UNIVERSIDAD AUTÓNOMA DE SAN LUIS POTOSÍ
FACULTADES DE CIENCIAS QUÍMICAS, INGENIERÍA, MEDICINA
Y CIENCIAS SOCIALES Y HUMANIDADES
PROGRAMA MULTIDISCIPLINARIO DE POSGRADO EN CIENCIAS AMBIENTALES
AND
TH KÖLN - UNIVERSITY OF APPLIED SCIENCES
FACULTY SPATIAL DEVELOPMENT AND INFRASTRUCTURE SYSTEMS
INSTITUTE FOR TECHNOLOGY AND RESOURCES MANAGEMENT IN THE TROPICS AND SUBTROPICS

THESIS TO OBTAIN THE DEGREE OF
MAESTRÍA EN CIENCIAS AMBIENTALES
DEGREE AWARDED BY UNIVERSIDAD AUTÓNOMA DE SAN LUIS POTOSÍ
AND
MASTER OF SCIENCE
NATURAL RESOURCES MANAGEMENT AND DEVELOPMENT
DEGREE AWARDED BY TH KÖLN – UNIVERSITY OF APPLIED SCIENCES

PEACEBUILDING IN AREAS DEFORESTED BY ILLICIT COCA CROPS IN CATATUMBO, COLOMBIA: AN ENVIRONMENTAL GOVERNANCE APPROACH

PRESENTS:

JENNY JULIANNA JIMÉNEZ VELANDIA

CO-DIRECTOR OF THESIS PMPCA
DR. HUMBERTO REYES HERNANDÉZ
CO-DIRECTOR OF THESIS ITT
DR. JOHANNES HAMHABER
ASSESSOR:
DRA. LAURA YAÑEZ ESPINOSA

COLOGNE, GERMANY 08.08.2023

UNIVERSIDAD AUTÓNOMA DE SAN LUIS POTOSÍ
FACULTADES DE CIENCIAS QUÍMICAS, INGENIERÍA, MEDICINA
Y CIENCIAS SOCIALES Y HUMANIDADES
PROGRAMA MULTIDISCIPLINARIO DE POSGRADO EN CIENCIAS AMBIENTALES
AND
TH KÖLN - UNIVERSITY OF APPLIED SCIENCES
FACULTY SPATIAL DEVELOPMENT AND INFRASTRUCTURE SYSTEMS
INSTITUTE FOR TECHNOLOGY AND RESOURCES MANAGEMENT IN THE TROPICS AND SUBTROPICS

PEACEBUILDING IN AREAS DEFORESTED BY ILLICIT COCA CROPS IN CATATUMBO, COLOMBIA: AN ENVIRONMENTAL GOVERNANCE APPROACH

THESIS TO OBTAIN THE DEGREE OF
MAESTRÍA EN CIENCIAS AMBIENTALES
DEGREE AWARDED BY UNIVERSIDAD AUTÓNOMA DE SAN LUIS POTOSÍ
AND
MASTER OF SCIENCE
NATURAL RESOURCES MANAGEMENT AND DEVELOPMENT
DEGREE AWARDED BY TH KÖLN – UNIVERSITY OF APPLIED SCIENCES

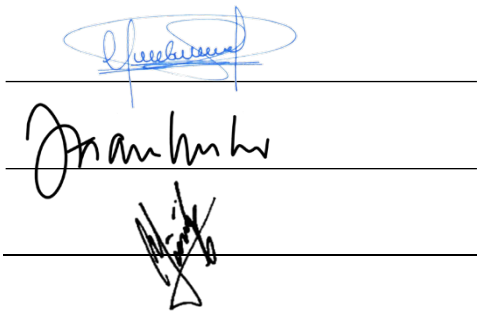
PRESENTS:

JULIANA JIMÉNEZ VELANDIA

DR. HUMBERTO REYES HERNÁNDEZ
CO-DIRECTOR PMPCA

DR. JOHANNES HAMHABER
CO-DIRECTOR ITT

DRA. LAURA YAÑEZ ESPINOSA
ASSESSOR PMPCA



COLOGNE, GERMANY 08.08.2023

PROYECTO REALIZADO EN:

INSTITUTE FOR TECHNOLOGY AND RESOURCES MANAGEMENT IN THE TROPICS AND SUBTROPICS
COLOGNE UNIVERSITY OF APPLIED SCIENCES
PROGRAMAS MULTIDISCIPLINARIOS EN CIENCIAS AMBIENTALES
UNIVERSIDAD AUTÓNOMA DE SAN LUIS POTOSÍ

CON EL APOYO DE:
DEUTSCHER AKADEMISCHER AUSTAUSCH DIENST (DAAD)

LA MAESTRÍA EN CIENCIAS AMBIENTALES RECIBE APOYO A TRAVÉS DEL PROGRAMA NACIONAL DE POSGRADOS (PNPC - CONACYT)

Erklärung / *Declaración*

Name / *Nombre*: JULIANA JIMÉNEZ VELANDIA

Matrikel-Nr. / *N° de matrícula*: 11151876 **(TH Köln),** 348496 **(UASLP)**

Ich versichere wahrheitsgemäß, dass ich die vorliegende Masterarbeit selbstständig verfasst und keine anderen als die von mir angegebenen Quellen und Hilfsmittel benutzt habe. Alle Stellen, die wörtlich oder sinngemäß aus veröffentlichten und nicht veröffentlichten Schriften entnommen sind, sind als solche kenntlich gemacht.

Aseguro que yo redacté la presente tesis de maestría independientemente y no use referencias ni medios auxiliares a parte de los indicados. Todas las partes, que están referidas a escritos o a textos publicados o no publicados son reconocidas como tales.

Die Arbeit ist in gleicher oder ähnlicher Form noch nicht als Prüfungsarbeit eingereicht worden.

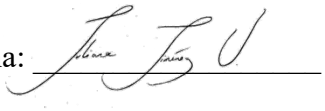
Hasta la fecha, un trabajo como éste o similar no ha sido entregado como trabajo de tesis.

Köln, den /*el* 08.08.2023

Unterschrift / *Firma*: 

Ich erkläre mich mit einer späteren Veröffentlichung meiner Masterarbeit sowohl auszugsweise, als auch Gesamtwerk in der Institutsreihe oder zu Darstellungszwecken im Rahmen der Öffentlichkeitsarbeit des Institutes einverstanden.

Estoy de acuerdo con una publicación posterior de mi tesis de maestría en forma completa o parcial por las instituciones con la intención de exponerlos en el contexto del trabajo investigación de las mismas.

Unterschrift / Firma: 

To all the farmers of Colombia who have tilled the land with their own hands,

To all the victims of the armed conflict,

To those who are no longer with us and to those who still stand by our side,

To all those who believe in peace as their standard,

To all those who dream, imagine, and build the territory day by day,

To the new generations of Colombia who strive for peace,

To all of you who are the current that moves the stream.

ACKOWLEDGES

Many voices have contributed to this research.

To each and every one of them I express my sincere gratitude, to the social leaders of Catatumbo, to the members of the "Asociación campesina de Catatumbo" (ASCAMCAT), and members of the "Comité de Integración Social" (CISCA), thank you for your immense generosity in sharing your life stories with me, your testimonies continue to resonate to give account of your existence and bravery, to each one of you I keep in my memory.

Thanks to the members of "Asociación de mujeres ambientalistas del Catatumbo", the peasant leaders and the members of the Junta de Acción Comunal del Catatumbo who accompanied me. Your courage has taught me what greatness means.

Thanks to Dr. Johannes Hamhaber, Dr. Humberto Reyes, and Dr. Laura Yañez for their guidance throughout this research, their reflections, discussions, and advice nurtured the lines of this text.

To John Jota, my beloved father, Lina, Laurie, my colleagues, and friends in life, thank you for showing me the strength of affection. A special thank you to the German Academic Exchange Service (DAAD) for funding this research.

I am because we are.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF MAPS

LIST OF IMAGES

LIST OF ABBREVIATIONS IN THE ORIGINAL LANGUAGE

ACCC	Asociación de cultivadores de coca del Catatumbo
AMAC	Asociación de mujeres ambientalistas del Catatumbo
ASCAMCAT	Asociación Campesina del Catatumbo
ANZORC	Asociación de Zonas de Reserva Campesina
AUC	Autodefensas Unidas de Colombia
BACRIM	Bandas Criminales
CISCA	Comité de Integración Social del Catatumbo
COCCAM	Coordinadora Nacional de Cultivadores de Coca, Amapola y Marihuana
CNMH	Centro Nacional de Memoria Histórica
DNSCI	Dirección Nacional de Sustitución de Cultivos Ilícitos
ELN	Ejército de Liberación Nacional
EPL	Ejército Popular de Liberación
ETCR	Espacios Territoriales de Capacitación y Reincorporación
FAO	Food and Agriculture Organization
FARC-EP	Fuerzas Armadas Revolucionarias de Colombia - Ejército del Pueblo
FIP	Fundación Ideas para La Paz
GIZ	Gesellschaft für Internationale Zusammenarbeit
IDEAM	Instituto de Hidrología, Meteorología y Estudios Ambientales
INDEPAZ	Instituto de Estudios para el Desarrollo y la Paz
JAC	Junta de Acción Comunal
MIA	Mesa Agropecuaria de Interlocución y Acuerdo
NGO	Non-Governmental Organization
PNUD	Programa de las Naciones Unidas para el Desarrollo
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SIMCI	Sistema Integrado de Monitoreo de Cultivos Ilícitos
OCCDI	Observatorio de Cultivos y Cultivadores Declarados Ilícitos
UNODC	United Nations Office on Drugs and Crime
USAID	Agency for International Development
ZRC	Zona de Reserva Campesina

ABSTRACT

The internal armed conflict in Colombia has been closely linked to the illegal exploitation of natural resources and the appropriation of territories, including the planting of illicit coca crops. This activity has led to deforestation and the degradation of natural ecosystems, aggravating the problems associated with violence and drug trafficking. Regions with little state presence, such as Catatumbo, were particularly affected.

Following the signing of the peace agreement with the Revolutionary Armed Forces of Colombia (FARC) in 2016, a post-agreement scenario emerged that highlighted the need to address complex socio-environmental conflicts in affected regions. This research aims to identify the potential of environmental governance to contribute to peacebuilding and the reduction of deforestation associated with illicit coca cultivation.

A qualitative methodological approach was used in this study, which seeks to integrate research methods and techniques such as: documentary review, participant observation, semi-structured and in-depth interviews, and mapping of the current reality through the Theory U 3D mapping tool.

The results include the socio-environmental context of the territory of analysis, describing the origins of the conflict of deforestation for illicit crops, where the growing dynamics of transformation of the sowing of illicit crops are related, as well as the dynamics of deforestation in the territory of analysis. Tthe identification and analysis of the most relevant actors that have historically participated in the processes of deforestation for illicit crops, their characterization according to the relations of power, interest and legitimisation legitimization. The forms of participation and conflict resolution in the management of natural resources.

Considering as a contextual axis two important processes at a socio-political level in Colombia and the territory under analysis, which correspond to the consolidation of the Comprehensive Rural Reform after the peace agreement and the post-agreement context. Several intervention proposals were proposed from the perspective of environmental governance related to the reconstruction of the social fabric, the reconversion of productive systems, and the resignification of new dynamics of natural resource management. In this sense, the potential of environmental governance is discussed as a useful framework for establishing new relationships based on horizontality in which the actors possess sovereignty over the territory, participation and representativeness in the management of natural resources.

Key words: *Deforestation, illicit coca crops, environmental governance, forest management, peacebuilding.*

RESUMEN

El conflicto armado interno en Colombia ha tenido una estrecha relación con la explotación ilegal de recursos naturales y la apropiación de territorios, incluyendo la siembra de cultivos ilícitos de coca. Esta actividad provocó la deforestación y la degradación de los ecosistemas naturales, agravando los problemas asociados a la violencia y el narcotráfico. Regiones con escasa presencia estatal, como la del Catatumbo, se vieron particularmente afectadas.

Tras la firma del acuerdo de paz con las Fuerzas Armadas Revolucionarias de Colombia (FARC) en 2016, surgió un escenario posterior al acuerdo que puso de manifiesto la necesidad de abordar los complejos conflictos socioambientales en las regiones afectadas. Esta investigación tiene como objetivo identificar el potencial de la gobernanza medioambiental para contribuir a la construcción de paz y la reducción de la deforestación asociada a cultivos ilícitos de coca

En este estudio se empleó un enfoque metodológico cualitativo, que busca integrar métodos y técnicas de investigación como: revisión documental, observación participante, entrevistas semiestructuradas y en profundidad, y mapeo de la realidad actual a través de la herramienta de mapeo 3D de Teoría U (Scharmer, 2018).

En el capítulo de resultados se relacionan 1) el contexto socioambiental del territorio de análisis, describiendo los orígenes del conflicto de la deforestación por cultivos ilícitos, allí se relaciona las crecientes dinámicas de transformación de la siembra de cultivos ilícitos, así como las dinámicas de deforestación en el territorio de análisis y 2) la identificación y el análisis de los actores más relevantes que han participado históricamente en los procesos de deforestación por cultivos ilícitos, su caracterización de acuerdo a las relaciones de poder, interés y legitimización. Las formas de participación y resolución de conflictos en torno a la gestión de los recursos naturales.

Considerando como eje contextual dos procesos importantes que se están dando a nivel sociopolítico en Colombia y en el territorio objeto de análisis, los cuales corresponden a consolidación de la Reforma Rural Integral después del acuerdo de paz y el Contexto postacuerdo se propusieron una serie de propuestas de intervención desde la gobernanza ambiental relacionadas a la reconstrucción del tejido social, la reconversión de sistemas productivos y la resignificación de nuevas dinámicas de gestión de recursos naturales. En este sentido, se discute el potencial de la gobernanza ambiental como un marco útil para establecer nuevas relaciones basadas en la horizontalidad en la que los actores posean soberanía sobre el territorio, participación y representatividad en la gestión de recursos naturales.

Palabras claves: *Deforestación, cultivos ilícitos de coca, gobernanza ambiental, gestión forestal, construcción de paz.*

INTRODUCTION

In Colombia, the internal armed conflict that has been going on for more than 50 years and in which illegal armed groups have participated has been closely related to the appropriation of territories and the illegal exploitation of natural resources. The planting of illicit coca crops (*Erythroxylum coca*) has been one of the main sources of financing for the internal armed conflict, this activity has been directly related to deforestation, degradation of natural ecosystems and increased problems associated with violence and drug trafficking (Morales, 2017).

In particular, deforestation for illicit coca crops has occurred in territories with little state presence, including the forests in the north and center of the Guaviare, Caquetá and Catatumbo river basins, as well as areas of special ecological importance in the country that harbor great biological diversity (Grima, 2019). Environmental deterioration in a context of conflict such as the one experienced in Catatumbo has been strongly associated with armed and economic power relations through which it is governed and decided who has access to land and resources and in what way (and, consequently, who is excluded) (Aponte, 2022).

In 2016 the national government signed a peace agreement with the Revolutionary Armed Forces of Colombia (FARC) known as the "Final Agreement for the Termination of the Conflict and the Construction of a Stable and Lasting Peace", this led the country to the post-agreement scenario in which it is expected to achieve the goals that allow overcoming violence (Suárez et al., 2017). The agreement contemplates a solution to drug trafficking, being the fourth point "Solution to the Problem of Illicit Drugs" which involves the implementation of the Comprehensive National Plan for the Substitution of Illicit coca crops (JEP, 2023).

The signing of the Peace Agreement has led to a de-escalation of the armed conflict, but at the same time has made visible scenarios of environmental conflicts that show an increase in tensions over land, forests and community livelihoods. These environmental conflicts evidence new challenges around how to build peace in the territories (Rojas, 2018). For the case of Catatumbo, the territory has been socially and environmentally reconfigured not only by the colonization processes and its poor integration with the national power center, but also by the formation of diverse and varied organizational and social processes, their economies, the violence of the armed conflict, the cross-border connection and, recently, by the implementation of peace and environmental governance policies (Aponte, 2022).

For *cocaleros* and *cocaleras* (small-scale coca farmers) and *raspachines* (temporary informal workers engaged in manual extraction of coca leaves) coca became a response to the lack of viable economic alternative rather than a decision to participate in the illicit economy (Holmes, Pavón, & Gutierrez de Piñeres, 2018). Until now coca leaf cultivation has been considered as a problem to be solved by the total elimination of planted hectares, to this end the United States

has been funding counter-narcotics operations in Colombia by supporting military and police forces. This approach has been called "supply repression", whose main objective is to stop the flow of illicit narcotics reaching the United States (Grissaffi & Ledebour, 2016). Some techniques for eradication of coca plants employed, are aerial spraying with glyphosate, which only until 2015 was stopped as a result of growing warnings of its potentially harmful effects on human health and the environment.

Subsequent government pronouncements about resuming aerial spraying with glyphosate brought back the conversation about the ineffectiveness of its implementation, the increasing rates of deforestation and planting of licit coca crops reported by the United Nations Office on Drugs and Crime show that forced eradication and glyphosate spraying did not guarantee the non-reappearance of coca crops, It is therefore necessary to promote other forms of illicit crop substitution that are not a hierarchical and punitive response imposed by the State on small farmers, but rather one that is shaped from the grassroots, by the actors who build the territory on a daily basis and who have been invisible and marginalized for decades.

Based on the provisions of point 4.1.3.3. of the Final Peace Agreement, voluntary substitution has been implemented through the National Integral Substitution Program PNIS, under the responsibility of the Directorate for the Substitution of Crops of Illicit Use. 99,097 families from 56 municipalities have registered as beneficiaries of the PNIS, through this program, by 2021, 46,008 ha have been eradicated voluntarily and with technical assistance (United Nations Office on Drugs and Crime UNODC, 2021).

The territories where illicit coca cultivation takes place present a complex social and economic dynamic resulting from socio-historical processes of colonization and peasant migration. Faced with the imbalances that occurred in the countryside leading to the creation of "no man's lands", the inhabitants of Catatumbo have chosen to organize themselves into grassroots associations and cooperatives that for decades have energized the peasant economy (Aponte, 2022). These community initiatives have played an important role in local development and in the search for alternatives to violence, environmental degradation caused by the planting of illicit coca crops and the military repression that persists in response to their productive activities.

By promoting processes of social mobilization and dialogue with local, regional and national authorities, these organizations have demanded the constitutional guarantee of their rights and promoted concrete proposals for the strengthening of their territories, the recognition of their rights to demand access to land, land titling and the recognition of their territorial administration figures as is the case of the ZRCs (Zonas de Reserva Campesina), all of vital importance to guarantee new forms of production. However, their mobilizations have often been repressed or the pacts reached in response to them have not been complied with (Procuraduría General de la Nación, 2020: 11).

In this context, it is necessary to understand the dynamics of deforestation due to illicit coca crops that are the result of historical territorial disputes in Catatumbo, Colombia, to identify elements that help reconfigure the structural causes that have generated them, and to do so together with the actors of the territory, from an integral and integrative vision. In this sense, Rojas (2018) expresses that for peacebuilding it is necessary to generate processes that contribute to build territories where those who have been historically excluded and dispossessed can live and exercise their rights according to their ways of life and in dignified conditions.

To this end, this research aims to analyze the socio-environmental context of Catatumbo in order to identify the origins of the conflict, the dynamics of the planting of illicit coca crops, deforestation rates and the dynamics of the social actors that have participated in the problem for the period (2000-2022).

The study is based on the concept of environmental governance, which emphasizes the need for participatory, inclusive, and accountable decision-making processes that involve all relevant stakeholders (with a particular focus on small-scale coca farmers) and ensure the sustainable use of natural resources. This approach recognizes the complexity, dynamism and continuous evolution of socio-environmental conflicts as well as the diverse, changing and sometimes intricate interactions of power, cooperation and conflict among the actors involved. It values the importance of local knowledge and participation, as these play a critical role in generating effective and contextually relevant solutions.

In order to understand under what circumstances, how and why the deforestation processes associated with illicit coca crops occurred, this research uses as a reference framework some concepts and theoretical currents related to the typology of conflicts, definitions of power, analysis of actors from environmental governance and peacebuilding in order to consolidate theoretical arguments that can then be grounded in Catatumbo, a border territory characterized by an enormous environmental and cultural wealth and that continues to be seriously affected by socio-environmental conflicts associated with forest management and access and dispute of the territory.

For this, a qualitative methodological approach was proposed, which seeks to integrate research methods and techniques such as: documentary review, participant observation, semi-structured and in-depth interviews, and mapping of the current reality through the 3D mapping tool of Theory U (Scharmer, 2018). This methodological phase is divided into three stages 1) The construction of the socio-environmental context of the territory, 2) analysis of the dynamics of the social actors through stakeholder analyzes approach and 3) the proposal of intervention points from the environmental governance.

RESEARCH PROBLEM

Half of Colombia's territory is covered by forest (approximately 59 million hectares), ranks third in South America in terms of forest area after Brazil and Peru, and is the 5th country in the region in terms of primary forest cover (8.5 million hectares) (Andrade, 2004). However, a large number of hectares of forest have been lost in recent decades. In 1990, forest cover in the country was 64,442,269 hectares, or 56.5% of the national territory (García, 2020). By 2010, the total forest cover had decreased to 59,021,810 hectares. Other studies analyzing the amount of deforested hectares reflect that 171,685 hectares (ha) of forest were lost in 2020, a higher figure compared to the 158,894 ha deforested in the previous year (2019). Thus, in the last 30 years about 5.4 million hectares of forest were lost, an area the size of Costa Rica (IDEAM, 2020).

In Colombia, the problem of deforestation has been closely related to illicit activities carried out by illegal groups whose financing was (and continues to be to date) obtained from activities related to mining and illicit coca crops (including coca and poppy). For the purposes of this research, the focus will be on deforestation for illicit coca crops (particularly *Erythroxylum coca*) in the area of Catatumbo, Norte de Santander. The Revolutionary Armed Forces of Colombia FARC, which until then had had a merely regulatory relationship with illicit coca crops, due to the intensification of the conflict and in view of its need to strengthen itself militarily (and finance the war), becomes the rector of all activity related to coca cultivation and production in the region (Morales, 2017).

The dominance of this illegal group over coca crops is one of the main reasons why deforestation in Colombia has intensified in recent decades, since the development of illicit coca crops could only be carried out in areas that were difficult for the police and army to access, The jungles and tropical rainforests were the ideal territory for the development of illicit activities, not only because of their distance from the cities, but also because of their rich soil and abundance of natural resources that favored good coca production.

Despite the great advances in the country in peacebuilding issues, the figures related to the extension of coca crops have had a significant increase, going from 48,000 ha in 2013 to 204,000 ha in 2021 (UNODC, 2021). National government figures show that for the period 2015-2020, coca crops ranked as one of the main drivers of deforestation in the country (International Crisis Group, 2021).

The United Nations Office on Drugs and Crime (UNODC) report in 2020 indicated that coca cultivation in the area has increased at a rate of 45% annually. This steady increase occurred in the context of peace negotiations with the Revolutionary Armed Forces of Colombia (FARC) and a transition in the strategy to combat coca cultivation (UNODC, 2020).

The regions where the planting of illicit coca crops in Colombia has been most intense tend to coincide with those that are home to important biodiversity (Morales, 2017). According to data from the Integrated Illicit Crop Monitoring System (UNODC - SIMCI, 2018) the areas that make up the National System of Protected Areas (SINAP) in which parks and nature reserves are included are the main ones affected by this problem.

According to Morales (2017) this problem is the first link in a chain of negative effects that includes the affectation of ecosystems, their biodiversity and their ecosystem services, which generates tensions with local actors, especially with long-established vulnerable communities and leads to exacerbate socio-environmental conflicts associated with violence, drug trafficking and poverty.

Land dispossession in the context of the armed conflict and the insecurity and instability of rural property rights, coupled with the prioritization of extractive economies, have led to the continued expansion of the agricultural frontier in Catatumbo. This has been carried out through the forced displacement of populations into forested and jungle areas, changes in land use contrary to their environmental vocation, and deepening of agrarian and climatic injustice (Aponte, 2022).

The continuous expansion of illicit coca crops is a problem that continues to threaten ecosystems of special ecological importance, as well as the peacebuilding and development efforts undertaken by the country, as is the case of the Catatumbo Barí National Park, in which, despite being delimited under the conservation category, at least 1,448 ha are deforested for the planting of illicit coca crops by 2019 (UNODC, 2020).

This situation reflects the urgent need to work on strengthening governance processes and frameworks in an integral, multidimensional, multilevel and multi-stakeholder manner. Without the effective participation of local communities, there will not be the necessary legitimacy to implement the conservation and sustainable use mechanisms required for peacebuilding. Despite the fact that the peace agreement opened a window of opportunity to transform the conditions that led to the armed conflict and its negative environmental effects, the non-compliance with several crucial points of the agreement, the implementation of militaristic policies in the territories and the prioritization of an extractive development agenda have had serious consequences, such as the increase in violence against social and environmental leaders and peasant and ethnic communities, the weakening of organizational processes and direct and indirect negative effects on nature.

In this sense, it is necessary to analyze the relationships between deforestation, illicit coca crops and armed conflict in order to develop environmental governance strategies in which, through effective collaboration in the management of natural resources among the different actors and stakeholders, peacebuilding, conflict resolution, cohesion among social actors and compliance with environmental management agreements are possible.

RESEARCH QUESTIONS

1. What is the socio-environmental context of the Catatumbo in relation to deforestation for illicit coca cultivation?
2. What is the power relationship of actors involved in deforestation for coca plantation in the study area?
3. How can environmental governance contribute to conflict reduction and peacebuilding in Catatumbo?
4. What points of intervention from environmental governance could contribute to halt and reverse the trends of deforestation and the expansion of illicit coca crops in the territory under consideration?

JUSTIFICATION

This research is based on the need to understand the complex dynamics of the environmental conflict in Catatumbo, specifically in relation to the planting of illicit coca crops. The detailed analysis of the actors involved, their power dynamics, forms of participation, origin and decision making around forest management can provide significant approaches for the development of new strategies to transform these conflict dynamics associated with the planting of illicit coca crops, violence and marginalization. In this sense, understanding these dynamics becomes a fundamental element for imagining and proposing new cooperation scenarios aimed at different forest management purposes, in which peasant communities can make the transition towards licit and sustainable economies based on cooperative, sustainable and participatory processes.

The analysis of the dynamics of the environmental conflict in Catatumbo is a key element for the generation of knowledge and the identification of effective solutions. The persistence of the planting of illicit coca crops has negatively impacted the natural environment and perpetuated situations of violence and social exclusion in the region (Morales, 2017). Understanding the diverse interactions between the actors involved, as well as their motivations and strategies, will allow the identification of intervention points that contribute to peacebuilding and the promotion of sustainable alternatives for local communities.

Likewise, this research is an effort to address the potential of community-based organizations to reverse the trends of environmental degradation and deforestation that have led to a complex deterioration of ecosystems, loss of biodiversity and increased vulnerability in Catatumbo.

The increasing and alarming rates of deforestation in the territory of analysis continue to grow and its intrinsic relationships with the conflict become even more evident, further exacerbating the negative impacts on ecosystems and accentuating the need to comprehensively address the factors that contribute to this problem.

Finally, this research aims to identify the points that, from the perspective of environmental governance, can favor peacebuilding. The current post-agreement context in the country and the continuous pressure on ecosystems of special ecological importance place the management of deforestation for illicit coca crops as one of the priority issues on the country's political agenda. After the signing of the peace agreement with the FARC, the possibility of building new territorial, social and environmental dynamics to achieve a stable and lasting peace was opened.

The proposal developed through this research would focus on the management of natural resources and environmental conservation as a central idea for the consolidation of peace. According to Morales (2017) the post-agreement is an unprecedented opportunity to anticipate and plan strategies for sustainable environmental governance, since, if the armed conflict in Colombia is linked to natural resources and the environment, so are the possibilities for lasting peace. In this sense, the development of guidelines for the environmental governance of the territory and natural resources is a key element in the development of sustainable environmental governance strategies.

This research aims to provide guiding frameworks that contribute to the strengthening of environmental governance and the resolution of socio-environmental conflicts in Colombia. By considering the different actors and their decisions in relation to the management, use and conservation of forests, as well as by fostering collaborative processes in governance, it will be possible to develop enabling frameworks that guarantee the subsistence of ecosystems of special ecological importance and advance towards the construction of peace.

In this sense, the research seeks to provide knowledge and practical proposals to increase the bargaining power of local actors, strengthen social networks and promote truly inclusive dynamics in management in order to favor the resolution of grievances and reduce the likelihood of new armed conflicts (Taher et al., 2012; Zawahri, 2011). In doing so, it is expected to foster a just and sustainable transition towards peacebuilding, taking advantage of the unique opportunity offered by the current post-agreement context in the country.

RESEARCH OBJECTIVES

GENERAL OBJECTIVE

Identify the potential of environmental governance in contributing to the creation of peacebuilding scenarios through collaborative management of forest ecosystems.

SPECIFIC OBJECTIVE

1. To explain the socio-environmental context of the Catatumbo, Norte de Santander with consideration to deforestation as a result of illicit coca production.
2. To Analyze the interactions of actors linked to deforestation and illicit coca cultivation in the territory under analysis.
3. To define points of intervention from an environmental governance perspective that contribute to peacebuilding through the reduction of illicit coca cultivation.

SCOPE OF THE RESEARCH

This research is not a comparative study, but a single case study. The approach is based on access to specific information related to the actors involved in the deforestation processes associated with coca planting in a given territory (Catatumbo, Colombia).

The study focuses mainly on local actors, particularly small-scale coca farmers and their response to the presence of armed actors, although certain state actors that have historically had an influence on the direct management of the forest, such as the military forces and the national police, are also considered. Other government agencies, ministries and intergovernmental bodies are mentioned to provide a socio-political context but are not analyzed as protagonists.

The research focuses exclusively on deforestation caused by illicit coca crops at the local level, without addressing the macro processes of drug trafficking. The focus is not based on policies, but on the social organization related to this phenomenon. That is, who are the actors involved, what are their power relations, their interests and how they make decisions.

The socio-environmental conflict triggered by deforestation caused by illicit coca cultivation is a fundamental aspect to be explored in this research, the social implications will be examined, which mainly involve the dispute over land use and marginalization. However, the focus is on micro-scale conflicts, i.e., those occurring within agricultural and rural communities in this territory of analysis.

In other words, it focuses on exploring what forms of collective, participatory and horizontal structuring can help to re-signify the dynamics of conflict and deforestation in which reciprocal, participatory relationships are established, based on collectivity and territorial autonomy that translate into new, more peaceful and sustainable scenarios.

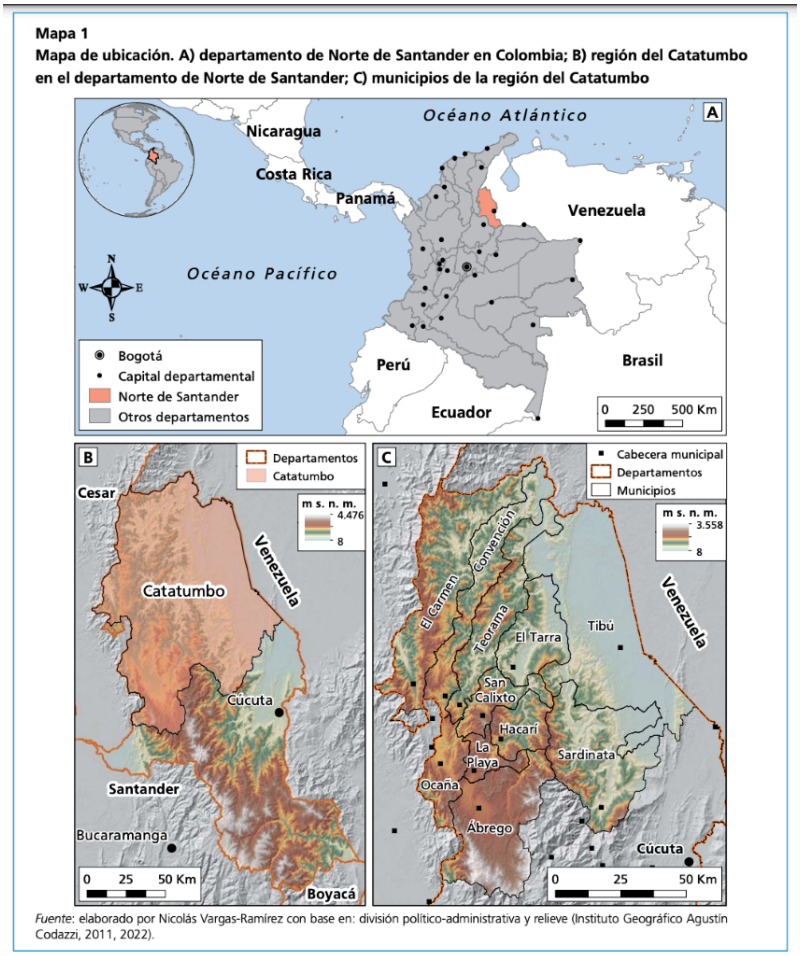
CHAPTER 1: STUDY AREA

1.1 DESCRIPTION OF THE STUDY AREA

Catatumbo is a subregion located in northeastern Colombia 8° 46′ and 9° 18' LN and l72° 58' and 73°24' LW (map 1) comprises 11 municipalities in the department of Norte de Santander and has the country's longest border with Venezuela, about 2,219 km (UNDP, 2014) (Aponte, 2022).

The region is made up of flat, mountainous and tropical forest areas and is home to great natural diversity. It is rich in water and forest-approximately 50% of this territory is forested-and has large areas of special ecological importance, including the Catatumbo Barí National Natural Park, the Serranía de los Motilones Forest Reserve Zone and the Los Estoraques Unique Natural Area (Procuraduría General de la Nación, 2020). There are also two indigenous reserves of the Barí community: Katalaura and Motilón-Barí (Aponte, 2022).

Map 1. Study area location



Source: Aponte, 2022

This sub-region of Norte de Santander is an extensive land of incalculable wealth in biodiversity, hydrocarbons, fertility for crops, livestock and is crossed by the river that gives its name to the region, the Catatumbo, which begins in Abrego, passes through the municipalities of La Playa, Ocaña, Teorama, Convención, continues near Hacarí, San Calixto, El Carmen, Sardinata, El Tarra, Tibú and La Gabarra, and flows into Lake Maracaibo in Venezuela (Rutas del conflicto, 2020).

The Catatumbo region contains part of the Serranía de los Motilones Forest Reserve, which covers an area of 618,535 hectares. In terms of protected areas, the northern border of the region contains the Catatumbo Barí National Natural Park (PNN), with an area of 159,975 hectares covering the municipalities of Convención, El Carmen, Teorama, El Tarra and Tibú, and in the extreme southwest is the Los Estoraques Unique Natural Area, which covers 675 hectares in the municipality of La Playa (UNODC, 2014).

1.2 SOCIOECONOMIC DESCRIPTION: DYNAMICS OF EXTRACTIVISM

Although it is a territory ancestrally inhabited by the Barí indigenous community, for decades it has been populated by peasant settlers coming from other areas, who settled there looking for land to plant and live (Centro Nacional de Memoria Histórica, 2018). The colonization process went hand in hand in several regions of the country due to the high concentration of land in the Andean areas in the hands of economic and political elites, the boom of extractive economies, especially oil, and violence, which generated forced displacements among peasant and indigenous communities.

The institutional presence of the State in the region has been very precarious. There is a lack of infrastructure and public goods and high levels of poverty and exclusion: the average unsatisfied basic needs index (UBN) of its municipalities is 41.4%, well above the national index of 14.1%. It is estimated that 29.3% of children do not attend educational institutions. In terms of housing, 32% do not have electricity, 85.2% do not have aqueduct and 93.1% lack sewerage (CNMG, 2020: 61).

The territory of Catatumbo has been socially and environmentally reconfigured not only by the colonization processes and its poor integration with the national power center, but also by the formation of diverse and varied organizational and social processes, its economies, the violence of the armed conflict, the cross-border connection and, recently, by the implementation of peace and environmental governance policies (Aponte, 2012).

In the absence of infrastructure and public goods, the inhabitants of Catatumbo have organized themselves into associations and cooperatives that for decades have energized the peasant economy. These organizations have driven processes of social mobilization and dialogue with local, regional and national authorities, demanding the constitutional guarantee of their rights and promoting concrete proposals to strengthen their territories. However, their

mobilizations have often been repressed or the agreements reached in response to them have not been complied with (Procuraduría General de la Nación, 2020: 11).

This constant dispute over land and territory is anchored in the region since the arrival of Spanish colonization, with notable historical moments such as oil exploration and exploitation, palm monocultures and the implementation of extensive cattle ranching projects have been expanding in the territory threatening food sovereignty (Garcia, 2020).

1.3 ECOLOGICAL CHARACTERIZATION

Biotic component

According to information provided by Valencia (1996), in the Catatumbo subregion there is an abundance of natural cover in 45% of the subregion's area, with a predominance of dense forests, fragmented and gallery forests, and riparian forest (Valencia et al., 1996).

According to the spatial distribution of vegetation by the Instituto Geográfico Agustín Codazzi, the area belongs to the sub-Andean rainforest with equatorial forests of ombrophilous, hygrophilous and sub-hygrophilous types. The most common genera in the primary forests are *Cassia, Chroma, Coupania, Machacrium, Croton, Guarea, Vismia, Tabebuia, Licania Ciclantaces and Lauraceas*. The predominant families are *Moraceae, Lauraceas, Sapotdceas and Lecytidaceas.* The largest number of individuals observed are the genera *Croton, Ficus, Tabebuia and Cecropia*. The most outstanding species in terms of presence, and very frequently at altitude, is the Drago (*Croton sp.*) (Valencia et al, 1996).

According to the same study, the faunal diversity, population and naturalness of the area of influence can be described as appreciable, taking as a reference the intervention that characterizes this life zone in other regions. The most abundant terrestrial specimens are the armadillos (*Dasypodidae*), faras (*Didelphimorphia*) and macaws (*Psittacus macao*) (Valencia et al, 1996).

As for the birds, there are herons (*Casmerodius albus*), tattlers (*Crotophage ani*), woodpeckers (*Campephilus sp*), blackbirds (*Turdus grayi*), bluebirds (*Traudis palmarum*), hummingbirds (*Doreatkus sp*) and birds of prey such as hawks, eagles (*Spizaetus tyrannus*) and sparrow hawks (*Buteo nitidus*). Some collaborate in seed dispersal along with insects, which are represented by several genera, with butterflies (Lepidoptera) being the most important due to their variety and abundance (Valencia et al, 1996).

Abiotic component

According to Salazar (2017) the geological evolution of the Catatumbo basin begins in the Precambrian where the first geological event is the deposition of marine sediments and vulcanites, which have undergone metamorphism and have given rise to neises, amphibolites and quartzites globally known as Neis de Bucaramanga.

According to bibliographic analysis of geological studies, the area of influence has clayey soils of predominantly residual origin that are tan to reddish in color, not very permeable, and mechanically stable. Hydrometeorological information was collected from the Instituto de Hidrología, Meteorología y Estudios Ambientales IDEAM, which established that the predominant drainage pattern throughout the area is dendritic, with low density and medium to fine texture due to low permeability and steep slopes. The rainfall regime in the area is torrential, which means that most of the drainage is temporary and also torrential due to the high runoff in the area (Valencia, 1996).

The study area has an average temperature range of 18.78 - 30.23 °C, a minimum temperature range of 10.22 - 17.16 °C, and a maximum temperature range of 25.88 - 37.65 °C. In terms of precipitation, the Basin has a bimodal precipitation cycle, i.e., two rainy seasons between April-May and September-November, the latter being the most representative, and two dry seasons between December-March and June-August, the first dry season being the most relevant, with average annual rainfall varying between 2,800 and 3,200 mm. The altitude in the area is between 200 and 600 m a.s.l. (Valencia, 1996).

Based on the climatic parameters mentioned above, it is observed that the most representative climate in the Catatumbo Basin corresponds to the semi-humid temperate with 52.6% of the total area of the basin located in the mid-mountain areas, followed by the humid temperate climate represented in 17.46% in the northern part of the basin area (Salazar, 2017).

CHAPTER 2: REFERENCE FRAMEWORK

This chapter presents an analytical framework on the concepts and theoretical currents that allow us to answer the research questions (see introduction): What is the power relationship of actors involved in deforestation for coca plantation in the study area?, How can environmental governance contribute to conflict reduction and peacebuilding in Catatumbo? And what points of intervention from environmental governance could contribute to halt and reverse the trends of deforestation and the expansion of illicit coca crops in the territory under consideration?.

For this purpose this chapter is divided into two sections, the first one corresponding to the conceptual framework where it delves into 1) the conceptualization of socio-environmental conflicts (Brisman, 2015) with a particular focus on the dispute for access to territory, and 2) in the definition of power (Long, 2004) to refer to the ability of certain actors to promote their interests according to their access to natural resources. The second section corresponds to the theoretical framework, which combines three currents that provide a crucial interpretative context, the first around environmental governance (Brenner, 2010) with an approach based on the processes, mechanisms and horizontal relationships of actors in the management of natural resources, the second is based on the actor-oriented approach (Long, 2004), which makes it possible to focus on social interactions in the dynamics of power, decision-making and participation of actors in forest decisions, and the third on the dynamics of cooperation and reciprocity in environmental governance for peacebuilding (Lederach, 2005).

The integration of this frame of reference is crucial to address the dynamism and complexity of the problem of deforestation for illicit coca cultivation. On the one hand, the exploration of the theoretical, practical and political forms related to environmental governance becomes a key element to analyze the current situation in Catatumbo and is also a transversal axis to address the resignification of socio-environmental dynamics and peacebuilding in the territory of Colombia.

In order to transcend conventional approaches to conflict management where linear perspectives of cause and consequence are generally addressed. The actor-oriented approach combined with environmental governance provides tools for the analysis of new transition scenarios in Colombia by analyzing the complexity of natural resource management and the interweaving of actors with the networks in which they are involved (Long, 2004).

2.1 CONCEPTUAL FRAMEWORK

2.1.1 SOCIO-ENVIRONMENTAL CONFLICTS: TYPOLOGIES AND STRANDS

Within the plurality and vast applicability of the concept of conflict, it is possible to find some fundamental characteristics that, in general, are retained in the vast majority of definitions, in which the existence of parties (actors), motivations (or interests) and power relations coincide (Guerrero, 1999: 38).

Considering such elements, the following definition stands out, which not only contemplates them, but also links a set of properties that, as will be seen below, are essential to raise the socio-environmental ramification of the concept: "**Conflict**" is understood as a collective action, that is, a situation that implies the opposition of interests, rights, perspectives, rationalities, or logics. It is an objective social fact that arises from discrepancies between subjects -individuals, classes, or ethnic groups- regarding the perception and understanding of reality by each one, in their way of depicting or reinventing it. It is the product of a conception of the world, of nature and of men, of the way in which the latter relate, organize themselves and enter into opposition" (Fontaine, 2003a: 516).

In this regard, Ortiz et al. (2011) note that conflicts are processes that arise from existing relationships that reflect past and present interactions in a given context, and that is precisely why they refer to multifaceted, multivariate and complex processes. Rodríguez et al. (2015) state that socio-environmental conflicts allude to broader conflicts, power and culture, considering that conflict represents, in effect, a process with natural transformation capabilities.

The characteristics of the concept of conflict in complexity entail a different way of understanding the unfolding of the social world, which would be directed not towards the search for a supreme and inert order that reveals, after the abolition of all contradictions, the advent of absolute justice (as the idea of progress holds), but towards the naturalization of antagonism as consubstantial to the social and therefore, in its multiple empirical dimensions, as irrefutable evidence of its constant movement and tendency to change (Jaramillo, 2018). In other words, the first epistemological position understands equilibrium as a straight line (stable or immobile) and conflict as its antithesis, while the second conceives equilibrium as an oscillating line (dynamic or variable) and conflict as one of the energies that drives it. In this sense, the concept of conflict refers in turn to an intrinsic aspect of the human or, one of the most active forms of socialization (Stamm and Aliste, 2014: 69), a historical constant and even a driver of social change. Indeed, according to the so-called conflict theory, the aforementioned concept does not represent per se a phase of anomaly or dysfunctionality of societies (Silva, 2008: 29).

Along the same lines, **environmental conflicts** are a type of social conflict, often related to disputes over access, use, exploitation, distribution, control, availability and quality of the resources provided by the natural environment (Vélez, 2009); that is, the benefits derived from

the functionality of ecosystems in a given territory. Environmental conflicts occur through and in the territory, which can be understood as an emerging category of the environmental condition (ecosystem-culture relationship), which is multidimensional, multiscale, multiactor and highly complex (Observatorio de Conflictos Ambientales, 2022).

Socio-environmental conflicts are intricate phenomena involving a diversity of actors and unfolding within a context characterized by a marked imbalance of power and asymmetries. Relationships between these actors are established in natural resource governance systems that blend traditional and formal institutions (Bebbington 2009), which are governed by intricate and often contradictory rules. The exploitation of natural resources holds strategic value for the economy and plays a pivotal role in politics, thereby extending the sphere of influence of these conflicts beyond the local level to national, regional, and global scales (Balvin, 2005).

In most cases, there is an asymmetry in the conditions under which the parties involved struggle (Herz, 2013), which generates inequality in the capacities for action, maneuver, and political incidence of the primary actors, who are directly involved in the conflict. In this category are the initiators, who recognize an environmental damage and confront it through the organization and collective action of a group of citizens, and the generators of the conflict, who play important roles in reaching agreements in disputes (Rodríguez, 2019).

Unlike environmental issues, understood as effects, impacts or contradictions in ecosystems resulting from human activities, environmental conflicts (EC) presuppose the positioning or controversy between the actors involved in the issue, whether they are generators or affected. In this sense, they are dynamic over time, as are the perceptions and strategies deployed by the actors, who can be participants in their prevention or positive transformation to the extent that spaces for effective participation are provided, tending towards a deep understanding of the causes that originate or escalate the conflict. This with a view to building inclusive governance agreements for joint decision-making in territorial management, based on the principles of equity and opportunity (Observatorio de Conflictos Ambientales, 2022).

In this sense, Brisman and colleagues (2015) proposed four typologies of environmental conflicts: 1) conflict over the possession of natural resources or territory; 2) conflict over resource depletion; 3) conflict that destroys environments; and 4) conflict over natural resource extraction processes. In turn, Rodríguez and collaborators (2017) identified four strands in which the armed conflict in Colombia has been related to natural resources: 1) natural resources as a cause of the conflict; 2) natural resources as a source of financing and perpetuation of the war; 3) the environment as a victim of the prolonged conflict; and, somewhat surprisingly, it could be pointed out, 4) the environment as a beneficiary of the dynamics of the armed conflict.

The present research will focus on strands 1 and 3 proposed by Brisman (2015) in which he refers to the role of natural resources and territory in Colombia's violence as "engines of chaos"

where instead of reaping ample benefits from resource wealth, local populations have instead suffered acute political discord, stunted growth, and obvious inefficiencies.

2.1.2 CONCEPTUALIZATION OF POWER IN COMPLEX SOCIO-ENVIRONMENTAL CONFLICTS

All the above arguments and reflections lead us to affirm that socio-environmental conflicts have a strong political imprint, but also, and even more importantly, a clear structuring based on power relations (all of them multiform and at the same time characterized by their mobility between scales). Thus, the concept of power represents a central element to understand the complexity of this type of phenomena, as it falls on various approaches, schools, debates and baggage (Jaramillo, 2018).

Power is a polysemic concept, however, in an attempt to better delimit the term in order to understand its contributions to the field of socio-environmental conflicts, it is necessary to link power with territory, understanding the latter not as a simple portion of surface, but rather as a dimension of the social, a space in which "work, energy and information are intertwined and which, consequently, reveals relationships marked by power" (Rafestin, 2013: 173).

In this context, power is understood as: "a process that allows actors to empower and use their resources and sources to change circumstances in different spheres of public space" (Rodríguez et al., 2015, p. 113). There is some consensus in the social sciences that "power" should not only refer to the ability of actors to promote their interests according to their access to natural resources, but also to the role played by those who decide (Raik, 2008). In other words, it is necessary to investigate not only the "power to" but also the "power over" available to the respective actors (Lukes, 2005). This point wishes to make explicit that every power relationship entails a spatial-territorial dimension or expression and, in turn, every link between society and territory represents a form of power. Of course, in the case of socio-environmental conflicts this is even more evident, since power and territory are two sides of the same coin (Jaramillo, 2018).

Most discussions of power in natural resources are limited to a simplistic interpretation of power as something that some individuals and entities have and others do not (Raik, 2008). This view focuses on coercion and is usually limited to describing the power of one person over another. Power as coercion is often referred to as the "first dimension" of power (Lukes 2005). In simple terms, it can be understood as: "A has power over B to the extent that he can get B to do something that B would not otherwise do".

In an attempt to elaborate on other dimensions of power, Bachrach (1970) introduced the "second dimension", known as power as constraint, which exists when A exercises power to constrain B's actions or possible actions: Power is also exercised when A devotes his energies to creating or reinforcing social and political values and institutional practices that limit the scope of the political process to B's public consideration (Raik, 2008).

A "third dimension" of power arises from the critique that the first and second dimensions do not adequately account for the sociostructural processes that shape human relationships and interests (Raik, 2008). The structural view understands power as forces above and external to the individual (e.g., race, gender, class) that operate in unknowable ways to influence people and their behavior. Power no longer resides in individuals, but emanates from structural forces (Clegg, 2010). This interpretation states that "A exerts power over B when A affects B in ways contrary to B's interests" (Lukes 2005, 37).

Considering that socio-environmental conflicts allude to a non-linear open system in which tangible and intangible elements are found in a dynamic far from equilibrium, since the interrelations of power generate vectors of encounter, disagreement, recursiveness, processes of self-organization and emergent properties (Arce, 2021). In this sense, addressing power from a complexity perspective is crucial, since in socio-environmental conflicts, in addition to being multidimensional, multiscale and multitemporal, they intersect with diverse perspectives, worldviews, conceptions, feelings and discourses of power around a territory (Thomas, 2018).

For the purposes of this research, it is essential to analyze the actors that exercise power in the processes of deforestation for illicit coca crops, but to do so, it is necessary to start from the recognition of the complexity of this task, as these conflicts have been and are highly dynamic. However, in an attempt to have an approximation, it is intended to examine not only the power that actors have to carry out deforestation, but also the power they exercise over other actors and over decisions related to the use of land and resources. By understanding the power dynamics involved in these processes, effective strategies can be designed to transform and redirect these dynamics towards more environmentally sustainable practices.

In the framework of this study, an actor analysis was conducted using the CLIP methodology (Collaboration or Conflict, Legitimacy, Interest, and Power), based on the community engagement model IAP2 (International Association for Public Participation). The CLIP methodology is an analytical tool that allows examining the nature of relationships among different actors involved in a specific context, with a focus on identifying their typology. The classification of actors is based on four key variables: collaboration or conflict, legitimacy, interest, and power. The various types of actors identified through the CLIP methodology include dominants, influential forces, actors with latent interests, those with concerns, vulnerable actors, and marginal actors, each playing a particular role in the studied scenario (Daru, 2017).

Furthermore, it is important to highlight that the power that actors can exert in this context can manifest in various forms. This research primarily focuses on the economic, political, territorial, and social power that can directly impact the use and exploitation of natural resources, land access, and forest management for the cultivation of illicit coca crops.

2.2 THEORETICAL FRAMEWORK

2.2.1 ENVIRONMENTAL GOVERNANCE: HORIZONTALITY IN THE MANAGEMENT OF TERRITORY

Theories of governance

To present the theoretical, practical and political forms that concern or are related to environmental governance in territories deforested by illicit coca crops as a challenge in post-conflict scenarios in Colombia, is to make different and diverse readings of this political, social and economic phenomenon, which enriches the intellectual discussion around a complex phenomenon (Velez, 2009).

According to Montoya, (2016) governance is a theoretical current that has been updated under a series of meanings that are involved in various political-administrative contexts, thus implying a new and different way of governing characterized by the interaction between a plurality of actors, horizontal relations, the search for balance between public power and civil society and the participation in the government of society in general, and not of a single actor, be it political, economic, social or cultural. Hence, the interest in using the concept of governance lies in its capacity to encompass all the institutions and relationships involved in government processes (Cerrillo, 2006).

This term thus acquires its meaning as a way of governing that seeks to be constituted holistically, assuming from an institutional economy all social actors such as the State and civil society (Revesz, 2009). That is, the structural aspects that exercise the State's own power together with the collective governmental and non-state actors that contribute to the political debate for intervention in the decision-making processes are embraced (Chilito Piamba, 2018).

From a historical perspective, it is possible to grasp how the terms governance and governability have evolved and interacted over time, contributing to structure a policy that adapts and integrates with cooperation, coexistence and conflict resolution approaches that assume their effectiveness under decision-making processes (Revesz, 2009). According to Cante and Trujillo (2014) these two terms have played a complementary role in the administration of power, where governance is inserted from the structural verticality of the scaffolding of power with laws, statutes and decrees, and governance welcomes the integrating multidirectionality of participatory processes and regional and local territorial development.

Brenner, (2010), points out that environmental is "the interplay between institutions, processes and traditions of how power is exercised, how decisions on environmental issues are made, in the public and often private spheres, and how stakeholders make their voices heard". In the field of territorial politics, the concept of governance ends up being adjusted as "the way in which politically organized groups seek to solve problems through novel collective actions" (Chilito Piamba, 2018). Through governance, the aim is to increase trust and local organizations that allow the activation of local resources and local knowledge, which have the

potential to be transformed into resources available for territorial development (Farinós 2008, p. 16).

In the context of the Colombian conflict, the heterogeneity of ecosystems and land uses accentuates the need to articulate actors at different governance levels (Peralvo, 2016). A system of actors that goes beyond local governance levels, such as meso-scale governance platforms, has the potential to find an optimal scale for the sustainable management of resources and the mobilization of transformative development processes in the territory (Peralvo, 2016).

2.2.2 STAKEHOLDER ANALYSYS – AN ACTOR-ORIENTED APPROACH: PERSPECTIVES FROM TRANSFORMATIVE ENVIRONMENTAL GOVERNANCE

The stakeholder analysis is an approach to the field of development that seeks to capture the complexity of social dynamics by elucidating the types and sources of discontinuity and social linkages present in such situations and identifying the organizational means of reproducing or transforming them (Long, 2004).

This approach is also a response to linear conceptions of socio-environmental conflict, as it emerges as a theoretical tool that emphasizes transactional and decision-making models. Thus, it is assumed that the differential patterns that emerge are, in part, the joint creation of the actors themselves (Long, 2004, p. 13).

The stakeholder analysis, which is in itself an actor-oriented approach assumes that social actors should not be described as mere disembodied social categories (based on social class or other classificatory criteria) but as active participants who process information and strategize in their relations with various local actors as well as with external institutions and personnel (Long, 2004, p. 13). The different models of social organization that emerge are the result of the interactions, negotiations and social struggles that take place between various types of actors, not only those who are present in particular face-to-face encounters, but also those who are absent and yet influence the situation, affecting actions and outcomes.

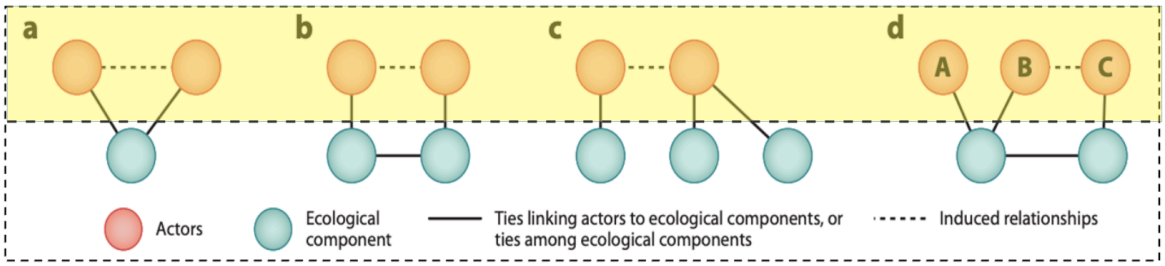
Considering that environmental **governance** is understood as the set of processes, mechanisms and organizations through which political actors influence environmental actions and results, the combination of this theoretical current with the actor-oriented approach is crucial, as it allows us to place social interactions as the axis of analysis and ask ourselves: what characterizes them, what sustains them, from what capacities are they built, , what gives them legitimacy, how can individuals or societies shift from making decisions or managing natural resources based on top-down authority (governability) to more horizontal and interdependent approaches (governance)?. Thanks to this approach, the analysis of structures is based on power relations between governance actors and, more specifically, on the political culture on which they base their interaction (Paz, 2012, p. 71).

The strategic actors in an environmental governance process are those who, due to their particular conditions (especially their belonging to a privileged social or institutional position), allow the long-term development of a process to last or not, mainly due to their capacities in the elaboration and decision making. However, it is necessary to recognize that none of the social actors involved in conflicts (primary, secondary and tertiary) shows uniformity and that there are variations within the actors themselves (Arce, 2021).

This is why it is agreed with Kooiman (2004: 176) when he indicates that "...a theory of government in which only structures and processes are considered, without taking into account the actors that are part of the government, would be in contradiction with our attempt to design a democratic theory of socio-political governance." In this sense, a key point in understanding scenarios where socio-environmental conflicts are present is the analysis of the relationships of the actors involved: their interests, motivations, action strategies and conflicts regarding the use of natural resources.

Bodin (2020) suggests that the specific patterns and compositions of social networks can be indicators of the social processes that drive individual and collective behaviors. The analysis of social networks in an ecological context can provide information on how the actors composing the social network relate to each other, what networks, structures or organizational forms can be evidenced, how they participate in socio-environmental conflicts and, where appropriate, how they cooperate in environmental governance processes. This can be expressed in Figure 1, which introduces the socio-ecological building blocks that illustrate the induced relationships:

Figure 1. Social-ecological building blocks of induced relationships



Source: Bodin (2020)

In panel a, both actors share an ecological component; therefore, the induced relationship could derive from a conflict of interest (or a mutual interest in addressing a common task). Panel b is similar to a, but here the actors have exclusive access to separate but interdependent ecological components. in this sense, if they want to succeed, for example, in managing biodiversity at the landscape level, both must take into account ecological interdependencies and thus could benefit from cooperation (Bodin, 2020). In this research, the emphasis will be on the highlighted section in yellow, which pertains to social relationships, while also

considering their connections with ecological components, without exclusive focus on the latter.

According to Bodin (2020), "power" should not only refer to the ability of actors to promote their interests based on their access to natural resources, but also to the role played by political and institutional structures, so it is necessary to establish a widely accepted framework to institutionalize the interaction between actors, negotiate competing interests and mitigate conflicts, in order to determine how decision-making and the exercise of power will be carried out.

2.2.3 PEACEBUILDING MECHANISMS: NATURAL RESOURCES AS INTEGRATING AXES

Peace is a very controversial concept that raises many different conceptions, in its conceptualization, the absence of violence is the lowest common denominator, the broadest definitions of **peace** articulate a conception of peace as "a situation in which the probability of war is so small that it does not really enter into the calculations of any of the people involved" (Boulding, 1978). This definition refers to more or less robust variations of a negative peace, i.e., the absence of physical violence. In contrast, other researchers conceive of environmental cooperation as an agent of positive peace, which includes the absence of structural violence (Galtung, 1969) and broader forms of justice and sustainability (Kyrou, 2007).

The essence of this definition is also found in the work of Lederach (2005), who argues that peace is an "adaptive process: a structure of human relationships characterized by a high degree of justice and a low level of violence; an organizational or governance infrastructure that responds to human conflict by nonviolent means as a first and last resort; a systems view that responds to the permanence and interdependence of relationships and change".

In this sense, **peacebuilding** is understood as a comprehensive strategy that encompasses, produces and sustains a whole series of processes, approaches and stages necessary to transform conflicts into more peaceful and sustainable relationships (Ide, 2021). This can be executed through training as a strategic tool for transformation, for peacebuilding design and intervention that generates reactions in protracted conflicts. It is also a process of strategic capacity and relationship building, intentional, indispensable and sensitive to those who participate, which carries with it the concept of empowerment as awareness, preparation to face conflict, articulating vision and goals, practical reflection and evaluation (Lederach, 2003).

Unlike other approaches used to address conflicts -such as the resolution approach that sees conflict as something negative to be overcome or, at least, reduced-, peacebuilding aims rather to understand and impact on its root causes, turning conflict into a catalyst for social change through a double dimension: on the one hand, it stresses and corrupts social relations, but, on the other, it has the potential to overcome, change and transform those conflictive relations towards a more harmonious and balanced constructive channel among social actors (Lederach, 2005).

In the context of socio-environmental conflicts, the framework of **"Environmental peacebuilding"** emerges for which, (Ide, 2021) describes four mechanisms by which the management of environmental problems can contribute to (the various dimensions of) peace (Dresse et al., 2019): avoiding conflicts related to natural resources, building understanding and trust, fostering interdependence, and establishing institutions.

Environmental peacebuilding encompasses the multiple approaches and pathways by which the management of environmental problems is integrated and can support conflict prevention, mitigation, resolution and recovery" (Ide et al., 2021a, p. 2). In this way, environmental peacebuilding provides a nuanced and constructive counterbalance to unidirectional narratives about the environment-conflict relationship; moreover, it includes a critical perspective on environment, power, and inequality, which draws on approaches from political ecology (Le Billon and Duffy, 2018).

Most environmental peacebuilding initiatives have one or more of the following objectives: prevention of resource-related conflicts; facilitation of cooperation between conflicting parties; and conditions for sustainable development. There, the aim is to bring together two or more previously warring parties to work together over a natural resource in which each party has an interest. Easier said than done.

The growing field of environmental peacemaking research serves some important functions. It provides an alternative to the predominant focus of environmental and climate security research that focuses on conflict outcomes (Swain and Öjendal, 2018). It assesses the possibilities of simultaneously addressing two of the major challenges of our time: environmental change and armed conflict, it subjects to scrutiny attempts to label the exploitation of natural resources or the persistence of (structural) violence as environmental protection or environmental peacebuilding (Johnson, 2019).

The starting point of the peacebuilding approach is that conflict has its origin in realities perceived as unjust and violent. It invites us to reflect on the opportunities that controversies, clashes of interests and visions open up for us to produce social change and sustainable peace processes. Conflict transformation begins, therefore, by understanding the different types of violence present in order to reduce them, distinguishing between the escalation factors that give rise to crisis situations and the deeper and more deeply rooted causes in Society (Rodriguez, 2019).

Different critical strands of scholars have expressed their concerns about the possible negative effects of environmental peacebuilding and the possibility of it serving as a smokescreen for other interests (Duffy, 2002). One of the main criticisms considered for the development of this research is that peacebuilding may provide a focus primarily on environmental problems and may relegate to the background the political issues underlying (armed) conflicts as in the case of Colombia.

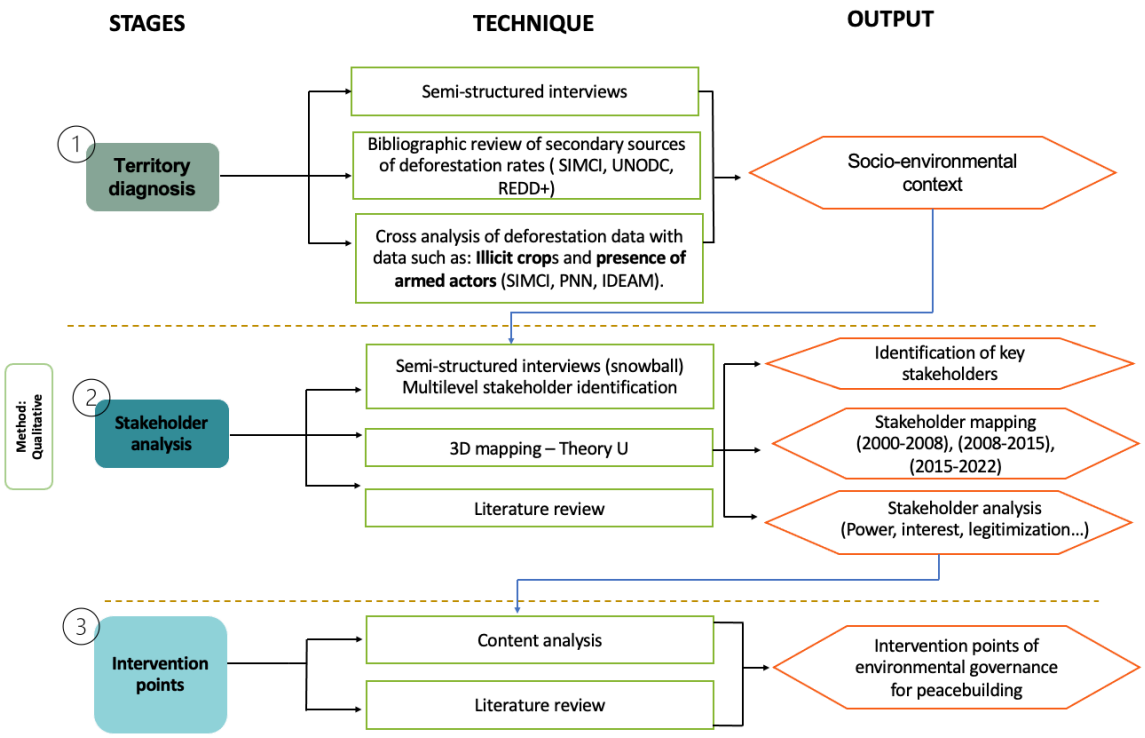
CHAPTER 3: METHODOLOGICAL FRAMEWORK

In order to understand the potential of environmental governance in peacebuilding in Catatumbo Colombia, and to answer the questions posed in this research, a methodological framework was proposed that combines different theoretical approaches, in which it is considered that the transformation of socio-environmental contexts will be due to the understanding of the social dynamics that subsequently drive new collective actions. Understanding this premise, the methodologies were chosen considering each of the research questions previously posed.

In a volatile, complex and changing context such as the armed conflict in Colombia, each of the territorial realities has its own nuances and characteristics. Understanding the relationships of interest and power of the actors and their relationship with natural resources is fundamental to identify possible points of intervention that could transform or reverse patterns of use and relationship with forest resources and with the production of new legal economies that could represent, in a general but not simplistic sense, a peaceful coexistence mediated by the construction of new socio-environmental dynamics.

In this sense, the classification of this theoretical framework is qualitative, according to Creswell's (2008), this approach consists of the use of research methods and techniques such as: documentary review, semi-structured interviews, and implementation of 3D mapping - Theory U. Each of these research methods was chosen in order to shed new light on the current situation in Catatumbo Colombia, although it is true that conducting semi-structured interviews does not in itself answer the research questions, but it does provide valuable information on the perceptions, experiences and opinions of the communities and key actors involved in these processes, and it is precisely this information that is a valuable input for this research. The proposed methodological framework consists of three research phases, as detailed below:

Figure 2. Methodological design



Source: Own elaboration, 2023

3.1 PHASE 1 SOCIO-ENVIRONMENTAL CONTEXT OF THE TERRITORY

In the framework of this research, it is fundamental to start from the understanding of the social and environmental context of the problem of deforestation for illicit coca crops in Catatumbo. The action-research effort was aimed at understanding the historical and social situation of peasant groups in the territory as a first step to respond to new realities and emerging futures.

For this purpose, a multi-temporal qualitative analysis of the social dynamics of armed conflict, deforestation and planting of illicit coca crops was established. In this sense, a literature review will be conducted on issues related to: socio-environmental conflicts triggered by the internal armed conflict, patterns in the production of illicit coca crops and environmental implications related to deforestation rates in Catatumbo, Colombia.

To carry out this objective, various methods will be used, such as documentary and bibliographic analysis, participant observation and semi-structured interviews. The combination of these methods will allow to obtain a holistic and broad understanding of the socio-environmental dynamics in the territory. In addition, a historical and comparative approach will be used to analyze dynamics and conflicts over time and in different contexts. The analysis of the data obtained will be carried out using content analysis, which will allow the identification of patterns and relationships between key stakeholders and the social and environmental dynamics in the territory. As described below:

Table 1. Methodological design

Research stage:	Content	Output
Definition	Context of socio-environmental conflicts, deforestation and illicit crop cultivation rates in Catatumbo, Colombia	Socioenvironmental context of the territory
Data collection	• Semi-structured in-depth interviews with stakeholders in Catatumbo and Bogota Colombia. • Participant observation in: Public debates on findings and recommendations of the final report of the Truth Commission in Colombia. • Reports provided by organizations such as the Illicit Crop Monitoring System (SIMCI), National Natural Parks (PNN), District Institute of Environmental and Meteorological Studies (IDEAM), United Nations Office on Drugs and Crime (UNODC), Institute for Development and Peace Studies (INDEPAZ) among others • Scientific research provided by databases such as Scopus, Science Direct, Springer Link and Research Gate, and Google Scholar	• Interview transcripts • Photos • Socio-environmental context of the territory of analysis
Data analysis	Content analysis of the information collected.	

Source: Own elaboration, 2023

3.2 PHASE 2 ANALYSIS OF THE RELATIONSHIP BETWEEN ACTORS IN SOCIO-ENVIRONMENTAL CONFLICTS: STAKEHOLDER ANALYSIS APPROACH

This research recognizes the fundamental value of the actors as agents of change; they are the ones who continuously construct and transform their realities based on internal processes, interests, links and relationships. Considering the above, the second methodological stage aims to identify and analyze the key actors that participate and have historically participated in the problem of deforestation for illicit coca crops, taking three time periods 2000-2008, 2008-2015 and 2015-2022.

This methodological stage is linked to the theoretical current around the analysis of actors, whose purpose is to understand the intrinsic and sometimes indissoluble relationship that social

actors have with each other and with the territory (Brugha, 2000). In relation to the actors, it is useful and necessary to systematize the information collected on key actors through the elaboration of an actor matrix and subsequently, an actor mapping to understand the socio-environmental dynamics that have triggered deforestation for illicit coca crops and the armed conflict.

This approach has been previously used in some studies related to natural resource management, with the purpose of identifying the relevant social actors of a given problem or territory, the role played by each of them and the existing power and interest relationships in the social structure (Lienert, Schnetzer, & Ingold, 2013).

Therefore, the mapping of actors helps to create a picture of the individuals and groups engaged in a series of long-lasting social interactions with the goal of resolving a shared issue (in this case, the governance of forest resources in relation to the growth of illicit coca crops in Catatumbo). This mapping makes it possible to identify significant players as well as their power dynamics, priorities, resources, and decision- and action-making processes. Likewise, the process of mapping players (identifying, contrasting, and settling on stances) helps to discover both possible allies and current obstacles to change, which in turn can help identify opportunities and strategies for collaboration with key actors that allow environmental governance to search for sustainable and effective solutions according to the objectives they pursue, the roles they play and the scale or level at which they operate (Scharmer, 2018). The two sources of data collection 1) semi-structured interviews and 2) 3D mapping are described below:

3.2.1 DATA COLLECTION

- **SEMI-STRUCTURED INTERVIEWS**

Data collection was carried out in two important cities in Colombia: Bogotá D.C. and Ocaña, Norte de Santander. Twenty-three semi-structured interviews were carried out; in Bogotá, interviews were conducted with two members of the Colombian Ministry of National Defense; in Norte de Santander, in the village of Aguas Claras, visits were made to the villages of Los Trigos, El Rodeo and El Limón to survey the territory. In Ocaña, interviews were conducted with current coca farmers, farmers who are in the process of voluntary substitution of illicit coca crops, oil palm farmers who were considered relevant actors due to their presence in the territory for more than 30 years, social leaders, and representatives of peasant organizations.

An interview was also conducted with the Director of the Socio-environmental Consultancy of Northeastern Colombia in association with the Francisco de Paula Santander University, who leads associativity processes in Catatumbo, members of the municipal mayor's office of Ocaña where public officials explained the peace policy at the local level in the municipality, and a member of the UN verification mission that works in the area in the development of peacebuilding processes in Catatumbo through technical and financial support to economic

and social development projects for vulnerable communities and former FARC-EP combatants in the region.

Most interviews were taken in the urban center of Ocaña, Norte de Santander, considering the security situation in rural areas the names of farmers involved in the process of illicit coca cultivation and social leaders were kept anonymous to protect their security and privacy. The data were collected following the ethical principles of research on informed consent of the participants and confidentiality of the information collected during the interviews. It should be noted that the research process was carried out with the collaboration of the local authority of the municipality of Ocaña and the community.

To identify the actors involved in the problem of deforestation for illicit coca crops in the PNN Catatumbo Barí, the snowball technique was used (also called referral sampling or chain sampling) which consists of each person interviewed indicating others who may be relevant, when this sampling method is applied, the members of the sample group are mentioned and recruited through a chain referral until the most relevant actors in the problem are identified (Brenner, 2012).

Based on the information collected, a mapping of: A) Relevant stakeholders and power relations, B) Stakeholder decision making in forest management and C) Ways of resolving socio-environmental conflicts.

Table 2. Number of interviews conducted

OCAÑA, NORTE DE SANTANDER	BOGOTÁ D.C
• 5 interviews with coca farmers • 7 interviews farmers in the process of voluntary substitution of illicit coca cultivation • 2 interviews with oil palm farmers • 2 interviews with social leaders • 1 interview with representative of the peasant organisation ASCAMCAT. • 1 interview with a member of the 'Consultorio Socioambiental del Nororiente Colombiano'. • 2 interviews with members of the municipal mayor's office of Ocaña. • 1 interview with a member of the UN verification mission.	2 interviews with members of the Colombian Ministry of National Defense
	TOTAL 23 INTERVIEWS

Source: Own elaboration, 2023

- **3D MAPPING – THEORY U**

To understand and comprehend how from personal knowledge one can also understand contexts and the outside world, the 3D mapping tool proposed by Scharmer (2018), used to bring together multiple dimensions and perspectives in order to see and understand the elements of the system together (co-sensing), was used as a second method of information gathering. In the context of Theory U, it is possible to use modeling at any stage to create visual presentations that share projects and involve potential stakeholders. During this modeling process, participatory 3D Map(s) of the current reality and the desired future are created.

The 3D mapping was conducted through a workshop involving 17 small-scale farmers, including 5 coca cultivators who are engaged in the process of substituting illicit coca crops.The technique entailed mapping the current reality of the system using objects, where participants employed items to symbolically represent the relevant actors, processes, and connections. Subsequently, a model analysis was performed, and the participants were prompted to examine it from four distinct perspectives:

- East Perspective = Heart/Lover (Emotions and Relationships): Reflecting on the relationships (connections or separations) among the components of the system.
- South Perspective = Will/Warrior (Truth and Action): Analyzing key agreements that determine the system's functioning, as well as confronting the crucial conflicts and harsh truths required to progress. Additionally, investigating the various sources of power within the system and exploring how collective will can influence power dynamics.
- West Perspective = Mind/Magician (Perspective and Strategy Reflection): Delving into questions related to reframing challenges or adopting alternative perspectives, devising actions to transform the system, identifying hidden leverage points, and pinpointing critical barriers that, if removed, could facilitate the system's evolution.
- North Perspective = Holding the Whole (Purpose and Regeneration): Contemplating the aspects that are ending in the current situation, considering emerging potentials, and envisioning the highest future potential demanded by the circumstances.

Subsequently, the second part of the 3D mapping involved participants revising the model to represent an ideal future state.

This exercise proved essential for gaining novel insights into the present situation in Catatumbo and enriching the understanding from the perspective of local stakeholders actively involved in the region. By fostering a space for reflection and critical analysis, it facilitated a more comprehensive and profound comprehension of reality, drawing upon the knowledge and experiences of those immersed in the studied issue.

In this sense, the intention of this exercise was to generate a deeper understanding of the current reality, integrating multiple perspectives, dimensions, processes, actors and interconnections with a special participatory approach.

3.2.2 DATA ANALYSIS

To analyze the qualitative information collected in the semi-structured interviews and 3D-mapping, the Atlas ti software was used to identify patterns and themes in the content of the data. Open coding was employed, which resulted from the close examination of the data to identify and conceptualize the meanings contained in the text. The data were segmented, examined, and compared in terms of their similarities and differences. These comparisons were recorded in annotations (memos) accompanying each code (Charmaz, 2007).

This relationship was determined by the properties and dimensions of the subcategories and categories that were related, taking into account that "a category represents a phenomenon, that is, a problem, an issue, an event, or a happening that is defined as significant for the interviewees" (Strauss and Corbin, 2002, p. 137).

Accordingly, codes were created for three conceptual categories, as follows:

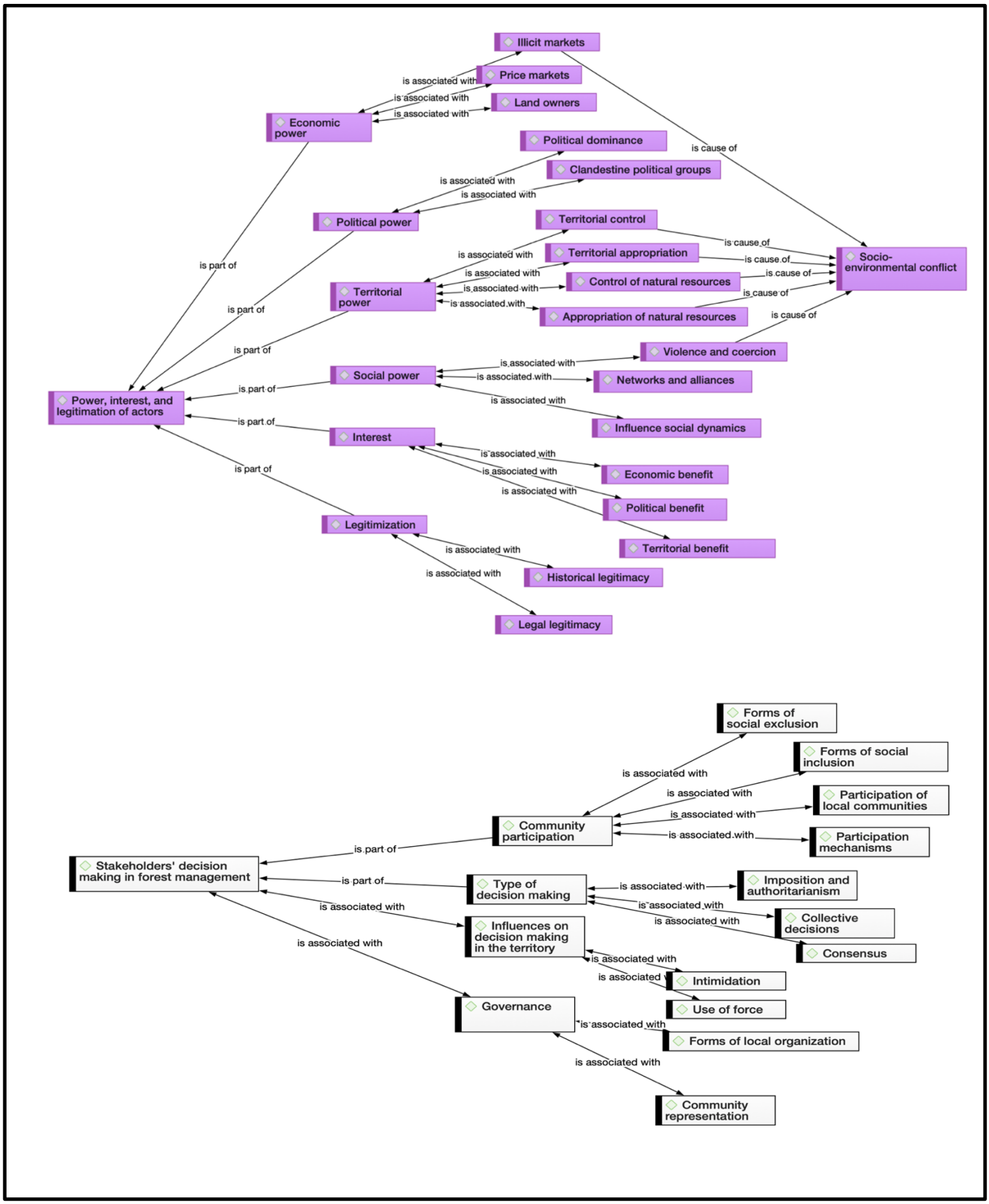
Table 3. Data analysis in ATLAs.ti

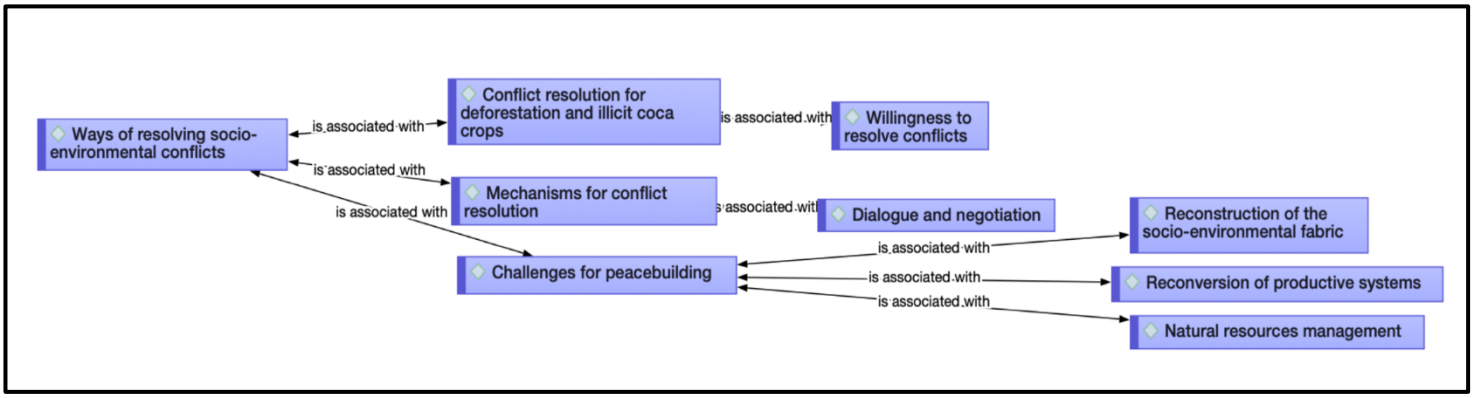
Category	Definition	Metrics	Codes
Power, interest, and legitimation of actors	**Power:** The actors and structures that hold the power in relation to the phenomenon **Interest:** Actors that may benefit or be affected by the current situation **Legitimization:** the process by which actors engaged in illicit activities seek to justify or legitimize their actions through various strategies.	1. To what extent certain actors influence the dynamics and environmental changes related to deforestation and illicit coca cultivation according to their economic predominance. 2. The extent to which licit and illicit political groups are organized to dominate territory and natural resources. 3. To what extent do certain actors influence the appropriation, use, dominion, and exploitation of natural forest resources? 4. To what extent do certain actors influence the social dynamics, organization, and internal relations in the communities around the area? 5.To what extent certain actors have an interest in, benefit from or are affected by the current situation. 6. To what extent the actors have recognized and legitimate rights and responsibilities in relation to the activities they carry out. 7. To what extent certain actors have participated in or promoted the socio-environmental conflict caused by deforestation and illicit coca cultivation	1. Economic power: *actors that control* - illicit markets, price markets, *or who* – landowners 2. Political power: *actors with* - political dominance, clandestine political groups. 3. Territorial power: *actors who exercise* - Territorial control, territorial appropriation, control of natural resources, appropriation of natural resources. 4. Social power: *actors that influence* - Networks and alliances, social dynamics, *or exert* - violence and coercion in deforestation and the planting of illicit coca crops. 5. Interest: *actors with* - economic benefit, political benefit, territorial benefit. 6. Legitimization: *actor with* historical legitimacy, legal legitimacy. 7. Conflict: *caused by* - control of natural resources, deforestation, territorial control, control of illicit markets, conflicting interests, political ideologies.

Category	Definition	Metrics	Codes
Stakeholders' decision making in forest management	Actors who are more predominant in decision making regarding: who makes decisions on occupied territories, productive activities of coca cultivation, territories to be deforested, management of forest natural resources, and the management of natural resources.	1. To what extent the different actors participate in decision-making processes regarding the territory and activities related to illicit coca crops and deforestation. 2. How stakeholders make decisions regarding territory, deforestation, and illicit coca crops. 3. The extent to which certain actors influence the decision making of other actors in relation to activities based on the use of force and intimidation. 4. The extent to which social actors organize themselves to debate, discuss, propose, defend, protect, and locally manage their own territory.	1. Community participation: participation of local communities, participation mechanisms, forms of social inclusion, forms of social exclusion. 2. Type of decision making: collective decisions, imposition and authoritarianism, consensus - around territories deforested by illicit coca crops. 3. Influences on decision making in the territory: actors exercising - intimidation, use of force. 4. Governance: Actors that develop - Forms of local organization, community representation
Ways of resolving socio-environmental conflicts	Refers to the ways in which local stakeholders resolve conflicts related to deforestation for illicit coca crops, which may be due to the management of natural resources or the triggering of new conflicts due to the development of these activities.	1. To what extent stakeholders have the willingness to resolve present or historical socio-environmental conflicts. 2. To what extent stakeholders use mechanisms to resolve conflicts. 3. What are the main challenges identified by the actors involved to achieve peaceful coexistence mediated by the resignification of new socio-environmental dynamics.	1. Conflict resolution for deforestation and illicit coca crops: Willingness to resolve conflicts. 2. Mechanisms for conflict resolution: through- dialogue and negotiation 3. Challenges for peacebuilding: governance in - reconstruction of the socio-environmental fabric, reconversion of productive systems, natural resources management.

Source: Own elaboration, 2023

Figure 3. ATLAS.ti code network





Source: Own elaboration, 2023

3.3 PHASE 3 INTERVENTION POINTS FROM ENVIRONMENTAL GOVERNANCE FOR PEACEBUILDING IN TERRITORIES DEFORESTED BY ILLICIT COCA CROPS:

In this third methodological phase, it was proposed to identify the points of intervention in environmental governance that could contribute to strengthening the management of natural forest resources and peacebuilding in territories deforested by illicit coca crops. Three integrating approaches were used: reconstruction of the social fabric, environmental governance in the reconversion of productive systems, and environmental governance in the management of natural resources.

The post-conflict requires a reconstruction of Colombian society, so that the implementation of the agreements signed in November 2016 can continue its slow but important materialization. In this sense, the first approach was based on the reconstruction of the social fabric in the territories affected by illicit coca crops whose purpose was to examine points of intervention that would strengthen the political, social and environmental capacities of rural communities, through multidimensional and intersectoral strategies to face the new challenges proposed by the post-agreement context.

The second approach sought environmental governance in the reconversion of productive systems. This implied implementing policies and strategies that would allow the transition to sustainable production systems that would generate employment and income for local communities. In this way, the aim was to reduce pressure on natural resources and promote their sustainable use, which would contribute to biodiversity conservation and the sustainable management of natural forest resources.

Finally, the third approach focused on environmental governance in natural resource management. It was proposed to strengthen the capacities of local environmental authorities in territorial planning and management, promote social participation in environmental management and encourage the sustainable use of forest natural resources. This would improve environmental

management and reduce pressure on natural resources, thus contributing to biodiversity conservation and sustainable management of forest natural resources.

As a technique to carry out this methodological proposal, a content analysis of the information gathered in the previous phases was used to identify the main problems and opportunities in the environmental management of the territories deforested by illicit coca crops. In addition, interviews and participatory workshops were conducted with local actors to identify critical points and propose innovative solutions for environmental governance in peacebuilding.

CHAPTER 4: RESULTS AND ANALYSIS

4.1 SOCIO-ENVIRONMENTAL CONTEXT OF THE TERRITORY

Rather than setting out in strict chronological order the arrival, positioning and actions of the actors in the coca crop deforestation conflict, this chapter is structured along the lines of the narratives constructed by the inhabitants of Catatumbo according to the origin of the social conflict (directly related to the armed conflict) and the dynamics surrounding the management of natural resources that resulted in the increasing patterns of deforestation.

To understand the profound effects on social and environmental justice in the context of this research, it is fundamental to understand the relationship between violent conflict and environmental crisis. Excluded and marginalised communities, their territories and systems of particular ecological importance have generally suffered the worst consequences of the interrelationship between the two phenomena.

In this way, the following chapter will describe the results obtained from bibliographical information but also from the collection of information through semi-structured interviews and the 3D mapping focal workshop carried out with peasants in Ocaña, Norte de Santander.

4.1.1 SOCIO-CULTURAL DIAGNOSIS, ORIGINS OF THE SOCIO-ENVIRONMENTAL CONFLICT

Origins of the armed conflict, social drivers that triggered the ecological rupture

Historically, the Colombian region bordering Venezuela in the northeast of the country has had a precarious state presence and has been the scene of prolonged and bloody armed disputes (Maldonado, 2018). For more than a decade it has been one of the areas with the highest presence of coca crops in Colombia and in the world, and in recent years it has been the recipient of a good part of Venezuelan migration (Aponte, 2022).

Both the FARC, EPL and ELN guerrillas, as well as the illegal paramilitary groups that have historically been present in the region, have sought to control these routes due to their strategic position, key for transnational trade and the wealth of the land, but also key for what is planted there (Aponte, 2022). According to the RUV (Registro Único de Víctimas) through unimaginable forms of violence, these actors have left in their wake more than 130,600 victims (Rutas del conflicto, 2021).

During the various "historical memory recovery" exercises carried out by the Historical Memory Center (Centro de Memoria Histórica in Spanish) in 2018, it was revealed that people considered it crucial to make reference to the 1970s and 1980s when talking about the history of the armed conflict in their communities, which undoubtedly gave way later to the acceleration of ecosystem degradation and deforestation processes. These years marked the beginning of the arrival, growth, and establishment of three guerrilla groups in the region: the ELN, the EPL and the FARC (CNMH, 2018).

In the region, people have identified two fundamental elements to understand the socio-environmental conflict in Catatumbo: on the one hand, the presence and activity of guerrilla groups (from the 1980s until 1999), and on the other, the dominance exercised by paramilitary groups starting with the arrival of the AUC's Catatumbo Bloc in Tibú in 1999 (Human Rights Watch, 2019). These factors have been key to understanding the dynamics of social reconfiguration in the area. Talking about the causes that drove the transformations in the relationships between local communities and forests necessarily implies addressing the history of these armed groups. For this reason, people often group the ELN, EPL and FARC into a set called "the guerrillas," often contrasted with "the paramilitaries" (CNMH, 2018).

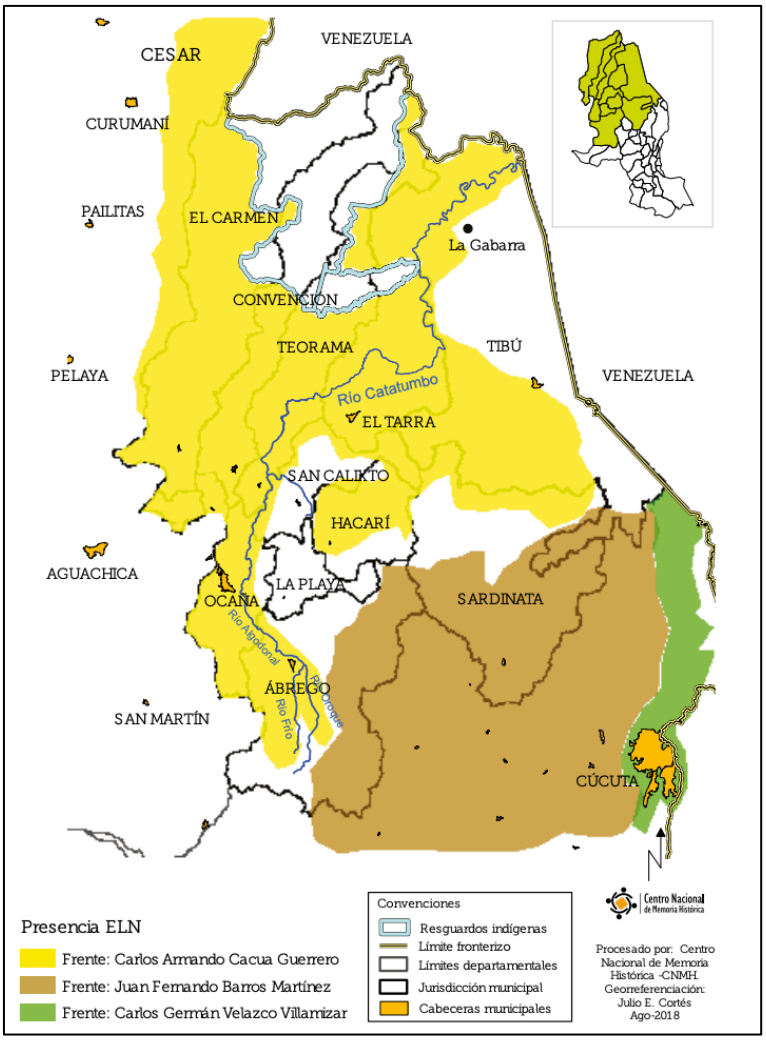
Between the late 1970s and mid-1980s, the ELN, EPL and FARC guerrillas focused on their political work rather than their military and economic activity. To understand the existence of guerrillas in the Catatumbo area, it is crucial to know the main reasons that the inhabitants of the area argue as justification (CNMH, 2018). The Historical Memory Center (Centro de memoria histórica) expresses that for the emerging armed groups, working for the people and demanding from the State a fair distribution of the region's resources (economic, natural and territorial) was one of their main objectives, this generated feelings of empathy and closeness; in one of the interviews conducted in the field, a small farmer from Aguas Claras stated:

> *"When I saw the guerrillas arrive I was very small, I was 8 years old, but I do not forget, I believed in what I heard the elders say, they said that the presence of the guerrillas was not going to be bad because at least they were going to distribute some resources of the region, at least that is what the guerrillas said, that they came to defend the revolution, to defend justice because they were an army by and for the people. But with time we realized that this was not so true and progressively everything got worse, since they arrived they threatened and displaced many of us, including my family, we all lost hope" (Catatumbo farmer, personal interview, March 11, 2023).*

In the collective memory, the guerrilla takeover of Convención in the early morning of January 31, 1979 is considered the milestone of the ELN's entry and settlement in Catatumbo (CNMH, 2018). During the 1980s, the ELN expanded its dominance to all municipalities in Catatumbo, starting in the highest region, covering from El Carmen to Tibú (especially the region of Campo Dos and La Gabarra) and Sardinata (corregimiento San Martín de Loba) (CNMH, 2018). By 1991, the Juan Fernando Porras Martínez Front was created, with presence in the

municipalities of Cúcuta, Arboledas, Durania, El Zulia, Sardinata, Ábrego and Bucarasica, and in 1995 the Carlos Germán Velasco Villamizar Front was present in the metropolitan area of the city of Cúcuta, which includes Villa del Rosario, Los Patios and Puerto Santander.

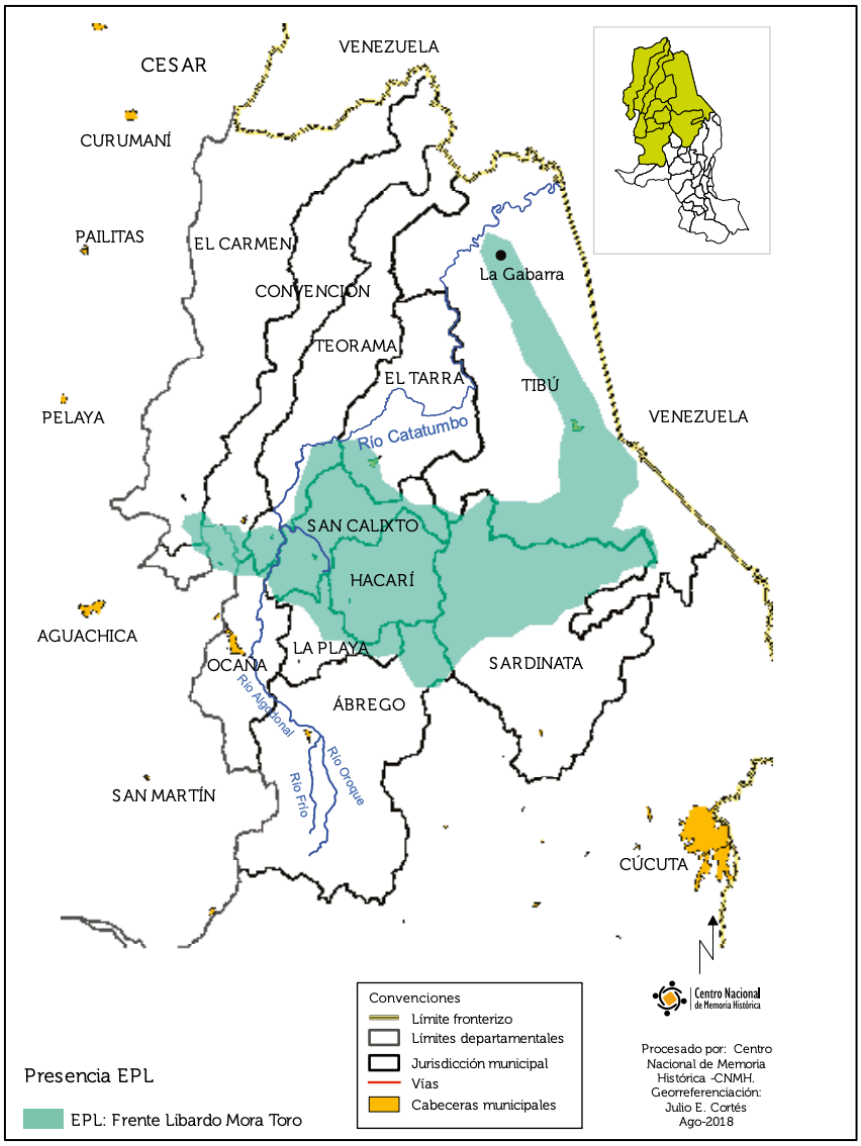
Map 2. Armed presence of ELN in the late 1990s



Source: Centro Nacional de Memoria Histórica (2018).

Years later, in the villages of El Tarra, which at the time belonged to the municipality of San Calixto, the Libardo Mora Toro Front of the Popular Liberation Army (EPL) was present between 1973 and 1974. The EPL signed a peace agreement with the Government of Cesar Gaviria on February 15, 1991, and its effective demobilization took place on March 1, 1991 (Defensoría del Pueblo., 2017). In Campo Giles, located south of the municipality of Tibú, the first disarmament and demobilization process of an armed group in the region took place, which included fronts from Norte de Santander, Cesar, Santander, Boyacá and Cundinamarca (CNMH, 2018). By the 1990s, the Popular Liberation Army (EPL) was deployed in La gabarra, Tibú, San Calixto and Hacarí.

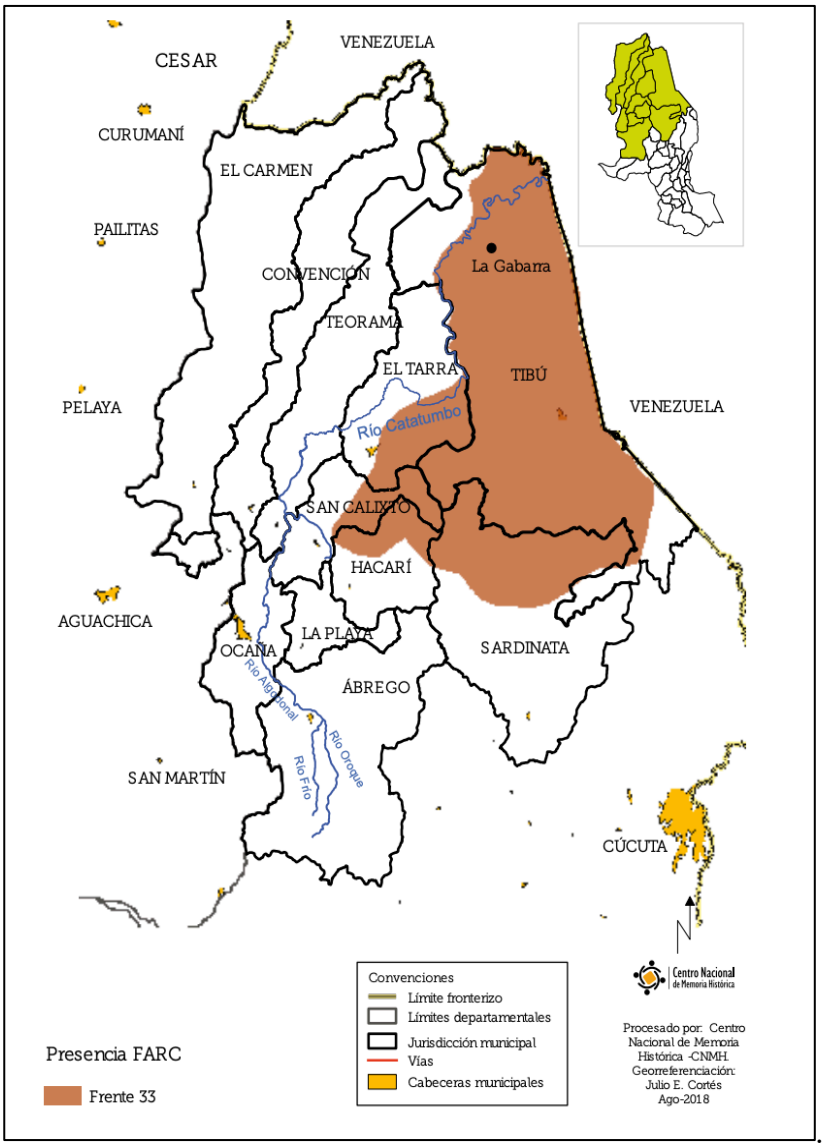
Map 3. Armed presence of EPL in the late 1990s



Source: Centro Nacional de Memoria Histórica (2018).

In the Catatumbo area, the FARC was established years after the ELN and the EPL. Their expansion plan focused on areas where colonization processes took place during the second half of the 20th century, especially in La Gabarra (CNMH, 2018). Some inhabitants of the Tibú and La Gabarra neighborhood of Catatumbo recall the arrival of the first FARC guerrillas and militiamen in the mid-1980s, when they became aware of the existence of armed groups. In the mid-1990s, their action intensified and they managed to establish themselves in the rural area of La Gabarra thanks to the strict regulation of coca leaf cultivation (CNMH, 2016), as will be discussed below.

Map 4. Armed presence of FARC in the late 1990s



Source: Centro Nacional de Memoria Histórica (2018).

The State's inability to meet the demands and provide basic goods and services in a territory rich in natural resources was the reason for the presence and expansion of the guerrillas in the Catatumbo region (Defensoría del pueblo, 2017). Among the inhabitants of Catatumbo, during the early years, guerrilla denunciations of this type of State interaction with local communities, especially in rural areas, generated great expectation. For many, the existence of the guerrilla allowed them to denounce their marginalized conditions and gain recognition (CNMH, 2018). In a testimony collected during the fieldwork, a small farmer from Catatumbo acknowledged the power of the armed groups to appropriate economic resources and ecosystems, including forests:

> "*The guerrillas came to Hacarí when I was a pelao (child), it was 1983, I remember clearly because it was a very difficult year, at that time the town was so forgotten that when they (the guerrillas) arrived the territory became theirs, the lands, the farms, the forests, the cows, everything, even the chickens we had, everything became theirs, they did what they wanted and nobody ever said anything to them, the government did not care about us and we had no power to confront them, we were defenseless. There were those who from the age of 15 preferred to join the guerrillas, it was better to be on their side than against them" (Catatumbo farmer, personal interview, March 9, 2023).*

The information gathered from field interviews for this research and documents published by various NGOs, including Human Right Watch (2019) indicate that illegal actors took the place of the state, initially taking advantage of state neglect to impose political ideologies. In the mid-1990's with social degradation caused by the absence of the State, drug trafficking became more prevalent and political ideologies were diluted in exchange for "easy money" (money obtained as a result of cocaine trafficking). As a consequence, the effects on ecosystems, land use change and increased deforestation were beginning to be noticeable in the territory (Aponte, 2022).

When considering the connection between the growing presence of the Army and the arrival and expansion of the guerrillas in Catatumbo, the lack of effective regulation of the use of natural and forest resources in the region becomes relevant. According to the CNMH, (2018) the inhabitants of rural areas far from urban centers knew that the Army was only present during electoral periods and this lack of regulation allowed the guerrillas to take advantage of the situation, imposing their influence and exercising their power in the exploitation of the region's resources without restrictions.

This situation led to environmental degradation and the loss of political ideologies, favoring the dominance of drug trafficking and other individual or group interests" (Aponte, 2012). It is evident that the lack of a solid regulatory framework and the State's inability to guarantee the right to life contributed to the worsening of environmental problems. In the context of the war, the sustainable management of natural resources could not even be conceived and was relegated to the background (CNMH, 2018).

Natural resources as a cause of dispute

The environmental regulation practices implemented by the armed groups in the territories reflected the needs and interests of the armed groups over resources at certain moments of the war -as well as their ideological differences- (Aponte, 2012).

In Catatumbo, as in other parts of the country, there were two types of causal relationships between socio-environmental conflict and natural resources. First, disputes arose over the possession of land and natural resources (Garavito, 2017). As there was no equitable

distribution of benefits, and this was compounded by factors such as poverty and lack of opportunities, an incentive was generated for some armed groups of the law to try to occupy and dominate territories where valuable natural resources abound (Ross, 2002, pp. 15-17).

These armed groups engaged in illegal activities such as the illegal exploitation of minerals, indiscriminate logging and the production and distribution of illicit drugs (International Crisis Group, 2021). Taking advantage of the absence of the state and the weakness of local institutions. By financing the activities of armed groups and strengthening their power, these actions not only contributed to perpetuating the socio-environmental conflict in the territory, but also had a negative effect on the environment and biodiversity of the region (Garavito, 2017).

It then becomes evident that among its multiple political, social and economic causes of the socio-environmental conflict in Catatumbo there is a prominent one related to a natural resource: land (Garavito, 2017). The struggle for access to and use of this natural resource, and the historical inequality in its distribution "have been drivers of the origin and persistence of the armed conflict" (Grupo de Memoria Histórica, 2013, p. 21). Massive land dispossession is one of the main manifestations of the socio-environmental conflict in Colombia (Comisión de Seguimiento, 2009; Sánchez, 2017). According to Andrade (2004, p. 125), "if one takes into account that in the Andean zone the use of natural resources is not the only resource in dispute, from the beginning the conflict has had an environmental dimension." In a personal interview conducted in the field, an oil palm farmer stated:

> *"It was a very tough time. I was young, but I knew something bad was happening. It was evident in my father's eyes. At that time, we only had a farm where we grew bananas. However, due to the ELN (National Liberation Army), we had to abandon Tibú. They took away our land, and we had to go to Bogotá. Imagine a couple of farmers and their children living in the city; we had nothing to do. In order to move forward, we had to return to the countryside. I started working in palm harvesting in Ocaña, and things went so well for me that I managed to acquire my first hectare of land. Over time, I found out that my father's farm now had other owners, and I never wanted to go back there again." (Palm grower, personal interview, March 14, 2023)*

Image 1. Interviews with palm farmers: historical witnesses to land use change

Source: Author, 2023

Note*: Interviews with palm growers revealed that three economic activities predominate in the territory: illicit coca cultivation, oil palm and cattle ranching, as shown in the photographic record; these three activities have been catalogued as drivers of deforestation in Colombia (Alianza Colombia, 2021).

The second cause of conflict found in the study area was the relationship between economies based on the extraction of natural resources; in this phase, the emergence of new armed actors seeking to appropriate the rents from the exploitation of natural resources such as coca was

evident (Garavito, 2017). This period saw the emergence and strengthening of drug trafficking cartels that, in turn, financed paramilitary groups to protect their businesses (Duncan, 2015). These self-defense groups or private armies expanded territorially "mainly in the interests of drug trafficking" and in turn began to territorially appropriate ecosystems and natural resources such as oil, gold and forests (Echandía, 2013, p. 29).

According to Garavito, (2017) more recently coca crops have led to the rearmament of paramilitary factions and the creation of new criminal gangs such as Los Urabeños, Los Rastrojos and the Clan del Golfo, which are mainly engaged in drug trafficking and illegal gold mining (Echandía, 2013). To that extent, the existence of natural resources has led to new forms of conflict and the reactivation of armed actors that in theory had demobilized.

In exposing these relationships, it is not intended to downplay the importance of the armed conflict in Colombia as a conflict over natural resources in which greed prevails over political, economic and social grievances or injustices. Although it is clear that the conflict in Colombia is not exclusively due to the dispute over natural resources, it is important to recognize that these have had a significant impact on its origin and the various transformations it has undergone over the years. Because of this relationship, the armed conflict can be considered associated with natural resources and not only a conflict over natural resources (Garativo, 2017).

4.1.2 COCA AS A TRANSFORMER OF SOCIAL, TERRITORIAL, AND ENVIRONMENTAL DYNAMIC

Illegal Economies, Beginnings of Coca in Catatumbo

As a result of various waves of colonization that arrived in Catatumbo from the mid-1950s, the "river colonization" took place, referring to the first settlers who established themselves in the town and the village of Kilometer 60 (CNMH, 2018). These were followed by families from other municipalities and departments fleeing the ravages of the violence (Comisión de la verdad 2022).

Given that coca was an external phenomenon that spread rapidly and had a significant impact on their territory, the inhabitants of Catatumbo share the memory of the origins of coca in the area. In the rural area of La Gabarra, corregimiento of the municipality of Tibú, the cultivation of the “mata” (one of the most common ways of referring to the coca plant in the region) began and strengthened exponentially (CNMH, 2018).

A second colonization process, occurred between 1967 and 1968, when the Incora (today the National Land Agency) initiates the program of titling vacant lands to settlers, with a result of 5,505 hectares distributed to one hundred families, until 1971 (CNMH, 2018). The settlers who came to inhabit these lands found a territory rich in biodiversity, with copious hydrographic resources and the possibility of starting a promising new life in the midst of abundance (Aponte, 2012).

According to the CNMH (2018) during the late 1990s and until the middle of the following decade, a real coca boom was experienced in La Gabarra, which brought with it a large flow of money that the inhabitants of the region still remember. This phenomenon was characterized by three salient elements: the abundance of capital in circulation, a rapid increase in population, and the popularization of various activities associated with the coca market.

Two contextual factors were mentioned by peasant organizations and individuals that help to understand the increase in coca cultivation in Catatumbo. First, the negative effects that market liberalization policies and economic openness had on the already fragile local agricultural economies were highlighted (UNODC, 2014). Although peasant economies were articulated in various ways to these policies, and were not eliminated by the dynamics of structural adjustment, it is argued that in the region, the impacts were definitive due to the lack of basic conditions for the commercialization of agricultural products. Consequently, these conditions paved the way for the increase of coca cultivation in the area (UNODC, 2021).

In the region, illicit coca crops began to expand as the peasant economy entered into crisis due to economic liberalization policies (Aponte, 2022). These policies had a particularly negative impact on small and medium agriculture, which is the basis of food security in the country. Consequently, the expansion of illegal crops was the direct result of this economic crisis and its impact on the region (CNMH, 2018).

The fight against drugs: exacerbation of social conflict and environmental degradation

As a result of the exponential increase of drugs, social decomposition and the violence generated by drug trafficking in the 1990s, all state efforts turned to the so-called "fight against drugs. For the first time since the directed colonization, the state turned its attention to Catatumbo.

Beginning in 1994, forced eradication of illicit coca crops in the region intensified. Joint operations between the Army and the National Police, such as those known as "Comején" and "Resplandor", were deployed with the objective of eliminating hectares of coca. According to UNODC (2021), at that time, it was estimated that there were approximately 15,038.91 hectares of coca crops in the department.

As a consequence, new events took place that transformed the territory once again. Within the framework of the "cocalero" marches, the communities expressed their willingness to accept the eradication of coca crops, as long as they were provided with concrete opportunities for substitution through licit activities such as the production of cocoa, bananas, rubber or timber (Wilson, 1995). Although initial alternative development programs were implemented, their scope in the analyzed territory was quite limited. Cattle ranching experienced a boost both through the alternative development programs and the fumigations themselves, as communities sowed grass seeds in the fumigated areas, thus creating pastures that were later used for cattle (Henderson, 2012). Within the framework of agreements with the government, it was established

that fumigation would only be carried out on "industrial" crops and not on those of lesser extension, and that infrastructure and social development works would be carried out.

The agreements were breached and, a few months later, fumigation was being carried out without any consideration (CNMH, 2014, p. 246). Coca reduction policies and programs begin to generate notable impacts starting in 2000 when fumigations were inaugurated in Catatumbo. This is the name given to the aerial spraying policy with the herbicide glyphosate, authorized by the Colombian government to eradicate illicit coca crops and inaugurated in the region with the implementation of Plan Colombia (CNMH, 2018).

In May 2000, Operation Motilón was carried out in Catatumbo, which consisted of the first aerial application of glyphosate in the region. This operation covered areas such as El Veinticinco, Vetas Central and La Pradera, located in the municipality of Tibú (CNMH, 2018). According to the Anti-Narcotics Directorate of the National Police (Diran), a total of 9,584 hectares of coca crops were sprayed. Prior to the aerial spraying, interdiction operations were carried out resulting in the destruction of approximately 150 laboratories and the confiscation of chemicals, coca leaves, coca paste and cocaine hydrochloride (Defensoría del Pueblo, 2006).

This aerial fumigation operation, which was later joined by manual eradication by military forces, marked the beginning of a series of interventions that included forced eradication and crop substitution projects, thus forming the anti-drug strategy applied in Catatumbo until 2013 that brought about a notable deterioration in the region's forests and ecosystems. In addition, it represented one of the first moments in which the inhabitants of the region publicly expressed their rejection, with these demonstrations becoming more frequent and with greater participation due to the increasing and damaging consequences experienced over time (CNMH, 2018).

In response to the decision of the National Narcotics Council in 2015, the national government decided to suspend aerial spraying of coca crops with glyphosate in Colombia, but to date cases of forced manual eradication are still evident (CNMH, 2018). This measure was taken in accordance with the concept issued by the World Health Organization (WHO) about the carcinogenic potential of the herbicide and its impact on human health (Revista Semana, 2015).

Image 2. Presumed territories where illicit coca crops were eradicated through a manual system and then burned. Aguas claras, Ocaña

Source: Author, 2023

Aerial spraying programs have demonstrated minimal effectiveness in their objective of reducing the amount of hectares cultivated with coca in the region (CNMH, 2018). In addition, there are the serious negative effects they have on people and their territories. According to UNODC, (2016), through the chronicity index, which evaluates the relationship between state interventions and the persistence of cultivation in the territory, it has been concluded that only 14% of the areas intervened through spraying and forced manual eradication activities in Norte de Santander have achieved an abandonment of crops. These areas are located in the southwest of the department, in zones such as Ocaña, La Esperanza and Cáchira, as well as in Hacarí, in areas peripheral to the Tibú concentration centers. Consequently, the effectiveness rate of state intervention to directly reduce coca cultivation is only 27% (MINJUSTICIA 2016).

Historical and present coca cultivation dynamics in Catatumbo

Coca leaf quickly became a determining factor not only for the dynamics of the conflict in the region, but also for its social and economic development. The geographic, economic and social conditions of Catatumbo (Norte de Santander) have made this region vulnerable to the establishment of illicit coca crops. With a dynamic incentivized by land appropriation processes, the displacement of communities has been driven towards the mountainous areas of the region where there are physiographic conditions that isolate the terrain and favored the presence of illegal armed groups that control the establishment of illegal economies around coca crops, as well as the control and domination of certain natural resources (UNDP, 2014).

The natural environment and geography of Catatumbo has also played a determining role in the maintenance of illicit crop cultivation and deforestation processes (Ortiz, 2003). On the one hand, it is a place of difficult access, covered by jungles or forests that have historically served as a refuge for armed actors, helping them to hide and avoid counterpart attacks. The natural

environment has also provided them with access to the resources necessary for their daily sustenance, such as animals, plants and fruits for food, timber resources for fire and camp construction, and water to meet their needs (Garavito, 2017).

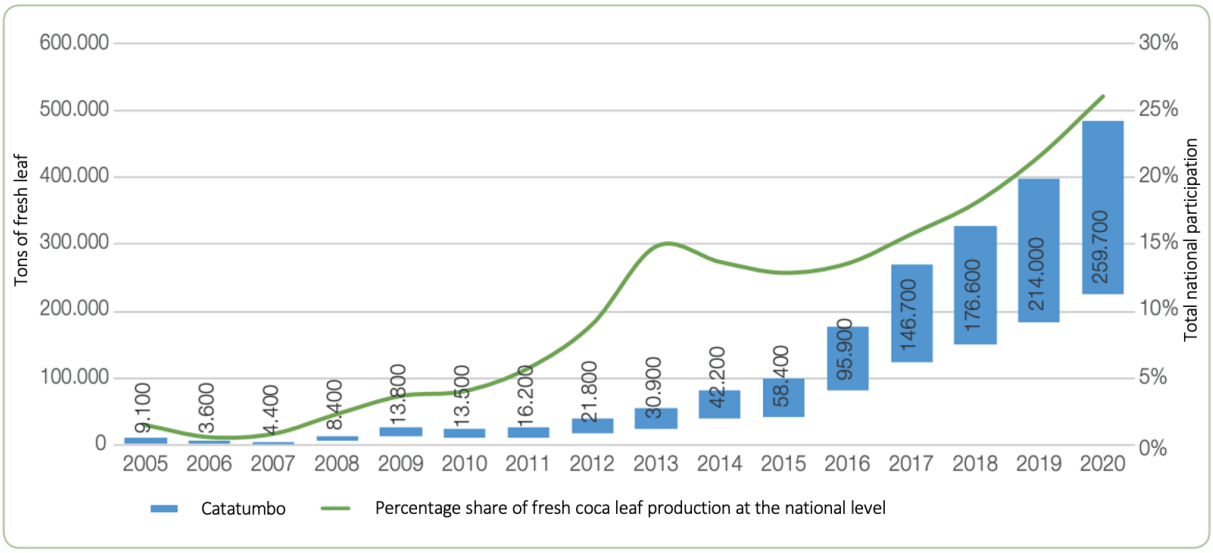
Image 3. Precarious roads with difficult access, Ocaña, corregimiento Norte de Santander

Source: Author, 2023

Between 2006 and 2012, according to the 2012 Coca Cultivation Census of the SIMCI Project, there was an increase of more than 800% in the number of hectares under coca cultivation in Norte de Santander. This increase has been progressive over time. For example, during the period between 2010 and 2011, all municipalities in Catatumbo experienced an increase in cultivated areas, with the exception of Tibú (Fundación Ideas para la Paz, 2013).

According to SIMCI records, in 2005 in the municipalities analyzed for Catatumbo, 844 hectares were reported planted with coca and since 2010 there was a progressive increase until reaching 11. 527 hectares in 2015, which has led to consolidate Norte de Santander as the third department with the largest area of coca planted in Colombia after Nariño and Putumayo (SIMCI, UNODC, 2016), during this same year 71% (8,224 hectares) of the area planted was concentrated in the municipalities of Tibú, El Tarra and Teorama (UNODC, 2020). These data suggest that coca cultivation expanded significantly in the region during this period, which is consistent with anecdotal reports of the "coca boom" and the increase in coca-related economic activity. Below is evidence of coca cultivation trends in the municipality of Norte de Santander from 2005 to 2020.

Figure 4. Coca leaf production potential in the Catatumbo region, 2005-2020



Source: UNODC, 2020.

Coca cultivation in upper Catatumbo has experienced an exponential rise, concentrated in the period from 2010 to 2013, particularly in the municipalities of El Carmen, Teorama and Convención, but it was not until after the peace agreement that the increase has been exponential.

Catatumbo currently represents 32% of the total area dedicated to coca cultivation in all enclaves. This enclave has been severely affected, with approximately 26,000 hectares of coca cultivation (8,000 hectares more than recorded five years ago). It also covers the largest territory, with an area of about 2,000 km^2, and is located in the jurisdiction in Convención, El Tarra, Teorama and Tibú (UNODC, 2021).

According to UNODC (2021), 44% of coca cultivation is located in strategic management zones such as border areas (37%) and buffer zones of the PNN (34%), followed by productive integration areas near the municipal capitals of El Tarra and Tibú. The areas defined as special management zones cover 12,900 ha (30 % of the region's total), where the forest reserve zones established by the Second Law are the most affected, followed by those located in the Catatumbo-Barí National Park (UNODC, 2021). The following table shows the dynamics of the number of hectares planted with illicit coca crops by municipality in the department of Norte de Santander, from 2000 to 2021:

Table 4. Illicit coca cultivation in Norte de Santander (hectare values) 2000-2021

MUNICIPALITY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
ÁBREGO	26,45	--	--	--	7,00	--	--	--	--	8,00	--	15,00	20,00	13,00	17,00	22,12	24,03	65,45	73,29	84,43	114,46	88,82
BUCARASICA	--	--	--	20,00	--	--	3,00	2,00	3,00	--	--	6,00	5,00	3,00	3,00	--	--	3,82	10,64	18,48	41,24	4,87
CÁCHIRA	40,49	--	--	--	--	--	--	2,00	71,00	51,00	37,00	164,00	38,00	16,00	15,00	10,32	15,42	--	--	--	--	--
CONVENCIÓN	136,51	13,41	33,00	39,00	181,00	15,00	15,00	41,00	54,00	225,00	68,00	180,00	356,00	999,00	553,00	855,88	890,62	1.315,66	1.686,74	2.018,00	2.307,93	2.004,46
CÚCUTA	72,18	34,05	47,00	43,08	17,00	--	--	--	1,00	38,00	10,00	32,00	38,00	61,00	33,00	55,96	280,97	323,11	316,89	368,82	373,01	478,86
EL CARMEN	73,70	4,39	24,00	102,00	212,00	--	5,00	58,00	285,00	215,00	86,00	212,00	222,00	871,00	436,00	568,84	664,27	758,44	702,19	1.156,82	1.181,89	887,60
EL TARRA	999,53	589,64	524,00	544,00	783,00	219,00	104,00	764,00	480,00	314,00	217,00	410,00	566,00	662,00	809,00	2.074,54	3.682,70	4.300,60	4.916,63	5.724,83	5.916,40	6.248,08
EL ZULIA	31,82	13,37	36,00	26,11	22,00	--	--	--	17,00	10,00	2,00	41,00	18,00	25,00	13,00	14,07	94,10	134,14	152,03	167,66	160,87	220,16
HACARÍ	149,24	21,71	9,00	14,74	74,00	30,00	15,00	--	--	--	1,00	48,00	59,00	51,00	103,00	152,46	214,94	386,77	402,71	583,99	572,50	531,94
LA ESPERANZA	146,52	--	1,00	--	--	--	--	64,00	121,00	73,00	61,00	92,00	45,00	30,00	7,00	8,84	11,91	2,02	2,40	5,13	4,86	4,72
LA PLAYA	5,29	--	--	--	--	--	--	--	--	1,00	--	26,00	4,00	--	15,00	5,41	6,13	25,59	26,83	42,37	32,71	25,99
LOURDES	--	--	--	4,99	--	--	3,00	--	--	--	--	3,00	1,00	--	--	--	--	--	--	--	--	--
OCAÑA	--	--	--	--	--	--	--	--	--	--	--	--	--	1,00	4,00	6,97	9,04	10,62	42,12	47,73	17,57	24,24
SAN CALIXTO	149,83	19,56	9,00	13,26	136,00	25,00	13,00	34,00	62,00	42,00	--	66,00	134,00	208,00	181,00	736,53	445,04	640,32	765,34	1.130,19	1.206,77	965,93
SARDINATA	832,67	586,05	793,00	864,00	158,00	47,00	26,00	93,00	463,00	245,00	193,00	1.125,00	723,00	837,00	1.078,00	865,94	3.847,36	4.112,41	5.487,34	6.515,98	4.602,98	5.135,03
TEORAMA	340,10	679,19	217,00	393,00	200,00	84,00	42,00	186,00	296,00	509,00	271,00	298,00	628,00	663,00	680,00	1.770,15	1.856,70	2.479,63	2.915,98	3.953,83	4.216,63	3.714,85
TIBÚ	3.187,70	9.677,49	6.340,00	2.398,00	1.266,00	424,00	262,00	702,00	1.033,00	982,00	943,00	772,00	1.658,00	1.905,00	2.997,00	4.379,08	12.787,38	13.685,69	16.096,74	19.892,71	19.333,88	22.229,60
TOLEDO	87,83	80,11	9,00	8,92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	**6.279,86**	**11.718,97**	**8.042,00**	**4.471,10**	**3.056,00**	**844,00**	**488,00**	**1.946,00**	**2.886,00**	**2.713,00**	**1.889,00**	**3.490,00**	**4.515,00**	**6.345,00**	**6.944,00**	**11.527,11**	**24.830,61**	**28.244,27**	**33.597,87**	**41.710,97**	**40.083,70**	**42.565,15**

Source: SIMCI/UNODC, Monitoring of territories affected by illicit coca crops.Retrieved from: http://www.odc.gov.co/sidco/oferta/cultivos-ilicitos/departamento-municipio

Information provided by UNODC, (2021):

1. As of 2010, an adjustment associated with the presence of small lots (smaller than 0.25 ha) is included.
2. (2009)* For this year the adjustment for the presence of small plots was not included. The adjustment was made at the departmental level. The adjusted national total for this year is: 73,139 hectares.
3. The information from 2001 to 2010 was constructed with IGAC 2002 cartography and SIMCI municipal boundary improvements. This cartography was modified by SIMCI in 2011 including the new municipalities created from 2002 to 2010, only for the 2012 census these municipalities were included.
4. This work was carried out with the modified SIMCI 2011 cartography.

The Colombian government's response

State intervention in illicit crop cultivation and deforestation in the territory under analysis has manifested itself almost exclusively through the creation of a Land Use Planning that has been constructed without the participation of society. This has resulted in a mosaic of figures, with use regimes that do not have legitimacy among the community (López, 2008).

According to the CNMH (2018) state programs and policies to reduce the coca economy have been based on four main axes: 1) Aerial spraying and forced and voluntary manual eradication, accompanied by alternative development programs. 2) Dismantling of the production infrastructure. 3) Control of chemical substances used for processing coca leaf and coca paste and 4) Control of drug trafficking and dismantling of drug trafficking networks (MINJUSTICIA 2016).

Among the tools implemented by the Colombian State were also included:

- Plans with a territorial approach (PDET) as the main tools to achieve the development and integration of abandoned and conflict-stricken regions, implementing progressive public investments around social inclusion and environmental protection (López, 2018).
- Institutional processes such as the development of regional diagnoses, watershed management, implementation of the Motilón- Barí Life Plan and territorial management plans.
- The Development and Peace Plan for the Catatumbo Region, which contemplated three strategies: environmental improvement and agricultural development, infrastructure and basic public services, and social development and institutional strengthening of the municipalities. To achieve the above, among other projects, the conservation of water resources and their sources was contemplated (Solomón, 2005).
- Program for the Eradication of Illicit coca crops through aerial spraying with the herbicide Glyphosate (PECIG) Resolution No. 001 of 1994 (Sicard, et al).
- Comprehensive National Program for the Substitution of Illicitly Used Crops (PNIS) Decree-Law 896 of 2017, in charge of the Directorate for the Substitution of Illicit coca crops attached to the High Presidential Counselor's Office for Post-Conflict of the Administrative Department of the Presidency of the Republic. It seeks the voluntary substitution of illicit coca crops and the transition to sustainable agroforestry practices through economic incentives (Carmargo, 2017).
- Operation Artemisa, a program designated to the Colombian National Army in 2019 to recover natural areas that have suffered deforestation due to the armed conflict through forest nurseries and reforestation activities (Salame, 2021).

These environmental management tools were inefficient and did not stop the scourge of deforestation or the reduction of illicit coca crops in the region, because, according to Solomón,

2005, they were not concerted actions with the community, nor did they take into account the context of marginalization to which the local inhabitants were subjected, who in a certain way were involved in the production or commercialization of coca or cocaine hydrochloride.

The commitment to autonomy, new forms of community organization in Catatumbo

The Catatumbo territory has been socially and environmentally reconfigured not only by the colonization processes and its poor integration with the national power center, but also by the formation of diverse and varied organizational and social processes, its economies, the violence of the armed conflict, the cross-border connection and, recently, by the implementation of peace and environmental governance policies (Aponte, 2022).

For the inhabitants, the presence of the state is mainly linked to punitive policies. The military presence has been reflected in the eagerness to exploit natural resources to meet the needs of global markets, the implementation of ineffective policies to eradicate illicit coca crops, and the excessive military presence that seems to be the only solution to the persistent, diverse and complex conflicts that exist in the region (CNMH, 2018).

According to the Centro de Memoria Histórica (2018) as a response to the growing pressures due to the presence of groups outside the law and the notable state neglect, the peasants of the region created and consolidated a network of Juntas de Acción Comunal that had their beginnings during the 1970s and 1980s, peasant associations and cooperatives that sought to improve their living conditions, strengthen their autonomy processes, build proposals for their region and bet on a dignified life in their territories.

This social organization has been the one that has energized the peasant economy for decades (Aponte, 2022). These organizations have promoted processes of social mobilization and dialogue with local, regional and national authorities, demanding the constitutional guarantee of their rights and promoting concrete proposals to strengthen their territories. However, their mobilizations have often been repressed or the agreements reached in response to them have not been complied with (Procuraduría General de la Nación, 2020: 11). Later, in the section on the characterization of social actors in this document, it will be detailed the ways in which the actors identified in the territory have organized themselves socially and the different forms of decision making that they made evident.

4.1.3 ENVIRONMENTAL DIAGNOSIS: FALLEN FORESTS, AN OVERVIEW OF DEFORESTATION FOR ILLICIT COCA CULTIVATION

The rifles were silenced, but the chainsaws were turned on

Although forested areas in Colombia represent 53% of the country's continental surface, there has been a constant and irreversible process of deforestation. According to UNODC, (2020) in 2015, the country lost around 124,000 hectares of forest, and although the deforestation rate decreased by 12% compared to the previous year, these figures reflect the country's vulnerability to deforestation and forest degradation.

To explain this issue in Catatumbo, it is crucial to begin by clarifying the concept of deforestation, which has two definitions widely cited in the specialized literature. The first is the United Nations Framework Convention on Climate Change (UNFCCC) definition of deforestation, which defines deforestation as "the conversion of forest land to non-forest land directly caused by human activity" (UNFCCC, 2001). The second is described by FAO as "the conversion of forest to another land use or the long-term reduction of canopy cover below a minimum threshold of 10%" (FAO, 2000).

According to FAO (2007) deforestation involves: 1) the loss of forest on a permanent basis, 2) the transformation of land use, caused and maintained by continuous natural or human-induced disturbance, 3) the affectation of the forest to such an extent that it cannot sustain a tree cover above 10% resulting from the disturbance; and 4) The specific exclusion of those areas where trees have been removed as a result of harvesting or logging, and where the forest is expected to regenerate naturally or with the help of silvicultural measures.

Different authors agree that deforestation in Catatumbo is a multifaceted phenomenon, which originates from the interaction of factors from different areas. The expansion of the agricultural frontier, the increase in illicit coca crops and the planting of African palm are considered the main causes of deforestation in the department (UNODC, 2014). These processes are closely related to socioeconomic, political, geographic and environmental phenomena, which makes their approach complex and requires the adoption of comprehensive and coordinated strategies (Charry, 2018).

The Ministry of Environment and Sustainable Development (2019) indicated that: Deforestation has impacts related to soil loss, increased erosion, desertification, and the consequent increase in landslides, avalanches and other associated disasters in the country. Similarly, according to information provided by the Anti-Narcotics Directorate of the National Police (2014), coca cultivation, as well as the processing of coca leaf into cocaine hydrochloride, generates discharges derived from the intensive use of fertilizers, which, due to the illicit nature of the activity, are not compensated or mitigated (DIRAN, 2014).

Several studies have examined in detail the connection between deforestation and the planting of illegal coca crops. According to these investigations, coca crops are usually found in forested areas, among multiple reasons, because of their difficult access.

Image 4. Small farmer settlements in the middle of the forest Ocaña, Norte de Santander

Source: Author, 2023

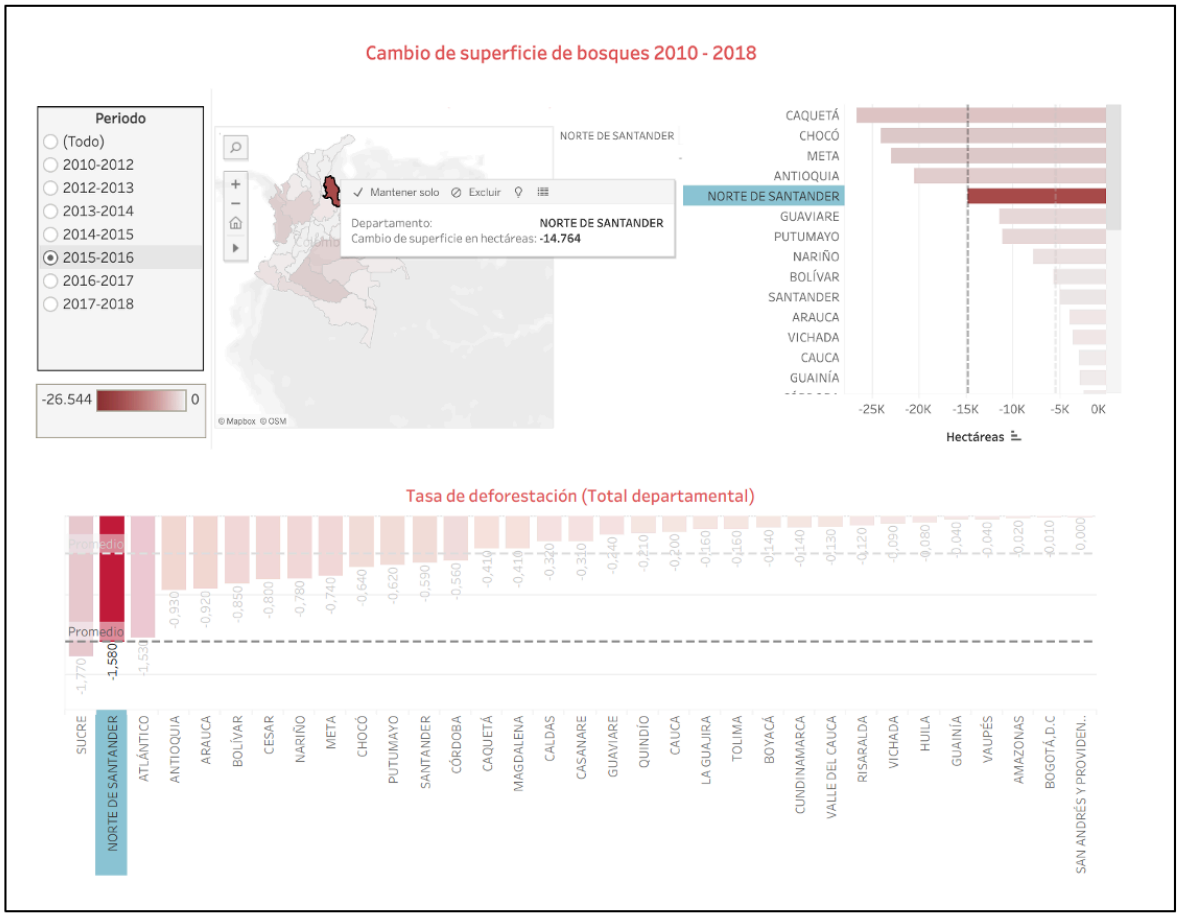
Areas of special ecological importance in Catatumbo are no exception to this problem; under the jurisdiction of the municipalities of Convención, El Carmen, Teorama, El Tarra and Tibú is the Catatumbo Barí National Natural Park (PNN), one of the areas with the greatest natural and cultural wealth in the country, covering 158,125 hectares. There, coca crops are beginning to spread at a dizzying speed (Mongabay, 2020). According to, the illicit crop monitoring report published by UNODC in 2019 1448 hectares of coca cultivation were reported in that protected area. A figure that is on the rise if the records of the previous two years are taken into account: 872 hectares in 2018 and 778 hectares in 2017 (UNODC, 2020).

Tibú, the most important town in the Catatumbo complex and one of the municipalities that has jurisdiction over the park, is one of the most deforested in the area. The second in the departmental list is Teorama, with 1,864 hectares deforested, a municipality that also has jurisdiction over the park. The other municipalities with lands within this ecological and environmental protection system are Convención, El Carmen and San Calixto (Mongabay, 2020).

To understand the dynamics of deforestation and illicit coca crops, the independent think tank (CEPEI) shows that from 2010 to 2015 there has been a significant increase in deforestation rates in the departments of Nariño, Norte de Santander and Putumayo, being these the territories in which 66% of the coca crops in the country have been concentrated (CEPEI, 2020).

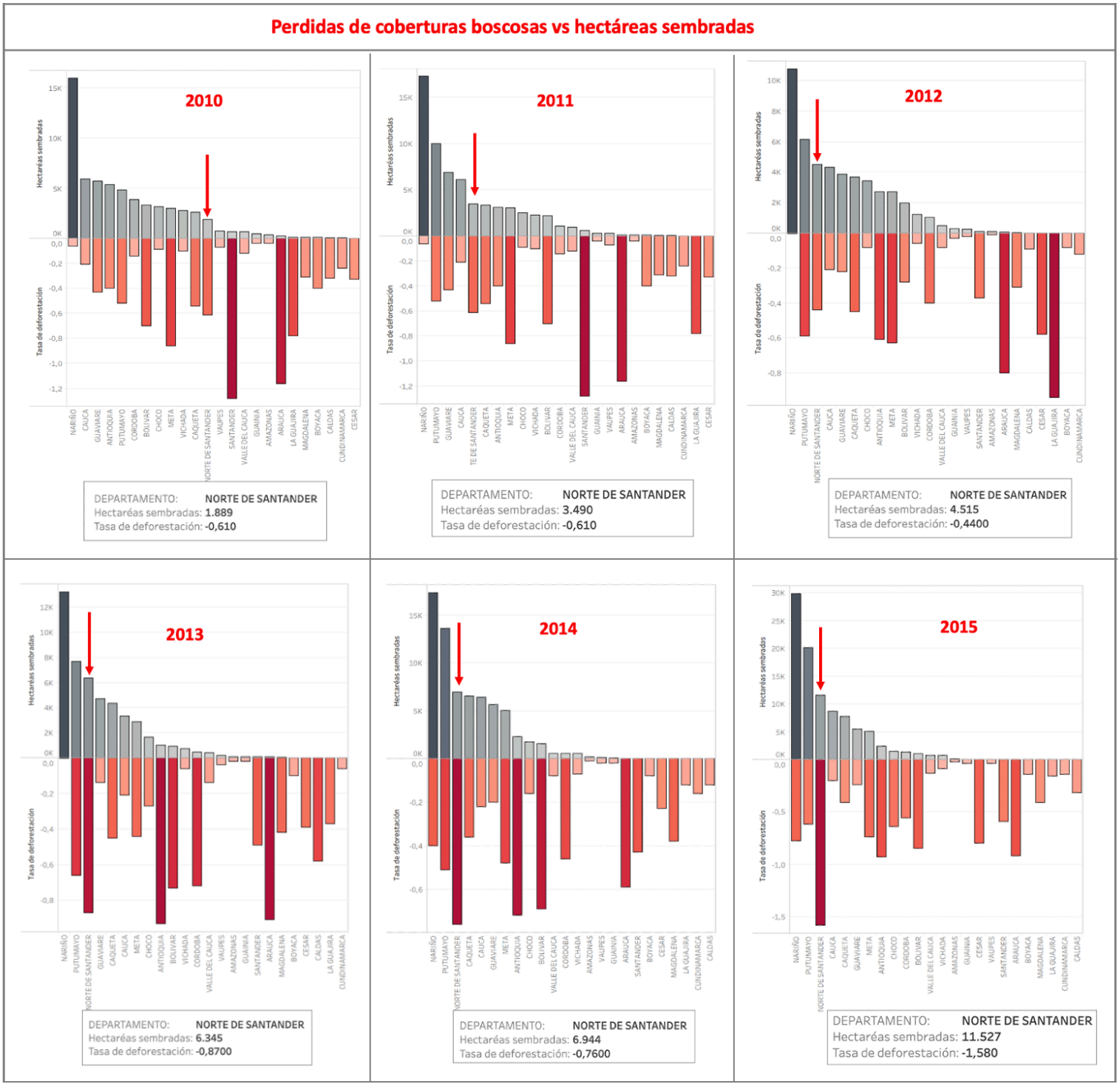
Although it is important to emphasize that there are other main causes of deforestation in the department associated with the expansion of the agricultural frontier, illegal logging and illegal extractive activities, the effect of the expansion of illicit coca crops in the departments with the largest areas planted in coca is evident. The change in forest area in Norte de Santander is shown below.

Figure 5. Change in surface area in Norte de Santander, Colombia (2010-2018)



Source: CEPEI, (2020).

Figure 6. Forest cover loss vs. hectares planted in Norte de Santander, 2010-2015



Source: CEPEI, (2020).

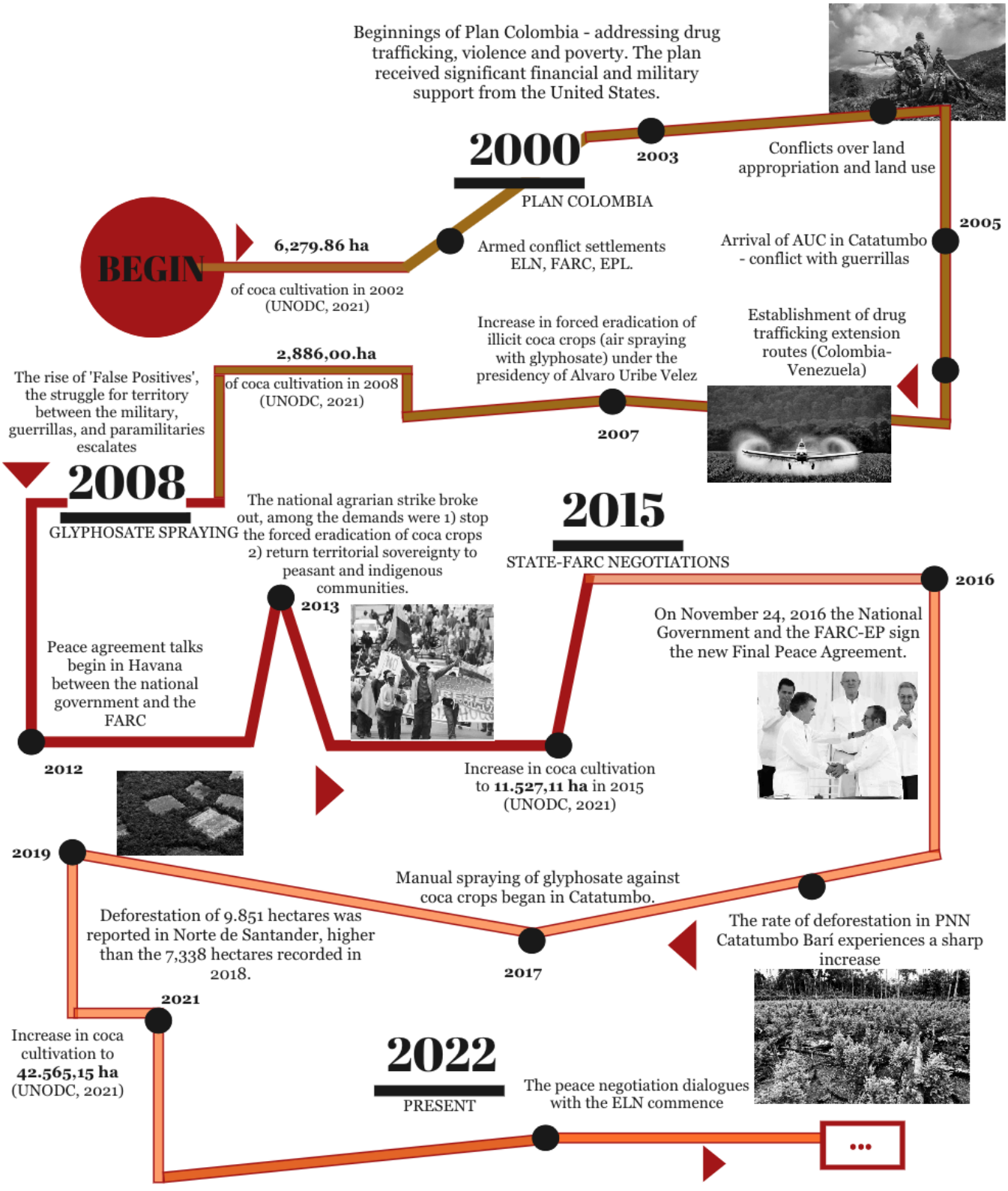
The above graphs obtained from CEPEI, 2020 show that for the period 2015 - 2016 the departments of Sucre, Norte de Santander and Atlántico registered the highest deforestation rates, while at the same time presenting the highest values of forest cover loss (CEPEI, 2020). Likewise, it is evident that for the years 2010-2015 the department of Norte de Santander was positioned as one of the first departments with the highest deforestation rates and at the same time, as one of the departments with the highest presence of illicit coca crops.

The latest report of the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM) corroborates this, the main core of deforestation in the country during the months of July and September of this year was located in Tibú and Sardinata, two municipalities of Catatumbo, in the vicinity of the Catatumbo Barí National Natural Park (Revista Semana, 2019). The growth conglomerate of coca crops that in the region reached 42,565 hectares in 2021, according to the Integrated Illicit Crop Monitoring System (SIMCI) of the United Nations Office on Drugs and Crime (UNODC, 2021). For 2016, the figure was 28. 831 hectares, meaning that the growth in that period was more than 60 percent, just when the National Government was signing the peace agreement with the Revolutionary Armed Forces of Colombia (Farc) in November of that same year, putting an end to more than five decades of armed conflict (Mongabay, 2020).

Since 2016, the amount of deforestation in Catatumbo has increased exponentially due to a number of factors. Early data seem to indicate that the departure of the dominant actor, the Farc, has been accompanied by more severe environmental degradation. This group used to establish norms focused on preservation that currently do not exist (such as the prevention and regulation of logging, illegal hunting and contamination of water resources, among others). Today, armed actors compete for resources, territories and control of populations with actions that are generally detrimental to the environment. In the absence of regulations, new spaces are opening up for colonization in the Motilón Barí National Natural Park and in the border region with Venezuela (Aponte, 2022).

This problem is alarming as it has also resulted in the loss of native and endemic biodiversity, as well as the fragmentation, reduction, and destruction of ecosystems (Elliot, 2014). According to the Alexander von Humboldt Biological Resources Research Institute (2002), there are several threatened species of fauna in the Catatumbo region due to habitat destruction, deforestation, water pollution, and the expansion of coca crops. The "Paujil Piquiamarillo", the "Guacamaya verde", and the "Cotorra Cariamarilla" were identified as threatened species in the Red Book of Birds of Colombia published by the same research institute, primarily due to habitat destruction and water pollution. The "Perdiz Carinegra" is threatened by the deforestation of the tropical rainforests that are characteristic of the Catatumbo region.

Figure 7. Timeline of conflicts in Catatumbo (2000-2022)



Source: *Own elaboration, 2023. Adapted from field-collected information*

4.2 STAKEHOLDER ANALYSIS

4.2.1 IDENTIFICATION OF ACTORS: POWER RELATIONS, INTEREST AND LEGITIMATION

In this section a stakeholder analysis will be carried out, with the objective of identifying the key actors and their power relations, interests and legitimacy in the processes related to deforestation for illicit coca crops. This analysis will be divided into three phases: the first phase will explore the origins of the conflict and the motivations of the actors involved in the years 2000-2008; the second phase will focus on powerful actors and their domination of territory and natural resources between 2008 and 2015; and finally, the third phase will examine the new forms of territorial power that have emerged from 2015 to the present (2022).

4.2.1.1 ORIGINS OF THE CONFLICT, AN EXPLORATION OF THE ORGANIZATION OF POWER AND APPROPRIATION OF THE TERRITORY (2000-2008)

At the outset of the conflict in Catatumbo regarding deforestation and illicit coca crops, various actors emerged, finding common ground around the forest. The forest held significant importance as it provided vital resources that were central to the livelihoods and interests of these actors. The rich natural resources, such as timber, fertile land, and biodiversity, became the focal point for their organization and engagement. The allure of economic opportunities and the exploitation of these resources played a crucial role in shaping the dynamics of power and territorial appropriation in the early stages of the conflict (International Crisis Group, 2021).

In the early 2000s, actors were beginning to influence the dynamics of ecosystem and landscape transformation, and these actors were directly related to armed groups. At that time, the actors identified included: 1) EPL, 2) FARC (not dissidences), 3) National Liberation Army (ELN) (three companies were created: Heroes de Catatumbo with influence in Convención, Teorama and El Carmen; Captain Francisco Bossio, a mobile company present in Teorama, Convención, El Tarra and El Carmen; and Comandante Diego, created in 1999, which was in charge of the security of COCE members, who moved to the northern part of Catatumbo), 4) Paramilitaries - Autodefensas Unidas de Colombia (demobilized in 2003, but then the BACRIM emerged), 5) CISCA (born in 2004), 8) National government, and 9) the Motilón Barí indigenous community.

The paramilitaries emerged as a response to combat the guerrillas, and the people most affected by the armed groups were those involved in coca cultivation.

Taking into account the differences in their radius of action, relative power, and interests in forest exploitation, three major groups of actors can be identified: a) government sector represented mainly by the military forces; b) illegal organizations; and c) local population.

To understand these socio-environmental transformations associated with deforestation for illicit coca crops in Catatumbo, it is necessary to go back to the arrival of the guerrillas in the early years until the end of the 1990s, when the ELN and FARC experienced a growth in their military, political and economic strength, going from being led by small groups with little advanced weapons to reaching their peak of power. This was not only notable in the region but also at the national level (CNMH, 2018).

Three ELN companies were created in Catatumbo and were still active in the early 2000s: Héroes de Catatumbo, with influence in Convención, Teorama and El Carmen; Capitán Francisco Bossio, a mobile company with presence in Teorama, Convención, El Tarra and El Carmen; and Comandante Diego, created in 1999 (Vicepresidencia de la República, 2007, page 14). The Popular Liberation Army (EPL) and the FARC-EP were also beginning to influence the territory, particularly the forest ecosystems.

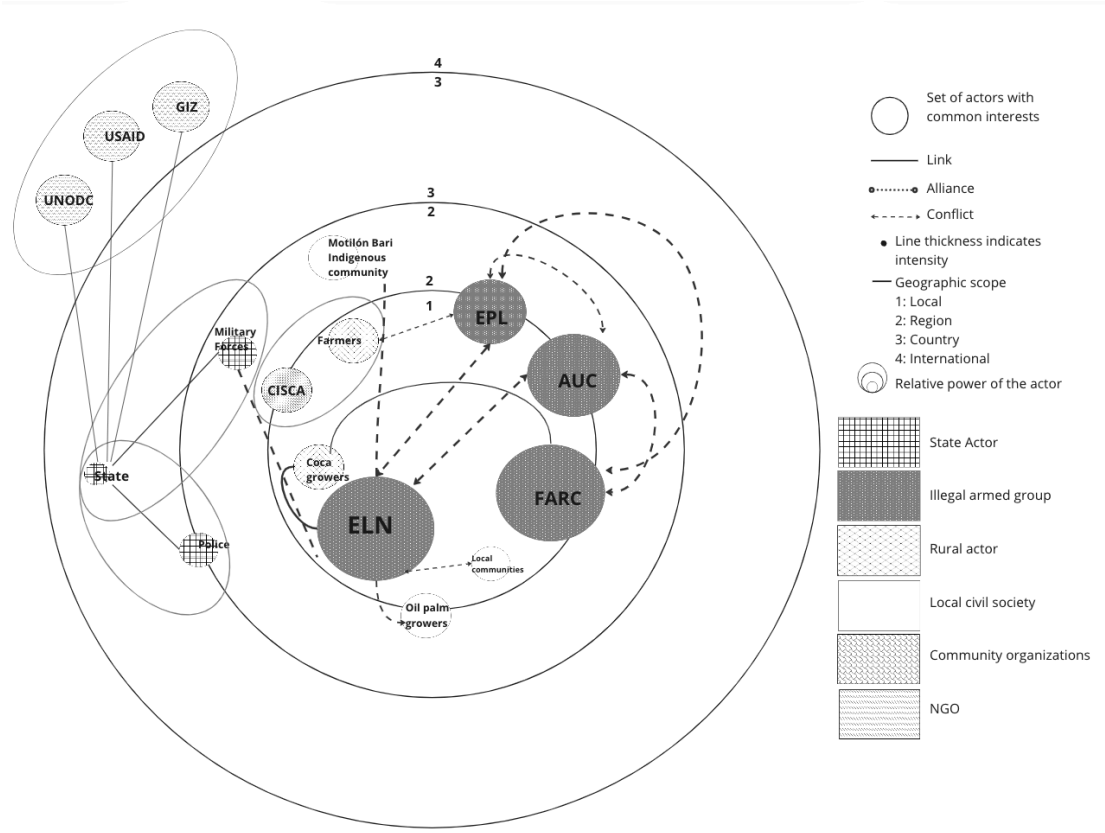
At the end of the 1990s, paramilitary groups began their actions, mainly the Catatumbo Bloc of the United Self-Defense Forces of Colombia (AUC) (CNMH, 2018). Three paramilitary structures of the AUC took over the region's territory starting in 1999: the Catatumbo Bloc, the Héctor Julio Peinado Front and the Motilona Resistance Front of the Northern Bloc. With acts of cruelty and brutality, the paramilitaries "massacred the region," transformed land use and left deep scars on its inhabitants. The Catatumbo Bloc demobilized in 2004 and the two remaining fronts in 2006 (CNMH, 2018).

These historical dynamics, characterized by the presence of armed actors and their strategies for territorial control, natural resource exploitation and the imposition of power relations, set the stage for deforestation and landscape change in Catatumbo (Aponte, 2022). The lack of effective regulation and control, as well as institutional weakness, allowed these dynamics to perpetuate over a significant period of time, exacerbating environmental impacts and generating a progressive deterioration of ecosystems and biodiversity in the region (USAID, 2022).

One thing most of the illegal armed groups had in common was the choice of forests as the setting for their activities, a decision motivated by several reasons. First, forests offered natural cover that allowed armed actors to establish bases and camps in remote areas, providing them with strategic refuge from military operations and allowing them to maintain territorial control (Fajardo, 2014). In addition, the forests provided essential resources for their sustenance, such as water, food and materials for the construction of houses and shelters (Cantillo, 2022).

To illustrate these dynamics among stakeholders, the Brenner’s scheme (2012) has been used, the figure below illustrates the key actors identified between 2000 and 2008:

Figure 8.Actors involved in forest and illicit coca cultivation management (2000-2008)



Source: Own elaboration based on Brenner's scheme (2012).

Based on the compilation of bibliographic information provided by the National Center of Historical Memory, a reconstruction was made of the main key actors involved in the early 2000s in the territory under analysis. This mapping allowed us to visualize how these actors were organized in terms of territorial power and how they interacted with each other.

Guerrilla groups, including the FARC and ELN, as well as paramilitaries and other armed groups, established power relations in the territory. They controlled and regulated access to natural resources, including coca crops, which became an important source of financing for their operations, but continued to dispute territory (note the conflict relations between the EPL, AUC, FARC and ELN in the graph). These groups-imposed taxes and charges on coca growers and those who used forest resources, which generated a flow of resources that allowed them to finance their activities and maintain their influence in the region, but at the same time created scenarios of conflict.

By December 2004, when the paramilitaries officially withdrew, their control over the rents obtained from coca leaf cultivation and processing was so solid that they were able to establish diverse commercialization routes, strategic control points, purchase and sale tariffs, and acquired a great deal of experience among their combatants in relation to the economic dynamics of coca.

In addition, they were able to consolidate their control over forests and natural resources related to coca leaf production, which allowed them to exercise effective territorial control and play a fundamental role in the appropriation and management of forest resources.

During this period of time, the institutional presence was weak, the territory was abandoned and the most relevant presence were the military and police forces that tried to deal with the growing drug trafficking problem that had been developing since the 1980s.

Community, peasant and indigenous organizations

The peasantry of Catatumbo was by then a relatively recent settler in the territory, if compared to the ancestral presence of the Motilón Barí indigenous people, their arrival in the territory occurred in four periods, the first of which occurred with the coffee and tobacco bonanza that impacted the national economy since the late nineteenth century. Subsequently, between the 1930s and 1940s, colonization was induced by oil exploitation, especially in the municipality of Tibú (Taramuel, 2019). The third peasant arrival occurred since the mid-20th century due to partisan violence and colonization campaigns promoted by the State. The fourth moment of demographic transformation has been influenced by the proliferation of illicit coca crops and the factors that generate it (Martínez, 2012, p.119).

At the end of the 90's, an unprecedented colonization was taking place: The migratory flow increased considerably; peasants from Huila, Nariño, Caquetá and Valle arrived in the territory. During this first bonanza, areas that had been cultivated with other crops were expanded to make way for coca and the newly arrived settlers sought new land to plant coca, resulting in the destruction of the forest in search of fertile land (Salinas, 2014).

The peasant settlers who by that period of time had already settled, had to face the challenges of adapting to the acidic soils and unsuitable for dry land cultivation in the region, as well as the variations of the Catatumbo River floodplain, which during the rainy season expanded beyond its usual bed, covering several additional meters. To survive, these settlers had to adjust their traditional productive and cultural practices to the new environment, and thus, through economic exchange and solidarity, communities were formed in the region (Taramuel, 2019).
In mid-2004, Catatumbo met again in San Pablo, in the municipality of Teorama, under the umbrella of the "Integration, Life and Territory" campaign. There, the commitment to socially integrate the territory around the Life Plan (Plan de vida) and the commitment to the region of this process, which has since been called Social Integration Committee (Comité de integración social CISCA is renewed) (Asociación Minga, 2016).

The restoration of the community fabric took new forms on the traditional organizational basis: the communal movement, and multiple associations flourished to develop frequent meetings and actions throughout Catatumbo around various aspects: illicit coca crops, energy resources, collective memory, women, youth, cultural and environmental issues (Asociación Minga, 2016).

Since then, CISCA has achieved relationships in various national and international social and political sectors, especially through the National Agrarian Coordinator and the global network Via Campesina, as well as through its participation in other social, human rights and environmental governance platforms. Likewise, in governmental, political and even military spheres, its interlocution in matters related to Catatumbo is recognized (Taramuel, 2019).

As well as CISCA, in 2005 the Catatumbo Peasant Association (Ascamcat) emerged as a popular organization initiative to resist and remain in the territory (Taramuel, 2019), being a space from which the peasant communities present and build their different proposals and strategies for the protection of nature, environmental care, the concerted substitution of illicit coca crops and the eradication of the factors that gave rise to their planting (Ascamcat, 2012, p. 37).

It is important to emphasize that during the period (2000-2008), the identification of actors was limited compared to the subsequent periods. This limitation can be partly attributed to the emergent nature of the issue during that time, as well as the challenges in obtaining retrospective information. The snowball sampling method conducted with local farmers resulted in a higher availability of current data in contrast to their recollections from two decades ago.

As we progressed towards more recent periods (2008-2015 and 2015-2022), it is noteworthy to mention a valuable expansion in the number of actors involved and increased complexity in the dynamics of deforestation associated with illicit coca cultivation. These findings underscore how the issue has evolved over time, highlighting the need to comprehend its evolution and address the current complexities in decision-making and strategy implementation to tackle deforestation linked to illicit coca cultivation.

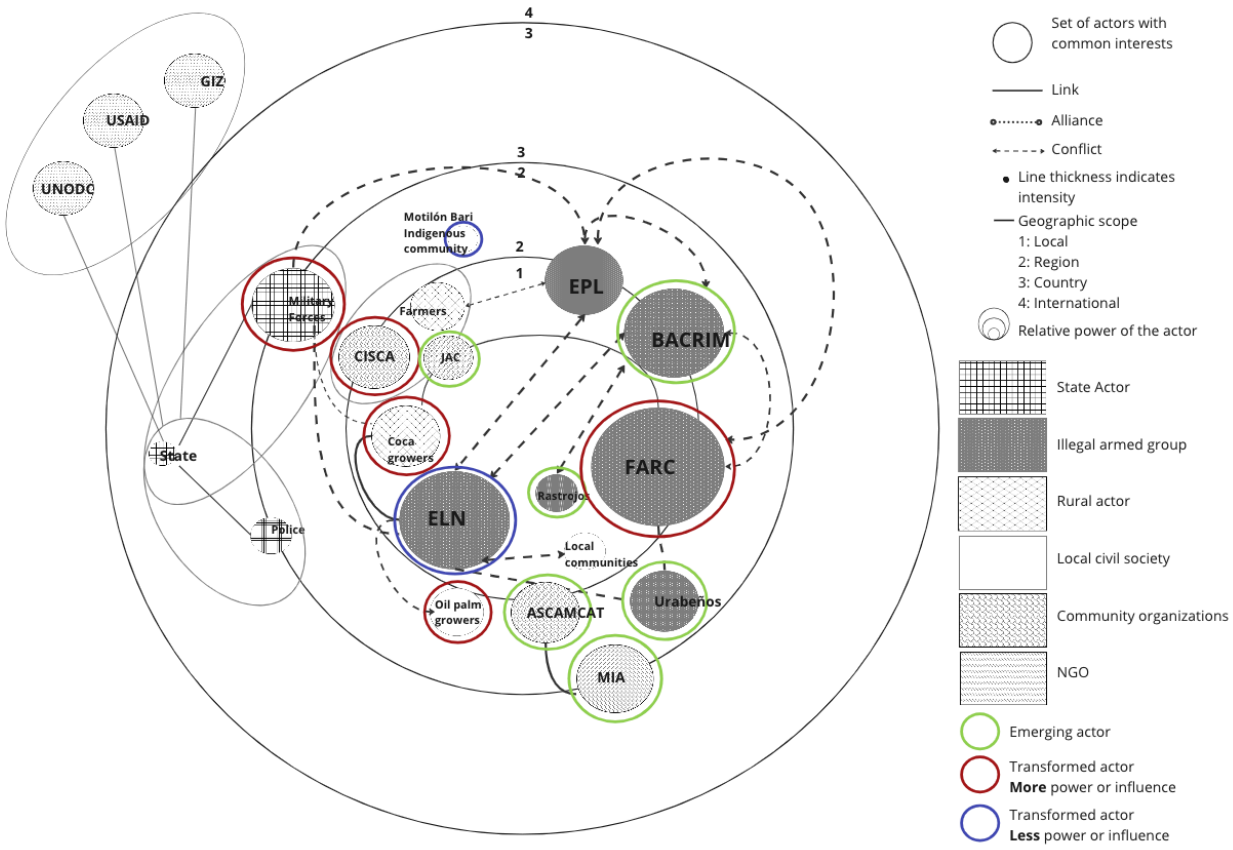
4.2.1.2 POWERFUL STAKEHOLDERS, TERRITORIES AND NATURAL RESOURCE DOMINANCE (2008- 2015)

During the period between 2008 and 2015, significant transformations were observed in the social dynamics of Catatumbo, Colombia, which triggered a rapid territorial reconfiguration. This section will analyze the participation of different social actors in the deforestation processes caused by illicit coca cultivation in the region, highlighting the emergence of new guerrilla structures, the influence of the BACRIM, and the constantly changing dynamics of conflict and cooperation that gave way to new forms of community organization as forms of social resistance (Martínez, 2012).

With the formation of new guerrilla structures in Catatumbo, which had a significant impact on the dynamics of illicit coca cultivation, including the strengthening of the FARC EP, who managed to consolidate a territorial model around coca production. The emergence of the Criminal Gangs (BACRIM), formerly known as AUC, as well as the narco-paramilitary group Los Rastrojos and the Urabeños (Salinas, 2014).

In relation to the fight against drugs, forced eradication of illicit coca crops took force. Joint operations were deployed between the Army and the National Police and the strategies derived from the Democratic Security policy promoted during the government of Álvaro Uribe (August 7, 2002 - August 7, 2010), generated a significant impact in the following years, in which the deterioration of the relationship between communities and the public forces were strongly weakened and crossed by problems of conflict and distrust (note in the following graph the identified actors and their conflict and relationship relations).

Figure 9.Actors involved in forest and illicit coca cultivation management (2008-2015)



Source: Own elaboration based on Brenner's scheme (2012).

As a result of the growing social control exercised by different guerrilla groups in Catatumbo in which they exercised control over natural resources through various strategies, such as the imposition of rules and the regulation of access to forests and cultivation areas, the territory was transformed and devastated, which led to the abandonment of land that, especially in Tibú, passed to other hands and other uses (CNMH, 2018).

However, as a consequence, strong peasant and community organizations emerged, and it was on this basis that there were created committees of the villages, communities, townships, sectors, women, workers, general and popular assemblies, humanitarian shelters, civic strikes, among others that make up the repertoire of the social manifestation in the region in the CISCA and ASCAMCAT (Taramuel, 2019).

According to Taramuel, (2019), one of the political demonstration events in which the management, organization and negotiation capacity of the peasants of Catatumbo was most visible was in the agrarian strike of 2013. For fifty-three days, between June and August, the peasants resisted the forced eradication of illicit coca crops that the national government had ordered without offering real guarantees for the sustainability of the families that depended on the care of these crops. What began as a road blockade to prevent the entry of the military and coca crop eradicators, culminated in one of the scenarios with the widest participation and popular and institutional recognition in the region.

The strike forced the authorities to reactivate the Mesa de Interlocución y Acuerdo (MIA) of Catatumbo, which had emerged in 2009 after the formation of the first humanitarian refuge organized by the peasant communities to protect themselves from the war, discuss the problems that the region was going through and propose possible solutions from the Catatumbo peasantry (Taramuel, 2019).

Among the demands was a fundamental one: the recognition and formal constitution of the Campesino Reserve Zone (ZRC) of Catatumbo, which the community has been demanding since 2012. Although many of the agreements have yet to be fulfilled by the national and local governments, these processes that are manifested in moments of mobilization and peasant intervention in Catatumbo reveal a community strengthened in its organization and its capacity to mobilize for joint decision-making and intervention in national policy (Martínez, 2012).

ASCAMCAT is the result of a community in movement that shows us as a historical political actor that promotes in the region scenarios for the development of communal governance skills based on the participation of the peasant community and collective decision making, which included the appropriation of their own territory and management of natural resources (Salinas, 2014).

4.2.1.3 NEW FORMS OF TERRITORIAL POWER (2015-2022)

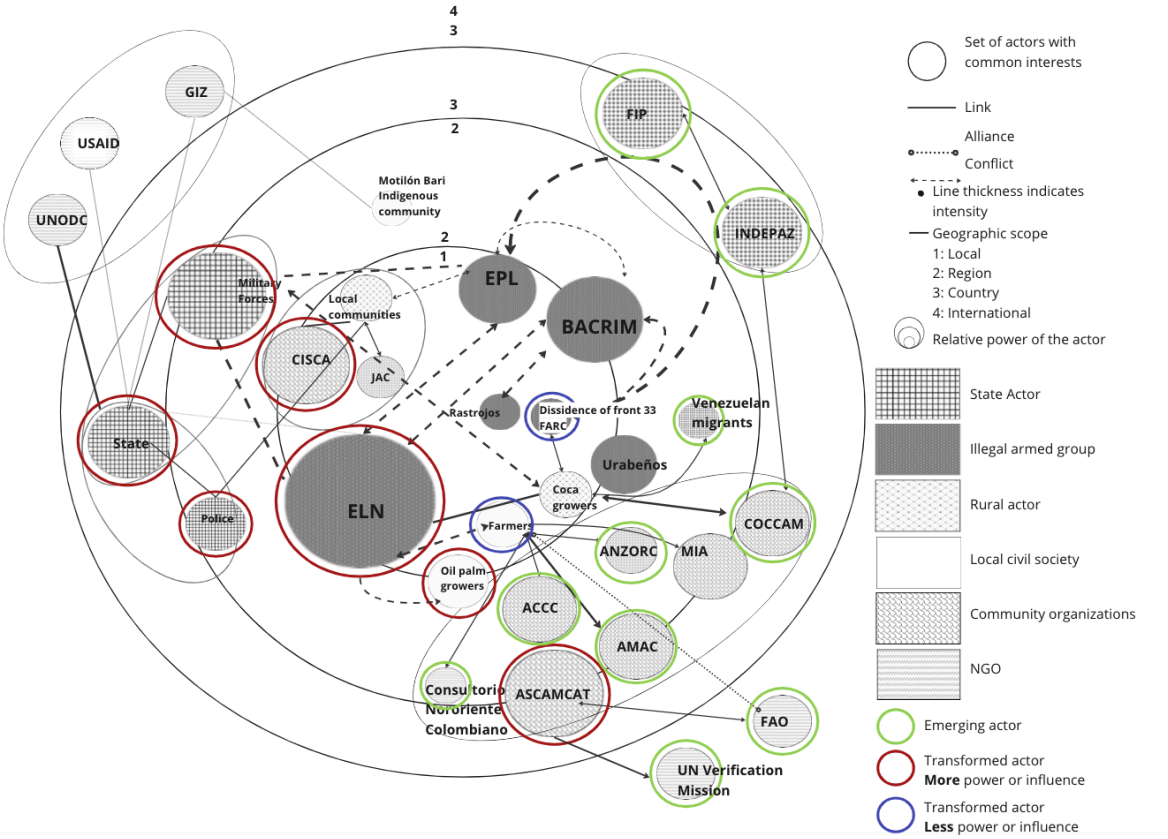
During the snowball technique implemented in the field, it was found that six non-state armed groups currently operate in Catatumbo, exerting significant influence over the control of ecosystems, natural resources, particularly the forests. These groups include: 1) the National Liberation Army (ELN), the largest and with a presence in the municipalities of El Tarra, Convención, Hacarí, San Calixto, and Sardinata; 2) the Popular Liberation Army (EPL),

operating in the most remote areas of the upper Catatumbo; 3) Dissidents of the FARC (33rd front and Second Marquetalia), present in areas of Tibú and El Tarra, and conducting incursions in San Calixto, Convención, and Sardinata; 4) Los Urabeños, present in Sardinata; 5) Los Rastrojos, present in areas of the upper Catatumbo and Ocaña; and 6) The BACRIM, also known as "Los Pelusos," located in the corregimientos of San Pablo, Teorama, and Filo El Gringo in El Tarra (Defensoría del Pueblo, 2021).

As it is important to highlight, the complexity of socio-environmental conflicts favours scenarios of conflicitation and cooperation that are continually being remodified. In this sense, new forms of community resistance have also emerged and others have gained power and influence over the decisions that are taken regarding forest management in Catatumbo, The strengthening of forms of peasant organisation such as Ascamcat, the peasant association of Catatumbo, the Assembly of Coca Growers of Catatumbo, the Association of Environmental Women of Catatumbo (AMAC), the National Coordination of Coca, Poppy and Marijuana Growers (COCCAM) became more evident.

Here, all the actors involved in the analyzed territory are presented, addressing the issue of deforestation caused by illicit coca crops, whether they are direct or indirect actors.

Figure 10. Actors involved in forest and illicit coca cultivation management (2015-2022)



Source: Own elaboration based on Brenner's scheme (2012).

Other international cooperation organizations and NGOs that participate in peacebuilding processes and voluntary substitution of illicit coca crops, including the Socio-environmental Consultancy of the Colombian Northeast, USAID, GIZ, PNUD, FAO, FIP (Ideas for Peace Foundation), INDEPAZ (Institute of Studies for Development and Peace), are also actively involved in peacebuilding processes and voluntary substitution of illicit coca crops in the region. These organizations have established themselves in the territory with the objective of addressing and stopping deforestation, as well as promoting sustainable practices and environmental protection. Additionally, they work closely with local communities, providing training, technical support, and assistance to promote socio-economic development and improve the quality of life of people affected by violence and armed conflict. Their approach encompasses the implementation of agroforestry projects, promotion of sustainable economic activities, and environmental education, aiming to foster peace, reconciliation, and preservation of natural resources in the region.

During the current period, the cultivation of illicit coca crops has become one of the main sociocultural dynamics in Catatumbo, creating a culture centered around the cultivation and harvesting of coca. This has brought about significant changes and transformations in the community, individual, and economic dynamics of the region, leading to a reconfiguration of how different social actors organize themselves in the territory and interact with natural resources (UNODC, 2014).

One of the most notable transformations was the Mesa de Interlocución y Acuerdo (MIA), which proved crucial in empowering the community. During the year 2013, following the national agrarian strike, the national, local, and departmental governments were brought together to negotiate and reach agreements that would transform the living conditions of the inhabitants. The negotiation model implemented in the MIA, recognized along with other regional tables by Presidential Decree 870 of 2014, showcases the forms of participation and interaction of peasant communities.

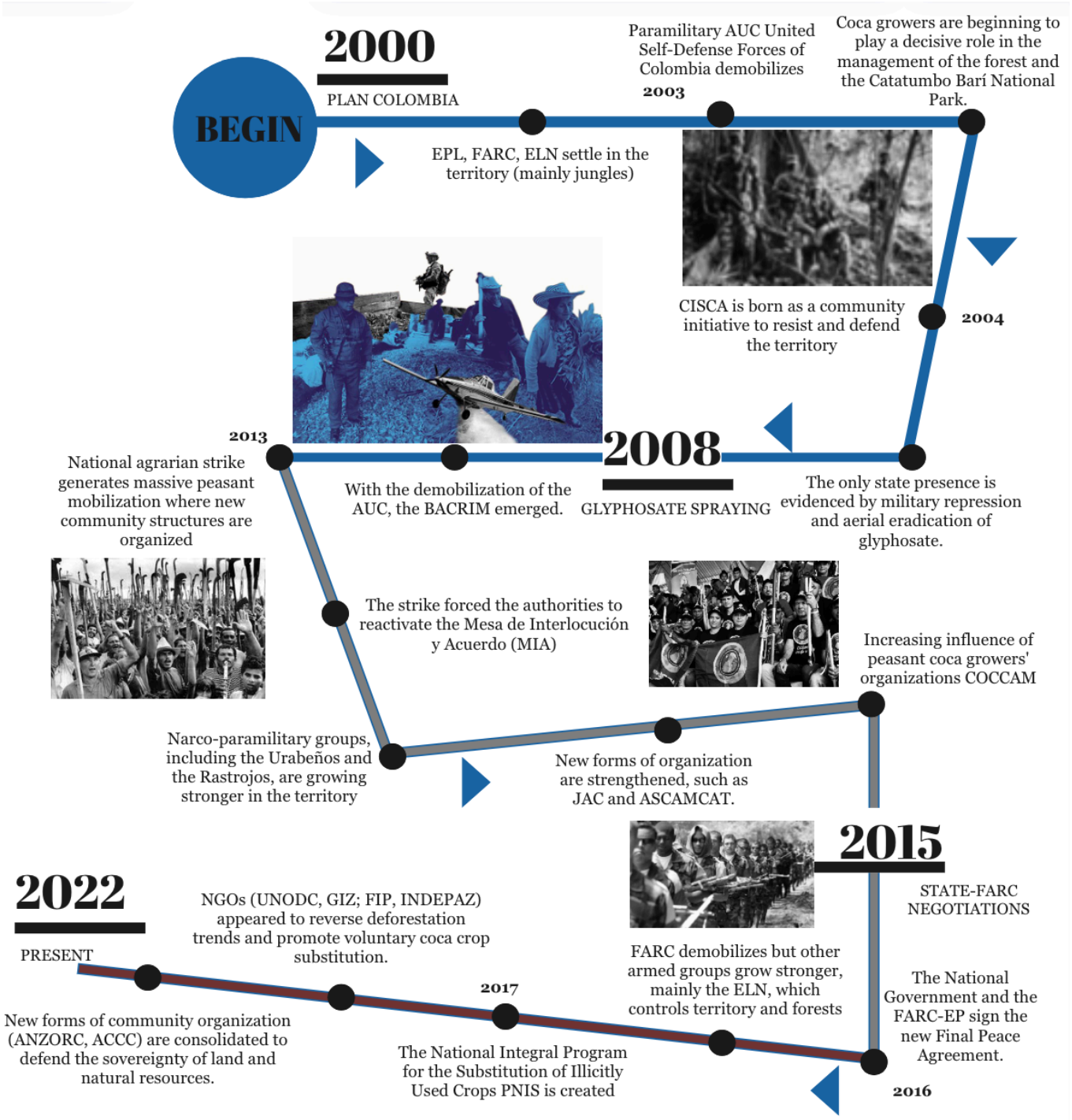
In the current context of territorial struggle, amidst the challenging situations faced in the region, coca cultivators, oil palm farmers, and small-scale farmers in general become influential actors in the territory. It is within this scenario that the Peasant Reserve Zone of Catatumbo (ZRC) is consolidated, and the sustained struggle by peasants for its formal constitution becomes a relevant political and social component. This struggle reveals a community in motion, a political actor of resistance that articulates its worldview and expresses it in a common project centered around the territorial demands of the peasants (Taramuel, 2019).

The growing organization of the peasant community reveals that peasants are "peripheral subjects" who have established themselves on the territorial margins and have built a deeply rooted sense of belonging, a process that has taken years to develop. These narratives demonstrate that the presence of peasants in the territory goes beyond mere land use and resource extraction. In fact, the territory becomes the foundation of their social relationships, the source and

sustenance of their lives, the basis of their identity and history (Bartra, 2011, p. 123). This implies that the territory actively influences the socialization of peasants, endows them with a specific character, and establishes particular conditions for the reproduction of the peasant community (Taramuel, 2019).

The organization of actors in the territory cannot be detached from its political and social context. It is important to highlight that during the period from 2015 to 2022, deforestation reached unprecedented levels, along with a significant increase in the cultivation of illicit coca crops. Various complex causes contributed to this escalation, as identified by López (2018): (i) the signing of the Peace Agreement, the disarmament process, the transition to legality, and the preparation for the reintegration into civilian life of members of the FARC-EP, which commenced on December 1, 2016; (ii) the slow progress of state presence in the territory and the difficulties in implementing the provisions derived from the Final Agreement, especially those related to the Comprehensive Rural Reform, designed to transform the living conditions of people residing in rural areas of Colombia; and (iii) the reconfiguration of certain actors and the arrival of others interested in land (López, 2018). As expressed below:

Figure 11. Timeline, stakeholder dynamics (2000-2022)



Source: *Own elaboration, 2023. Adapted from field-collected information*

The above graph shows that environmental deterioration in a context of war such as the one experienced in Catatumbo is strongly associated with armed and economic power relations through which the armed groups govern and decide who has access to land and resources and in what way (and, consequently, who is excluded). The domains of armed groups are unstable and there is a strong struggle for control to impose coercive forms of governance over populations and their territories, and for access to forested ecosystems where illicit coca crops are planted. In addition, priority has been given to extractive economic models, consolidated after the worst periods of violence against their inhabitants, generated on the violent dispossession of their lands and in a context of violation of the norms that protected displaced populations and sought to prevent land accumulation (such as the Family Agricultural Units, UAF) (Aponte, 2020).

4.3 CHARACTERIZATION OF ACTORS POWER, INTEREST, LEGITIMIZATION

To examine the nature of the relationship among stakeholders, a CLIP analysis was conducted, which stands for Collaboration or Conflict, Legitimacy, Interest, and Power, and is part of the IAP2 community engagement model. Based on the specific characteristics of each CLIP variable, stakeholders can be classified as dominant, forceful, influential, dormant, concerned, vulnerable, or marginal (Daru, 2017). The following describes each type of stakeholder based on their CLIP characteristics.

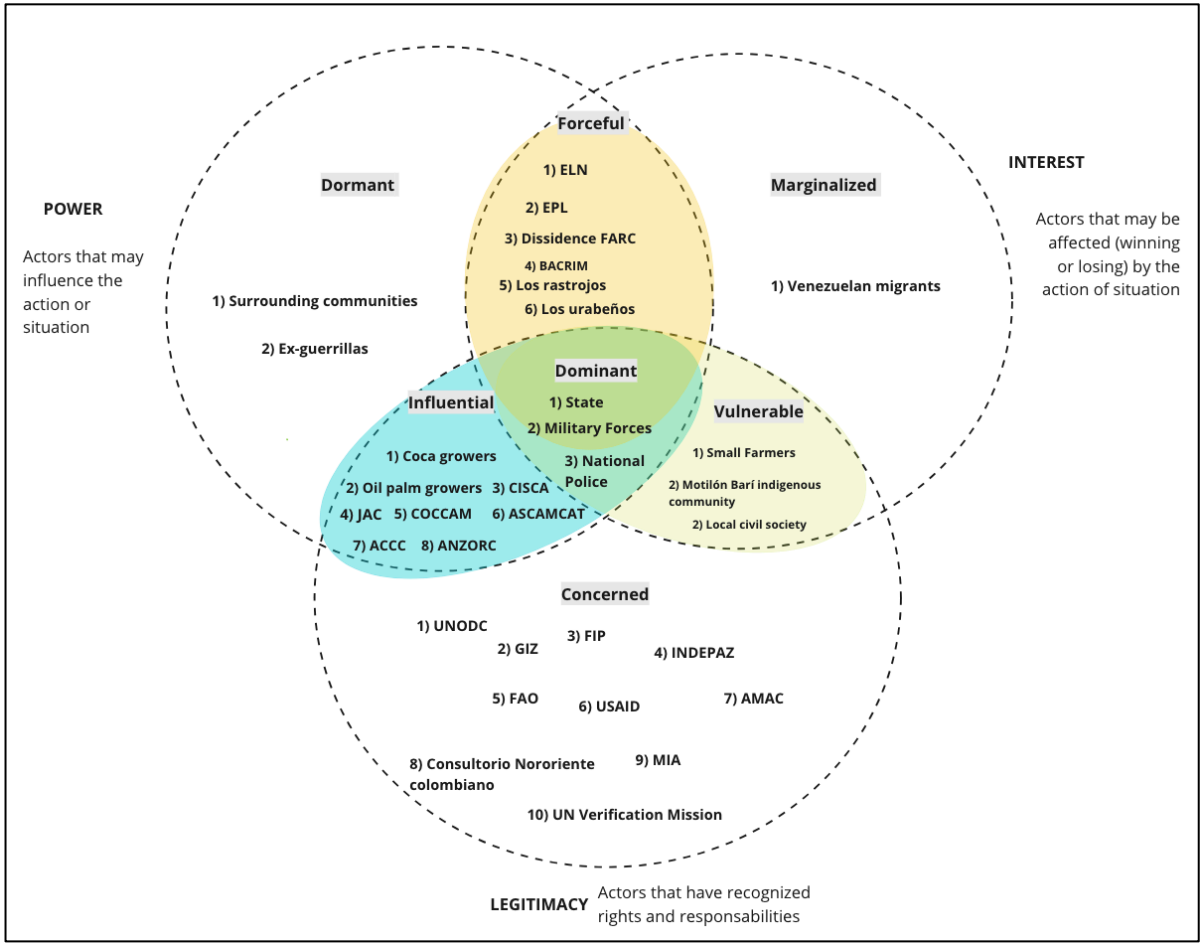
- **Dominant:** Powerful, large gains or losses from the situation or problematic, seen as legitimate by other stakeholders
- **Forceful:** powerful, large gains or losses from the situation or problematic, not seen as legitimate by other stakeholders
- **Influential:** powerful, low gains or losses from the situation or problematic, seen as legitimate by other stakeholders
- **Dormant:** Powerful, low gains or losses from the situation or problematic, not seen as legitimate by other stakeholders
- **Concerned:** Not powerful, limited gains or losses from the situation or problematic, seen as legitimate by other stakeholders
- **Vulnerable:** Not powerful, large gains or losses from the situation or problematic, seen as legitimate by other stakeholders
- **Marginal:** Not powerful, large gains or losses from the situation or problematic, not seen as legitimate by other stakeholders

Table 5. Characterization of stakeholders, power, interest and legitimization in forest management (2015-2022)

Legend	Typology	Actor	Power	Interest	Legitimacy	Categorization
	State actor	Military Forces	High	High	High	Dominant
		National Police	Medium	High	High	Dominant
	Illegal armed group	ELN	High	High	Low	Forceful
		EPL	High	High	Low	Forceful
		Dissidences of the FARC (Front 33)	High	High	Low	Forceful
		BACRIM	High	High	Low	Forceful
		Los Rastrojos	High	High	Low	Forceful
		Los Urabeños	High	High	Low	Forceful
	Rural actor	Coca growers	Medium	High	Low	Influential
		Oil palm growers	Medium	High	Medium	Influential
		Small farmers	Low	Medium	High	Vulnerable
	Local Civil Society	Venezuelan migrants	Low	Low	Low	Marginal
		Motilón Barí indigenous community	Low	Medium	High	Vulnerable
		Local civil society	Low	Medium	High	Vulnerable
	Community organization	CISCA	High	Medium	High	Influential
		JAC	High	Medium	High	Influential
		COCCAM	High	Medium	High	Influential
		ASCAMCAT	High	High	High	Influential
		ACCC	High	High	High	Influential
		ANZORC	High	High	High	Influential
		MIA	Low	High	High	Concerned
		AMAC	Low	High	High	Concerned
	NGO's and International cooperation	UNODC	Low	High	High	Concerned
		GIZ	Low	High	High	Concerned
		FIP	Low	High	High	Concerned
		INDEPAZ	Low	High	High	Concerned
		FAO	Low	High	High	Concerned
		USAID	Low	High	High	Concerned
		UN Verification Mission	Low	High	High	Concerned
		Consultorio Nororiente	Low	High	High	Concerned

Source: Own elaboration, 2023

Figure 12. Conflict, legitimacy, interest, and power characterization diagram (CLIP) (20015-2022)



Source: Own elaboration, 2023

Table 6. Actors exercising power in the forest management of the analyzed territory.

	TYPOLOGY	CATEGO-RIZATION	ACTOR	TYPOLOGY OF POWER	HOW POWER IS EXERCISED
POWER	**State actor**	Dominant	**Military Forces**	**Institutional power:** The State possesses institutional and bureaucratic structures that empower it to make decisions, formulate policies, and regulate forest management in Catatumbo. The armed forces and the police operate within this institutional framework, utilizing various strategies to exercise control and protect natural resources. An important exercise of this power is evident in the implementation of the Plan Colombia, which involved the initiation of aerial fumigations.	**1) Coercive power to coca growers:** The military and police use repressive tactics and strategies to combat illicit crop production and distribution, including interdiction operations, forced aerial eradication with glyphosate, arrests and seizures. 2) **Control of territory:** Military and police forces have established a physical presence in areas affected by illicit crop cultivation to deter its expansion and control areas already occupied. This has included the installation of military bases, regular patrols and control operations that have led to armed confrontations with illicit groups.
		Dominant	**National Police**		
	Illegal armed group	Forceful	**1)ELN 2) EPL 3) Dissidence FARC 4) BACRIM 5) Rastrojos 6) Urabeños**	**1)Economic power:** The actors involved in illicit coca cultivation wield economic power in the context of forest management. Illicit coca production provides them financial resources and economic benefits, enabling them to exert influence over the forest and its resources. This economic power allows them to sustain and expand their operations, including deforestation activities associated with clearing land for coca cultivation. **2) Sociopolitical power:** Armed groups involved in illicit activities possess significant socio-political power in the management of forests. They exercise coercion and manipulate social and political networks to maintain control over forested areas where coca cultivation occurs. **3) Territorial power:** Each group seeks to assert its territorial claims and expand its influence through the establishment of coca cultivation and other related activities. Land grabbing has also been used as a containment and protection strategy and as a control mechanism by armed actors (Garavito, 2017).	**1) Coercive power to:** **-Coca growers:** These groups exercise control over the production and distribution of coca for illicit drug trafficking purposes. **-Farmers', local and community organizations:** They exercise violence and threaten organizations and social leaders who promote alternative agricultural practices, support forest protection initiatives, or oppose the expansion of illicit coca cultivation in Catatumbo (UNODC, 2014). **2) Control of territory and natural resources:** The armed groups assert control over the territory, they establish their presence, set rules, and govern the use of natural resources in these areas. They exploit and profit from the resources available, including timber, minerals, and land, to finance their operations and sustain their illicit activities. Their control over the territory also allows them to regulate access to and use of the land, exerting influence over local communities (UNODC, 2014).

Source: Own elaboration, 2023

Table 7. Actors with an interest in the forest management of the analyzed territory.

	TYPOLOGY	CATEGO-RIZATION	ACTOR	INTEREST
INTEREST	**Rural actor**	Influential	**Coca growers**	**Economic interest:** The deforestation for the cultivation of illicit coca crops is driven by economic motives rooted in the theory of economic transformation, which influences the decision-making process of agents involved in deforestation. These actors opt to convert forested areas into lands that can yield greater financial benefits, as they perceive forest masses to have low commercial value. Within the economic realm, emphasis is placed on the potential economic gains derived from reducing production costs, aiming to offset the net incomes obtained within the framework of the cost and price structure of the coca market (Clerici, 2020). It is indicated that production costs are increased if the establishment of coca crops within the forest cover, whether primary or secondary forest is considered. This economic interest driving deforestation for illicit coca cultivation reflects the perception among these actors that the potential financial benefits outweigh the costs associated with deforestation and the establishment of coca crops (SIMCI/UNODC, 2008, p. 67).
	NGO's and International cooperation	Concerned	**UNODC**	Interest in supporting the National Strategy for Reducing Emissions from Deforestation and Forest Degradation (National REDD+ Strategy), which is framed in the context of the United Nations Framework Convention on Climate Change (UNFCCC) and national and international efforts to combat drug trafficking, armed conflict, and deforestation (Rodríguez, 2021). The two main interests of international cooperation organisations are described below: 1) Climate change: the different international cooperation agencies and NGOs support and promote projects tending to conserve fragments of natural ecosystems, rehabilitate degraded areas and promote sustainable productive practices, within the areas with the greatest interest for intervention in Catatumbo is the El Diviso Nature Reserve and the Catatumbo Barí National Natural Park. 2) Fighting drug trafficking and promoting peacebuilding: whereby the various international cooperation agencies support Colombian efforts to: 1) promote economic prosperity through the legal economy, especially in the agricultural sector; 2) improve the living conditions of the most vulnerable populations, including Afro-Colombians and indigenous peoples; 3) promote respect for human rights and justice; and 4) ensure the implementation of the peace agreement (Taborda, 2019).
		Concerned	**GIZ**	
		Concerned	**FIP**	
		Concerned	**INDEPAZ**	
		Concerned	**FAO**	
		Concerned	**USAID**	
		Concerned	**UN Verification Mission**	
		Concerned	**Consultorio Nororiente**	

Source: Own elaboration, 2023

Table 8. Level of legitimacy of actors in the forest management of the analyzed territory.

TYPLOGY	CATEGO-RIZATION	ACTOR	LIGITIMIZATION
Local Civil Society	Vulnerable	**Motilón Barí indigenous community**	**Social and institutional legitimacy:** The Colombian national government recognizes that the Motilón Barí indigenous community as an ethnic group has special rights, and therefore constitutionally enjoys autonomy for the management of its interests, can govern itself through its own authorities, administer resources, establish taxes, and participate in national revenues. However, the drug trafficking conflict in Catatumbo has limited their autonomy, and despite the fact that they are legitimate actors, their capacity for agency over the sovereignty of their territory has been undermined.
Community organization	Influential	**CISCA**	**1) Authority and accountability: Farmers' community organisations** Have recognised authority and assume specific responsibilities in the management of issues related to territory and communities in Catatumbo. **2) Representativeness:** The presidents of the Community Action Boards (JACs), the Ascamcat organization, CISCA and others are considered legitimate representatives of certain groups in society, whether at community, sectoral or territorial level. their task is to systematize and give voice to the demands of the peasantry, to make effective the demands for recognition and redistribution of those communities excluded from national political life. **3) Capacity for action:** Their capacity for mobilization, resources and experience allows them to influence decisions concerning defence and permanence in the territory, respect for communities, no fumigation of illicit coca crops and eradication of the socio-economic factors that gave rise to coca cultivation, defense of natural resources and care for the environment, rescue of cultural traditions, participation in decision-making that involves the countryside, respect for life and human rights. **4) Social legitimacy:** They enjoy social support and are recognised as legitimate by communities and other relevant actors in the region. Their legitimacy is based on their commitment to community welfare, their active participation and their ability to effectively represent the interests and needs of the groups they represent.
	Influential	**JAC**	
	Influential	**COCCAM**	
	Influential	**ASCAMCAT**	
	Influential	**ACCC**	
	Influential	**ANZORC**	
	Concerned	**MIA**	
	Concerned	**AMAC**	

Source: Own elaboration, 2023

4.4 CONFLICT MANAGEMENT APPROACH

4.4.1 STAKEHOLDER DECISION MAKING IN FOREST MANAGEMENT

Stakeholders involved in forest management decisions

Understanding the main actors involved in deforestation processes and the motivations that drive them to transition forest cover towards coca cultivation is crucial for comprehending new dynamics that can transform the current patterns of forest degradation. The 3D mapping workshop conducted with rural communities helped to characterize the agents participating in forest deforestation, distinguishing between direct and indirect agents.

The direct agents of deforestation were defined based on the conceptualization provided by the United Nations Development Programme (UNDP, 2014) as individuals, groups, entities, or organizations directly causing forest impact through the planting of coca crops. They can be classified into two categories based on the size of the coca plot, which is the main distinguishing characteristic: i) Subsistence coca cultivators and ii) Extensive coca cultivators (UNDP, 2014).

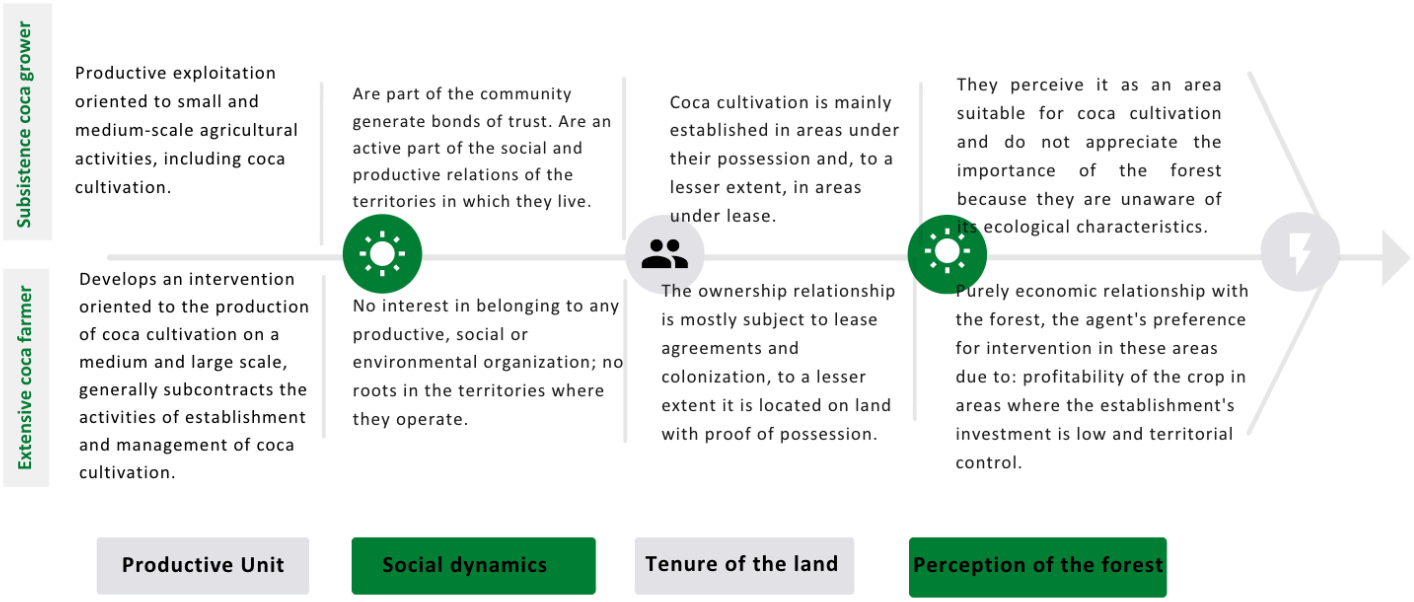
The analysis primarily focused on examining the exercise of power by local actors such as non-state armed groups and small-scale farmers. This emphasis is justified by the recognition that these actors play significant roles in driving deforestation and shaping land-use dynamics in the study area. Non-state armed groups, operating outside the boundaries of the law, exert control and influence through the imposition of norms, violence, and coercion. Their involvement in coca cultivation and the illicit drug trade has profound implications for forest management and deforestation processes.

Small-scale farmers, on the other hand, represent a key actor group due to their direct engagement in coca cultivation and their impact on land-use decisions. Their economic and social circumstances, combined with structural factors such as limited access to alternative livelihood opportunities and market pressures, contribute to their involvement in deforestation practices. Understanding the power dynamics and motivations of these actors is essential for designing targeted interventions and strategies that address the underlying causes of deforestation and promote sustainable forest management.

By focusing on the power dynamics of local actors, this analysis aims to uncover the intricate relationships, interests, and socio-political processes that influence forest cover change and deforestation patterns. Such insights can inform policy and governance initiatives that effectively address the underlying drivers of deforestation and foster sustainable land-use

practices, while also considering the socio-economic realities and power dynamics at play within the local context.

Figure 13. Direct agents of deforestation



Source: PNUD, 2014

Forest management decision-making processes

During the data collection process in the field, through conducting interviews with small-scale farmers and the 3D mapping, two contrasting situations have been identified. Firstly, following the signing of the peace agreement, armed actors have sought to establish themselves as authorities for the local population, employing models based on the imposition of norms and the provision of services, backed by the use of violence (Bernal, 2021). On the other hand, various local and social actors have demonstrated resistance to these forms of violence, developing social structures in response to local organizations. It is noteworthy that some of these local and social actors receive support from national entities and, in some cases, international cooperation agencies, with the aim of promoting new forms of participation in forest management.

This research primarily focuses on analyzing decision-making processes at the local level, rather than institutional decision-making. The emphasis on local decision-making stems from the recognition of the significance of community engagement and grassroots initiatives in shaping forest management practices. By prioritizing local perspectives and participation, this research aims to shed light on the dynamics of power, knowledge, and agency within local communities, as well as their impact on forest governance.

The rationale for examining local decision-making processes lies in the understanding that communities residing in forested areas often possess traditional ecological knowledge and have a deep understanding of the socio-cultural context in which they operate. Their intimate connection with the forests and reliance on their resources positions them as key stakeholders and custodians of local forest management. By focusing on local decision-making, this research acknowledges the agency of local actors and their potential to contribute to sustainable forest governance and community resilience.

Furthermore, examining local decision-making processes allows for an exploration of the social, economic, and political factors that shape forest management outcomes. It recognizes the complexities of power dynamics, social norms, and community interactions that influence decision-making at the local level. By adopting this approach, the research seeks to generate insights into the factors that enable or hinder effective forest management practices and inform the development of context-specific strategies for sustainable forest governance.

The following table aims to illustrate the different forms of participation and decision-making in relation to forest management in the forest.

Table 9. Characteristics stakeholder decision making in forest management

Characteristics stakeholder decision making in forest management **Coca growers**	
Community participation	Among the forms of social exclusion experienced by small farmers, the following were identified 1) Stigmatisation and criminalisation: The tension over illicit coca crops have triggered an accusation and persecution of the peasantry, this being one of the weakest links, 91% of coca farmers interviewed claimed to feel judged and criminalised politically and socially. 2) Political marginalisation: Little or no participation in social and political decision-making at regional or national level. 68% of those interviewed stated that the only participation they have is at the local level, within the new organisational forms that have been formed (JACs and peasant associations). 3) Economic constraints: Difficulties in accessing financial resources, appropriate technology, fair markets and remunerative employment opportunities.
	Forms of social inclusion 1) Organisational strengthening: Effective local organisation has promoted the empowerment and capacity for collective action of individuals and peasant communities (for more details see the section on community organisation). 2) Recognition of local knowledge: In order to recover their own autonomy in decision-making, local communities have based themselves on the valuation of cultural diversity and the use of endogenous resources, which have guided their forms of local relations in certain areas, such as the Catatumbo Barí National Park. 3) Participation in spaces for dialogue and decision-making: Coca growers have formed collectives where dialogue is promoted and efforts are created for joint work, The National Coordination of Coca Poppy and Marijuana Growers (COCCAM) is one of the most recognised in the region.
	Participation of local communities

	In the current post-agreement period, new forms of organization and participation in forest management have emerged in the Catatumbo region. Within the various forms of social participation that have been developed from 2017 to 2022, the following stand out: 1. Community assemblies: The first assembly of coca growers' organizations in 2022 provided a platform for collective decision-making and engagement. 2. Consultations and participatory dialogues: Notably, a total of 10 consultative processes and 15 participatory dialogues have been conducted, involving local communities, governmental institutions, non-governmental organizations (NGOs), and other relevant stakeholders. These processes aimed to ensure inclusivity and foster consensus-building in the development and implementation of forest management plans and policies. 3. Forest management committees: Currently, there are six established forest management committees in the Catatumbo region, comprising representatives from local communities, environmental authorities, academic institutions, and civil society organizations. These committees play a crucial role in promoting collaborative decision-making, sharing knowledge and expertise, and fostering partnerships for sustainable forest management (Ortiz-Urbina, 2019). However, according to 68% of the interviewed actors, these forms of participation are still in their early stages and are considered weak. While recognizing the value of their implementation, they acknowledge that the involvement of local communities, particularly small-scale farmers, remains limited and lacks representation in decision-making processes. Further efforts are needed to strengthen and amplify their participation in forest governance, ensuring their voices are heard and their interests are effectively addressed.
	Participation mechanisms 1) Prior consultation on the implementation of strategies for the substitution of illicit coca crops. 2) Dialogue tables 3) Community assemblies 4) Departmental forestry roundtables According to the Ministry of Environment and Sustainable Development, (2021) the most important goals of the Forestry Roundtables in Catatumbo were: 1) To be a natural scenario to enable dialogue and articulation between the central level and the regions around sustainable forest management. 2) To allow the recognition of the actors in the region, their level of management, the meeting points and the possibilities to work together. 3) To be the space for dialogue, communication and consultation with and between the initiatives, programmes and projects that will be developed or are being developed in the department and the region. In the Catatumbo region, the second national meeting of departmental forestry roundtables was held (Minambiente, 2021).
Type of decision making	**Imposition and authoritarianism** 92% of the actors interviewed agreed that the main actors who make decisions based on imposition and authoritarianism are the illegal armed actors and the military forces.
	Collective decisions 82% of the interviewees agreed that the new forms of social organisation have promoted collective decisions, usually these decisions are taken within peasant collectives, but mainly in the Juntas de acción comunal (JAC), where not only citizen participation is promoted, but also rules are established, conflicts are resolved and collective and consensual decisions are taken (Friedrich-Ebert-Stiftung, 2018). While in the urban areas of the region the local authorities govern, in the rural areas of Catatumbo the Juntas participate and establish the social, cultural, political and environmental order. The number of Juntas de Acción Comunal in the region is represented by three ASOJUNTAS that allow the community to dialogue with the central state: 1) The Catatumbo Peasant Association (ASCAMCAT)

	concentrating on issues such as the concerted and gradual eradication of illicitly used crops and the creation of a peasant reserve zone under Law 160 of 1994, 2) The Catatumbo Integration Committee (CISCA), and 3) The Movement for the Popular Constituent (MCP) has proposed the development of autonomous processes in the community so that they can decide on their own destiny.
	Consensus Among the forms that peasant communities have to advance democratic processes of consultation and decision-making are consensuses, 78% of the interviewees agreed that consensus is one of the most common forms of decision-making, but that it is mainly carried out within peasant organisations already structured as peasant associations or Community Action Boards (JAC), outside these organisations peasants said that it is difficult to reach a consensus when there are conflicting interests (CNMH, 2018).
Influences on decision making in the territory	The extent to which certain actors influence the decision making of other actors in relation to activities based on the use of force and intimidation. The main actors that were recognised for the influence they have on others (based on trust, reputation and legitimacy) were farmer leaders and NGOs. One of the best known initiatives influencing the decision-making of small farmers is Ascamcat, with an initiative for the creation of a Zona de Reserva Campesina, which aims to be around 354,000 hectares and cover at least three hundred and twenty-six veredas. ASCAMCAT has influenced the strengthening of autonomy, sovereignty and sustainable management of the territory as the region's patrimony. Note: Armed actors were not considered as actors that exert influence on the decision-making of others, as their methods are imposing.
Community organization (local Governance)	**Forms of local organization:** ***1. Cooperatives and Associations of environmental, social and peasant groups:*** Cooperatives and associations of environmental, social, and peasant groups are actively engaged in the Catatumbo region. These include the Peasant Association of Catatumbo (Asociación Campesina del Catatumbo, ASCAMCAT), the Association for Reincorporation and Peace in Catatumbo (Asociación para la Reincorporación y la Paz en el Catatumbo, REPAZCAT), the Association of Small Agricultural Producers of Catatumbo (Asociación de pequeños productores agrícolas del Catatumbo), the Association of Agro-industrialists of Catatumbo (Asociación de Agroindustriales del Catatumbo, AGROINCAT), the Association for Peasant Unity (Asociación por la Unidad Campesina, Asuncat), the Association of Women Sowing Hope in Catatumbo (Asociación de Mujeres Sembrando Esperanza en el Catatumbo), the Association of Coca Growers of Catatumbo (Asociación de cultivadores de coca del Catatumbo), the Association of Environmentalist Women of Catatumbo (Asociación de mujeres ambientalistas del Catatumbo), the Association of Zones for Peasant Reserves (Asociación de Zonas de Reserva Campesina, AZR), and the Committee for Social Integration of Catatumbo (Comité de Integración Social del Catatumbo, CISCA). These organizations play crucial roles in promoting social and environmental causes, fostering sustainable agricultural practices, and advocating for the rights and interests of local communities. ***2.*** **Communal Action Boards (Juntas de Acción Comunal (JAC)):** In the Catatumbo region of Colombia, several Communal Action Boards (Juntas de Acción Comunal) have been identified through field research, playing a significant role in representing and engaging local communities in decision-making processes. These boards, namely Tibú, El Tarra, Convención, San Calixto, Teorama, El Carmen, Hacarí, Sardinata, La Playa de Belén, and Puerto Santander, serve as important local organizations that promote the well-being and interests of their respective communities. Their active involvement is particularly evident in the field of forest management and natural resource conservation. The information provided is based on field evidence, highlighting the empirical nature of the findings. The (JAC) are a fundamental organ and the heart of community life in the region.
	Community representation Among the forms of representation are community leaders who have promoted the creation of social organisations with the aim of rebuilding the social fabric, defending the fundamental rights of

	indigenous and peasant farmers in the region, as well as natural resources and seeking political solutions to the armed conflict, guaranteeing non-repetition (CNMH, 2018). During the visit in the territory, it was identified that the leaders of protests and mobilisations have been subject to accusations, threats and stigmatisation, which affects their integrity and, on occasions, has led to the loss of their lives, according to the CNMH, (2018), these threats have had a long-term impact on the various forms of social mobilisation existing in the region.

Source: Own elaboration.

4.4.2 **SOCIO**-ENVIRONMENTAL CONFLICT RESOLUTION

In Catatumbo there are continuities and social ruptures exercised by the various socio-environmental conflicts. This section aims to elucidate the main existing typologies of socio-environmental conflicts in the territory under analysis and the mechanisms of conflict resolution.

The first step in addressing how environmental governance can promote peacebuilding scenarios is to identify the type of conflicts and the ways in which they are resolved, not only to understand the context, but also because it helps to understand social conflict as part of a social, political, economic and environmental process, and to identify the expectations, interests and needs of social actors (Abdala, 2014).

As in other peripheral regions of the national geography, multiple structural and circumstantial causes frame the conflict in Catatumbo. In this research, the main focus lies on conflicts over land and territory, which were triggered after the entry of the guerrillas and paramilitaries. These conflicts were accompanied by serious human rights violations, including massacres and displacements, and the subsequent forced abandonment and dispossession of land (Aponte 2012).

According to (Aponte, 2022), these situations were compounded by the acquisition of land with money derived from the coca economy. After the demobilisation of the Catatumbo bloc of the United Self-Defence Forces of Colombia (AUC), natural and legal persons massively purchased land that had been abandoned during the years of paramilitary hegemony, where palm monoculture is expanding, extensive cattle ranching projects are being implemented and/or mining resources are being exploited or are planned to be exploited.

It is important to clarify that entering an unknown territory and understanding certain mechanisms used to manage conflicts involved an exercise of research, conversation and participant observation; however, a comprehensive and broader understanding of these dynamics would require a longer period of time in the field. The main conflicts identified in the field are described below:

Table 10. Characterization of mechanisms for the resolution of socio-environmental conflicts.

ACTOR	MAJOR SOCIO-ENVIRONMENTAL CONFLICTS	MECHANISMS FOR CONFLICT RESOLUTION
Coca growers	1) Land appropriation conflict: More than half of the displaced peasants had access to land, but only one in three has formal titles. The rural property informality index is 0.71, much higher than the country average (0.54) (Ministry of Agriculture and Rural Development, 2020). 2) Conflict over legitimacy and sovereignty in the use of the forest, 3) Conflict over forest management and natural resource exploitation. 4) Conflict over land use: According to Aponte, (2020) -14.7% of the land is suitable for agricultural activities, but the coverage destined for this purpose amounts to 17.5%. -Only 1.7% of the land would be suitable for livestock, but the coverage for pasture amounts to 25.1% (Aponte, 2022). -Meanwhile, 80% is for forestry purposes but forest cover is 49.2%. 4) Conflict with the military over forced eradication of coca crops	In Catatumbo, peasants apply the organizational forms of the Junta de Acción Comunal (JAC) to resolve conflicts and unmask structural problems in the dispute over territory. The Establishment of Norms of Coexistence is also a mechanism for the administration of justice. Through their conciliation committees, the JACs act as institutions that resolve disputes, socio-environmental conflicts, and citizen disputes (Taramuel, 2019. The administration of justice in Catatumbo has three instances: 1) the JAC conciliation committee, 2) the ASOJUNTAS Asocommittee and 3) the intervention of the illegal armed group. In addition to the effectiveness of the JACs' administration of justice, one can observe the cooperation between these organizations and the illegal armed groups, which are the last instance of conciliation in the region.

Source: Own elaboration

Conflicts over land tenure were accentuated during the period of paramilitary rule, when settlers and peasants were forced to plant coca on their land or were forced to abandon it. On the abandoned farms, the paramilitaries authorised the entry of their members or third parties, on whom they imposed the establishment of coca crops. The paramilitary structures also dispossessed the inhabitants of their farms, either for their own benefit or for the benefit of their allies or persons who encouraged their incursion into Catatumbo. After the demobilisation of the Catatumbo and Norte blocs that dominated the lower and upper parts of Catatumbo, large tracts of abandoned land, with or without titles, were acquired by third parties, increasing the concentration of tenure in the region (Abdala, 2014).

Both in decision-making and conflict resolution, the councils have over the years become the highest community authority in the villages of Catatumbo, where people not only attend their

meetings, but also resolve interpersonal problems and establish consensus on justice for those who have broken the law.

The peasants of Catatumbo have managed to resist and inhabit the region with the intention of protecting, defending and conserving their territories through social organisation. Law 19 of 1958 opened a regulatory field for the JACs, stimulating popular integration that established the guarantee of the right to free association of this type of organisation, which, in addition to allowing the community to articulate itself to strengthen relational networks, allows them to manage conflicts and promote processes of self-management of needs that are not supplied by governmental bodies (García, 2020).

At a second organisational level is Cisca, thanks to which it was possible to enter and take part in this search in Catatumbo. This committee includes within its political commitment the strengthening of community organisation for the enforceability of collective and individual rights in the Catatumbo territory, as well as the empowerment of communities at the grassroots level. In this sense, Cisca is supported by the JACs for the defence of the territory (García, 2020).

In contrast to the land-use plans, the development plans of the municipal authorities and the environmental plans imposed on them by the municipal, departmental and national administrations, the Plan de Vida del Cisca is strengthened by the formation of peasants aimed at fighting institutionally to give a voice to the organisations that have been silenced by multiple actors in this dispute over territory, as described above (Taramuel , 2019).

CHAPTER 5: DISCUSSION

This chapter aims to answer the research questions: How can environmental governance contribute to conflict reduction and peacebuilding in Catatumbo, what points of intervention from environmental governance could contribute to halt and reverse the trends of deforestation and the expansion of illicit coca crops in the territory under consideration?

In order to guide the points of intervention that could contribute to peacebuilding, two important processes that are occurring at the sociopolitical level in Colombia and in the territory under analysis were considered as a contextual axis, which correspond to:

1) **The consolidation of the Integral Rural Reform after the peace agreement:**

That, based on the acceptance of the historical debt with the rural territories, seeks the structural transformation of the countryside. One of the purposes of the agreements is to democratize access to land; for this reason, it has been agreed to create a Land Fund for free distribution that will benefit landless or land-sufficient peasants (JEP, 2023).

In the regions most affected by the conflict and poverty, with the presence of illegal economies and greater institutional weakness, it is intended to implement the Development Programs with a Territorial Approach (Programas de Desarrollo con Enfoque Territorial -PDET-). The objective of these programs is to implement national sectoral plans more quickly and to learn about and incorporate local and regional development visions in the plans that are implemented, for which purpose it proposes an ambitious goal of formalizing rural property of 7 million hectares at the national level in the next 12 years (JEP, 2023).

This Reform is based on a territorial approach but has a clear centralized focus, decisions are still mostly made from Bogotá or from the Governor's Office, its formulation and implementation was not thought of as a system and each plan has been structured in a disjointed manner with the rest of the institutionality, although it is mentioned that the processes should be participatory and built with the people, this is not happening (Dejusticia, 2023).

Despite the important advances in some of the proposals put forward in the Comprehensive Rural Reform, some important omissions are evident: deforestation is not mentioned and nowhere is the role it played in the armed conflict on the environment recognized. Neither do they make efforts to elucidate the role of the FARC-EP (as custodian of the forests in the territory of analysis and as executioner in other regions of the country) nor the omissions of the State and, therefore, nowhere do they think of preventive and reparative actions (López, 2018).

In addition, the power vacuums that would emerge in places such as the Catatumbo jungles as a result of the FARC-EP's reintegration into civilian life were not anticipated. Despite warnings from the community and national and international experts, adequate contingency actions were not implemented, nor was a transition considered in terms of governance, not only in environmental issues, but also in other aspects, such as justice (López, 2018).

2) **Post-agreement context after the signing of the peace agreement with the FARC:**

This important historical event has given way to the final agreement for the termination of the conflict and the construction of a stable and lasting peace, in which it was stated that Colombia will have an Integral National Program for the Substitution of Illicitly Used Crops that will go beyond eradication and will be articulated with the agreed rural development plans and programs.

This solution to which the parties are committed has three pillars: The first pillar is the solution to the problem of illicit coca crops, which seeks to transform the conditions of the territories that have been affected by the presence of these crops and generate conditions of well-being for the communities that live there and, above all, that those who cultivate them move towards a legal economy. It is not simply a matter of eradicating coca plants. It is about working with the communities in the territories to solve the crop problem, based on the will of those who are directly linked to this activity, through the signing of substitution and non-replanting agreements, where not only the growers but also the national and local governments make commitments, in a logic of territorial integration and social inclusion (Colombian Ministry of Foreign Affairs, 2023).

It is thus recognized that, in addition to being a constituent part of the armed conflict, the definitive solution to this problem has to do with the implementation of the Comprehensive Rural Reform and the construction of peace in the countryside. In this sense, given the urgency to generate consensus, the Peace Agreement offers a window of opportunity through Participatory Environmental Zoning, as well as in the scenarios of dialogue with community actors that arise from the Development Programs with a Territorial Approach (PDET) and the National Program for the Integral Substitution of Illicit coca crops (PNIS), which are guided by the idea of guaranteeing broad participation of the social agents present in the territory.

The agreement has opened new windows of opportunity to halt deforestation and the expansion of illicit coca crops in Catatumbo. During the negotiation, several important things were recognized: (i) that the production and commercialization of drugs have financed the internal conflict; (ii) the social effects, especially for those who are considered the weakest link in the drug trafficking chain; small farmers (López, 2018).

Considering the previously described context, the potential of environmental governance for peacebuilding was considered from three axes: 1) the reconstruction of the social fabric, 2) the reconversion of productive systems from a territorial governance and 3) the designation of socio-

environmental dynamics where the management of natural resources is an axis of cooperation and local development and not a cause of the conflict (each one corresponds to the social, economic and environmental dimension respectively) and encompasses different strategies that aim to respond to the growing pressures and challenges assumed by the small-scale coca farmers of Catatumbo, as described below.

5.1 FIRST AXIS: ENVIRONMENTAL GOVERNANCE IN THE RECONSTRUCTION OF THE SOCIAL FABRIC

The serious consequences derived from the internal armed conflict and the appropriation of ecosystems for the illicit cultivation of coca (both phenomena inherently interrelated) have given rise to dynamics of distrust and violence that have generated significant ruptures in the social fabric of the communities in the Catatumbo region.

In this context, rethinking how from new forms of social organization built from participation, thinking about:

1) *Environmental governance in generating horizontality in community relations and strengthening local agency:*

The processes that have been promoted by the State in the territory have not been able to halt the trends of conflict, deforestation and licit coca cultivation, the verticality and imposition of government strategies has weakened the bonds of trust due to the repeated contradictory messages, non-compliance, disjointed actions and the inability of state entities to have an effective presence in these territories and comply with their constitutional and legal responsibilities. To this has been added the stigmatization suffered by the population, incriminated for being the civilian expression of the guerrilla and constantly pointed out as "illegal" due to their informal land tenure relations, for being located on environmental ordinance and for growing coca.

In this sense, environmental governance opens the possibility that peasants, coca growers, social leaders, trade unionists, demobilized guerrilla actors can develop collective, horizontal, organized and highly democratic actions in which the State is not a central actor but a complementary one. This capacity for management from the local level, in which solutions transcend traditional hierarchical and centralized approaches, is fundamental for building new realities in the territory that respond to the current needs of local populations.

A key aspect of environmental governance is its ability to foster open dialogue between different actors, by recognizing and valuing the perspectives and knowledge of community actors, more effective and sustainable strategies can be developed to address socio-environmental challenges in the Catatumbo region and can also contribute to peacebuilding by promoting relationships of reciprocity and trust between actors.

Horizontality in relationships inherently implies a restructuring of power dynamics, which breaks with almost all traditional and instituted organizational formats and proposes a new paradigm, linked to collective responsibilities and popular self-determination of a new institutionality in Catatumbo based on trust, reciprocity, listening, dialogue and consensual decisions, about themselves and their ecosystems.

In this sense, they play a central role as agents of change and protagonists in the search for sustainable solutions to socio-environmental challenges that promote reconciliation, participation and social cohesion. For which the approach adopted in the Peace Agreement can be useful, to the extent that it welcomes a participation perspective that seeks to address the deficit of trust at the territorial level by creating a series of spaces through which citizens are sought to be linked to government management and have an impact on matters of public interest (FIP, 2016, p. 8).

It is imperative that citizen participation be conceptualized from a 'bottom-up' perspective, incorporating differential approaches and a participatory framework. Essential investment in participatory processes that engage all stakeholders involved in deforestation is warranted.

2) *Environmental governance for the construction of spaces for multi-stakeholder recognition.*

The power asymmetries evident in forest management in Catatumbo have resulted in the invisibility and exclusion of certain social actors in the territory. Currently, coca farmers, indigenous communities and those ex-guerrillas who have chosen to reintegrate into civilian life after the signing of the peace agreement have the opportunity to elevate the dignity of their activities and foster more peaceful scenarios.

One of the fundamental principles of environmental governance that can promote social cohesion is the strengthening of community participation. For decades, various peasant actors, victims and, to this day, ex-guerrillas have been systematically marginalized and excluded.

The current challenge lies in guaranteeing the inclusion of these marginalized actors and fostering the creation of new spaces that involve demobilized actors of the armed conflict in these processes. It is at this moment when, for the first time, local experts, scientists, ex-guerrillas, jointly develop biodiversity expeditions in former conflict zones (WWF, 2021). These scientific expeditions mark a milestone and are a testimony of the will for reconciliation and the search for new opportunities for nature conservation.

In this sense, it is the dignification of the actors, the recognition of their voice and their integration into civilian life as legitimate agents that constitute a way to rebuild the deeply affected social fabric. To achieve this objective, it is possible to take advantage of the existing network of relationships in the communities, especially through community leaders and representatives of Asojuntas, who play a strategic role. Through their active participation, a path towards

peacebuilding can be embarked upon. In this context, peace is understood as a dynamic social process, as the restoration of social relations plays a fundamental role in the reduction of differences and the recognition of diversity within a community (Garcia, 2020).

In the same way, the reconstruction of the social fabric will also depend on peacebuilding and requires actions aimed at challenging learned prejudices, developing empathy towards others, promoting a change of mentality that opens the possibility of new relationships in which violence and force are not the way to obtain results, and resolving conflicts. To achieve this complex set of actions, it is necessary for society as a whole to activate its potential, deploy its capacities and articulate itself; to transform itself as a society (Lederach, 2003).

As a whole, this regional social experience becomes a valuable accumulated learning experience with the potential to find viable solutions to the persistent problems that afflict Catatumbo. Given that many of the policies implemented in the region are seen by its inhabitants as impositions, to the extent that they are not consulted nor do they correspond to their capacities and ideas of well-being, it is considered essential to open spaces for participation that recognize, legitimize and give impetus to this accumulation, this will allow the consolidation of a favorable environment from which to build concerted, viable and socially recognized bets that, ultimately, will result in the State recovering the legitimacy that has been injured (CNMH, 2018).

Also in the framework of truth, justice and reparation processes, responsibilities for the destruction of Colombian forests must be established. For their part, truth and memory exercises are able to provide valuable information to direct concrete actions to control deforestation in territories with the presence of illegal armed groups, as well as to provide important elements that can contribute to strengthen the forms of governance in Catatumbo.

5.2 SECOND AXIS: RECONVERSION OF PRODUCTIVE SYSTEMS FROM THE GOVERNANCE OF THE TERRITORY

The territory under analysis, unlike other territories with a strong presence of indigenous communities, has a population configuration composed almost entirely of colonist-peasant population and, recently, by a few land speculators who have been concentrating significant amounts of land.

So far, within the development model that has been used in the country and in the territory under analysis, there is no productive model designed to take advantage of the potential of the forests that has a clear benefit for local stakeholders. Partly for this reason, productive activities in Catatumbo are based on the depredation of the forest and the expansion of the agricultural frontier, which, in order to be reversed and move towards licit, sustainable and fair agricultural economies, require processes of formalization, access, appropriation and land titling. In this regard, the potential of:

1) *Environmental governance for the legitimization and peasant sovereignty over the territory.*

As analyzed in section 4.2.1.3. Despite the fact that the Catatumbera peasant population has a shared historical narrative of resilience, in which they have continuously fought for the recognition of their rights and have forged their collective identity through a tireless search for sovereignty and legitimization, the strong governmental and socio-political structures have made land titling practically non-existent (Salgado Ruiz, 2012).

After the peace agreement, the Land Fund seeks to dynamize access and formalization of rural property for the different social actors, through the Family Agricultural Unit (UAF) - which in essence - seeks to answer the question: how much land should each applicant receive to be sustainable. This important effort must be undertaken from an environmental governance approach.

The Colombian National Land Agency has promoted efforts to calculate the UAF, an instrument through which the farmer can access land in an area that will guarantee income for the welfare of his family. The objective is to formulate and implement joint actions to benefit access to land and the strengthening of peasant organizations through the management of interethnic and intercultural conflicts (Botia, 2019).

The UAF insofar as it implies: i) maintaining the physical integrity and productive capacity of the soil; ii) generating productive reconversion processes in the territories; iii) correcting the inequitable distribution of land; iv) avoiding the phenomenon of concentration of rural property and its uneconomic division; v) ensuring progressive access to land ownership for rural populations and improving their quality of life; vi) correcting the undue accumulation of property initially adjudicated as wasteland. This calculation inevitably requires the participation and consideration of local stakeholders and, above all, environmental considerations, which to date have not been taken into account (Botia, 2019).

At the institutional level, the evaluation of the National Planning Department (DNP) concluded that there is still an excessive centralization in the titling process of baldíos, which means that once again, fair access to land is not possible from a centralized government, in which governability is evident but not governance. In this sense, "The reformulation of the UAF must foresee that the land will be delivered together with other components of rural development that ensure the minimum vital and a capitalizable surplus to the beneficiaries". In other words, it is not possible to think of the success of the adjudication policies, if such land is not associated with a productive project under peasant economy criteria, subsidized interests and insurance for small production (La Silla Vacía, 2018).

2) Environmental governance in the defense of a comprehensive rural reform to move towards legality

Farmers involved in the cultivation of illicit coca crops face a complex challenge, many of them expressed during the interviews their desire to transition to other activities, but the limited possibilities for economic transition as well as the sequential approach imposed by the State pose significant problems. Growers are forced to eradicate before they can access benefits such as formalization, subsidies and technical assistance for productive projects.

The substitution of illicit coca crops is only possible if the farmers own their land, although the will of the State is manifest to generate greater assertiveness in the successful adjudication of land, compliance is still quite meager. The result of the increasing deforestation as well as the increasing coca production related in section 4.1.3 demonstrates that the government's efforts were unsuccessful, the forced eradication strategies employed previously did not reduce this problem, on the contrary, they reinforced the perception of punitiveness, criminalization and deepened the gap between the state and local actors, who repeatedly expressed feeling abandoned and without any support from the state.

Therefore, the potential to generate significant changes in the socio-ecological system associated with coca cultivation and deforestation lies not only in the determination and collective actions of coca growers, but also in the need to implement substantial structural transformations that demand a deep commitment from the Colombian government.

Against this background, in 2020 an alternative model of voluntary substitution was adopted called "Territories for Conservation", which seeks to harmonize the conservation processes of special management areas such as the PNNs, with the development of licit income generation alternatives for coca growers, which contribute to the improvement of their socioeconomic conditions. The strategy is based on exploring innovative income generation alternatives that guarantee a balance between conservation and productivity, such as productive lines derived from the bioeconomy, green and sustainable businesses, forestry economy, sustainable tourism and Payments for Environmental Services (PES). However, an analysis of the alternative model shows that it is still quite restrictive, as it establishes that all productive lines, or any activity that is carried out in terms of voluntary substitution and alternative development "must start by reviewing the limitations and opportunities for land use and exploitation allowed by the regulations" (ART, 2020, p. 5).

3) Environmental governance for the articulation of communities towards the implementation of the Comprehensive National Program for the Substitution of Illicit coca crops (PNIS).

At the same time and in coordination with the Integral Rural Reform that seeks to transform the conditions of the areas affected by illicit coca crops, so that the communities have alternatives

for income generation, social development opportunities and better living conditions, the National Integral Program for the Substitution of Illicit coca crops (PNIS) was created.

The PNIS was created as part of the implementation of the Final Agreement for the Termination of the Conflict and the Construction of a Stable and Lasting Peace. Its objective is to "promote the voluntary substitution of illicit coca crops, through the development of programs and projects to contribute to overcoming conditions of poverty and marginality of peasant families who derive their livelihood from illicit coca crops.

A little more than five years after its creation, the Program has significant disengagements in its components, according to the Kroc Institute, most of the provisions have not been initiated or are in a minimum state of implementation. The individual focus of the PNIS has limited its ability to positively influence economic and social inclusion. The focus on families -and not on a local collective process- generated expectations regarding the productive activity toward which resources would be directed. This resulted in a scattered, unarticulated list of more than 400 lines, which poses a challenge not only in terms of serving the Program's beneficiaries, but also hinders the possibility of achieving economies of scale, advancing in productive linkages and promoting collective initiatives.

Under the current scheme, operators and the Program have little capacity to influence the dynamics of territorial transformation, since resources - strictly speaking - are directed to families and not to the provision of public goods or infrastructure, associative efforts and collective undertakings. Leaders in the regions where the PNIS operates maintain that it is very difficult to generate associative efforts under this scheme of individual attention.

In the Forest Reserve Zones, it is imperative to implement productive projects that are compatible with the purpose of these zones. Although it seems like an obvious reasoning, the complexity of the problem prevents finding strategies that allow peasant families to develop productive activities in accordance with the conservation objectives of these protected areas, In the case of the collective territories of ethnic and peasant groups, the lag in the implementation of productive activities is more than 80% of the families in indigenous reserves, and 40% in community councils, will not be able to move forward with this component because they have been linked to the Program individually and not collectively (FIP, 2022).

Therefore, territorial development programs in these areas require the leadership and coordination of entities with the necessary technical, social and cultural information and expertise to address socio-environmental conflicts, as well as the inclusion and strengthening of collective action.

5.3 THIRD AXIS: REDEFINE NEW NATURAL RESOURCE MANAGEMENT DYNAMICS.

Throughout this research it became evident how the important forest ecosystems of Catatumbo have been subjected to a "management" model that is not in tune with the interests and desires of its inhabitants, and that has little or no coherence with the metabolic readjustments needed by the planet.

Bebbington and Hinojosa (2007) identify five thematic fields that are quite useful for understanding the current logic of land use planning and governance processes. To discuss this last axis, the focus will be mainly on the thematic fields of social mobilization, which allows the recognition of the processes of collective action that shape the rural territory, and that of reterritorialization, which takes place when a territorial "order" determined by the correlation of local peasant forces is configured.

The peasant communities of the Catatumbo region have had to resist the penetration of violent processes into their territory. However, they have used this situation to rethink their territory, their political relations and, in general, their very existence. A creative tension has arisen that has given rise to a political endeavor in which individual and collective capacities are oriented towards the construction of values and practices that transform the territory.

This creativity is the political response to a way of organizing the territory in order to reverse the current models that contradict life itself and that undoubtedly require radical and profound solutions in different dimensions: epistemic, social, political, cultural, technological and economic.

1) Local governance to transform conflict dynamics, people's relationships and land use

Today, the process of territorial reconfiguration in Catatumbo is generating profound ecosystemic and social transformations. The State and the market, which ultimately lead governance processes, have the capacity to "produce national structures with local territories" (Bebbington, 2007).

The consolidation of these political processes and the construction of new alternatives imply not only the perseverance and legitimacy of the sectors of the popular camp, but also the development of a collective imaginary, necessary and possible, of the management of the territory and the diversity of its natural resources. The identification of new forms of resistance, as well as the creation of networks, are the necessary alternatives for the grassroots sectors involved in the planting of illicit coca crops to re-signify their conflict dynamics due to deforestation and illicit coca crops.

In this sense, environmental governance aims at a collective and constant construction of theoretical-practical, academic and popular knowledge for the reduction of the conflict, rescuing the importance of environmental history and its diverse processes of coloniality of the territory that invite cooperation for the sustainable management of natural resources. Its valuable contributions in the analysis of the asymmetries of power that exist for the appropriation of nature, consolidates itself as a very important tool for those actors, mainly peasants and former members of the FARC, who intend to move towards legitimization and cooperation.

Transforming conflict dynamics through environmental governance is nothing more than promoting new twists in the coloniality of power. In Catatumbo, these forms of community organization through Juntas de Acción Comunal (JAC), peasant collectives such as COCCAM and community and peasant associations such as CISCA and ASCAMCAT in which new dynamics of collectivity and representativeness have been established are in themselves a form of local territorial governance, because it is through the collective action, the practice and the cosmovision of the native peoples that new social impulses have been realized that have led to peaceful, organized peasant resistances that base their decisions on collectivity, consensus and the common good. It is therefore a scenario that must be amplified throughout the territory.

2) Environmental governance to develop sustainable forest management frameworks

This premise arises from the recognition of natural resources as central axes for peacebuilding, development and good living. In this sense, in order to reverse the current dynamics in Catatumbo, it is necessary to establish participatory models of sustainable management of the territories that integrate biodiversity conservation with productive projects in organized communities.

Generating participatory strategies for conservation, recovery and restoration of natural areas historically affected by the armed conflict in Colombia is crucial, and must be carried out with complementarity, sustainable development of communities, community participation and innovation, through actions that contribute to biodiversity conservation, improvement of the supply of environmental goods and services, strengthening of sustainable productive processes and recognition of the victims of the conflict.

The Bosque de Paz projects, are a good example of this, as they aim to link local actors and demobilized guerrilla members called peace and environment guardians -article 3 of Resolution 470 of 2017- (Ministry of Environment and Sustainable Development, 2018).The guardians, as a central part in the development of the activities proposed in the Bosque de Paz, are trained in environmental education issues and productive sustainable practices, in order to generate and strengthen capacities that guarantee an adequate management of the natural systems in the territory.

The theory of governance begins with diversity, dynamism and complexity to increase the levels of social cohesion and cooperation, for which it is necessary to consider the management of natural resources in an integral, participatory and sovereign manner.

Impact of Environmental Governance Interventions on Actor Dynamics in Catatumbo, Colombia

The proposed interventions based on environmental governance have the potential to generate significant changes in the typology of actors identified through the CLIP analysis in Catatumbo, Colombia, as presented in Figure 12, Section 4.3.

In the current context, actors such as the State, the military, and the police could be classified as "Dominant" in the CLIP analysis, as they hold power and continuously enforce punitive and prohibitionist norms regarding the cultivation of illicit coca crops. However, with the implementation of environmental governance, there is the possibility for these actors to transition to being "Influential" or even "Dormant." Prioritizing cooperation and dialogue with local communities could shift their focus towards legitimacy and inclusion, ultimately reducing tensions and conflicts in the region.

On the other hand, grassroots communities such as CISCA, ASCAMCAT, JAC, MIA, and local community groups, currently identified as "Influential" in the CLIP analysis, could potentially move towards the category of "Dominant" through the promotion of environmental governance. Strengthening their community ties and granting them a more active role in decision-making concerning natural resources in their territory could grant these communities greater influence and legitimacy at the local level.

As for the armed groups operating outside the law, currently identified as "Forceful" in the CLIP analysis, it is crucial to highlight that in a scenario of peace, their power and ability to enforce their interests would significantly diminish. With demobilization and disarmament, these actors may lose their powerful status and evolve into the category of "Dormant" or even cease to be relevant actors in the region.

CONCLUSIONS

The underlying causes of the socio-environmental conflict over deforestation and illicit coca cultivation that has led to a long territorial dispute have been closely related to the armed conflict and the relationship of local actors, particularly the peasantry, with their own territory. Even so, the processes of grassroots community organization, including peasant organizations such as ASCAMCAT, have been a sign of resistance and struggle that have allowed many coca farmers to demonstrate their willingness to voluntarily transition to licit economies and decide to transform the current dynamics of deforestation and forest degradation.

In this research, I have wondered about the points of intervention that environmental governance can offer to contribute to peacebuilding by reversing the trends of deforestation caused by illicit crops. I argue that peace in Colombia and the analyzed territory must be centered around participatory, cooperative, and sustainable management of natural resources. In this sense, the approach to territorial peacebuilding, which means peace built by and for the territory, involving grassroots actors, is essential. An approach to peacebuilding through environmental governance entails the inclusion of marginalized and excluded actors from the broader social spectrum in the management of their own natural resources, based on cooperation and mutual benefit.

This spectrum of actors includes not only small coca-growing farmers but also former FARC guerrillas who demobilized after the peace agreement, granting them the right and now the possibility to be reintegrated into civilian life. Therefore, their political will for social participation and their voices must be considered. In this way, peace can only be built with representativeness and inclusion. Hence, the academic analysis of territorial peace requires an approach that pays special attention to the ways in which peasants and other actors build peace within an ecology of mutual care and participation.

Regarding the overall objective of this research, it is concluded that environmental governance represents a useful framework for reversing power dynamics and establishing new relationships based on horizontality, where actors have sovereignty over the territory, participation, and representation. However, acknowledging its importance, it is recognized that due to the complex, deep, changing, and volatile nature of deforestation processes caused by illicit coca crops, inherently linked to the armed conflict, environmental governance is one of the various approaches that must be employed for peacebuilding. Nonetheless, it by no means represents the only approach.

Rural communities emphasized the need for differentiated and specific approaches for addressing coca-related deforestation in their territories. While common proposals mainly focus on introducing alternative productive activities to illicit coca cultivation, such as agroforestry, forestry, or ecotourism, the measures proposed by the communities themselves emphasize other aspects, including strengthening forest and territorial governance, forest restoration, and dialogue with stakeholders, among others (García et al., 2018).

Therefore, more horizontal social structures and organizations can play a crucial role in preventing or reducing deforestation (Wahl, 2021). Consequently, interventions and local programs aimed at transforming coca leaf producer communities and their economies should not only consider their specific needs according to the particularities of their own territory but also promote their capacity to transform their contexts and economies.

The historical struggles that have motivated the conflict and still underlie today's situation reflect how the state's neglect of small farmers has resulted in violence, conflict, and environmental degradation. An analysis of families participating in the Colombian government's National

Program for the Substitution of Crops (PNIS) revealed that poverty (in multiple dimensions) and inadequate land tenure are among the main issues faced by households in coca-growing regions (Wahl, 2021).

In this regard, the voluntary substitution of illicit crops is contingent upon the existence of adequate guarantees, such as legal land tenure for small farmers, proper road infrastructure, technical assistance aligned with the agricultural systems of these communities, guaranteeing human rights, and providing basic services. Additionally, it is essential to support and finance activities that promote other forest management practices related to conservation, protection, and carbon markets. This support is crucial for local actors to view ecosystem protection as a viable socioeconomic option, but these efforts must be done with and for the community.

Regarding the creation of less conflict-ridden, violent, and environmentally deteriorating scenarios, territorial peace must be understood as an ongoing process, developed through multidirectional, emerging, and everyday practices. For those trapped in the midst of slow violence, peace is built through the daily practices of life that make "resistance, resilience, and flourishing" available simultaneously rather than being ordered sequentially (Lederach and Lederach 2010, 54). Peace must be constructed from within the territory and not imposed from the outside, based on an intimate understanding of the mutual relationships between peasants and the land, territory, and identity. It is in this context that the foundations of peacebuilding lie in environmental governance.

Finally, the socio-environmental context and dynamics of the actors addressed in this research allowed for glimpsing the complex nature of the conflict. While it is acknowledged that the findings presented in this study offer a general view of these dynamics, it is recognized that the social interrelations among the actors and the dynamics of forest management and the cultivation of illicit coca crops are much more intricate. Nonetheless, this academic exercise is valuable for approaching the wills, relationships, and interests of the actors involved in transforming the current trends of socio-environmental conflict.

The profound understanding of the actors involved and their dynamics at the local level, as addressed in this research, lays the groundwork for tackling a dynamic problem that cannot be fully portrayed in all its complexity. To achieve a more holistic perspective, it is suggested to incorporate other institutional elements that involve both governmental and non-governmental actors in a more integrative manner. Exploring the interconnections between deforestation and drug trafficking on broader scales, involving different levels of government, international organizations, and other stakeholders, is crucial. Delving deeply into how natural resources can be an integrated axis for peacebuilding is a question worth exploring in further research.

Likewise, conducting a detailed assessment of the potential for other agricultural and economic productions in the region is essential. Identifying sustainable productive activities that can replace illicit coca crops becomes a critical step towards transforming the local economy and the

well-being of communities. This analysis must take into account socio-economic and environmental factors to promote viable and attractive alternatives for farmers. Addressing the ecosystemic, contextual, social, and economic characteristics represents a worthwhile challenge.

As expressed in different sections of this research, the lack of access to education, healthcare, infrastructure, and clean water remains a challenge in the region. Investigating how to overcome these barriers and ensure access to essential services is fundamental for promoting development and well-being within the communities.

Another area deserving deeper focus is the role of women in peacebuilding and environmental governance. Female leaders and the organizations they represent have developed strategies to confront the fragility of their territories, strengthening community bonds, fostering collective action, and leading advocacy processes and dialogues with diverse actors. The experiences of resilience amidst territorial fragility combine individual and collective experiences, providing valuable lessons that can be acknowledged and leveraged to build territorial peace.

Ultimately, these research demands reflect the complexity and multidimensionality of the socio-environmental conflict in Catatumbo. While environmental governance stands as a robust foundation for addressing these challenges, a broader and integrated perspective involving multiple actors and institutions at the local and international levels is required.

The construction of peace and sustainable development in the region necessitates a holistic approach that considers both local dynamics and global relationships, promoting active community participation and embracing diverse perspectives. With this collaborative and enriched approach, progress can be made towards a fair, equitable, and harmonious future in harmony with the environment in Catatumbo.

REFERENCES

Abdala, Y. S. (2014). Catatumbo: Análisis De La Conflictividades Y Construcción De Paz. Retrieved from: https://www.legal-tools.org/doc/06d4d1/pdf/

Agencia de Renovación del Territorio. (2020). Documento técnico de soporte. Desarrollo de los componentes de procesos de sustitución voluntaria de cultivos ilícitos y desarrollo alternativo ubicados en áreas ambientalmente estratégicas o de importancia ecológica. Bogotá: ART.

Alianza Colombia TFA. (2021). Cero deforestación en Colombia: ABC de las cadenas cero deforestación de palma, cacao, carne y leche en Colombia. Bogotá: Auto.

Alier, J. M. (2008). Conflictos ecológicos y justicia ambiental. Papeles de relaciones ecosociales y cambio global, 103, 11-28.

Alto Comisionado de las Naciones Unidas para los Refugiados - ACNUR. (2004). Algunos indicadores sobre la situación de los derechos humanos en la región del Catatumbo. Recuperado de: http://www.acnur.org/t3/uploads/media/669.pdf?view=1

Andrade, G. (2004). Selvas sin ley. Conflicto, drogas y globalización de la deforestación en Colombia. En Cárdenas, M. y Rodríguez Becerra, M. Guerra, sociedad y medio ambiente (pp. 107-173). Bogotá: Foro Nacional Ambiental.

Aponte, A. (2012). Cúcuta y el Catatumbo: entre la integración y la marginalización. Conflicto y territorio en el Oriente colombiano. Bogotá: Odecofi, Cinep/PPP y Colciencias.

Aponte, A. F., Ebus, B., & Reina, J. V. (2022). Paz y seguridad, conflicto violento y deterioro ambiental en el Catatumbo. Retrieved from: https://www.researchgate.net/profile/Jenniffer-Vargas-Reina/publication/361710519_Conflicto_Violento_y_Deterioro_Ambiental_en_el_Catatumbo/links/62c0ba5a3d26d6389e8da9d8/Conflicto-Violento-y-Deterioro-Ambiental-en-el-Catatumbo.pdf

Arce, R. (2021). Conflictos socioambientales y complejidad. Revista Ciencias de la Complejidad, 2(1), 25-35. Retrieved from: https://core.ac.uk/download/483720063.pdf

Asociación Campesina del Catatumbo. (2012). Plan de Desarrollo Sostenible para la constitución de la Zona de Reserva Campesina del Catatumbo. Bucaramanga, Colombia: Autor.

Asociación Minga. (2016). Crónica: El movimiento campesino del Catatumbo desde adentro. Retrieved from https://asociacionminga.co/cronica-el-movimiento-campesino-del-catatumbo-desde-adentro/

Balvin, D. (2005). La negociación en los conflictos socioambientales. Moquegua: Labor.

Bartra, A., & Federal, P. R. D. M. D. (2011). Tiempo de mitos y carnaval: indios, campesinos y revoluciones de Felipe Carrillo Puerto a Evo Morales. (No Title).

Bachrach, P., & Baratz, M. S. (1970). Power and poverty: Theory and practice.

Bebbington, A. (2009). Industrias extractivas, actores sociales y conflictos. En Centro Andino de Acción Popular (CAAP) y Centro Latino Americano de Ecología Social (CLAES),

Extractivismo, política y sociedad. Cuadernos de capacitación (pp. 131-155). Quito: CAAP/CLAES

Bernal, J., Sudarsky, J., & Gómez, C. R. (2021). Los cultivos ilícitos en los Parques Nacionales Naturales de Colombia: dinámicas, impulsores y respuestas de política publica.

Brenner, L. (2010). Gobernanza ambiental, actores sociales y conflictos en las Áreas Naturales Protegidas mexicanas. Revista mexicana de sociología, 72(2), 283-310.

Brenner, L. (2012). Desarrollo local participativo y buena gobernanza ambiental:¿ una combinación viable? La experiencia de una Reserva de la Biosfera mexicana. Medio Ambiente y Urbanización, 76(1), 211-242.

Brisman A, South N and White R (2015) Toward criminology of environment-conflict relationships. In Brisman A, South N and White R (eds) Environmental Crime and Social Conflict: Contemporary and Emerging Issues: 1–38. Surrey, UK: Ashgate.

Brugha, R., & Varvasovszky, Z. (2000). Stakeholder analysis: a review. Health policy and planning, 15(3), 239-246.

Bodin, Ö., Mancilla García, M., & Robins, G. (2020). Reconciling conflict and cooperation in environmental governance: a social network perspective. Annual Review of Environment and Resources, 45, 471-495.

Botia-Carreño, W. H. (2019). Unidad Agrícola Familiar (UAF), instrumento de política pública agropecuaria en Colombia. Pensamiento y Acción, (27), 59-89.

Boulding, K. E. (1978). Stable peace. University of Texas Press.

Camargo Vargas, L. C. (2017). Lineamientos para la gestión de la deforestación, generada por los cultivos ilícitos asociados al conflicto armado, en el municipio de Tibú, en el contexto del posconflicto.

Cante, F. y Trujillo, L. (2014). Posibilidades de gobernabilidad y gobernanza en distintos tipos de minería. Ópera, 14, 27-45. https://revistas.uexternado.edu.co/index.php/opera/article/view/3839

Cantillo, T., & Garza, N. (2022). Armed conflict, institutions and deforestation: A dynamic spatiotemporal analysis of Colombia 2000–2018. World Development, 160, 106041.

Castro-Nunez, A., Mertz, O., & Quintero, M. (2016). Propensity of farmers to conserve forest within REDD+ projects in areas affected by armed-conflict. Forest Policy and Economics, 66, 22-30.

Centro Nacional de Memoria Histórica. (2014). Guerrilla y población civil: Trayectoria de las FARC 1949-2013. Retrieved from https://www.centrodememoriahistorica.gov.co/descargas/informes2013/farc/guerrilla-poblacion-civil.pdf

Centro Nacional de Memoria Histórica, Trujillo, M. F. P., Aceros, J. L., Vaca, J. R., & Hernández, D. C. (2018). Catatumbo: memorias de vida y dignidad. Resumen. Centro Nacional de Memoria Histórica.

CEPEI. (2020). Los cultivos de coca y la deforestación en Colombia. Retrieved from: https://cepei.org/documents/los-cultivos-de-coca-y-la-deforestacion-en-colombia/

Cerrillo, A. (2006). La gobernanza hoy: 10 textos de referencia. IDP. Revista de Internet, Derecho y Política.

Charry, A., Jager, M., Enciso, K., Romero Sánchez, M. A., Sierra, L., Quintero, M., ... & Burkart, S. (2018). Cadenas de valor con enfoque ambiental y cero deforestación en la Amazonía colombiana-Oportunidades y retos para el mejoramiento sostenible de la competitividad regional.

Charmaz, K. (2006). Constructing grounded theory: A practical guide through qualitative analysis. sage.

Chilito Piamba, E. A. (2018). Participación comunitaria, gobernanza y gobernabilidad. Experiencias de construcción de paz en el departamento del Cauca, Colombia, y su aporte al posconflicto, el caso del corregimiento de Lerma. Estudios Políticos, (53), 51-72.

Clegg, S. (2010). The state, power, and agency: Missing in action in institutional theory?. Journal of management inquiry, 19(1), 4-13.

Clerici, N., Armenteras, D., Kareiva, P., Botero, R., Ramírez-Delgado, J. P., Forero-Medina, G., ... & Biggs, D. (2020). Deforestation in Colombian protected areas increased during post-conflict periods. Scientific reports, 10(1), 4971.

CMMUCC. (2001). Reporte de la conferencia de las partes en su séptima sesión. Marrakesh. Retrieved from https://unfccc.int/resource/docs/cop7/13a01.pdf

Creswell, J. W., & Garrett, A. L. (2008). The "movement" of mixed methods research and the role of educators. South African journal of education, 28(3), 321-333.

Comisión de la Verdad. (2022). Forced displacement. Retrieved from https://www.comisiondelaverdad.co/violacion-derechos-humanos-y-derecho-internacional-humanitario/desplazamiento-forzado

Comisión de Seguimiento (2009). Décimo Primer informe. Cuantificación y valoración de las tierras y los bienes abandonados o despojados a la población desplazada en Colombia. Bases para el desarrollo de procesos de reparación. Bogotá.

Currea, V. (2017). Historias del Catatumbo. Voces desde la Casa del trueno. Bogotá, Colombia. Ediciones Ántropos Ltda.

DARU (Disability Advocacy Resource Unit). (2017). Stakeholder Analysis. In DARU Review of Resources and Stakeholder Engagement. Retrieved from https://www.daru.org.au/review-of-daru-resources-stakeholder-engagement/7-stakeholder-analysis

Defensoría del Pueblo. (2006). Situación social y ambiental de la región del Catatumbo – Norte de Santander. Recuperado de: file:///Downloads/defensorial46.pdf

Defensoría del Pueblo. (2017). Illegal Armed Groups and New Risk Scenarios in the Post-Accord Era [PDF document]. Retrieved from https://publicaciones.defensoria.gov.co/desarrollo1/ABCD/bases/marc/documentos/textos/Grupos_Armados_ilegales_y_nuevos_escenarios_de_riesgo_en_el_posacuerdo.pdf

Dejusticia. (2023). El PNI está bajo la lupa de la justicia. Retrieved from https://www.dejusticia.org/column/el-pnis-esta-bajo-la-lupa-de-la-justicia/

Dirección de Antinarcóticos (DIRAN). (2014). COCA: deforestación, contaminación y pobreza. http://www.odc.gov.co/Portals/1/publicaciones/pdf/oferta/estudios/OF5022014-coca-deforestacion-contaminacion-pobreza.pd

Dresse, A., Fischhendler, I., Nielsen, J. Ø. y Zikos, D. (2019). Environmental peacebuilding: Towards a theoretical framework. Cooperation and Conflict, 54(1), 99-119. https://doi.org/10.1177/0010836718808331

Duffy, R. (2002). Peace parks: The paradox of globalisation? Geopolitics, 6(2), 1-26. https://doi.org/10.1080/14650040108407715

Duncan, G. (2015). Exclusión, insurrección y crimen. Bogotá: Comisión Histórica del Conflicto y sus víctimas.

Echandía Castilla, C. (2013). Narcotráfico: génesis de los paramilitares y herencia de bandas criminales. Informes FIP, 19.

Fontaine, G. (2003b). El precio del petróleo. Conflictos socioambientales y gobernabilidad en la Región Amazónica. Quito: FLACSO sede Ecuador, Instituto Francés de Estudios Andinos

Galtung, J. (1969). Violence, peace, and peace research. Journal of Peace Research, 6(3), 167-191. https://www.jstor.org/ stable/422690

Garavito, C., Rodríguez, D., & Duran, H. (2017). La paz Ambiental, retos y propuestas para el posacuerdo]. Dejusticia. Retrieved from https://www.dejusticia.org/wpcontent/uploads/2017/04/fi_name_recurso_924.pdf

García Porras, M. (2020). La organización social en el Catatumbo: formas de lucha desde la base. Trabajo social, 22(1), 225-251.

Guerrero, P. (1999). Aproximaciones conceptuales y metodológicas al conflicto social. En Ortiz, P. (comp.), Comunidades y conflictos socioambientales: experiencias y desafíos en América Latina. Quito: Ediciones UPS, ABYA-YALA.

De Pourcq, K., Thomas, E., Elias, M., & Van Damme, P. (2019). Exploring park–people conflicts in Colombia through a social lens. Environmental Conservation, 46(2), 103-110.

De Pourcq K, Thomas E, Arts B, Vranckx A, Léon-Sicard T, Van Damme P (2017) Understanding and resolving conflict between local communities and conservation authorities in Colombia. World Development 93: 125–135.

Elliot, J., & Prácticas, S. (2014). Experiencias de mitigación y adaptación con sistemas agroforestales. Soluciones prácticas.

Fajardo, D. (2014) 'Estudio Sobre los Orígenes del Conflicto Social Armado, Razones de su Persistencia y sus Efectos Más Profundos en la Sociedad Colombiana', Comisión Histórica del Conflicto y sus Víctimas, Universidad Externado de Colombia, Bogota

Farinós Dasí, J. (2008). De la gobernanza a la gobernanza territorial (¿sin territorio?); una revisión de sus distintas dimensiones.

Dasí, J. F. (2008). Gobernanza territorial para el desarrollo sostenible: estado de la cuestión y agenda. Boletín de la Asociación de Geógrafos Españoles.

FAO. (2000). On Definitions of Forest and Forest Change. Rome. Retrieved from http://www.fao.org/docrep/006/ad665e/ad665e00.htm#TopOfPage

FAO. (2007). Forests and climate change working paper 5, Definitional issues related to reducing emissions from deforestation in developing countries. FAO, Rome.

Friedrich-Ebert-Stiftung. (2018). Transformación violenta: Desarrollo rural, conflicto y paz en Colombia (Estudio). Retrieved from: https://library.fes.de/pdf-files/bueros/kolumbien/17532.pdf

Friedrich-Ebert-Stiftung. (2021). Colombia: The entanglements of peace: Reflections on the long road of transformation in Colombia. Retrieved from https://library.fes.de/pdf-files/bueros/kolumbien/18213-20210901.pdf

Fontaine, G. (2003a). Enfoques conceptuales y metodológicos para una sociología de los conflictos ambientales. En Cárdenas, M. y Rodríguez, M. (eds.), Guerra, sociedad y medio ambiente. Bogotá: Foro Nacional Ambiental

Fundación Ideas para la Paz. (2013). Medición de la eficacia de la intervención estatal para la reducción directa de los cultivos de coca en Colombia: Metodología e instrumentos (Informe No. Retrieved from https://storage.ideaspaz.org/documents/5b72fe7f2b9d1.pdf

Galtung, J., Fischer, D., & Fischer, D. (2013). Johan Galtung: Pioneer of peace research (Vol. 5). New York: Springer.

García, H. (2012). Deforestación en Colombia: Retos y perspectivas.

García Porras, M. (2020). La organización social en el Catatumbo: formas de lucha desde la base. Trabajo social, 22(1), 225-251.

Grima, N., & Singh, S. J. (2019). How the end of armed conflicts influence forest cover and subsequently ecosystem services provision? An analysis of four case studies in biodiversity hotspots. Land Use Policy, 81, 267-275.

Grissaffi, T., & Ledebour, K. (2016). Citizenship or Repression? Coca, Eradication and Development in the Andes. Stability: International Journal of Security & Development, 5(1).

Guerrero, P. (1999). Aproximaciones conceptuales y metodológicas al conficto social. En Ortiz, P. (comp.), Comunidades y conflictos socioambientales: experiencias y desafíos en América Latina. Quito: Ediciones UPS, ABYA-YALA.

Grupo de Memoria Histórica (2013). ¡Basta Ya! Colombia: memorias de guerra y dignidad. Bogotá: CNMH.

Henderson, J. D. (2012). Víctima de la globalización: la historia de cómo el narcotráfico destruyó la paz en Colombia. Siglo del Hombre Editores.

Herz, C. (2013). Conflictos socioambientales en los países andinos. Estado del arte de los conflictos socioambientales en Ecuador, Perú, Bolivia y Colombia. Bonn: GIZ.

Holmes, J., Pavón, V., & Gutierrez de Piñeres, S. A. (2018). Economic development policies in Colombia (1960-1990s) and the turn to coca in the Andes Amazon. In P. Gootenberg, & L. Dávalos, The origins of cocaine. Colonization and Failed Development in the Amazon Andes (pp. 114-133). London: Routledge.

Human Rights Watch. (2019). The War in Catatumbo: Abuses by Armed Groups against Colombian and Venezuelan Civilians [Report]. Retrieved from https://www.hrw.org/en/report/2019/08/08/war-catatumbo/abuses-armed-groups-against-colombian-and-venezuelan-civilians

Ide, T. (2021). La construcción de la paz ambiental [PDF file]. Retrieved from https://www.instituto-capaz.org/wp-content/uploads/2021/03/DT-1-2021espanol-v6.pdf

IDEAM, (2020). Cambio Climático y deforestación. Recuperado de http://www.ideam.gov.co/web/atencion-y-participacion-ciudadana/cambio-climatico

International Crisis Group. (2021). Bosques caídos: deforestación y conflicto en Colombia. Retrieved from https://www.crisisgroup.org/es/latin-america-caribbean/andes/colombia/091-broken-canopy-deforestation-and-conflict-colombia

Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. (2002). Libro rojo de Especies amenazadas en la región del Catatumbo.

Isaac, J. C. (1987). Beyond the three faces of power: A realist critique. Polity, 20(1), 4-31.

Jaramillo, J. F. E. (2018). Conflicto y poder en las investigaciones socioambientales Un necesario contexto teórico. Carta Económica Regional, (122), 7-30.

Johnson, Mc. F. (2019). Strong (green) institutions in weak states: Environmental governance and human (in)security in the Global South. World Development, 122(1), 433-445. https://doi.org/10.1016/j. worlddev.2019.06.010

Jurisdicción Especial para la Paz. (2023). Tomo 2 - Proceso de paz con las FARC-EP: Mesa de Conversaciones - Reforma Rural [PDF document]. Retrieved from https://www.jep.gov.co/Sala-de-Prensa/Documents/tomo-2-proceso-paz-farc-mesa-conversaciones-reforma-rural.pdf

Kacowicz, A. M., Bar-Siman-Tov, Y., Elgström, O., & Jerneck, M. (Eds.). (2000). Stable peace among nations. Rowman & Littlefield.

Kooiman, J. (2005). Gobernar en gobernanza. La gobernanza hoy, 10, 57-82.

Kyrou, Ch. N. (2007). Peace ecology: An emerging paradigm in peace studies. International Journal of Peace Studies, 12(1), 73-92. https://www.jstor.org/ stable/41852955

La Silla Vacía. (2018). UAF predial o UAF de adjudicación: los desafíos de las Unidades Agrícolas Familiares. La Silla Vacía. Retrieved from https://www.lasillavacia.com/historias/historias-silla-llena/uaf-predial-o-uaf-de-adjudicacion-los-desafios-de-las-unidades-minimas-de-la-planificacion-rural/

Laurance, W. F. (1999). Reflections on the tropical deforestation crisis. Biological Conservation, 91(2–3), 109–117. https://doi.org/10.1016/S0006-3207(99)00088-9

Le Billon, Ph. y Duffy, R. (2018). Conflict ecologies: Connecting political ecology and peace and conflict studies. Journal of Political Ecology, 25(1), 1-22. https://doi. org/10.2458/v25i1.22704

Lederach, J. P. (2003). Tejiendo Relaciones: Estrategias de diálogo y negociación en contextos de conflicto armado. Centro Cristiano para Justicia, Paz y Acción Noviolenta-Justapaz.

Lederach, J. (2005). The Moral Imagination: The Art and Soul of Building Peace. Reino Unido: Oxford University Press.

Lederach, A. J. (2019). " Feel the Grass Grow": The Practices and Politics of Slow Peace in Colombia. University of Notre Dame.

Lienert, J., Schnetzer, F., & Ingold, K. (2013). Stakeholder analysis combined with social network analysis provides fine-grained insights into water infrastructure planning processes. Journal of environmental management, 125, 134-148.

Long, N. (2004). The case for an actor-otiented sociology of development. In N. Long, Development Sociology. Actor Perspectives (pp. 9-29). New York: Taylor and Francis e-library.

López Loffsner, F. (2018). Deforestación, justicia ambiental y post-acuerdo en el noroccidente del Guaviare. Geografía.

Lukes, S. (2005). El poder Un enfoque radical Madrid. Siglo, 21, 541.

Maldonado, J. M. A. (2018). El Catatumbo: estrategia militar por encima de desarrollo rural. Estudio de caso: Víctor Ramón Navarro Serrano, alias Megateo. Reflexión política, 20(40), 123-137.

Martínez Cortés, P. (2012). Tendencias de acumulación, violencia y desposesión en la región del Catatumbo. Ciencia Política, 7(13), 113-149. Retrieved from https://revistas.unal.edu.co/index.php/cienciapol/article/view/41513

Ministerio de Ambiente y Desarrollo Sostenible. (2018). Bosques: Territorios de Vida [PDF file]. Retrieved from https://redd.unfccc.int/files/eicdgb_bosques_territorios_de_vida_web.pdf

Ministerio de Ambiente y Desarrollo Sostenible, (2019). Impactos de cultivos ilícitos en bosques de Colombia, en http://www.minambiente.gov.co/index.php/noticias/4264 minambiente-llamo-la-atencion-sobre-impactos-de-cultivos-ilicitos-en-bosques-de-colombia

Ministerio de Ambiente y Desarrollo Sostenible. (2021). RIS III - Tercera Revisión de la RIS [PDF file]. Retrieved from https://visionamazonia.minambiente.gov.co/content/uploads/2021/06/RIS-III.pdf

Ministerio de Relaciones Exteriores de Colombia. (2023). Cartilla ABC del Acuerdo [PDF document]. Retrieved from https://www.cancilleria.gov.co/sites/default/files/cartillaabcdelacuerdo.pdf

Molina, B. y Muñoz, F. (2004). Manual de paz y conficto. Granada: Eirene, Universidad de Granada.

Mongabay. (2020). Cultivos ilegales y deforestación asfixian al parque nacional Catatumbo Barí en Colombia. Retrieved from https://es.mongabay.com/2020/12/cultivos-ilegales-y-deforestacion-asfixian-al-parque-nacional-catatumbo-bari-en-colombia/

Montoya-Domínguez, E., & Rojas-Robles, R. (2016). Elementos sobre la gobernanza y la gobernanza ambiental. Gestión y ambiente, 19(2), 302-317.

Mora, L. V. (2001). Gestión ambiental sistémica. Sigma.

Morales, L. (2017). La paz y la protección ambiental en Colombia. Dialogo interamericano. Recuperado el, 17.

Muriel, R. (2006). Gestión ambiental. Espacio de reflexión y comunicación en Desarrollo Sostenible, 3(13).

Ortiz, P., Zárate Díaz, C., & Terán, J. F. (2011). *Mirar los conflictos socioambientales: Una relectura de conceptos, métodos y contextos*. Abya-Yala/UPS.

Procuraduría General de la Nación-Procuraduría Delegada para el Seguimiento al Acuerdo de Paz. (2020). Informe sobre el estado de avance de la implementación del Acuerdo de paz en la subregión PDET Catatumbo. Delegada para el seguimiento al Acuerdo de Paz.

Rafestin, C. (2013). Por una geografía del poder. Zamora: El Colegio de Michoacán, Fideicomiso Felipe Teixidor y Monserrat Alfau de Teixidor.

Raik, D. B., Wilson, A. L., & Decker, D. J. (2008). Power in natural resources management: an application of theory. Society and natural resources, 21(8), 729-739.

Revesz, B. (2009). Gobernanza, procesos participativos y desarrollo territorial local. En: Mazurek, Hubert (ed.). Gobernabilidad y gobernanza de los territorios en América Latina (33-56). Lima: Actes & Mémoires de l'Institut François d'Études Andines

Revista Semana. (2015). "El fin de las fumigaciones con glifosato", Retrieved from: https://www.elespectador.com/noticias/politica/el-fin-de-fumigaciones-glifosato-articulo-590103 recuperado el 27 de octubre de 2017.

Rodríguez, I., Castañeda, C. S., & Aguilar Castro, V. (2015). Transformación de Conflictos Socioambientales e interculturalidad: Explorando las Interconexiones. Mérida, Venezuela: Grupo Confluencias.

Rodríguez-Becerra, M., & Espinoza, G. (2016). Gestión ambiental en América Latina y el Caribe: evolución, tendencias y principales prácticas.

Rodríguez C, Rodríguez D and Durán H (2017) La Paz ambiental: Retos y propuestas para el posacuerdo. Bogotá: DeJusticia.

Rodríguez, I., Inturias, M., Frank, V., Robledo, J., Sarti, C., & Borel, R. (2019). Conflictividad socioambiental en Latinoamérica. Aportes de la transformación de conflictos socioambientales a la transformación ecológica.

Rodríguez-de-Francisco, J. C., del Cairo, C., Ortiz-Gallego, D., Velez-Triana, J. S., Vergara-Gutiérrez, T., & Hein, J. (2021). Post-conflict transition and REDD+ in Colombia: Challenges to reducing deforestation in the Amazon. Forest Policy and Economics, 127, 102450.

Rojas-Robles, R. (2018). Environment and Post-Agreement in Colombia: Building a Comprehensive Peace with the Non-Human Nature. Gestión y Ambiente, 21(2Supl), 183.

Salgado Ruiz, H. (2012). El campesinado de la Amazonia colombiana: Construcción territorial, colonización forzada y resistencias. Motreal Facultad de Estudios Superiores y Postdoctorales : Universidad de Montreal

Silva, G. (2008). La teoría del conficto. Un marco teórico necesario. Prolegómenos. Derechos y Valores, X I(22), 29-43.

Stamm, C., & Aliste, E. (2014). El aporte de un enfoque territorial al estudio de los conflictos socio-ambientales The contribution of a territorial approach to the study of socio-environmental conflicts pp. 66-78. Revista F@ ro, 2(20).

Suarez, A., Árias-Arévalo, P. A., & Martínez-Mera, E. (2017). Environmental sustainability in post- 121 conflict countries: insights for rural Colombia. Environment, Development and Sustainability, 1–19. https://doi.org/10.1007/s10668-017-9925-9

Swain, A. y Öjendal, J. (2018). Environmental conflict and peacebuilding: An introduction. En A. Swain y J. Öjendal (Eds.), Routledge handbook of environmental conflict and peacebuilding (pp. 1-13). Londres: Routledge

Observatorio de Conflictos Ambientales, 2022. Conflictos ambientales. Universidad Nacional de Colombia. Retrieved from: https://oca.unal.edu.co/OCA_qs/OCA.html

Oficina del Alto Comisionado para la Paz (2016). Acuerdo Final de Paz. Bogotá. Recuperado dehttp://www.altocomisionadoparalapaz.gov.co/procesosyconversaciones/Paginas/Texto-completo-del-Acuerdo-Final-para-la-Terminacion-del conflicto. aspx.

Ortiz, C. (2003). Agricultura, cultivos ílicitos y medio ambiente en Colombia. En Cárdenas, M. y Rodríguez Becerra, M. Guerra, sociedad y medio ambiente (pp. 297-352). Bogotá: Foro Nacional Ambiental.

Ortiz, P., Zárate, C. y Terán, J. (2011). Mirar los conflictos socioambientales. Una relectura de conceptos, métodos y contextos. Volumen I. Universidad Politécnica Salesiana. CASITA Genero y ambiente 4.qxd (ups.edu.ec)

Ortiz-Urbina, E., González-Pachón, J., & Diaz-Balteiro, L. (2019). Decision-making in forestry: A review of the hybridisation of multiple criteria and group decision-making methods. Forests, 10(5), 375.

Paz, F. (2012). Conflictos socioambientales, cultura política y gobernanza: la cooperación bajo sospecha en el distrito minero de Molango en el estado de Hidalgo. La naturaleza en contexto. Hacia una ecología política mexicana, 65.

Peralvo, M. (2016). Gobernanza a meso escala y la Mancomunidad del Chocó Andino, Ecuador.

Pizarro Leongómez, E. (2015). Una lectura múltiple y pluralista de la historia. Bogotá: Comisión Histórica del Conflicto y sus Víctimas.

Prada, M., Unger, B., & Gómez, J. A. (2014). Transformación de conflictos mediante el diálogo. Herramientas para practicantes. Cercapaz. Colombia. Recuperado de: http://ceiret. sociales. uba. ar/wp-content/uploads/sites/240/2019/07/Transformaciones_de_ conflictos_mediante_dialogos. pdf-FUNCIÓN PÚBLICA.

Procuraduría General de la Nación-Procuraduría Delegada para el Seguimiento al Acuerdo de Paz. 2020. "Informe sobre el estado de avance de la implementación del Acuerdo de paz en la subregión PDET Catatumbo". Delegada para el seguimiento al Acuerdo de Paz

Ross, M. (2002). Natural resources and civil war: An overview. World Bank Reasearch Observer, 1-37

Rutas del conflicto. (2020). Las verdades y luchas que cuentan las voces del Catatumbo. Retrieved from: https://rutasdelconflicto.com/especiales/catatumbo/

Salame, B. H. (2021). Conversatorio con Carlos Holmes Trujillo, Ministro de Defensa Nacional. Revista Palmas, 41(4), 152-163.

Salazar Navarro, Y. C. (2017). Participación en la fase de diagnóstico del plan de ordenamiento y manejo de la cuenca de Catatumbo (Doctoral dissertation).

Salinas, Y. (2014). Catatumbo: análisis de conflictividades y construcción de paz. Programa de la Naciones Unidas para el Desarrollo, 1-45.

Scharmer, C.O. 2007, Theory U: Leading from the Future as It Emerges, Berrett-Koehler Publishers

Scharmer, O. (2018). The essentials of Theory U: Core principles and applications. Berrett-Koehler Publishers.

Strauss, A., & Corbin, J. (2016). Bases de la investigación cualitativa: técnicas y procedimientos para desarrollar la teoría fundamentada. Universidad de Antioquia.

Sicard, T. L., Salcedo, J. B., Pérez, C. T., Baquero, C. L., Rojas, C. N. R., & Hernández, C. P. R. (2005). Observaciones al 'Estudio de los efectos del programa de Erradicación de Cultivos Ilícitos mediante la aspersión aérea con el herbicida Glifosato (PECIG) y de los cultivos ilícitos en la salud humana y en el medio ambiente'. Instituto de Estudios Ambientales (IDEA) de la Universidad Nacional de Colombia, en línea. Disponible en:< http://www. idea. unal. edu. co/public/docs/Observ_IDEA_a_doc_CICAD. pdf.

Sierra-Zamora, P. A., Aponte, S. G. S., Bermúdez-Tapia, M., & Fernández-Osorio, A. E. (2020). El papel de las Fuerzas Militares en el control y erradicación de los cultivos ilícitos en

Colombia y Perú ante los desplazamientos forzados1. El Estado ante emergencias sociales, 53

Solomon, K. R., Anadón, A., Cerdeira, A. L., Marshall, J., & Sanín, L. H. (2005). Estudio de los efectos del Programa de Erradicación de Cultivos Ilícitos mediante la aspersión aérea con el herbicida Glifosato (PECIG) y de los cultivos ilícitos en la salud humana y en el medio ambiente. Comisión Interamericana para el Control del Abuso de Drogas (CICAD), 5.

Taborda, J. A., & Riccardi, D. (2019). La cooperación internacional para la paz en Colombia: los casos de Estados Unidos y de la Unión Europea (1998-2016). Geopolítica (s), 10(1), 17.

Taramuel, J. A. C. (2019). El gobierno comunitario en la casa de los truenos:: la Asociación Campesina del Catatumbo en Colombia. Analecta política, 9(17), 224-249.

Thomas, M. I. (2018). Ordenamiento Territorial y Conflictos Socioambientales en el Sector Energía (Doctoral dissertation, Pontificia Universidad Católica de Chile).

Observatorio de Conflictos Ambientales. (2022). Universidad Nacional de Colombia. Retrieved from: https://oca.unal.edu.co/OCA_qs/OCA.html

Ochoa Africano, C. J. (2018) Diagnóstico sobre la incidencia de los Cultivos Ilícitos de Coca en la Región del Catatumbo Durante las Dos Últimas Décadas.

UNODC. (2014). Comunidad, bosque y coca: un camino para la acción. Retrieved from: https://www.gpdpd.org/fileadmin/media/publikationen/deforestation_comunidad__bosque_y_coca_con_insertos__2_.pdf

UNODC, (2020). Monitoreo de territorios afectados por cultivos ilícitos. https://www.unodc.org/documents/crop-monitoring/Colombia/Colombia_Monitoreo_Cultivos_Ilicitos_2019.pdf

UNODC, C. (2021). Monitoreo de territorios afectados por cultivos ilícitos 2021. Retrieved from: https://www.unodc.org/documents/colombia/2022/Octubre/Otros/Informe_de_Monitoreo_de_Territorios_Afectados_por_Cultivos_Ilicitos_2021.pdf

USAID. (2020). Páramos & Forests Activity: Innovative Conservation Models for Páramos and Forests Task Order [PDF file]. Retrieved from https://pdf.usaid.gov/pdf_docs/PA00ZMSW.pdf

USAID. (2022). Estudio de línea base de los cultivos de coca y otros factores relacionados con el cultivo de coca en el Catatumbo, Colombia (Documento No. PA00ZSDR). Recuperado de https://pdf.usaid.gov/pdf_docs/PA00ZSDR.pdf

Valencia, A., Correal, C. A., & Ricaurte, L. F. (1996). Geologic-mining investigation for coal in the sector El Carmen; Catatumbo área, Norte de Santander Department-Environmental handling Plan; Investigación geológico-minera para la exploración de carbones en el área de El Carmen, Catatumbo, Norte de Santander-Plan de manejo ambiental.

Van Dexter, K., & Visseren-Hamakers, I. (2020). Forests in the time of peace. Journal of Land Use Science, 15(2-3), 327-342.

Velez, D. L. M., Baron, P. A. R., Arias, G. I. A., Rodriguez, E. G., Quintero, G. J. T., & Pinilla, H. R. (2009). Conflictos socioambientales y recurso hídrico: una aproximación para su identificación y análisis. Pontificia Universidad Javeriana.

Vicepresidencia de la República (2007), Dinámica reciente de la confrontación armada en el Catatumbo, Bogotá, Observatorio del Programa Presidencial de Derechos Humanos y DIH.

Wilson, S., & Zambrano, M. (1995). Cocaína, capitalismo e imperio: encadenamientos globales y políticas del narcotráfico. anâlisis politico, (24), 5-21.

Wahl, S. (2021). Addressing Coca-Related Deforestation in Colombia: A Call for Aligning Drug and Environmental Policies for Sustainable Development.

WWF Colombia. (2021). Por primera vez: locales, científicos, exguerrilleros, Parques Nacionales Naturales y WWF exploran la biodiversidad de una antigua zona de conflicto. Retrieved from https://www.wwf.org.co/?368210/Por-primera-vez-locales-cientificos-exguerrilleros-Parques-Nacionales-Naturales-y-WWF-exploran-la-biodiversidad-de-una-antigua-zona-de-conflicto