting producers of rice, cattle, cocoa, cashews, oil palm and commercial forestry to adopt sustainable practices (MADR, MADS & IDEAM, 2022a).

The resources for these programs have been obtained by the national government through different bilateral and multilateral agreements. Visión Amazonía started in 2015 after a cooperation agreement was signed between the Colombian government and the governments of Germany, United Kingdom, and Norway. In this way, the donor countries committed to give up to $300 million dollars in exchange for both demonstrated efforts to reduce deforestation, and for results in achieving those objectives. (MADS, 2015). Resources for Biocarbón Orinoquía were obtained through a $20 million dollars grant of the World Bank with resources from Germany, United Kingdom, Norway, and the United States of America. A big portion of these resources have gone to establishing the institutional arrangements needed for that task, including the systems of monitoring, reporting and verification (MRV) of GHG emissions and reductions, to "strengthen national policies to more effectively tackle activities such as logging, mining and illicit crops, […] to declare 2.5 million hectares of new protected areas, and to establish a public private coalition of companies committed to ambitious zero deforestation policies" (MADS, 2015). The Colombian Government also received $8.730.000 dollars from the World Bank's Forest Carbon Partnership Facility (FCPF), a global fund created to provide resources for the development of institutional capacities required to implement REDD+ (Forest Carbon Partnership Facility, 2022, p. 120).

A very contested issue regarding the national REDD+ programs has been the involvement of the Colombian army into forest patrolling activities. Under the banner of the 'Artemisa Campaign', the Army, in coordination with the Police and the Office of the Attorney General, have carried over 100 actions in the implementation area of Visión Amazonía (MADS, 2022b). Human rights organizations denounced that these operations have targeted mostly peasants and rural workers, who have been detained and put on trial, accused of being drivers of deforestation (Patternson, 2022). Critics have also pointed out that the Artemisa Campaign revamps the logics of the war against the peasantry that was carried out by the Colombian state under the guise of anti-insurgent operations in the past (Bautista, 2022). Accordingly, the operations have resulted in population evictions and in the consolidation of a model of conservation that publicly is advertised as participatory,

community-led, and pro-poor, but in fact is a brutal expression of militarized conservation that can lead to processes of land grabbing (Rojas, 2022, Forthcoming).

Although one of the objectives of the national REDD+ programs is to enhance livelihoods by promoting the engagement of local communities with agricultural and non-agricultural commodity markets, they do not create carbon credits for the market, but rather emission reductions that can be accounted by the Colombian state as part of its commitments before the UNFCCC. In this sense, the national REDD+ programs are structured around a logic of payment for results, where Colombian government receives money from donors after it proves its effectivity in protecting forests that are considered in terms of their ecosystem service of capturing carbon.

REDD+ projects for the voluntary carbon market operate under a different logic. In these cases, project developers carry out a series of activities that are expected to prevent deforestation. The idea is that by doing so, the project is preventing the release of carbon emissions into the atmosphere. The results obtained in a given period of time by the project are documented and then compared with a regional baseline, that is, the average rate of deforestation in the zone where the project is located in the period of time before the project started. Based on how much deforestation was prevented in comparison to the baseline, an independent organization that plays the role of a Verification and Validation Body validates how many carbon emissions were kept on the trees, and thus, how many carbon credits should be issued to the project developers. A carbon credit is issued by another organization that plays the role of Standard for each tonne of carbon that the project effectively prevented to be released to the atmosphere. This involves a process of reading and auditing long documents that contain standardized information about the project (Frewer, 2021; Huff, 2021).

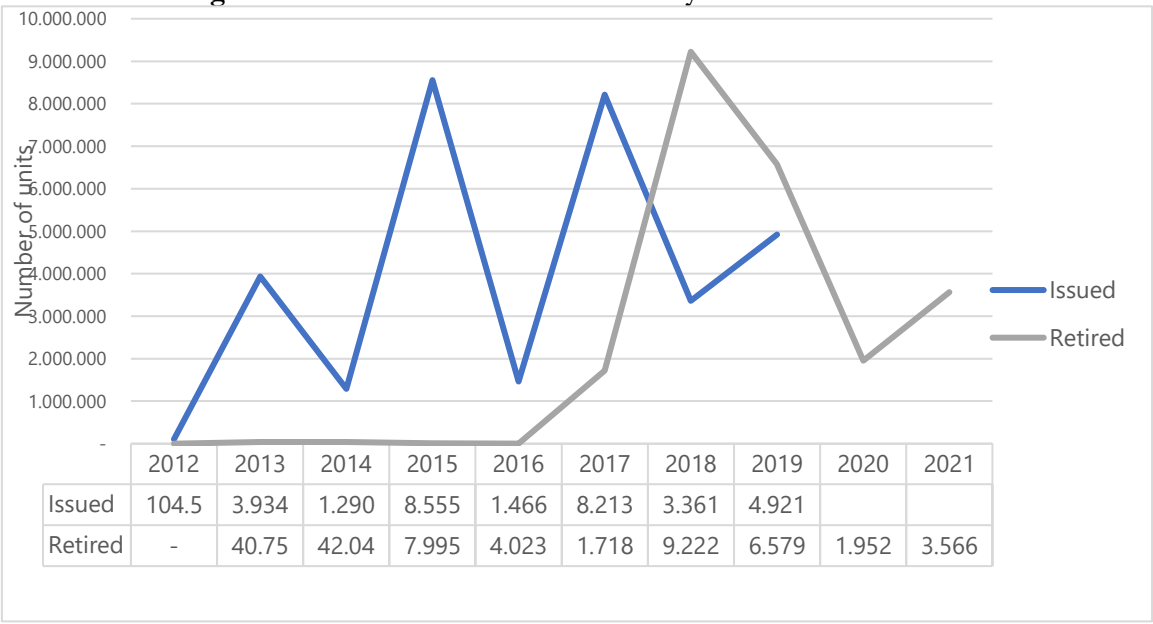
Once the credits are issued, they can be traded in exchange for money in carbon markets. Potential buyers of these credits are private actors that use them to sustain claims about the offsetting of their carbon emissions. Once they use it with this purpose, the credits are registered as *retired* and cannot be traded again. Bluntly stated, the money acquired by the developers in exchange for the credits is supposed to enhance the livelihoods of the inhabitants of the project area. This can happen in very different ways, and the decision over how they do it depends on issues such as land ownership, carbon ownership and project management that will be addressed below in chapter 4 and 5. In some cases, cash transfers are provided to landowners as a payment in the name of the ecosystem services that they give by conserving forests in their plots. In other cases, the money is invested in the provision of collective goods and services (such as engines for boats or for projects of indigenous education), or to fund productive transitions into sustainable forms of production such as agroforestry, silviculture, agroecology, forestry, ecotourism, or fishing among others. Likewise, a certain amount of the resources goes to project management activities, or to activities aimed to strengthen community governance such as trainings in forest management, land use planning, or project managing.

In the Colombian market, about 5 standards issue carbon credits for the national and international voluntary market. These are: Verra, Gold Standard, Cercarbono – Ecoregistry, and COLCX. Verra and Gold Standard headquarters are located in the United States, and the credits issued by them are widely used globally and are recognized as well. The other three are Colombian, and despite their relatively novelty, have grew strong in terms of participation in the global carbon market. Cercarbono Ecoregistry counts 89 registered

projects for carbon offsetting, (EcoRegistry, 2022). COLCX on its side, registers mainly forest conservation and reforestation projects, but also include other renewable energy projects such as hydroelectric power plants (small and large, including El Quimbo), landfill gas capture, wind farms, solar farms, etc. Although Cercarbono and COLCX have focused mainly on managing the supply of emission reduction units for the Colombian voluntary market, they have also participated in the international market both by verifying a minor number of projects in Chile, Bolivia, Brazil, and Ghana, or by issuing credits purchased by international actors.

Although the first REDD+ projects for the voluntary market in Colombia registered and verified their emission reduction units in the Verified Carbon Standard (VCS) of Verra, the national standards -Cercarbono and COLCX- have grown in the market share. Knowing the exact number of REDD+ projects that are being implemented is difficult. The webpage that hosts the RENARE (National Registry of Greenhouse Gases Emission Reduction) has been 'in maintenance' since July 2022 and continues to be in the moment of writing in November 2022 (Bermúdez Liévano, 2022a). A document from the Ministry of Environment published in mid-2021 mentions that in the end of 2020 there were 50 REDD+ projects registered. These projects are located very widely around the countries' forest ecosystems, but with a particularly high density in the Amazon and the Pacific-Chocó forests (MADS, 2021b).

Figure 1. REDD+ credits in the voluntary market of Colombia



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Issued	104.5	3.934	1.290	8.555	1.466	8.213	3.361	4.921		
Retired	-	40.75	42.04	7.995	4.023	1.718	9.222	6.579	1.952	3.566

Own elaboration. Source: Voluntary Registry Offsets Database (V5) developed by Carbon Direct and the Berkeley Carbon Trading Project. April 2022.

Demand for carbon credits in the Colombian voluntary market experienced a quantitative leap since the establishment of the carbon tax in 2017. Enacted by the Law 1819 of 2016, the carbon tax charges a levy of around $5 USD for each ton of CO2equivalent that is produced by the burning of liquid and gaseous fossil fuels when used as used as propellant, in stationary combustion engines, or as heating fuels. The fossil fuels that are subject to the tax are gasoline, diesel, fuel oil, kerosene jet fuel, liquid oil gas and natural gas only when

used by refineries or by the petrochemical industry. The acts that cause the charge of the tax is the first of any of these: selling the fuel in the national territory, the use of the fuel when the producer of the fuel uses it for its own consumption, and the import of fuel. In this sense, companies that work in the energy sector are the main taxpayers. Law 1819 also establishes, however, that the payment of the tax can be avoided by companies if they buy carbon credits in the voluntary market. In 2019, the prices of carbon credits were estimated to worth as much as 80% to 92% of the carbon tax (Asocarbono, 2021). As a result, the carbon tax also set an important incentive for increasing the demand of carbon credits such as those produced through REDD+ projects.

Figure 1 shows how retirement of credits augmented after the tax avoidance mechanism started to work. According to the Ministry of Environment, over 5.856 requests of avoidance were done from 2017 till June 2022. These requests have led to the offsetting of 73,21 MtCO2e, and to an estimate purchase of carbon credits for over $788 thousand million Colombian pesos, meaning, around $197 millions USD[4]. 75% of these carbon credits were produced in 66 forestry projects and in 20 REDD+ projects (MADS, 2022c).

Some of the discussions that this has caused have revolved around the problematic aspects of enabling mechanisms to reduce the costs of environmental damage for fossil fuel companies through an explicit bypass of the carbon tax. This position points that the Law 1819 that regulates the tax establishes the specific destination that the resources collected through the carbon tax should fund activities with environmental positive impacts. (Carbon Market Watch, 2021). According to the law, 70% of the funds, should go to funding the participative rural development programs that were created as result of the Peace Agreement. Other 25% should be used to support the national programs of climate change mitigation, including halting deforestation and soil erosion. The remaining 5% should be directed towards the consolidation of the National System of Protected Areas. In turn, for them, enabling private companies to avoid the tax if they buy credits from REDD+ projects result in an opaque situation given the lack of accessible information about those projects.

This is not a minor issue. Although the role of the state has been fundamental for creating a market of carbon emissions, social and indigenous organizations have questioned the hand off approach that the government of Iván Duque (2018-2022), through the Ministry of Environment and the Ministry of Interior, have adopted regarding the supervision of REDD+ projects. The Ministry have claimed on different occasions that REDD+ projects are agreements between private parties and thus, the capacity of the state to intervene in the way that resources are distributed is limited. Moreover, the capacity of the Ministry to enforce the safeguards that have been adopted for the national REDD+ programs, is also limited by the private nature of these agreements (MADS, 2020a, p. 49). Numerous NGO's and journalist have reported the unfair conditions under which certain projects have been established in terms of an unequal distribution of benefits between the landowners and the project developers (Bermúdez Liévano, 2021; 2022a; Carbon Market Watch, 2021). On other cases, they have pointed out how these projects are creating and exacerbating conflicts among indigenous communities (Bermúdez Lívano, 2022b). In this sense, the main criticism is that although the state has encouraged the avoidance of the carbon tax in order to promote investments on private REDD+ projects, it abandons the protecting function of communities when conflicts created by these projects emerge. In turn, some organizations

[4] With an exchange rate of $1 USD = $4000 COP.

have claimed for a more regulated framework for REDD+ projects that operate in the voluntary carbon market.

Promoters of REDD+ projects, in contrast, have argued that their projects are contributing to provide sustainable livelihoods to communities that have been historically affected by marginalization and poverty, and that have not had opportunities to develop (Asocarbono, 2021). Moreover, they have affirmed that conflicts that emerge are responsibility of faulty design of individual REDD+ projects or of communication problems (Asocarbono, 2022).

The interaction between the public REDD+ programs and the REDD+ projects that operate in the private market is set by the principle of avoiding double counting. This means that reductions in emissions registered by one cannot be accounted by the other. If, for example, deforestation is prevented in a determinate forest and such results are accounted by the national REDD+ programs as part of the commitments to reduce emissions before the UNFCCC, then REDD+ projects cannot be developed in the same area. The contrary also applies. Given this, some indigenous communities that were participating originally on the national REDD+ program Visión Amazonía, have decided to quit in order to make agreements with private developers for establishing a REDD+ project in their land (MADS, 2021b). This could be motivated by the expectation that REDD+ projects provide better economic benefits than those offered by the REDD+ program. Representatives of Asocarbono, an association that brings together project developers, consumers of carbon credits in the voluntary market (fossil fuel companies), and Validation and Verification Bodies, have argued on numerous occasions that the existence of private REDD+ projects and of carbon markets provide an efficient way of tackling climate change while providing equitable development alternatives to the forest communities. In the next chapter I will explore the different kinds of REDD+ projects there are in the voluntary market in order to address the question of how they are affecting relations of value.

Chapter 4
Varieties of REDD+ in Colombia

An analysis of the different political-economical elements in play when we talk about REDD+ in Colombia depends on understanding the heterogeneous and variegated forms REDD+ projects have taken. In this section, I describe these configurations based on the revision of the project documents of 20 private REDD+ projects. The importance of this analysis lies in its capacity to provide a detailed picture of the variation of property relations of land and carbon credits in which these projects take place, and of the different constellation of actors that participate in them. This in turn, provides a detailed picture of some of the relations that are being established through these projects, and lay the bases for an analysis of the relations through which climate rents are being established.

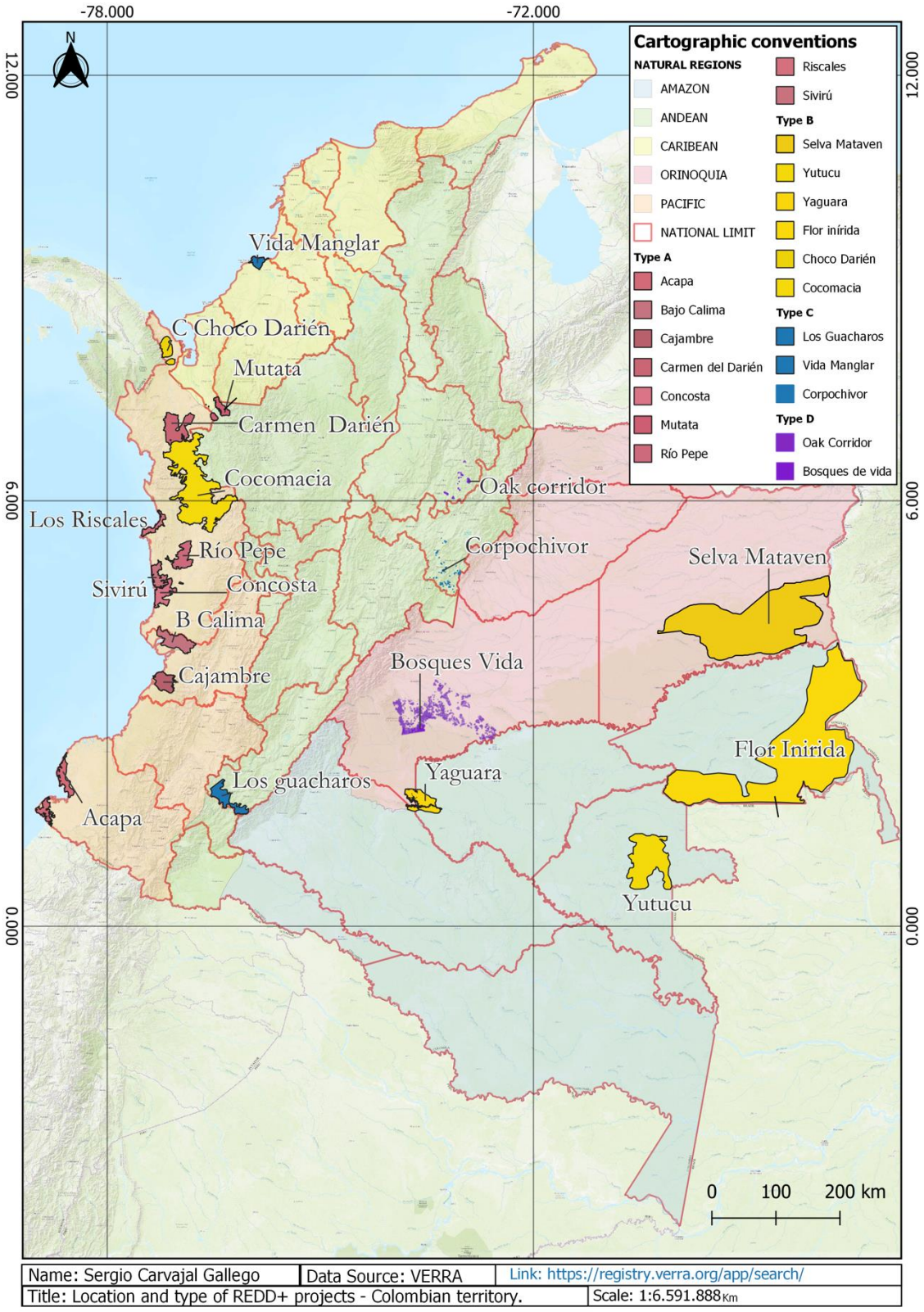
The 20 projects examined for this Research Paper cover an estimated area of **5.570.095 hectares** in 15 departments (Amazonas, Antioquia, Boyacá, Caquetá, Chocó, Córdoba, Guainía, Guaviare, Huila, Meta, Nariño, Putumayo, Santander, Valle del Cauca, and Vaupés). As such, the examined projects are being developed in 5 different regions: Pacific, Amazon, Andean, Caribbean and Orinoquía. This overview provides a richer perspective of how REDD+ projects are being implemented in Colombia given that it reveals that these projects have a wider reach than what is seen through studies that focus solely on particular regions.

The typology presented in this section was built by considering the differences in land ownership and in the constellation of actors in which REDD+ projects are being developed. Within each case, I also considered the variations of arrangements that define the property over the emission reduction units and the interplay between different actors in the processes of decision-making. Considering these variations, I established five categories in which the 20 examined projects (plus the 2 national REDD+ programs) can be classified. The first category is that of REDD+ projects carried in lands with collective titles and developed through interventions of international cooperation. The second category groups projects carried on in lands with collective titles, but the project development is in charge of private actors such as non-profits or environmental consultancy firms. In the third category are projects developed by public decentralized environmental agencies in privately owned lands. The fourth category describes projects on privately owned lands (both formally and informally) developed by private actors. The central state carries on the last kind of projects throughout big areas of the national territory where different regimes of land property are present, including private and collective ones.

Table 1. Typology of REDD+ projects in Colombia

Type	Description
A	Developed in partnership with international cooperation in collectively owned lands
B	Developed by private actors in collectively owned lands
C	Developed by decentralized environmental agencies in privately owned lands
D	Developed by private actors in privately owned lands
E*	Developed by the central government in privately and collectively owned lands (not marketed!)

Map 1. Location and type of REDD+ projects for the voluntary market



Elaborated by: Mhelany Durán

Type A: Developed in partnership with international cooperation in collectively owned lands

The type A category groups projects developed by partnerships between autonomous authorities of collectively owned lands and agencies of international cooperation. In this category, we find the eight projects developed in seven community councils of Afro-Colombian communities and one indigenous reserve through USAID's BioREDD+ program. Located along the Pacific lowlands, both on the coast and in the riverbeds, these projects started in 2013 and have a crediting period of 30 years. The eight projects follow a similar template, although each has particular elements according to the area's characteristics.

The BioREDD+ projects were structured with an initial investment of 31 million dollars (USAID, 2015a, p. 6). After 2015, another 2,2 million dollars were invested through the "Sustainable landscapes" program. According to their final report, the investments were destined to strengthen governance, carry out studies for creating carbon and biodiversity baselines, start productive projects and value chains, and to marketing and promotion of the projects both to raise additional funding and to sell the carbon credits (USAID, 2015a).

Land ownership

Projects in this category take place in areas where land ownership is secured through collective land titles recognized by the state. As was explained in the previous chapter, these kinds of property rights are managed by local political entities named Community Councils in the case of Afro-Colombian collective lands and by cabildos in the case of indigenous reserves. In both cases, the collective ownership title allows the ethnic authorities the rights to manage land, exploit resources and exclude outsiders from doing it. On the other hand, the law denies alienation rights, meaning that no portion of land can be divided or sold (Vélez, 2011). This provides protection against land concentration tendencies characteristic of the Colombian trajectory of agrarian change explained before. As several of the revised project documents mention, collective lands constitute ideal places for developing REDD+ projects in Colombia due to the undisputed nature of the ownership rights over land.

Carbon ownership

All the projects in this category share the same arrangement over the carbon credits. The project documents recognize that its ownership belongs completely to the landowners. Despite this, in all the projects under this category, landowners ceded the rights over the management of the carbon credits to Fondo Acción, a Colombian non-profit trust fund established in the year 2000 by a cooperation agreement between the governments of the USA and Colombia. In this sense, Fondo Acción is in charge of selling the credits and managing the revenues. The communities participate through their local authorities in building the management plan and thus indirectly participate in the decision-making regarding what to do with these resources.

Constellation of involved actors

The projects of this category bring together four different types of actors with differentiated roles and the capacity to appropriate differentiated benefits. The first type is the landowners. All recognized inhabitants of the Community Councils and the indigenous reserve have the right to participate in the assemblies of the REDD+ projects, according to the examined documents. The assemblies are the superior participative instance where the comprehensive plans are built. However, participation in the everyday management of the project is restricted to the elected authorities that are part of each project's Board. Landowners also have the right to be employed to develop specific project activities and to benefit from the activities to promote alternative livelihoods. However, the project documents do not specify the procedure that rules this.

The second type is the funder. In this case, it is USAID. Their participation in these projects is part of their actions in Colombia aimed to "support the country in mitigating and adapting to climate change and conserving biodiversity" (USAID, 2015b). Although international cooperation is never uninterested, the nature of USAID as an international development agency influences the project in that they do not act as actors interested in the private accumulation of capital. They hold, however, a decision capacity regarding the project structure and other actors' involvement in the project activities' management and development. Additionally, international cooperation agencies are usually subject to regulations that force them to be more accountable than private firms regarding resource management.

Project managers are the third kind of actors. Of the eight projects under this category, Fondo Acción is the organization that plays this role. Being a non-profit, the shares they obtain for their part are -presumably- lower than in the case of for-profit actors. During an interview with the Fondo Acción's director of REDD+ governance for the Pacific projects, he mentioned that they do not charge commission for the sale of the credits. This, though, could not be confirmed as information about the exact amounts they -and other actors that do the same- charge was not available.

Finally, the last kind of actors involved is the contractors in charge of the specific tasks necessary for developing the project activities. Each project document presents a table that mentions the "other" entities involved. The list shows 14 entities that are contracted by USAID but are allowed to enter into the project areas and do a very diverse set of tasks, including business plan developments, business development, quality certifications and access to market requirements, carbon and biomass mapping, ground data inventories about plot settings, spatial modelling, and biodiversity assessment. These actors include non-profits, universities, foundations, and consultancy firms that provide highly technical services. Although their tasks are mainly operative, some involve activities that imply control over future actions, such as developing business plans.

Type B: Developed by private actors in collectively owned lands

Type B REDD+ projects are done in areas registered under collective land titling and are structured and developed by private for-profit actors. Six of the 22 examined projects fall into this category. Four are in indigenous reserves, and the other two are in Afro-Colombian communal land titles. In the six cases, the private actors are consultancy and project management firms. This category has the two biggest private projects: 'Flor de Inírida' (1'815.704 hectares) and 'Selva de Matavén' (1'150.212 hectares), as well as the first REDD+ project that was established in the country ('Chocó-Darien Corridor' in 2010). 'Choco-Darien

Corridor' and 'Selva de Matavén' are the only two projects of this category that have already issued credits for sale in the voluntary market.

One of the projects in this category, the 'Yaguara II – Llanos del Yarí', was registered in 2018 but was later withdrawn. It is important to mention that the communities of Yaguara II have been severely affected by the armed conflict. According to an investigation, around 92% of its inhabitants have been displaced, causing difficulties in their territories' governance. On the other hand, they have faced several occupations by peasant settlers that deforest inside the reserve to grow coca (Rutas del Conflicto, 2021).

Land ownership

As in Type A, projects under this category are developed on land under collective ownership of both indigenous peoples and Afro-Colombian communities. However, a particularity of these projects is that in all cases, except in 'Choco-Darien Corridor' and 'Cocomacia', the project areas encompass more than one collective land title and, thus, more than one local authority. 'Selva de Matavén', for example, is inhabited by 256 different communities of six indigenous tribes. The 'Yaguara II' reserve is occupied by three tribes, one of which -the Pijaos- arrived at the area in the 1960s after being displaced from the Andean region of Tolima (Tierra de Resistentes, 2020). In some cases, this arrangement implies that different collective landowners hold differentiated rights regarding the distribution of revenues derived from the project activities according to the size of their lands. However, I did not find precise information about the arrangements of the examined projects in this category in the publicly available documents.

Carbon ownership

A diverse array of arrangements over the property of the carbon credits can be found in type B projects. In some cases ('Choco-Darien Corridor' and 'Cocomacia'), landowners are fully recognized as the owners. In other cases, the project document mentions that the landowners and the project developers share the ownership of the credit. In every case, however, the trading and the management of the revenues derived from it are assumed by other actors. In the 'Cocomacia' case, the project developer (Terra Global Investment Management, LLC) is also in charge of their trade. According to the project document, the Community Council manages the revenues along with Terra Global. There is a different agreement for the 'Selva de Matavén' project. The distribution of the gains from the sale of the carbon credits varies with time. At first, the distribution is 50/50 between ACATISEMA -the organization of indigenous authorities- and Mediamos -the project developer-. Every five years, a new arrangement is made where the participation of ACATISEMA increases progressively until reaching a distribution of 92,5% for ACATISEMA and 7,5% for Mediamos after 30 years. This diversity of arrangements clearly expresses the many possible ways REDD+ projects can be carried out. Furthermore, it evidences the expectation of project developers and brokers to produce a profit from these projects.

Constellation of involved actors

Type B projects imply the interaction between local indigenous or Afro-Colombian authorities that act as landowners, with firms expecting to accumulate capital. As in the other

types of projects, a diverse array of actors participates in different aspects that go from the proposal, the management and structuring to the development of more specific technical tasks. In the examined cases, most of the private actors involved were firms, although non-profits such as Fundación Natura and Fondo Acción also participated in managing roles in two projects.

While in Type A projects, the funding for the initial development of the project was provided by a public institution that is not interested in monetary returns, in Type B projects, developers have to secure external investments. For this reason, some projects have benefited from resources made available by the central government through environmental funds created to support these initiatives. 'Selva de Matavén', for example, have used public funds to push forward the processes of ecological zoning, governance strengthening and productive transformation. In other cases, these investments come from private investors, as in the case of the 'Flor de Inírida' project, where Biomax S.A., a fossil fuel distribution company, figures as an investor and project proponent.

The negotiations between landowners and project developers in Type B projects have often been an issue of critical interrogation. On the one hand, there are usually enormous power inequalities between actors due to their economic capacity, knowledge about the REDD+ mechanism and carbon markets, or capacity to influence the state. A clear case of this is the fact that in the 'Flor de Inírida' and 'Selva de Matavén' projects, not every member -or even authority- of the indigenous communities speaks Spanish (Bermúdez Liévano, 2021). On the other hand, negotiations for REDD+ projects can be the spark that unleashes conflicts between different communities or leaders. This is more important when landownership is shared between more than one authority (Bermúdez Liévano, 2022b). As reported by the Colombian government in its report of safeguards of REDD+ projects, in the "Flor de Inírida" project, different indigenous communities have entered into conflict over how the project should be managed (MADS, 2020a).

Type C: Developed by decentralized environmental agencies in privately owned lands

The projects in this category are developed through public-private partnerships between private landowners and public decentralized environmental agencies. Three of the 22 examined projects fall into this category, although only one – 'Vida Manglar'- has issued credits for the voluntary market. All three projects have a crediting period of 30 years.

Decentralized environmental agencies, named regional autonomous corporations (*Corporaciones Autónomas Regionales*), were created in Colombia in 1993 as part of the National Environmental System led by the Ministry of Environment. These agencies have the role of implementing the environmental policy in their jurisdictions (usually a department or a group of municipalities), including the enforcement of ecological zoning and protection of water sources and biodiversity, relying mostly on autonomous budgets acquired through property tax (Hohbein, et al., 2021). According to numerous studies, these agencies experience multiple problems, including underfunding and elite capture (Rodríguez-Becerra, 2009; Hohbein, et al., 2021).

Land ownership:

These projects are developed in private plots after an agreement between the agency and the landowner. As was explained in section #, private landownership in Colombia is a contentious issue, given the high degree of informality in the titles. This is a difficult situation for REDD+ project developers, given the uncertainty that may be derived from agreements with occupants who do not hold a proper property right. In the case of the 'CORPOCHIVOR' project, it is mentioned that all the participant landowners have titles or "equivalent documents to certify and assure rights over the land". Although no more information is provided in the project document, it is important to note that these equivalent documents might or might not be sufficient to prove rights over land. The lack of clarity about this issue is concerning, given the potential negative consequences that this might have. An important body of literature has pointed out that REDD+ projects in contexts of informal land ownership might prompt conflicts between different actors interested in benefiting from their revenues. Some of these conflicts might involve the expulsion of tenants or straight-up dispossession (Corbera, et al., 2011; Larson, et al., 2013).

Carbon ownership

In these projects, landowners are recognized as the owners of the carbon credits. However, in every case, their rights over the credits are transferred to the environmental agency through agreements individually signed with the landowners. In the case of 'CORPOCHIVOR', the project document mentions that all individual landowners have "stated their intention to transfer the rights over the Certified Emissions Reductions to be generated by the project activities, to the project proponent". In the case of the 'Biological Corridor PNN Purace-PNN Cueva de Los Guacharos' project, it is established that "the ownership of the carbon credits is divided fairly and equitably among all contributors based on the business plan of the Project". In this particular case, the ownership is shared not only with the project developer but also with the investors.

Constellation of involved actors

Similar to Type B, Type C projects require the participation of landowners, project developers, project implementors, and funders willing to provide the resources necessary for the initial stages. This has promoted the convergence of private and public actors in this kind of project. For example, in the 'Biological Corridor PNN Purace-PNN Cueva de Los Guacharos' project document, it is mentioned that the Coffee Producers Association (*Federación Nacional de Cafeteros*) participates in the project as a consultant in sustainable production issues, the regional government of Huila has been involved as an ally in the socialization process, and also mentions that has received funding from the French Fund for Global Environment (FFEM). This diverse constellation of actors creates complex distributive arrangements where a complex flow of resources goes from private-public sources into private contractors, decentralized public organizations and private landowners in the forms of payments for provided services or in cash transfers in exchange for Ecosystem Services.

In a context of neoliberalization of environmental management, with generally low public investment in environmental policy, and particularly underfunded local environmental institutions (Rodríguez-Becerra, 2009), the structuration of REDD+ projects for the voluntary market seems for the environmental agencies like an opportunity for diversifying

sources of their budget while pursuing the missional objectives of environmental planning. However, although one part of the revenues from these projects may go to the implementation of public policies and to payments of local inhabitants, another part goes to the private actors involved in the production of the carbon credit. This process resembles a key point that Fairhead, Leach and Scoones mention in their influential paper about green grabbing. There, they say how under neoliberalism, the state plays an important role in redistributing wealth to classes of capital. "Fiscal policies […] are designed to favour investment, and thus those with the capital to invest, rather than incomes and security for the poor. National and international investors are encouraged by state policies which make available assets, including land and other marketable resources. For states with limited fiscal resources, especially in the developing world, the incentives for such redistributions towards investors are large." (Fairhead, et al., 2012) Moreover, as have been warned many times, the neoliberalization of environmental management have also made these agencies very prone to corruption and state capture by actors trying to appropriate rents or favour agrarian elites[5].

Type D: Developed by private actors in privately owned lands

These kinds of projects are implemented on private lands by private project developers. Two of the examined projects fall into this category, neither of which has produced credits yet. One has a crediting period of 20 years, and the other of 30 years. In one case ('Bosques de Paz'), the private actor is ALLCOT, a firm specialising in carbon trading. In the other case ('Oak corridor'), the project proponent is Fundación Natura, an environmental NGO, and the developer is South Pole, another renowned company in the sector of carbon offset projects.

Land ownership:

As with the previous type, the projects in this category have to deal with the issues of private land rights in a context of high informality. The 'Bosques de Paz' project document mentions that it takes place in an area with mixed land tenure arrangements, in which some plots have formal titles, and others have less-formal titles. These informal titles can be based on acknowledgements that the family members living there have possession over those plots issued by local community councils (JAC). The local state authorities usually recognise these acknowledgements as proof of tenancy (Coronado, 2021, p. 100). Notwithstanding this, the full formalisation of these plots is presented as a technical activity in which the resources generated by the REDD+ project will be invested. However, the conflictive nature of land formalisation processes remains one of the most important lessons from critical agrarian studies (Pérez-Niño, 2014). In this sense, some of the conflicts that this kind of project can prompt are related to land allocation and ownership registration.

Carbon ownership:

[5] Numerous reports on media have denounced corruption acts that involve the descentralized environmental agencies. Cf: https://www.catorce6.com/investigacion/18009-las-car-senaladas-de-ser-cuevas-de-corrupcion ; https://www.elespectador.com/opinion/columnistas/ariel-avila/corrupcion-ambiental-en-la-car-cundinamarca/ ; https://www.infobae.com/america/colombia/2022/11/13/corrupcion-en-el-ica-y-la-car-de-cundinamarca-funcionarios-negociaron-arboles-maderables-de-zonas-de-reserva/

Landowners are recognised as owners of the credit, but in both cases, the control for trading and distribution is ceded to the project developers. For the 'Bosques de Paz' project, ALLCOT specifies that they are entitled to 40% of the commercial value of each credit sold. These resources are used to "cover the costs" of the technicians involved in developing the project. The remaining 60% is for the landowners. This 60% is distributed proportionally to the amount of land that each landowner has. Those with bigger lands will receive a bigger share. However, it also specifies that the project will define a minimum amount for those with smaller plots (ALLCOT, 2021, p. 19). ALLCOT, as managers of the project, establish restrictions on the use of these resources. According to this document, the project management would not transfer the resources in cash to the landowners but rather be invested in the project activities that benefit them.

Constellation of actors:

These projects bring together individual landowners with private project developers, some of which are for-profit companies, while others are non-profits. Landowners can participate individually or through organisations like producers' associations or the aforementioned community councils (JAC), as in the case of the 'Sur del Meta Bosques de Paz, Sustento de Vida' project. As these projects bring together a large number of individual landowners, it is foreseeable that their negotiation capacity is much lower than the collective entities that act as landowners in Type A and Type B projects. Thus, associations can provide extra leverage capacity to the individual landowners in negotiating benefit distribution with project developers. Besides these two actors, a full range of contractors participates in developing specific technical tasks.

On the other hand, the organisations can benefit from the revenues generated by the carbon credits and thus can be interested in strengthening their governance capacities. Another kind of actor that might be involved in this kind of project are tenants and occupants of land who do not own a legal property title. They can see their access to land restricted due to this kind of project or might even get displaced due to others' claims over their land.

As in Type C, private investors also play a role in funding the projects, so the participation of these actors in this kind of project should also be accounted for in the benefit distribution. In the 'Oak Corridor' case, the project document mentions Ecopetrol, the -partly- state-owned oil company, as a key investor.

Type E: Developed by the central government in privately and collectively owned lands (not marketed!)

Type E projects encompass national REDD+ programs directed by the state and developed in private, collective, and public lands. As was mentioned before, this kind of projects are particular in the sense that they do not produce carbon credits that can be marketed in the voluntary carbon market. Rather, they produce carbon reduction units that can be reported by the state to the UNFCCC as evidence of their commitments to reduce emissions, and to international donors in order to receive payments for results. Type E projects are Visión Amazonía and Biocarbono Orinoquía. These are developed in the whole regions of the Amazon and the Orinoquía, and thus encompass an area of more than half of the country's total territory.

As the nature of these projects are totally different from the others and are not based on market mechanisms as those that participate in the voluntary market are, they will not be considered in the analysis of the following section. For a description of the work they work, what they do and where do the resources they depend on comes from, see Chapter 3.

Chapter 5
REDD+ and the climate rent

The different configurations of social relations of property of the projects examined here provide light on the various distributional conflicts that emerge through REDD+. Recent contributions in the field of political ecology have stressed the relevance of understanding the conflicts that take place within the production of carbon credits, not as conflicts for the extraction of surplus value based on a capital-labour relation but rather as conflicts for the distribution of incomes generated through rent appropriation (Andreucci, et al., 2017; Feli, 2014; Levidow, 2020). In this section, I will argue that one way of understanding REDD+ projects is as producers of rents based on the production of carbon credits. Following the discussions that have been recently held in the Marxist tradition, rent here is understood as the price that an actor has to pay to the owner of a privately owned asset for access to its use as part of the process of producing value and extracting surplus value. This definition is based on Marx's development of his theory of ground rent in Volume III of Capital when explaining the relation between landed property and capitalist agriculture. There, he asserts that "whatever the specific form of rent may be, what all its types have in common is the fact that the appropriation of rent is the economic form in which landed property is realized and that ground-rent in turn presupposes landed property, the ownership of particular bits of the globe by certain individuals" (Marx, 1991, p. 772). From there, it follows that rents do not generate surplus value but rather enable value grabbing (Andreucci, et al., 2017). This clarity is important to understand better the nature of the conflicts that (can) emerge between the actors involved in the examined REDD+ projects, which I would analyse in this light.

Defining carbon credits as rents

The question about the kind of entity that carbon credits are is part of a recent debate in Marxist and Marxist-inspired literature. On one side of the debate, are scholars that have analysed the establishment of carbon markets in terms of opportunities for capital accumulation through a process of commodification of nature (Smith, 2007, Bumpus & Liverman, 2008). Popularized by critical geographers, the concept of commodification of nature described the processes exacerbated by neoliberalism through which portions of nature "are simultaneously excavated (in exchange-value terms) from pre-existing socio-natural relations and as part of their production they are reinserted or remain embedded in socialized nature" (Smith, 2007, p. 17). In this sense, nature is abstracted through state legal action and turned into a commodity that enters the circuits of capital, producing surplus value from the dead labour that is (not) invested in (not) modifying a part of nature. Projects like REDD+, in this sense, depend on a process where "landowners possessing tracts of forest land (generally in poorer tropical countries) are paid no to cut their forests, while major polluters in more industrial parts of the world can purchase these credits as means to allow them to continue to pollute" (Ibid. p. 19). In turn, markets based on these commodities prompt the emergence of new actors that benefit from carbon trading and the creation of derivative financial products. Thus, "carbon markets […] show that with strong state interventions and the internalisation of harmful environmental externalities, capital can continue to accumulate from reducing levels of carbon in the atmosphere." (Bumpus & Liverman, 2008, p. 144)

On the other side of the debate are those who say that conceptualising carbon credits as commodities that enable new sites for accumulation imply overlooking the social relations of production on which they rely (Bryant, 2019). Along these lines, Feli has stated that "the trouble with these explanations is that they tend to ignore the central tenet of capital's accumulation -the exploitation of human labour- which is the unique source of value creation." (Feli, 2014, p. 267) Although carbon credits appear to be commodities with use and exchange value, we must ask if they have value. Drawing on Marx's labour theory of value, Feli interrogates the value relations that constitute commodities to decipher whether these credits are real commodities or just entities that adopt the commodity form. For Marx, the substance of value in a capitalist system is abstract social labour, determined by socially necessary labour time. This is "the labour-time required to produce any use-value under the conditions of production normal for a given society and with the average degree of skill and intensity of labour prevalent in that society." (Marx, 1990, p. 129) By defining socially necessary labour time as the substance of value, Marx expresses, on the one hand, that under capitalist conditions, labour power is commodified and organised in a social relation of wage labour for the production of commodities, in which particular concrete forms of labour are abstracted and rendered as commensurable one with each other. On the other hand, that the exploitation of labour by capitalists is necessary for accumulation.

In line with this, Feli affirms that given the role of the state in enacting, recognising, and defending the property rights that define the entitlements of carbon credits, their exchange value, and the incomes they generate to those that own them can hardly be understood as the product of productive human labour. Thus, they cannot be considered commodities. Hence, "The price paid by the user of emissions rights is not the price paid for a commodity because what is bought has not been produced by labour. Rather, it is a form of rent" (Feli, 2014, p. 268).

Marx treatment of ground rent is indicative here:

> "To the same extent that commodity production and hence the production of value develops with capitalist production, so too there develops the production of surplus-value and surplus product. But in the same measure as the latter develops, there develops in landed property the ability to capture a growing portion of this surplus value by way of its monopoly of the earth and hence to raise the value of its rent and the price of the land itself. It is still the capitalist who has the active function in the development of this surplus-value and surplus product. The landowner has only to seize a portion of surplus product and surplus-value that increases without any effort on his part." (Marx, 1991, p. 776)

In the case we are dealing with -Colombia-, value is created in the production of fossil fuels and in the process of production of goods that uses fuels as a productive input. In contrast, rent accrues to the owner of the credit that has to be purchased as a partial condition for the productive use of others. If in capitalist agriculture, "all rent is based on the monopoly power of private owners of certain portions of the globe" (Harvey, 2006, p. 349), then in the case of carbon offsetting, rents are similarly based on the ownership of land and forests that store carbon. The political process that underpins the creation of a global system of carbon credits allows for the owners of land and forest to obtain such rent. In some jurisdictions, firms purchase carbon credits because they are legally required to do so. In other cases, firms use it to substantiate their environmental credentials. In Colombia, as I have shown before,

a carbon tax is charged to firms for their emission of GHG since 2017. The law that created it also enacted the possibility of paying the carbon tax' bill by paying carbon credits. Given the favourable valuation of carbon credits in comparison to the full price of the tax, many firms prefer using this mechanism than paying upfront. And this has led to the emergence of a market for carbon credits in Colombia. And it is through the creation of this mechanism that the payment of such rent is made a condition for cheaper production of surplus value through the use of fossil fuels in productive processes (Andreucci, et al., 2017).

In the process we have examined so far, carbon credits result from a process of measurement and verification that relies fundamentally on the definition of property rights over stored carbon in standing trees. In turn, these property rights are also based on property rights over the land where those trees are located. Rather than being based on productive labour, the exchange value of carbon credits is given by the fact that property rights enacted, defended, and recognised by the state define them as scarce, and environmental legislation creates a demand for them as elements in the production process. The rent relationship, in this case, is set between those entitled to the ownership right of the carbon credit and those required to purchase them to offset their emissions. It could be argued, although we only demonstrate this partially in the RP, that in Colombia through the establishment of a mechanism to avoid carbon taxes by purchasing carbon credits and the preference of taxpayers of paying the carbon tax through carbon credits, results in a subsidy for all those firms that are required to pay the carbon tax

Having said that, the analysis I intend to bring here relates to how the payments accrued from carbon credits are distributed among the different actors participating in the creation of this credits through REDD+ projects. The various cases studied in the previous section shed light on the distributive relation over the rents created in different REDD+ projects and, therefore, the different kinds of conflicts they generate.

The elements that shape distribution of REDD+ rents

As was mentioned before, property rights are the defining element of the entitlements that actors' have to rents. REDD+ projects are based on two kinds of property rights that interact to configure the distribution of such rents. Property rights over land create the first condition of production of the assets. The second property rights are over the carbon emission reduction credits (i.e. the capacity to effectively claim ownership over the carbon offsets offered in the market). Each property right monopolises access to land and carbon storage, and REDD+ projects are developed on both. One part of assessing power relations associated with the productive relations in REDD+ projects should include understanding how they shape the distributive relations between the landowners and the project developers.

Establishing distributive arrangements for the rents produced in REDD+ depends on contracts between landowners and project developers. Negotiating these contracts depends, in turn, on certain conditions relevant to the credit production that will generate the rent. This is shaped by a range of conditions, including the types of rights, types of actors, and types of capabilities that are mobilized in the project:

- Rights over land in the project (ownership [private, public, collectively], location in relation to prior deforestation)
- Rights over forest cover (density of forest cover

- Governance capabilities (ability to manage social relations in the area of the project)
- The character of the actors involved in the project (i.e. the number of beneficiaries, their structures of governance, and their relative bargaining power; the number and type of intermediaries, whether they are profit motivated or not)
- Technical, managerial, and bureaucratic capabilities (the ability to measure carbon stocks, to produce project documents, to coordinate the validation and verification of the process; the ability to mobilize the labour necessary to implement these processes, and the ability and know-how to market the credits)

Some of these conditions are fixed, and some are variable because they can change throughout the process; for example, each actor's social and technical capacities can increase through education and training, or the financial ability of each actor can increase or decrease vis-à-vis the others. Let's examine each one of them briefly[6].

The first factor is the land area and the forest coverage. This is fundamental because the bigger the forest coverage, the larger the number of carbon credits that can be issued. In this sense, larger tracts of land with dense forest cover are more attractive for developing REDD+ projects. Thus, it could be assumed that the amount of land can be used as a leverage mechanism for landowners in negotiating distributive arrangements with landowners. Of the examined projects, those grouped in Type B are the ones that have the biggest areas. 'Flor de Inírida' and 'Selva de Matavén' outstand here. While the former has a project area of 1.815.704 hectares, the second has 1.150.212 hectares. 'Selva de Matavén' is regarded as the biggest REDD+ project for the voluntary market of the country and also the one that produces the bigger number of credits. According to the Voluntary Registry Offsets Database data, 'Selva Matavén' is responsible for almost 80% of the issued credits in total in Colombia.

In any case, it is important to know how many landowners participate in the project and how much forest area each holds. For example, in the first, there are 11 indigenous reserves inside the area, meaning that at least 11 indigenous authorities represent about 3.470 individuals from at least 48 different communities. This can create difficulties in collective action, given that the larger amount of landowners implies a larger amount of claimants to a share of the rent. The most extreme case of this difficulty can arise in projects C and D, where REDD+ projects are carried out in a larger number of smaller private plots. In these kinds of projects, landowners could participate as individuals contacted by the project developers or as members of associations. Despite this, their power to negotiate shares is likely limited by the size of their land dedicated to forests. The case of the 'Bosques de Paz' project illustrates this because the agreements establish that the share of landowners will be distributed proportionally to the amount of land that each landowner has. Those with larger tracts of land will receive a larger share. If other projects adopted this criterion, it could be said that REDD+ projects privilege the largest landowners in the negotiations, as was noted by Chomba et al. (2016) in the context of Kenya, where REDD+ projects had reinforced

[6] It is important to note that the purpose of this exercise is not to develop a quantitative calculation of this interaction, given that the full required information is not publicly available. Better, I want to expand a general theoretical exploration of the general interaction between these factors in establishing distributive arrangements. This exercise can lay the basis for further research with richer empirical information.

historical inequalities with unequal benefit distributions that also provide more bargaining power to them.

In the general picture, land location is also important in many ways. First, the project developer has to consider a given baseline level of deforestation to contrast it with the prevented deforestation. In areas with higher levels of deforestation, effective prevention is much more profitable in terms of credits issued. Ineffective prevention, however, would create poor results regarding the number of credits that can be issued. The effectiveness of deforestation prevention is dependent upon many things, including the capacity to govern the forest inside that area. Hence, it can be suggested that these differences between different lands can create a sort of differential rent, in which certain locations provide better opportunities for value grabbing than others to the coalitions of actors involved in REDD+ projects.

Another relevant factor pertains to the types of actors involved in each REDD+ project. In Type A projects, international donors channel their resources through NGOs that are themselves, not interested in profiting from the projects. This allows landowners landowners to capture a larger share of the final rent, given that the intermediaries are not profit-seeking. On the contrary, the NGOs and the donors engaging in these projects aim only to facilitate -in an undetermined future- the exclusive entitlement of landowners to that rent (USAID, 2015a, p. 20). In the projects examined, Fondo Acción works as a non-profit trust fund that manages the donors' contributions and the revenues generated by selling the carbon credits in the eight analysed projects. Its non-profit nature would suggest that its interest in obtaining shares from the rent is smaller than in the cases in which intermediaries are profit-seeking, like those featured in projects of the types B, C, and D.

Unlike donors in Type A, investors in cases B, C, and D are expecting revenues. Here, the conflicts over who gets what in terms of shares of revenues are starker. Landowners in these projects are forced to negotiations with actors that are expecting to profit. The case of 'Cueva de los Guacharos', a Type C Project where a decentralised public environmental agency acts as project developer, is illustrative of this. The share of the revenues over the carbon credit sale will have to be divided between the community, as landowners, the environmental agency which acts as the project developer, and a range of project investors that have decided to participate in the project.

A range of capabilities play an important role in defining distributive arrangements between actors. These include, on the one hand, governance capabilities, and on the other hand, technical, managerial, and bureaucratic capabilities. Governance capabilities refers to the ability to manage social relations in the area of the project. That is, whether landowners are able to reach consensus in their own constituencies (indigenous cabildo, community council, community board), how effectively can landowners negotiate with intermediaries and the market, and whether they can get their constituencies to comply with contracts and agreements. Technical, managerial, and bureaucratic capabilities refer not only to specific capabilities, but also to how these capabilities are distributed between land-owning communities, project developers, operators, and intermediaries, and how the uneven distribution of these capabilities shapes the uneven distribution of revenues from the carbon rent. These capabilities include things such as the ability to measure carbon stocks, to produce project documents, to coordinate the validation and verification of the process; the ability to mobilize the labour necessary to implement these processes, and the ability and know-how to market the credits.

Some projects, like Type A, include developing education programs to increase the skills of members of the Community Councils or the Indigenous reserves in carrying out these activities. In other cases, like in the Type C 'CORPOCHIVOR', the project developers outsource these services from external companies. The contractual standing of landowners in these different types of projects is markedly different: In some projects, landowners are typified as 'beneficiaries' whereas in others, they are referred to as 'partners' or 'associates'. In the first case, landowners tend to play a relatively passive role in the development, measurement, calculation, and management of the activities that lead to the creation of the carbon credit. Instead, these activities are portrayed as highly technical and thus, performed exclusively by skilled workers recruited by project developers (Neimark, et al., 2020). The corollary of this, is that landowners are made to believe that they cannot be included in these technical decisions. However, as was mentioned by one of the interviewees, in other cases, these become contentious issues because landowners demand to be treated as 'partners' of the project with more managerial capability or able to train in and carry on the technical operations of measurement, validation, and verification.

In this sense, the acknowledgement of the capacity of each actor to perform certain tasks in the project is a political issue and is contingent upon issues of validation or invalidation of certain kinds of roles that given actors can perform. That is to say: there is a political element in the definition of which actors have which capabilities. Moreover, this power relation also renders certain activities valuable enough to be considered operational costs of the project development and paid with wages. The corollary of this, is that there is a wealth of unpaid (at times reproductive and/or domestic) labour that goes into the production of carbon credits and that is made invisible and unrecognized. In contrast, other kinds of activities, like the regular care of the forest, are rendered as 'natural' and, therefore, not worthy of a wage relation nor substantive compensation. This is particularly present in project documents of Type A and B projects --developed in lands of indigenous and Afro-Colombian communities—where the inhabitants are represented as inherently invested in environmental conservation. And although there is abundant evidence of the sustainable management of the forest that indigenous and Afro-Colombian communities have historically done (Vélez, et al., 2020; Escobar, 1998; Van der Hammen, 2003), as well as of the political processes of identity formation that links ethnic and environmental values (Ulloa, 2005), the way this is fitted into the narratives of project documents might have effects in the way their entitlement to the revenues of the carbon credits is established. I am trying to point out, thus, that in the structure of REDD+ projects, it is possible to read a process of hierarchisation of costs where some are valued as essential for the project and others as part of the context rather than as conditions of it. While the technical work of forest measurement and carbon modelling is deemed an operation cost, the everyday practices of forest care are rendered as 'free gifts of nature at worst or as cheap environmental services. This is illustrated by the numerous studies that have shown how despite initial expectations created by the discourse of Payment for Ecosystem Services, its implementation has rarely covered the living costs of the 'beneficiaries' of them (De Haldevang, 2022; Osborne, 2011; Osborne, 2015).

This double movement of valuation and devaluation in the definition of distributive arrangements in rents resembles the dialectic that Jason W. Moore identifies as essential in the law of value in capitalism. Relying on the work of pioneer Marxist feminists such as Vogel (1983), Costa & James (1972), Federici (1973) and Mies (1986), Moore points out how traditional Marxism understanding of the law of value has neglected the necessary conditions

under which production could take place, that is, its reproduction conditions. These reproduction conditions are the unpaid care labour performed overwhelmingly by women, and the unpaid forest management labour performed overwhelmingly by racialized communities as in the case of REDD+ in Colombia. Thus, a reformulated law of value is necessary, one that makes visible how certain kinds of labour are valued and integrated into commodity production through the wage relation. In contrast, others are devaluated, rendered as Nature and thus as a 'free gift' for the appropriation of capital as unpaid labour (Moore, 2015).

By rendering the landowners' everyday practices of care as 'inherent practices of indigenous and Afro-Colombian communities', REDD+ projects are cheapened and made viable in the general process of expanded accumulation of capital in climate-changing capitalism. Moreover, the whole set of tensions described in this section is ruled by the imperative of creating a carbon credit with prices high enough to distribute revenues to the involved actors but low enough to attract buyers. As the renting relationship is fundamentally established between those who are entitled to the ownership of the right (REDD+ constellation of actors) and those who use the asset (buyers of carbon credits), we should not ignore that what is at stake is not just the protection of the forest, but more importantly, the capacity of capital to access and use cheap energy in the form of fossil fuels. In this sense, climate rents (such as carbon credits) should be kept at a level that does not pose an existential threat to the whole accumulation process. Competition between REDD+ projects and other kinds of projects that produce assets for the voluntary market makes this impossible. Marx's explanation of ground rent is illustrative here again. On the one hand, Marx agreed with classical political economists in noting that landed property constituted a barrier to capital valorisation in agriculture, given that it drains a portion of surplus value from the hands of capitalist farmers and transforms it into ground rent, thus elevating production costs (Marx, 1991, p. 870). The most dramatic case for capital would be a generalisation of monopoly rent. In this case, landowners could obstruct the possibility of allocating capital in any way in which production costs remain acceptable vis-à-vis the market price of agricultural products (Harvey, 2006, p. 361). On the other hand, Marx could also note the contradictory role of landed property in capitalism, given that the generalisation of private property provides the capitalist not just free workers deprived of the means of production (the so-called primitive accumulation) but also a supply of lands in which they can allocate capital (Harvey, 2006, p. 363). This is also true for the voluntary carbon market, where different coalitions of actors compete between them to offer affordable credits and within themselves to establish distributive arrangements that allow each one of them to obtain revenues from the rents they share.

It is important to clarify that carbon credits, although politically created, are traded freely in a market of carbon credits. That means that their price is subject to pressures of demand and supply and other drivers of fluctuation. In the case of Colombia, given that firms are buying carbon credits to offset their carbon tax liability, the free-flowing price of carbon credit creates an implicit mechanism. When international prices for carbon credits rise above the Colombian rate of taxation for a tonne of emitted CO2, the incentive to use carbon credits as an alternative to the upfront payment of the carbon tax disappears by extension. It follows that the producers of carbon credits in Colombia need to ensure that the price of the credit remains below the equivalent rate of taxation for 1 tonne of emitted CO2 at the cost of not finding buyers. In this sense, the conflicts among the constellation of actors involved in REDD+ for the distribution of benefits forcibly reach a limit determined by buyers' looking for the cheapest available credit in the market. Simply put, the credit price can only

reach a certain level before the potential buyer decides to purchase another cheaper credit. This, of course, places a limit on the abilities of landowners to negotiate a better share of the final price with project developers and investors, thus making the field of distributional conflicts more intense in the realm of the climate rent. According to Andreucci et al., these "struggles over value distribution enabled by the rent relation are, strictly speaking, class struggles over rent. While of course these struggles are often not consciously and explicitly articulated as being about rent per se, in essence they deal with the redistribution of value that has been grabbed." (Andreucci, et al., 2017, p. 39).

From this, it follows that REDD+ as a mechanism of organising socio-ecological relations in climate-changing capitalism is prompting the emergence of new arenas of class struggle that we could analyse in terms of struggles over value grabbing, as I have done in the case of Colombia. The insertion of new actors (such as project developers, investors, and so on) in rural spaces through REDD+ does not inaugurate an epoch of social and environmental justice as is often predicated by these mechanisms' promoters but rather reconfigures the fields of class struggle in climate-changing capitalism (Borras, et al., 2022). Given the limitation of empirical material, I could only advance some general theoretical propositions about this reconfiguration. We should note, however, that class struggles over rents are not the only important ways in which class struggles are being reconfigured in climate-changing capitalism, nor even the only ones that REDD+ triggers. Examining REDD+ projects in Colombia makes it possible to foresee a reconfiguration of socio-ecological relations associated with its productive dimension, that cannot be explored here. This, however, opens interesting arenas for further research.

Chapter 6
Conclusions

As REDD+ unfolds and becomes a cornerstone of climate change mitigation policies worldwide, its productive effects are also becoming more critically scrutinized. In this research paper I have tried to contribute to this critical project. I have done so by showing that REDD+ has become a powerful mechanism of reorganization of social relations through the production of climate rents that are often overlooked by critics that focus exclusively on issues of commodification and accumulation of capital, and by promoters that consider the mechanism as a silver bullet for "creating value" for local communities through conservation. The production and expansion of these climate rents through the configuration of property rights over stored carbon, and through political decisions that makes them a condition for cheaper use of fossil fuels as inputs in production evidence a process of value grabbing rather than one of surplus value production.

From there it follows that REDD+ is not an expression of an undisputed advance of capital towards the frontiers to integrate previously exterior natures and populations into the circuits of capitalism. By examining the Colombian case, I have shown how REDD+ projects interact with historical trajectories of agrarian change, and how this interaction is determinant in the processes of establishing new rents associated to property of land and forests in the agrarian frontiers. Understanding the population processes of these spaces, and the formation of specific kinds of landed property in them from an historical perspective allows us to grasp better the links between land concentration, racialized and class differentiated expulsion and dispossession, and deforestation. This is fundamental in order to understand what specific kind of social relations REDD+ is reorganizing in Colombia.

Moreover, looking at the diversity of types of REDD+ projects that are being implemented in Colombia provides a rich picture of its variations along different settings of land tenure, and in relation with the different actors that participate in them. In this sense, the research paper has contributed to a literature of REDD+ in general, but specially in Colombia, that has been constructed mainly in studies of specific cases or regions. Having a broad perspective of the different kinds of REDD+ projects being implemented in different regions of the country helps us to view the nuances between them, as well as the extent to which this mechanism has expanded geographically. This differentiated analysis shows also a more complex picture of its deployment: one in which REDD+ is also mediated and shaped by conflicts for value grabbing between actors differentiated along class and racial lines (Andreucci, et al., 2017).

This research paper most valuable contribution has been, however, to theorize the conditions that shape the distributive arrangements over the shares of the climate rents that REDD+ projects create in a way that makes explicit the political dimension of the process. This is expressed in the definition of which actors have which capabilities to perform certain tasks in the project. From here, I have argued that in the structure of REDD+ projects operate a process of hierarchisation of costs where those associated with the development of tasks that require managerial, and bureaucratic capabilities are valued as essential for the project and others, such as everyday practices of care performed by the land-owning communities, are deemed as natural characteristics of 'environmentally friendly communities' and thus, not worthy of the same kind of compensation. By advancing this argument, the

research paper contributes to a clearer understanding of the class struggles that shape distributive relations associated with the climate rent in REDD+, and to demystify the fictions of equity that apologists of REDD+ advance when promoting the mechanism. This, I hope, would contribute to the discussions that collectives resisting to the advancement of climate changing capitalism have on the apparently participative and inclusive mechanisms of the 'green economy'.

Although rent dynamics are central to REDD+ projects given the importance that the production of carbon credits has, it is by no means the only kind of reconfiguration of value relations that is happening. This research focused on the configuration of rent relations due to the lack of attention to this dynamic in recent literature, and also because the limitation of empirical data about the actual implementation of the project activities difficulted addressing other dynamics. Future research, however, could inquire about the interaction between the climate rent, and the investments that are made with it in the development of sustainable agriculture, agroforestry, and silviculture. This would provide a broader understanding of the ways in which value relations are being reorganized in the context of climate changing capitalism. Moreover, an investigation on the ways in which land-owning communities dispute, challenge, resist or accept the terms in which they participate in the climate rent can also provide promising insights about the political contestations that are taking place in this context.

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