Environmental Security Strategies in Latin America and the Caribbean: Building Resilience

Eduardo Pastrana Buelvas, Fabricio Cabrera Ortiz and Julia Sandner
Editors

KONRAD ADENAUER STIFTUNG

Programa Regional
Seguridad Energética y Cambio Climático
en América Latina (EKLA)

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Presentation

Innovation, security, and, in addition, participation and representation - these are the three core themes on which the work of the Konrad Adenauer Foundation (KAS), which emerged from the Society for Christian Democratic Educational Work founded in 1955, is focused. Since 1964, it has borne the name of the first Federal Chancellor, Konrad Adenauer. We feel bound to Adenauer's political memory and legacy; his principles are our guidelines, mission, and obligation. The Foundation promotes liberal democracy, a social market economy, peace and freedom, transatlantic relations, and European unification. We are, therefore, politically close to the Christian Democratic Union of Germany (CDU).

As a Christian Democrat foundation, we are committed to safeguarding creation. Energy security, climate protection, and biodiversity protection are part of our responsibility and are indispensable for a just transition. In this context, the Regional Program for Energy Security and Climate Change in Latin America (EKLA) aims to promote the political decision-making process on these issues by providing a platform for dialogue.

We want to encourage individuals to play an active role in building their future. For us, the individual is at the center of attention, with their unmistakable dignity, rights, and obligations. The starting point for social justice, democracy in freedom, and a sustainable market economy is the individual. From this perspective, we promote exchanges and rela-

tionships between people who assume social responsibility and develop active networks in politics, business, and society.

To achieve this, we organize regional discussion forums, conferences, and seminars in collaboration with our local offices and other KAS regional programs in Latin America, as well as with national and international partner organizations. In addition, we deliver reports, specialized publications, and studies to fuel debate and reflection.

This book, created in collaboration with our Environmental Security Network led by Professor Eduardo Pastrana Buelvas, seeks to address environmental challenges in the region and promote effective strategies to build resilience.

Latin America and the Caribbean face several environmental challenges, such as climate change, deforestation, and pollution. These problems require a comprehensive environmental security response, but lack of coordination between countries and corruption hinders their effectiveness. Strengthening institutions and promoting technological innovation to address these concerns is crucial. Only with the active participation and support of civil society in decision-making can this critical task of states be accomplished. This book provides a strategic analysis and proposes concrete measures to protect the region's valuable natural resources and delicate ecosystems.

We hope that Environmental Security Strategies in Latin America and the Caribbean: Building Resilience will be a valuable tool for those interested in environmental security and contribute to building a more sustainable and resilient future in the region. We wish you a fruitful reading!

Julia Sandner

Director
Latin America Energy Security
and Climate Change Program, (EKLA)
Konrad Adenauer Foundation, KAS

Foreword

In the midst of accelerating climate change, alarming biodiversity loss, and economic and social challenges facing Latin America and the Caribbean, environmental security has become an inescapable imperative. Balancing human development with the preservation of our natural resources has become an increasingly urgent and complex task.

This book, Environmental Security Strategies in Latin America and the Caribbean: Building Resilience, emerges as a comprehensive guide that seeks to address the challenges and opportunities that our region faces in terms of environmental protection. Through a strategic and multidisciplinary approach, it aims to explore ways to achieve sustainable development that guarantees the security and well-being of present and future generations. These pages are a compendium of knowledge, analysis, and experiences of experts in environmental security and sustainable development. From rainforests and coral reefs to megacities and rural communities, we'll delve into the challenges and solutions in Latin America and the Caribbean.

The topics presented in this book cover a wide range of crucial aspects for environmental safety. These include sustainable management of natural resources, adaptation to climate change, biodiversity conservation, natural risk management, circular economy, and citizen participation in decision-making.

However, this volume does not only focus on identifying problems and solutions; it also seeks to inspire and motivate all actors involved in building a sustainable future. From governments and international organizations to businesses, local communities, and citizens, we all have a crucial role to play in protecting and conserving our environment.

Environmental safety goes beyond the mere protection of nature; it also means ensuring social justice, equity, and quality of life for all. Addressing environmental challenges from a holistic perspective allows us to build a region that is more resilient, prosperous, and in harmony with nature. This book is ultimately a call to action. We are at a turning point in history where our decisions and actions will shape the legacy and lives of future generations. Through the implementation of robust environmental security strategies and collective commitment, we can forge a resilient future for Latin America and the Caribbean.

Thus, the book begins with a general framework of the major challenges facing the region and then addresses each of the subregions that are part of Latin America and the Caribbean. The first region considered is the Caribbean, where the most important phenomena and problems of its communities are reflected. Next, the work shifts the focus to the Andean region and the views that decision-makers in these countries have developed on the issue of environmental security. Thirdly, the main local and regional scenarios that arise from the particular and complex dynamics of the Amazon biome are exposed. Finally, the Southern Cone is the subregion with which this publication is generated and offers the reader an analytical interpretation regarding the approaches that emerge from the southern countries of the continent regarding the relationship between the environment and the protection of communities.

In this context, the first chapter, which sets out the interpretative framework of the book, is presented by professors Eduardo Pastrana Buelvas and Fabricio Cabrera together with Vanessa Torres Alonso, a student of International Relations at the Faculty of Political Science and International Relations of the Pontificia Universidad Javeriana. The authors seek to analyze the existence of a regional environmental security strategy in Latin America and the Caribbean. To do this, they theoretically define the concept of strategy and its relationship with the concept of security. They researched the environmental programmes, information systems and treaties of different regional organizations to determine the

presence of an environmental security strategy. Among the organizations analyzed are the Organization of American States (OAS), the Community of Latin American and Caribbean States (CELAC), the Southern Common Market (MERCOSUR), the Andean Community (CAN) and the Caribbean Community (CARICOM). Finally, they determine the absence of a regional environmental security strategy in the region and they give some recommendations for international organizations in Latin America and the Caribbean.

The second chapter, written by political scientists Louise Anne Lowe and Paula Prieto Ararat, begins the analysis of the Caribbean region by identifying the main threats and challenges of this area around the concept of environmental security. In the first part, they briefly explore the relevance of the concept of environmental security as applied to the case of the Caribbean and then identify the most important environmental changes and damages in the region and how they affect security. Then, they analyze how the various phenomena from traditional security represent threats in the field of environmental security, to conclude with recommendations aimed at the actors that have the greatest impact on decision-making in this subregion that is so vulnerable to the adverse events of climate change.

The third chapter on the Caribbean was led by Professor Edwin Murillo and Manuel Ruiz, researcher, and independent consultant, who in the fourth chapter analyze the main concepts that help to understand the socio-political and economic complexities of the Caribbean region. They seek to expose the conceptual development of governance and its applications in the subregion and, through derivations such as multilevel governance or polycentric governance, offer useful tools for readers to acquire knowledge about the environmental security structures that currently have a presence and impact in the region.

Subsequently, in the fourth chapter, the internationalist Miguel Ángel Burgos Giraldo and the student of International Relations at the Universidad Javeriana Sofía Margarita Peraza Ochoa, analyze and compare the discourse and mining policies of presidents Gustavo Petro and Andrés Manuel López Obrador as poles of the entire region. For this purpose, they use the postulates of discourse analysis and securitization theory to understand the conjunctures that these two countries are experiencing with progressive administrations and their populist rhetoric.

This study used two different softwares to give the reader enough tools to understand the main concepts used by the leaders and their consequences on national policies.

The fifth chapter, which opens the topic of the Andean region, is a work by researcher Jaime García Díaz on the impacts of illegal economies such as illegal mining, drug trafficking, and illegal logging on native communities in Peru. Next, the sixth chapter is presented by the internationalists Daniela Garzón Amórtegui and Miguel Ángel Burgos Giraldo, who interpret the evolution and opportunities of the Andean Community as the most relevant governance structure of the Andes. In this vein, the authors analyze the organs and functions of the CAN that may be useful for the strengthening of environmental security strategies in the Andean region and throughout Latin America.

The seventh chapter, authored by Nancy Patricia Gutiérrez, former President of Congress and Minister of the Interior of Colombia, in collaboration with professors Diego Vera and Lucila Reyes, delves into the analysis of the Amazon. In a reflective and forward-looking manner, it explores the potential scenarios for the future of this critical biome, essential for the survival of the human species. They start by asking what are the main threats, risks and challenges for environmental security in the Amazon region, and, in this sense, they show the current situation in the Amazon in Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela, and propose opportunities for improvement for management and cooperation between these countries.

The following chapter on the Amazon is written by two professors specializing in the defense of human rights and international humanitarian law: Diana Marcela Bustamante Arango and Andrea del Pilar García Cojín. The authors analyze the main socio-environmental conflicts experienced in the Amazonian countries, especially in Colombia after the signing of the Peace Agreement. Additionally, they try to comprehend the main obstacles that these communities face when defending their territory and possible strategies to strengthen its care and preservation.

The final chapter on the Amazon is authored by professors Andrés Mauricio Valdivieso Collazos, Diego Dávila Benavides, and Luz Marina Múnera. It explores the converging aspects related to safeguarding the Amazon, which Colombia can leverage. This includes aligning the

National Development Plan 2022-2026, the Security and Defense Policy, and the Summit for the Amazon Declaration.

Regarding the Southern Cone, two fundamental chapters are presented to understand the current situation of these States and their relationship with the environment. On the one hand, Professor Raúl Bernal-Meza carries out a work that understands the advances and setbacks that Chile has had regarding the understanding of environmental security. For this reason, it addresses the implementation of the 2030-2050 Agenda and the Sustainable Development Goals (SDGs) in the country's public policies, to show the obstacles that the Constitution and the primary-export development model represent in the protection of the ecosystems of the south of the continent.

On the other hand, the last chapter of the book is presented by Professor Regiane Nitsch Bressan, who proposes a reflection on MERCOSUR and the environmental agendas that have been gaining ground in this institution. To achieve this, the analysis from Brazil is based on showing the main contributions that have emerged in this scenario for the consolidation of environmental security and the challenges that persist in the face of constant political and social changes that condition the continuity of all those measures that seek to preserve ecosystems.

Thus, this book constitutes an invitation to reflection and analysis, proposing environmental security as a fundamental pillar to ensure the stability, resilience, and well-being of the inhabitants of Latin America and the Caribbean. The threats posed by phenomena such as climate change, illicit economies and mass consumption require robust and effective environmental security strategies. In such a scenario, it is imperative to prioritize the consolidation of these strategies and recognize the relevance they have in shaping our future. Are our nations adequately prepared to deal with environmental threats and risks, or do we need to reconsider the approaches of our leaders and decision-makers? The study of environmental security and its strategy stands as a beacon of hope and a call to action that points us towards the security and prosperity of present and future generations.

We are confident that this work will become an invaluable tool for those who wish to understand, protect, and transform our environment. The path to preserving our species and the environment requires

collaboration, innovation, and a willingness to make changes. This book represents the first step towards that purpose, by promoting the understanding of environmental security strategies as an essential measure to safeguard the beauty and richness of our region.

To conclude, it is important to highlight the gratitude we feel for the participation and valuable contribution of each of the authors. We express our sincere thanks to them for accepting the challenge of offering analysis and reflections on these complex issues that shape the political agenda at the regional and global levels. This joint effort is the result of institutional commitment within the framework of the Konrad Adenauer Foundation's Regional Program for Energy Security and Climate Change in Latin America (EKLA).

The Editors

interpretative framework

Latin America and the Caribbean: ¿A Common Regional Strategy or Segmented Sub-Regional Strategies for Environmental Security?

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and Vanessa Torres Alonso***

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Introduction

This chapter aims to determine whether Latin American countries have a common environmental security strategy that addresses Latin America as a whole or if, conversely, their cooperation in this area is limited to the subregional sphere. First, a conceptual framework on the definitions of strategy and its constituent elements is included. Therefore, the importance of strategy in the development of the human species and political, economic, military, and social institutions is highlighted. In this sense, the bridge that exists between the objectives and the means to achieve strategies is exposed.

The second is an interpretation of the role that the concept of strategy has in political action. From there, we define the multidimensionality of the concept of security, including the importance of guaranteeing environmental security as a vital public good. In this way, the meaning of environmental security is explained, and such a concept is then articulated with the strategy conception to interpret the meaning and function of an environmental security strategy. Thus, an analysis of environmental security is carried out in the face of threats that represent a danger or constitute a risk for the protection, mitigation, and conservation of the environment, both globally and regionally. From this perspective, the challenges facing environmental security related to global geopolitical trends are examined.

Third, a methodology for structuring an environmental security strategy is presented, and the question is posed: why do we need a systemic approach to develop an environmental security strategy? To answer this question, a theoretical and conceptual approach to the strategy and its methods is proposed to apply it as a frame of reference. As an analytical

instrument, the strategic equation is then included, which makes it possible to identify conceptual theoretical direction vectors and methodological tools for the purpose of formulating and implementing a possible environmental security strategy in the region.

Fourth, regional and subregional agreements on environmental security are identified. As a complement, a definition of regional environmental security is included, which will serve to identify and interpret the strategies that could exist in Latin America, both at the regional and subregional levels. This leads to a review of possible environmental security strategies within the framework of regional organizations such as the Organization of American States (OAS), which, although it is an inter-American organization, includes a considerable number of Latin American and Caribbean States; the Community of Latin American and Caribbean States (CELAC); the Southern Common Market (MERCOSUR); the Caribbean Community (CARICOM); and the Andean Community of Nations (CAN). Finally, the chapter is concluded with a reflection that emphasizes in the importance of building a more robust and common strategy for environmental security in Latin America.

Definition and Elements of the Strategy Concept

Human Nature and Strategy

Throughout history, strategy has played a crucial role in the survival of individuals, communities, and States. Since the earliest times, humans have sought ways to gain tactical advantages and achieve their goals through strategic planning and careful implementation of their actions. According to Verity (2012), "individuals share the same brain structure that makes them similar to each other" (p. 87). This suggests that we have common instincts that define us as a species, including survival and competition. Humans have developed various strategies that allow them to compete with their opponents in order to survive conflicts (Gray, 2015). One of the most widely used strategies is cooperation and the creation of communities that allow humans to form groups to achieve a common goal. Thus, this strategy has been applied in different contexts such as war, politics, business, and even in the daily lives of individuals (Freedman, 2013).

Additionally, strategies have played a fundamental role in formalizing alliances, consolidating power, and implementing policies in the political arena. Likewise, they have allowed political leaders to persuade voters to

win various elections and stay in power (Freedman, 2013). In the military realm, strategy has given commanders and great historical leaders the power to win battles and conquer territories. From ancient China, where Sun Tzu wrote *The Art of War*, to modern generals who applied sophisticated military tactics, strategy has been essential to achieve victory on the battlefield (Freedman, 2013). In addition to the aforementioned points, strategy has proven indispensable in the business realm, serving as a crucial factor for both corporate survival and economic expansion. Additionally, it has allowed them to adapt to a constantly changing environment and achieve long-term success (Díez de Castro and Martín, 1992). Finally, strategy has been very useful in the daily lives of individuals by helping them to achieve their objectives efficiently. The ability to think strategically enables human beings to evaluate different options, foresee various obstacles, and make informed decisions to accomplish other purposes.

Based on what has been mentioned, it is evident that strategy has been a relevant factor in the development of human beings throughout history since it has allowed various societies to achieve their objectives, overcome challenges, and adapt to changing environments. For this reason, it is relevant to analyze what is understood by strategy, because the concept is difficult to define, and its relationship with security, politics, and power, to understand its relationship with environmental security.

Strategy: The Bridge Between Objectives and Means

The definition of strategy poses a challenge due to its multifaceted nature and applicability across diverse contexts. As noted above, the concept can be applied to a wide variety of fields with their own characteristics and approaches, making it difficult to establish a single definition of the concept. Likewise, over the years, the concept of strategy has evolved and continues to adapt to new realities and conflicts. Although it is relevant to analyze past approaches of the notion of strategy, they are subject to change in response to technological advances, social transformations and new opportunities or threats that alter individual's conception of the term. Finally, strategy can have subjective interpretations based on a specific context or on different individual perspectives. This fact makes a standard and concrete definition of the concept complex.

Despite the uncertainty regarding the meaning of strategy, four main historical moments that modified the meaning of the concept and four definitions of it can be analyzed.

First, individuals used different strategies to defend themselves in conflict scenarios. To achieve this goal, many of them increased their military capabilities to confront other actors on the battlefield. Subsequently, the term strategy was redefined. With the onset of the Cold War, another conception of tactics was created, but now focused on conflict avoidance. An example of this was the strategy of nuclear deterrence that aimed at avoiding a Third World War. Likewise, the first international organizations were created to promote dialogue between various actors to avoid escalating disputes between humans and States. Later, the focus of strategies shifted to human security and human welfare. Although initially it is good to protect borders and avoid war, the various social protests in the early 1960s made governments realize that individuals were the most affected by armed conflicts and should, therefore, be protected. Nowadays, due to the expansion of the Internet, technology, and social networks, new strategies are being directed towards the cybersecurity of societies (Seijo, 2022). As it can be seen, depending on the historical moment in which the concept of strategy is analyzed, its meaning changes.

Based on this, four key definitions of strategy emerge as crucial for analyzing the shifts and consistencies in the meaning of the term. In the first instance, von Clausewitz, throughout his book *On War*, writes that strategy is the use of engagements for the purpose of the war (Von Clausewitz, 1976). Under this author's conception, individuals use strategies to pursue different political objectives, using force on the battlefield to obtain victory. This view demonstrates the fundamental relationship between strategy and the military environment. However, as time progressed, various authors have demonstrated the application of this concept in contexts beyond the military, leading to a transformation in its perception. Based on this, Mintzberg (1978) takes a less radical position and states that strategy "is a deliberate and conscious plan or set of guidelines that determines future decisions" (p. 935). By affirming that strategies allow individuals to determine future decisions, Mintzberg clarifies that they enable the individual to predict conflict scenarios or opportunities and determine how these can be exploited or avoided.

Thirdly, Freedman (2013) states that strategy "is everything that is related to obtaining more than the balance of power can suggest" (p. xii). In this way, the author relates the concept of power to that of strategy, stating that strategy is the art of creating power, and introduces the importance of politics in elaborating tactics. Additionally, Freedman (2013) recognizes that strategy involves various actions and decisions after evaluating a specific situation and the resources available. Although this

definition gives concrete input to the meaning of strategy, it is too general and involves many elements that make it necessary to narrow it down.

This is how Gray (2016) proposes a more specific definition of strategy, stating that it is " the direction and use made of (any) means by chosen ways in order to achieved desired political ends" (p. 11). In short, strategy enables (or facilitates) a State, an institution or an individual to connect its objectives with the means at its disposal to carry out a specific action. Considering the above definitions and integrating them, strategy is a plan or a set of guidelines (Mintzberg, 1978) that lead to achieving specific objectives, taking into account the means available (Gray, 2016) and the context in which the action will be developed (Seijo, 2022). Therefore, strategy is the bridge between specific objectives and means and is strongly linked to the political sphere.

Strategy and its Relationship to Policy

Given the diverse aspects of the strategy concept , this section will relate the concept directly to politics and, in some cases, to the military sphere. This is mainly because, in later sections, we will seek to analyze the notion of security from an environmental perspective. For this reason, it is relevant to talk about politics to understand the strategies used to ensure environmental security.

According to Gray (2016), politics is the "behaviour intended to achieve influence over the thought and activity of others" (p. 10). To influence, political leaders appeal to a significant number of individuals to legitimize their authority. Based on this, politicians seek to maintain their power and influence by executing various strategies, and this has become their main objective (Gray, 2015). Likewise, the strategy allows the State to use its means to serve its political desires and passions to maintain its influence over other individuals. Thus, "politics provides strategy with its purpose, while strategy provides politics with how that purpose may be realized in practice" (Gray, 2016, p. 1). In other words, politics determines a country or a community's objectives, while strategy develops plans and actions to achieve them (Figure 1)[1]. In this way, politics is nothing without strategy; without it, it could not fulfill its fundamental purpose: to maintain influence over others.

1 Within the figure, there are two elements that must be defined: *politics and policy*. According to Gray (2015), the concept of politics is understood as the process of competition, negotiation, debate and decision making that occurs in the political arena. On the other hand, the term policy refers to the specific decisions and actions that governments take to address a set of problems. The concept of policy is reflected in laws, regulations and concrete programs implemented by the government.

Figure 1. Elements of the Strategy

Source: Gray (2015, p. 78).

Although strategies serve to maintain the political leader in power, in practice, they can serve other objectives. To this extent, it is possible to affirm that strategy's ultimate goal in its relationship with politics is security. However, the difficulty in defining this concept makes it unclear which strategies should be implemented to achieve security. This happens mainly because each individual has a specific way of feeling safe (Gray, 2016). Nevertheless, this does not prevent human beings, communities, and States from implementing strategies to make each person feel safe in a world full of uncertainties. One way to achieve this is by providing environmental security.

In conclusion, strategy and politics are deeply related. This happens mainly because politics sets objectives and strategy makes them achievable through practice. While the fundamental objective of politics is to uphold the leader's influence over others, in practical terms, it aims to ensure security. Although it is complicated to achieve, strategies must be developed to protect people and thus continue to maintain power over them.

Environmental Security and its Relationship to Strategy

As mentioned above, the relationship between security and strategy is fundamental because many strategies implemented by individuals, communities and international organizations are aimed at achieving collective security at the national and international levels. However, the concept of security can be interpreted in different ways and its definition may vary according to the dimension analyzed.

First, at the national level, security is usually related to protecting territorial integrity, political and social stability, and the rights and welfare of citizens. In this sense, national strategies aim to prevent and respond to internal threats. In a transnational context, security expands to encompass cooperation and stability between States. International strategies then focus on promoting peace, conflict resolution, nuclear non-proliferation, combating climate change and other global challenges.

Based on what has been mentioned, it can be stated that there are multiple definitions of security. However, as far as this chapter is concerned, it is essential to analyze what is meant by environmental security and environmental security strategy.

Environmental Security and its Context

Environmental security is a relatively recent topic, since the concept of security was initially linked to the military affairs of a State and not to other types of problems. Thus, the first definitions of the concept of security were strongly related to the construction of modern States and their responsibility to guarantee their survival by protecting individuals in a given territory (Pastrana and Burgos, 2021). Under this assumption, from the seventeenth century to the mid-twentieth century, security was strongly linked to national sovereignty and countries' ability to protect themselves to maintain their autonomy and independence (Zurlini and Müller, 2008). A State that cannot guarantee its security in the face of external and internal threats risks losing its sovereignty.

Despite various politicians recognizing the importance of preserving biodiversity since the mid-twentieth century, very few understood the challenges of climate change, and the creation of international standards by the 1970s was well behind schedule (Kimble, 2005). Likewise, the environment was not a priority for States, which delayed the creation

of public policies to reduce the effects of climate change. However, between the 1970s and 1980s, a scientific area of study emerged to investigate the relationship between human actions and the effects of climate change (Günter, 2008). This early research carried out by "the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme (IHDP) and the World Climate Research Programme (WCRP)" (Günter, 2008, p. 22) showed the detrimental effects of climate change. It encouraged States to focus on the importance of environmental protection.

However, it was not until the end of the Cold War that the environmental issue became a relevant topic for the States. This happened due to the end of "the ideological standoff between the United States and the Soviet Union that shifted the focus away from the nuclear confrontation, allowing the identification of new threats. " (Pastrana and Burgos, 2021, p. 13, own translation). Moreover, the intensification of transboundary relations and increased globalization led to a greater understanding of how human activities in one place can have environmental repercussions elsewhere. In this way, the World Commission on Environment and Development published the *Brundtland Report* in 1987, which for the first time put forward the notion of sustainable development and the interdependence between the environment, society, and the economy. Additionally, the report stated that the excessive exploitation of nature would have irreversible consequences for future generations (Pastrana and Burgos, 2021).

Apart from the initiatives mentioned above, the environment also began to be relevant in the academic field of International Relations where the concept of security was redefined. Barry Buzan was one of the most relevant authors who showed the multidimensional character of security. Based on this, the author states that there are five notions of security: military security, economic security, political security, societal security and, finally, environmental security (Buzan, 1991, cited by Pastrana and Burgos, 2021). According to Buzan, environmental security refers to the capacity of States to preserve and protect their environment and the natural resources on which they depend (Pastrana and Burgos, 2021).

Based on this, it can be said that security is a multidimensional concept and that its meaning changes depending on the dimension from which it is analyzed. Nevertheless, international politics still links security with military issues. If environmental security challenges the

State-based approach of traditional political science, further academic deepening of the definition of this concept should be pursued to promote a different conception of security (Zwierlein, 2018). Considering what has been mentioned, environmental security is "relative public security from environmental hazards caused by natural or human processes occurring through ignorance, accidents, mismanagement or design of individuals in the face of nature and originating within or outside national boundaries" (Barbu, Sand and Oprean, 2006, p. 8). Likewise, environmental security focuses on preventing conflicts due to environmental factors.

Geopolitical Trends and Environmental Security

Contemporary geopolitical trends are intricately linked to environmental security and climate change in various substantial aspects. On the one hand, competition for natural resources has intensified due to climate change, primarily affecting scarce resources such as water and fertile land, which are vital for food security and the survival of populations. Competition may generate international tensions and conflicts over access to these resources (RAND Corporation, n.d.).

On the other hand, the number of environmental refugees is increasing due to climate change and its extreme effects. Conflicts and mass migrations can disrupt regional stability and generate geopolitical challenges for host countries. Not least, energy transition affects geopolitical dynamics over energy resources. Countries that excel in renewable energies gain advantages, while those dependent on fossil fuels adapt.

At the same time, climate change has led to the creation of international agreements and coalitions to address this global problem. The Paris Agreement is a clear example of such initiatives. Foreign policy and international relations include cooperation and environmental diplomacy as important elements. Additionally, some countries are considering geoengineering to combat climate change. The geopolitical implications of these technologies lie in their ability to affect weather patterns and living conditions globally once a decision is made to implement them.

In the economic sphere, climate change can cause severe damage to the global economy. Extreme weather damage, ecosystem degradation, and supply disruptions can cause economic crises with political and security implications. Regarding energy security and cybersecurity, critical infrastructures such as power grids and renewable energy facilities have

become key targets. The security of these infrastructures is of both national and geopolitical concern. Finally, water diplomacy is at the forefront of environmental agendas worldwide. The management of shared water resources is geopolitically essential in many regions. Water disputes can cause tensions between neighboring nations.

Definitely, environmental security and climate change have evolved to become central issues in contemporary geopolitics. These global challenges have implications for environmental security, and they influence international, political, economic, and security dynamics. Addressing these issues effectively requires global cooperation and an understanding of their connections to current geopolitical trends, which in turn must be managed by the State through an environmental security strategy.

Methodology for Structuring an Environmental Security Strategy

Considering the information presented earlier, evaluating the institutional methodological strategies currently in use is essential. It is important to remember that, until less than a decade ago, only the United States had a procedure for designing institutional strategies such as the national security strategy.

This analysis and the development of a more comprehensive methodology will ensure that environmental actions and policies are effective and efficient. Environmental protection has become an issue of global importance, and more countries and organizations are recognizing the need for a strategy in this area. Implementing an appropriate methodology for environmental security will enable countries and entities to fulfill their responsibilities in protecting the environment and address emerging challenges related to sustainability, natural resource conservation, and climate change.

U.S. authors and agencies have been instrumental in developing these methodological tools. While most are focused on the developing national defense strategies, they can also be used, with the necessary adaptations, to develop national security strategies and, from this perspective, environmental security. In any case, the theoretical approaches developed in the United States will provide insight into the field of International Relations and support the development of a unique approach for an environmental security strategy. It should also be noted that the *Escuela Superior*

de Guerra General Rafael Reyes Prieto in Colombia has developed its own methodology for formulating different strategies, not only those of national security.

Thus, the environmental security strategy must be seen as the main tool in a process whose objective is to safeguard national and regional interests related to the environment from risks and threats. In this context, governments must combine a long-term planning system with day-to-day management where quick and reactive decisions become more crucial. In any case, an environmental security strategy facilitates decision-making to respond quickly and accurately to various situations (Ballesteros Martín, 2016).

¿Why do we need a systemic approach to the development of an environmental security strategy?

One method is a systematic procedure or approach used to accomplish a task or achieve a specific objective. Generally, a method provides a series of steps or instructions to be followed in an orderly and consistent manner to achieve a desired result. In different fields, such as science, research, education or management, methods are used to organize and structure the work process, which may include specific techniques, tools, strategies or approaches that are systematically applied to obtain consistent and reliable results.

Each method specifies the order and flow of actions that in practice will facilitate the achievement of a specific objective. The approach shouldn't limit the analyst's work to the extent that it prevents the analyst from adding originality, reason, and experience to the investigation. The ability to originate, think creatively, and use logic are all necessary for applying any methodology and structuring a strategy (Hernández Sampieri, Fernández Collado, and Baptista Lucio, 2014).

From these parameters, the State is an essential institution for meeting the needs of citizens in a society. The State plays a fundamental role in the provision of public services, the regulation of society, the protection of rights, and the promotion of general welfare. Among its main objectives is to safeguard the interests of the community, or, in other words, the State's duty to ensure environmental security in the case of this chapter, is one of its primary missions. To achieve its objectives, public policies (although not considered in themselves a method, but rather a field of study and a process to address the challenges and

needs of society through government action) use different instruments to design, implement and evaluate different State actions and are an essential reference in the construction of strategies regardless of their scope. Through them, governments set national objectives using a general public policy planning process that involves four distinct but linked phases or moments: the emergence of public problems, political decision, implementation, and evaluation (Meny and Thoenig, 1992).

That said, there are various theoretical methods for the development of a national security strategy, including Barlett, Lykke and Lloyd (Naval War College), Drew and Snow (Air University USA), Filiberti and Hugler's *Strategic Guide* (National Defense University), the Army War College and systems theory, among others. The integrated approach forms the basis of the design processes used in the aforementioned instruments.

Likewise, there are common procedures for all the methods described. These procedures are based on the same philosophy. Most of them are designed for national defense or defense-related decision-making. However, it can be argued that the systematic approach can serve as a guideline for creating a methodology that can develop and manage environmental security strategy.

The Conceptual, Theoretical Direction of Applied Military Strategy as a Frame of Reference.

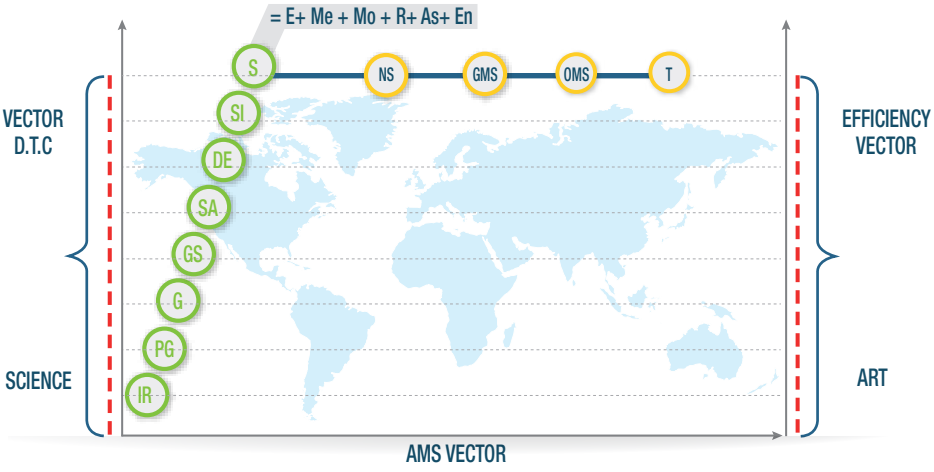
The main objective of this section is to conceptualize and define the strategic performance model proposed by Sánchez Hurtado. His proposal has been called the Theoretical Conceptual Model of Applied Military Strategy Direction (AME CTD Model). In this analysis we will consider the instrument that is composed of a strategic equation and three vectors: the conceptual theoretical direction (CTD), the applied military strategy (AME) and the effectiveness vector (Sánchez Hurtado, 2012).

The Strategic Equation

In Figure 1, we note in the CTD vector that the last variable at the top is strategy (S). Its dynamics can be framed in a strategic equation (S = E + Me + Mo + R + As + En) whose result incorporates the integration of six essential factors for strategic analysis and articulates the relationships of their interdependence. In this way, the ends (E) guide the various fields of State action in a synchronized and articulated manner and within the

framework of an authority structure based on the what, that is, in the pursuit of sequential and parallel objectives that make it possible to achieve strategic results and contribute to the desired end state.

Figure 2. AME CTD model



Source: own elaboration.

The means[2] (Me), tangible and intangible, refer to elements of a very diverse nature, such as geographical location, territorial extension and structure, natural resources, quantitative and qualitative aspects of the population, the level of cultural, scientific, and economic development, industrial capacity, the number and effectiveness of the armed forces, national morale and, finally, a multitude of factors that cannot be considered individually when measuring the true capacity of a nation to achieve its objectives because they are interdependent or interrelated. None of them alone can provide a fair measure of the inherent strength that each country has (Fuerzas Militares de Colombia, 1996).

If the ends correspond to the what, then the modes (Mo) respond to the how and the way in which the means are used to achieve the results that have been established in the ends. In the development of these

2 To be a little more explicit about the basic concept of power in national power, the DTC model of the EMA bases a primary concept of "Power (P) on two variables: Capacity, based on the management of the means (C) and Will (V)" (Sánchez Hurtado, 2012, p. 208), to explain that national power (NP) is equally composed of the same two variables, but enhanced: national capacity (NC), represented in the sum of the strength of the political fields of action, represented in the sum of the strength of the political fields of action. 208), to explain on this basis that national power (NP) is equally composed of the same two variables, but enhanced: national capacity (NC), represented in the sum of the strength of the political, psychosocial, economic and military fields of action; and the political will variable (VP), represented in the decision assumed by the rulers to use national capacity and assume the risks and impacts that these decisions represent both internally and externally.

courses of action, the strategists' ingenuity, creativity, and initiative are put to the test. With their ability to structure and articulate the available means and disruptive thinking, they can formulate proposals that synchronize and articulate the means to achieve the objectives of a strategy. From this postulate derives the strategic concept, which describes how the available resources come together, indicating the necessary guidelines for their administration and management, without the initiative and creativity of the subordinate hierarchical subjects losing their freedom of action.

Risks (R) are mitigated when an appropriate balance is made between ends, ways and means. The cost-benefit of a given strategy is essential for decision-making. Strategic decisions consider risks and their possible outcomes, both positive and negative, considering the variables of probability and impact to evaluate the consequences and determine which strategic effects could be accepted.

The adversary's strategy (As) is a critical element in strategic planning and management since a thorough understanding of it makes it possible to analyze and anticipate the adversary's actions. This involves examining both his current capabilities and his potential capabilities. The adversary will employ his resources in a deliberate, coherent, and coordinated manner to achieve his strategic objectives. In this context, strategic intelligence plays a key role: it provides crucial information that allows one to gain an advantage over the intentions and actions of a potential threat. The more knowledge one has about the adversary, the more effectively one can reduce risks and manage the strategic environment. This in-depth understanding also increases the chances of success by enabling informed and strategic decision-making. In summary, adversary strategy and strategic intelligence are essential in security and risk management. Their proper analysis not only improves the ability to anticipate the actions of others but also increases the effectiveness of decision making and the management of complex situations.

The environment (En) plays a critical role in the thinking of national strategy formulators and in strategic decision-making. Understanding the political, economic, social, technological, environmental, and military context in which one is situated is essential for developing effective strategies. In a globalized world, everything that happens globally affects regions, States, and organizations. The environment guides understanding of the world, its vision of a region, and its interpretation of a country. It also influences the perception of global leadership and geopolitical trends and

enables the strategist to relate the external and internal aspects of the strategic environment.

Vectors of Theoretical and Conceptual Direction of Military Strategy Application

Since the strategic equation formulated in the previous section is the basis for this methodological process, its purpose is to provide the necessary tools and knowledge to strategy professionals working in the government sector and officials of regional multilateral organizations.

In this context, the Theoretical Conceptual Direction Vector (CTD) represents the application and knowledge of eight disciplines, all of which are related to the knowledge of strategists: "international relations (IR), political geography (PG), geopolitics (G), geostrategy (GS), strategic analysis (SA), defense economics (DE), strategic intelligence (SI), and strategy (S)" (Sánchez Hurtado, 2012, p.134, own translation). However, these disciplines can be varied by strategists and related to the needs of their science or the objective they seek, as would be the case of environmental security strategy, which requires a specific knowledge to formulate a coherent and harmonized proposal (Escuela Superior de Guerra, 2019).

The second vector, called applied military strategy (AMS), refers to the application of the analyses of the eight disciplinary sciences mentioned in the design of strategies at the levels established by the Colombian doctrine: national strategy (NS), general military strategy (GMS), operational military strategy (OMS), and even includes the application in the tactical field (T). This vector is aligned with the scope of the environmental security strategy in terms of achieving its objectives, which are defined at the strategic, operational, and tactical levels, and must be very well identified, since the interactions with each of them contribute to the strategy's ultimate goal.

The third and last vector refers to effectiveness, that is, the art understood as the leader's skills to make the strategies effective and have the necessary forcefulness to achieve the proposed objectives, and for this, a monitoring and evaluation methodology is necessary.

International Environmental Security Agreements

To achieve environmental security, states have established various international treaties to reduce climate change's transnational and adverse effects. Thanks to these initiatives, the concern for the environment and natural resources has become an essential issue on the agendas of States. The first initiatives to raise awareness of the importance of the protection of the environment occurred during the 19th century with the recognition by societies of how the actions of human beings could significantly affect nature. During this time, the first groups that developed campaigns for environmental conservation emerged, such as the Royal Society for the Protection of Birds in 1872. Afterwards, agreements such as the Convention for the Protection of Birds Useful for Agriculture, in 1902, or the International Convention for the Regulation of Whaling, in 1946, were created (Hough, 2004).

Following these events, the effects of climate change intensified in the 1960s, leading to the creation of the United Nations Conference on the Human Environment in 1972 (Hough, 2004). Thus, Climate change became a fundamental part of the international political agenda. Nevertheless, there was no securitization of the environment or climate change during this period. In the 1980s, most of the harmful effects of global warming seemed to be felt only at the national level and of little concern to the international community. It was not until 1987 that the *Brundtland Report* (see explanation above) reported on the importance of sustainable development and the urgency of building economic growth that does not degrade the environment (Pastrana and Burgos, 2021).

Although treaties to protect certain species existed before the 1990s, it was not until 1992 that States created an international treaty to reduce the effects of climate change. The United Nations Framework Convention on Climate Change is an agreement adopted in 1992 at the Earth Summit in Rio de Janeiro. The main objective of this convention is to reduce greenhouse gas concentrations in order to avoid abrupt changes in the climate system. The event held in Brazil was one of the most important initiatives for reducing global warming because it brought together representatives of governments, non-governmental organizations, and civil society actors and laid the foundation for global action on development and the environment (Kimble, 2005).

Subsequently, the Kyoto Protocol was adopted in 1997 under the United Nations Framework Convention on Climate Change to establish more

precise and quantifiable commitments for developed countries to reduce greenhouse gas emissions (Kimble, 2005). This treaty finally came into force in 2005. Still, some countries such as the United States, did not ratify the agreement because they criticized the fact that the treaty only focused on actions to be taken by developed countries to protect the environment and not on underdeveloped countries. In search of a much more effective solution to climate change, the Paris Agreement was adopted in 2015, which had much more defined objectives on global warming. Based on this, the signatory countries of this treaty committed to keeping the annual global temperature increase below two degrees Celsius (Hough, 2021).

Besides the climate change treaties that were mentioned, agreements on sustainable development have been created, emphasizing the importance of environmental protection. The Millennium Declaration and the Millennium Development Goals (MDGs) were two documents adopted by the United Nations in the 2000s to address various development challenges. The Millennium Development Goals (MDGs) were a set of eight goals to be achieved in the pursuit of human development (Sachs, 2012). Goal number seven, which focused on environmental sustainability, demonstrated the importance of caring for the environment for quality human development and emphasized the importance of equitable distribution of natural resources.

Despite the relevance of the MDGs for the visibility of environmental issues in the international political agenda, Sustainable Development Goals (SDGs) were established in 2015. These are a set of 17 goals that seek to achieve development in a much more precise manner than the MDGs. Unlike the MDGs, the SDGs focused not only on the actions that developed countries must take to help the poorest States, but also on the actions that all the countries of the world must take together to achieve the global well-being of the present and future generations (Sachs, 2012). Several SDGs address the environment and thus broaden the scope of international action on caring for nature.

In conclusion, environmental security has become increasingly relevant today. This is demonstrated by the structuring of international agreements that seek joint action among states to solve problems related to climate change. Likewise, the above examples show that security is no longer conceived only in military terms but can broaden its scope depending on the dimension in which it is analyzed. This does not mean

that environmental security cannot deal with military, political and economic issues, as they are relevant to the protection of biodiversity at the international level. What is proposed, however, is to treat the concept of security as a multidimensional factor that does not depend on a single cause, but on different factors and the achievement of different objectives. Due to the current urgency of environmental security, international and regional organizations have adopted various strategies to protect the environment. Therefore, it is important to define what environmental security strategy means and how it applies to the regional context.

Definition of Regional Environmental Security Strategy

As previously stated (see above), strategy is a plan or a set of guidelines (Mintzberg, 1978) that leads to the achievement of specific objectives, taking into account the available means (Gray, 2016) and the context in which the action is developed (Seijo, 2022). However, the meaning of the concept of strategy can be modified (as in the case of the concept of security) depending on the dimension from which it is analyzed. Suppose this definition is applied to the context of environmental security. In that case, it can be said that the environmental security strategy is a plan or a set of guidelines (Mintzberg, 1978) that aims to reduce environmental hazards caused by natural or human processes originated inside or outside national borders (Barbu, Sand and Oprean, 2006), taking into account the available means (Gray, 2016) and the context in which the action will be developed (Seijo, 2022).

Considering this definition, it can be said that in order to achieve global environmental security, some strategies must be implemented to reduce the effects of climate change. Although international agreements are one type of strategy to bring together efforts among States to achieve environmental security, it is difficult for all countries to coordinate with each other to make binding agreements for the protection of the environment. Because of this, most environmental cooperation is promoted among the States of a region to achieve much more precise agreements and information systems. According to Westing (2013), to achieve regional environmental security, "two major prerequisites must be satisfied: (a) the quality of the human environment must be protected; and (b) any harvesting of renewable natural resources must be carried out on a sustaining basis" (p. 39).

Based on what has been mentioned, a regional environmental security strategy is a plan or set of guidelines (Mintzberg, 1978) that seeks to reduce environmental hazards in a region[3] , ensuring the preservation of a healthy and safe environment and the responsible use of natural resources (Westing, 2013), taking into account the means available (Gray, 2016) and the context in which the action will be developed (Seijo, 2022). Accordingly, the regional strategies adopted by different Latin American States in relation to environmental security will be discussed in greater depth in the next section.

Environmental Security Strategies in Latin America and the Caribbean

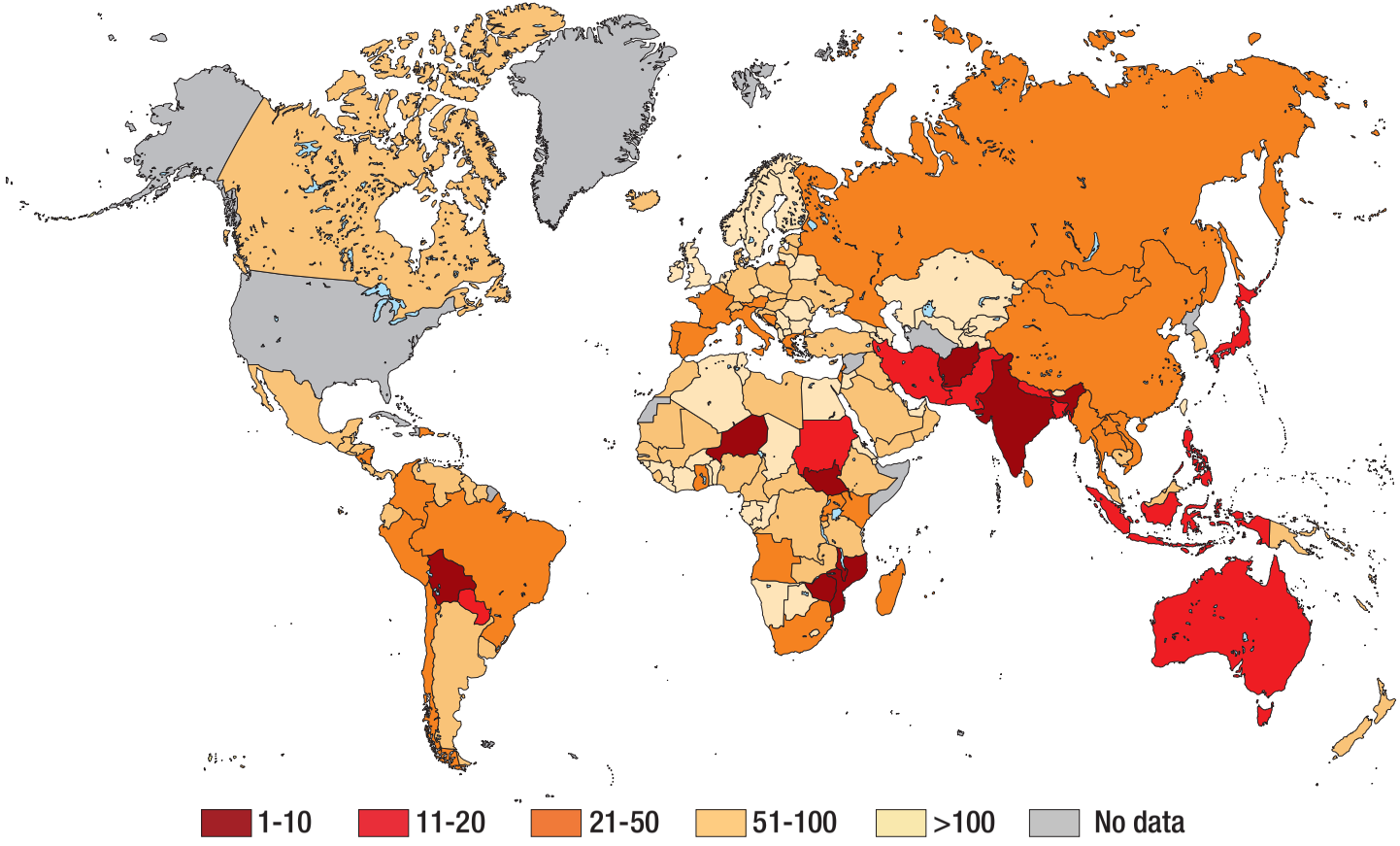
Environmental security in Latin America and the Caribbean

Although many Latin American countries have ratified international agreements related to environmental protection and greenhouse gas reduction, several regional initiatives have been carried out to achieve regional environmental security (Westing, 2013). Doing so allows Latin American States to coordinate more effectively to address environmental security threats in the region and to analyze whether there have been setbacks or advances in environmental protection.For this reason, it is relevant to discuss why talking about environmental security in Latin America is essential.

First of all, the territory of Latin America and the Caribbean is one of the regions with the greatest vulnerability to climate change (see Figure 3), which makes it urgent to take coordinated actions to regulate the increase in global temperature and other environmental problems (Cárdenas, Bonilla and Brusa, 2021). According to Cárdenas, Bonilla and Brusa (2021), " the Germanwatch climate risk index ranks several Latin American and Caribbean countries among the 10 most vulnerable countries to climate change" (p. 30). This is because the region faces several environmental threats. According to the report, five environmental problems in Latin America and the Caribbean keep the region vulnerable.

3 A region is a geographic or territorial division characterized by sharing common characteristics, whether physical, cultural, economic, political or social (Westing, 2013)

Figure 3. Global Climate Risk Index for 2019.



Source: Germanwatch (2021, p. 15).

First, the issue of water scarcity and management is of concern within the Latin American region. For example, it is predicted that for future scenarios the region will suffer strong water reductions (Cárdenas, Bonilla and Brusa, 2021) that will significantly affect Latin American states located in arid zones. Likewise, even though Latin America and the Caribbean is one of the regions with the greatest amount of water, this natural resource is inequitably distributed, and many Latin American populations do not have access to clean and safe water due to the current increase in world population (O'Toole, 2017). On the other hand, there is great concern about sea-level rise, which threatens coastal cities and island nations in the Caribbean. This situation poses an unprecedented threat to the region, as more than 60% of the LAC population lives in coastal urban areas (Pastrana and Burgos, 2021).

Secondly, Latin America and the Caribbean are subject to floods, hurricanes, and low water levels that can compromise energy security and damage the large hydroelectric infrastructures located in various states of the region (Cárdenas, Bonilla and Brusa, 2021). As a result, Latin America faces threats to its energy security. Third, one of the greatest environmental threats to the region from climate change is biodiversity loss. Latin America and the Caribbean is globally recognized for its biological richness and diversity. The region is home to various ecosystems and a wide range of animal and plant species that are important to humans (O'Toole, 2017). Due to increasing industrialization and climate change, several species have been affected and their numbers have been significantly reduced, creating an urgent need for coordinated action to protect them.

Fourth, the region is exposed to various large-scale natural disasters that increase the risk to the lives of thousands of people and significantly affect the most vulnerable population (O'Toole, 2017). Likewise, the increase in climate change has exacerbated the effects of El Niño and La Niña weather phenomena, affecting weather patterns in various Latin American countries (Pabón and Montealegre, 2017). Finally, urban environmental problems also represent a significant threat to the region. According to O'Toole (2017), "urban air quality has declined, and in most of the region's cities concentrations of particulate matter and ozone are above WHO guidelines" (p. 50). Based on this, it is essential to talk about environmental security in Latin America and the Caribbean because of the vulnerability of the region to natural disasters, requiring coordinated environmental security strategies to safeguard nature.

Additionally, Latin America and the Caribbean depend on the exportation of raw materials, which often require resource extraction. This requires different initiatives by Latin American States to reform their mono-exporting economies so that they can develop and export different products. According to O'Toole (2017), " Latin America and the Caribbean accounts for about one-third of the world's carbon emissions from land-use changes" (p. 45). This is mainly because one of the most important economic activities in the region is agriculture, which requires deforestation to produce raw materials and food. Mining is also one of Latin America's most important economic activities, and its implementation can harm the environment (Pastrana and Burgos, 2021).

In this context, addressing environmental security is relevant for protecting natural resources, promoting sustainable development practices, encouraging citizen participation, and strengthening environmental governance. This means implementing effective policies and regulations, promoting clean technologies, and fostering environmental education and public awareness (Gligo, Alonso, Barkin, Brailovsky, Brzovic, Carrizosa, Durán et al., 2020). Environmental security in Latin America and the Caribbean is crucial for the well-being of present and future generations, for the conservation of global biodiversity, and for meeting international commitments on climate change and sustainable development. It is essential to work together at the national and regional levels to address these challenges and to balance economic growth and environmental protection in the region.

Regional Strategies for Environmental Security in Latin America and the Caribbean

Latin American and Caribbean States have implemented various environmental security strategies to reduce environmental hazards in the region. However, the existence of multiple regional organizations in the region makes it difficult for countries to develop a single regional strategy focused on achieving environmental security is challenging. Furthermore, integration processes in the region have been permeated by politics and have affected the trade agenda and cooperation between States (Serbin, 2010). Nevertheless, certain regional environmental security strategies have been identified, and while not universally implemented across all states, they have been effective in specific instances.

Based on this, it can be said that organizations have created specialized agencies for environmental care (González, 2008; O'Toole, 2017; Vega, 2013; Nitsch, 2022; Lowe and Prieto, 2022; Laguardia, 2017; Narváez, 2012). Additionally, they have generated information and discussion systems on climate change (Vargas, 2012) and have implemented projects and programs to care for the environment (González, 2008; General Secretariat of the Organization of American States, 2015; ECLAC, FAO and ALADI, 2016; Laguardia, 2017; World Food Programme, 2022; Ortiz and Pasquis, 2012; van Dam and Medina, 2012). Finally, regional organizations have cooperated with other international agencies or bodies for the protection of different species (Moreno, 2021; Christel and Mohle, 2021) and have made regional treaties between member states to have standard agreements around environmental security (Nitsch, 2022; Christel and Mohle, 2021). Taking this into account, the regional environmental security strategies of the OAS, CELAC, MERCOSUR, CARICOM and CAN will be analyzed.

Organization of American States, OAS

The OAS was created in 1948 to promote integration and cooperation among the countries of the Americas (OAS, n.d.). However, although its fundamental objective is to strengthen security and peace on the continent, it has implemented measures regarding the environment since its creation. Through the Natural Resources Unit (later Sustainable Development and Environment Unit since 1996), the Organization of American States has provided technical assistance and cooperation for member states to achieve their development (González, 2008).

Likewise, in 1990, environmental care was strengthened after the organization's General Assembly established the Working Group on Environmental Protection "to identify ways and mechanisms through which the OAS could contribute to environmental conservation" (González, 2008, p. 130). Subsequently, this group created the Inter-American Program of Action for the Conservation of the Environment (PIACMA) in 1991 to strengthen the capacities of member states to face environmental challenges (González, 2008). PIACMA focuses on critical action areas, such as biodiversity conservation, sustainable natural resource management, pollution prevention and control, protected area management, environmental education, and citizen participation. Despite the importance of the program, it set ambitious objectives that could not be met due to the limited resources and instruments available to the

OAS, which limited the implementation of the project (González, 2008). Likewise, it is currently difficult to achieve regional cooperation on environmental protection. The more specific strategies that the Organization of American States has carried out are national.

Regarding development, the Inter-American Commission for Sustainable Development (CIDS) was created in 1996 as a subsidiary body of the Inter-American Council for Integral Development (CIDI). Its purpose was to formulate objectives to support the sustainable development of the member states (González, 2008). As a result, CIDS created the Inter-American Program for Sustainable Development (PIDS), approved for 2006-2009. This program established the guidelines and priorities of the OAS policy regarding the SDGs and supported the exchange of information and cooperation between different countries and agencies (OAS General Secretariat, 2015). The most recent PIDS to be implemented was from 2017 to 2021. This program supported actions in six different strategic areas related to sustainable ecosystem management, disaster risk management, integrated water resource management and sustainable energy management, among other topics (OAS General Secretariat, 2016).

Finally, the Organization of American States has also created programs and groups to reduce the risks of climate change. Thus, the Inter-American Committee on Natural Disaster Reduction (IACNDR) was created in 1999 to promote regional cooperation for natural disaster mitigation in the Americas (O'Toole, 2017). This committee has established interregional cooperation with the European Union (EU) and other American subregional organizations such as the Caribbean Community (CARICOM) (O'Toole, 2017).

Community of Latin American and Caribbean States, CELAC

This organization was created in 2010 to promote cooperation and unity among countries in the Latin American region. As a relatively new organization, its environmental security strategies are not fully established. However, the importance of environmental protection can be seen in its Plan for Food and Nutrition Security and the Eradication of Hunger by 2025. This regional initiative aims to ensure food security and adequate nutrition for citizens within the CELAC member states. Although the plan focuses primarily on hunger reduction, it also recognizes the importance of responsible natural resource management and biodiversity conservation in achieving food security. It also states that strategies are needed

to address the effects of climate change to strengthen food production (ECLAC, FAO and ALADI, 2016). While it is true that this plan includes the importance of environmental protection, no proposal, program, or agreement within CELAC focuses only on climate change, natural disaster risk management and environmental security.

Southern Common Market, MERCOSUR

MERCOSUR is a regional organization created by the *Tratado de Asunción* (Asuncion Treaty) in 1991, which promotes economic and commercial integration between different Latin American countries of the Southern Cone. Although this agreement did not fully express the protection of the environment (Moreira, 2010), in its preamble it presents the importance of an efficient use of natural resources and the preservation of the environment (Nitsch, 2022). However, in the face of the changing international scenario of the 1990s, greater environmental security initiatives were needed.

Thus, in 1992, the *Reunión Especializada en Medio Ambiente* (*REMA*) was created to analyze the legislation of the member-states of Mercosur in relation to environmental security, and to propose different actions and strategies to protect the environment (Vega, 2013). Subsequently, "the Taranco Declaration in 1995 indicated that the REMA should become a Working Subgroup on Environment" (Nitsch, 2022, p. 11, own translation), mostly known as *Subgrupo de Trabajo 6*. Since its establishment, this division has had the purpose of implementing an environmental information system among the States, evaluating the production process of the member countries to make it equitable and environmentally responsible, and analyzing the proposals put forward by other MERCOSUR subgroups to coordinate with the SDGs.

In the quest to expand MERCOSUR's scope of action, Subgrupo de Trabajo 6 established the Framework Agreement on the Environment during its fourth extraordinary meeting in 2001 (Nitsch, 2022). This was established as the legal framework for regulating the conservation of natural resources, various environmental protection actions and environmental cooperation between States. The agreement also set out to encourage regional environmental policies and instruments, to support natural emergencies and to promote environmental education throughout the Southern Cone (Christel and Mohle, 2021). Parallel to the ratification of the agreement in 2004, the MERCOSUR Structural Convergence

Fund (FOCEM) was created to finance four programs: Structural Convergence, Competitiveness Development, Social Cohesion and Strengthening of the Integration Process and Institutional Structure (Moreira, 2010). Even though funding for environmental protection is not explicitly included in any of the programs, an environmental project may qualify under one of them.

In addition to the strategies mentioned, MERCOSUR created the Protocol on Cooperation and Assistance in Environmental Emergencies in 2004 and the Biodiversity Strategy in 2006. The first initiative was designed to promote cooperation among States to deal with natural disasters based on prevention, mitigation, warning, response, reconstruction, and recovery in the face of environmental emergencies. On the other hand, the second strategy had the purpose of conserving biodiversity throughout the region. Although it does not contemplate concrete actions and obligatory measures for the States, it seeks to generate greater knowledge about biodiversity and the importance of its conservation (Christel and Mohle, 2021).

Finally, the Strategic Partnership Agreement between the European Union and the *Mercado Común del Sur*, proposed in 2019, has been one of the most recent environmental proposals to safeguard nature. This partnership aims for both regional organizations to increase their economic and trade relations while prioritizing the effective development of the SDGs and environmental protection. However, the agreement has not been ratified because MERCOSUR member states are more focused on promoting free trade between regional organizations, while the EU has an emphasis in environmental security (Moreno, 2021). Nevertheless, the initiative is important for the establishment of an interregional partnership between different States.

Caribbean Community, CARICOM

CARICOM was established in 1973 to integrate the Caribbean region in economic, commercial, political, and educational matters (Lowe and Prieto, 2022). Among the subregional organizations, this is the one that has implemented the most projects, programs and agencies for natural disaster reduction, cooperation on environmental protection, and its relationship with sustainable development. The first environmental security strategy implemented in the organization was the creation of the Caribbean Environmental Programme (CEP), established in 1981 "when

a group of Caribbean countries sought the support of UNEP[4] to protect coastal ecosystems in the Wider Caribbean region" (Laguardia, 2017, p. 54, own translation).

Subsequently, the Caribbean Disaster Emergency Management Agency (CDMA) was founded in 1991 to promote collective responses to natural disasters in the region (Lowe and Prieto, 2022). The establishment of CDEMA was an important step in demonstrating the relevance of the environment in the Caribbean. However, the body was initially only focused on the risks of natural catastrophes and, therefore, it became necessary to consider other strategies that would cover more issues related to environmental security. In the quest to broaden the spectrum of environmental conservation, in 2002, the Caribbean Community Change Centre was created to coordinate member states' efforts to mitigate and adapt to climate change (Laguardia, 2017). This specialized agency serves as a repository of data on the strategies implemented by CARICOM member countries to combat climate change and provides advice to member states (Laguardia, 2017).

Although these initiatives to create specialized agencies were relevant, a regional program that could be applied to the organization's countries was needed. This was how, in 2012, the CARICOM heads of state approved the Implementation Plan for the Regional Framework to Achieve Development in Climate Change Resilience (Laguardia, 2017). This plan defined clear strategies to address climate change until 2021 through investments, a monitoring and evaluation system proposal, and the joint work of different organizations (Laguardia, 2017). A year later, the Caribbean Community instituted the Crime and Security Strategy, in which environmental issues were securitized as potential risks (Lowe and Prieto, 2022). Natural disasters were identified as substantial threats within the strategy, while climate change was identified as a future risk.

Finally, concerning more recent initiatives, CARICOM established the Strategic Plan for the period 2015 to 2019 in which member states committed to the continuation of good environmental management and protection of natural resources (Laguardia, 2017). They also committed to train the people of the community to deal with the effects of natural disasters. Besides this program, CARICOM instituted the Plurinational Strategic Plan for the Caribbean 2022-2026 to help member countries

4 UNEP stands for United Nations Environment Programme.

achieve food security. Although this plan does not directly address strategies related to environmental security, environmental protection strategies must be implemented to improve nutrition in the region. For example, the plan stresses the importance of promoting sustainable agriculture by reducing pollution, conserving water, and protecting biodiversity (World Food Programme, 2022). In conclusion, CARICOM has been one of the subregional organizations implementing the most environmentally friendly strategies.

Andean Community, CAN

Finally, the CAN is also one of the subregional organizations that has advanced the most to achieve environmental security. One of the most important initiatives has been the creation of environmental information systems, which have focused on generating effective environmental management policies and facilitating the systematization of sustainable information since the 1990s. The *Sistema de Prevención Andino para la Prevención y Atención de Desastres* (SIAPAD) and the GeoSUR portal are the most important information systems in the Andean Community. The former helps to make decisions on the identification of natural disaster risks, while the latter is used for strategic decisions on environmental security (Vargas, 2012).

In addition to the above, the CAN has adopted projects, plans and programs in various relevant thematic areas within its member countries. For example, it created the BioCAN program to protect biodiversity in the Amazon and implement strategies that propose responsible management of natural resources in this territory. In addition, this program seeks to position the Amazon region in the agendas of the member states to generate coordinated policies among them (Ortiz and Pasquis, 2012). Another example of projects implemented by CAN is ECOBONA. This is a subregional plan for the social management of Andean Forest ecosystems in collaboration with the Swiss State (van Dam and Medina, 2012), which has promoted initiatives in countries such as Bolivia and Peru for the protection of forest habitats.

Finally, the Andean Community has implemented disaster risk management policies with other regional organizations. In July 2002, "the Andean Council of Foreign Ministers (CAMRE), meeting in Lima, Peru, created the *Comité Andino para la Prevención y Atención de Desastres* (CAPRADE)" (Narváez, 2012, p. 129, own translation). After its creation,

CAPRADE created the Andean Strategy for Disaster Prevention and Response so that member states have a common reference for disaster management (Narváez, 2012).

The strategies mentioned above and most of the initiatives carried out by the Andean Community have been based on national proposals from the member countries that have contributed to information on environmental protection. This has made it possible to strengthen the Andean Community's environmental security strategies and generate coordinated responses to climate change.

The Need for a More Robust Regional Environmental Security Strategy

As seen in the initiatives carried out by regional and subregional organizations, there are various environmental security strategies. However, much more work needs to be done by these organizations to achieve effective environmental governance. Although there are several groups, plans, programs, agreements and projects, many of them are related to other topics, which reduces the relevance of environmental issues in the agenda of the member states of these organizations. Additionally, most of the proposed initiatives are not binding on countries, which means that many of the member States of organizations do not implement the strategies. Likewise, there is a lack of dissemination of the agreements, projects and plans related to environmental security. Even though there is a good amount of information on these initiatives, many of them remain in the dark due to the lack of dissemination of the strategies in the various media and on the websites of regional organizations.

Besides what has been mentioned, the existence of various regional and subregional initiatives on environmental security makes it difficult to establish a single regional strategy for all the States of Latin America and the Caribbean. While it is true that each regional organization has different objectives and requires different projects according to the needs of its member States, it is also true that a much more robust environmental security strategy for the region is lacking. Finally, it can be seen from the examples described above that some organizations are more advanced than others in environmental matters. This demonstrates a lack of integration and coordination among Latin American and Caribbean States in achieving environmental security.

Based on the above, a regional environmental security strategy in Latin America and the Caribbean is essential due to the richness and diversity of its ecosystems and the environmental challenges that the region faces. A regional environmental security strategy would make it possible to comprehensively address transboundary problems, such as deforestation, pollution, climate change, and biodiversity loss, which are not limited to national borders and require effective cooperation between countries. Additionally, a regional strategy would promote policy harmonization and collaboration in implementing conservation measures, sustainable natural resource management, and climate change adaptation, strengthening the region's resilience and ensuring a sustainable future for generations to come.

Conclusions

Strategies have been used in different areas of human life to solve individuals' political, economic, social, and cultural problems. This has made strategies fundamental for achieving objectives, overcoming challenges, and adapting to changing environments. Based on this, it can be said that the concept of strategy is found in different disciplines and dimensions.

Regarding the relationship between strategy and politics, politics defines the goals and priorities, while strategy determines how these objectives will be executed effectively and efficiently. In this way, strategy becomes the means to realize policy aspirations through planned actions, adjusting to changing circumstances and seeking to maximize the chances of success. Through this interconnection, politics establishes the what and strategy responds to the how, so that the two form a vital alliance in formulating and achieving objectives in a changing world.

Considering what has been mentioned, the materialization of the relationship between strategy and politics can be evidenced in the purpose of political leaders to achieve security. This means that individuals use different strategies to achieve objectives that guarantee the security of a society. Although methods have been used primarily by States to achieve military protection, the transnationalization of climate change and natural disasters makes it necessary for States and regional organizations to implement joint strategies to ensure the security of individuals in the face of climate challenges. For this reason, talking about environmental security strategies becomes relevant in the context of uncertainty that is produced by climate change.

Concerning Latin America, it was noted throughout the text that this region has multiple environmental threats that significantly affect individuals. Therefore, it has become essential to establish strategies to solve the region's climate problems. However, although there are some initiatives to achieve environmental security in Latin America and the Caribbean, much more work is needed by regional organizations and Latin American States to achieve effective environmental governance. Before talking about environmental security in the region, there is a need for better-established integration processes in which Latin American states can arrive at common strategies around climate change management.

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Environmental security strategies in the Caribbean

Threats and Challenges to Environmental Security in the Caribbean

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Introduction

The Caribbean is an area that, because of its nature and its physical and geographical characteristics, is home to a wide range of natural resources, both renewable and non-renewable. It is exactly this biological wealth, in addition to its delicate ecosystems, which makes the coasts, islands and waters of the Caribbean and its waters a strategic and vulnerable territory for the exploiting of its resources in the development of illicit and criminal activities.

Environmental changes and damage can generate economic, political, and social conditions more conducive to specific criminal activities. For example, rising temperatures and water scarcity may intensify conflicts over natural resources, agricultural land, and water sources, fueling disputes and tensions between communities. In this sense, a holistic conceptualization of what we mean by 'security' is required. Environmental degradation has been called the *ultimate security issue*, given that it affects all aspects of society, and its effects have consequences for all community members, regardless of social class, race or nationality (Pastrana Buelvas and Burgos Giraldo, 2021). On the other hand, threats to 'traditional' security - that is, threats related to criminal activities - often cause environmental damage, resulting in a vicious cycle in which the two aspects aggravate each other. In both cases, it is often historically marginalized countries and social groups that feel the negative impacts most strongly: "in low-income countries, deaths, misery and existential threats from extreme weather are much more likely" (Germanwatch, 2021, p. 4).

This chapter seeks to identify the main threats, risks, and challenges concerning environmental security in the Caribbean region. It, therefore,

begins with a brief exploration of the relevance of environmental security as applied to the case of the Caribbean, in which it is understood that environmental security is a critical element in multidimensional security. Second, it identifies the region's most important environmental changes and damages and how these affect security. It then analyzes how the various phenomena relevant to traditional security represent threats to environmental security, with many concrete examples that demonstrate the scale of the threats and challenges facing the Caribbean region today. The chapter closes with reflections on the current threats and challenges to environmental security in the Caribbean and recommendations addressed to various relevant actors in the region and globally.

Environmental Security in the Caribbean

The Caribbean region is well suited for environmental security analysis for several reasons. First, like Latin America in general, it has low levels of interstate conflicts; environmental security threats are unlikely to result in interstate conflicts, at least in the short or medium term (Franchini and Viola, 2019). This makes it a relevant case study for analyzing multidimensional security that goes beyond traditional security and encompasses environmental dimensions.

Multidimensional security focuses on the individual rather than the state, and considers the close interconnections between different fields, such as human security -which takes into account economic, food and health, community, and political dimensions- and environmental security -which considers the sustainable use of the environment and natural resources and the mitigation of risks associated with environmental changes and damage- (Lowe and Prieto Ararat, 2022), in addition to the energy security of individuals, communities and entire states.

For most Caribbean countries, their status as small island developing states (SIDS) implies that they have particular conditions and needs that differ from those of Central and South American states. That said, many countries bordering Central and South America have coastal territories in the Caribbean, and even among SIDS themselves, their main threats are not homogeneous. Therefore, it is also necessary to consider and differentiate between these different characteristics and to identify how this heterogeneity materializes in different threats and priorities across the Caribbean Basin.

According to the United Nations (UN), environmental damage and changes can be threats in themselves or multipliers of other phenomena considered security threats. Climate change, in particular, is considered a threat multiplier because it affects and exacerbates other problems and threats arising from poverty, divisions and mistrust among different actors and with respect to institutions and resource management processes, among other factors (United Nations Secretary-General, September 11, 2009). This vision of climate change reflects a holistic conceptualization of multidimensional security and allows for the consideration of environmental changes and damage as threats.

That said, environmental security in the Caribbean is also relevant because the region does face significant 'traditional' security challenges, such as intergroup violence and interpersonal violence, phenomena closely related to organized crime and particularly transnational organized crime (TOC), such as drug trafficking (Franchini and Viola, 2019; Fuller, Kurnoth and Mosello, 2020). As mentioned above and will be shown below with concrete examples across the Caribbean region, these 'traditional' security threats also often cause environmental degradation. The strength of TOC in the Caribbean is partly due to its geographic location in the Western Hemisphere, between some narcotics-producing countries and some of the largest consumer markets (Bureau of Western Hemisphere Affairs, May 27, 2010).

In this sense, a key element in the security -under any conceptualization- of the Caribbean region is maritime security, because even in non-conflict scenarios there are significant challenges in monitoring the activities that occur in the seas of the Caribbean Basin. The United States (US) Department of the Navy argues that "the oceans are growing in importance as both arteries of the global economy and back alleys of the criminal underworld" (US Department of the Navy, 2007, p. 5). Therefore, combating both traditional and multidimensional security and environmental threats occurring in the Caribbean Sea is key today in combating criminal activities, protecting trade and tourism operations, and preventing irregular migration.

Considering the above, the next section of this chapter analyzes the relationship between environmental changes and damage and environmental security in the Caribbean region within the framework of multidimensional security.

A Look at Environmental Degradation and Environmental Security in the Caribbean

Climate Change

Since 2003, the Organization of American States - in which the Caribbean States represent more than half of the members - has recognized in its Declaration on Security in the Americas that global climate change may constitute a threat, a concern or a challenge to the security of the States of the hemisphere (OAS, 2003). The explicit use of the word *threat* here is noteworthy because it reflects a twenty-year consideration of the relationship between climate change and fields traditionally isolated from the environment, such as security.

Today, climate change is undoubtedly the environmental macro-phenomenon that poses the greatest threat to multidimensional and environmental security in the Caribbean. Overall, the Bahamas was the third country in the world most affected by climate events in 2019, according to the 2021 Global Climate Risk Index. Between 2000 and 2019, Puerto Rico, Haiti, and the Bahamas ranked first, third, and sixth, respectively (Germanwatch, 2021).

Climate change manifests itself in a broad and diverse set of impacts on ecosystems and, therefore, has direct consequences on human activities, whether immediate or long-term. According to the Intergovernmental Panel on Climate Change (IPCC), climate change is having, and will have even more in the future, diverse impacts in the Caribbean such as: higher land and ocean temperatures, greater aridity, more severe ecological and agricultural droughts; reductions in rainfall at certain times of the year; more significant ocean acidification; increases in sea level, erosion and coastal flooding; and stronger tropical cyclones (IPCC Working Group I, 2023).

As mentioned above, the impacts of climate change are felt differently throughout the Caribbean region. For example, alterations in rainfall patterns do not have the same incidence. More intense rainfall events are seen in the northern Caribbean and drier conditions in the south (McClean *et al.*, 2015, cited in Fuller, Kurnoth and Mosello, 2020). This is the case in St. Vincent and the Grenadines, where rainfall levels have decreased 8.2 mm (-5.7%) every ten years since 1960, while in Guyana monthly rainfall has increased 4.8 mm per month every ten years since 1960 (USAID, 2018, cited in Fuller, Kurnoth and Mosello, 2020).

These climate phenomena affect all spheres of human activity in the Caribbean region. The literature in this area suggests that climate change impacts the internal political affairs of states, including security. For example, the adaptive capacities of states and societies can be positive indicators in the mediation of violence (Burke *et al*., 2014, and Heilmann and Kahn, 2019, cited in Franchini and Viola, 2019) and the impacts of climate change can profoundly impact the degradation of state security mechanisms, both intra- and inter-state (Crank and Jacoby, 2014, cited in Franchini and Viola, 2019).

Beyond the political sphere, in the economic and social spheres, alterations in climate patterns and extreme weather events can create situations of vulnerability and displacement for communities that depend directly on natural resources for their subsistence or on productive activities such as tourism, agriculture, and fishing, which are vital to sustainable development processes in the Caribbean. For example, when the productive activities of Caribbean populations are affected and become less profitable, these conditions can lead to increased migration and forced displacement, creating favorable conditions for crime and insecurity (Erthal Abdenur and Rüttinger, 2020).

As mentioned earlier, developing countries are often the most vulnerable to extreme weather events, and this is reflected in the economic losses associated with such phenomena and with climate change in general. For example, Hurricane Dorian, a Category 5 storm that struck the Bahamian islands in 2019, caused economic damages of approximately $3.4 billion (Germanwatch, 2021). Overall, the Caribbean is the region in the world with the highest average annual cost of natural disasters, including climatological disasters such as droughts and fires, hydrological disasters such as floods and landslides, and meteorological disasters such as storms; these costs are nearly double the average for Latin America and the Caribbean as a whole (Guerson, Morsink and Muñoz, June 27, 2023). The Inter-American Development Bank predicts that by 2050, losses could reach about US$22 billion per year, a figure equivalent to about 10% of the current Caribbean economy (IDB OVE, 2023).

These high economic costs for the Caribbean region mean that governments have fewer resources to invest in other areas that can contribute to achieving multidimensional security for their populations; for example, from investments in public forces, to education and health

services, and even in areas that contribute directly to environmental security, such as mitigation and adaptation measures in the face of climate change itself.

Barbados is a case study that illustrates the threats to Caribbean SIDS in terms of economic losses from climate change. According to the Inter-American Development Bank, this country attracts more than 1.1 million visitors per year, and tourism is central to its economy: this productive activity indirectly accounts for 39% of the country's GDP. It employs 38% of the workforce. In addition, more than 50% of the population lives on or near the coast, and 95% of the country's critical infrastructure is concentrated in these areas. As such, climate change and rising sea levels would be highly detrimental to Barbados' economic development (IDB OVE, 2023). As noted above, if the tourism industry in Barbados or any other Caribbean country loses strength due to climate change, the population will be severely affected and may be more prone to engage in illicit activities as they cannot make ends meet through typical activities like tourism. However, it should be emphasized that tourism can also cause environmental changes and damage if it is not developed in a sustainable manner, for example, through the destruction of natural habitats, the generation of waste, and the high consumption of water and energy.

Energy security is another critical issue related to multidimensional and environmental security. The Caribbean's energy supply is highly dependent on oil, although the only countries with significant oil resources are Trinidad and Tobago and Guyana (OGEL, 2020, UNEP and ECLAC, 2010, cited in Fuller, Kurnoth and Mosello, 2020). This fact results in a situation in which the Caribbean region is not only the most vulnerable to natural disasters, but also has the highest energy prices globally (Guerson, Morsink and Muñoz, June 27, 2023). Therefore, there is a significant challenge in the region regarding an energy transition towards renewable and low-carbon energy models.

However, as the Caribbean transitions to renewable energy sources, climate change is increasingly impacting on energy systems and associated infrastructure. According to Arent *et al.* (2014, cited in Fuller, Kurnoth and Mosello, 2020), hydropower production is likely to decrease due to lower rainfall levels and higher evaporation rates. In addition, extreme weather events cause significant disruptions to power supply and distribution systems in the Caribbean. As more severe climate

change-related events are anticipated, these disruptions will increase, even in the short term. A significant challenge for Caribbean SIDS is that their power grid infrastructure is dispersed and sparse and they have minimal land available for renewable energy infrastructure (Renewable Energy World, 2019, cited in Fuller, Kurnoth and Mosello, 2020).

The final issue to highlight in relation to climate change and security is migration. As noted earlier, climate change's environmental, economic, and social impacts may lead to irregular migration as populations are forced to migrate. This phenomenon is already happening. The Internal Displacement Monitoring Centre estimates that in 2017 alone, following an especially intense Atlantic hurricane season, nearly two million people were internally displaced in the Caribbean (Trenchi and Mihm, 28 March 2023). In SIDS, these phenomena are particularly complicated by the lack of available land and increasing urbanization; moreover, migration can exacerbate existing vulnerabilities of inequality, poverty, unemployment, and informal work, as migrants often arrive in high-risk areas on the urban periphery (Villazón, September 13, 2022).

Beyond internal migration, irregular international migration is undoubtedly a security issue for all Caribbean countries. These migrations imply challenges for those who decide to leave their homes, for the host communities, and for politicians, officials, and decision-makers in multiple sectors, who must deal with these migrations. According to the World Bank's Groundswell Report, by 2050, the entire Latin America and Caribbean region could have as many as 17 million climate-related migrants (Villazón, September 13, 2022). In general, migrants tend to leave countries with lower living standards and fewer opportunities and arrive in countries with more developed economies and more significant employment opportunities; for example, countries and territories with strong tourism industries, such as the Bahamas, the Virgin Islands, the Turks and Caicos Islands, and St. Kitts and Nevis, tend to attract citizens from Haiti, the Dominican Republic, Guyana, and Jamaica (Lacarte, Saiz, Chaves-Gonzalez, Amaral, and Harris, March 29, 2023). Haiti is the country from which most migrants leave in general, and extreme weather events are among the most decisive factors in the increased migration of Caribbean nationals to South and North America (Lacarte *et al.*, March 29, 2023). This migration to the U.S. and North America has significant implications for countries in the Central American migration corridor, many of which are also Caribbean riparian countries. Finally, studies of Caribbean migration systems show that, in most of the countries analyzed, these

regimes are outdated and thus limit the ability of countries in the region to manage migration adequately (Lacarte *et al*., March 29, 2023).

In short, the impacts of climate change have an important relationship with phenomena that affect multidimensional and environmental security. Its environmental, economic, energy, and migratory impacts have already been shown, as well as how these can represent threats and challenges. But beyond climate change, there are other threats to environmental security in the Caribbean region. Many arise from TOC and criminal activities, which can be aggravated and strengthened by the phenomena discussed in this section. The next section of the chapter identifies and analyzes these threats.

A View From Traditional Security

This section will briefly examine phenomena such as organized crime, exploitation of illicit economies, and others that constitute a risk or threat to environmental security in the Caribbean. The specialized work of *Think Tanks* is a useful input that allows us to look at the current and recent state of environmental security threats in the Caribbean.

Illegal Fishing

Illegal, unreported and unregulated (IUU) fishing is a broad term that covers a wide range of fishing activities that do not comply with, or are not subject to, the regulations governing the sector. The problem occurs in all types and scales of fishing, both in international waters and in areas under national control. IUU fishing affects all stages of the capture and exploitation of fishery resources and can sometimes be linked to organized criminal activities (Food and Agriculture Organization of the United Nations, n.d.). As a result, it undermines national and regional efforts to conserve and properly manage fish stocks. It therefore hinders progress towards achieving the Sustainable Development Goals and threatens the environmental protection required by Caribbean ecosystems, as well as undermining best practices in the responsible use of fishery resources.

In the specific case of the Caribbean, *InSight Crime* and the Center for Latin American and Latino Studies (CLALS) at American University (2022) developed an analysis of IUU fishing practices and their incidence in several Caribbean countries, which can serve as an input to illustrate the behavior of this phenomenon in the region. The study focuses on

countries such as Costa Rica, Jamaica, Suriname and Panama, among others. For example, it reveals the state of IUU fishing in some regions of Costa Rica, such as Cocos Island. According to Cárdenas and Ramírez (July 27, 2022), this country has one of the most biodiverse oceanic regions in the world, rich in reef fish, tuna and other coveted species, making its waters attractive for illegal fishing activity. In response, the Costa Rican government implemented a radar system that fell short due to a lack of coordination and efforts to maintain it over time and the complexity of the fishing threat. Thus, illegal fishing continues to represent an increasingly significant concern for marine life in Cocos Island.

According to a report by the NGO Amigos Isla del Coco (Faico) (in Cárdenas and Ramírez, July 27, 2022), it has been observed that seizures of illegal fishing, interception of vessels, and open judicial processes are scarce. Likewise, the director of conservation at the Costa Rican Fisheries Federation (FECOP) has argued for the study's authors that the judicial institutions lack the capacity and knowledge necessary to adequately investigate and prosecute vessels that commit fishing infractions in the area. Similarly, he stated that the government's behavior is rather inactive in protecting sharks, tuna, swordfish and other deep-sea species, despite showing progress in the development of plans and regulations for their protection. An example is the data reported by InSight Crime from different sources affirming that Costa Rica represents about 4% of shark fin exports (Cárdenas and Ramírez, July 27, 2022).

Another problem addressed in the study is the extensive depletion of Jamaica's waters, which have been pushed to the brink of sterility by a long history of over-exploitation of its reefs and the harmful effects of natural disasters that have struck the area. Although the coral reefs have recently shown signs of recovery, frequent hurricanes have caused serious damage to the reefs, destroying them and covering them with sediment. Development projects have drained wetlands and discharged wastewater into the sea, negatively impacting these fragile ecosystems (Neufville, July 27, 2022).

In addition, coral diseases, declining sea urchin populations, and coral bleaching have also caused severe damage to the reefs. However, the main human factor for the lack of fish and the fatigue of the waters is, according to the locals, the incidence of illegal intensive fishing, which affects not only the ecosystem but also the populations and human settlements in the area, adding to a diagnosis of institutional weakness

in data collection, monitoring and surveillance of fishing activity. In a similar sense, there is the case of Panama, which, due to its passivity, allows Chinese vessels to use Panamanian flags and take advantage of the benefits of nautical and merchant activity in the area and, as a result, vessels can massively exploit the waters for long periods without any restrictions (Molina Alarco, July 27, 2022).

There have also been cases of small boats entering foreign waters for fishing activities. For example, Haitian fishermen have been observed in Estero Balsa National Park in the Dominican Republic. These fishing incursions into foreign waters can generate conflicts and tensions between countries since unregulated and unauthorized fishing can harm fishery resources and the environment of the affected region (Greenpeace, 2023).

Organized Crime: Drug Trafficking, Deforestation, Illegal Cattle Ranching, Wildlife Trafficking

Organized crime is also present in environmental dynamics in the Caribbean. For example, drug trafficking, which may seem to be a phenomenon far removed from the environmental sphere, has environmental repercussions in cases such as Honduras. Specifically, the development of some road infrastructure projects has favoured the access and connection of drug trafficking actors to new areas of influence to establish their criminal activities. Beyond the controversy surrounding some of these projects due to the design of future roads and their consequent environmental impact, it is also true that drug trafficking has increased due to the scale and intensity of drug trafficking in this country, and specifically in the areas where the projects are being carried out (Previde, July 6, 2021).

Increased access to new areas has allowed organized crime to contribute to the deforestation of around 40,000 hectares of forest in the last five years. The intensity of deforestation increased during the pandemic, in areas that are natural reserves and that were already suffering from this problem. The deforestation undertaken with a dual purpose: on the one hand, to clear space for the construction of airstrips for drug transport, and on the other hand, the use of space for illegal cattle ranching, although, of course, the wood is also traded on the black market (Previde, July 6, 2021). In aerial tours and flyovers, it is possible to notice deforested patches where cattle ranching is being carried out illegally.

This is a slow and gradual process that has been going on in the eastern Honduran jungle for approximately forty years and, according to local inhabitants, has increased significantly in the last decade, coinciding with the expansion of drug trafficking in the region. Added to this is the atmosphere of violence and unrest that this threat to the security of the area's inhabitants implies.

According to the Honduran Forest Conservation Institute, the Río Plátano Biosphere has been losing approximately 2,700 hectares of forest annually since 2016. According to an investigation by the Wildlife Conservation Society, around 90 percent of these losses are attributed to the expansion of illegal cattle ranching in the area. Expert sources told *InSight Crime* that cattle ranching allows drug traffickers to cover up their true activities, as they are perceived as illegal ranchers rather than drug traffickers, resulting in less response and pressure from authorities. To date, the exact number of cattle present in the Río Plátano Biosphere has not been determined. Residents along the banks of the Patuca River have estimated that each property is home to between 2,000 and 3,000 animals; some ranchers may even have as many as 10,000 heads of cattle. Considering the deforestation figures, it is estimated that approximately 65,000 cattle are being reared in the reserve. However, it is important to keep in mind that these figures are approximate and are not based on an official count, which reflects the lack of accurate data on livestock activity within the Río Plátano Biosphere (Montoya, May 18, 2022).

Related to this point, Panama, for its part, has also been plagued by illegal timber trafficking and exploitation. The country's location, connecting Central and South America, makes it an important point for exporting and importing goods, including timber. In this context, Panama is faced with the significant challenge of fighting on two fronts simultaneously: combating deforestation of its cocobolo trees -a native species- and interdicting illegal shipments on both the Atlantic and Pacific sides of the Panama Canal. While deforestation is most prevalent in the Darien region, illegal clearing of cocobolo, nazarene, and balsam fir has also been detected in other areas in the eastern part of the country (Cardenas, April 4, 2022). The government has taken strong measures to combat this illegal trade at its source. Throughout 2021, roadblocks were set up in and out of the most deforested areas, stopping trucks carrying shipments of cocobolo and preventing the illegal extraction of timber from Panama's forests.

In March 2022, Panamanian authorities recovered two containers at the ports of Colón, in the north of the country. These containers were carrying cocobolo wood and were awaiting delivery to China. The two confiscated containers contained approximately 850 pieces of cocobolo. Recent seizures of illegally sourced timber in Panama have highlighted the country's importance in the international timber black market. This is due to its strategic geographic location and the presence of valuable tree species in its territory. The abundance of tree species, such as the cocobolo (*Dalbergia retusa*) mentioned above, makes this activity attractive on the international black market. The demand for wood from unique and exotic species, many of which are protected by international laws, coupled with the abundant supply in Panama and other Caribbean countries, has stimulated illegal trade and unsustainable exploitation of forest resources in the region (Cárdenas, April 4, 2022).

Similarly, in some Caribbean countries, there is also trafficking in animal species. A relevant example is the case of Cuba, where wildlife, mainly birds and snails, are trafficked. Among the trafficked birds are Cuban songbirds, known for their striking plumage. These specimens have been found on several occasions in the United States, where they are sold on the black market for between US$200 and US$300 each. The Amazonian macaws are another species endemic to Cuba that is illegally trafficked, known for their bright red breasts. These birds are highly coveted on the black market and can fetch USD 600 each (Pechinsky, June 15, 2021). Birds are also trafficked from Venezuela to Trinidad and Tobago (*InSight Crime*, July 2, 2020).

The polymite snail is one of the most endangered species on the island of Cuba. The appearance of their shells makes them highly valued on the market. Each shell can fetch up to US$70 due to its rarity and aesthetic appeal. The international demand for these snails has led wildlife traffickers to harvest them indiscriminately, threatening the survival of the species. As a result, the polymite snail was added to the endangered species list in 2016 to protect it from exploitation and illegal trade. Although there are no official reports of indices or figures on illegal wildlife trade in Cuba, the issuance of regulations and prevention policies may indicate an interest in the matter that addresses the growing intensity of this trade (Pechinsky, June 15, 2021).

Costa Rica has a similar problem with insect species. The country has investigated several similar wildlife trafficking cases in recent years,

showing the persistence of the problem in the region. Some of the accused have been foreign nationals, such as the two Germans caught carrying spiders and ants in their luggage at an airport in 2019. The butterfly trafficking case in Puntarenas highlights how low detection probabilities and high financial gains entice people to engage in the illegal wildlife trade. The demand for exotic species worldwide, including butterflies and other insects, has led to buyers from the U.S., Europe, the Middle East and Asia willing to pay high sums of money for these specimens. Obsessive collectors have been reported to pay up to US$60,000 for a single butterfly. Traffickers often use low-cost, low-risk dispatch methods, such as killing the creatures, treating them with chloroform, and mailing them using standard courier services (Gorder, December 1, 2019).

Illegal exploitation and trafficking of precious minerals is also a concern in Costa Rica. Operations and raids throughout the country have revealed the existence of a complex network of paper companies involved in laundering illegally mined gold to the U.S. This dollar-laundering scheme is extensive and not typically associated with the Central American country. At the end of August 2020, Costa Rican authorities carried out 32 operations and arrested 27 people linked to illegal mining, according to the Public Prosecutor's Office. During these operations, police were able to seize gold bullion, drugs, large amounts of cash, and false documents related to exports.

According to information obtained by InSight Crime from the general director of the Judicial Investigation Organism (OIJ) in Costa Rica, Walter Espinoza, the investigation into the mining network began in April 2019, after authorities at the Juan Santamaria International Airport in the city of San José detected an unprecedented amount of gold in export documentation. The investigation revealed a complex gold extraction and export structure, operating on several levels. Different teams were involved in extracting, molding, transporting, exporting and laundering the proceeds of illegal gold. According to Espinoza, based on the seized export documents, the network obtained at least US$60 million through international gold sales. Authorities found that gold illegally extracted from the Crucitas de Cutris area along the northeastern border with Nicaragua and Corcovado in western Costa Rica was moved to the United States through the use of foreign trading companies. These paper companies were used to camouflage the true nature of the gold and facilitate its illegal export to the United States. The problem began in the early

2010s and has been accentuated with the increase in the value and international price of gold (Goodwin, September 2, 2020).

On the other hand, Nicaragua suffers transversally from deforestation and illegal mining associated with drug trafficking. The Indio Maíz biological reserve in the country, located on the southern border with Costa Rica, is facing severe problems due to increasing illegal mining activity, whose operations have resulted in the contamination of rivers with mercury and cyanide spills, which, of course, has serious environmental consequences. In addition, thousands of hectares of forest are being deforested, and members of the indigenous communities living in the area are under constant threat of death. Fundación del Río, a conservation organization based in southeastern Nicaragua, has continuously and systematically denounced the progressive degradation of the Indio Maíz reserve. This protected area is home to a rich and diverse biodiversity, with more than 1,000 species of birds, mammals, insects and amphibians (Dalby, January 27, 2001).

The presence of organized crime has contributed to a number of environmental stress factors that threaten the area's integrity and biodiversity. One of the main problems associated with deforestation is extensive cattle ranching, which involves not only the destruction of hectares of forest, but also the invasion of communities and protected territories. The expansion of cattle ranching consists of clearing forests for cattle raising, which harms ecosystems and represents a loss of natural habitats. Similarly, cleared land is used for extensive African palm agriculture, which generates significant land use changes and deforestation processes in southeastern and northern Nicaragua. The expansion of African palm plantations often involves clearing forests to make way for large-scale cultivation, which reduces biodiversity and affects communities and the environment (Dalby, January 27, 2001). Indeed, climate change and environmental crime are linked in a vicious cycle that exacerbates existing problems. When communities have few legitimate livelihood opportunities and unfulfilled demands from governments, they are more likely to join organized criminal groups that can exploit natural resources illegally. These illegal activities, such as illegal logging, unregulated mining or poaching, can further degrade ecosystems, reducing their capacity to absorb greenhouse gases and contributing to climate change.

Reflections and Recommendations

To conclude this chapter, we offer the following reflections and recommendations.

There is a close relationship between environmental phenomena, organized crime -national and transnational- and security, and the Caribbean is an ideal case study to highlight the growing importance of environmental security on the international stage. The threats and challenges in this area arise from the nature of the region, its physical and geographical characteristics and its natural resources. All this makes the Caribbean an area both highly vulnerable to environmental change and damage, and strategic for criminal activities.

Concerning environmental changes and damage, and especially climate change, it should be noted that these phenomena represent an existential threat to the very survival of some populations and even entire States in the long term, and that their impacts are already being experienced increasingly frequently and intensely. Therefore, given the challenge of responding to the threats identified throughout this chapter, the following recommendations are suggested:

- Adequate investment in mitigation measures and, above all, adaptation to climate change is key for the region's countries and their populations to live in decent conditions, under changing conditions and in the face of extreme weather events.

- Caribbean countries should also seek international alliances with developed countries and international organizations to strengthen foreign investment in these adaptation measures, and if possible, join efforts with other countries in the region and similar conditions to advance group strategies to work on a larger scale and take advantage of common benefits.

- Given that the Caribbean countries are among the most vulnerable to climate change at the global level but have contributed very little to its historical causes, the States of the region must participate actively - both separately and as a bloc/s - in summits and other international forums on the issue of loss and damage. This is key to further progress in the region's sustainable development processes.

- It is essential to include communities in developing adaptation measures, given that they have diverse knowledge -some ancestral- that can contribute to climate resilience.

- The above four recommendations should be seen by the region's governments - and by the international community as a whole - as investments that can also strengthen democracy and general welfare in the Caribbean, while preventing or mitigating the negative impacts mentioned here in terms of security.

In terms of energy security, the Caribbean region has excellent opportunities in energy transition to leave behind its dependence on hydrocarbons and mitigate climate change in the future. However, although there are possible limitations to renewable energies for the reasons already described, in some regions of the Caribbean Sea, ocean energies also have great potential that can be harnessed through waves and currents, wind, and solar radiation.

- More scientific research is needed in ocean energy and investments - from the Caribbean or from extra-regional actors - to identify suitable areas and develop pilot schemes.

- In this field, the availability of open-access scientific data is also highly important.

Concerning irregular migration arising from threats to environmental security, strategies are needed that include and empower both the countries from which migrants leave and the countries that receive them.

- It is necessary to update each Caribbean country's current migration policies and institutional systems in the face of this growing phenomenon, ensuring that climate change is considered a driver of displacement and migration.

- A coherent regional strategy that places the multidimensional security of individuals, communities and states at the center is also required.

- Extra-regional powers such as the U.S. should play a key role in this issue, given that they are often the expected final destination of many of the people forced to migrate by climatic and environmental security factors.

Since the impacts of climate change are felt in all spheres of life, a comprehensive and joint response among the different actors and sectors within the Caribbean countries is key, with an important role for regional and international organizations as well. The importance of regional public forces is highlighted here, especially in responses to extreme weather events and the fight against TOC.

From the perspective of traditional security threats, the relationship between climate change and environmental crime is evident. Illegal fishing in its various forms has serious consequences for marine life, followed by other phenomena such as drug trafficking, deforestation, illicit cattle ranching, and wildlife trafficking.

- Environmental institutions need to be strengthened in order to carry out studies and measure the impact of the different threats identified. This translates into adequate budgets for more technical personnel in the various environmental agencies.
- Alliances are required from the perspective of international cooperation between the authorities of each country to deal with the various illegal activities, since being a transnational phenomenon, the efforts of each member country cannot be disconnected from the actions proposed by another member.
- Following on from the previous point, it is also essential to work on a common legal and regulatory framework for the geographical area, which commits not only the countries of the region but also those external actors that are affected by and are recipients of illegal activities such as, for example, species trafficking.

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Governance structures and environmental security strategies in the Caribbean region

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Introduction

Environmental Security (ES) is a drive that promotes processes, strategies and decisions that seek alternative solutions to the complex, conflicting and irreversible circumstances that affect the world's living environment. Climate change is the "tip of the iceberg" that shows the gradual and daunting environmental upheavals humans have caused through irresponsible environmental actions, especially since the industrial revolution. It is the so-called "Code Red" referred to by Amnesty International (n.d.) that classifies the problems caused by the effects of climate change: severe droughts in sub-Saharan Africa, tropical storms in Southeast Asia, the Caribbean and the Pacific, high temperatures in Europe with wave of forest fires as a result, among many other manifestations. This alarming situation year after year remains on the political agenda of world governments and organizations working for the "protection and defense of ecosystems".

The search for the origin in time of climate change, together with its effects, is a task that could lead to uneasiness and uncertainty since it makes it possible to show that the relationship between human beings and ecosystems has developed between light and shadow, successes and failures, particularly in the modern era, but with high degrees of impact on the environment and, undoubtedly, on people's lives. As possible ways of finding solutions to these problems, an infinite number of strategies have been designed and implemented that can be traced over time and range from the means of expressing identity with the territories, constitutive of ethnic communities to community associations for the protection and care of ecosystems. Likewise, meetings of the international community on the subject have led to copious documentation

and regulations to formalize the defense and care of the environment without ignoring the progress in ethical and safety protocols so that any project, program, or company that needs to achieve its mission or corporate objectives and may impact the ecosystem is obliged to proceed with extreme care and thus reduce the negative impact on the environment.

So-called "governance", has become an interdisciplinary, inter-organizational and multiscale mechanism for seeking solutions in many aspects of social, political, economic, cultural and environmental life. It is a concept that has been widely developed since the Second World War and aims to position the dynamics of decision-making, management and control of the diversity of aspects that make up people's lives.

> Governance is an interdisciplinary research program on order and disorder, efficacy and legitimacy, all in the context of the hybridization of modes of control that enable the production of a fragmented and multidimensional order within the state, by the state, without the state, and beyond the state (Levi-Faur, 2014, p. 3).

ES Governance is the subject of this essay. To this end, we divide it into three sections that provide an overview and some theoretical and practical notes on the relationship between ES and governance and how this is reflected in some areas of the Spanish-speaking Caribbean region. The first part describes some of the central elements of environmental governance as an inter- and multidisciplinary process, especially from the perspective of Elinor Ostrom's contributions on the management and collective management of the commons. The second part focuses a little more on the importance of ES as a critical dimension for countries, including those in the Caribbean and areas therein; This is followed by some examples of how governance and institutionality for ES are expressed at different levels and in different forms. The paper ends with conclusions and proposals within the framework of the Konrad-Adenauer-Stiftung's Regional Program Energy Security and Climate Change in Latin America (EKLA).

Part I. Notes on Environmental Governance

The interdisciplinary and multi-disciplinary component (disciplinary, level, scalar) has in interdependence a fundamental factor to highlight the ultimate meaning that underpins governance: the search for alternative

solutions and the improvement of factors that interrelate and intercommunicate at various levels. Hence, the field of action of governance focuses on the establishment of *networks*. Under this framework, amid the advancement of the concept, so-called *global governance* was configured, which "is based on different levels of coordination, cooperation and search for common solutions at the international level, in the process of which international organizations play a key role in achieving such objectives" (Pastrana, E., 2015, p. 47).

Beyond a mix of words to conceptualize, governance offers a distinctive imprint on how to manage different issues in contexts of diversity and multiple perspectives: institutionality (formal and informal), cooperation, integration, consensus-building, participation, and so on. As a result, the Commission on Global Governance states that "the world needs a new vision that can galvanize people everywhere to achieve higher levels of cooperation in areas of common interest and shared destiny" (n.d., para. 1, own translation).

> Governance is the sum of how individuals and institutions, public and private, manage their everyday affairs. It is a continuous process through which conflicting or diverse interests can be accommodated, and cooperative action can be taken. It includes formal institutions, enforceable regimes, and informal arrangements that individuals and institutions have agreed to or perceive to be in their interest (Commission on Global Governance, n.d., para. 5).

In this context, complex human dynamics have allowed for gradual development of this type of joint actions and interventions to seek solutions to the different problems and challenges related to growth jointly. Therefore, the document *Our Global Neighborhood* emphasizes that it is necessary to "build alliances -networks of institutions and processes- that allow global actors to gather information, knowledge and capacities and develop joint policies and practices on issues of common interest" (Commission on Global Governance, n.d., para. 12, own translation). Public governance can be identified in this broad field, understood as how different organizations interact in the pursuit of high standards to achieve impact results, paraphrasing Bovaird and Löffler (2009).

The issue of climate change, which is the main subject of this essay, in its dynamic relationship with governance processes, is the order of the day in terms of the combination of elements and factors. In other words,

the very perspective of the effects of climate change has given rise to initiatives to search for alternative solutions to reduce these effects and, if possible, to achieve the transformation of ecosystems, which has led to the design of governance strategies. It is no coincidence that every year brings environmental conflicts, with waves of high temperatures accompanied by droughts in some regions of the world. At the same time, in other areas, winter produces aggressive storms, torrential rains, the devastation of population centers by floods or natural disasters, hurricanes and extreme cold. It is like a "shaking" of the earth in the face of the demands and abuses that humans have placed on ecosystems.

> Population increase and economic growth have put additional pressure on natural resources and the environment, and managing demographic and economic change to safeguard the interests of future generations has become an issue of paramount importance (Commission on Global Governance, n.d., para. 78, own translation).

The same Commission on Global Governance then highlights the importance of ES as an urgent task that the international community itself must work on, pooling its efforts and capacities. The relational dynamics between population, consumption, technology, development and the environment are intertwined in a complex way in which the well-being of the people who inhabit the earth (the global neighborhood, in the sense of the same document) is at stake. The task identified by the Commission at that time focused on "effective and equitable governance with a long-term, systemic, global approach, guided by the principle of sustainable development" (Commission on Global Governance, n.d., para. 85, own translation).

Thus, the interest in caring for ecosystems, based on the principle of sustainable development, seeking to defend, preserve, and promote the environment, has enabled the implementation of the so-called "environmental governance". This type of cooperative networking around the environmental issue has different conceptual and theoretical nuances from where it can be approached. However, Montoya and Rojas (2016) define it as "a set of processes, mechanisms and organizations through which political and social actors influence environmental actions and [their] results" (Montoya and Rojas, 2016, cited by Pastrana and Lowe, 2020, p. 25). It should be added that these processes, mechanisms, etc. are manifested in formal or informal institutions, more or less efficient

in their operation, and at different levels of action: regional, national, or subnational.

As noted above, the concept of 'environmental governance' has diverse perspectives that are not the central object of study in this text. However, it is essential to point out that the theoretical reference contains processes, procedures, and practices that make viable or control access to, use of, and cohabitation with natural resources and their relationship with population groups, bearing in mind the capacities and potentialities of the actors to access these resources and, therefore, to manage the mechanisms that make their proper use possible.

> Environmental governance encompasses the regulations, practices, policies, and institutions shaping how people interact with the environment. Environmental governance considers the roles of the agents that interact with the environment: local governments, NGOs, the private sector, and civil society. In this context, international cooperation has been fundamental to strengthen environmental governance, contributing to a more sustainable future (Narváez, 2020, p. 179).

There are many alternative solutions to environmental problems. However, it seems that the efforts are unsuccessful. For example, last July (year 2023), between the third and fourth days of the month, the world media reported the highest temperature levels ever recorded. On Monday, July 3, a temperature of 17.01 degrees Celsius was recorded (it surpassed the highest record, which was 16.92 degrees Celsius, in August 2016). And on Tuesday, July 4, the temperature was 0.17 degrees Celsius higher (DW, July 5, 2023).

These facts and data showcase the so-called 'climate crisis' catalogued as 'climate change' and 'El Niño phenomenon', generating extreme weather phenomena. In this regard, the World Meteorological Organization (WMO) in the report *State of the Climate in Latin America and the Caribbean 2022* points out how climate change is triggering a vicious cycle of events, with spiraling impacts on countries and local communities (WMO, 2023).

Among the many proposals and commitments to design and implement strategies to mitigate the effects of climate change, relevant problematic aspects are evident, such as the disruption of ecosystems and the vertiginous growth of the population, which results in the use,

consumption and abuse of natural resources, while overloading the capacity of the Earth itself and, consequently, affecting human health, extreme conditions of poverty, loss of human lives, and so on. In addition to the above, there are problems in economic, food and social conflict aspects.

This sum and interconnection of factors place the issue of climate change as an inter-and multi-field of factors, disciplines, levels, and scales. It is precisely in the conflicting dynamics that arise in the management of the so-called common resources that the so-called *polycentric governance* has been proposed as an alternative for joint management and action within the parameters of the territorial identity of the contexts, by the communities settled in those spaces and fields of natural resources.

Part II. Polycentric (Environmental) Governance as a Frame of Reference

General Aspects

The *Action Plan for the UN Decade on Ecosystem Restoration* (UN, 2021), approved during the XII Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean, held on the island of Barbados in February 2021, synthesized the regional interest in joining efforts in the future management of pandemics and the acceleration of "sustainable recovery in the region through the conservation, restoration and sustainable use of biodiversity and ecosystems" (UN, February 2, 2021, para. 2). Although this initiative focuses on Latin American and the Caribbean, it is a mechanism that is framed within the United Nations Decade on Ecosystem Restoration 2021-2030 and concentrates efforts to make the rich biodiversity present in the region a true bastion in the mitigation of the effects of climate change.

Given the reality of having seven of the most biodiverse countries in the world, it is impossible to ignore the fact that.

> [Although] 24.2% of its terrestrial areas and 17.5% of its marine areas are protected, many ecosystems have been significantly degraded, threatening people's well-being, countries' potential to adapt to climate change, and ultimately the viability of a sustainable future (UN, February 2, 2021, para. 5).

In other words, the advantages, capabilities, and potential of the region's context interact with triggers that reveal the disadvantages, lack of capacity, and deficiencies of an environment rich in resources but with significant shortcomings in their management.

Interstate, interinstitutional, and intersectional cooperation have been used by the international community and each country to mitigate the impact of the effects of climate change. In other words, the governance structures are presented as alternative search options. The *Action Plan* mentioned above is one of the many instruments designed and implemented in the region. In this case, the region outlined three paths to follow: a) a regional movement; b) political commitment; and c) technical capacity. These paths are intended to be implemented through ten actions[1] that contain the cross-cutting axis of the cooperative in all its initiatives.

Reading the text of the *Action Plan*, it is possible to recognize management components that go beyond governmental or institutional responsibilities, as these types of problems and initiatives are usually approached. The promotion and public awareness, the visibility of the defenders of ecosystems, taking ecosystem restoration to school, support to the leadership transformation in ecosystem restoration, with dynamics that seek to rescue the capacities that inhabit the contexts, is the promotion and impulse of processes that promote and support alternative solutions to the effects of climate change with the potential of the habitats themselves.

We turn to the case of the relationship established between life, culture, and environment for indigenous peoples. Such is their importance that the history of humanity itself, especially in the regions of Latin America and the Caribbean, has shown that "lands, territories, and resources traditionally owned or occupied by indigenous peoples contain 80% of the world's biological diversity" (ECLAC, 2022, para. 1). Thus, the cohabitation of indigenous communities with the environment allows them enormous capacities to be managers and teachers in aspects of ecosystem transformation.

1 Action Plan Actions: 1) promote and facilitate public awareness; 2) make ecosystem restoration advocates visible; 3) bring ecosystem restoration to school; 4) create support materials for transformative leadership in ecosystem restoration; 5) develop and implement a regional strategy for innovative funding of ecosystem restoration initiatives; 6) promote and facilitate regional communication; 7) assess and identify opportunities for investment in long-term scientific research in ecosystem restoration; 8) ensure regional access to knowledge in ecosystem restoration; 9) promote collaboration for scientific analysis and synthesis in ecosystem restoration; and 10) train ecosystem restoration professionals (UN, 2021).

> Given the importance of forests in reducing the effects of climate change -as well as in the multiple biological and cultural aspects mentioned above- and the available information that forest destruction leads to higher GHG emissions, there is now broad consensus that halting deforestation and forest degradation is one of the fundamental measures to address not only biodiversity loss but also climate change. To this end, including indigenous peoples is critical, although it is rarely realized. Indeed, several organizations warn that indigenous peoples have been ignored in climate plans, while their representatives demand to be included in UN talks and negotiations (ECLAC, IDFAC and Ford Foundation, 2020, pp. 116-117).

This valuable element, which can be demonstrated in the historical, social, cultural and environmental reality of indigenous communities and their environment, and which benefits the human perspective in general towards ecosystems and biodiversity, allows us to point out the confrontation caused by the use (and even abuse) of the natural resources available in human cohabitation. This aspect is precisely the nexus of Elinor Ostrom's proposal for polycentric governance for the management of common-use resources, through the creation of networks of actors in context who, assuming identities and responsibilities, can manage dynamics and processes for better use, conservation and transformation of ecosystems and biodiversity, with a view to mitigating the effects of climate change.

What is polycentric governance?

Population growth, the use-consumption-abuse of natural resources, the over-population of ecosystems and the management of these processes, are what led Elinor Ostrom[2] to take an interest in the field of polycentricity as a transversal axis of analysis of the so-called common resources. In terms of the interest of this chapter - the effects of climate change that have given rise to ES strategies - it goes beyond conclusive aspects referring to greenhouse gas emissions, since the interrelationship between human beings and ecosystems is a key element that cannot be underestimated. For the Paris Agreement, climate change "is a global emergency that goes beyond national borders. It is a problem that requires coordinated solutions at all levels and international cooperation" (UN, 2015,

2 Elinor Ostrom's works can be located in the years 1990, 1994, 1995, 1999, 2004, 2000, 2007, 2008, 2009, 2010. The work that is catalogued as the starting point of her proposal is Governing the commons (1990). Similarly, the texts Constituting Social Capital and Collective Action (1994) and Self-Organization and Social Capital (1999) are strong contributions.

para. 1). Among these levels are the dynamics of social, community or group organization, in the territory, integrated in a coordinated manner for the management of common resources.

This field of action of governance in the environmental field has made it possible to emphasize the search for strategies and mechanisms of alternatives in order to build consensus, amid dissent, on the problems that have affected and continue to affect ecosystems. Among the various proposals for management through governance, the problem of the use of "common goods", focusing attention on their management and the importance of social norms in the interaction with these goods, was what motivated Elinor Ostrom (1990) to study the interaction between "management of common resources, highlighting the importance of social norms and the possibilities of self-management" (Caballero, n.d., p. 8).

Ostrom's thinking on the so-called "common pool resources" stems from a research project that sought to "study the conditions under which individuals will cooperate with each other to appropriate the common pool resources created in an experimental laboratory" (Ostrom, 2000, p. 10). The tool that allowed the study of these aspects focuses on the dynamics of social dilemmas, which ultimately aims to show that individuals faced with a dilemma, motivated by the externalities created by their actions, generate actions that lead some to harm each other and others to seek cooperation to avoid the problem.

For her work, Ostrom undertook an introductory analysis of three influential models in order to advance the study of how to manage common pool resources better (RUC, in Ostrom's own terms, 2000): a) the tragedy of the commons; b) the prisoner's dilemma game; and c) the logic of collective action.

Garret Hardin's (1968) idea of the tragedy that contains the dynamics of common resources and generates the corresponding degradation in the use of this type of resources without rules, that is, without limits, was expanded by Ostrom in her research and theoretical construction. The theoretical frameworks that underpin Ostrom's research, analysis and conclusions find their main foundations in political geography, economics and collective action.

Hardin's (1968) statement of "the tragedy of the commons" was positioned as an expression of "the degradation of the environment that can be expected whenever many individuals use a scarce resource at the

same time" (Ostrom, 1990, p. 26). Hardin's basic idea is that overpopulation has caused effects on natural resources. Hardin's proposal can be expanded in the structure of the well-known "prisoner's game", defined as a non-cooperative dynamic; in this game all the actors have complete context information, but do not communicate among themselves, which prevents the option of verbal agreements. Thus, each participant goes 'his own way' with his strategy, producing the best outcome for each actor, but not for the context. In turn, Ostrom argues based on the logic of collective action (Mancur Olson, 1965), which builds on the previous foundations that defend that when individuals with common interests meet, they will act voluntarily to obtain that which is common, as long as they are rational and have interests. In other words, it is not true that a common (collective) action can be generated by the mere fact of having the possibilities of benefit for a group. For Olson, if a person cannot be excluded from the benefits of a collective good, when the group already possesses the good, he has little incentive to contribute to the provision of the good.

With these metaphors of models briefly described, Ostrom (1990) bets on searching for a model of rational choices in which trust, reputation, and reciprocity become the drivers of the appropriate use of common resources. The commitment to polycentric governance as a possible alternative field for the problem of climate change and the consequent management through ES in the Caribbean region, in the face of the specific cases of ES governance structures that are brought up, are a nexus for a conclusive analysis and purpose for the diversity of actors that can be located in the regional context.

> The term "polycentric" connotes many decision-making centers that are formally independent of each other. Whether they function independently or constitute an interdependent system of relationships is an empirical question for each case. To the extent that they take each other into account in a competitive relationship, are part of varied contractual and cooperative ventures, or draw on central conflict resolution mechanisms, the multiple political jurisdictions present in metropolitan areas may function coherently with congruent and predictable patterns of behaviors in their interactions. Then, to the extent that this is the case, they can be said to function as a system (Ostrom, Tiebout and Warren, 1961, cited by Ostrom, 2013, p. 11).

Elinor Ostrom expanded the traditional reading of public (state) and private goods throughout her research. The central point was found in

that "in certain communities, mechanisms of control of the social community related to the commons can also emerge from below" (Caballero, n.d., p. 8), thus creating the importance of collective action and highlighting the importance of institutions in their role of providing public goods and common goods, in addition to opening up the option of "plural and hybrid governance" strategies (Caballero, n.d., p. 8).

As mentioned above, the interrelation between trust, reputation and reciprocity will be a key element in this governance structure in which there is independence among actors. For Ostrom (2000), reciprocity implies:

- An effort to identify all participants.
- The possibility that the others are conditional "cooperators".
- The decision to cooperate with others if they are trusted to be conditional cooperators.
- Refusal to cooperate with those who do not act reciprocally.
- The punishment of those who abuse trust (Ostrom, 1998, cited by Ostrom, 2000, p. 12).

Trust was viewed by Ostrom (1994, 1995) through the contribution of social capital, understood "as a set of social networks, informal standards and associative life" (Caballero, n.d., p. 9).

> Social capital refers to the set of interpersonal trust networks in human societies, networks that can be driven by norms of reciprocity and mutual aid and that have a strong relationship with social networks and participation in community associations. The presence of these trust networks implies a solution to the problems of cooperation in human interaction and makes individuals cooperate more than the usual assumptions of individual rationality would imply. Social capital favors sharing information, coordinating activities, and adopting collective choices (Caballero, n.d., p. 9).

The broad field of climate change, and thus the entire field of ES analysis and action, cannot be approached at a glance with the principles of polycentric governance outlined so far. Elinor Ostrom herself recognized this when she addressed the aspects of complexity, uncertainty and institutionality involved in managing the commons. Complexity is a defining reality of life itself and, for the interest of this text, can be

evidenced in the reality of ecosystems and biodiversity, delving deeper into the complex levels due to the dynamics of interrelationships with human groups. Uncertainty is a component of existence itself, especially in the interaction between human life and environmental systems, even more so with the lack of institutional action to manage and limit the use of natural resources. In this order, the search for alternatives through governance mechanisms, where institutions are fundamental actors of action, maintains the tension between natural resources, human groups in contexts, and use/abuse/uncertainty.

The focus of polycentric governance aspects is designing and implementing diverse agreements, containing differentiation in ecosystems, biodiversity and interacting human groups, to make multilevel decisions. Although this governance framework began to be applied in urban services as an axis of applicability and analysis of collective action, it was later applied to the field of natural resources and climate change.

> The polycentric perspective has a dual functionality. On the one hand, it allows us to ask about the interactions and outcomes that occur at different levels to understand "how diverse polycentric institutions contribute to or hinder innovation, learning, trust, the level of cooperation of participants, and the achievement of more effective, fair and sustainable outcomes at multiple scales" (Ostrom, 2011). On the other hand, it allows experimenting at multiple levels (Ostrom, 2005) and "developing methods to evaluate the benefits and costs of strategies adopted in one type of ecosystem, comparing their results with those obtained in others (Ostrom, 2009b: 1) (Caballero, Ballesteros and Fernández-González, 2015, p. 16). (Caballero, Ballesteros and Fernández-González, 2015, p. 16).

Possible Bet for Latin American and Caribbean Contexts

With climate change's effects, ES can find in polycentric governance structures a feasible way to design alternative exit strategies to mitigate the impact of climate change and create healthy contexts suitable for cohabitation between ecosystems and human groups, and support the consolidation of ES. For example, the United Nations Development Program (UNDP) leads processes and projects with money from the Global Environment Facility[3] to protect biodiversity and reduce the threats of

3 Multilateral fund that is managed as a financial mechanism for several environmental conventions, such as the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity.

climate change, plastics and toxic chemicals (UN, May 1, 2022). By 2022, the Global Environment Facility has enabled the consolidation and leadership of nearly 25,000 projects since 1992, in 127 countries; in Latin America and the Caribbean, the United Nations information page highlights five projects in Belize, Barbados, Venezuela, Central America and Colombia.

Apparently, this type of action can be described as a standard component of so-called environmental governance or, failing that, as an example of multilevel governance. However, the research for this text allows us to affirm that the seeds of polycentricity can be found in its essence and effective management. The fact that an international organization such as the United Nations, through its various levels of action (multilateral agreements, conventions, action programs, small grants program, and economic mechanisms of the Environment Fund), is a reference in the promotion and stimulation of this type of initiatives, does not obscure community action in the context of human groups that interact with ecosystems and biodiversity and thus configure their habitat in general.

- In the Toledo District of Belize, in a partnership funded by the above-mentioned UN mechanisms, "three Mayan solar engineers are installing solar energy systems and contributing to sustainable development among small indigenous communities in southern Belize" (UN, May 1, 2022, para. 8). They have installed solar systems in four indigenous communities (1,000 inhabitants), thereby avoiding the increase of tons of carbon emissions in the region and providing electricity service to communities that did not have it.

  It is important to emphasize that the initiative could have come from these indigenous women with the support of international cooperation. Still, the system's appropriation in their environment is a work of community management that allows diverse levels and actors in the decision-making process. It is not just replicating the cultural 'vice' of 'the money is here', 'let's make it a party', and 'the project will sustain itself'. What polycentric strategic instruments can guarantee the effective impact of this initiative?

- Hawksbill turtles have been affected by climate change, combined with the high temperatures of heat waves in the Caribbean,

to the point of being listed as endangered. They are an animal diversity that has been attacked by human abuse (hunted for meat and eggs, and now because of high temperatures). In view of this situation, a community project is being developed on the island of Barbados to conserve this species: Barbados Sea Turtle Project. Strategies focus on tagging turtles to "monitor their movements, calculate their growth rates, survival and productive yield" (UN, May 1, 2022, para. 20).

This project, which may appear to be purely scientific research (only for those interested), joins efforts with the inhabitants of the region to promote ecotourism with best practices and thus provide a source of income for the communities settled in the area and that live off tourism, which marks the polycentric inputs. Such is the case of tourists who plan to swim with turtles during the nesting season (*Rove.me*, n.d.).

- The Venezuelan region of the state of Amazonas is inhabited by indigenous communities (Yanomami, Panare, Bari, Piaroa, Guajibo). Like most of the ethnic groups or peasants in this type of region, the phenomena of drug trafficking, violence, illegal mining, the socioeconomic crisis, etc., have forced them to move from their original habitat, and this has generated a socio-environmental problem of invaluable proportions. In response, the Amazonas Originaria Project seeks to help families who have experienced the calamity of displacement become caretakers of the tropical forests around Puerto Ayacucho (the most populated city in that region). "They learn to manage crops of cacao, cupuaçua, manaca and túpiro (plants native to the Amazon) and to transform their fruits into pulp, chocolate, baskets and other products" (UN, May 1, 2022, para. 30).

  The conservation of the Amazon (in a small sector of its entire magnitude), together with the protection and promotion of the human dignity of its native inhabitants, in cooperation with national and international institutional actors, makes it possible to work to restore the affected rainforest. It is a bet on trust, reputation, and compensation.

- The geographical position of the countries of Latin America and the Caribbean has potential for tourism activities that, in most

cases, are managed in a disparate manner with intense clashes of trade union, business and community interests that leave the feeling of having little effectiveness in the impact and transformative power of tourism activities for the countries, especially the regions with more resources for this purpose. Costa Rica, Panama, Colombia and Mexico, with their own characteristic elements, have a strong potential in this sector, but low effectiveness for developing the territories and communities that live in areas with tourist attractions, especially those with natural resources. There is a lot to be found in the so-called "informal tourism", next to the "big tourism industries", such as hotel chains and all that they contain.

> Community-based tourism is an economy-based alternative that allows local communities to generate complementary income to their main productive activities while protecting and valuing the natural and cultural wealth of their territories. [...] [This has been a space for the exchange of ideas and experiences] with 23 rural organizations focused on local development, collaborative work networks, commercialization, institutional perspective, and biosecurity protocols (UN, May 1, 2022, paras. 38 and 40).

It is a way to go beyond 'tourism as a business'. It contains an enormous wealth in the conservation of ecosystems where communities contribute to mitigating the effects of climate change through offers of time and space for recreation with responsibility.

- In Colombia, the topography allows cohabitation with the so-called páramos, tundra ecosystems in the Andes mountain range (above the Andean forests). These contexts generate 85% of the drinking water in the South American country. Due to its particularities, this ecosystem must be taken special care of, especially to avoid its use and abuse by people. To this end, the Guardianas de los Páramos project has been implemented in the Pisba and Tota Bijagual-Mamapacha paramos. The project works to restore native plants, strengthen biological corridors, and maintain protected areas. It "includes the adaptation of aqueducts, as well as the implementation of agroecological home gardens to reduce the use of traditional production systems that are harmful to the environment" (UN, May 1, 2022, para. 48).

> This joint work and cooperation initiative seeks to safeguard the unique ecosystem of the páramos, and preserve the context for the unique biodiversity present there and the so-called 'ecosystem services', such as soil carbon sequestration and water regulation.

In this order of ideas, community initiatives in defense, protection, promotion and care of ecosystems, biodiversity, and the 'common home' have been consolidating throughout the history of humanity as an ancestral legacy of so many human groups that show their sense of vital identity in the relationship with the environment and, ironically, by the same demands that climate change has imposed on human beings due to their irresponsibility in assuming their daily existence. A 'complementary opposite' has allowed the horizon of cooperation to give real meaning to improving the conditions for living in healthy cohabitation with the environment.

One could point out many cases of local community proposals and commitments, but the terms of a co-published text limit the extension. However, it leaves the possibilities, options, and capacities to print initiatives for establishing cooperation and associative networks with identity and belonging for ecosystems and biodiversity open to decision-makers. In this way, it is possible to contribute an 'a grain of sand' for small localities so that trust and reciprocity permeate institutional actions based on cooperation so that reputation (an essential component of polycentricity) can be the driving force behind effective community processes for the adequate use of shared resources.

> When many individuals are known to act reciprocally in particular situations, there is an advantage for anyone to gain a reputation for being trustworthy and behaving reciprocally. At the core of a behavioral explanation of higher-than-expected levels of cooperation in most social dilemmas is the connection between "the trust that individuals have in others, the investment that others make in trustworthy reputations, and the likelihood that participants will use reciprocal norms (Ostrom, 1998, cited by Ostrom, 2000, p. 12).

Regarding Raffestin C. (2020), the effects of climate change make the so-called "climate crisis" palpable. This moment of complexity demands a paradigm shift in how we approach reality and make decisions. The way out lies in reciprocity, which can be developed through polycentric governance dynamics, where the context - the human - and interactions are permeated by the ecosystems and not the ecosystems permeated by irrational and uncooperative decisions.

> Ecosystems are deteriorating or are in the process of deteriorating; risk is ubiquitous; the ruptures of cycles are multiplying, but we remain surprisingly ignorant. Things happen as if we were unaware that man and earth are one: "we speak of man and space, which sounds as if man were on one side and space on the other" (Hedegger, 1967, p. 186) (Raffestin, 2020, p. 21).

Part III. Governance Structures for Environmental Security in the Caribbean region.

In a broad sense, ES has different expressions of polycentrism at the level of strategies, public policies and even legal norms, both at the regional/subregional and national levels. Likewise, there is an institutional framework with sometimes general and sometimes more specific competencies that address different dimensions of FS.

The governance structures applied to ES are certainly complex due to the phenomena or issues addressed (climate change, water resources, crime, deforestation, etc.), the prevailing institutional framework (e.g. ministries, cooperation agencies, subnational entities, community organizations), the levels of decision making (e.g. regional, national, subnational, local) and the actors involved (local leaders, communities, private sector, various public entities, etc.).

In this context, the analysis of the governance and institutional framework associated with ES in the 'Caribbean region' as a category or space that encompasses both insular areas (all the Caribbean islands) and continental areas (countries with Caribbean coasts) is also complex. This is so because, in general terms, the specificities of the Caribbean are not necessarily reflected at the level of instruments, at least in the case of Central America in its extensive Caribbean part.

Relevant institutions with regional coverage

Central American Integration System (SICA)

The Central American Integration System (SICA) was created in 1991. It is a regional agreement that seeks integration, peace, freedom, democracy and development in the countries of Central America. It includes Belize, Dominican Republic, Panama, Costa Rica, Nicaragua, El Salvador,

Guatemala, and Honduras (SICA, n.d.a). All but El Salvador have extensive Caribbean regions. SICA is organized around the following functional units: the Meeting of Presidents (the highest political decision-making body), the Council of Ministers, the Executive Committee and the Executive Secretariat, and technical and permanent advisory bodies (SICA, n.d.b).

The Central American Commission on Environment and Development (CCAD) is the technical body of SICA responsible for proposing the general regional environmental agenda. The CCAD has the Regional Environmental Strategy (ERAM) 2021-2025 as part of its five-year plans. Although the ERAM develops a detailed set of goals, targets and indicators in areas related to climate change, water security, biodiversity conservation, protected areas, etc., it does not contain specific references to the Caribbean region, besides the fact that its provisions apply to this region/area by *default*.

Likewise, among the bodies that make up SICA and are relevant in the context of environmental security, the Central American Security Commission stands out, whose guiding instrument establishes the need to collaborate, among others, in the protection of human rights, including the environment as a protected good (Framework Treaty for Democratic Security in Central America, December 15, 1995).

In the case of the Commission of Migration Authorities of the SICA Member Countries, its governing instrument (Cooperation Agreement between the General Secretariat of SICA and the International Organization for Migration, January 27, 1999), although it does not refer to environmental matters or to the Caribbean region per se, includes a provision that associates the social, economic and environmental impacts of Hurricane Mitch with the widespread migratory phenomena as a consequence of its passage and effects (García Hidalgo and Serrano, 2018).

Finally, and of particular relevance to environmental security, the Coordination Center for the Prevention of Natural Disasters for Central America and the Dominican Republic (CEPREDENAC), was established for the purpose of:

> Contributing to the reduction of vulnerability and the impact of disasters, as an integral part of the process of transformation and sustainable development of the region, within the framework of the Central American Integration System (SICA), through the promotion, support and development of policies and measures for prevention,

mitigation, preparedness and emergency management (CEPREDENAC, September 3, 2003, art. 3).

To this end, it is active in areas such as mitigation, infrastructure development, emergency response, monitoring of natural phenomena, water management and land use planning, among others.

SICA is a space with different levels of action and participation of diverse actors in decision-making, in terms of presidential declarations, agreements, letters of understanding, programs, projects, etc., which in turn integrate multiple institutions and public and civil society actors.

Caribbean Community (CARICOM)

CARICOM is made up of small island states, except for Belize, all of which are developing countries with marked differences in their level of development. CARICOM was established as part of an integration and cooperation agreement conceived in the early 1970s in multiple aspects (trade, migration, finance, economy, taxation, environment, culture, science and technology, etc.), specifically in the Caribbean region. [4]

CARICOM's founding treaty includes numerous provisions directly relevant to environmental security in the areas of sustainable tourism, agricultural policy, forestry and fisheries management, environmental protection, industrial development, and so on. While there are no references to 'environmental security' *per se*, it is understood that the measures and provisions mentioned are based on the need to improve management and protect environmental assets in different, specifically Caribbean contexts.

The Caribbean Disaster Management Agency, created in 1991, is an intergovernmental entity under CARICOM, whose mission is to respond promptly - with human resources, direct collaboration, rescue missions, etc. - to natural disasters affecting the Caribbean region. Its work is based on disaster preparedness, anticipation, mitigation, management, and response. Also, because of the region's particular vulnerability to climate change, in 2002, CARICOM created the Climate Change Center to provide technical assistance and responses to member countries and its Secretariat on the impacts of climate change (CARICOM, n.d.).

4 The treaty establishing the Caribbean Community was signed in Chaguaramas, Trinidad and Tobago, on July 4, 1973. This treaty was replaced by a successor treaty on July 5, 2005.

Relevant Regional Thematic Instruments (Policies, Strategies, Plans, etc.)

CARICOM Strategic Plan 2015-2019: Repositioning CARICOM

The CARICOM Strategic Plan 2015-2019: Repositioning CARICOM[5] focused on the concept of "resilience", applied to economic, technological, social, and environmental issues in the context of an increasingly hostile world in different aspects, including natural disasters. The Plan recognizes the growing vulnerability of all Caribbean states to climate change, the increased frequency and intensity of natural disasters in the region, and the growing impact on coastal areas (erosion) and loss of flora and fauna. One of the 11 areas prioritized for implementing the Strategic Plan was climate change adaptation, disaster mitigation, and management.

Regarding the development or construction of climate resilience itself, which could be integrated into the proposed ES concept, the Strategic Plan proposes the need to build and advance in adaptation and mitigation related to climate change, advance in disaster mitigation and management, and improve natural resource management as conditions for achieving resilience.

Regarding the goal of advancing adaptation and mitigation in the Caribbean, this includes the implementation of the Regional Framework to Ensure Climate Resilient Development 2011-2021 (FAO, June 21, 2016). To advance disaster preparedness and management, the regional plan proposes integrating comprehensive risk management into national policies and strengthening capacity to implement this tool. Finally, to improve the management of natural resources, the plan proposes legal and institutional reforms, such as regulating the integrated management of marine-coastal zones, facilitating adequate governance of the maritime space, and promoting the sustainable use of forest and marine resources in coastal areas.

Regional Environmental Strategy 2021-2025

The above-mentioned ERAM 2021-2025 has been prepared and harmonized with the global regulatory framework on environmental matters, especially the 2030 Agenda, the Sustainable Development Goals (SDGs),

5 This strategy was adopted during the 35th Meeting of the Conference of Heads of State, held in Antigua and Barbuda in July 2014.

and the Paris Agreement on Climate Change, as well as with relevant regional instruments still in force, such as SICA's own Regional Climate Change Strategy (ERCC).[6]

SICA's Regional Climate Change Strategy (ERCC)

The ERCC considers climate change and its impacts part of "regional security" based on social and political stability, which is repeatedly affected, directly or indirectly, by natural disasters, often linked to climatic phenomena (UNDRR, n.d.). Violence, crime, displacement and migration are, to a large extent, the reflection of social problems that originate in environmental problems and disasters or are exacerbated by their occurrence.

In its original version, the ERCC proposes a series of programmatic areas to be addressed jointly by governments, the private sector, and civil society. In this regard, the ERCC focuses on a) vulnerability and adaptation to climate variability and change, as well as risk management; b) mitigation; c) capacity building; d) education, awareness, communication, and citizen participation; e) technology transfer; and f) international negotiation and management.

In the updated 2018-2022 version, the ERCC recognizes a "permanent deficit as food security, water availability, and population displacements due to vulnerability are already being exacerbated by increasing climate variability associated with climate change" (CCAD and SICA, 2019, p. 73). It also recognizes that "risk factors for social instability are highly present such as lack of access to water, forced migrations, crop failures and famines with the consequent demand for response from nation states" (CCAD and SICA, 2019, p. 73).

National Advances

All Central American and Caribbean countries have different instruments that address different dimensions of ES. These range from national climate change and biodiversity strategies to federal plans for the conservation of water resources, to sectoral strategies (agriculture, urban sustainability, fisheries, tourism, etc.) to address climate change. It is beyond the scope of this section to provide an updated list of these in-

6 The ERCC was developed by the CCAD and approved in November 2010. It was updated for the period 2018-2022 (UNDRR, n.d.) .

struments and the institutions with related responsibilities or to analyze in detail the forms of governance that each country has in place. However, some recent instruments are mentioned here as illustrative examples of the efforts being made by Caribbean countries specifically to address environmental insecurity on many different fronts.

For example, Trinidad and Tobago has a Critical Coastal Protection Program (2014) (NIDCO, n.d.), which "contributes to the stabilization of areas affected by erosion and coastal flooding through the construction of sea defenses, the promotion of best practices, and the implementation of coastal studies" (ECLAC, 2019, p. 46). Belize has a National Climate Resilience Investment Plan (2013-2018) to articulate private and public sector investments (e.g., in infrastructure) to increase their positive impact in a context of increasing climate vulnerability (Government of Belize, 2013). In the case of Guatemala, a framework law has been developed to regulate the reduction of vulnerability, mandatory adaptation to the effects of climate change and mitigation of greenhouse gases (2013), to prepare the country to face the growing impacts of climatic phenomena exacerbated by climate change. Costa Rica, for its part, has a National Risk Management Policy (2016-2030) and a National Risk Management Plan (2021-2025) that address situations of poverty, vulnerability, resilience, uncertainty and systemic risk as pillars for dealing with disasters of different types, often caused by environmental/climate factors (Comisión Nacional de Prevención de Riesgos y Atención de Emergencias, March 2021). Jamaica has Guidelines for Coastal Management and Beach Restoration (2017) that address the active participation of local coastal communities - including fishermen - in the management of local fisheries and their resources, through their integration and participation in community planning processes at different levels, where they define: catch levels, use of marine and coastal spaces, monitoring of progress, recovery and management of fisheries (for example, the "concha real" or royal conch, which is critical to the local economies of Jamaica and other Caribbean countries).

The list of examples is considerably long if all instruments relevant to environmental security are included. There is considerable formal progress and advancement in enacting and promulgating these different instruments and approaches to ES and governance. Equally, or even more extensive, is the list of institutions with converging ES competences. From a preliminary analysis of progress, it seems evident that there is a need for national capacities, investment and institutional structures enabled

for integration and complementarity, mutually supporting each other in the application and implementation phases of different strategies, plans, mandates, standards, etcetera.

Conclusions and Recommendations

Climate change has complex dynamic characteristics that can be observed in any region of the world. Undoubtedly, the Caribbean region is not exempt from the effects of climate change, mainly due to the geographical location of its countries and the strong influence of the oceans in this part of the planet. In addition, there are the consequences of the misuse and abuse that the inhabitants of this region make of the ecosystems, driven by the particular interests of groups or organizations that seek to improve the profitability of their activities but ignore the international call to care for the environment and recover the natural resources that could contribute so much to reducing the consequences of climate change.

As a means of seeking effective alternative solutions, cooperation, joining forces, and bringing together various actors have been strongly promoted by the international community since the Second World War. Many areas of human development have been addressed and managed through mechanisms of negotiation that seek consensus amidst the differences that are so inherent in human nature. This is the central node of governance.

In terms of ES, governance has been focused through the instruments of the so-called 'environmental governance', supported by 'multilevel governance' and 'polycentric governance', as tools that provide opportunities, options, possibilities and institutional capacities to process through cooperation networks, the alternatives that complex situations require. In this way, Elinor Ostrom's proposal offers inputs to take advantage of the capacities of communities and diverse actors in the territory to mitigate the effects of climate change, and to motivate an action that rescues the added value of care, protection, and promotion of natural resources, but from the perspective of rational, responsible and consensual use of the so-called *common goods* from the vision of cooperation, with mechanisms at the 'micro level' for greater coordination, impact and effectiveness, in the style of the ancestral wisdom of indigenous communities in many areas of Latin America and the Caribbean.

At the "medium or macro level", the political, strategic and decision-making dynamics are challenged by the typical "bureaucracy" and impasses of the socio-political and economic complexity involved in the processes of ecosystem management, responsible use of natural resources and organizational responsibility for them. Each region has made attempts to the extent that political mechanisms have allowed. The institutional and normative structures at the international and even regional levels can be found in the documents, but the real commitment is still a long way off.

Governance and ES are present in the region and in the countries under the cloak of environmental and sectoral strategies, plans, projects, etc., but in the face of real impacts on ecosystems and natural resources, the whole framework of "structures and strategies" is blurred. The recommendation in this field aims to recompose or reconfigure the real governance instruments on the ground or in the localities where the communities are located. It is not a top-down work of the great technicians of public administration or environmental resources. However, it is a dialogue with the communities to know firsthand and, among them, the cosmogony and cosmology that frame an ecosystem. These cooperation projects with foreign investment, as instruments to promote the good use of natural resources, cannot be politicized, and even less should their development be left to "technical" advice. There is an urgent need to create polycentric mechanisms for action on ecosystems and natural resources, in which communities take advantage of the cosmogonic and cosmological identity that makes them true leaders of ES. The capacity of environmental capital is inherent to the same human groups in territories, but outsiders consider it an obvious presupposition. The results of the effects of climate change show that the efforts are still far from an effective result.

At least, it is worth mentioning the little 'specificity' given to the Caribbean as a region with its particularities in the SICA sphere. Likewise, at the internal level, in the Central American countries, attention to the Caribbean region seems marginal in the context of the HS, beyond sporadic local initiatives and very specific examples of organization. In this regard, it is recommended that decision-makers work on and define specificity in the references to the Caribbean region in plans and programs due to the particular characteristics of this region, in the insular and continental part, bearing in mind that the Caribbean islands have different relevant instruments.

Despite different and multiple instruments and tools, the impacts *on the ground* have been limited. Therefore, the recommendation focuses on the design and actual follow-up of a comprehensive evaluation of the effects of all instruments, including the specific efficiency of governance and institutionality. The evaluation mechanisms must go beyond a quarterly, semi-annual or annual *checklist*. If no substantial percentages demonstrate impact, the evaluation systems lack more effective redesign and implementation. But this is not simply an exercise of the 'bureaucratic administrative staff' or commitments of technical cooperation agencies; it is a natural dynamic with the communities, where the cooperation network does involve polycentric schemes.

One frame of reference that could support this set of initiatives is the Transition Network, a "movement of communities coming together to reimagine and rebuild our world," based on values and principles that drive the capacities to change contexts, co-create motivating narratives and visions, connect and care for each other, support internal transformations, apply the living systems system, contribute to the social economy, and energize networks and alliances (Transition Network, n.d.).

Care requires the willingness to allow the human constitutive capacity to flourish, to provide the means to create the conditions, to support initiatives and to make available all human, institutional, economic, technical and contextual resources to transform realities with a sense of identity and responsibility. Continuing with the so-called 'political strategies' schemes could keep ES in danger. It would be necessary to advance the discourse on environmental insecurity if these schemes continue to be promoted.

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Mining Sector Discourse Analysis of Gustavo Petro and Andrés Manuel López Obrador: Securitization of the Environment and Progressivism

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Introduction

The arrival of the 21st century brought multiple advances for humanity, such as the *boom in* technology and communication and the reduction of extreme poverty. However, it has also brought several challenges that have become the focus of world politics, and environmental degradation has topped the list because of the risks it poses to human survival. It was anticipated that the impacts of climate change would manifest in fifty or a hundred years, yet the actuality has proven otherwise. Already in the second decade of this century, we are experiencing phenomena such as the hottest summers on record and the worst floods in decades, demonstrating how we live in the era of global boiling.

However, these worrying situations have raised global awareness so that actions can be taken before it is too late. In Latin America, for example, this concern has become part of national and regional policies due to the high vulnerability of the countries in the region to the effects of climate change. Consequently, Latin America is witnessing a resurgence of progressive governments, which have ascended to power by prioritizing social policies and environmental protection as fundamental pillars of their administration. However, these governments, who won the support of voters through promises of change and a hopeful future, have encountered immense obstacles. One significant challenge lies in the difficulty of challenging the prevailing development models of economies heavily reliant on the extraction of raw materials.

Therefore, the presidents of this new progressivism have chosen to demonize the exploitation of resources at a discursive level in the name of their nation and environmental preservation. Still, their actions have

been far from the utopia they embody in front of the cameras. In particular, Mexico and Colombia serve as two noteworthy case studies, given the commitments to energy transformation proclaimed by their leftist leaders. Implementing such ambitious reforms has proven challenging, particularly considering that in both nations, mining stands as a pivotal sector for their economies, a fact that their leaders have scrutinized. These countries share common challenges in reorganizing this activity, both in terms of discourse and practical implementation.

Consequently, this chapter seeks to conduct a comparative analysis of the mining policies of Colombian President Gustavo Petro and Mexican President Andrés Manuel López Obrador. To achieve this objective, we will first outline some theoretical concepts of discourse analysis and securitization theory to facilitate an understanding of presidential interventions and how they construct threats, opportunities, and reality based on a political project.

Next, the mining policies implemented by previous administrations will be mentioned to comprehend the paradigm shift represented by the arrival of these governments. Subsequently, the speeches of the two presidents on the mining issue will be examined to identify the main symbolic elements used.

Finally, the degree of consistency that the administrations present will be contrasted between the priorities presented at the levels of discourse and the actions and policies that they have implemented to evaluate the proportionality between what is experienced on the ground and what these two progressive Latin American leaders claim to be doing.

Discourse Analysis

The primary theoretical foundation for the development of this article is Discourse Analysis (DA), serving as a tool that will allow us to construct an analysis of what the presidents of Mexico and Colombia expressed. To understand the concept of discourse analysis, we must first mention that it does not refer to a single method or approach. Rather, it encompasses research from diverse academic disciplines, each with distinct perspectives. Consequently, the interpretation of discourse and discourse analysis varies depending on the branch of knowledge from which they originate. This diversity proves advantageous for researchers, offering an expanding array of theoretical and methodological tools

to enhance our understanding of its postulates and their application in comprehending the social world (Schiffrin, Tannen and Hamilton, 2003).

Discourse, with its myrad conceptualizations, can be categorized into two major groups or lines of academic work. The first group centers on linguistic and anthropological studies, exploring elements of language such as the sounds of language (phonology), the grammatical structure of words and sentences (morphology/syntax), and the analysis of their meaning (semantics). This line examines spoken and written texts to reveal their connection with social class, social differentiation, and connotations within specific activities or situations. On the other hand, the second line, which will be further explored, views language as a tool for accessing groups and analyzes its societal impact as social beings, drawing from disciplines such as sociology and social psychology. (Taylor, 2013).

Critical discourse analysis (CDA) falls within the second line. As articulated by its prominent proponent, Dutch professor Teun van Dijk (2003), CDA engages in discourse analytical research encompassing relations of subjugation, domination, and social inequality. Thus, CDA seeks to assess how these phenomena are enacted, reproduced, and 'resisted' in political and social discursive contexts, constructing an image of society that aligns with solidarity and cooperation with oppressed groups. CDA scrutinizes the abuses of power permeating all sectors of human societies, such as the academy, as it asserts that researchers' generation of theories and explanations are framed within specific socio-political contexts.

One of the key issues addressed by this school is access to and control of public discourse, since no one person or group has the necessary capital to own this valuable symbolic resource. While individuals typically control their communication within family and social circles, certain social groups and elite institutions manage to appropriate public discourse in arenas such as the media and political party positions. This dynamic results in a profound inequality, with those in control deciding what is disseminated about reality in the community, creating a significant disparity between those who determine the discourse and those who accept such discourse as authoritative or reliable sources (van Dijk, 2003).

Another approach that is worth mentioning within the branch of DA that studies society and its relationship with the individual is the analysis

of political discourse. Scholars like John Wilson (2003) question the nature of the 'political' in written and spoken corpus, asserting that power is omnipresent in all interactions, rendering all discourses potentially political. All DAs would also be potentially political. For this reason, within this subgroup, there are several researchers, such as Wilson, who delimit the object of analysis of political discourse to politicians, political institutions and party members who operate within the spheres of power, aiming to achieve objectives and excert influence as decision-makers in a given environment.

Finally, the theoretical concepts of Laclau and Mouffe (1985) within the discourse analysis theory are addressed in the second academic line, providing fundamental concepts for this article For example, a *signifier is* defined as the individuals, ideas and symbols immersed in discursive planes that are manifested through words and sounds, while *signified* is implicit in the signifier, offering content to the words. Additionally, the concept of the *empty signifier* is introduced, lacking positive meaning but highlighting deficiencies and failures in the dominant discourse. Finally, *antagonism* is considered essential for the construction of self-identity since the existence of the 'other' guarantees the generation of identification between the 'I' and the other that constructs us while posing a threat (Kasraei, 2009).

The assumptions mentioned above about the general understanding of DA constitute the first theoretical pillar of this work, providing researchers a tool for recognizing a whole world of connotations behind every spoken word. Having elucidated the methodology of how to study speeches, the focus now shifts to what aspects to scrutinize for in the leaders' statements. This leads to the integration of the theory of securitization, the second theoretical pillar essential for achieving the stated objective, as it furnishes a roadmap for the actions required for a given situation to be considered securitized.

Securitization Theory

The emergence of this theory began to take shape after the collapse of the communist bloc in the 1990s, ushering in an unprecedented geopolitical scenario in global politics. Much of the 20th century was dominated by the analyses of the First and Second World Wars, as well as the Cold War. These investigations were condensed in the theories of realism and liberalism within international relations studies and sought to

understand the dynamics of the global system, such as war and peace. However, the abrupt shift in power with the rise of American hegemony prompted a reevaluation of classical postulates, which failed to explain the unfolding events. This led to the emergence of new ideas diverging from the classical scheme of rationalism (Frasson-Quenoz, 2015).

Constructivism, evolving in the last decade of the 20th century, emerged as the reflexivist school based on understanding and interpreting culture, identity, and social interactions as the focal points of research analysis. Within this context, the Critical School of Security forged in Europe a new conceptualization in the field of international security. This school was traditionally reserved for the debates between realists and liberals that dominated the Americans, as it brought together scholars from various European currents that renewed discussions within international relations, such as the Welsh School, the Paris School and, especially, the Copenhagen School. The latter emerged at the Copenhagen Peace Research Institute (COPRI) and had a significant boom thanks to the theoretical, ontological, and epistemological innovation that the work of Barry Buzan, Ole Waever, and Jaap de Wilde brought to security studies (Guerreiro, 2021).

Waever (2004) lays the foundation for this theoretical current, defining securitization as the discursive process through which an existential threat is identified, warranting urgent measures. This characterization underscores the constructivist approach of the Copenhagen School, viewing security a social and intersubjective construction that evolves, and becomes more flexible over time. Furthermore, it leaves aside traditional concerns centered on the capabilities of States to incorporate other elements, such as the environment, public health and migration. Securitization, being subjective, relies on language to identify issues that become perceived threats.

Likewise, Buzan and Hansen (2009) complement this premise by emphasizing that security threats are constructed based on a political agenda since there may be dozens of security discourses, but those shared by a broad public predominate. Thus, a given issue is securitized when a certain actor promotes the perception of threat to isolate it from regular political channels and address it as an extraordinary condition requiring priority measures. Security, in this context, is a self-referenced practice; threats become 'objective' when they are accepted and internalized by political actors and not because they have a threat status *per se*.

Thus, the richness of securitization is based on language as a creator and transformer of our fears, insecurities and, therefore, our realities, influenced by factors such as the societal history and the geographical and structural position it occupies within the international system. Consequently, security as a discursive process encompasses multidimensionality, extending beyond military/territorial issues to include environmental, social, and cultural factors. Hence, the focus of international security debates today is on transnational and asymmetric threats that go beyond the traditional dynamics of the State, such as drug trafficking, organized crime, migration, and environmental risks (Cardinale, 2021).

However, essential factors must be identified when framing a certain issue within a securitization process to recognize the predominant security discourses in a society and, thus, avoid the mistake of categorizing everything as a security problem. Balzacq (cited by Cardinale, 2021) outlines five elements present when establishing the security nature of a problem, leading to a consensus in society regarding the threat condition and subsequent policy enactment:

1. **Securitizing actor:** the agent that presents an issue as a threat through a securitization movement, which means that they put the threatening nature of society's fundamental or core value on the table. The degree of legitimacy this actor has in the social group to which he belongs is essential for his discourse to constitute security and for a consensus to be built around the actions required. Although it is argued that anyone can be a securitizing actor, this role is usually occupied by political leaders, governments, bureaucracies, and pressure groups.

2. *Referent subject* **/ threatening subject** refers to the actor or entity issuing the threat, thus seeking to identify specific alleged actors behind complex and diffuse phenomena, such as organized crime, drug trafficking, terrorism and environmental degradation.

3. **Reference object:** this concept seeks to answer the question: what or who is being threatened? Then, it identifies the entity that must be protected from imminent danger, such as the State, the citizens or even the region.

4. **The audience:** this is fundamental to securitization theory since the consensus of social groups is needed to grant intersubjective

status to a threat. This enabling or securitizing audience serves two different functions in the process. On the one hand, it provides moral support to the securitizing actor in the face of what it poses as a threat. On the other hand, it provides the formal mandate to decision-makers since the power to develop policies to address threats is given through votes in the legislature and the executive; ergo, securitization is conceptualized as a (subjective) speech act and the negotiated (intersubjective) response between the securitizing actor and the audience.

5. **Context:** refers to both the internal and external characteristics of the society or community in which the process takes place. This element seeks to incorporate the value of a society's symbolic and cultural capital in securitization so that the worldview and dynamics among the different actors influence the issues that are constructed as a threat to security.

6. **Policy adoption:** extraordinary measures taken to respond to the threat, such as using force, temporary restrictions on freedoms and rights, or increased surveillance and population control, among others.

Regional Security Complex: Insecurity for One is Insecurity for All

After understanding the main concepts of this theory, the following step involves understanding the dynamics within a region when a specific issue undergoes securitization in a state. Even if the threats are hybrid or transnational, the logic of securitization operates within the state´s sphere of authority as the actor holding the monopoly of violence in the international system. Consequently, Buzan and Waever (2003) promote the concept of a Regional Security Complex (RSC) as a limited space in which a security cluster or set of interdependencies prompts several states to securitize an issue simultaneously as a result of the policies and discourses of a regional member This establishes a nexus of securitization within a limited geographic space, where the main processes of securitization and de-securitization are interrelated and indivisible.

Moreover, interdependence does not imply homogeneous perceptions within the region, as security discourses may vary among States. Therefore, coordination in dealing with threats may result in heterogeneity, leading to competition, cooperation or conflict among the analyzed units.

This diversity may manifest in collective identities such as: conflict, security regime or security community. The latter is the most studied by scholars, as it has been the concept used to explain political convergence processes between states in a given area (Pastrana and Burgos, 2021).

For instance, studies have examined cases where national sovereignty is circumscribed among countries sharing similar values and socioeconomic structures. Simultaneously, they construct the identity of the 'other' outside the borders, perceived as a threat. The securitization of migration by the European Union as a security community has been a much-studied element. Discourses seeking to securitize migratory movements have gained prominence in the countries of the community bloc, leading to the adoption of common policies such as the Partnership Framework with Third Countries in the context of the European Agenda on Migration. This framework conditions its cooperation with developing countries on the subordination of the bloc's security objectives. In other words, the securitizing vision of migration in Europe conditions its development policy on the support received from countries of origin and transit in reducing the arrival of migrants in the EU and their expulsion to their countries of origin (Delkáder-Palacios, 2019).

Another example of a security community can be observed in the states comprising the Association of Southeast Asian Nations (ASEAN). These countries have been besieged by transnational drug trafficking networks controlling the production and transit of narcotics in the region. For this reason, the countries have jointly adopted extraordinary measures such as Drug-Free ASEAN and ASEAN Work 2016-2025, establishing measures and goals to reduce the impact of opiates and methamphetamines on their societies. This reflects a resort to multilateralism on security issues, involving a broader range of resources and cooperation options than the normal dynamics of bilateralism, as this issue is characterized as a common threat to the pillars of the communities and, therefore, requires immediate and joint solutions (Thanh, 2022).

Securitization of the Environment

With a clarified understanding of the concepts of securitization and the regional security complex, the subsequent step involves a further exploration of how the environment has been securitized This exploration stems from the acknowledgment that the end of the Cold War facilitated

an expansion of security notions to encompass issues such as environmental risks.

Since the late 1980s and throughout the 1990s, environmental issues began to gain prominence, especially after the impact of the *Brundtland Report* (1987). The report stated that economic growth based on the unbridled exploitation of nature would reach a point of no return in the destructive process, generating an exponential increase in poverty and the vulnerability of millions worldwide. Likewise, in 1994, the Project on Environmental Change and Acute Conflict research group, led by Professor Thomas Homer-Dixon, theorized on the scenarios in which resource scarcity occurs, and its results became an inspiration to start multiple approaches to environmental security (Pastrana and Burgos, 2021).

In addition, in 1997, a report by Peace Research (PRIO) and the Fridtjof Nansen Institute summarized the three generations of environmental security studies (Casado, 2017). The early 1980s witnessed interdisciplinary debates in the first generation, questioning whether the environment should be addressed as a security issue and, if so, how to approach it. The early 1990s marked the second generation, characterized by establishing a causal link between environmental scarcity (independent variable) and the generation of violent conflict due to social instability (dependent variable). Finally, the mid-1990s saw the emergence of the third generation, broadening the scope of the dependent variables to add cases where the environment becomes a motive for cooperation. These generations analyzed how the scarcity of raw materials and natural disasters compromise a society's welfare; therefore, environmental security is an adaptive process sensitive to change and managed like peace and sustainability (Casado, 2017).

The conclusion drawn was that there are three types of environmental hazards. First, environmental risks not caused by humans, such as hurricanes and tsunamis, which are explicitly securitized and institutionalized. Emergency declarations are usually generated when one of these phenomena approaches. Second, environmental hazards caused by human activity that, threatening humanity, such as greenhouse gas emissions or accidents in nuclear power plants, necessitate exceptional measures to address emergencies. Finally, the third is constituted by risks that do not directly threaten humans, such as the extinction of species of fauna and flora or the depletion of a specific mineral (Casado, 2017).

While scientists have promoted covering the three risks with equal importance, two clearly defined agendas emerge within the environmental sector: one scientific and the other political. These agendas compete for prominence in the media and social debates to determine the environmental issues to be securitized (Casado, 2017). Within the political agendas covering environmental issues, resources represent a fundamental asset for state development. As resources considered essential for state progress become scarcer, the term *Resource Wars* has been generated to identify inter- and intra-state conflicts based on controlling vital or valuable natural resources, such as oil, water, gold, silver, gems and other minerals. The ongoing war in Ukraine has been denoted within this concept, with scholars discussing it as a potential framing based on resource considerations rather than solely cultural and historical reasons, as asserted by Russian President Vladimir Putin (Sussman, 2022).

Mining as a threat to environmental security

The securitization theory provides a conceptual framework for understanding how human-generated activities, particularly mining, can be understood as a security threat. This understanding stems from the recognition that extensive mineral extraction has the potential to devastate ecosystems, water resources, biodiversity, and the quality of life in surrounding communities. Therefore, if a securitizing agent discursively constructs mining as a threat, it will promote the adoption of control, regulation, and mitigation measures aimed at safeguarding the environment and ensuring its long-term sustainability. This, in turn, shapes a political agenda for proactive measures.

However, it is essential to acknowledge that the securitization of mining as a threat to environmental security is not a uniform or generalized process in all contexts and countries. Some regional administrations may not even perceive it as a threat. Each administration and government harbor different perspectives and approaches to mining, influencing its perception as a threat. In the case of Mexico and Colombia, characterized by its rich biodiversity, significant natural resources, and a history of conflicts and challenges related to mining and its impact on the environment, these two countries have emerged as extractivist economies. Consequently, some administrations have made extractive activities essential to their progress. However, contemporary political agendas increasingly align with environmental needs, emphasizing the

imperative to preserve and care for it to generate more sustainable economies.

In addition to the above, we intend to analyze Mexico and Colombia in the context of Corporate Social Responsibility (CSR) according to the securitization theory of Buzan and Waever (2003), due to their relevance and uniqueness in the Latin American region. Thus, based on the securitization theory, we seek to understand how the current governments of both countries perceive and approach mining concerning of environmental security. The discursive analysis of governmental discourses will enable the identification of securitizing actors, subjects of reference, audiences, and the specific policies implemented regarding mining in both countries. Before the discursive analysis, an overview of the policies adopted by the administrations of both countries during the 2010s, before the current ones, will be conducted to identify continuities and changes in governmental stances towards mining. In such a way, this research aims to offer a holistic perspective on the current governments' attitudes towards mining and its impact on the environment, considering regional dynamics and interactions between the involved actors.

Background on Mining Policy in Colombia and Mexico

Colombia

Juan Manuel Santos (2010-2018)

Juan Manuel Santos, a renowned Colombian politician and statesman, served as President of Colombia from 2010 to 2018 and was noted for his focus on pursuing peace through the historic peace agreements with the FARC-EP. During his second term, Santos emphasized the economic contribution of extractive activities, such as mining and oil, to the country's development (Sheldon, May 15, 2014). He emphasized that these industries would serve as the main financiers of national transformation, advocating against their demonization. Santos argued that the resources generated by these extractive activities accounted for 80% of the budget allocated to education, transportation, and health in 2013. Furthermore, he asserted that well-executed mining explorations, endorsed by the government, generated eight times more foreign direct investment than a decade ago, to the point of reaching US$8.4 billion in mining, gas, and fossil fuels during 2012 (Sheldon, May 15, 2014).

Additionally, mining played a pivotal role in economic policy during Santo´s period and was not perceived as a direct environmental threat. In this sense, the National Development Plan "Todos Por Un Nuevo País" of former President Santos (2015-2018), established through Law 1753 of 2015, sought to unify the approach to mining in Colombia, regulating it through specific regulations for each case. This plan granted advantages to mining companies, including recognition of rights of use in protected "paramo" areas (Article 59), a reduction in the time required for processing environmental licenses (Article 165), and the promotion of a new form of mining contracting through reserve areas for mining development (Article 19) (Regional Planning Observatory for Development in Latin America and the Caribbean, n.d.). Additionally, in compliance with Article 109 of Law 1450 of 2011, Resolution 256 of 2014, established that the Plan Nacional de Ordenamiento Minero (PNOM) would guarantee responsible and orderly mining activity (González, June 24, 2014). In line with this, the "Política Nacional Minera de Colombia: Bases para la minería del futuro" sought to turn Colombia into a competitive and sustainable mining country, highlighting the importance of responsible and ecosystem-friendly mining practices (Ramos and Fonseca, 2019).

Juan Manuel Santos's term of office stood out for his contributions to multilateralism, international and regional cooperation, and integration. He highlighted a green growth strategy during the World Summit on Climate Change COP21, promoting the adoption of low-carbon practices by the productive sectors. Santos affirmed the government made progress in protecting seven million new hectares by declaring them natural parks or reserved areas (*Colprensa*, November 30, 2015). Emphasizing the importance of adopting the Sustainable Development Goals (SDGs) during the Rio +20 Conference, Santos reiterated the relevance of the Alianza del Pacífico (AP) for regional consolidation and progress (*El Tiempo*, May 21, 2013). During the forum "Alianza del Pacífico, un Desafío Empresarial", he highlighted the intention to turn the member countries of the AP into recipients of private investment, which represented a breakthrough for the economic development of the region (Venegas, June 26, 2018). Finally, Santos' foreign policy opened the Colombian economy to the world by negotiating trade agreements with countries in the region and establishing relations with Asia (Coutin and Terán, 2016).

Regarding relations with Mexico, President Enrique Peña Nieto visited Colombia to sign cooperation agreements on different topics. In environmental matters, emphasis was placed on cooperation based on

technical exchanges aimed at zoning and socio-environmental land use planning, integration of the environmental variable in the productive sectors, sustainable production and consumption, integrated management of water resources, and proper management of chemical substances. This stems from both countries' recognition of their regional leadership, particularly in the Mesoamerican Environmental Sustainability Strategy (EMSA) and the AP. In addition, both countries signed the Paris Agreement to address climate change and are committed to the 2030 Agenda and the SDGs (Government of Mexico, October 27, 2016).

In conclusion, during Juan Manuel Santos´s presidency, he emphasized the importance of peace through the agreements with the FARC-EP. Santos recognized the economic contribution of mining and oil to the country's development. In other words, considering the securitization theory, mining was not perceived as the subject of reference or the threat. In any case, Santos stressed the importance of environmental protection, the promotion of sustainable development policies, as well as the role of the Pacific Alliance in the region's economic progress.

Iván Duque (2018-2022)

Iván Duque, president of Colombia from 2018 to 2020 is a member of the Centro Democrático party, founded by former President Álvaro Uribe. His mandate faced significant challenges, such as violence, social unrest, and the COVID-19 pandemic (Velásquez and Jiménez, August 6, 2022).

Within the framework of the National Development Plan entitled "Pacto por Colombia, Pacto por la Equidad"(2018-2022), a specific focus was established on mining-energy resources as a source of sustainable growth. The plan was based on three fundamental strategies: first, to drive growth in the sector to promote equitable development for all citizens; second, to strengthen knowledge about the soil and subsoil to implement environmental improvements; and third, to generate goods and services with greater added value (Plan Nacional de Desarrollo, 2018).

However, during this period, several measures were taken to regulate mining activities in the country. One of the main goals achieved during the Duque administration was the formalization of approximately 27,300 small-scale miners (Ministry of Mines and Energy, August 3, 2022). The above, taking into account that in Colombia by 2021, more than 70% of mining is artisanal and more than 80% of this sector is informal. However,

large-scale mining was favored during his term, as evidenced by the inauguration of the country's first large-scale underground gold mine. This megaproject aimed to generate more than three billion colombian pesos in taxes and royalties, which, with the intention of contributing to the reactivation of the country, would have a 14-year exploration period (*Publimetro*, October 23, 2022).

In line with his predecessor´s vision, Juan Manuel Santos, Duque defended the possibility of reconciling the extractive sector with the country's environmental objectives, emphasizing that eliminating the oil and mining industries would result in the loss of Colombia's economic capacity to generate employment and development (Ministry of Environment and Sustainable Development, August 9, 2021). He even highlighted that mining is a fundamental part of different industries and, therefore, a creator of employment and resources, as he emphasized during the First Latin American Mining Meeting, ELAMI, held in 2021. This meeting, led by the presidents of Colombia and Chile, aims at a regional dialogue on the opportunities of the mining sector in Latin America (ACM, March 1, 2021).

Also, the former president's participation in regional spaces was limited by the COVID-19 pandemic, which forced the administration to transform its political agenda to give greater relevance to public health issues. However, during COP 26 held in Glasgow, Duque presented Colombia's strategy to reduce greenhouse gas (GHG) emissions by 2050 (also called "Camino a Cero"). He also highlighted that the country would be recognized for leading the energy transition and working on strategies to combat climate change, in addition to mentioning that the Climate Action Law would be advancing in the Congress, and this would evidence the country's commitment to environmental protection (*Colprensa*, November 1, 2021). Duque also emphasized reducing 51% of greenhouse gas emissions by 2030 during the fifth anniversary of the Paris Agreement (Cancillería de Colombia, December 12, 2020).

In conclusion, considering the securitization theory, the Duque administration did not perceive mining as a significant threat in the political agenda. Despite favoring large-scale mining for economic reactivation, the administration acknowledged the impact of mining on ecosystems. The context under which this administration was developed implied a forceful change in the subject of reference and a series of economic measures to avoid the nation's decline.

Mexico

Enrique Peña Nieto (2012-2018)

During his term in office, Enrique Peña Nieto, who belonged to the Institutional Revolutionary Party (PRI) in Mexico, implemented a series of reforms in the mining and energy sector. The energy reform enacted in 2013 aimed to open the sector to private capital participation and foreign investment in oil and gas (Bizberg, 2020). This reform also included changes in mining regulations to encourage investment and exploration of mineral resources (Navarro, July 20, 2020).

However, the energy reform had significant implications for mining activity in Mexico. Firstly, new taxes were established for gold and silver, disproportionately affecting smaller companies, rather than large mining companies capable of meeting these tax obligations. Secondly a proposal was introduced to render mining companies' tax declarations more flexible, which allowed them to speculate in their operations by fixing prices in advance, even though they could change in the future; this generated some uncertainty in the sector. Finally, efforts were made to streamline energy supply for mining companies, allowing them to generate their electricity or enter into long-term contracts with significant tax exemptions to reduce their costs (Cárdenas, 2013).

Additionally, by June 2017 and according to the fifth report of Enrique Peña Nieto's government, the number of concessions in force reached 25,716 titles equivalent to an area of 22.1 million hectares, translated into 11.3% of the national territory. Thus, between September 2016 and June 2017, 96 new locations with mining potential were determined in various Mexican states (Miranda, September 3, 2017). This implies many advantages towards large-scale mining in Mexico, which translates into foreign investment in the country and infrastructure in mining areas.

Contrary to what was expressed in international and regional scenarios, Peña Nieto constantly emphasized the importance of environmental protection. For example, in 2016, the former president announced Mexico's ratification of the Paris Agreement. Despite measures such as protecting certain ecosystems being implemented, Peña Nieto's government appeared not entirely aligned with these initiatives. In fact, in 2017 the president participated in the One Planet Summit, emphasizing Mexico's commitment to environmental protection and greenhouse

gas (GHG) reduction (Pinzón, November 28, 2022). He also announced the presentation of the Declaration on Carbon Pricing in the Americas, with the aim of promoting interregional carbon markets. Likewise, during the inauguration of the First Meeting of Latin American and Caribbean Countries on Sustainable Development, the former President highlighted the need to implement the 2030 Agenda, which is the roadmap for advancing towards sustainable economic development (Government of Mexico, April 26, 2017).

In summary, under the administration of Enrique Peña Nieto, Mexico underwent an energy reform that significantly impacted the mining sector. In other words, there was a push to promote large-scale mining within the country, as demonstrated by the implementation of policies and reforms aimed at stimulating mining activity. Despite the securitization theory suggesting that mining wasn't considered a major environmental threat on the political agenda, the administration acknowledged the imperative to transition towards a more sustainable economy in alignment with the Sustainable Development Goals (SDGs).

Methodology

The three-dimensional model for the analysis of public policies proposed by Hansen (2006, cited in Pastrana and Burgos, 2021) has already been considered in the DA exercises presented in this chapter to have a guide to the discourses that should be collected to achieve the objectives set. On the one hand, model 1 focuses on heads of state, senior government officials and heads of international institutions, to interpret the official discourse through intertextual links or the responses they give to critics. On the other hand, model 2 includes both official and opposition discourse and the notion of media and big business in assessing the degree of hegemony of the official discourse. Finally, the third model highlights popular culture to interpret how politics is represented in cultural representations and the interaction between entertainment and politics.

This chapter focused on Hansen's model 1, therefore, it identified the official speeches of presidents Gustavo Petro and Andrés Manuel López Obrador in which mining issues were addressed in domestic and international scenarios. In total, 27 speeches from each administration were included in the analysis, adding presidential speeches and statements from the date of their inauguration. Hence, speeches in various contexts

were included, such as press conferences and speeches before Congress and various organizations, which addressed mining as a central theme.

To achieve this, Nabers (2015, cited in Pastrana and Burgos, 2021) proposes the possibility of doing so using corpus to analyze the frequency and dominant connotations of the texts under analysis. Thus, the AntConc *software* was employed as it facilitates the observation of the repetition and occurrence of words in each set of discourses. This concordance feature enables the analysis of how words and phrases are used in a text corpus. By generating a word list, which encompasses all the words in the text and organizes them by the frequency of their occurrence, a search for the most critical signifiers within the linguistic corpus under examination can be performed.

This description of signifiers is the first part of the proposed analysis to understand the main vocabulary used by the leaders in the speeches. Subsequently, another *software* recommended by Nabers (2015, cited in Pastrana and Burgos, 2021), called Wordle, was used to visually present the most frequently used words in the speeches through a word cloud. Following this, a qualitative analysis is made of the primary signifiers used by the leaders to understand how they express their ideas, values, and beliefs when referring to mining. Finally, a comparative assessment of the two leaders was undertaken to evaluate their similarities and differences, exploring the extent to which they can be considered as securitizing mining.

Quantitative Analysis Results

Analysis of Gustavo Petro's Mining Discourse

Quantitative identification of the primary signifiers in the mining discourses of the Colombian President.

Using the Word List tool of AntConc software, the following most frequently repeated words were identified, therefore, being the main signifiers of the linguistic corpus (see Table 1).

Table 1. Analysis of the mining discourse of Colombian President Gustavo Petro

Significant	Number of times mentioned in speeches (frequency)
Territory	162
Water	152
Life	151
Economy	147
Coal	125
Policy	109
Production	106
Humanity	98

Source: own elaboration.

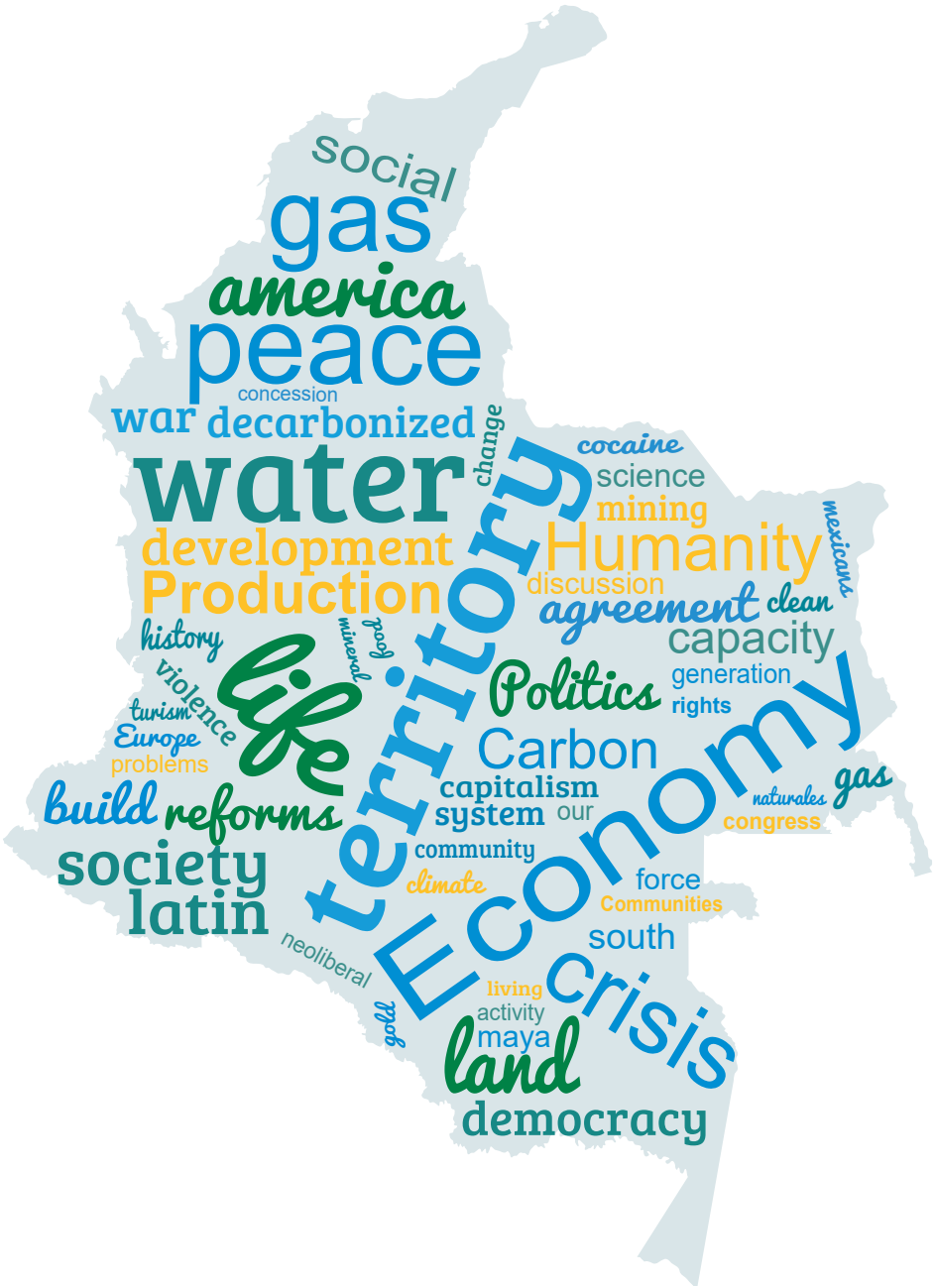
Words of repetitive use in Spanish (articles, prepositions, conjunctions, among others) were excluded from the list to focus on the main nouns used and thus be able to analyze the results. Likewise, the dominant use of the word Colombia was left aside since it corresponds to the country of which Petro is the president. On the other hand, the Wordle below was configured to show the 70 most frequently used words in the speeches of the president and also excluded the words of common use that do not contribute to the objective of this research.

Qualitative analysis of the main signifiers in the mining discourses of the Colombian President.

Considering Petro's main signifiers, it is possible to identify that his priorities revolve around the following terms:

Territory: This signifier is most frequently used by Gustavo Petro in discussions concerning mining in Colombia, with 162 repetitions. The frequent usage stems from the administration´s objectives set since the campaign, which aims to reorganize public policies in various departments based on an understanding of territories beyond their extractivist potential. Thus, the President's speeches seek to demonstrate a rupture with previous governments by recognizing exploitation and its imposition on the territory because of inequality in the country.

Graph 1. Wordle visualization of the words most used by Colombian President Gustavo Petro.



Source: Own elaboration.

In his speeches, mining exploitation is presented as the cause of the degradation in territories, the environment, and the communities inhabiting them to underscore the urgency of addressing extractivist activities. Thus, Petro links the degradation generated by mining to the destruction of cultures in the territories, framing the reforms proposed by the government as necessary measures for ensuring the survival of these groups. The term "ethnocide" is recurrently used to illustrate this situation, instrumentalizing local indigenous, Afro-descendant, and peasant communities to garner support for his polices.

Likewise, Petro endows the territories threatened by mining extraction with terms of "beauty" on 21 occasions in opposition to the horror that wastelands acquire after human intervention. This reveals his use of literary devices like personification or prosopopoeia, attributing human characteristics to the surface portion to question the extractivist models and the relationship with the environment. These statements by Petro seek to transform the understanding of the environment so that Colombian society can overcome the prevailing anthropocentric model. This model is characterized by placing the human being as the only rational being with rights, to expand this notion to ecocentrism and endow other entities such as animals, plants, and elements with rights (Montalván, 2020).

The Mining Code (Código Minero) is, in this regard, a primary signifier in the President's speeches, symbolizing the change he aims to implement during his administration. He presents the government of Andrés Pastrana, who enacted this code, along with subsequent presidents, as the adversaries of small-scale miners and the environment for favoring exploitation by large multinational companies. Therefore, he seeks to demonize previous policies and administrations to show himself as the messiah who manages to defend the populations and their territories. An excerpt from the Regional Meeting of Southwest Antioquia illustrates this perspective:

> Ese cambio que dio el país hizo que el Estado le diera la espalda a ese pequeño minero y pequeña minera del Chocó, de Antioquia, del nordeste antioqueño, de gente Buriticá, por ejemplo y, al darle la espalda, esa población há quedado inmersa, casi indefensamente, ante las violencias de todo tipo, ante las masacres, ante los desalojos, ante la imposibilidad al correr de un lado para el otro sin tener seguridad jurídica, entonces no llegan las tecnologías que pudieran hacer que el río no sufra, que el territorio no sufra; entonces estamos en una especie carrera de caballos, en donde la minería va

> depredando el territorio de Antioquia y de Colombia, acabando con sus ríos, entre ellos el río Cauca.
>
> Nosotros vamos a presentar un proyecto para cambiar el Código Minero y hemos citado a los pequeños mineros de Colombia a que formulen sus propuestas, porque sí queremos que vuelva un Estado amigo del pequeño minero, de la pequeña minera y podamos caminar por un sendero en donde las cosas puedan ser más sostenibles, donde las cosas puedan ser pacíficas, donde eso que llamamos la paz no sea una ilusión perdida en los tiempos de la historia de Colombia, sino una posibilidad real.(Petro, January 14, 2023).

Water: The president frequently links the signifiers of "water" and "territory" in his speeches, considering them as pillars of sustainability in the country. He associates them by asserting that taking care of water is synonymous with taking care of territories, and vice versa. Petro argues that mining titling is found in lands with aquifers and water sources that expose the country's water sources to contamination from minerals such as mercury. Therefore, it has exposed mining as a phenomenon that endangers the survival of Colombians and, especially, of those vulnerable populations located near contaminated water sources. This frames mining as a significant danger that requires measures, such as the reform of the Mining Code, to address the potential extinction of biological and cultural diversity in Colombia.

At this point, it is relevant to mention the duality that the President presents when referring to mining, since in six speeches he stated that his administration does not bring an anti-mining discourse to the populations, nor does it seek to eradicate small-scale mining if water resources are respected, he simultaneously expresses derogatory phrases about mining. For instance: "Es un camino fácil, es un pensamiento fácil, perezoso pensar que abriendo un hueco en la tierra y sacando lo que hay ahí nos volveremos ricos. Ninguna sociedad se ha vuelto rica así. Las sociedades se vuelven ricas es trabajando" (Petro, December 3, 2022).

Thus, at the discursive level, contradictions are evident in his position towards this activity since he denies discrediting it. However, he only highlights the benefits and "beauty" of activities such as agriculture, especially coffee production. On the other hand, mining emphasizes the damage it causes to the country, such as the contamination of water sources, the poisoning of fauna and flora, and the possible effects on human beings, such as irreversible diseases and genetic damage.

Life: With 151 repetitions, this signifier acquires particular importance for President Petro because it is part of the administration's slogan "Colombia Potencia de la Vida" which is also the title of the National Development Plan 2022-2026. This phrase represents the guiding axis of the policies proposed by the government in its four-year term, and mining is one of the aspects on which it seeks to have an impact. Hence, Petro refers to life as the representation of his government of change, a break with the past that violates and assaults life in all its presentations. This emphasis was evident in the installation of the 2023-2024 Congress, where he mentioned 27 times the word *life* and underscored that the reforms he proposes, such as the reform to the Mining Code, are essential for protecting life.

In this sense, Petro has sought to frame the signifiers of life and mining as antonyms, portraying the climate crisis in apocalyptic terms if his reforms are ignored. The President seeks to politicize the concept, projecting an image in public discourse where supporters of his reforms are aligned with the protection of future generations. In opposition, those defending current extractivist dynamics, such as mining, are depicted as condemning the country to death and extinction:

> Pero estamos entre o ese oro, o ese cobre y la vida tradicional de los campesinos que habitan allí (...) lo que nos interesa es que esa agua siga, que ese campesinado viva, y que esa región se transforme en una potencia de la vida en Colombia. (Petro, February 3, 2023).

Economy and Coal: these two signifiers, with 147 and 125 repetitions, respectively, can be analyzed simultaneously since the president employs them to explain the same objective in his discursive agenda. On the one hand, aligned with the previous signifiers, he promotes the idea of the economy of life by promoting what he terms the "decarbonized economy", as opposed to the economy of death, based on oil and coal. Hence, at the primary level, Petro meticulously justifies the "decarbonized economy" elements, pronouncing this expression 42 times in his speeches to explain this innovative concept as the best alternative for the country. This underscores the persistent effort made by the president to exalt his proposals and critique the prevailing macroeconomic foundations governing the country.

On a secondary level, he employs these terms to delineate one of the pivotal axes of the energy transition he seeks to advance in the upcoming

years. The president aims to position Colombia as a pioneering force in the export of clean energy and the overhaul of all sectors of the economy toward a more environmentally friendly future. This intent is evident in the following fragment: "Descarbonizar es lograr que la agricultura no tenga elementos basados en el carbón y el petróleo; lograr que la industria haga lo mismo, lograr que nuestra movilidad haga lo mismo, implica otra energía. Es simple; tecnológica y matemáticamente es simple" (Petro, April 27, 2023).

Humanity: This signifier concludes the list of the most significant words for the president with 98 repetitions. This word is interesting in the context under which Petro utilizes it, as he pronounces it to narrate the history of the human species that has brought us to this critical juncture. Throughout history, humanity has encountered numerous challenges, but none comparable to the climate crisis. The president frequently portrays the future of human beings in apocalyptic terms if his reforms are disregarded.

> Hoy cualquiera que se acerque al tema de la crisis climática entenderá que sus hijos vivirán peor que él y que sus nietos vivirán peor aún que sus hijos, porque son los tiempos de la extinción de la humanidad. A eso le llaman apocalipsis religiosamente porque es el último libro de la biblia que a mí me encantaba leer, entre otros en la cárcel, pero es exactamente eso, apocalipsis si no actuamos. (Petro, April 27, 2023)

Therefore, he portrays himself as a messiah, a savior offering hope and opportunities to the people in the face of a potential terrifying outcome. In the speeches addressing mining, one can observe his strategic use of fear to convey to the public that neglecting the energy transition, which involves questioning mining at its current scale, jeopardizes the lives of families due to the uncertainty surrounding the possible advent of environmental Armageddon.

Other signifiers and elements to consider: In addition to the elements outlined in the table, the relationship between the armed conflict and mining is a cross-cutting theme in all of the president's speeches, as he seeks to demonstrate how the territory, water resources and communities have been victims of the conflict through mining. Thus, he states that mining titles have been taken from the people by multinational companies, mafias, and previous governments that conspired

to control these lands through violence. Notably the President avoids using the term "illegal mining" since this is carried out by illegal actors with whom peace negotiations are underway. Therefore, to achieve the so-called "Total Peace" (Paz Total), these situations of inequality in the territories must be confronted to democratize the lands and bring peace to all corners of the country.

Related to the previous point, after analyzing the geographic variables of the speeches and the most relevant signifiers for the president, it is noteworthy to find that the terms "territory" and "water" were mostly repeated in the departments of Chocó, Antioquia, and Risaralda, areas with a high percentage of mining titling and confrontations with illegal actors. Conversely, the terms "economy" and "coal" were more frequently employed in Bogotá, Cundinamarca and Bolívar. This information requires further analysis in future research to evaluate the reasons and evolution of these signifiers in the presidential discourse on mining.

Ultimately, Petro embraces the destruction of ecosystems as a threat to the State and the inhabitants of the Colombian territory . In his speeches, he poses environmental degradation as a threat both to the survival of the State and to the continuation of human existence. This necessitates extraordinary measures such as the restructuring of the Mining Code and the strengthening of green protection legislation. Considering the concepts of Buzan and Waever elucidated at the beginning of the chapter, it can be affirmed that the President seeks to securitize the environment and the factors that affect its degradation, such as deforestation and mining. This strategic framing is aimed at convincing Colombians of the urgency of this issue and thereby enhancing his capacity to implement the proposed reforms.

Analysis of Andrés Manuel López Obrador's Mining Discourse

Quantitative identification of the main signifiers in the mining discourses of the Mexican President.

In the case of Mexican President Andrés Manuel Lopez Obrador, the word list of the main signifiers in the 27 speeches addressing mining is as shown in Table 2.

Table 2. Analysis of the mining discourses of Mexican President Andrés Manuel López Obrador

Significant	Number of times mentioned in speeches (frequency)
People	119
Lithium	103
Companies	98
United States	86
Sonora	69
Energy	67
Nation	53
Environment	52

Source: own elaboration.

Likewise, Figure 2 shows the 70 main words used by the Mexican president in his speeches.

Figure 2. Wordle visualization of the words most used by Mexican President Andrés Manuel López Obrador.

Source: own elaboration.

Qualitative analysis of the main signifiers in the mining speeches of the Mexican President.

Based on the main signifiers used by López Obrador in selected speeches and statements, it is possible to identify that his position on mining is closely related to the following:

People: This signifier, employed 119 times in the analyzed speeches and statements reflects several characteristics of AMLO's discourse. Among them is the resignification of the Mexican people, where the word "people" becomes a key symbol of his populist and progressive discourse. It represents the transformative force driving his political project. By frequently referencing the "Mexican people" on López Obrador seeks to strengthen his bond with the citizenry, consolidate himself as a representative leader committed to the defense of collective interests, and reinforce ties with segments of society overlooked by preceding administrations, thereby granting them representation and a voice. Consequently, he emphasizes the importance of "for the good of the people," "love of the people," and guaranteeing the "happiness" and "welfare" of the people. Phrases such as "we will not betray the people," "we will not fail our people," and "we will not betray ourselves" accentuate the importance of upholding the trust and loyalty of the people.

It is important to establish the relationship between the signifiers people and elite. Although the signifier elite is not used with the same frequency as people, López Obrador uses it with the aim of establishing an antagonism. In this framework, "the elite" or "the oligarchy" he describes are those who have historically profited from the resources belonging to the people. In other words, he postulates the people as ego and the elite as alter, one of the most distinctive features of his populist discourse. Consequently, he generates a sense of otherness between companies, especially foreign entities, and Mexican society. However, when it comes to electricity utilities, developers, and car manufacturers (such as Ford), he exhibits a special interest in their participation in the economy. Thus, it can be inferred that AMLO endeavors to construct a divisive discourse as part of his populist narrative appealing to the population, while also acknowledging the positive contributions of companies that contribute to the realization of his political project, the Fourth Transformation.

Moreover, the President's critique of the "political elite", regarding mining, focuses on the concession of Mexican resources to foreign

companies, holding them responsible for the country's inequality. In his *2018* book "*La salida: decadencia y renacimiento de México*", the President contends that government institutions serving this elite have "kidnapped" Mexico and have generated a scenario of discontent and inequality in the Mexican nation (Official website of Andrés Manuel López Obrador, AMLO, January 30, 2017). For the same reason, in the analyzed statements, he incorporates phrases like "giving Mexico back", "change of mentality of the people," or "awareness," which are related to the dismantling of what he calls the "great neoliberal farce." This rhetorical approach enables him to justify the cessation of privatizations in the energy sector and the suspension of mining exploration concessions to private companies, as he mentions:

> "La transformación está en marcha y aunque es necesario seguir poniendo al descubierto la gran farsa neoliberal y auspiciando el cambio de mentalidad del pueblo [...]Una medida decisiva fue parar en seco la tendencia privatizadora; se dejó de entregar concesiones a particulares en minas, agua, hospitales, puertos, vías férreas, playas, reclusorios y obras públicas." (López, September 1, 2021).

Returning to the securitization theory developed previously, it could be argued that López Obrador securitizes privatizations and foreign companies. Consequently, both the lithium concessions and the privatization of state mining companies by past administrations continue to yield significant economic benefits to the nation, forming the basis for advocating the need for a reform of the Mining Code. This underscores the relationship between the signifiers *people*, *sovereignty*, *self-sufficiency,* and *independence*, reflecting an accomplishment for the people and Mexico as a whole, since the President affirms that "la autosuficiencia energética garantiza independencia y soberanía " (Official website of Andrés Manuel López Obrador, AMLO, July 5, 2023).

Lithium: Using the signifier *lithium* assumes fundamental role in advocating for the nationalization of resources. Its importance lies in the fact that this element plays a significant role in the clean energy industry, and nationalizing it provides Mexico a competitive advantage and broad economic potential at regional and international levels (ECLAC, July 6, 2023).

However, it is noteworthy that the economic component is not the only aspect present in AMLO's argument regarding lithium. He also employs

this word to refer to "resources that belong to the people," emphasizing that the profits derived from their exploitation should benefit the Mexican nation as a whole. In this context, he utilizes *lithium* in two different contexts: the nationalization of the resources and their economic potential.

Since the beginning of his mandate, and as previously mentioned, López Obrador has repeatedly pointed out how the country has historically ceded its wealth to third parties that have benefited from it. Thus, the privatization of industries, such as mining, has weakened the country's sovereignty over its own natural resources. Therefore, one of the fundamental pillars of its discourse is to present lithium as a resource capable of benefiting Mexican people through its exploitation. However, it is interesting to consider that the nationalization of resources explicitly centers on lithium since, as the President points out, "[...]se tiene que revisar si las concesiones que tiene esta empresa se entregaron para el litio. Si no fueron para el litio..." (Lopez Obrador, 31 October 2022). This emphasis aligns with the global significance of lithium and translates into a broad economic interest of the government in monopolizing the mineral.

The second level alludes to Mexico's economic potential and possible leadership in clean energy. For this reason, the words "lithium" and "Sonora" are used repeatedly and in the same sentence. Sonora is one of the 31 states that make up Mexico and is in the country's northwestern region, bordering Arizona and New Mexico in the United States to the north (EcuRed, n.d.). According to Mining Technology, the largest lithium deposit in the world is located in the municipality of Bacadehuachi, in the Sierra Madre Occidental of Sonora, with reserves estimated at 243.8 million tons (Pastrana and de Alba, October 2, 2021).

Likewise, Sonora's geographic proximity to Arizona presents lucrative commercial opportunities between the United States and Mexico. This is considering that, as established by the Mexican president through the decree of nationalization of lithium in Sonora (February 18, 2023), Arizona has a large chip factory that is essential for producing electric batteries. Accordingly, the President envisions lithium as a key element in transitioning away from fossil fuels and fostering new commercial possibilities. He introduces the "Plan Sonora" to strengthen regional production chains and transition to electromobility, which ratifies the government's commitment to renewable energies. López Obrador even states his commitment to generating at least 35% of the country's energy

consumption through clean and renewable sources by 2023. (Decree on the nationalization of lithium, February 18, 2023). Therefore, it establishes:

> "Sonora reúne todas las condiciones porque tiene sol, tiene gas, tenemos garantizado el gas, por ahí pasan gasoductos, o sea, gas suficiente; tenemos el puerto Libertad y el puerto de Guaymas; ya empezamos con la planta solar y se van a replicar otras; se va, como ya dije, a crear la línea de transmisión; se tiene el mercado, que eso es importante, para la electricidad por Baja California; se tiene reservas de litio suficientes, ya hay una planta automotriz. En fin. Se tiene la frontera con Arizona y se tiene frontera con California. Hay condiciones inmejorables." (Presidente Lopez Obrador, October 31 2022).

This is how AMLO integrates the significance of the *United States* into his mining discourse, as it translates it into a highly strategic commercial ally for his government. Consequently, he repeatedly advocates for economic and commercial integration with the neighboring country, proposing the signing of a treaty that reactivates the continent's economy and aligns production with consumption (López Obrador before the CELAC, September 18, 2021). In this way, he discursively constructs the United States as a peer, reiterating that "we will assert sovereign authority" and, consequently, "busca establecer una relación con Estados Unidos bilateral financiada en la cooperación para el desarrollo y el respeto mutuo" (López Obrador, September 18, 2021).

Environment: Despite frequent usage in the President's speeches, it is imperative to question whether the term "environment" is genuinely safeguarded. Emphasizing lithium as a mineral with infinite advantages for the Mexican economy, there is a notable lack of information about the contexts of lithium extraction and the minerals essential for clean energy production.

While López Obrador refers to "taking care of the environment," "defense of the environment," and "protection of the environment," he also states that mining should work respecting the environment, as illegal mining methods have contaminated. He indicates that:

> "la actividad minera es una actividad económicamente importante que tiene un impacto significativo en el medio ambiente, en los territorios, en las comunidades, en la gente que vive en estos territorios, por lo cual es una obligación del Estado regular esta actividad" (López Obrador, May 19, 2021).

In essence, the intent is not to terminate mining activity in the country due to its economic significance but rather to advocate for its regulated conduct. Now, the signifier *environment* is also used to allude to the ecological disaster of the Bacanuchi River that happened in 2014 because of a spill of acidified copper sulfate caused by a leak in a valve in a process tank of the Buenavista del Cobre mining complex (López Obrador, May 19, 2021). In principle, it could be considered an isolated event. However, he alludes to the event to identify past governments' shortcomings in repairing damages and emphasizes that greater efforts will be made during his administration. This can be understood as part of his populist discourse, in which he postulates himself as a *messianic* actor *who will save people from others' mistake*s. However, it can also be understood as an apparent effort to contribute to social and environmental justice in the affected area, validating the sector's impacts.

Finally, the use of the signifier *environment* in relation to *renewable energies indicates* a strong inclination of the President towards the need to incorporate these energies to protect the environment. However, the signifier *renewable energies* is more frequently used in an economic context than in an environmental one. This would indicate that López Obrador's environmental interest and commitment could translate into an interest in creating both renewable batteries and electric cars. Even more so, considering that the president only mentions as efforts in this matter the need to regulate mining activity, stop concessions for the exploration of deposits, and increase taxes for mining companies. As he states:

> "Hemos protegido el medio ambiente; además de aplicar el programa, como ya lo dije, de reforestación más importante del mundo, estamos cuidando el agua; no hemos concedido ninguna concesión, no se otorgado ninguna concesión para la extracción minera, no se ha autorizado la explotación de energéticos mediante el fracking" (López Obrador, November 27, 2022).

Analysis of the concordance between the discourse and the measures implemented by the Mexican President in the mining sector.

López Obrador, through his populist discourse, has sought to portray himself as the leader committed to safeguarding the interests of the Mexican people and the nation´s sovereignty against what he calls the "elite" or "oligarchy" that has historically benefited from the people's resources It is imperative to scrutinize the coherence between his rhetoric

and the measures executed in the mining sector, as certain actions of his government may raise questions regarding the authenticity of his discourse.

In the contemporary context of the Fourth Transformation (4T), a political and economic project has been introduced, seeking to distance itself from neoliberalism. It manifests as a nationalist and progressive proposal, focused on addressing the needs of the less privileged segments of society. However, there is a paradoxical tendency towards what we could call 'false progressivism,' which manifests itself in supporting agendas and logic aligned with the interests of big capital.

An illustrative example of this dynamic is the Sonora Plan, which, as previously highlighted, has been promoted as a series of megaprojects aimed at boosting the development of clean energy and the country's wealth. However, this project entails investments of 48 billion dollars by national and North American companies to strengthen the lithium industry (Zarco, December 20, 2022). In other words, the government would be trying to align itself with the development of clean energy and to keep foreign investment in the country, contradicting its official statements.

In conjunction with the aforementioned, another important aspect is the President's relationship with the United States, especially in the context of the mining industry and renewable energies. While he has criticized the "political elite" linked to neoliberalism and foreign companies, he seeks to establish a strategic commercial and economic relationship with the United States in relation to lithium production This suggests an adaptation of his populist rhetoric to different interests based on the situation.

It is pertinent to question whether the nationalization of lithium truly signifies an environmental policy or merely constitutes a form of 'false environmentalism' aimed at fostering economic development for the state of Sonora, home to significant reserves of this element. This is based on the President's approval of the participation of large companies in mining other resources, but not lithium. In addition, it is important to highlight that lithium is used to produce rechargeable batteries found in mobile devices, electric cars, and intermittent energies (wind and solar), among others. Therefore, several markets (outside the clean energy market) have increased the demand for this element, so lithium has acquired a political interest (El Colegio Nacional, January 10, 2023). Furthermore,

López Obrador's environmentalist rhetoric can be questioned considering other projects, such as the Mayan Train, one of his government's major constructions. While purported to bring trade and social development opportunities, it has generated discontent among indigenous communities, as it entails irreversible damages to the groundwater complex and the deforestation of over 485 hectares of virgin forest (Ospina, June 2, 2022).

In addition, it is important to note that the President does not securitize mining activity. On the contrary, he affirms that it must coexist with the environment and be regulated sustainably with the surrounding communities and ecosystems, as he recognizes the economic importance of this activity in Mexico. He even considers the relevance of mining activity in the country, such as copper production, which, according to the National Institute of Statistics and Geography (Inegi), for 2019 was 768,542 tons (*Opportimes*, September 8, 2020).

In summary, AMLO's discourse has been characterized by his emphasis on the people and his antagonism towards the elite, especially in the mining area. However, the concordance between his rhetoric and the measures implemented can be questioned, as some of them seem more oriented towards economic and strategic objectives than a genuine commitment to the environment and the welfare of the people. A critical analysis of reality needs consideration of these ambiguities and apparent contradictions in the discourse and actions of López Obrador's government in the mining field.

Comparison of the Mining Discourses Between Gustavo Petro and Andres Manuel Lopez Obrador

After a thorough examination of the individual speeches and policies of both presidents, a comparative analysis will now be conducted to assess the congruence between their articulated intentions and the practical actions taken. At the same time, in other aspects, they differ significantly, as will be evaluated below, and is evident in a synthesis of what is shown in Table 3.

Similarities

The two leaders' first element is the populist tinge of their governments since both embody a personalist leadership based on the representation

of the people. Embodying a personalist leadership style grounded in the representation of the people, López Obrador and Petro assert that their respective administrations reflect the will of the people. Then, they create a unity around this concept without considering the particularities of each region of the country while generating internal and external threats as the cause of the problems that burden their countries. In particular, both leaders accuse the United States and multinational corporations of causing environmental degradation and extensive mining that violates the rights of communities.

Another shared aspect is their leftist orientation, with a focus on prioritizing social policies under the signifier of social justice in contrast to approaches favoring defense sector investment and market liberalization. In the mining sector, both emphasize the deep inequalities in these economies between the small miners and the large companies that control the resources and keep the profits. Therefore, they bet on the transformation of these communities to benefit the oppressed and remove the benefits of the elites for the exploitation of resources. Thus, in the case of Colombia, Gustavo Petro insists on rethinking the Mining Code, while in Mexico, Lopez Obrador advocates the nationalization of minerals to return the resources to the people.

However, both leaders exhibit what can be termed as 'false progressivism,' endorsing highly ideologized, clientelistic, and economically inefficient policies under the guise of environmental protection. Despite positioning their energetic transitions as morally superior projects benefiting all citizens, the reality is that these processes are financially burdensome and may have questionable benefits for local communities. These proposals, when implemented, could fiscally asphyxiate the middle class and productive sectors, potentially leading to an increase in the public deficit and public debt of each country. Although these governments promise paradise for the most oppressed communities, equality for the poorest, and a break with clientelism, they continue with the same practices and may even aggravate some problems under the cloak of progressivism (Mora Velarde, January 1, 2019).

In addition to the above, both presidents adopt a confrontational stance with the mining sectors, targeting both small-scale miners and multinationals, since they generally criticize mining exploitation as an obstacle to achieving their political objectives. On the one hand, Petro vehemently opposes the current model based on oil and coal, denigrating

local economies reliant on these activities and asserting that mining only harms the country due to its social and environmental havoc. On the other hand, López Obrador has exerted efforts to restrict new mining concessions throughout his six-year term and has questioned the viability of certain mining megaprojects that impact local communities and ecosystems. Furthermore, his government has been critical of the contributions made by the mining sector to the State, emphasizing the need to increase the tax rate imposed on this sector due to its lack of wealth redistribution and the environmental havoc it generates.

Finally, both are characterized by their dual rhetoric on environmental protection, condemning mining when it is not aligned with their projections as pioneering powers in green energy and energy transition. In the case of Colombia, Petro demonizes the exploration and exploitation of resources such as gas, oil, and coal. Still, he lessens his aggressive tone when it comes to the extraction of copper and some rare minerals essential for producing solar and wind panels, which have a strong polluting impact when discarded. Meanwhile, in Mexico, López Obrador also questions the extraction of coal by multinationals but glorifies the extraction of lithium to produce electric car batteries, ignoring the immense environmental impact of the extraction and disposal of this mineral.

Differences

The analysis of the mining discourse of both leaders reveals relevant differences in several areas. Firstly, the scale on which both leaders address environmental protection, as opposed to mining, demonstrates elements on which they differ. Gustavo Petro, in a radical manner, advocates a total ban on oil and coal exploitation based on his conviction that these activities irreversibly damage the environment, negatively affect local communities, and endanger human existence. In contrast, AMLO has opted for a more pragmatic stance, seeking to balance economic and social needs by implementing stricter regulations to control mining activity rather than an outright ban. From the above, we derive another difference in their speeches: the emotions to which each president appeals. While Petro plays on the public's fear of what environmental degradation could cause, Lopez Obrador focuses on awakening a deep nationalism in Mexican society to instill a sense of ownership towards the resources of interest.

As for the securitization theory, both presidents diverge in the areas they consider critical to their countries' security. Petro posits the destruction of ecosystems as the greatest threat to humanity and proposes drastic measures to safeguard natural resources and preserve the ecological balance. On the contrary, López Obrador postulates privatization as an inherent threat to the interests of people and, for the same reason, has prioritized and promoted the nationalization of lithium as a strategy to recover sovereignty and autonomy in the exploitation of natural resources.

However, a relevant divergence between national and regional perspectives exists. While Petro adopts a more global approach, promoting the adoption of decarbonized economies and seeking regional cooperation on environmental issues, AMLO has adopted a more nationalistic approach, focused on the protection of national interests and the control of natural resources through an expansion of the State's capabilities.

Another significant difference lies on how they establish the economic approaches to clean energy. The Colombian President prioritizes environmental preservation, clean energy, and fertilizer production to strengthen the country's economy by preserving the territory. In contrast, the Mexican President considers fossil fuels valid but simultaneously seeks to incorporate clean energies to his agenda. Thus, he aims to take advantage of the mining industry as a source of income for the country's development and as a bridge to establish commercial relations of interest, such as with the United States and Canada.

Finally, it is relevant to contrast the articulation of illegal groups with mining. Meanwhile, López Obrador does not establish a direct relationship between illegal mining and drug trafficking in Mexico, Petro recognizes the importance of combating drug trafficking and illegal gold mining in Colombia in an articulated manner. He embraces the "cocaine-gold" relationship as the worst enemy of local ecosystems and communities in the territories. The financing of illegal groups through the illicit extraction of gold is a central concern for Petro, who emphasizes the need to prioritize this problem to achieve peace in the Colombian territory and make the population aware of the repercussions that this activity has on water sources, the territory, and the cultural wealth of the nation.

Table 3. Comparison of the mining discourse of Gustavo Petro and Andrés Manuel López Obrador and comparing to the domestic policies implemented.

Similarities	Populist discourse Progressive governments Discursive duality about mining Social justice and environmental justice as the cornerstones of the restructuring of the mining sector Multinational corporations and the U.S. as agents of environmental destruction through mining
Differences	Scale of anti-mining discourse Emotions to which they appeal Securitization vs. nationalism National and regional perspectives Economic approaches Articulation of groups outside the law

Source: own elaboration.

Conclusions

It is essential to highlight that an adequate operationalization of the chosen conceptual framework was conducted by using the concepts proposed by the discourse analysis theory and the securitization theory present in the mining speeches of presidents Gustavo Petro and Andrés Manuel López Obrador. Through corpus analysis with the *AntConc* and *Wordle* software, it was possible to identify the most critical signifiers in each of the speeches that laid the argumentative foundations of the research. This methodological approach allowed a coherent and formal approach to understanding how both presidents address the mining issue at a discursive level and how this is reflected in the comprehension of state security and decision-making. The results obtained from this methodology offer a new perspective that will contribute to the discussions on progressive leaders in Latin America and the development of issues such as mining in the new environmental agenda of the region.

Furthermore, it is concluded that Gustavo Petro's discursive strategy in addressing mining focuses on protecting the territory, understood as the sum of living and non-living elements that constitute the country's mining areas, such as local communities and native ecosystems. The President, therefore, embraces a discursive duality, stating that the mining code reform seeks to impact only multinational companies that

benefit from Colombian resources, yet discrediting mining in all its forms without distinguishing different scales, due to the environmental damage it generates. This illustrates how Petro securitizes the environment, deeming it necessary to adopt extraordinary measures to be addressed promptly through the decarbonization of the economy; otherwise, the doom of Colombians and of all humanity is assured.

On the other hand, energy transition policies and reforms to the Colombian Mining Code have been slowed down by the multiple scandals the Government has faced in just over one year. A disconnect and lack of coordination between ministries have led to the dismissal of several ministers and the absence of a clear roadmap for the evolution of the decarbonized economy in the country, especially the public policies that are required to bolster mining economies after losing their main economic activity. Therefore, it is evident that the government has attempted to maintain a high level of consistency between what was said and what was done. Still, accomodating the Historic Pact (Pacto Histórico) bench while in power, rather than in opposition, has proven challenging. This has resulted in the promotion of numerous reforms and projects, yet they have not achieved their goals, nor have they received the expected support.

As for Mexico, the discursive and practical analysis of López Obrador's mining agenda presents populist rhetoric focused on the people and lithium. His discursive emphasis centers on portraying himself as a leader committed to defending collective interests and opposing the elite. However, discrepancies between his rhetoric and the implemented measures in the mining sector raise doubts about the authenticity of his environmental commitment and his focus on the welfare of the people. Dualism can be extrapolated from AMLO's discourse between the desire to nationalize resources and the granting of tenders to foreign agents to extract resources required for his projects. Despite his declarations in favor of environmental protection, initiatives as Plan Sonora, which involves collaboration with national and foreign companies in the lithium industry, cast doubt on the genuineness of his environmental discourse, suggesting it may be driven by economic and strategic objectives. This ambiguity and apparent contradiction between his discourse and actions require critical analysis to understand the true scope of López Obrador's mining agenda and its impact on environmental protection and the well-being of the Mexican people.

Now, this exercise of discursive approximation helps elucidate how populism, as a discursive nuance, reveals certain similarities and differences between Petro and AMLO. Both presidents acknowledge the negative environmental impact that large-scale mining has on the environment but differ in their rationale for addressing it. Likewise, both aim to break with previous administrations' discourses to introduce radical policy changes they promote. They position themselves as messianic figures of their nations, protecting people from risks posed by neoliberal privatizations environment degradation.

Finally, it is crucial to analyze how populist rhetoric manifests itself in their speeches and how both leaders seek to present themselves as rulers challenging the *status quo* and fight against past practices that they consider detrimental to the nation and the well-being of their citizens. In addressing mining, their speeches mobilize the population to support proposed changes and protect society's interests from imminent threats. Both leaders aim to establish narratives that will resonate with their followers and give them the legitimacy necessary to implement their policies and actions. At the same time, their divergent approach to mining underscore how their political visions influence decision-making and policy implementation in response to jointly constructed threats by various political actors in Mexico and Colombia.

Recommendations

To Colombian President Gustavo Petro

Firstly, it is crucial to acknowledge that his administration is in its nascent stages of effecting the necessary changes to overcome the turbulence and controversy that marked its initial year in power. The failure to reconcile with the opposition and various national and international stakeholders has hindered the progress of government proposed reforms. Therefore, it is necessary to leave behind the capricious tendencies that the Executive has adopted at the discursive level, to acknowledge criticisms from the opposition and to forge a common path rather than dismantling progress made by previous administrations. The government reforms are overly ambitious, and establishing attainable objectives through collaboration with representatives of diverse social groups will facilitate the realization of projects for all who invested their hopes in this government.

Moreover, the President's mining discourse, which splits people into a binomial scheme in confrontation with the large multinational, overlooks the pluralism that characterizes mining communities because it does not acknowlege the specific situations of indigenous, Afro-Colombian and peasant groups that have historically developed a special relationship with the territory and mining as a means of subsistence for their families. Therefore, we must avoid this type of simplistic narrative, which seeks to lump all vulnerable communities under the same concept to force the approval of the Mining Code reform in the name of the people, excluding the realities of those who live with mining and putting democracy at risk.

Finally, while promoting policies aimed at decarbonization and environmental protection, demonizing the communities dependent on mining for survival is counterproductive. It's advisable for President Petro to adopt a less confrontational approach towards these communities and involve them in the implementation of measures to reduce extractive activities in the country. Concrete alternatives must be proposed to address the economic voids that the potential abandonment of mining would create. Excluding these communities in the name of environmental protection could inflict greater harm than the initial issue they sought to mitigate.

To Mexican President Andres Manuel Lopez Obrador

Echoing the earlier recommendation regarding conceptualization of "the people," Lopez Obrador employs the same monolithic and simplistic rhetoric. Dialogue and collaboration with civil society organizations and local communities must be facilitated to understand their specific concerns and needs; to comprehend that mining is not experienced in the same way in the state of Sonora as it is in Mexico City, and that these different realities require local understanding. Nationalizing resources alone is insufficient for community prosperity; projects must harness the economic potential while upholding environmental integrity and safeguarding the livelihoods of those dependent on mining activities.

Furthermore, the speeches and policies advanced by the President throughout his term have resulted in the cancellation of mining megaprojects and the loss of investment from domestic and foreign actors, who prefer to invest their capital in other countries that do not have such restrictions. This has heightened market uncertainty due to

measures aimed at protecting indigenous communities and the environment. Therefore, it's advisable to first identify sectors for investment, such as agriculture or tourism, so that the exit of multinationals does not disrupt local economies. This would address the tensions between the federal government and the regions that advocate growth based on multinational companies' investments to reach mutually beneficial solutions.

Lastly, as the end of his six-year term approaches, it is imperative that the President abandon confrontational rhetoric with the opposition, especially considering the highly contested upcoming elections. Constructive dialogue between the outgoing administration and potential candidates must be fostered, with efforts to bridge gaps with the mining sector to allow the continuation of those projects that respect local communities and guarantee environmental protection. Vilifying the opposition as a corrupt oligarchy and enemy of the people risks further division in a nation poised to elect its next president for the subsequent six years.

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Environmental safety strategies in the Andean region

Impact of drug trafficking on Peruvian Amazonian native communities

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Introduction

Drug trafficking activity in Peru is experiencing strong growth since 2016. This situation affects internal security with criminality, corruption, drug consumption, damage to licit activities, financing of other illicit activities, and environmental impacts.

The advance of drug trafficking has also involved the physical displacement to new geographic areas for the expansion of coca crops, the migration of coca growers, the search for new routes for the exit of drugs, and the provision of chemical precursors and the installation of clandestine airstrips for the export of cocaine.

In this dynamic, one of the populations that is increasingly affected is the Amazonian native communities (ANC). Although the impact of drug trafficking on ANCs is decades old, it is in the last few decades that this problem, which endangers the lives of the natives and affects their territories, has become more acute.

For its part, the Peruvian State has not been able to design or implement a strategy to avoid or mitigate this situation. The claims of the ANCs are growing, although the process of co-optation of some native communities is also becoming more and more widespread.

The lack of state presence has allowed drug trafficking to advance very quickly, and the relationship between criminal organizations and ANCs has become more complex, ranging from rejection and direct confrontation to collaboration and eventual incorporation into the drug trafficking chain.

Reversing this situation will be very difficult and will require great effort and resources from the State. Still, it is essential to understand what the current situation is and where future scenarios are heading. The typologies of cooptation are different, although dynamic, the drug trafficking pressure mechanisms vary, and the responses and reactions of the ANCs are also diverse and dynamic.

The drug trafficking strategy is gaining ground. Not only is there growth in coca cultivation areas, but also in the potential production of cocaine, in deforestation, in the invasion of protected natural areas and concessions, and in the territories of ANC and indigenous reserves. Undoubtedly, it goes hand in hand with growing involvement of populations in the entire productive narco-chain.

The purpose of this document is to provide analysis and reflections on the current situation and make recommendations to prevent the deterioration of the ANCs impacted by drug trafficking and eventually reverse the adverse effects that have already occurred.

Native Communities in the Amazon

The Amazonian Native Communities (ANC) in Peru are perhaps the most vulnerable population group abandoned by the Peruvian State. They are also heavily affected by the development of legal extractive activities that are not adequately supervised, such as oil and forestry, and even by illicit activities, such as illegal mining, illegal logging, human trafficking, and drug trafficking.

In the case of drug trafficking, its impact on ANC is much more complex, dynamic, and dangerous than other illicit activities. A strategy of co-optation of the ANC has been developing, with insufficient reaction from the Peruvian State, a situation that could become irreversible in a few years.

Like other populations, the ANC has a dynamic of demographic growth and expansion in the occupation of new territories, as well as in the organization of new communities. According to the III Census of Native Communities 2017, 2,703 ANCs were identified and grouped into 44 indigenous or native peoples, with 40 indigenous or native languages, in *the Selva* and *Selva Alta* areas in 11 Amazonian departments of Peru. In the 1993 and 2007 censuses, 1,458 and 1,786 ANCs were reported, respectively.

According to the last census of the native communities (CC. NN.):

- Only 1,871 of them (69%) have property titles.
- 9.8% are not recognized by any public institution.
- 808 ANCs (30%) have conflicts with other communities, individuals, loggers, oil companies, mining companies, among others.
- Only 21% have roads (mainly horseshoe, paved, and rural), and 71% are connected by rivers or lakes.
- 2,668 ANCs (99%) carry out agricultural activities, among others.

Only 611 ANCs have high schools (23%), six have productive technical education, and three have a higher technical institute. The low quality of education compounds this precarious educational situation. Electricity service is also unstable, and 1,675 ANCs (64%) do not have electricity service for schools. Regarding health, 865 ANCs (32%) have health services, primarily basic health posts.

According to the National Institute of Statistics and Informatics (INEI) through the National Household Survey (ENAHO) 2021, 38.5% of the indigenous or native population is impoverished. There is no approximation of the situation of ANCs and the Sustainable Development Goals (SDGs), as Rupire (2020) reported.

The social organization of the ANCs is traditional, with its own uses, customs, and norms. They have two main levels of organization: the assembly and the boards of directors. They are integrated into local, regional, and national organizational systems through unions and federations. More than 85% of the ANCs are affiliated with a representative organization.

The representation of the ANCs at the national level is a crucial aspect. The Inter-ethnic Association for the Development of the Peruvian Rainforest (AIDESEP) is the spokesperson organization for the indigenous peoples of the Amazon, governed by a National Board of Directors. It is made up of nine decentralized organizations that in turn, group 109 federations of 2,349 communities, with a population of 650,000 inhabitants from 19 linguistic families and 64 Amazonian indigenous peoples.

As can be seen in Map 1, the ANCs are dispersed throughout the Amazon. They form a mosaic of ethnicities and languages and have different

levels of development and access to health, education, electricity, communications, and security services. One of the factors that explain their level of development is their poor connectivity with the main urban centers, by land (highways and rural roads), but also by river and lake routes.

Indigenous or Aboriginal Peoples in Isolation or First Contact Situations (PIACI)

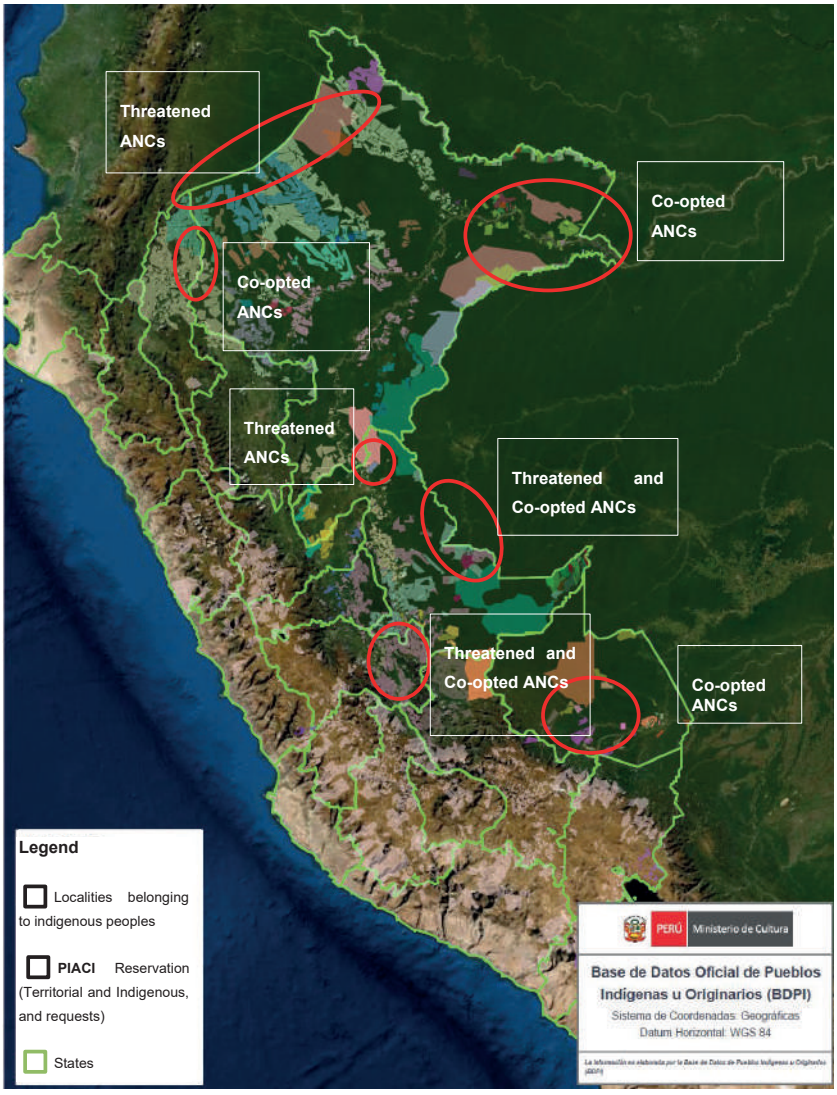
As indicated by MINCUL (2016), these are groups of populations with high health, territorial, sociocultural, and demographic vulnerability. There is no quantification of the number of peoples in this condition.

Law 28736, Law for the Protection of Indigenous or Native Peoples in Isolation or in Initial Contact, is the regulatory framework that recognizes the PIACI. It defines isolation as the circumstance of indigenous peoples who have not developed sustained social relations with other members of the national society and initial contact as the situation of those indigenous peoples who have begun a process of interrelation with other members of the national society.

The above-mentioned PIACI Law also establishes Indigenous Reserves as lands delimited by the Peruvian State through supreme decrees of temporary inviolability in favor of the PIACI, in order to protect their rights, their habitat, and the conditions that guarantee their existence and integrity as peoples. That is, to protect their health and life, to respect their culture and traditional way of life. It also includes their right to own land and natural resources without being invaded.

According to the *Sociedad Peruana de Derecho Ambiental* (SPDA), there are seven indigenous or territorial reserves with an area of 4,116,336 hectares (2023). There are approximately twenty villages and seven thousand inhabitants in these reserves. In addition, four applications for creating new indigenous reserves are being categorized. PIACIs living within at least six natural protected areas have also been detected.

Map 1. Main Indigenous Communities Affected by Drug Trafficking in Peru



Source: Ministry of Culture (n.d.) and author's comments.

Coca-cultivation areas in ANC territory

The expansion of drug trafficking is increasingly affecting the ANC. The National Commission for Development and Life without Drugs (DEVIDA), in its Coca Cultivation Monitoring 2022 (published in 2023), reported 13,994 hectares of coca in ANC territories, with 295 ANC affected. This

does not consider ANCs affected by clandestine airstrips and drug transit through routes that cross indigenous territories.

Table 1. Indicators of coca cultivation and Amazonian indigenous communities

	2016	2017	2018	2019	2020	2021	2022
Total coca area (ha)	43.900	49.900	54.134	54.655	61.777	80.681	95.005
Coca area in ANC (ha)	2.757	3.368	4.961	5.307	6.475	10.848	13.994
ANC area/total (percentage)	6,3%	6,7%	9,2%	9,7%	10,5%	13,4%	14,7%
Affected ANCs (number)	102	132	ND	ND	171	ND	295

Source: UNODC (2016, 2017) and DEVIDA (2018-2022).

DEVIDA has identified 23 indigenous or native peoples affected by coca cultivation, of which eight account for 94% of those involved: Ashaninka, 5,486 hectares; Ticuna, 2,244 hectares; Kichwa, 1,753 hectares; Yagua, 1,137 hectares; Katatibo, 1,109 hectares; Shipibo-Konibo, 495 hectares; Awajún, 541 hectares; and Yanesha, 445 hectares.

The more significant presence of coca crops in ANC is also reflected in a percentage of the total. In 2022, 14.7% of cultivation is in the territory of these communities, a percentage that is growing yearly.

Of the 174 districts with coca production as of 2021, 75 have established ANCs (43%). In the 75 coca-growing districts with ANC presence, there are 1,324 established ANC (49% of the total number of ANCs). Of the 1,324 ANCs in coca-growing districts, 295 are already affected by illicit coca cultivation, and the rest are hostage to drug trafficking.

Regarding PIACI, DEVIDA has been monitoring the invasion of coca cultivation since 2021. Coca-crop invasion has been recorded in two indigenous reserves. In 2022, 383 hectares were identified, an increase of 22% compared to 2021.

Table 2. Coca cultivation and PIACI indicators

PIACI	2021	2022
2 indigenous reserves (ha)	171	383
3 indigenous reserves in process (ha)	ND	216
	171	599

Source: DEVIDA (2023).

Factors Explaining the Presence of Drug Trafficking in ANCs

Drug trafficking is involving the ANCs due to several factors:

1. The advance of drug trafficking into ANC territories is not a spontaneous mobilization of peasant or settler groups. Instead, it results from a strategy designed, financed, and implemented by criminal organizations. The invasion of territories requires a planned mobilization with a minimum magnitude that allows a profitable operation for drug trafficking. As the United Nations Office on Drugs and Crime (UNODC, 2022) has stated, the creation of "enclaves" seeks to concentrate land, conserve crops, be close to roads (land, river, or lake), and install all the links in the drug trafficking chain (2022).

2. Drug traffickers have been adapting the varieties of the coca plant to lower altitudes in the lowland jungle, the habitat of the ANCs. Adapting coca to lower altitudes, up to 60 meters above sea level, would practically allow its cultivation in any of the 2,688 ANCs that carry out agricultural activities (99% of the total). Forty years ago, coca cultivation was established in ecological zones between 700 and 2,000 meters above sea level.

3. The abandonment of the ANC by the State and their significant social gaps turn them into exposed populations, which facilitates the entry of drug trafficking, either by the 'soft' way with narco-benefactors (Huerta, March 6, 2022) that replace the presence of the State, or by the 'hard' way through invasions and violence.

4. The ANCs have large land extensions with agronomically appropriate conditions for coca cultivation. As indicated above, the adaptation of the coca plant allows its cultivation throughout the lowland rainforest under the same conditions as other licit crops such as cocoa, plantain, cassava, fruit trees, pineapple, rice, beans, papaya, oil palm, etc.

5. The ANCs have sufficient populations to provide coca leaf cultivation and harvesting labor. They are primarily rural populations with experience in plant cultivation and have many young people with labor needs.

6. The COVID-19 pandemic situation has increased the vulnerabilities of ANC populations. Criminal organizations took advantage of this 2020 and post-pandemic 2021 period to advance further into ANC territories.

7. ANCs are severely limited in generating competitive licit crops due to complex and expensive access to consumer markets (transportation costs). Their nutrient-poor soils, lack of resources for pest and plant disease control, and fertilizer use affect the productivity of their crops.

8. The perceived risk of drug traffickers entering ANC territories is low due to the lack of effective territorial control, the limitations of the ANC in dealing with invasions, the lack of State presence, and the inability of the State to confront these criminal structures through its security forces and judicial system.

9. The ANC can become a vital social ally of drug trafficking; they can carry out social mobilizations in support and protection of coca crops and against their eventual eradication or interdiction.

10. The young populations of the ANCs are a potential market for drug consumption of cocaine base paste, as reported by Hurtado (June 18, 2023).

Drug trafficking, forms of pressure or cooptation of the ANCs

The advance of drug trafficking into the ANCs has become a structural problem. The lack of attention from the State has allowed drug trafficking to implement different forms, models, or typologies to involve the ANCs and their territories in the drug production chain. The sustained growth in the formally reported presence of coca crops in ANCs, at least from 2016 (UNODC, 2017), is evidence of this progress. Although invasions have been officially recorded since 2016, this situation has occurred since at least 2010.

Different forms of pressure or co-optation of the ANCs can be identified; this diversity highlights the complexity of the problem. It also shows that there is no single position of the ANCs vis-à-vis drug trafficking; instead, there is a range of interrelationships with different levels of commitment

and interaction with criminal drug trafficking organizations. There are even conflicting positions among the ANCs themselves on the presence of illicit coca crops, such as those in the Apurímac, Ene, and Mantaro river valleys, where 60% of Peru's cocaine production is concentrated, as described by Pastor (2021) (see Box 1, in Annexes).

In this new context, not only are there national criminal organizations probably responsible for most of the impact on territories and ANCs, but there are also international criminal organizations, especially on the border, as in the case of Putumayo. There, the presence of armed groups such as ELN and FARC dissidents, as well as the Sinaloa cartel, promote coca cultivation and dominate the Putumayo routes, as reported by Carrere (September 22, 2022). The presence of Brazilian criminal organizations has also been noted in the promotion of coca cultivation and drug processing in the tri-border region (Peru, Colombia, and Brazil) and in the Ucayali region.

Understanding this complex interrelationship is essential to address the problem and put forward proposals to contain and reverse the situation.

Table 3 summarizes the interrelationships between criminal organizations and the ANCs. At one extreme, there is intense pressure from drug trafficking, but this is resisted by the ANCs, which generates violence and confrontations that have claimed victims with selective assassinations of community leaders. At the other extreme is the softer strategy of drug trafficking, which manages to co-opt the ANCs, their leaders, or part of their members, with different levels of co-optation.

Table 3. Interrelationship between drug trafficking and ANCs

Pressure	Cooptation
Complaint	Clientelism of leaders
Defense	Communal clientelism
Confrontation	Capture

Source: own elaboration.

Pressure interrelationship

There is now awareness of the intense pressures ANCs are facing from drug trafficking and other illicit activities. More than 20 murders have

been reported since 2020, as well as more than 171 cases of threats and active attacks against ANC leaders. The intervention of the Peruvian State to prevent this situation is minimal, and ANCs feel unprotected.

As has been indicated, drug trafficking promotes invasions into the territories of the ANCs for the installation of illicit coca crops. It not only finances the entire displacement of coca growers but also provides the necessary security against the legitimate defenses of indigenous peoples.

Most ANCs have rejected drug trafficking and the establishment of coca crops and have opted for different reactions:

Reporting: ANCs that perceive the growth and proximity of drug trafficking to their territories and are exposed to threats that they cannot control regularly complain to public authorities, such as the Presidency of the Council of Ministers, the Ministry of Culture, the Ministry of the Interior, the Peruvian National Police, and DEVIDA. They also file complaints with the Public Prosecutor's Office and regional and local authorities. In many cases, only civil society and the media take up the complaints. In most cases, there are no results, no resources for State action, and no responses; in practice, their territories are invaded.

In this sense, for example, there are accusations reported by Valdivia (June 15, 2022), in which Ángel Pedro Valerio, president of the Central Ashaninka del Río Ene (CARE), and Clementina Shinquireri, head of the Ashaninka community of Catungo Quimpiri, in the Junín region, requested government intervention to stop the invasion of settlers into their territories, which have been reported since 2017. More than 200 settlers have reportedly settled there, destroying forests to plant coca crops. They have also reported receiving death threats for defending their territory.

Throughout the Amazon, there are complaints. In most cases, the state only documents them without having a strategy or means to act, such as that formulated by Francisco Hernández, president of the Federation of Ticuna and Yagua Communities of the Lower Amazon (FECOTYBA) in the tri-border region of Peru, Colombia and Brazil, as specified by Huerta (September 12, 2022) (see Box 2, in the Appendix).

Territorial defense: Faced with the invasion of their territories, the ANCs carry out organized defense actions through their peasant patrols,

self-defense committees, or vigilance committees. In some cases, they reinforce their actions with support from other ANCs to expel the invaders. These self-defense operations are not exempt from violent reactions from drug traffickers, including, as indicated, the assassination of native leaders and leaders. Brehaut (March 2, 2023) refers in his research to the invasions of native communities' territories, especially the case of the Flor de Ucayali community in the district of Callería, province of Coronel Portillo in the department of Ucayali, which has more than 2,000 hectares of coca and where its leaders have reported this situation but have also been threatened by drug trafficking.

A report prepared by ORAU, DAR, and PROPURÚS (2022) highlights a report by the Regional Forestry and Wildlife Management of the Regional Government of Ucayali. There, 56 clandestine airstrips were located between the years 2018 and 2021, 12 ANCs were identified as being directly affected, and 54 ANCs were indirectly affected (within a five-kilometer radius). In addition, the report refers to a land route by drug traffickers that crosses indigenous territories and the occurrence of confrontations between backpackers and indigenous people in several localities.

Confrontation: There have been cases in which the confrontation against drug trafficking has gone beyond the defense of the invaded territory. The ANCs have vigilante groups (self-defense committees or peasant patrols) and fight against drug trafficking, including "interdiction" actions with the capture of drug traffickers and "*burriers*" transporting drugs. Agreements have been implemented with the National Police to control the drug routes that pass through their territories (see Box 3, in Appendix).

Co-optation interrelationship

The strategy followed by drug traffickers in these cases is to approach, convince, and co-opt the ANCs. With economic resources, drug traffickers manage to convince leaders or entire communities to:

1. Allowing the use of ANC territories for airstrips for drug flights, as evidenced in Atalaya. Drug traffickers are willing to repay this 'benefit' to the communities, not only for allowing the use of their lands but also, in some cases, for providing fuel for the planes or clearing airstrips and monitoring and alerting if there are law enforcement operations.

2. Allowing the use of their territories for the transit of cocaine and drug exit routes. In these cases, retribution may also be given for facilitating the transit of drug traffickers and for providing food and lodging.

3. Allowing the use of their territories for the planting of coca plants and drug processing. There are different modalities here, such as renting land for planting agricultural products, but in practice, it is used for illicit crops. Testimonies have been given regarding ANCs in Ucayali renting part of their territories for these activities and charging an average of S/—3,000 (USD 830) per hectare for three years of use.

In this interrelationship, the ANCs defend illicit coca crops and are against eradication and interdiction efforts (see Box 1, in Annexes). Thus, there are different levels of cooptation, ranging from *clientelism* to the *capture of the* ANC.

Leadership clientelism: Cases have been identified where drug traffickers pay the use of ANC territory to the Apu or Chief of the Community and some leaders. There are several different uses, such as the installation of airstrips and routes for the exit of drugs. In addition, the maintenance of the airstrips, the provision of food and lodging, the accompaniment of the '*burriers*' who transport the drugs, the provision of small boats, and surveillance and information on the interdiction activities of the law enforcement agencies are also committed. A small part of the compensation received is invested in improvements or provision of goods within the community.

Clientelism within the community: In these cases, drug trafficking has achieved greater co-optation of the ANCs. The level of involvement with illicit activities is direct. There are cases of communal authorization to rent their lands to install illegal coca crops, and criminal organizations pay "community fees" for the use of their territories. In return, the drug trafficker becomes a "narco-benefactor," as reported by Huerta in a detailed investigation (March 6, 2022). In this situation, criminal organizations also hire labor for coca cultivation and harvesting, mainly young people from the community. The community defends itself against eradication and interdiction efforts.

Capture of the community: Criminal organizations manage to penetrate the community, involving it directly in the drug trafficking chain,

from the planting of coca crops to the installation of maceration pits and drug processing. The community facilitates the storage of precursor chemicals and drugs, and its members also participate in the transport of drugs. Some Ticuna communities in the tri-border area have been reported to have reached this stage. This level of co-optation is the most dangerous because they incorporate the ANCs into the drug trafficking chain. Its effects on the ANC go beyond the economic contribution they receive. As has happened in other coca-growing valleys, violence, human trafficking, and other illicit activities affect the entire indigenous population.

As indicated, this interrelationship is dynamic in favor of drug trafficking. In other words, drug trafficking is gaining ground and co-opting more ANCs. The most likely future scenario, if the situation is not reversed, is that the ANC will become more integrated into drug trafficking through the different forms of involvement or forms of co-optation described above.

Moreover, in this situation, it cannot be ruled that some ANC leaders or members will have greater involvement in the drug business. Just as the UNODC (2018) reported the appearance of small "criollo cartels" or "family groups" that are strengthening in Peru, small 'native cartels' could also be appearing, moving substantial economic resources in the coming years.

Conclusions

1. Drug trafficking activity in Peru has been experiencing strong growth since 2016. This situation affects internal security, criminality, corruption, drug consumption, damage to lawful activities, and financing of other illicit activities, in addition to producing environmental impacts.

2. The advance of drug trafficking has also involved physical displacement to new geographic areas for the expansion of coca crops, the migration of coca growers, the search for new routes for the exit of drugs and the provision of chemical precursors, and the installation of clandestine airstrips for the export of cocaine.

3. In this dynamic, one of the populations that is increasingly affected are the Amazonian native communities (ANC). Although the impact of drug trafficking on ANCs is decades old, it is in the last few decades that the problem has become more acute. The lives of the natives are endangered, and their territories are affected.

4. Of the 174 districts with coca production as of 2021, ANCs are established in 75 of them (43%). In the 75 coca-growing districts where ANCs are present, there are 1,324 established NACs (49% of the total number of ANCs). Of the 1,324 NACs in coca-growing districts, 295 are already affected by illicit coca cultivation; the rest are exposed to drug trafficking.

5. About PIACI, DEVIDA has been monitoring the invasion of coca crops since 2021. An invasion with coca cultivation is registered in two indigenous reserves. In 2022, 383 hectares were identified, with an increase of 22% compared to 2021.

6. The interrelations between criminal drug trafficking organizations and the ANCs can be grouped into two types or modalities: pressure and cooptation.

7. The pressure of drug trafficking on the ANCs has led to different levels of response, ranging from grievances that have not been duly addressed by the state, to defending their territories from the presence of drugs to confrontation against drug trafficking, including the seizure of drugs.

8. Drug trafficking's co-optation of the ANCs also includes various levels of subordination of their leaders and the entire community, from the negotiation for the development of drug activities in the territories of the ANCs, to the direct involvement of the ANCs in coca cultivation and drug production.

9. The Peruvian State has not been able to design or implement a strategy to avoid or mitigate this situation. The demand for ANCs is growing, although the process of co-optation of some native communities is also becoming more and more widespread.

Recommendations

1. Address directly and transparently the problem of drug trafficking with the grassroots organizations of the ANCs. Facilitate communication and dialogue with the government to address the issue of drug trafficking. Through AIDESEP, regional federations, and grassroots organizations, the problem of drug trafficking and the different types of confrontation or co-optation that have been occurring should be openly raised.

2. Elaborate on a national diagnosis on the impact of drug trafficking in the ANCs. DEVIDA has systematized detailed monitoring of coca cultivation advances in the ANCs' territories. Similarly, CORAH (Special Project Control and Reduction of Coca Cultivation in Alto Huallaga) also has detailed information on eradicating illicit coca crops in their territories. The Peruvian National Police has information on landing strips, drug exit routes, and confrontations between drug traffickers and community leaders and their communities. AIDESEP and other organizations, such as PROPURUS, are also monitoring the advance of drug trafficking in the ANCs. It is necessary to review, integrate, analyze, and complement all this information in a participatory manner with grassroots organizations, national and local authorities and civil society. This diagnosis will make it possible to better measure and understand the problem and to examine the various forms, models, and typologies of pressure and cooptation by drug traffickers in greater depth. These analyses will also make it possible to develop an action plan to support the ANC's in containing and, if possible, reversing the advance of drug trafficking.

3. Recognize that there are ANCs that have already incorporated coca crops into their family and community economy. Alternative development programs should be designed, financed, and implemented to reduce illicit crops and mitigate their economic impact.

4. Greater attention from the State to strengthen the ANCs and achieve formal recognition of 100% of them, facilitate access to land titles for their territories, and resolve conflicts over ownership and invasion of their lands.

5. As indicated, severe gaps in access to social programs, low participation, and shortcomings in education, health, energy, communications and security services should be prioritized. Drug traffickers are exploiting these gaps to co-opt the ANCs.

6. Prioritize an early warning and surveillance system to prevent the advance of drug trafficking in ANC. Elaborate on a risk map. With the support of current satellite imaging technologies and the monitoring of illicit crops by DEVIDA, CONIDA (National Commission for Aerospace Research and Development), and CORAH, actions are implemented to provide updated information and facilitate police investigation and intelligence. With the active participation of the ANCs, adequately equipped, trained, and financed, early interventions can be made to prevent the growth of illicit coca crops in their territories.

7. Provide sufficient financial resources to the Peruvian National Police (Anti-Drug Police) and the Public Prosecutor's Office (environmental prosecutors) for timely and effective attention to ANC complaints and to conduct investigations and intelligence work on detected cases.

8. Develop a communication strategy to raise awareness among ANCs of the threats and risks involved in drug trafficking and its cooptation strategies to prevent criminal organizations from making further inroads.

Attachments

Box 1. The Dissolution of the Ashaninka Union in Defense of Coca

In 2019, one of the Government's failed objectives was eradication in the largest coca-producing valley, the VRAEM (Apurimac, Ene, and Mantaro river valley). The President of the Republic announced it, but had to backtrack months later, and less than 150 hectares were eradicated (out of the 30,000 hectares planted with coca in the VRAEM that year). One of the factors in achieving social support from the population has been the support for coca eradication from the two main indigenous organizations in the area: the Central Ashaninka del Río Ene (CARE) and the Central Ashaninka del Río Tambo (CART).

But pressure from drug trafficking, via increased coca leaf prices, caused a split in the main native organization in the Ene River basin:

CARE. This division originated shortly after its main leader, Angel Valerio, expressed his public support for the eradication announced by President Martin Vizcarra.

Although CARE tried to maintain the unity of the indigenous committees, the division could not be contained, despite the efforts of its main leader, Angel Valerio. On November 23, 2019, in a meeting of fourteen communities in Quempiri, led by Walter Felisto Ríos, the division of CARE was sealed. There, they took a position in defense of coca and joined the leading coca growers' union FEPAVRAE. A few days later, on November 27, President Vizcarra suspended eradication when more than 5,000 coca growers surrounded the CORAH workers.

Thus, relations between the fourteen native communities that broke away from CARE and FEPAVRAE continued until on February 16, 2020, at the I Ashaninka Congress of the Ene Basin, they agreed to the following: 1) to resign from the CARE organization; 2) to form a new organization called Comité Ashaninka de la Cuenca del Ene (CACE); 3) to join FEPAVRAE; 4) to sign a document addressed to the Government for the definitive suspension of coca eradication in the Ene Basin; and 5) to reject the VRAEM 2017-2021 Strategic Plan promoted by DEVIDA.

The fourteen native communities that make up CACE are: Tsirotiari, Paveni, Alto Tsirotiari, Quempiri, Puerto Shampi, Alto Shampiritiari, Kimaro, Kumaro, Samite, Pampa Alegre, Buenos Aires, Unión Quempire, Puerto Rico and Coriri. On the other hand, this Ashaninka congress of the Ene basin was attended by the secretary general of FEPAVRAE, Julián Pérez Malqui, who participated with other leaders and advisors of this organization.

Box 2. Complaints from the Awajún and Wampis in Condorcanqui

Even if the UNODC and DEVIDA coca cultivation monitoring reports have only recorded coca cultivation in the province of Condorcanqui, in the department of Amazonas, since 2021, the presence of coca cultivation dates back to 2015. In 2019, the Awajun and Wampis indigenous organizations and the president of the Permanent Council of the Awajún People (CPPA), Santiago Manuín Valera, filed complaints.

By 2020, given the increase in coca cultivation and drug trafficking in Condorcanqui, Manuín pointed out that the fight against drug trafficking is a priority for the Awajún people and that the state should act in coor-

dination with indigenous organizations. The pandemic ended Manuín's life. His demand came to nothing. DEVIDA (2022), in its coca monitoring, reported the installation of 895 hectares in the province of Condorcanqui for the first time.

Box 3. Ashaninka Self-Defense Forces Seize Drugs

At the end of October and the beginning of November 2021, two unprecedented events occurred in Peru, in the district of Rio Tambo, Satipo Province, in the Junín region, in the VRAEM, in a setting characterized by overproduction of coca and, consequently, intense trafficking of drugs produced from this crop.

The first occurred on October 25, 2021, in the Ashaninka community of Cheni, where a group of native self-defense groups (ronderos) seized more than 400 kilos of drugs. The ronderos, with shotguns and arrows, intervened and seized 13 sacks of cocaine being transported by two people in a boat. The following day, they handed them over to the Sinchis de Mazamari (Satipo) Police Unit.

During the second incident, on November 2, in the community of Otica, in the same district of Río Tambo, members of the self-defense committee seized 200 kilos of drugs from four individuals who were transporting them in two wooden boats. The self-defense members of that native community called the anti-drug agents and the specialized prosecutor's office and asked them to deliver the drugs to them.

The Ashaninka self-defense groups, as they did in the anti-subversive struggle together with the colonists, make up for the limitations and absence of the police and armed forces in the fight against drugs in a critical location of the fluvial and aerial departure of narcotics from the VRAEM to Ucayali.

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Environmental Governance in the Andean Community: Opportunity or Failure?

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Introduction

Since the last century, globalization and interdependence have emerged as dominant factors in regional and subregional integration policies around the world. Similarly, the opening of the global agenda, driven by the emergence of new threats to national security, turned into ideological proposals that led to the creation of international regimes focused on issues of common interest, particularly after the Cold War. This process coincided with a theoretical approach based on understanding cooperation strategies as well as the world from a perspective where nations develop collective strategies to address problems that have an impact on their immediate hemisphere.

The Andean Community has become conscious of its vulnerability to transnational issues such as drug trafficking and organized crime, and has begun to address these problems through multilateral institutions within the region. The Andean Community (CAN) is recognized as an important organization that has developed a political and economic framework through an identity-based approach, although each country is different in cultural, ethnic and social realities. The stand of regionalist redefinition has gone through different phases, initially focused on deregulation of the economy and trade liberalization, but have evolved towards strengthening democracy, sustainable development and social participation.

Environmental governance has become relevant in the Andean Community due to the creation of links between stakeholders and public plans that allow the implementation and evaluation of decisions that may have a positive impact on the environment.

In addition, the Andean countries have committed themselves to protecting the ecosystem for the benefit of the population. Although these are not the basic principles that guide the environmental goals of the organization, the inclusion of sustainability issues has been approached from a logic that brings together social capital (institutions, relationships and norms that enhance the realization of collective actions), governance (government capacity to perform its functions) and government (organizations responsible for carrying out supranational projects related to issues of common interest) (Whittingham, 2010).

To discuss the progress of the Andean Community as an instrument of subregional cooperation in environmental matters, this paper will attempt, first, to describe and identify the theoretical approaches of regionalism that explain the consolidation of the Andean Community as a supranational integration mechanism (from its origins to the present); second, to describe the main mechanisms and instruments that have been developed in environmental matters in the Andean Community, as well as to evaluate their trajectory, scope and setbacks; and finally, to present conclusions and recommendations from a qualitative perspective to strengthen the environmental agenda and governance of the Andean group.

Conceptual Approaches and Nature of CAN Regionalism

There is a certain consensus in the academic literature regarding the three waves that have crossed regionalisms in Latin America and the Caribbean. The first, conceptualized as closed or developmental regionalism (Pastrana and Castro, 2018), made its way with the creation of the Latin American Free Trade Association (LAFTA) and the Central American Common Market nearly in the 1960s. These institutions were influenced by the classical theory of regionalism and the European experience based on eliminating tariff restrictions between nations sharing borders. The initial objective of LAFTA was to establish a free trade area as a prior step to configure a Latin American common market, primarily inspired by the European Economic Community (Rodriguez, April 16, 2013). During that stage, industrialization was strengthened through the import substitution model as well as the influence of the Economic Commission for Latin America and the Caribbean (ECLAC). This organization proposed two crucial elements: the impact of asymmetries in the distribution of benefits in

regionalization processes and the notion of restructuring - promoted by the Andean countries - which meant transforming how integration was understood at that time (Rodríguez, April 16, 2013)

The second objective, known as open regionalism, emerged in the 1980s. One of its main characteristics was the deregulation of the economy and trade liberalization between countries in the same region. Two goals were set through the formation of organizations such as the Southern Common Market (MERCOSUR for its Spanish initials) and the Andean Community of Nations (CAN): To increase the interest of foreign investment and to have better negotiation capacity when signing trade agreements with extra-regional actors, especially the great powers (Garzón, 2015; Serbin, 2016, cited by Pastrana and Castro, 2018). This type of regionalism was interested in integration based on policies in order to increase the countries' competitiveness around the region and generate a more open economy. According to Fuentes (1994), integration agreements are consistent with open regionalism when:

- They guarantee broad market liberalization regarding goods and services without excluding the different transition periods necessary for gradual adjustment.
- They facilitate the entry of new members, especially key commercial partners.
- They are governed by stable and transparent rules in favor of international agreements.
- They support countries that have stabilized their economies to join regional institutions that help to minimize the possibility of macroeconomic disparities.
- They promote protection against third-party competitors and favor introducing external tariffs when necessary.
- They harmonize institutional changes that facilitate currency convertibility and develop payment agreements to minimize transaction costs between countries in the same region.
- They adopt agreements that promote international technology transfer.
- They include measures that benefit less developed countries and provide fiscal incentives to promote intra-regional investment.

- They favor institutional mechanisms that promote the participation of the different social sectors that belong to a country.

Moreover, one of the factors that threatens open regionalism is closed bilateralism or the proliferation of bilateral agreements, since not only can there be political convenience and the inclination of one country's axis towards another, but also the danger that nations will have to adjust to the prevailing conditions of a single trading partner and not to those of the world economy (Duncan, 1950, cited by Fuentes, 1994). It is remarkable that events such as the failure of the Free Trade Area of the Americas (FTAA) and the consolidation of bilateral treaties of the United States with Chile in 2004 and with Peru and Colombia in 2006 led to the failure of the Andean Community open regionalism strategy by removing rules that obliged the member states to negotiate as a bloc (Pastrana and Castro, 2018).

The third branch is called *post-hegemonic* or *post-liberal regionalism*, which emerged in Latin America and the Caribbean in the first decade of the 21st century and was consolidated with the creation of the Union of South American Nations (UNASUR for its Spanish initials), the Bolivarian Alliance for the Peoples of Our America (ALBA for its Spanish initials), and the Community of Latin American and Caribbean States (CELAC for its Spanish initials). These organizations prioritized political coordination, infrastructure, social agenda and security, unlike the second group which was focused mainly on trade. Additionally, they sought to increase the region's autonomy about the hegemonic influence of the United States (Pastrana and Castro, 2018). International system transformations and other conditions that facilitated the emergence of this type of regionalism were, for example, the coming to power of leftist leaders, the reduction of U.S. presence in border issues, and the rise of new trade allies such as China (Betancourt, 2014, cited by Pastrana and Castro, 2018).

Thus, with the background of post-liberal regionalism, it is possible to mention that some Latin American states have opted for a fourth strategy called cross-regionalism, which refers to trade agreements between countries from different regions of the world challenging the notion that economic integration can only proceed at the multilateral or regional level. This regionalism should not be confused with inter-regionalism, which is when two regional trade blocs agree to liberalize trade. Cross-regionalism goes beyond the traditional multilateral trade liberalization agenda

to address various issues of high-level political consultation. A key feature of transregional agreements is their hybrid nature. Similarly, while trans-regionalism tends to occur between more developed and developing countries, it also occurs between countries with similar capabilities (Garzón, 2015). As a result, the table below proposes a method for identifying the differences between all types of regionalism mentioned above:

Table 1. Approaches to Regionalism in Latin America and the Caribbean

Variable	Wave of regionalism			
	1ª	2ª	3ª	4ª
Import substitution model to strengthen industrialization. Organizations: LAFTA and Central American Common Market. Influence of ECLAC.	X			
Pro market: deregulation of the economy, trade liberalization among regional countries, tariffs to extra-regional countries, creation of customs unions, strategies to increase foreign investment. Organizations: MERCOSUR, CACM, CAN.		X		
The integration of Latin American and Caribbean countries into the international economy through integration and productive transformation with equity among the region's countries.		X		
Implementation of common projects and regional coordination between the public and private sectors.		X		
Interventionism, the opening of the trade agenda to issues such as political coordination, infrastructure, social agenda security and regional autonomy. Organisms: UNASUR, ALBA, CELAC.			X	
Inter-institutional balancing: creating an institution that replaces the functions of an organization in which a hegemonic power participates (Flemes and Castro, 2016 cited by Pastrana and Castro, 2018).			X	
Hybrid regionalism: signing agreements between countries in different regions that go beyond the traditional multilateral trade liberalization agenda.				X

Source: Authors' own elaboration.

However, it should be noted that since its inception, the Andean Community:

> Has raised the need to seek balanced and harmonious development through a policy based on import substitution and industrial development in the Andean region through privatization policies, structural adjustment, reduction of state control and free market, [...as of 2006] different visions about international insertion of the Member Countries, and the role of the State in development policies (Andean Community, 2011, p. 13),

CAN consolidation can be explained from the theoretical approach of open regionalism due to its institutional characteristics and purposes with the Andean Group. While the principles and formation of the Andean Community will be explained in the following section, the second wave of regionalism describes the interest of these countries in growing economic interdependence at the regional level, driven by integration, openness and deregulation agreements to increase competitiveness on the world stage.

The general foundations of the CAN explained from the perspective of open regionalism can be understood based on the following numbered structure (where *PGC* stands for *general principles of the CAN* and *OR* refers to criteria suggested by the theoretical framework of *open regionalism*). The variables of *OR* were described by ECLAC in the document *El regionalismo abierto en América Latina y el Caribe: la integración económica al servicio de la transformación productiva con equidad* (1994).

1. Equitable treatment *(PGC):* cooperation guided by equality, solidarity and reduction of existing development differences between member countries with respect to the independence and the general interests of the region as a whole (Andean Community, August 22, 2011).

    1.1. Integration and productive transformation with equity and equal opportunities for all countries *(OR):* integration can contribute to achieving a development model that simultaneously promotes regional growth and equity (ECLAC, 1994).

2. Complementarity and articulation *(PGC):* international development cooperation should complement the implementation of community and national policies, plans, and programs and not be a substitute for domestic efforts (Andean Community, August 22, 2011).

2.1. International insertion and integration commitments *(OR):* integration processes are the foundations of a transnational economy free of protectionism and obstacles to exchanging goods and services (ECLAC, 1994).

3. Subsidiarity/effectiveness of Community action *(PGC): international cooperation actions taken by Andean Community should be achieved through Community-level action at the national or local level (Andean Community, August 22, 2011).*

3.1. Integration commitments between countries may not only be compatible to achieve increasing levels of international competitiveness *(OR)* (ECLAC, 1994).

4. Coordination, dialog, and consensus among different stakeholders *(PGC)* (Andean Community, August 22, 2011).

4.1. Rather than intensifying trade, agreements at the regional level should stimulate production and productivity through regional coordination between the public and private sectors *(RA)* (ECLAC, 1994).

5. Rationality in the use of Resources *(PGC):* the CAN agreements must guarantee the optimal use of human, material, and financial resources, seeking to increase efficiency in the management of international development cooperation (Andean Community, August 22, 2011).

5.1. Open regionalism implies increasing or rationalizing foreign investment in the services sector based on regional and not only national coverage *(OR)* (ECLAC, 1994).

6. Transparency *(PGC):* the Andean Community seeks transparency, access to information and accountability to community, member countries, and sources of international development cooperation (Andean Community, August 22, 2011).

6.1. Open regionalism aims to establish a more open and transparent international economy through integration processes *(OR)* (ECLAC, 1994).

Although the CAN was initially formed from the perspective of open regionalism, this theoretical approach did not contemplate an extension of its agenda to include issues such as citizen participation, sustainable

consumption, social, rural, and border development, migration, food security, environment, tourism, security, culture, energy integration, among others. However, the following section will describe the entire history of the CAN to understand the various changes that have taken place in the organization, which finally expanded its thematic focus to issues outside trade and economic integration, something that can be explained from the perspective of the third wave of regionalism in Latin America.

Andean Community Evolution

CAN has more than 50 years of history. Understanding its past helps us understand its current situation. Its origins date back to the early 1960s, when several Latin American countries were dissatisfied with the integration efforts of the Latin American Free Trade Association (LAFTA), now the Latin American Integration Association (ALADI). The Andean countries realized that there were no mechanisms within their organization that integrated their economies despite their uniformity and similarities in areas such as GDP, population, and local production chains. As a result, in 1966, representatives from Colombia, Chile, Venezuela, Ecuador and Peru laid out the foundations for the Andean Community (CAN) in the Bogotá Declaration. The aim was to create a large economic community that could integrate the region's markets and accelerate the progress of their countries (Durán, 2014).

Subsequently, on May 26, 1969, the Cartagena Agreement was signed, formally initiating the process of integration of the subregion among Bolivia, Colombia, Chile, Ecuador and Peru due to the creation of the Andean Pact. Thus, the signatory countries conceived the goal of integration as the promotion of industrialization, protectionism within the bloc, and interregional trade in order to prepare their economies for the international market demands. In this regard, they would strengthen their bargaining power in global scenarios, consolidate their position as a major player and reduce their dependence on other markets. Venezuela, under the mandate of President Rafael Caldera (1969-1974), had shown particular interest in joining the initiative from its inception, but as a result of internal disputes, it was not until 1971 that LAFTA was notified of its intention to join the Cartagena Agreement, which was finally ratified as a member in February 1973 (Contipelli, 2016).

However, the same year that Venezuela joined the Pact, Chile was going through a turbulent political period due to the *coup d'état* carried

out by General Augusto Pinochet against the socialist government of Salvador Allende on the morning of September 11, 1973. From that moment on, not only was there an abrupt change in the country in political terms, but also economic measures against those of the Allende administration were implemented. In this sense, a neo-liberal economic policy was applied, which opposed both the protectionist guidelines of the Andean countries and the measures outlined in the Cartagena Agreement. This situation triggered a crisis within the Andean Pact that would conclude with the separation of Chile on October 30, 1976, due to the lack of agreements on issues such as the regulation of foreign investment, the Common External Tariff (CET) and the industrialization program (Tello, 2006).

Furthermore, the 1980s, also known as *the last decade*, was characterized by a severe structural economic crisis throughout Latin America, caused by factors such as drastic oil price variations, protectionist measures in developed country markets, and a drop in foreign investment levels. This resulted in the outbreak of the debt crisis in 1982 following the announcement by Mexico and multiple countries in the region of a moratorium on payments to international banks. As a result, during this crisis period, the lack of viability of what had been agreed became evident. The existence of the integration process was even questioned due to obstacles such as the lack of consensus in the negotiation of the CET, the protectionist measures implemented by the Andean countries and the difficulties in achieving the broad industrialization goals that left aside fundamental sectors for the national economies, such as agriculture and livestock (Casas, 2001).

However, the Quito Protocol in 1987 restored hope to the Andean group and became the beginning of a renewed interest of the countries to continue the regional transformation that began in the 1990s. The modifications that the Protocol made to the Cartagena Agreement were concentrated on new liberalization projections of the Andean countries in the international market, such as the elimination of restrictions on foreign investment and imports, greater deregulation of the labor market and the privatization of sectors of the economy. From then on, the presidents of the member states met every six months to revitalize sub regional integration through initiatives such as the Free Trade Zone (FTZ), the Andean Price Band System (SAFP) and the approval of the CET mentioned above. Thus, during the first five years of the 1990s, the members prioritized the removal of import duties on products between countries

of the region, strengthening intergovernmental political institutions (Casas, 2001).

The protocols of Trujillo (1996) and Sucre (1997) reformed the bases of the Cartagena Agreement to adapt the institutional structure to the new ideas of integration, expanding the field of action, from exclusively technical and commercial matters to include political issues. Hence, the Andean Presidential Council and the Andean Council of Foreign Ministers were included within the organization, and the Andean Pact was replaced by the Andean Community and the Andean Integration System (SAI), which would give greater solidity and prominence to the integration project at the beginning of the new century (Contipelli, 2016).

The first decade of the 2000s was characterized by significant political volatility among the Andean countries. On the one hand, the bloc's goals were broadened by incorporating common public policies aimed at social development in areas such as reducing social inequalities and poverty. On the other hand, tensions between Colombia and Venezuela under Álvaro Uribe (2002-2010) and Hugo Chávez (1999-2013), respectively, generated a paralysis in the CAN engine that prevented the formulation of a joint strategy to improve international negotiation conditions. Thus, Colombia's unrestricted alignment with the United States through *Plan Colombia* and the Free Trade Agreement, which Peru and Ecuador would later join, led Venezuela to withdraw from the CAN in 2006 (Murgueito, 2007).

In addition, the *Fénix* Military Operation (2008) ordered by Álvaro Uribe, in which Ecuadorian airspace was violated and Raúl Reyes, the second commander of the extinct Revolutionary Armed Forces of Colombia (FARC), was killed, generated a serious diplomatic crisis between Colombia and Ecuador. This situation demonstrated the CAN's weakness and lack of leadership as an integrating organization since it failed to mediate the conflict within the bloc and the institutions explicitly created for conflict resolution, such as the Andean Court of Justice. On the contrary, it was the President of the Dominican Republic Leonel Fernández at the 2008 Summit of the Americas, the main mediator in this dispute, which demonstrated the precarious interregional dialogue and the lack of cohesion of CAN members around the organization (Vélez, 2016).

After Venezuela withdrew from the Andean Community, disputes between the remaining members caused a stalemate, dividing the organization in two by 2009: Colombia and Peru with liberal policies and regimes,

then Ecuador and Peru with progressive governments who opposed to economic liberalization. That is the reason why, four years later, in an attempt to preserve the foundations of the CAN, the Decision 792 about "Implementation of the Reengineering of the Andean Integration System" was issued, which proposed revising the Andean Integration System to adapt it to the new realities and challenges of the international system. However, author Luis Tello (2014) asserted that this measure sought to gradually weaken the Andean bloc and silently dismantle the Andean integration process since it removed the Andean Parliament from the Andean Integration System and left it without significant functionality.

Indeed, there has been a lack of coordination in the CAN in recent years, exacerbated by the high level of social conflict in countries such as Colombia, Ecuador, and Peru as of 2019. Hence, there is a lack of subregional commitment in situations that affect the entire bloc and require a high level of coordination, as was the case of the COVID-19 pandemic. About that, no coordinated measures were taken to deal with the health crisis, nor were there any signs of cooperation to have a concrete impact on the bloc's battered economies; instead, the member countries confined themselves to declarations of good intentions without any practical effect. Overall, the CAN currently presents serious and persistent problems, and voices are heard calling for renovation and more significant commitment from its members to take advantage of the potential of the organization that was once considered the leading and integrating actor in Latin America (Ríos, 2020; Álvarez, 2022).

Formation and Structure of the CAN as a Supranational Organization

Since its foundation, the structure of the Andean Community was designed to be supranational. However, the reality has been very different and the dynamics within its institutions have been characterized by an intergovernmental nature, since progress has depended entirely on the president's political will, something that has weakened community decision-making and has hindered the stability of the Community over time. That said, the bloc's institutions are currently divided into three large groups that will be explained below and are shown in Figure 1: first, management and coordination organizations; second, community organizations and institutions; and finally, civil society participation (Andean Community, n.d.b; Contipelli, 2016).

Figure 1. CAN Structure

Source: Andean Community (n.d.b).

Management and coordination organizations: This group includes the three organisms with the greatest political importance in the organization and those that have set the course since their inclusion in the structure in the Trujillo Protocol. The first is the Andean Presidential Council, SAI's most relevant structure composed of the presidents from Bolivia, Colombia, Ecuador and Peru; Its functions are aimed at managing Andean integration policies and promoting guidelines and mandates related to matters of interest to the subregion. Secondly, the Andean Council of Ministers of Foreign Affairs (CAMRE for its Spanish initials) comprises the foreign ministers of the member countries. It is responsible for elaborating the foreign policy of its members and signing agreements with third parties through binding decisions and declarations. Finally, the CAN Commission is made up of a representative of the member countries and is responsible for formulating, executing and evaluating the trade and investment policy of the bloc. Together with the CAMRE, they represent the legislative branch of the Community, since they are responsible for issuing Andean decisions or laws (Andean Community, n.d.b).

Community organizations and institutions: This set of institutions has the objective of achieving integration processes. Some of its institutions

are: CAN Court of Justice, which interprets the rules to control the legality of the acts and omissions of the members through binding judgments; the Andean Parliament, which verifies the compliance of integration objectives; the General Secretariat, which is in charge of technical support, and the Latin American Reserve Fund, responsible for supporting the members balance payments of the members to improve their investment conditions (Contipelli, 2016).

Civil society participation: Finally, the CAN has set up various mechanisms for Andean citizens to participate actively in the integration process and to define the common interests of the population. For example, the Business Advisory Council and the Indigenous Peoples Advisory Council are consultative bodies that express their views on the processes of the bloc by issuing non-binding opinions to the Andean Council of Foreign Ministers, the Andean Commission, and the General Secretariat. They have the right to speak at CAMRE and Commission meetings (Andean Community, n.d.a).

CAN: Environmental Management Mechanisms for SDG Compliance

From the standpoint of the third wave of regionalism in Latin America, we can explain that with new political actors since 2006, the debate has intensified not only the Andean integration discussion, but also the spaces that should be created to place the economic, social, political and environmental agendas on the same level of importance and hierarchy, based on the construction of agreements and respect for autonomy. This approach, which focused on the sustainable and equitable development in harmony with nature and diversity, led the CAN to set as its main objective during the 2010-2011 period the promotion of common interest issues through the Andean Strategic Agenda Implementation Plan (Andean Community, 2011).

This document, endorsed by the CAN member countries, CAMRE, and the Andean Commission, also highlighted the importance of strengthening mass participation in the Andean Integration System, through the creation of social organizations, tools that contribute to information transparency and the implementation of programs such as the Consultative Council of Indigenous Peoples (CCPICAN), the Program for the Rights and Promotion of Indigenous Women and Families, the Peoples'

Rights Program, the Andean Program for Afro-descendant Peoples 2011-2015 and the Directory of Indigenous Peoples (Andean Community, 2011). This was important because it not only promoted the protection of the people's rights during the policy formulation process, but also broadened the geographical scene for the recognition of territories and lands from the communities' perspective.

Starting in 2011, environmental issues became one of the main foci of the CAN's shared agenda. It is worth mentioning that the Andean Council of Foreign Ministers held in Lima in August 2011 added to the principle of *International Cooperation for Development*, in the segment of *South-South Cooperation*, the promotion of knowledge transfer and the exchange of practices and lessons learned in different areas, such as the environment, with a cross-cutting scope. This scope can be seen from two perspectives: 1) the ecological challenges that go beyond the borders have inspired ecological legislation; 2) environment is an interdisciplinary matter because it affects all sectors that generate national and regional stability (Guzmán, June 9, 2021).

The Andean Strategic Agenda (2012-2011) implementation plan included three areas: the Andean Strategic Agenda, the Regional Biodiversity Strategy for the Andean Tropic Countries and the Andean Strategy for Disaster Prevention. Their main environmental concerns will be described below.

Table 2. CAN Actions in Ecosystem Protection

Variable	Actions
Climate change	Studies about vulnerability and impact of climate change on production systems. Monitoring of the impact of climate change on the biodiversity of the countries of the Andean region as well as on the biodiversity of the high mountain regions. Creation of the Regional Program for Adaptation to Climate Change (emphasis on the agricultural sector). Formation of the ANDES CLIMA intervention sector (climate change and environment in the economic and social sector). Adaptation to the Impact of the Accelerated Glacial Retreat of the Tropical Andes (PRAA) Project, financed by the World Bank.

Variable	Actions
Biodiversity	Second phase of the Biodiversity Program for the Amazon Region of the Andean Community Countries (BioCAN) and creation of its Coordination Unit and annual operating plan. Strengthening of the Regional Biodiversity Strategy for the Andean Tropics and reinforcement of programs included in the Andean Strategic Agenda. Program on the use and conservation of biodiversity in natural and cultural landscapes associated with Andean ancestral roads.
Water resources	Implementing the Andean Strategy for Integrated Water Resources Management (IWRM). XVI Meeting of the Andean Committee for Disaster Prevention and Response (CAPRADE for its Spanish initials) in August 2010, in La Paz.
Information systems	First meeting of the Technical Committee on Information Systems, whose purpose was to define actions related to implementing the Regional Information Platform for the Andean Amazon (PIRAA for its Spanish initials).

Source: Authors' elaboration based on the Andean Strategic Agenda Implementation Plan (Andean Community, 2011, pp. 65-68).

Although the second section made it clear that the Andean Community was created based on the model proposed by open regionalism, the new agenda has made it possible to open debates involving the third regionalist wave, whose purpose was to put aside trade issues as the main focus and to prioritize political coordination, infrastructure, the social agenda and security. Thus, CAN's environmental programs evolution, starting in 2011, has been relevant for an organization that initially focused on trade, services, investment, transportation and identity. In addition, the Andean Community geographic location has been recognized as an area full of a great diversity of climates, habitats and species that determine conditions of territory uses (Guzmán, June 9, 2021).

Now, two of the most important tools in the process of strengthening CAN's environmental cooperation plans are: 1) the Andean Community's 2020 Andean Environmental Letter; 2) the implementation of environmental information systems for the development of regional studies about the environment. Both are focused on meeting the Sustainable

Development Goals and combating climate change and its negative effects on the biosphere. Although this will be referred to later, both instruments are perceived as being the most solid strategies regarding sustainability strategies specifically, but their progress has not shown major advances.

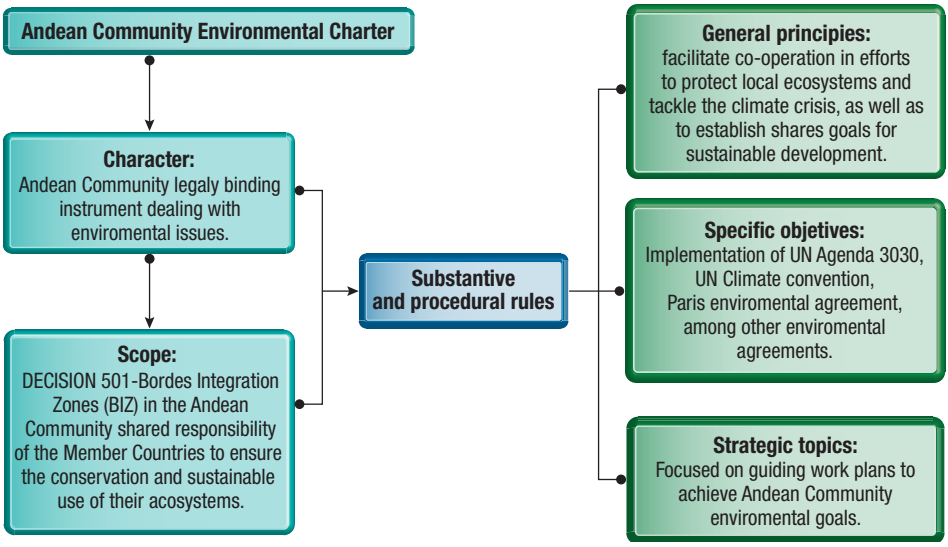
Considering the above, after the XXV Meeting of the Andean Council of Foreign Ministers in Cartagena, Colombia (2020), the Andean Environmental Letter was adopted as a subregional tool to implement the 2030 Agenda, recover the knowledge of indigenous peoples, Afro-descendants and ancestral knowledge for the care of the earth and promote science from a holistic approach to harmonize human actions with nature (Ministry of Foreign Affairs of Bolivia, December 1, 2020). At the same time, the Letter agreed on conserving biodiversity and oceans through a *greener* and more inclusive post-pandemic recovery. This meeting, among other things, also led to progress on the international commitments of the *Minamata Convention* and the Agreement on Transparency and Scrutiny of Environmental Information.

To achieve the principles, thematic axes and objectives of the Andean Letter, the Foreign Ministries of Bolivia, Colombia, Ecuador and Peru, the Environment Ministries and the General Secretariat created a working group to present the general outline of the Environmental Letter and its enforcement mechanisms along the national and regional scenarios, as well as a regulation that was approved to promote the Universidad Andina Simón Bolívar as an educational institution belonging to the Andean Integration System.

This union established six main elements to the environmental agenda: integrated management of water resources; conservation and sustainable use of biodiversity; disaster prevention and response, including management of fire and forest fires; combating illegal mining and related crimes; promoting the circular economy and finally, strengthening the chemicals and waste management during their life cycle (Andean Community, September 1, 2020). Although some of these issues are present in the above-mentioned Andean Strategic Agenda Plan Implementation, the signing of this mechanism was cataloged as an event without similar precedents, since it opened the door to projects such as the Andean Environmental Technology Platform, which is suitable for centralizing environmental indicators as an early warning center to monitor the different threats facing the biosphere (Andean Community, September 1, 2020).

The following diagram is intended to explain the scope and operation of this cooperation instrument for CAN environmental issues. It is based on the fifth principle of the Andean Strategy, focused on consultation, dialogue and consensus among the different actors involved.

Figure 2. Andean Environmental Charter, Synthesis



Source: authors' elaboration based on Guzmán's analysis (June 9, 2021).

Environmental information systems are made up of actors, policies and technologies that interact to generate inputs that support decision-making in different areas related to ecosystem protection. Their basic functions are entry, storage and processing of data, and the publication of information to give visibility to events of common interest, including those of civil society. The responsible institutions for geographic and ecological management have contributed to its growth and expansion and have also benefited along the way in formulating strategies. It is worth mentioning that they have occupied an important place in the evolution of the CAN environmental agenda, since their implementation began in the mid-1990s to facilitate the implementation and monitoring of policies in the national and regional context, hand in hand with advances in information and communication technologies (ICTs) (Vargas, 2012).

Important moments for the progress of the EIS in the specific context of the CAN are: 1) Decision 523 of July 2002: approved the *Regional Biodiversity Strategy (ERB for its Spanish initials)* and indicated that information systems should be the way to support the ERB as they can enhance

the levels of dissemination, documentation and intellectual property of studies focused on biodiversity; 2) activation of Environmental Information Systems as theNational Environmental Information System (SNIA) in Bolivia, the Environmental Information System of Colombia (SIAC for its Spanish initials), Environmental Indicators System (*SIAMBIENTE*) in Ecuador and National Environmental Information System (SINIA) in Peru. In addition, there are many integrated information portals at the national level. For example: the SINIA and the regional environmental information systems (SIAR) in Peru and the SIAC and the territorial environmental information systems (SIAT) in Colombia (Vargas, 2012).

Although the Environmental Information Systems have had different routes and procedures, they have generally been oriented to provide methods to organize, search, visualize, monitor and support information management about environmental resources (for example, procedures and status of licenses). Their scope varies in terms of local level technology and the alliances each country establishes with sectors such as academia, private companies, civil society groups and international organizations. However, despite national efforts having had an impact on the creation of initiatives such as the Andean Environmental Information System (SANIA for its Spanish initials), the portal of the Andean Information System for Disaster Prevention and Response (SIAPAD for its Spanish initials), and the Amazon Regional Information Platform (PIRAA for its Spanish initials), (Vargas, 2012), it is still an expanding area that requires improvement and does not show enough progress, as will be shown in the following section.

Development and Implementation of Environmental Protection Mechanisms

After understanding the characteristics of the most relevant environmental mechanisms of the CAN, the next step is to analyze what have been the major achievements and setbacks to date, especially the Andean Environmental Letter, which after being signed in late 2020, was received with optimism by the Community at its inauguration and in 2021 during its first year of implementation showed interesting results. For example, the socialization sessions of the project "Strengthening Andean Environmental Integration of the CAN", which sought to prepare an environmental diagnosis of the region to identify how the members were

in terms of production and sources of environmental information, such as indicators, public policies and development programs (Andean Community, September 29, 2021).

To achieve this goal, CAN signed a cooperation agreement with the Colombian Space Agency (ACS for its Spanish initials) that allowed it to unify information from Bolivia, Colombia, Ecuador, and Peru about specialized environmental studies and projects and how they could continue to advance as a bloc. The ACS and the Colombian Presidential Agency for International Cooperation (APC for its Spanish initials), developed activities such as the contest of environmental practices and the high-level forum of the CAN, whose most significant results were the discussions on sustainability policies at the international level, the transfer of information and the harmonization of indicators (Andean Community, December 16, 2021).

In 2022, the Andean Regional Water Forum was held in Lima, where the evolution, current situation and projections of water resource management in the region were discussed. The forum brought representatives of the four countries for two days and panels were held by government authorities. The dialogue was encouraged with local and regional authors involved in water management and care. In addition, as part of the development of the Letter, the Andean Environmental Technology Platform was presented, which corresponds to the second stage of the project "Strengthening Andean Environmental Integration of the Andean Community of Nations (CAN) that provides to the member countries geospatial data about the region, environmental indicators and environmental development programs to facilitate decision-making (Andean Community, March 3, 2022, and October 24, 2022).

So far, however, in 2023, the activities that can be included in the objectives of the Andean Environmental Letter have been nearly meaningless since not even the official website of the Andean Community has found major events or projects that attest to the progress made by the countries in this area. The only notable event was the XXVIII CAMRE meeting, in which the ministers agreed on the importance of reactivating the Andean Committee of Environmental Authorities and the Andean Council of Ministers of the Environment and Sustainable Development. Still, no concrete routes were established, nor were projects to comply with the objectives of the Letter addressed, which shows how it has progressively ceased to be a priority for the bloc, as explained below.

First, CAN was initially established to place the bloc on a purely commercial footing in response to the new challenges of the global system. Therefore, it is reasonable to assume that there would be substantial agreement in its foundational principles to undertake new obligations like taking care of the environment. However, this is not the case because, as mentioned in the historical account, the Community's performance has always depended on the political-ideological alignment of the leaders. This dependence has affected even the most optimistic moments of the bloc, such as the negotiation of a free trade agreement between the European Union (EU) and the Andean bloc since three rounds of negotiations were held in 2007 and 2008, but no agreement was reached due to the different visions of the countries. This finally resulted in the EU signing a multi-party trade agreement individually with Colombia, Peru, and Ecuador, weakening the CAN trade integration process (Quispe-Remón, 2020).

Additionally, Morales (2020) says one of the greatest obstacles to the progress of the organization has been the lack of a *paymaster* or *primus inter pares who* assumes special commitments and leads the integration process. This means that there is often a power struggle among Bolivia, Colombia, Ecuador and Peru over Andean projects which depend on national interests. Thus, the lack of a regional power with the economic and political capacity, as well as the willingness to assume leadership, has had a negative impact on the CAN's projection. This is evidenced by the fact that, despite being one of the oldest integration processes in the continent, it is currently practically inactive and blurred, and the new challenges it is taking on, such as the Environmental Letter, have superficial and transient effects.

An example of this instability is the Andean Community Environmental Information System described above, since it was conceived as a grand mechanism for harmonizing statistical information among the four countries and initially received financial resources for its implementation from the Inter-American Center for Integral Development of the Organization of American States (CIDI/OAS) and the European Union (General Secretariat of the Andean Community, 2008). However, the euphoria was short-lived and the development of this project gradually stagnated, so that after the political and diplomatic crises experienced by the bloc in 2008, it was given less and less attention, to the extent that when consulting the official website of the National Administrative Department of Statistics (DANE), the entity in charge of compiling environmental information in Colombia,

it appears: "the SIMA Environmental Information System is currently not in force" (DANE, n.d., para. 1).

Another vital point that should be mentioned as an obstacle to the fulfillment of the CAN's environmental goals is the lack of a clear distinction between the objectives of the various regional and subregional actors. For example, the Andean Environmental Letter was signed in the heart of the Colombian Amazon, in Leticia, as a self-proclaimed achievement of then President Iván Duque in his term as president *pro tempore* of the Andean Community, who in the Amazonian triple frontier presented this new mechanism that would protect the biodiversity of this territory (*El Tiempo*, December 1, 2020). However, the objectives proposed are reminiscent of the Amazon Cooperation Treaty, signed at the end of the 1970s. The subsequent Amazon Cooperation Treaty Organization (ACTO) was created in the 1990s, of which the four Andean countries are members and whose main objective is the preservation of the environment and the rational use of the region's natural resources (ACTO, n.d.).

Therefore, although the Andean Letter seeks to protect the diversity of the ecosystems of the member countries, special emphasis has been placed on the protection of the Amazon, and the objectives of the Letter have begun to overlap with those of ACTO. As a result, the leadership that the Andean Community sought to achieve in the protection of Amazonian biodiversity did not have a major impact. On the other hand, a joint effort by the Andean countries to reactivate ACTO would be much more appropriate for the management of this biome, since it includes all the Amazonian countries, including Brazil, which owns a large part of this forest, so greater coordination between the existing organizations is needed to avoid this kind of overlap. Some of the strengths and weaknesses of the current policy cycle for environmental cooperation within the Community are presented below.

Current Context of the Andean Community in Environmental Cooperation Mechanisms

Firstly, Latin America is experiencing a second 'progressive wave' that began with the arrival of Andrés López Obrador to the Mexican presidency and continued with Panama, the Dominican Republic, Chile, and Honduras. In the Andean region, the left also came to power in Bolivia, Peru, and Colombia for the first time in its history, thus reconfiguring the political dynamics in Latin America and the Caribbean and allowing

the inclusion of new emerging sectors. This shift in the cycle has also generated renewed government interest in reactivating regional and subregional integration processes that respond to current geopolitical dynamics, such as the reconstitution of the BRICS, the rise of China, and the decline of the United States and Pan-Americanism. Thus, the global South has found in this juncture a possibility to consolidate itself as an influential actor in international organizations, strengthen regional institutions and determine the main issues on the agenda, such as climate change, inclusion and diversity (Arrellano, 2022; Rocha, 2023).

For example, the Colombian case with the arrival of Gustavo Petro to the presidency, has brought to the table several issues that had been addressed by previous administrations but were not prioritized in how the current government has implemented them. Therefore, Petro prioritizes the country's transformation from the territories, where the productive structures are transformed, and the inclusion and equity of the excluded populations in the nation's progress are promoted. Furthermore, in the National Development Plan 2022-2026, the roadmap of his government, he places a strong emphasis on environmental protection through the containment of deforestation, the restoration of ecosystems affected by human intervention, and the implementation of what he calls 'environmental justice' and 'inclusive governance' in the country (Government of Colombia, 2023).

This document recognizes the Andean Community as one of the organizations that the country should prioritize in the coming years to achieve the goals related to sustainable development and increased competitiveness. The Petro government believes the Andean Community can strengthen trade ties and sustainable investments that lead to the integration of regional and global value chains. This orientation seeks to consolidate a priority relationship with the region's countries. It leaves Colombia's traditional allies, such as the European Union and the United States, in the background as it moves toward an economy based on respect for nature and decarbonization. Thus, the Community provides the necessary mechanisms and opportunities for Colombia to project itself as an environmental leader in the region, as intended by the President both inside and outside Latin America, and to articulate local and national strategies such as the Common Andean Projects (Government of Colombia, 2023).

However, during the ten months that the Colombian president has been in power, there have been several scandals that have hindered the consolidation of his ambitious goals inside and outside the country. Thus, the economic projects he has proposed as objectives of his government have not only been questioned for their viability but have also been tainted by events such as wasteful spending by the Presidency and the Vice-Presidency, possible agreements with armed actors in the country such as the ELN and the FARC dissidents, and illegal interceptions against the chief of staff, Laura Sarabia. These facts have led to the turbulent first ten months of Petro's first period. There is evidence of ruptures between government cabinet members giving a negative impact on the implementation of policies and commitments at national and regional levels such as the disintegration of his government coalition, the ministerial reshuffles he has made and the constant frictions with the General Procurator, Francisco Barbosa (Castillo, June 7, 2023).

On the other hand, Bolivian President Luis Arce, who began his term in office in 2020, affirmed his commitment to the Andean Community as a mechanism that boosts the region's competitiveness and allows the coordination of environmental policies. However, his time in power has been characterized by isolation at the international and regional levels, which has included less participation in the CAN. Bolivia is in an economic crisis that has aggravated the division of the president's party, Movimiento al Socialismo (MAS for is Spanish initials), against the followers of former president Evo Morales, who intends to be reelected in the 2025 elections.. Therefore, MAS has seen less support among civil society due to the corruption and stagnation of the current administration (Molina, December 2021; Molina, June 5, 2023).

In the case of Ecuador, the government of Guillermo Lasso has also been characterized by strong tensions between the cabinet members, the opposition and civil society actors. This fact has hindered the commitments that the president assumed at the bilateral level with Colombia and also within the CAN regarding environmental conservation since the legislative and presidential elections were brought forward a year before the scheduled date to stop the impeachment trial against the President for corruption in different Ecuadorian public companies (*El País*, May 18, 2023). This implies a strong political instability until the end of the current administration and an uncertain future for Ecuador, since there is no possible candidate who can lead the country out of the uncertainty and polarization in the streets.

Finally, Peru is no exception to the instability described in the other Andean countries. In the last four years, Peru has had six presidents in the Government Palace. This is evidence of the serious political and social crisis that has affected the country due to scandals such as the impeachment of President Pedro Castillo, corruption cases and the strong polarization in the legislature. Similarly, massive protests have taken place throughout the country, which have been recognized for the use of violence by the public forces. The European Union and the members of the Andean Community have expressed their concern for the crisis of governance that the country is experiencing, which has resulted in the deaths of people during the protests. (Delegation of the European Union in Peru, January 10, 2023; *Europa Press*, April 19, 2023).

The socio-political situation in Bolivia, Colombia, Ecuador and Peru is characterized by strong instability at multiple levels, worsening the precarious development of the Andean Community of Nations (CAN). In particular, it became evident how, at the discursive level, the four countries are committed to the environmental protection projects mentioned, such as the Andean Letter and the Environmental Information System. However, at the moment of developing the projects and achieving the proposed objectives, the leaders cannot take action due to the polarization between the different parties and the disconnection between society and those in power. Not even in the case of Colombia, which is currently the most stable country in the region, does it have the necessary power to consolidate leadership, as Gustavo Petro intends to exercise leadership at the regional level in terms of environmental protection (Kitchen, 2010).

Conclusions

In closing, an analysis of the different waves of Latin American integration shows how the CAN has evolved to face local, regional and global challenges, something that has been important to consolidate its position as one of the longest-lasting organizations of the continent. At the beginning, Andean Community focused on an open regionalism concerned exclusively with the projection of the bloc as an actor of greater value in the global economy. However, with the international system transformations and the new region's emergencies, its transformation process opened the door to the third regionalist wave, focused on an integration encompassing social, cultural and environmental issues that would improve the living conditions of citizens.

However, it would be wrong to say that the CAN's history is characterized by glory and community successes since it has experienced long episodes of stagnation with brief and ephemeral flashes of achievements throughout its history. This characteristic, as evidenced throughout the text, is due to the structure and delegation of functions that project it as a supranational entity, but which depends on the political coordination of the Andean presidents for the strategic issues that set the organization's direction. There is an incongruence between the intergovernmental character and the pursuit of national interests with the organs of the Community whose goal is to to establish common identities.

This can be evidenced in the development of environmental information systems with a regional scope since, for example: 1) it often happens environmental studies that respond to the demands of a specific cooperation program do not have continuity once they are completed, which is why most of the projects do not favor the institutionalization of Environmental Information Systems; 2) national efforts to strengthen biodiversity and environmental information management are not only poorly disseminated to show their functionality but also have limited space for replication, so national and regional advances are not interdependent; 3) strategies and technological tools for disseminating environmental information change according to the realities and interests of each country, which leads to autonomous progress but not to common governance. These elements have generated slow progress as evidenced throughout the fifth section of the text.

In general, the evolution of environmental protection mechanisms in the CAN shows the superficiality of the commitments made by the Andean countries since decisions have been taken when there is political convergence between administrations, as was the case with the signing of the Andean Environmental Letter in Leticia. However, the impact of these mechanisms at the local level has been almost nil, and priority is given to cooperation with other actors rather than following a common path that would determine a common identity protecting the environment. Thus, the diversity of projects and mechanisms explained along the article attests to the richness of the region, not only in terms of the fauna and flora but also in terms of the great initiatives from the four countries to face environmental problems.

In conclusion, the future of the Andean Community will depend on the political tendencies of the Andean presidents and the importance they

attach to the organization. Particularly, the current situation is framed by various changes or crises within the bloc, such as political instability in Peru and Ecuador, and also externally, such as the re-election of Lula in Brazil and the intensification of the presence of extra-regional actors. The evolution of this bloc should continue to be investigated, as it has important mechanisms and initiatives to address the climate crisis. They still depend on the commitment of a leader taking action to ensure a healthy environment and the survival of Andean societies in the 21st century.

Recommendations

To the Andean Presidential Council, it is necessary to evaluate the stagnation of the Andean Community, whose structure makes it difficult to achieve goals as a bloc. Therefore, extraordinary measures must be taken to end the Community's current duality between the supranational and intergovernmental spheres. If the supranational connotation is prioritized, organizations such as the Andean Parliament should be reconsidered, which currently lack regulatory importance but have the potential to offer citizens a great opportunity to participate in the integration process. Otherwise, the restructuring of the organization and its objectives should be put on the table in order to respond to Andean concerns in recent years. This would reduce the costs of maintaining a structure as complex as the current one and promote the continuity of agreements that address issues such as social and environmental policies of common interest.

Likewise, the decisions adopted by the Council must include the opinion of the citizens, worker associations, environmental defenders, ethnic communities and territorial authorities, who have repeatedly complained about the disconnect that exists between the CAN and the Andean countries' social reality. In the environmental protection area, which was addressed in the text, the commitments adopted at the local, supranational, and regional levels must reflect the interdependencies that exist between Andean communities and ecosystems, not only the president's perspectives.

It is recommended that the Andean Council of Foreign Ministers increase the prominence of environmental protection in the bloc's foreign agendas since this issue will be one of the greatest threats to the region in the coming decades. Environment protection requires coordinated

measures, given the high vulnerability of andean territories to the negative effects of climate change. Compliance with the Andean Environmental Letter, the Andean Strategy for the Integrated Management of Water Resources and other mechanisms that prepare communities and economies for the drastic transformations that will bring climate change in the coming years should be encouraged.

Finally, the CAN's environmental governance requires improving data management networks to facilitate the environmental protection decision-making process at the regional level, defining institutional responsibilities in the development of cooperation programs while respecting the autonomy of the member countries but implementing institutional policies for their respective compliance; joining efforts to manage economic resources for the development of organizational and technological infrastructure; strengthening human skills for the implementation of sustainable development projects, especially in the territories and local communities; and developing the Environmental Information Systems available for all, easily to understand and use.

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Environmental Security Strategies in the Amazon

Threats, Risks and Challenges in the Amazon Region

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Introduction

The Amazon is a strategic ecosystem for the world and the region. It plays a central role in the balance of the planet's climate through its contribution of CO_2 and constitutes an important global and regional water reserve. However, "66% of the Amazon is subject to some type of fixed or permanent pressure" (Quintanilla, Guzmán and Josse, 2022, p. 21). According to the Amazon Cooperation Treaty Organization (ACTO), this territory constitutes 6% of the planet's surface and covers 40% of the territory of Latin America and the Caribbean. It is home to 420 indigenous peoples who speak 86 languages and 650 dialects (ACTO, n.d.). There is no accurate figure on the number of inhabitants due to the complexity of the territory, but ACTO estimates 48 million, according to the institutional information cited. There is also no exact data on the number of indigenous inhabitants, although it is estimated to be no more than four million. The Amazon has indigenous territories, natural reserves, national parks, towns and four cities with more than one million inhabitants. There are also large non-renewable resources such as gold, rare earths, diamonds, oil and uranium. The region exports raw materials, strategic minerals, and agricultural products such as soybeans.

Under this jungle are national and transnational aquifers, some of which are not deep and are used in agriculture, for human consumption and even for industry. There are those who calculate the subway water reserve.

> [With a volume of more than] 160 billion cubic meters [...] This subway reserve represents more than 80% of the total water in the Amazon. Water from Amazonian rivers, for example, represents only 8% of the biome's hydrological system, and atmospheric waters have

approximately the same percentage share (Agência FAPESP, August 28, 2014, paras. 1 and 3).

There are studies on the interaction between surface water and groundwater (OTCA, 2018). Among the Amazonian transboundary aquifers, the Bolivia-Brazil-Colombia-Ecuador-Peru-Venezuela Amazonian transboundary aquifer stands out. However, there are others of great importance (Unesco and OAS, 2007). These aquifers could help mitigate water crises due to climate change, but they are currently being polluted.

The complexity of the Amazon is evident when it comes to establishing its territorial extension. For some, the Amazon Rainforest includes, in addition to the basin, areas of central South America with tributaries to the Atlantic Ocean, such as those of the Esequibo River basin, which extends through Guyana, Suriname and the French territory of Guyana, the north of the Brazilian state of Amapá and the northeast of Venezuela. Second, separated from the Atlantic basin by the Guiana Shield, is the Amazon hydrographic basin, the largest in the world, with approximately 5,318,000 km^2 ; including the Tocatins basin, it has approximately 7,050,000 km^2 ; 40,000 km of the rivers of the Amazon system are navigable. More than 1,000 rivers are tributaries of the Amazon, 25 of which are more than 1,000 km long (Ziesler and Ardizzone, 1979).

In turn, the ACTO establishes an area of 6,118,000 km² (n.d.). However, the Instituto Amazónico de Investigaciones Científicas Sinchi calculates an extension for the ACTO territory of 7,352,112 km², which includes the territories of legal and jungle Amazonia, based on the watershed, but excludes the Atlantic basin (Instituto Sinchi, n.d.). The so-called Pan-Amazonia divides this territory into Andean Amazonian countries and countries of the Atlantic strip (Instituto Sinchi, n.d.). The Greater Amazon is made up of the territories of the ACTO States plus French Guyana and has an approximate extension of 8,387,590 km^2 (Sinchi Institute, n.d.). The Amazonian Network of Geo-referenced Socio-environmental Information (RAISG) estimates a total area of 8,470,209 km² and the Amazon, Araguaia-Tocantins and Marajó watersheds at 6,925,918 km² (RAISG, n.d.b). In addition, each State has different criteria to determine its Amazon area and in all of them there is a biogeographic definition and a political-administrative definition.

The Amazon is a contested territory due to its megadiversity and immense soil richness, resulting in countless socio-environmental conflicts. According to the Atlas of Environmental Justice, to date there are

131 major documented conflicts in the Amazon that have been litigated, monitored, and are visible (Atlas of Environmental Justice, July 14, 2023). This is not to say that these are the only conflicts. For example, isolated indigenous peoples (PIA) and small communities have no documented conflicts, but they also have no access to justice or visibility.

The PIAs constitute the most vulnerable inhabitants of the Amazon and during the coronavirus pandemic they were greatly affected (ECLAC *et al*, 2020). According to the 2019 Land is Life report "in South America there are 185 records of PIAs, of which 66 have been confirmed by indigenous and indigenist organizations" (May 2019, p. 91; see also COICA, 2023). According to the Inter-American Commission on Human Rights, the threats against the PIA are contact, pressures on their lands and territories, extraction of natural resources, disease contagion, direct violence, drug trafficking and tourism projects (2013). Added to this are climate change, infrastructure construction, arson, and deforestation (Land is Life, May 2019).

In this chapter, the authors analyze the main instability factors for this area shared by several South American countries. Some of the threats, risks and challenges to Amazonian environmental security will be examined, comparing data from Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela that reflect the causes of greatest impact. This chapter proposes to address the following question: what are the main threats, risks, and challenges to environmental security in the Amazon region towards 2023? We will focus on the following five factors: deforestation, illegal mineral extraction, fires, illicit crops, and climate change. Subsequently, some challenges or opportunities for improvement for Amazonian environmental management and security will be discussed. Finally, conclusions and recommendations will be presented.

Threats, Risks and Challenges to Amazonian Environmental Security

Deforestation

Deforestation is a threat to environmental security because it reduces natural forest resources and their ecosystem services, degrades biodiversity, affects the food security of communities and indigenous peoples, degrades soils, contaminates water sources, and contributes to

prolonged droughts (Amazon Aid, n.d.). Deforestation is the clearing of natural forests and the removal of trees from the land for conversion to non-forest uses, such as cattle ranching, food crops or timber extraction (Greenberg, August 26, 2022).

Deforestation is a multidimensional threat, as it can alter economic, political, military, social and, of course, environmental conditions, as it reduces the livelihoods of citizens by destroying ecosystems, but also national power by reducing the material capacity and environmental reputation of affected states. It can be linked to socio-political and ethnic conflicts over access to land and to the economic base of criminal networks and illegal armed groups, thus affecting national and regional security. It interacts with other threat factors, such as illicit crop cultivation, illegal mineral extraction or arson. It can also be caused by factors more related to natural risk management (e.g., unintentional fires, high winds, and floods) and risks arising from regulated human activities.

Licit and illicit economic activities are the main drivers of deforestation in Amazonian countries, motivated by the unregulated growth of populations in this strip of land, where internal migration is a major factor (RAISG, September 2022). Many of these extractive dynamics contribute little to the reduction of poverty and unsatisfied basic needs of communities, and profits are not properly reflected in local reinvestment processes towards sustainable development.

Deforestation has a strong correlation with climate change, as the Amazon rainforest has a critical effect on the cooling process on the planet because its trees channel heat into the atmosphere, where forests absorb and store CO_2, which is released when trees are cut down and burned (National Geographic, n.d.). The Amazon rainforest absorbs a quarter of the CO_2 absorbed by the entire Earth, but the amount now absorbed is 30% less than in the 1990s due to deforestation (National Geographic, n.d.). Further deforestation could push the Amazon rainforest past a tipping point at which the moisture and carbon balance of much of the biome would be broken, making this region a much drier ecosystem (Greenberg, August 26, 2022). Disturbingly, this point of no return is estimated at a forest loss of between 20% and 25%, when by 2022, 17% of the rainforest would have been lost (Greenberg, 26 August 2022).

RAISG noted that the Amazon region was subject to pressures from six sectors: road construction (19% of the area), the installation of hydroelectric plants (more than 350 and could double), the presence of oil extraction

blocks (9.4% of the area), mining (17% of the area), agricultural activities (84% of deforestation) and fires (14% of the area) (September 2022). For the selected case studies, the indicator of density of paved and unpaved roads by 2020 is shown below. Ecuador, Colombia and Brazil stand out, although it is noteworthy that the Colombian roads in the Amazon region are essentially unpaved, which also reflects its regional lag in infrastructure.

Table 1. Density of roads in the Amazon Belt by selected countries up to 2020.

Country	Paved	Unpaved	Total
Ecuador	21,1	10,8	**31,9**
Colombia	1,2	21,7	**22,9**
Brazil	8,9	10,9	**19,8**
Venezuela	7,6	9,5	**17,1**
Peru	13,8	0,2	**14**
Bolivia	5,9	7,2	**13,1**

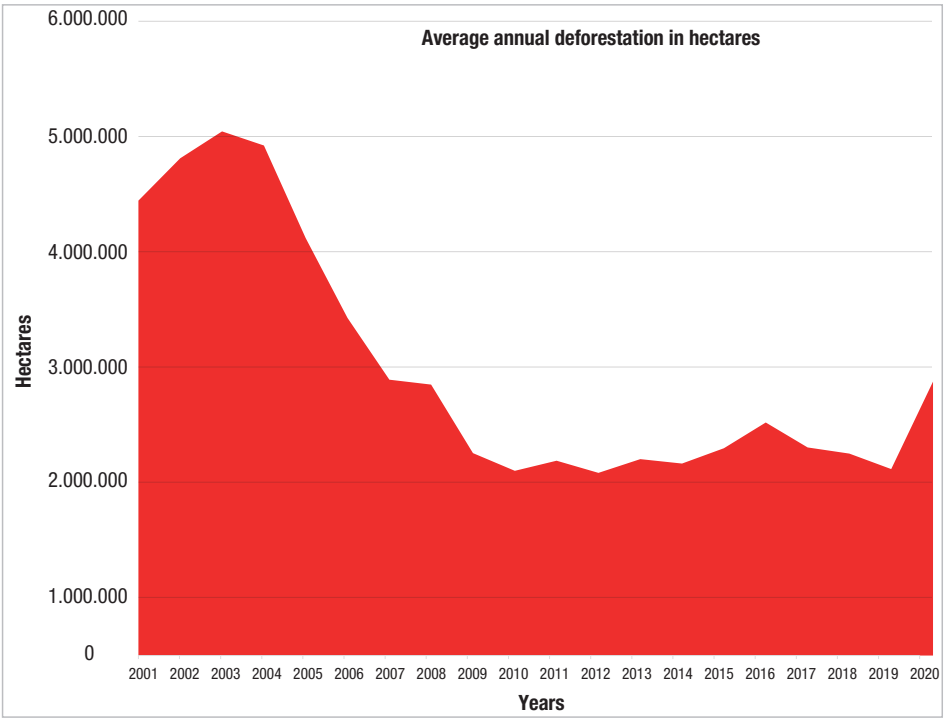
Source: adapted from RAISG (September 2022).

Regarding deforestation by the agricultural sector, RAISG calculates that it accounts for 77% of total deforestation in the region between 2001 and 2020, for a total of 416,103 km^2 of biome lost during this period, in which Brazil stands out, mainly, and later Bolivia and Colombia, mainly due to unplanned economic expansion or not approved by land management authorities (September 2022). For the period 2001-2020, RAISG and Infoamazonia calculate total deforestation as shown in Figure 1.

The yearly average number of hectares lost has significantly decreased over time. However, there has been a concerning increase in the phenomenon since 2019, after reaching a peak of almost 5 million hectares in 2003. Although the trend has stabilized since 2009, it still represents an extremely high figure. It is estimated that reforestation of the Amazon forests could take more than a hundred years because it is not simply a matter of planting new trees but of recovering the entire biological system lost, which is affected by variables such as the order and location of plantings, the difficulty of finding the right type and quantity of endogenous seeds, the need to maintain the trees for three to five years, pest control, new weather conditions, changes in the terrain and the absence or weakness of policies and resources to restore the forests. It might be better to let the forest restore itself naturally, because

human intervention always has undesirable effects on the ecosystem, and experience seems to indicate that out of every ten trees planted, only one survives (Garcia, December 14, 2019).

Graph 1. Total deforestation in the Amazon, 2001-2020



Source: adapted from Zanon (March 21, 2023) with data from InfoAmazonia/Carolina Passos/RAISG (n.d.c).

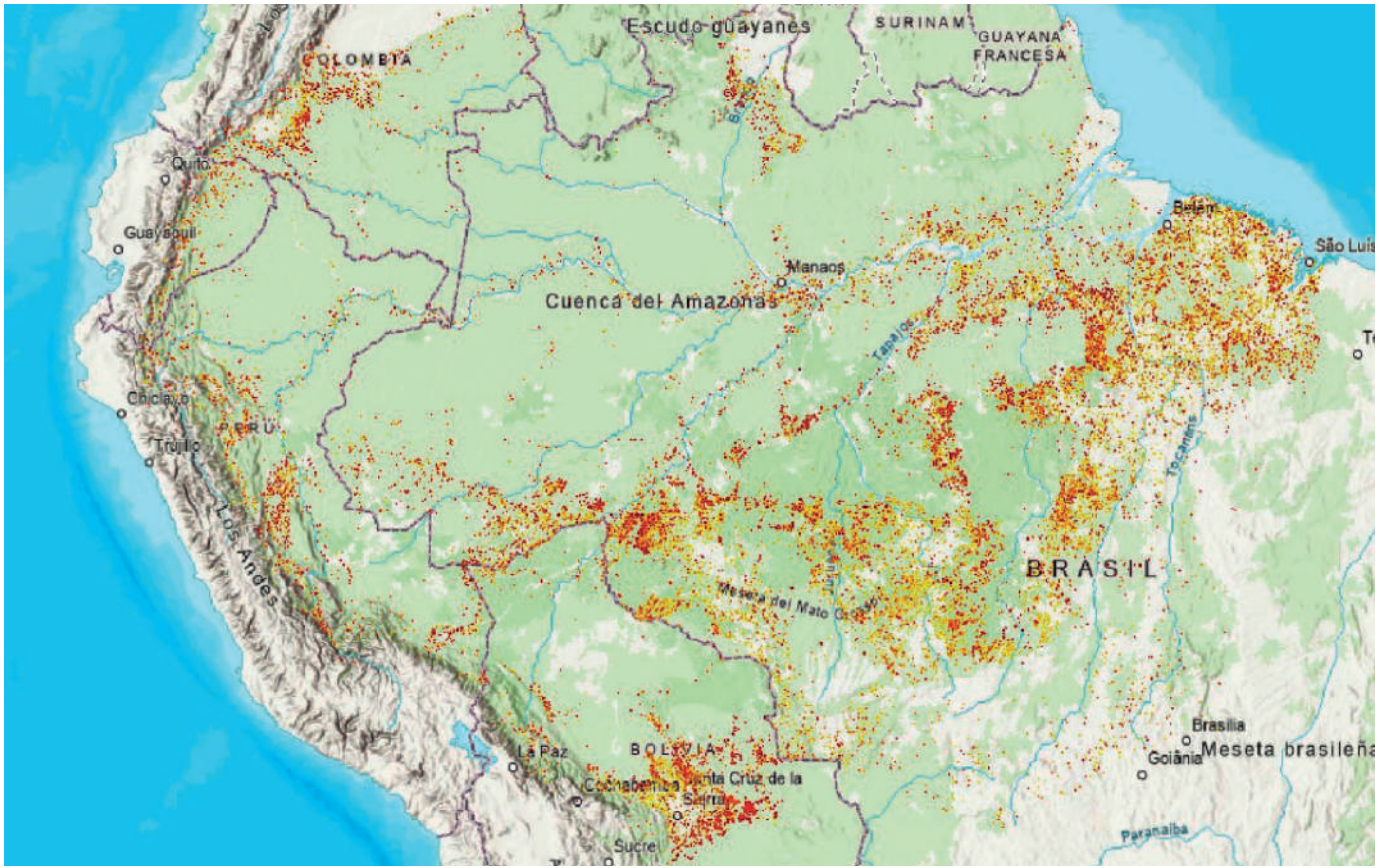
Regarding responsibilities by country, RAISG and Infoamazonia estimate deforestation for 2001-2020 as shown in Table 2.

Table 2. Deforestation in the Amazon Region in Selected Countries, 2001-2020

Countries	Deforestation 2001-2020 (hectares)	Loss compared to 2000
Brazil	44.003.100	10,76%
Bolivia	3.923.900	8,35%
Peru	2.980.600	4,08%
Colombia	2.300.400	5,21%
Ecuador	623.200	6,14%
Venezuela	292.500	0,74%

Source: adapted from Zanon (March 21, 2023) with data from InfoAmazonia/Carolina Passos/RAISG (n.d.c).

Map 1. Total deforestation in selected Amazonian countries, 2001-2019



Source: RAISG (n.d.a).

The situation in Brazil is particularly dire, with a significant difference in devastation compared to the rest of the Amazonian states. The cases of Bolivia, Peru, and Colombia are no less worrying given their smaller Amazonian territorial extension compared to the South American giant. Still, they contribute proportionally less to the total. These four cases reflect the contradiction between governmental conservationist discourse and effective prevention and environmental management actions, a common characteristic of developing countries due to their weaknesses in integral state presence and extreme dependence on economic growth in the raw materials sector, particularly exports. Map 1 shows the color variation from yellow to red as the density of hectare loss increases.

There are also contradictions between the central and industrialized countries. The United States and the European Union are in many ways perceived as sources of pressure and even sanctions for the environmental management problems of developing countries, but at the same time they appear as the main buyers and investors of *commodities*, using the region as a food basket. Vásquez, Cenci, Tybusch and Estenssoro (2022) mention the environmental geopolitics of the central powers of the international system, who historically incorporated the peripheries (Latin America) into a paradigm of frontier economy, appropriating land and natural resources without limit and placing biodiversity at the service of technological progress. Currently, they use the conservationist discourse to control the management of ecosystems that are determinant for the planetary ecological balance and the sources of strategic resources. This situation imposes dual pressures on the exercise of sovereignty for the Amazonian countries, which have to face threats and problems of territorial control in their own peripheries (such as jungles, paramos and forests) because they are weak states, but also because they are in a state of mistrust, in one way or another, in the face of the present or future intentions of the great powers interested in scarce natural resources. Emerging powers, such as China and India, avid for primary resources, also add to the external factors of the extractivist model and the regional environmental impact.

We should not ignore the role of some administrations of Amazonian countries and localities that, through their own actions or by encouraging other actors, have promoted the destruction of forests for the sake of energy, urban and agricultural expansion. The governments of Colombia and Peru are not necessarily positive examples. In Colombia, during 2021, 174,103 hectares were lost throughout the country (60% to 70%

of them in the Amazon area) and in 2022 some 156,693, which shows a slight decrease (Paz, May 18, 2023). In 2022, the Peruvian Amazon lost 144,682 hectares, an increase of 6.7% compared to 2021 (MAAP, June 27, 2023). Brazil and Bolivia have been exposed as the worst deforesters in the region and have recently been the target of major domestic and international criticism for their policies in the Amazon. Interestingly, these are ideologically opposite poles, but with similarly negative environmental outcomes, with the once right-wing president, Jair Bolsonaro (2019-2022) in Brazil, on the one hand, and on the other, the consecutive governments of Evo Morales (2006-2019) and his successor Luis Arce (2020- as of the date of this book) in Bolivia, as representatives of the left-wing fringe and the Movement Towards Socialism (MAS).

In Brazil, Bolsonaro and his ministers have been singled out as the architects of slashing the budget for the environmental system, undermining restrictions on the exploitation of protected areas and indigenous territories, underestimating scientific warnings and reports on climate change and deforestation, limiting civil society participation and monitoring in environmental matters, and replacing expert or technical officials with military personnel in the Ministry of the Environment and other related agencies without proper preparation (Human Rights Watch, August 26, 2020; Goulart and Barbosa, 2021). All this in order to privilege the private sector. Between 2016 and 2018, the average deforestation in Brazil was 4,844 km² per year. Between 2019, Bolsonaro's first year, and 2021, the average practically doubled, with 8,604 km². In 2022 alone, the logging of 10,278 km² was detected, an area equivalent to almost seven times the city of São Paulo in Brazil (Girardi, February 7, 2023). Increased illegal mining, logging, land grabbing, and even attacks on inspectors, equipment and bases of the Brazilian Institute of Environment and Renewable Natural Resources (Ibama) and the Chico Mendes Institute for Biodiversity Conservation (ICMBio) are mentioned (Girardi, February 7, 2023).

In Bolivia, the policy of agricultural expansion and the expansion of coca leaf cultivation, both legal and illegal, promoted by the MAS's alternative anti-drug approach, has had an impact. In figures, between 2020 and 2022, Bolivia lost almost 800,000 hectares of forest, reaching a historical high and reflecting a progressive increase in the annual average deforestation since 2016 (Sierra, May 2, 2023). Arce has been singled out as a continuation of Morales' extractivist model, incapable of managing deforestation, and lacking in innovation in environmental protection (Sierra, October 23, 2020). Despite its anti-capitalist discourse, MAS

has stimulated foreign capital in expanding soybean cultivation and cattle ranching. Still, it has also not prevented the migration of settlers from the highlands or Andean zones to the lowland jungle, nor the abuse of the new legislation of the National Agrarian Reform Institute (INRA) by settlers who cut down forests to move the agricultural frontier and demonstrate that they have the right to land titles (Sierra, May 2, 2023).

Illegal Extraction of Minerals

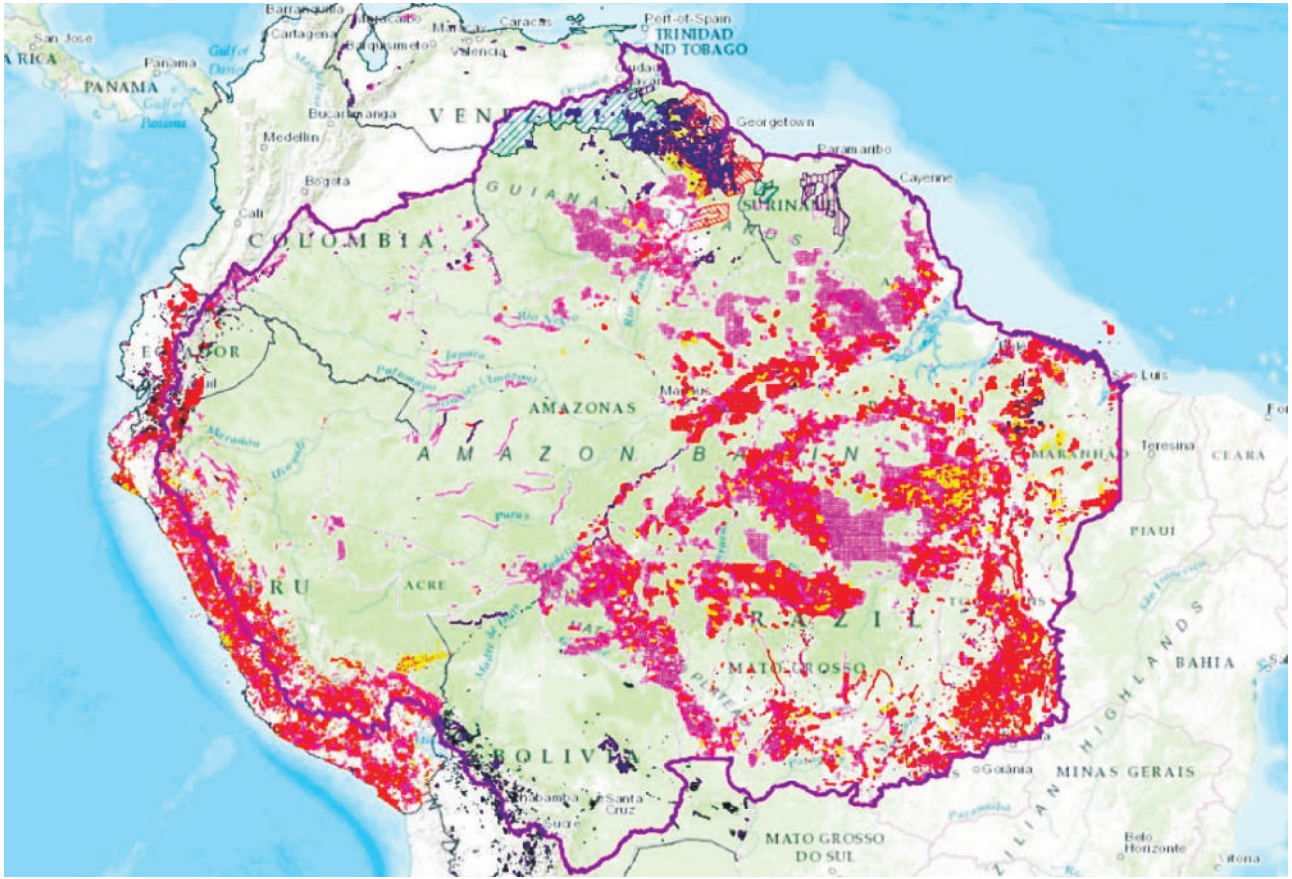
Extractivism is defined as those activities that seek the intensive exploitation of primary natural resources in order to supply international markets. The Amazon region has been confronted with several bonanzas of its wealth: Brazilwood, sapucaya, piasava, sarrapia, quina, rubber or syringa in past centuries (Gómez López, 2015, pp. 300-302) and currently intensive agriculture and mineral exploitation. All of these bonanzas have had devastating effects on indigenous peoples and nature.

In Latin America and the Caribbean, mining exports "accounted for 17% of total exports in 2017, contributing to employment and tax revenues," according to an analysis by IDB researchers. The region has 39% of lithium, 39% of copper, 18% of bauxite and aluminum, and 32% of nickel in the world" (Spano *et al*., 2021, cited in Galindo, Hoffman and Vogt-Schilb, February 2022, p. 22). However, as the researchers note, mining activity has a high carbon footprint as it "directly generates about 4% of global greenhouse gas emissions, but (*sic*) has high transportation costs and participates in activities associated with high emissions such as cement and steel production" (p. 22).

The Amazon is a geodiverse territory. Its mineral resources are aquifers, hydrocarbons, and metallic and non-metallic minerals. "Ores of metals such as iron (Fe), aluminum (Al), gold (Au), manganese (Mn), nickel (Ni) and tin (Sn) are common around the Precambrian shields and represent important export products" (Panel Científico por la Amazonia, 2021b, p. 1.5). Bauxite, zinc, coal, coal and other minerals are also found in this region. It also has deposits of rare earths, essential elements for technology.

According to ECLAC, mining activity has increased in the Amazon, which poses several threats to this ecosystem. "The areas with the greatest impact from mining are the Guiana Shield (mainly gold extraction), in the Andean mountains of Bolivia and Peru, in the Colombian foothills and in the border region between Colombia, Venezuela and Brazil" (2013, p. 14).

Map 2. Mining Areas in the Amazon, 2022



Source: RAISG (n.d.c).

The extraction of natural resources and especially gold in the Amazon basin is not a recent phenomenon, but from the first decade of the 21st century it increased as a "response to the high prices of raw materials", according to Gudynas (2017, p. 30). This researcher explains how new geographies have been generated in "areas where the state, rights coverage and basic services are weak or absent" (p. 42). Currently, the Amazon has become an export zone for mineral *commodities*.

The map 2 shows the mining areas with exploration and exploitation applications in the Amazon jungle and in the Andes Mountains in 2022.

According to the Scientific Panel for the Amazon, cited by Arellano Yanguas (2023), it is estimated that there are currently in this region.

> approximately 45,000 mining concessions in force or awaiting approval, of which 21,536 overlap with protected areas and indigenous territories. These concessions cover about 1.28 million km2, or 18% of the total Amazon area (p 21).

Mining titles and lots exist in all the territories that make up the Amazonian States. Table 3 shows the mining activity in each Amazonian country.

Table 3. Mining in the countries and their Amazonian fringes

Number and area of mining areas by country in the Amazon				
Country	Number of zones	Surface area of mining areas		
		Area km²	Percentage of the Amazon by country	Percentage Amazon total
Bolivia	3.632	11.116	1,6	0,1
Brazil	51.890	1.082.840	20,7	12,8
Colombia	807	9.004	1,8	0,1
Ecuador	3.796	10.021	7,6	0,1
Guyana	749	100.452	7,6	1,2
Peru	22.934	81.713	7,6	1,0
Suriname	11	30.194	7,6	0,4
Venezuela	948	115.136	7,6	1,4
Total	84.767	1.440.476		17,0

Source: taken from RAISG (n.d.b).

Illegal mining afflicts the Amazon rainforest and endangers renewable natural resources and forests because the activity requires the use of chemical precursors, such as mercury and cyanide, which seriously contaminate the waters with their hydrobiological resources and affect the health of the populations that depend on them. In addition, the contamination of water and soil with these elements endangers the food security of the local population.

Gold is one of the most illegally mined minerals. The lack of State controls allows miners to use mercury irresponsibly to carry out their activity. People living near these operations are the most affected by mercury concentrations in the atmosphere and water, which affects food chains. The Pan American Health Organization (PAHO) states that "the main route of human exposure is the consumption of fish and shellfish contaminated with methylmercury, an organic compound present in these foods" (PAHO, n.d., para. 12). For its part, the Scientific Panel for the Amazon explains this process:

> Once inorganic metallic Hg is released by anthropogenic activities, certain bacteria transform it into its more toxic organic version: methylmercury (MeHg). This process allows MeHg to enter aquatic food webs, where it can accumulate in individual organisms (bioaccumulation), a process that is magnified as it moves to higher trophic levels (e.g., biomagnification in predatory fish) (Science Panel for the Amazon, 2021a, pp. 4-5).

According to the United Nations Development Program (UNDP):

> 38% of global mercury emissions come from small-scale and artisanal and small-scale mining. Colombia is one of the countries with the highest amount of mercury emissions, 94% of these are caused by bad practices (UNDP, July 15, 2022, para. 4).

This fact about Colombia is paradoxical and worrisome, given the size of the territory. Many rivers are polluted from their source due to unsustainable mining activities that dump toxic waste into the waters of sub-basins and basins. These activities become transboundary problems that, for some, threaten the national security of the States (Trigoso Zagaceta, 2023). It should be noted that illegal mining activities exist on all borders of the Amazon basin.

The use of mercury in mining is one of the most serious problems in the jungle. People who come to these places with the illusion of getting rich may find it profitable, in principle. However, the environmental costs

are immense, and the damage is irreversible. "To obtain one gram of gold, one to three grams of mercury are used, as well as cyanide and detergents. This implies that about 24 kilograms of mercury are dumped per square kilometer of river" (UNEP, 2009, p. 155).

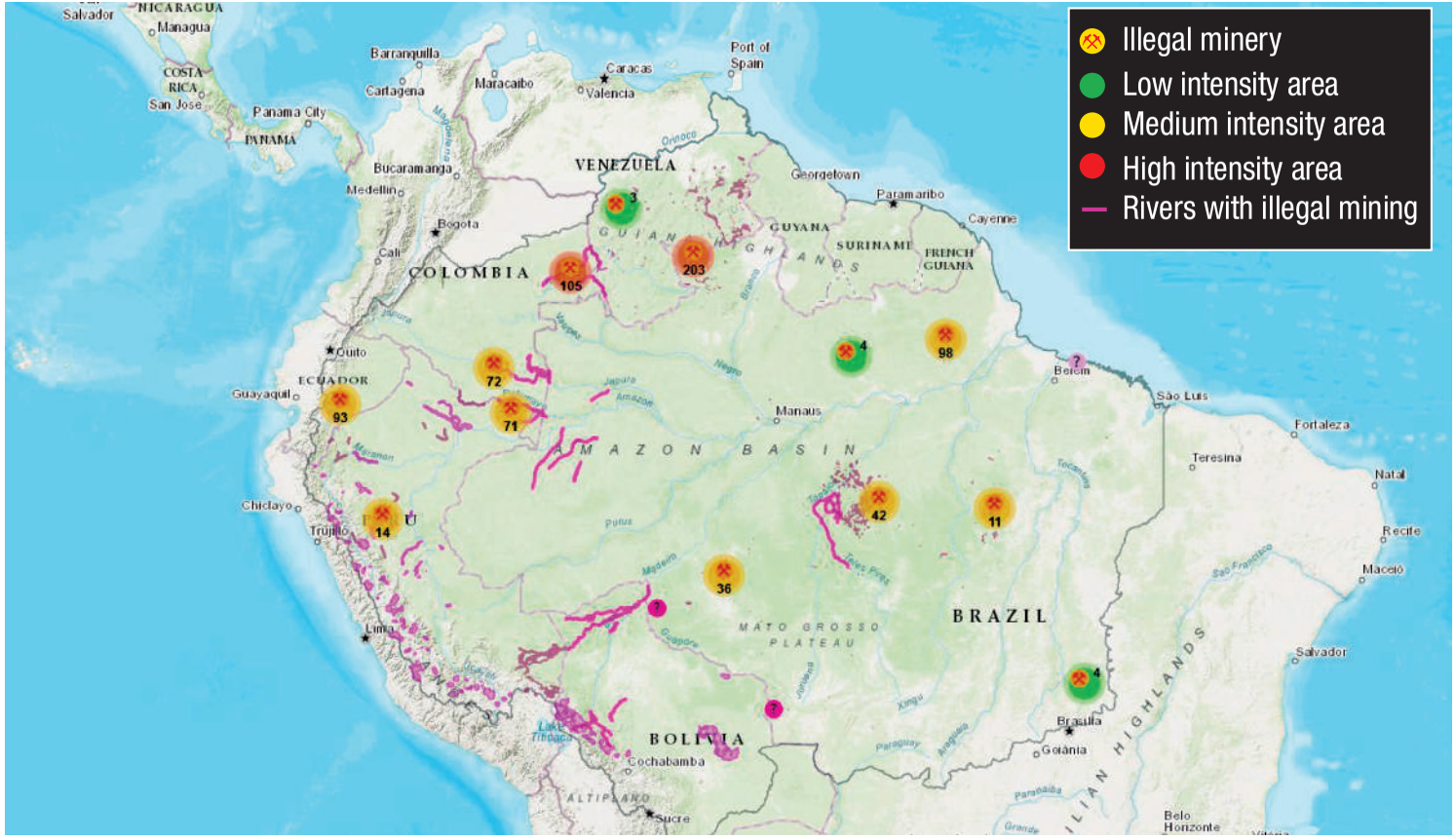
Mining generates socio-political changes in Amazonian communities. "These 'intangible' transformations have negative effects on local populations and their capacity to decide their future" (Arellano Yanguas, 2023, p. 22). The illegality of this activity generates other problems. Because it is illegal work, it is not easy to access information, which "limits the scope and [the] effectiveness of state policies to address illegal and informal mining" (Heck, 2014, p. 7). Illegality implies clandestinity, concealment and the generation of networks of corruption, conflict and violence.

The following map shows the areas of illegal mining and the rivers contaminated by the activity highlighted in purple. In the Guayanés massif alone, one of the most affected areas, there are 293 illegal mining sites.

Illegal mining often takes place in close proximity to legal mining sites. This activity has several indirect physical effects, such as the construction of new roads that make it easier for logging companies, ranchers, and farmers to access the area. As a result, this weakens the territorial control of indigenous and local populations (Arellano Yanguas, 2023, p. 22). The report *The Plundered Amazon* reported that in 2018 there were 2,312 sites with illegal mining activity and 245 unauthorized extraction areas where gold, diamonds, and coltan are exploited (Infoamazonia, December 2018). Illegal mining is found in both national protected areas (NPAs) and indigenous territories (ITs). According to RAISG, cited by this report, of the 649 identified NPAs, 55 have active illegal mining points or rafts within their boundaries and 41 suffer indirect damage, either in buffer areas or on their borders (Infoamazonia, December 2018).

At present it is not possible to establish the number of people involved in these activities, what can be deduced from the mapping is that informal settlements are growing around the mining sites. People arrive at these sites fleeing poverty and are encouraged by the illusion of improving their living conditions and getting money quickly. Heck, in 2014, warned of the use of children in various types of mining operations in the Amazon.

Map 3. Illegal Mining in the Amazon



Source: RAISG (n.d.b and n.d.c).

On the other hand, the rise in *commodity prices* due to wars fuels criminal networks. Illegal mining does not only affect the poor, who are the most vulnerable and exploited. This activity is part of organized criminal chains, linked to other illegal activities such as human trafficking and drug trafficking, which control the routes and ultimately keep the profits.

> In some countries, illegal gold production is more important to criminal groups than drug trafficking: in Peru and Colombia -- the world's largest cocaine producers -- the value of illicit gold exports exceeds the value of cocaine exports. Illegal mining has been the easiest and most profitable way to launder drug money in Colombia (Erthal Abdenur, Pellegrino, Porto, and Brazil, 2019, p. 18).

The case of illegal gold mining in the Arco Guayanés exemplifies this criminal activity throughout the Amazon region:

> First, gold is extracted by poorly paid miners working in rudimentary conditions. In many cases, they work under the control of non-state armed groups. The metal is then transported. Along the way, it is washed or "transformed". Finally, gold and other metals reach international markets, where they are sold legally. In September 2022 a kilo of gold fetched $54,576 (Jones, Lizcano, and Ramírez, 9 November 2022, para. 3).

Illegal mining in Panamazonia generates environmental impacts such as soil contamination, deforestation, damage to flora and fauna resources and to indigenous territories and natural reserves; social impacts with the destruction of the social fabric of native peoples by devastating their territories, population displacement and damage to public health. The activity threatens food security, the national security of States, and the increase in the number of people engaged in this activity from many parts of the world. In short, a whole chain of illegalities makes the governance of these territories impossible. The Guiana Arc is proportionally the most affected territory.

Fires and Burnings

Fires in the Amazon region can be part of natural phenomena and disasters or the product of human actions. They can be conceived as threats when their magnitude, duration, and origin reveal dangerous consequences for the subsistence of ecosystems and populations and can even be associated with manifest intentions or systematic patterns to destroy or profoundly alter the biome. They can be considered risks insofar as being classified as accidental or manageable within natural cycles or

patterns, such as droughts, or as collateral probabilities derived from regulated economic activities. Burning is assumed to involve the controlled use of fire (e.g., garbage or brush removal) but can become a fire when it gets out of control, or its extent implies an irreversible loss.

Some can be detected by satellite or aerial surveillance, but others cannot, as they can be confused with hot spots. A fire occurs when a chemical reaction of combustion takes place, in which a combustible material or fuel is oxidized by an oxidizing agent in the presence of an energy source. This is why we speak of the interaction of the three elements of the "fire triangle" (BIOEX, n.d., para. 5). On the other hand, a hot spot can be any point on the earth's surface with high temperature, which is usually identified by algorithms according to the differences detected between the pixels of the images taken, so it does not necessarily correspond to fire events or controlled burns. A hot spot can be originated by fires, burns, soils heated by the sun, prominent chimneys, active volcanoes, etc. (CONABIO, 2020, cited by CONANP, June 2020).

However, the predominant characteristics of the Amazon, highlighting its humidity, make the sudden appearance of fire or hot surfaces more difficult than in other terrestrial biomes, such as the desert or savanna, which suggests that hot spots in this region have a high probability of coinciding with illegal deforestation, climate change and the irregular use of fire in the expansion of agriculture (Thompson, n.d.). Although climate change and extreme temperature increases may impact some drought hotspots, there is evidence of a strong correlation between hotspots and areas of deforestation. The Nature Conservancy (TNC), based on information from the National Institute for Spatial Research, used data collected between January and August 2019 and found that most of the forest fires are concentrated in specific areas of deforestation, right where land ownership conflicts have been recorded (Thompson, n.d.).

This clear intentionality to provoke the fires and their strong linkage with social and political conflicts -sometimes violent- and criminal dynamics facilitates their classification as threats to environmental, national, and regional security. Land conflicts *per se* should be handled more as a risk factor than a threat because of their correspondence with human rights. Still, when they are associated with serious environmental crimes and logics such as forced displacement or homicide (for example, the murder of environmental leaders), they imply factors of instability and

insecurity that cannot be ignored by the States, thus obliging them to commit their police and military forces.

In terms of related measurements, the Monitoring of the Andean Amazon Project (MAAP) is an initiative of Amazon Conservation and Conservación Amazónica (ACCA) in Peru, with the support of other partners (MAAP, n.d.). Despite difficulties with hot spots and their interpretation, MAAP integrates data from the atmosphere (aerosol emissions in smoke) and the ground (thermal alerts) to detect and map larger fires. In its 168th report, MAAP documented, by the end of 2022, more than 983 large fires across the Amazon (MAAP, November 3, 2022). The slow rate of forest recovery and the magnitude of the phenomenon pose a critical threat to the biome, second only to deforestation in terms of impact, although closely related.

Below is the map generated by MAAP for the intensity of overall deforestation (yellow to red) and fires (light to dark blue) in the Amazon throughout 2022.

For the full year 2022, fires affected 491,223 hectares of forest, mainly concentrated in the Amazonian periphery of Brazil and Bolivia, accounting for 93% of all fires in the region (MAAP, June 27, 2023). The situation in the six countries analyzed in this chapter for the period 2021-2022 is shown below, in order of impact.

The most critical situation is currently being experienced in Brazil, followed by Bolivia. The sharp increase in fires in Ecuador is also a cause for concern, even though the country is experiencing less forest loss. It is also noteworthy that food agriculture and mining (legal and illegal) tend to appear as common main causes of fires. As many civil society actors have warned, the prevalence and persistence of deforestation and fires in areas that States are required by national legislation to protect, such as natural parks, forest reserves and indigenous territories, is a cause for concern. This highlights the failure of authorities to prevent environmental destruction. But in addition to the ecological damage, the fires have a greater impact due to the emission of particulate matter that is harmful to health.

Map 4. Deforestation and Fires in the Amazon, 2022.

Source: MAAP (June 27, 2023).

Table 4. Diagnosis of Selected Countries in Terms of Firee, 2021-2022

Country	Burned Areas 2022 (ha)	Variation 2021-2022	Most affected areas	Main cause
Brazil	348.824	20,5%	States of Amazonas, Pará, Rondônia, Acre and Mato Grosso	Agriculture, soybean expansion, cattle ranching and mining
Bolivia	245.177	47%	Southeastern department of Santa Cruz	Agriculture, soybean expansion
Peru	144.682	6,7%	Central and southern Amazonia (Ucayali and Madre de Dios regions)	Gold mining
Colombia	97.417	2%	Departments of Caquetá, Meta and Guaviare, especially the Tinigua and Chiribiquete national parks and the Yari-Yaguara II and Nukak Maku indigenous reserves.	Agriculture, livestock and illegal mining
Ecuador	18.902	80%	Punino River, Napo and Orellana provinces, Shuar Arutam indigenous territory, Podocarpus National Park and upper Nangaritza forest reserve.	Gold mining, expansion of oil palm plantations and small-scale agriculture
Venezuela	12.584	Stable	Yapacana National Park and the Orinoco Mining Arc	Gold mining and agriculture

Source: Authors, based on MAAP (June 27, 2023).

There are not enough studies for indigenous territories, but Eimy Bonilla, PhD in Environmental Science and Engineering at Harvard University (USA), has presented a pioneering work on the subject, tracking the displacement of PM2.5 particles left by smoke and cross-referencing it with health data in the Amazon basin. It found that, between 2014 and 2019, fires could be responsible for the premature death of some 230 indigenous people, and smoke exposure would be responsible for two premature deaths per 100,000 people in all of South America, but in indigenous

territories increased the figure to four deaths per 100,000 (cited in Monsalve, June 7, 2023). In addition, it was identified that, of the Amazonian countries, the most affected indigenous peoples were those of Peru and Bolivia, while the urban populations of Brazil, Colombia, and Ecuador received most of the smoke. The countries with the most fires (Brazil) are not necessarily those with the most affected communities in terms of respiration, both due to the influence of the winds and the precise location of the outbreaks and settlements. In 2019, Peruvian authorities issued alerts due to the effects of smoke detected in the Amazonian province of Tambopata (Peru), originating from fires in Brazil and Bolivia, which also sparked protests from environmentalists in Ecuador, especially against the government of Jair Bolsonaro (*DW*, August 22, 2019).

Illicit Crops

Illicit crops (coca, marijuana, poppy) are part of the general trend of deforestation in some of the Amazonian countries, but they do not have the same significant impact on the Amazon rainforest as other causes. Part of the explanation lies in the characteristics of the coca leaf, which is usually grown more efficiently at high altitudes and is, therefore, more commonly found in the Andean or mountainous areas of the countries. It is usually found at altitudes between approximately 1,000 and 2,500 meters above sea level. The most common varieties are the Bolivian or *Huanuco*, *Novogranatense* or Colombian, and *Truxillense* or Peruvian coca, with intermediate characteristics between the two previous ones, and all three are found at high altitudes. Less common is the *ipuda* or Amazonian variety, adapted to warmer tropical conditions and very acid soils (Neumann, 2004).

Among the negative effects attributed to its plantation, although they are subject to discussion, are soil impoverishment, loss of structure, and acidification (Dourojeanni, n.d., cited by Matteucci and Morello, n.d.). Among the damages caused by management techniques, the following are discussed: the felling of trees, the extraction of a low percentage of logs of timber value, the use of fire or candela, the planting of staple food (rice, cassava, corn) and the planting of the commercial crop as such, actions that comprise a cycle of between seven and eight years. Although the authors try to show that it is a crop with similar ecological effects to other legal crops and that its management depends more on the type of technology and agrochemical inputs used, the fact is that it also causes deforestation, which is particularly unmanageable for states

where drug trafficking groups proliferate and supply a growing market, different from the ancestral or traditional use of indigenous peoples. And its potential impact in the Amazon could be significantly accentuated with the development of new varieties of coca, which are already being achieved and include species resistant to lower altitudes, with the capacity to produce more crops per year or higher yields and even more resistant to glyphosate spraying, as is the case with the "Boliviana Mona", coca of the *ipuda type*, which is already being planted in Colombia and Peru (Zamudio, January 21, 2016).

The phenomenon of coca cultivation for cocaine production is particularly entrenched in Colombia, Peru, and Bolivia, although it has begun to be detected in Venezuela, without clear figures. It is assumed that Ecuador is a territory free of illegal crops and that Brazil is predominantly a recipient of coca base paste for processing and of cocaine itself for domestic consumption and export. This information is scattered, collected using different methodologies, and even controversial among the government agencies of the countries monitored, which have their own measurements. The arrival of governments critical of the U.S. approach to drug control and cooperation has also led to a greater lack of coordination of observations and metrics, as well as the formulation of alternative policies that are difficult to compare.

The United Nations estimates of hectares of coca cultivation throughout the territory for Bolivia, Colombia, and Peru between 2009 and 2020, based on satellite images, are presented in Table 5, clarifying that for Peru since 2011, they are measured discounting the hectares eradicated.

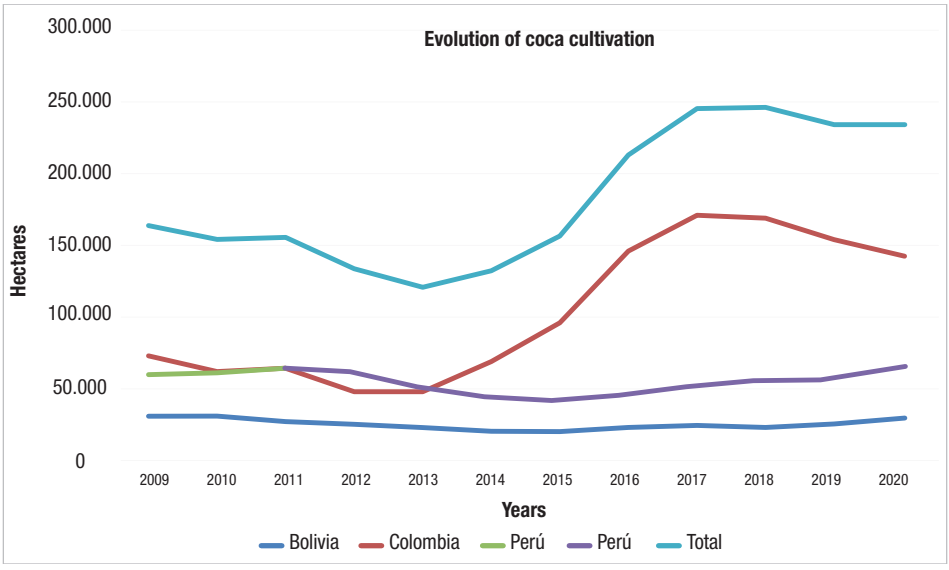
Colombia remains by far the most affected country, except for Peru's records between 2011 and 2013. Although a smaller portion of these hectares is found specifically in the Amazonian areas of these countries, the increase and dispersion of cultivation (new areas) in the second decade of the 21st century is of concern, a dynamic that seems to stabilize towards 2020, as shown in Figure 2.

Table 5. Illicit coca leaf cultivation in most affected South American countries, by hectares, 2009-2020

Year	Bolivia	ColombiaP	erúP	erúT	otal
2009	30.900	73.000	59.900		163.800
2010	31.000	62.000	61.200		154.200
2011	27.200	64.000	64.400	62.500	155.600
2012	25.300	48.000		60.400	133.700
2013	23.000	48.000		49.800	120.800
2014	20.400	69.000		42.900	132.300
2015	20.200	96.000		40.300	156.500
2016	23.100	146.000		43.900	213.000
2017	24.500	171.000		49.900	245.400
2018	23.100	169.000		54.100	246.200
2019	25.500	154.000		54.700	234.200
2020	29.400	142.800		61.800	234.200

Source: UNODC (2022).

Figure 2. Coca Cultivation Trends in Selected Countries, 2009-2020



Source: Authors based on UNODC (2022).

In Bolivia, coca cultivation has been detected in the northern regions of the La Paz department, which is part of the Amazon River ecosystem, and in the Cochabamba tropics region, which lies between the Andes Mountain range and the Amazon plains. The highest concentration of

this crop in the first region is between 1,000 and 2,000 meters above sea level (UNODC, November 2022); in the second region, the largest cultivated area is between 300 and 1,200 meters above sea level, reflecting the potential of this plant to develop in tropical areas. For 2021, an estimated 30,500 hectares of coca were cultivated throughout Bolivia (4% more than in 2020), with an increase in cultivation in the Cochabamba tropics region of around 6% (total of 11,270 hectares), although there was also a slight decrease in the northern region of La Paz, with 9% fewer hectares (464 hectares in total).

In Colombia, an estimated 204,000 hectares of coca will be cultivated nationwide by 2021, a dramatic increase of 42.8 percent. The explanation for this fact corresponds to a combination of factors such as: a) the increase in global demand for cocaine and its derivatives, b) expectations arising from the peace agreements, c) the persistence of territorial vulnerability, d) the generation of incentives for cocaine production and e) the increase of illegal drug trafficking actors (UNODC, October 2022). Although less than the amounts in other Colombian departments, such as those of the Pacific, there are Amazonian departments that have coca cultivation, albeit in a concentration of less than 1,000 hectares each; these are the eastern territories of Vichada, Guainía, Vaupés, and Amazonas. However, other Amazonian territories or territories that incorporate Amazonian forests and have more than 1,000 hectares of coca per department are of concern, such as Caquetá, Cauca, Guaviare, Meta, Putumayo and Nariño (UNODC, October 2022).

For Peru, the last public UNODC monitoring report is from 2017, so it is necessary to resort to another more recent source. The National Commission for Development and Life without Drugs estimated a total of 95,008 hectares of coca for the entire country in 2022, with an 18% increase compared to 2021, which, in turn, exceeded the 2020 estimate (DEVIDA, June 2023). Amazonas and Bajo Amazonas, with 896 and 8,725 hectares respectively, were affected by the presence of coca in 2022. Amazonas had no increase, whereas Bajo Amazonas had a 35% increase.

Climate Change

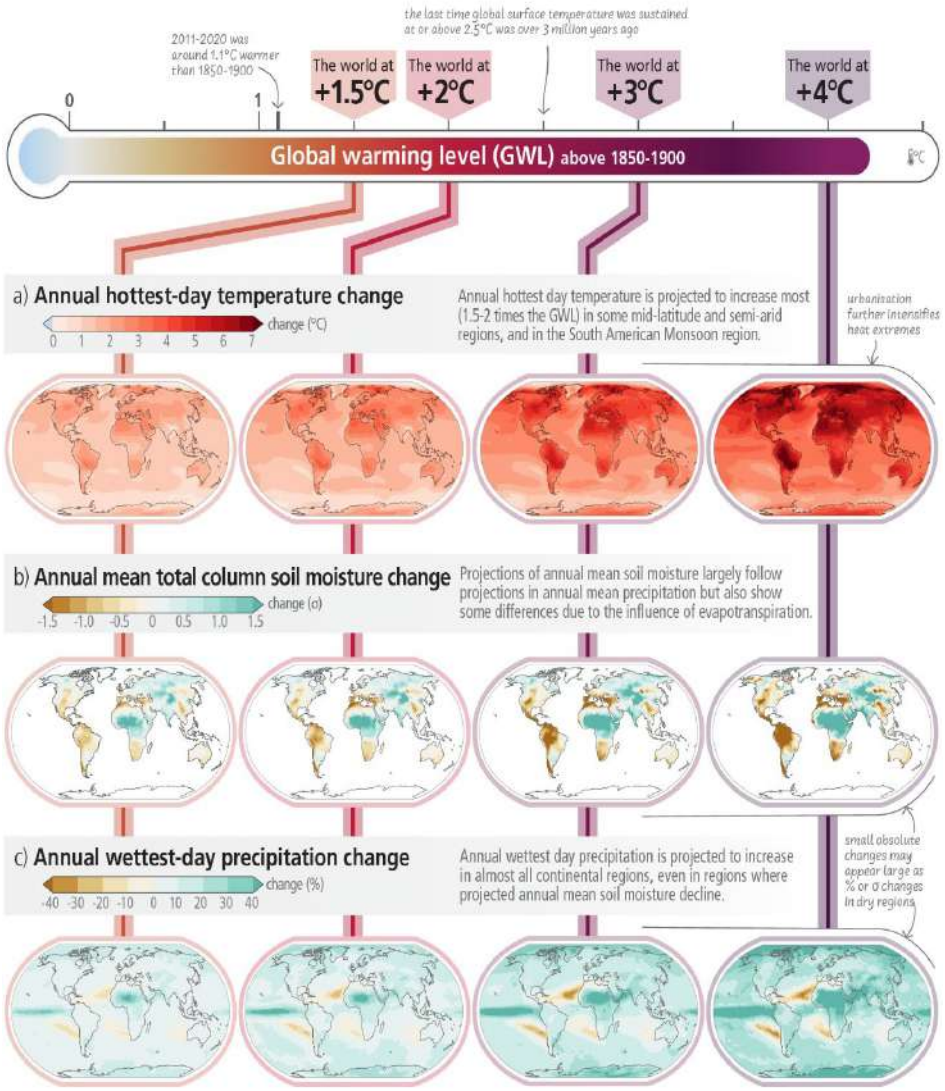
The latest report of the International Panel on Climate Change (IPCC) for 2023 shows that global greenhouse gas (GHG) emissions have increased, as has the use of unsustainable energy sources, and that

changes in land use and unsustainable consumption patterns have not changed. The IPCC warns that the limit of 1.5 ºC must not be exceeded and estimates 3.5 ºC for the year 2100 if this dynamic continues. An increase of 4°C would mean massive extinctions of species, loss of biodiversity, scarcity of drinking water and healthy food, and increased migration due to environmental causes and conflicts over access to resources. According to the report, every tenth of a degree counts, and with each increase, the damage increases. The world has warmed +1.2 °C since the pre-industrial period and will probably reach +1.5 °C between 2030 and 2035. Above 1.5 °C the changes will be irreversible. The actions to which the States have committed themselves are insufficient. These projections can be seen in the following image produced by the IPCC.

The figure 1 illustrates how the extremes become more widespread and pronounced with each increase in global and regional mean climate warming. Likewise, the projected changes in annual maximum daily maximum temperature, annual mean total annual mean soil moisture, and annual maximum one-day precipitation at global warming levels of 1.5 °C, 2 °C, 3 °C, and 4 °C relative to the period 1850-1900 (IPCC, March 2023).

According to the 2014 IPCC, cited by ACTO, "the risk of climate-related impacts derives from the interaction of climate-related hazards (threats) (including hazard events and trends) with the vulnerability and exposure of human and natural systems" (2021, p. 31). The 2023 World Economic Forum expressed concerns about the risks of climate change globally. According to this forum, the following tables by Gudynas (February 5, 2023) show the immediate and short-term risks.

Figure 1. Global and Regional Temperature Increase



Source: IPCC (March 2023, p. 14).

Table 6. Short-Term Risks, 2023-2024

1	Cost of living	Social
2	Environmental disasters and extreme weather events	Environmental
3	Geo-economic confrontation	Geopolitical
4	Failure to mitigate climate change	Environmental
5	Erosion of social cohesion and polarization	Social
6	Large-scale environmental damage incidents	Environmental
7	Failure to adapt to climate change	Environmental
8	Proliferation of cybercrime and cybersecurity	Technological
9	Crisis in natural resources	Environmental
10	Large-scale involuntary migration	Social

Source: taken from Gudynas (February 5, 2023).

Table 7. Global Risks, 2023-2033

1	Failure to mitigate climate change	Environmental
2	Failure to adapt to climate change	Environmental
3	Natural disasters and extreme weather events	Environmental
4	Biodiversity loss and ecosystem collapse	Environmental
5	Large-scale involuntary migration	Social
6	Crisis in natural resources	Environmental
7	Erosion of social cohesion and polarization	Social
8	Proliferation of cyber-criminality and cybersecurity	Technological
9	Geo-economic confrontation	Geopolitical
10	Large-scale environmental damage incidents	Environmental

Source: taken from Gudynas (February 5, 2023).

It is necessary to compare the information in the two tables. The first under a context of European war that has affected the cost of living due to the scarcity of specific resources, and that has the conflict over territory as a background. In the second, there are clear concerns about climate change and environmental problems.

In the case of Latin America and the Caribbean, contributions in GHG emissions "come mostly (94%) from the provision of energy services" (Galindo, Hoffman and Vogt-Schilb, February 2022, p. 2). Agricultural activity, especially livestock, competes with "forests and other high-carbon systems, and is thus the main cause of deforestation, which produces

more than one-fifth of GHG emissions in the region" (p. 3). Amazon forests are being cleared to use their soils for agriculture or to convert them into pasture for cattle ranching.

In this general context, some of the problems and challenges facing the Amazon in the face of this phenomenon will be addressed. Climate change has an impact on the Amazon and, at the same time, Amazonian degradation affects the climate of the South American region and the world. As explained and summarized by Nepstad (2007), cited by UNEP (2009):

> First, the forest acts as a gigantic heat consumer, absorbing half of the solar energy that reaches it in the evaporation of water from its foliage. This energy captured by the Amazon forest has effects that extend worldwide through links called 'climate teleconnections', many of which we are still in the process of better understanding. Second, it is a large and relatively sensitive reservoir of carbon released into the atmosphere through deforestation, drought, and fire, contributing to the accumulation of greenhouse gases. Third, the water draining from the Amazon forests into the Atlantic Ocean constitutes 15% to 20% of the world's total riverine freshwater discharge and could be sufficient to influence some of the major ocean currents, which are important regulators of the climate system (p. 100).

The Amazon plays a vital role in regulating the planetary climate as a large carbon sink currently weakening due to deforestation, climate change and moisture stress. It is a complex, non-uniform system and is interrelated with other South American ecosystems. It has a variability of soils and climatic zones. ACTO studies have identified 14 climate classes in the Amazon (2021). There is no unanimity about how much the temperature will increase in the Amazon. The ACTO *Atlas of Hydroclimatic Vulnerability of the Amazon Region* points out several scenarios of temperature increase for the year 2100: the IPCC scenario, which is between 1.5 °C and 2.0 °C; Ambrizzi (2007) and Nobre (2009) estimate up to 4 °C and 6 °C; and according to the Representative Concentration Trajectories 8.5 scenario, between 4 °C and 6 °C. All agree that there will be variability in rainfall cycles with "an increase in rainfall extremes in both intensity and quantity" (ACTO, 2021, p. 75). Other threats include extreme weather and droughts in various regions and, at certain times, floods, forest fires, and an increase in the frequency of the El Niño phenomenon. Currently:

- Drought is responsible for 19% of disasters in the region. In the Brazilian Amazon alone, the frequency of drought-related disasters rises to 46%.
- Major impacts from forest fires are partly the result of increased drought in the Amazon region over large rainforest ecosystems and agricultural areas (2021, p. 75).

Studies indicate that climate change will increase tree mortality and thus reduce photosynthesis (Gatti, Basso, Miller, Gloor, Gatti and Cassol, 2021). The disappearance of Andean glaciers due to climate change and the logging of high Andean forests affects the Amazon basin because large rivers that feed it originate there. However, this fact "would represent less than 1% of the annual mass of the Amazon River" (UNEP, 2009, p. 102). Nevertheless, glaciers supply water to populations. "Peru, for example, concentrates more than 70% of the world's tropical glaciers. Bolivia, Ecuador, and Chile also rely on glaciers as water sources" (Patterson, 2017, p. 184). In contrast, deforestation and hotspots could "convert up to 60% of the Amazon into savanna this century" (UNEP, 2009, p. 17).

Although the melting of the Andes has little effect on the flow of the Amazon rivers, the so-called "flying rivers"[1] are vital for all of South America because they contribute to rainfall in the Amazon foothills and thus influence river flow and rainfall throughout the region. These flying rivers are "charged with moisture by the evapotranspiration of the Amazon forest [...] and feed important water areas such as the La Plata river basin to which the Amazon contributes almost 20% of its average annual precipitation," according to Martínez and Domínguez (2014), cited by Cifuentes Guerrero and Cote Alarcón (2022, p. 48). The most serious aspect of the matter is that this phenomenon only "works in pristine natural forests; planted forests or other types of vegetation such as pastures are not capable of activating the Amazon bio-pump and generating enough water vapor for flying rivers to form" (p. 48). In summary, the weakening of the flying rivers threatens other South American ecosystems and their inhabitants. The following figure shows this process.

1 The so-called flying rivers or rivers of the air "are found at an altitude of up to 15 kilometers, which are transported by the humid wind currents, which, upon colliding with the Andes Mountains, ascend, cool and condense, generating precipitation over the Andean foothills that feed the surface water currents, on which the water supply of cities located kilometers away from the region depends (Poveda, 2011)" (Cifuentes Guerrero and Cote Alarcón, 2022, p. 48).

Figure 2. Flying rivers in Amazonia

Source: LATFEM (March 17, 2021).

The impacts of climate change have social, environmental, and economic costs that are difficult to quantify and have multiple dimensions (Jacobs, 1991), even more so in a system as complex as the Amazon. Generally, negative and positive externalities such as infrastructure, certain social costs, garbage, pollution, and disaster prevention plans are quantified, but not the value of fauna and flora species or the cost of all the genetic resources of the Amazon that disappear due to anthropogenic actions and climate change. For example, is it possible to quantify the value of indigenous communities' care to the Amazonian

environment? The IDB, in a 2022 working paper on the costs of achieving climate change goals, estimated "that each degree of temperature increase is associated with a reduction of between 1% and up to 4% of gross domestic product (GDP)" (Galindo, Hoffman and Vogt-Schilb, February 2022, p. 2). As stated in the document, only the economic requirements for infrastructure investment have 15 estimates from different authors and entities with other criteria. In any case, the costs will be very high and different for all regions.

The response of the Amazonian states to climate change has been dissimilar, depending on the political situation of each one. The eight States that make up the Amazon rainforest signed the Amazon Cooperation Treaty (ACT) in 1978 and, to make its principles a reality, in 1995, they created ACTO, which operates through summits of heads of State, meetings of foreign ministers, and a Permanent Secretariat. This organization has instruments such as the Amazon Regional Observatory (ORA), a program on aquifers approved in June 2023 called "Towards a better understanding of the Amazon aquifer systems for their protection and sustainable management," seven specific projects in execution, and several already implemented, in addition to countless studies, among which the Atlas of Hydroclimatic Vulnerability of the Amazon Region stands out. However, the pronouncements of the heads of state and ministers are not binding. ACTO is not an authority, nor does it have autonomy.

Environmental Management Challenges in the Amazon

Progress must be made in managing the Amazon's environment and guaranteeing the human rights of its indigenous peoples, who sometimes remain beyond the reach and sight of central governments.

The pursuit of human rights protection with an ethnic focus in the IPAs should be the umbrella that covers any action undertaken in the region. The Amazon should be thought of not only as a matter of environmental management or sustainable development but also as the home of thousands of people with obstacles to accessing their rights. Thus, three significant management challenges emerge, which will be described below.

Seeking Regional Cooperation and Strengthening Existing Legislation

The Amazon region covers nine countries: Brazil, Peru, Colombia, Venezuela, Venezuela, Bolivia, Guyana, Suriname, Ecuador and French Guiana. It constitutes an ecological unit that does not distinguish human-made borders (Vergara, Arias, Gachet, Naranjo, Román, Surkin, and Tamayo, 2022). This transboundary dependency suggests the need for actions focused on cooperation processes between these countries that share the responsibility for protection.

Among the current initiatives is the ACTO. Its treaty was ratified in 1978 by eight of the countries that share the territory, which, since its creation, has contributed to cooperation and the creation of public policies to protect the indigenous peoples of the region and manage their resources (Soria Dall'Orso, September 5, 2019). Likewise, it is worth mentioning the signing of the Pact for the Amazon (2019) by seven of its countries, which contains 16 actions for protecting and conserving the biome (Ministry of Foreign Affairs of Colombia, September 6, 2019). It sets out sovereign rights and an action plan with five work axes: reforestation and sustainable use of biodiversity, Amazon security, information management, empowerment of women and indigenous peoples, and international financing and cooperation (Leticia Pact for the Amazon, September 6, 2019).

With an understanding of the existing treaties, countries must develop strategies to address specific problems. Verbi gratia, illegal mining, illicit crops, illegal logging and wildlife trafficking must be addressed, as mentioned in the fifth axis of the Leticia Pact for the Amazon. Deforestation must also be combated, local and national actors coordinated, and sustainable development promoted (Ávila Quintero, 2023).

However, it is also essential to promote public participation in decision-making on projects that threaten the environment. For example, Colombia has mechanisms such as administrative public hearings or prior consultation when considering and developing projects that intervene in their territories (Law 99 of 1993). Five of the six Amazonian countries listed in this chapter are signatories of the Escazú Agreement (2018), except for Venezuela (ECLAC, n.d.). That instrument contemplates participation mechanisms, but it poses a challenge for implementation to be adjusted to the social and economic dynamics of public policies beyond conservationism.

To underpin public policies and strengthen legislation, environmental management must consider differential approaches, understood as frameworks of analysis to understand the specificities of populations according to age, gender, ethnicity, disability, socioeconomic situation and other conditions (DANE, n.d.). This will allow for concrete affirmative actions that recognize the needs and ensure that everyone has equal and equitable access to protect their rights in the Amazon.

Education as a Tool for Developing Sustainable Alternatives

The second challenge is training in skills and competencies focused on developing economic alternatives for the region. While education is a fundamental right that allows people to overcome inequalities and achieve sustainable development of communities (Unesco, n.d.), environmental education allows citizens to obtain tools to make informed decisions and become involved in resolving problems specific to their territory (EPA, n.d.). The social appropriation of the knowledge of the ancestral knowledge and customs of ethnic and indigenous communities, as part of the understanding of their worldview, allows addressing environmental management in a sustainable manner (CVC, December 15, 2022).

To this end, a process of technical support and controlled interaction with the cultures of the IPAs is needed, allowing the development of productive projects and intersectoral integration, without destroying their identity and cosmovision. The Amazonian territory combines its agro-food vocation with the preservation of a world-renowned environmental heritage. With these characteristics, in order to consolidate specific, specialized and competitive products in national and international markets, the region requires a sustainable use of the land and the diversity of available natural resources. Important efforts are being made to organize communities in the planned use of forest resources, including payments for environmental services and community forestry. However, a regional initiative must be consolidated to create a framework for investments and public policies aimed at the use and construction of agro-industrial centers as real mechanisms for the sustainable transformation of these natural conditions in the Amazon.

Thus, educational programs can be developed to achieve nature-based solutions. These are actions that aim at the sustainable management of ecosystems and at the same time provide benefits to the population in the face of challenges such as food security, water

security or biodiversity loss (IUCN, n.d.). For example, training projects in forest restoration should accompany initiatives in protected areas to provide foresters with technical tools to ensure environmental stewardship beyond the legal boundaries of the area in which they operate.

The International Labor Organization (December 8, 2022) considers that investing in nature-based solutions has created jobs for more than 75 million people. This allows the benefits obtained to generate activities in the economies of protected areas, which favors circular economy dynamics. There is also an opportunity to advance capacity building for the promotion of ecotourism (Rojas Portacio and Espinosa Osorio, 2020). That's why the development of tourism information is necessary to consolidate a competitive transnational border integration. It will be supported by trade and business development.

Incentives for Conservation and for the Transition

Finally, the environmental management of the Amazon can be favored with greater international cooperation, in order to generate bilateral and multilateral stimuli for conservation and sustainable development, in addition to supporting energy and technological transition, which are very costly for developing countries. However, multilevel environmental governance requires highly coordinated, collaborative, and decentralized processes, avoiding extreme dependence on both central governments and the powers that provide cooperation. Likewise, while forest areas should be increased, it is essential to design progressive and transitory programs for substituting goods and services from local trade balances. The mere legal demarcation of protected areas is not effective if the material dependence of the communities on the irregular exploitation of the territories is not eliminated.

Conclusions

Deforestation is a major threat to the ecosystem stability of the Amazon, with multidimensional negative effects. Licit and illicit economic activities are the main cause of this phenomenon which, in turn, ends up exacerbating climate change due to the importance of forests in capturing CO_2. The paving of roads is the first manifestation, in which Ecuador, Peru, and Brazil have the greatest environmental impact, followed by Colombia, where unpaved roads predominate. A second deforestation activity is generated by the agricultural sector, which represents

the greatest source of devastation due to its lack of management and planning. In this regard, Brazil, Bolivia, Peru and Colombia appear to be the most affected countries and incapable of significantly slowing down this dynamic, although the first of these is considerably higher than the others, accounting for almost 81% of deforestation between 2001 and 2020 among the six Amazonian countries compared.

The problems of territorial control of these states, the weak economic and environmental governance, the center-periphery relations that make the Amazonian countries dependent on the export of primary products to the industrialized and emerging powers, added to the direct encouragement of some governments to expand the agricultural frontier in areas that should be protected, a case in which Jair Bolsonaro's government in Brazil stands out negatively, are part of the explanation of this disastrous panorama for the environmental security of South America. Both 'alternative' and 'neoliberal' governments have been responsible for this deterioration, either by omission, consent, or frontal emphasis on the extractive and unsustainable economy.

Illegal mining in Panamazonia alters biodiversity, pollutes water, and affects the social fabric of communities in the region. This activity threatens food security, the national security of the states, and encourages organized crime. The whole chain of illegality makes it impossible to govern these territories under the current circumstances, and there are no known common strategies to combat this transnational crime.

Fires and burns are directly related to deforestation, although they are one of its causes, among others. Although fires can be considered manageable environmental risks, which are accentuated by warming and droughts (aggravated by climate change), for example, when the El Niño phenomenon occurs, they represent a serious environmental threat in the Amazon because of their predominantly intentional -human- origin, their recurrence, and their magnitude. Although they are not always caused by fires, there is evidence of a strong correlation between satellite-detected hot spots and the deforestation areas found, where conflicts over access to and ownership of land and criminal logic stand out. In terms of the impact, for the sample of countries chosen, Brazil, Bolivia, Peru, and Colombia, in that order, reflect the worst situation, as there was not much difference in the number of hectares burned between them by 2022, although Bolivia and Brazil showed the greatest percentage increase compared to the previous year. Agriculture, livestock, and

mining (legal and illegal) were the activities most associated with fires. Many fires were set in areas that should be specially protected, such as natural parks, forest reserves, and indigenous territories. In addition to the ecological damage, fires affect populations through the emission of material that is harmful to respiratory health, and it should be noted that the associated rate of deaths per 100,000 people is higher in indigenous territories than in urban areas.

Illicit crops, particularly coca leaf, have a smaller impact on Amazon deforestation than the other factors analyzed, but they are a threat that has the potential to grow. Although it is a phenomenon that mainly affects Andean or mountainous areas, the improvement of coca varieties for higher yields in terms of the number of harvests per year and the ability to plant in lower altitudes, as well as the growing participation of new local actors and transnational structures in the production chains, suggest that this factor of pressure and instability could increase in the tropical forests of the most affected Andean countries, Colombia, Peru and Bolivia, despite fluctuations and declines in the international cocaine market. In the case of Bolivia, coca has been detected in the northern regions of the department of La Paz, which is part of the Amazon River ecosystem, and in the Cochabamba Tropical region, near the Amazon plains. In Colombia, it has been detected to a lesser extent in the Amazonian departments of Vichada, Guainía, Vaupés and Amazonas, but to a greater extent in Caquetá, Cauca, Guaviare, Meta, Putumayo and Nariño. In the case of Peru, there is less coca cultivation in Amazonas, but a significant expansion in Bajo Amazonas.

Although it has been argued that the environmental impact of coca is not very different from that of other (legal) crops, such as food crops, which would justify their decriminalization or regulation, the fact is that they lead to deforestation and are often linked to planting and maintenance techniques, including the use of herbicides such as glyphosate to clear the land before planting, which are not environmentally sustainable. Moreover, they represent an additional factor in prolonging the *commodity* curse, thus encouraging extractivism and the uncontrolled expansion of the agricultural frontier in countries with weak institutions and low value-added economies. Although coca has a legitimate ancestral use, it cannot be considered a sustainable development alternative, especially in the Amazon.

The Amazon is a key ecosystem for the region's and the planet's climate, but anthropogenic interventions threaten it. The IPCC's 2023 report

is not encouraging about progress in mitigating climate change, as global temperatures have risen. If current trends continue and sufficient and adequate measures are not adopted in terms of energy and changes in consumption patterns, all scenarios are pessimistic and even catastrophic. The Amazon is at risk of becoming a savannah. However, the effects of climate change will be different for each region.

Finally, three opportunities for improvement are proposed to address the major challenges in the Amazon. First, regional cooperation and regulatory strengthening provide flexible tools that are coherent with local realities. Second, education is used as a means of innovation and research to promote sustainable development. Third, incentives support the endogenous design of strategies that favor environmental management. These three approaches should be managed in coordination with the social actors, respecting the culture and leadership of the IPAs. In addition, a relationship with the communities must be sought that articulates and encourages their participation, not only in electoral situations but also in decision-making processes and in developing projects that achieve socially efficient and environmentally sustainable proposals.

Recommendations

To the governments and their delegates in ACTO: a) Strengthen the organization with supranational resources and powers, independent of the governments in power; b) Build a collective conception of the Amazon region so that it is not understood as an immovable geographical barrier, nor as a barren and wild area to be systematically explored and colonized. Avoid the extremes of protected areas, which ignore the ecosystem services they provide, and economics, which subordinates the environment to the generation of wealth or profit.

To the central governments and environmental protection agencies of the Amazonian countries: It is imperative to increase the number of protected areas, to protect more natural parks, and to develop reforestation plans with endogenous specimens that allow the biome to recover itself. It is also important to allocate or increase budgets for national funds for forest conservation and restoration, complementing them with international cooperation. Colombia's proposal to exchange part of its foreign debt with industrialized countries for climate mitigation and conservation actions in the Amazon could be replicated by the other countries in the region, which imposes a high coordination obligation on them

to increase their negotiating power vis-à-vis the United States or the European Union.

Climate change and its impact on the Amazon are on the agendas of all South American countries and organizations. Still, political will is required with urgent and compelling joint actions and strategies for mitigation and adaptation. It is recommended that the partners of each economic bloc and consultation forum create *enforcement* and compliance mechanisms so that commitments are binding, regardless of changes of government. Regional fiscal, financial, commercial, and other incentives can also be created within regional organizations and forums, with the support of public-private partnerships and international cooperation, to accelerate the green transformation of the mining and hydrocarbon sectors, industrialization with environmentally sustainable value chains and technological renovation of the agricultural sector, seeking to create clusters that receive benefits when they provide resources, knowledge or applications to enhance climate adaptation and Amazon conservation.

Finally, it is recommended that OECD countries, the European Union and bi-regional dialogue mechanisms, such as EU-LAC or CELAC-EU and China-CELAC, prioritize climate change and Amazonian protection issues in high-level dialogues and emphasize the creation of incentives and mechanisms for the transfer and joint development of knowledge and green technologies in international cooperation programs for Amazonian countries.

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Armed Conflict: Collective Strategies for an Environmental Security Proposal for the Amazon

The central role of human rights defenders and leaders

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Introduction

Concern for the environmental agenda is still maintained from an anthropocentric approach, despite some ethical reflections that attempt to transcend this vision towards one that is understood less in an instrumental protection and more in respect for nature as the great ecosystem, general lines that have been outlined from the Andean constitutionalism. It is life in all its aspects that requires the inescapable commitment of these generations facing the drama of the climate crisis.

While the environmental crisis is the result of a confluence of factors, human intervention has played its part in this degradation, one of the dark legacies of modernity, but, in any case, war increases risk factors and environmental damage.

Therefore, thinking about environmental security in a country at war implies assessing the impacts of the armed conflict, on the one hand, thinking about the risk they generate for the population that ends up being victims in the affectation of their fundamental rights and, additionally, the changes in their uses and customs that impact ecosystems, but, at the same time, assessing the actions of this population that remains in resistance, safeguarding their lives and integrity, demanding their rights, without leaving aside the environmental concern as a priority for the protection of nature, which at the same time is their home.

In this sense, addressing environmental security in a country at war requires interpretive frameworks that allow decision-makers to think of governance as a hermeneutic framework for building a strategy for finding solutions that take into account the values and practices of a diversity of political and social actors interacting within institutionalized structures and both state and pre-state processes.

In this sense, following Foyer (2010, cited by Pastrana and Lowe, 2020), it is important to keep in mind that governance is characterized, on the one hand, by the decentralized exercise of power and, on the other hand, by the evaluation of different, certainly conflicting interests and a certain depoliticization of national politics as a result of technocracy.

In this way, a horizontal approach to multilevel environmental governance makes it possible to value the subaltern voices of communities that are traditionally outraged by the neglect and certain disqualification, in Kantian terms, of the "minority of age" in their positions, as possibilities to confront the situations that directly affect them, the imposition of a state-centered and ultra-specialized paradigm that sometimes generates well-intentioned actions that do not solve the public problems that affect communities and, even worse, cause various harms to them.

Thus, the victims of the internal armed conflict in border areas are characterized by multiple forms of oppression resulting from the conflict itself, such as lack of power, marginalization, violence, cultural imperialism and exclusion (Young, 1990).

Now, thinking about environmental security requires the construction of a strategy that allows the realization of national, regional and extra-regional interests around the protection of the Amazon in order to consolidate Colombia's power as a middle power in the region and, at the same time, to guarantee the existence of the lungs of the world. Such a strategy will be much more relevant for the well-being of the communities that inhabit the triple frontier if it is carried out with those who live in these territories ancestrally.

One of the recommendations presented (Pastrana and Lowe 2020) to improve multilevel environmental governance in the Amazon is, among others, the need for the countries of the subregion to incorporate effective participation mechanisms for the communities that have seen their life projects destroyed as a consequence of environmental degradation, local actors and environmental leaders who are victims of the armed conflict and belong to indigenous communities. Therefore, this chapter responds to this call and is concerned with learning about their perceptions and, at the same time, those of peasant communities on the challenges of governance in their territory to promote environmental security.

The strategy design from Lykee's model has three components: means, ways and ends. In turn, three questions facilitate the formulation of the strategy: "what is to be done, how is it to be done, and what resources are required to do it this way" (Pastrana and Vera, 2020, p. 83). In this sense, the means are the resources that support the mode, the modes are the how and constitute the design of the method to achieve the ends, which would be the objectives of the strategy.

Thus, under the theoretical framework of multilevel environmental governance, this chapter explores the proposal for an environmental security strategy (this is the end) in the context of the non-international armed conflict; in the how to do it, we propose listening to the subaltern voices[1] of Amazonian leaders, in articulation with the National Development Plan and international regulations that give us the resources to achieve the ends in terms of the design of the strategy.

The following argumentation will first describe the context of the armed conflict in the Amazon region and the situation in the subregion after the signing of the peace agreement with the defunct guerrilla group Revolutionary Armed Forces of Colombia - People's Army (FARC-EP). The content of the strategy is presented below, starting with the objective of the strategy, which is to incorporate the opinions of the leaders we visited to learn about their perceptions as key elements of a multilevel governance strategy. For this purpose, on August 3 and 4, 2023, in Leticia, we conducted three focus groups with eight leaders and environmental defenders, mostly peasants and victims of the internal armed conflict, eleven indigenous leaders of the Witoto ethnic group, and three peasant leaders. With these people we discussed the following questions 1) what is the importance of environmental leaders in the region, 2) what are the obstacles they face in developing their leadership, 3) what guarantees do they have to develop their leadership, 4) what has the signing of the Peace Accords meant for the development of their leadership activities, 5) have they participated in the regional meetings for the elaboration of the Development Plan, and 6) have their voices been heard by the political leaders?

Later in the chapter, we analyze the resources available to make the environmental security strategy possible: the National Development

1 The subaltern voices from the decolonial theory refer to the recognition of diversity from the different forms of oppression and ethnocentric, classist and racist claims.

Plan, as well as some elements of foreign policy that in our opinion promote an optimal path to consolidate the strategy. Next, we propose the means that we believe would make it possible to consolidate the strategy and, finally, we consider the risks that would threaten the strategy.

Armed conflict and the Amazon

The south of the country is the periphery. Guainía, Vaupés and Amazonas are the Colombian departments that make up the border area with Brazil. However, the green Amazon occupies 42.3% of the country's continental territory and is made up of the departments of Putumayo, Caquetá, Guaviare, Amazonas and Vaupés plus a portion of the departments of Meta and Vichada. In relation to the Greater Amazon, Colombia contributes 6.8% (SIAT-AC, 2023).

With a low population density, mostly indigenous, the department of Amazonas has not been among the priorities of the central administration; in fact, today it has only two municipalities: in addition to its capital Leticia, with the emblematic Puerto Nariño. Its territorial planning still includes, like other departments[2], non-municipalized areas, a situation that makes it difficult for the state to offer.

Despite its rich biodiversity and the rubber boom of the nineteenth century, which projected a Leticia with a promising road infrastructure, as if preparing for the future, Amazonas has suffered from state anaemia, low coverage of public services and difficulty in guaranteeing the economic, social and cultural rights (DESC) of its population, reasons enough for some to be the main cause of the withdrawal of illegal groups, such as the M-19 in 1978 and the FARC-EP in the eighties. Cabrera-Nossa (2012) would add another consequence, a product of the implementation of the state military strategy that fought the insurgency in the interior of the country: the migration of the Amazonian population to the border zone.

According to Jaramillo, Mora, and Cubides (1989), state neglect can be explained by the low population density, the lack of political interest, and, consequently, the lack of communication between Bogotá and the Amazon, which is reflected in the absence of roads connecting urban centers and transportation infrastructure in these departments. This context allowed the consolidation of the FARC-EP in the territory during

2 Vaupés, Guainía, and San Andrés and Providencia.

the second half of the 20th century (1980-1990), as the geographical characteristics of the land were suitable for coca cultivation due to its large areas and, of course, the socioeconomic conditions of the poor population, who saw the insurgency as an opportunity to obtain income, added to the fact that it was an area unknown to the Military Forces, which generated strategic advantages for the guerrillas (Trujillo, 2014).

Thus, the FARC-EP consolidated in the south of the country in the departments of Caquetá, Putumayo and Amazonas, initially obtaining revenues from drug trafficking, a factor that facilitated the financing of their growth during the 1990s, and strengthening their military structures in Guainía and Vaupés, a product of illegal mining (Rangel, 1999). The guerrillas operated in the region through the Southern Bloc and its fronts 1, 15, 16, 32, 48, 49, 52 and 63 (Trujillo, 2014).

Law 2 of 1959 recognized the Amazon as one of the country's seven forest reserves, with the purpose of developing the forest economy and protecting soil, water and wildlife (Article 1). However, the fight against coca crops under Plan Colombia strategies included spraying these areas with glyphosate. Without meeting the goal of coca eradication, plant species were destroyed and soils were sterilized; acute toxicity and deaths of livestock, birds and rodents were generated; water sources were contaminated to the point of affecting them for human consumption; and damage was caused to the tropical forest, flora, fauna and their ecosystems, among other consequences (Trujillo, 2014).

As is evident from the above, the Colombian armed conflict has caused effects that have put environmental security at risk by directly impacting ecosystems. The *Centro Nacional de Memoría Histórica de Colombia* assessed these impacts and pointed out that practices ranging from the blowing up of oil pipelines, which is common, especially in the north of the country, to the indiscriminate felling of trees, the extraction of minerals and the alteration of riverbeds, have affected our ecology. Added to this is the erosion of land due to abandonment or inappropriate use due to forced displacement and, thus, the fracture of the balance between the world and nature (CNMH, 2013).

Border regions in the triple frontier between Brazil, Colombia, and Peru have always been targeted by illegal armed groups and transnational criminal organizations. Prior to the Peace Agreement, the FARC-EP, National Liberation Army (ELN), and paramilitary groups used these areas to avoid direct confrontation with the military forces.

Amazon and the Peace Agreement

The Final Agreement for the Termination of the Conflict and the Construction of a Stable and Lasting Peace sets forth, in its preamble, "a new vision of a Colombia in peace" that allows achieving a sustainable society, united in diversity, founded not only on the worship of human rights but also on mutual tolerance, environmental protection, respect for nature, its renewable and non-renewable resources, as well as its biodiversity (Oficina del Alto Comisionado para la Paz de Colombia, 2016).

However, after the signing of the Agreement, signed with the extinct FARC-EP guerrilla in 2016, deforestation worsened in the region and the threats and risks to people protecting nature were accentuated. There was an increase in unsustainable and illegal practices for land management and use: extensive cattle ranching, illicit crops, illegal mining and logging.

The Colombian Ombudsman's Office[3] has issued eight early warnings, two of imminence[4] and six structural, since 2018 in the department of Amazonas.

3 Ombudsman's Office of Colombia.

4 Imminent warnings are issued due to the seriousness of the situation and the high probability of a risk materializing in a shorter period of time and propose urgent prevention actions. Structural alerts are warning documents composed of the following sections: threat context, vulnerabilities and social and institutional capacities of the territory. In addition, the recommendations are focused on promoting dissuasive actions, early prevention, protection, social public policy and organizational and institutional strengthening.

Table 1. Early warnings, 2018-2023

Alert number	Zones	Alert type	Key issues
026-18	La Pedrera, Leticia and Puerto Nariño (Amazonas)	Structural	Violence against human rights leaders and defenders is part of a risk scenario of national scope that has particular expressions at the territorial level.
022-18	La Pedrera, La Victoria, Miritíi-Paraná and Puerto Santander (Amazonas)	Structural	The alert contains an analysis of the territories that may be impacted by the presence of illegal armed groups, which affects the normal development of the elections.
035-19	El Encanto, La Chorrera, La Pedrera, La Victoria, Leticia, Miritíi-Paraná, Puerto Alegría, Puerto Arica, Puerto Nariño, Puerto Santander (Amazonas)	Structural	Massive human rights violations and breaches of IHL that materialize in the territories are indicators of the possibility of risk that citizens may be restricted in their ability to elect and be elected.
018-20	El Encanto, La Chorrera, La Pedrera, La Victoria, Leticia, Miritíi-Paraná, Puerto Alegría, Puerto Arica, Puerto Nariño, Puerto Santander and Tarapacá (Amazonas).		The risk scenario is configured by the presence and actions of non-state armed actors and organized crime armed groups, and due to the effects and measures adopted to face the health emergency derived from the COVID-19 pandemic.
022-21	La Pedrera (Amazonas)	Imminence	The current context of threat and imminent risk derives from the transit of the dissident faction of the former FARC-EP Frente Primero Carolina Ramírez, in the communities of the non-municipalized area of La Pedrera, motivated by the intention of recruiting and linking children and adolescents from this territory to their ranks.

Alert number	Zones	Alert type	Key issues
002-21	El Encanto, La Chorrera, Leticia, Puerto Alegría, Puerto Arica, Puerto Nariño and Tarapacá (Amazon)	Structural	The risk scenario is mainly shaped by the actions of the dissident faction of the First Front of the former FARC-EP, characterized by the domination and control of the territory along the Putumayo River basin and up to the Amazonian Trapezoid subregion, and by the presence of the organized crime group Sinaloa-La Mafia, to a greater extent in the Putumayo Axis subregion, accompanied by the actions of smaller criminal groups.
004-22	El Encanto, La Pedrera, Leticia and Puerto Santander (Amazonas)	Structural	Warns about the risks related to conducts against the mechanisms of democratic participation that, within the framework of the armed conflict and related violence, may constitute violations to the rights to life, liberty, integrity, security, political and civil liberties, as well as IHL, during the electoral days scheduled for 2022.
019-23	El Encanto, La Chorrera, La Pedrera, La Victoria, Leticia, Miritíi-Paraná, Puerto Alegría, Puerto Arica, Puerto Nariño, Puerto Santander and Tarapacá (Amazonas).	Structural	Warns about risks to the life and personal integrity of human rights defenders, social leaders, their organizations and collectives, and to the guarantees of their work, in 706 municipalities and 16 non-municipalized areas in 32 departments of the country.
017-23	La Pedrera, La Victoria, Miritíi-Paraná, and Puerto Santander (Amazonas); Taraira (Vaupés)	Imminence	The risk stems from the transit, presence and operation of dissident factions of the former FARC-EP, which have identified themselves as the Frente Primero Carolina Ramírez and Frente Armando Ríos, both structures belonging to the so-called Estado Central Mayor (ECM) of the FARC.

Source: Prepared by the authors with information from the Early Warning System of the Ombudsman's Office of Colombia.

It is important to note that the last imminent early warning (017-23) issued by the Colombian Ombudsman's Office warned about the high risk to which indigenous communities are exposed, especially those of the Yaigoje Apaporis reservation. Located in the departments of Vaupés and Amazonas, these indigenous communities belong to the Associations of Indigenous Traditional Authorities of the Amazon (AATI). They are located in the non-municipalized areas[5] of La Pedrera, La Victoria, Miritíi-Paraná and Puerto Santander, in the sub-region known as Eje Caquetá of the Department of Amazonas.

The above areas have a strong presence of the First Carolina Ramirez Front of the FARC dissidents, which extends from the department of Putumayo and mainly in the non-municipalized areas of the Caqueta river basin in the department of Amazonas. The Early Warning System proceeded to warn of risks in the non-municipalized area of La Pedrera as well as in subregions adjacent to those alerted here, in the departments of Amazonas and Vaupés, due to the reconfiguration of several armed structures after the signing of the Final Peace Agreement and the laying down of arms by the FARC-EP.

The most frequent victimization reported by victims of the armed conflict is the threat posed by the presence and activity of dissident groups of the former FARC-EP, identified as the First Carolina Ramírez Front and the Armando Ríos Front, both structures belonging to the Central Mayor State (ECM) of this guerrilla group; armed recruitment of children and young people; homicides in non-municipalized areas, such as La Pedrera; and risks to indigenous authorities and organizational processes.

A Strategy for Environmental Security: Including the Underrepresented Voices - Resilience of Environmental Leaders

Security is a dialectical concept that is contrasted with its opposite, insecurity; therefore, it is a subjective representation in a given situation. The noun seguridad is a quality of the adjective seguro and means certainty, sure and clear knowledge of something (Real Academia Española, 2014).

5 The non-municipalized areas are 93% of the area of the department of Amazonas and most of them belong to indigenous communities, subject to non-indigenous governments under their conditions and rules. They are known as rural or dispersed rural areas.

The reference to "security" is becoming more and more vague, and we are not always clear about what we mean when we talk about it, although it is clear that it is an issue on the national and international political agenda. Security is one of the purposes of the State; it is one of the reasons why we have become partners. However, what makes its approach more complex is the understanding that it has become an epistemic device, that is, it manifests itself as a structural system that articulates powers, problems, representations and knowledge (Da Agra, Quintas and Fonseca, 2002).

For example, taking into account the North-South division of the international system identifies the problems differently: although the central countries have caused the climate crisis, their interests have been promoted by the security of transnational corporations domiciled in their territory, but with interference in the triple border; from this point of view, it is security for whom.

On the other hand, the countries of the Amazonian South have managed to promote a common agenda for the protection of the Amazon but continue their negotiations from neoliberal positions and with a view to strengthening their sovereignty. How can we move forward in multilateral cooperation that goes beyond good intentions?

The asymmetries of power and, of course, the interests between the countries of the Amazon basin and the central countries are evident. For this reason, thinking about an environmental security strategy is not a peaceful matter, but involves deciding on the basis of what we want to protect.

Confronting security requires first determining the risks. In a lucid manner, Beck stated that "the social production of wealth is systematically accompanied by the social production of risk" (1998, p. 25). He defines this "new" society under the paradigm of the risk society. He argues that the risks of the end of the twentieth century are the consequence of a specific model of production characterized by an exponential growth of the productive forces in the process of modernization, in which the risks released move downwards while, inversely, wealth and its effective insurance move upwards; a model that, moreover, has privileged an extractivist economy.

In the case of the Amazon, we can refer both to the risks resulting from the armed conflict and illegal activities, such as drug trafficking,

and to the national and transnational security policies implemented to address them, including glyphosate spraying and the arrival of the foot force which, when installed in the territory, also affects land use.

The environmental risks derived from the Colombian armed conflict became internationalized years ago and constitute global, supranational threats, given the impact in environmental terms. They are risks produced by the social inequality that generated a "policy at the service of the interests of the elite, social exclusion, and the lack of democratic opposition options" (Fisas, 2010, p. 5).

Now, the security paradigm in the 21st century has taken some interesting turns by including in the agendas the problems that affect border areas, passing through drug trafficking, natural and environmental disasters such as deforestation, arms trafficking, and human trafficking, among others (Pastrana and Lowe, 2019, cited by Pastrana and Lowe, 2020).

Environmental security can be approached from variables such as "scarcity of natural resources, national interests, violent conflicts, and thus analyzed from a more human point of view, introducing the variables of poverty, state-society conflictuality, governance and cooperation problems" (Veyrunes, 2008, p. 10).

In this sense, the main problems affecting environmental security in the Amazon are: 1) extractive activity and extensive agriculture, legal activities which threaten environmental security due to deforestation and contamination of water resources; 2) transnational trafficking and illegal activities such as drug trafficking, which together with the non-international armed conflict appear on transboundary security agendas, as well as the smuggling of arms, flora and fauna, transboundary crime and biopiracy, whose consequences are the destruction of the forest and the contamination of rivers by the use of chemicals for the illegal drug trafficking industry (Veyrunes, 2008), as well as the "state solution" through fumigation to control illicit crops.

For Flacso Professor Guillaume Fontaine, there are two main problems afflicting the Amazon: the failure of democracy and governance problems (Fontaine and Narváez, 2007). In fact, a state such as the Colombian state, which despite the peace agreement with the extinct FARC-EP guerrillas is still engaged in six armed conflicts (ICRC, March 23, 2022), fails to meet the minimum requirements for democracy and

the exercise of civil liberties and, worse, does not have the institutional framework to guarantee the rights of citizens, since its organizational structure still has non-municipalized zones.

Environmental governance policies in the region have been implemented within the framework of the Amazon Cooperation Treaty Organization[6] (ACTO). In this regard, it is important to remember that this entity was created in 1995 under the parameters of the Amazon Cooperation Treaty (1978). The last ACTO summit was held in 2009 and since then there have been no joint actions by the eight countries that comprise it (Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela).

Subsequently, the Leticia Pact in 2009, promoted by former Colombian President Iván Duque, sought to revitalize the effectiveness of the ACTO mechanisms by promoting coordinated actions among the Amazonian States, except for Venezuela, which was left out of this negotiation, against deforestation and illegal mining, while promoting scientific research to address phenomena such as forest fires (Pastrana and Lowe, 2020) and, more recently, the Escazú Agreement[7].

However, according to Pastrana and Lowe, all of this has been a rhetorical commitment to a neoliberal and sustainable development perspective that has failed to respond to the problems of the Amazon region: "These structures have served more as foreign policy tools for some of the Amazon countries than as mechanisms for deep, vertical and horizontal cooperation, as would be expected of effective multilevel governance" (2020, p. 39).

For this reason, within this analysis, it is especially important to include the subaltern voices of environmental leaders living in the Amazon, with a view to strengthening a multilevel governance strategy that values their cosmogonies and vital interests, a commitment that should focus first and foremost on the materialization of the social rule of law in the region.

Resolution A/RES/53/144 (United Nations, 1999) recognizes the right to advance and seek human rights, and this obligation is incumbent upon leaders and human rights defenders as an essential element for the existence of a lasting democracy.

6 Approved in Colombia through Law 690 of 2001 and ratified on August 2, 2002.

7 Approved in Colombia by Law 2273 of 2022, entry into force internationally on April 22, 2021.

Environmental leaders are important because they dedicate their lives to the conservation of biodiversity; for them, their disputed territories are not accidental geographical features represented in the mountains, jungles, or rivers, as they have ancestrally assigned meanings to them according to their cosmogony (CNMH, 2013).

For this reason, we visited Leticia, Amazonas, where we conducted focus groups with 24 environmental leaders to listen to their perceptions of the barriers facing an environmental security strategy in the Amazon, since we believe that this requires the inclusion of their voices. States, more often than not, promote solutions that are distant from the realities of the communities, with westernized approaches, without a differential, ethnic or territorial approach, which ignore their rituals or ignore their cosmogonies, values and interests.

Group of Environmental Leaders who are Victims of the Armed Conflict

"What's behind this green door? Open the green door and see what's behind it"

"What happened to governance?"

Regarding the six guiding questions discussed in the focus groups and raised in the introduction to this chapter, the environmental leaders, especially peasant women, pointed out that there are no guarantees for the defense of environmental rights and a lack of State presence, indicating that many places are at the mercy of armed groups, with a strong presence of drug trafficking groups and illegal mining activities, so that the rivers have become the place where people disappear and the communities remain silent to protect their lives.

In addition, in the Amazon there is a historical struggle for land between peasants and ethnic peoples, and peasant leaders say they feel vulnerable and lack protection to exercise their leadership, and that they do not have confidence in the institutions.

Currently, they state that there is a problem of internal migration from indigenous reserves to urban centers, for which it is essential to review migration and basic land-use plans. They also warn about wildlife trafficking in the Amazon region, water contamination with chemicals used by drug trafficking groups and that, as a result of all this, the environment and nature suffer violence from armed actors.

They also request a cross-border alert with an environmental focus to be issued by the Colombian Ombudsman's Office on the Amazon region from an integral perspective, to generate actions to protect the environment and, in turn, the communities that inhabit it, from the violence exercised by armed actors and drug trafficking groups.

The leaders indicated that the economic and technical resources of international cooperation do not reach the grassroots organizations and that this would be fundamental to greater support in exercising their leadership. They concluded with a recommendation on the importance of including environmental rights as a fundamental element to achieve the constitutional right to peace and thus generate proposals for reforestation and environmental justice, strengthen state entities such as the governor's office, the mayor's office, and the public ministry, especially the Ombudsman's Office. They also recalled that "if the Amazon is not taken care of, we will be on the verge of an environmental collapse" (leader victim of the armed conflict, interview, August 3, 2023).

Finally, in regards to the presidential preparatory meeting held in July between Gustavo Petro and Lula Da Silva, prior to the meeting in Belém do Pará, Brazil, in August 2023, they highlighted the lack of greater participation of grassroots organizations, that these meetings should be more inclusive, and that most of the participants were civil society organizations not from Leticia and unaware of the realities of the territory.

Indigenous Environmental Leaders

"The environment is everything that has life, fauna, flora, environment and human beings."

"We must weave a new, stronger basket. We are near the end of a new era and this new era depends on everyone."

We conducted interviews with members of the Witoto ethnic group, indigenous people from the Colombian Amazon, who live in non-municipalized areas[8]. When we inquired about the environment and territory, they pointed out that for them, the territory, according to their ancestors, has an intangible part, a tangible part, and a spiritual part, and that their

8 The non-municipalized areas comprise 93% of the area of the department of Amazonas, 78% of Guainía and 45% of Vaupés, "most of their inhabitants belong to indigenous communities, but are subject to non-indigenous governments, under conditions and rules that were established for the other territories" (Duque Cante, 2020, pp. 111-112).

creator assigned territory to each person for millennia. They also point out that we must begin a new era, that the environment and the territory are like a basket whose fibers are being damaged, and that the inhabitants of the Earth must understand the language of nature: "to unite fire with water" (indigenous leader, interview, August 3, 2023). In a metaphorical way they express that nature has been damaged, that the fiber of the basket has been broken by political, economic and ideological power and that indigenous communities are no strangers to this.

They affirm that sometimes their leaders have been carried away by this power and have allowed the basket to break. Therefore, they claim that at the moment "there are more negative energies than light" (indigenous leader, interview, August 3, 2023) and that the rulers make political decisions with the dark thinking that reaches them; therefore, the basket must be rebuilt by returning to the original ideas. They emphasize the importance of education, security, sports, ethics, and morals.

They mention that they are concerned about the new generations, who no longer want to speak their language and are not respecting the elders, who have the ancestral wisdom of their people. They are worried because some members of their community have let themselves be carried away by the darkness; for that reason, metaphorically, they emphasize that the basket no longer resists, and a new one must be woven.

The young people, they say with concern, "have let themselves be carried away by the living nature," by which the indigenous leaders mean the use of marijuana and alcohol (indigenous leader, interview, August 3, 20-23). Armed groups have begun to permeate the indigenous communities, so the interviewees call attention to the forced recruitment of children and young people in their communities, as well as express their concern about the suicides of young people in their communities due to the aforementioned situations.

In addition, they say that the white man does not understand that when they cut down trees, it is to plant fruits and vegetables to feed their communities and that they also do reforestation, although in a small proportion. The communities want legalization and transition to indigenous territorial entities, which would lead to a new era in which their decisions, uses and customs are respected. Any decision, they emphasize, must be made with prior consultation and with the presence of the communities because, as already mentioned, their rulers have allowed

themselves to be affected by the three powers and thus have made decisions that affect their communities. In this sense, an environmental security strategy, in their words, requires listening to the communities: "If we want to protect the environment, we must listen to the indigenous people; not only to the representatives [of the communities], consult with their bases" (indigenous leader, interview, August 2, 2023).

Regarding the dispute over territories with the campesino and Afro communities in the area, they indicated that they respect the territory of each group and that they cannot share theirs. Finally, they expressed their concern about carbon credits[9], they request education on this issue so that they can make decisions that do not affect their community and require the implementation of the Interethnic Health System and the National Environmental System[10].

Rural Women Leaders (Women's Voices)

The women leaders are concerned about the security situation in the triple frontier, where this violence has a disproportionate impact on women, and point out that "many things are happening, there is fear, silence, which leads to less defense of the environment" (peasant and environmental leader, interview, August 3, 2023).

They describe how the authorities watch what is happening and do nothing, how there is an increase in the use of psychoactive substances by indigenous children, cultural destruction, and suicide in indigenous communities[11]. There is no clear data on everything that is happening because these are non-municipalized territories, where entities do not have a presence due to the remoteness and high costs to reach these territories, with a strong presence of drug trafficking, mass graves and confrontations between armed groups located especially on the Peruvian and Colombian border. In addition, there are threats against the administrators of the national natural parks and human trafficking in the tri-border area by the Clan del Golfo and the Sinaloa Cartel, all of which have worsened since the pandemic, with an increase in school dropouts and the presence of the 1st Front of the FARC dissidents from kilometer

9 The national carbon tax was created in 2016 by Law 1819 to meet the national greenhouse gas (GHG) target.

10 According to the Ministry of the Environment and Sustainable Development, the National Environmental System is a set of guidelines, regulations, activities, resources, programs and institutions that enable the implementation of general environmental principles.

11 This has been reported by the media. See EFE (August 8, 2023).

25, in Leticia. These leaders emphasize the need for greater state presence to protect the environment in the territory.

In this sense, according to the proposed strategy for environmental security, the voices of the grassroots that inhabit the tri-border territories should be included, since they do not trust those in power who, in their opinion, put their economic interests above the collective good.

Resources: National Development Plan and Protection of the Amazon

The existence of a government policy whose main guideline is that Colombia should be a "world power of life" represents a step forward in terms of the availability of the resources needed to design an environmental security strategy that includes the perceptions of the communities that inhabit the Amazon region.

According to Susana Muhamad, Minister of Environment and Sustainable Development of Gustavo Petro's government, speaking to the media:

> Deforestation decreased in the Amazon by 34%, noting an increase in funding by 600 billion pesos in 20 years for the Amazon, highlighting the importance of the modification of the mining code and the importance of making a presence in these areas of ecological tourism (*Caracol News*, August 4, 2023).

The government of Gustavo Petro, in its National Development Plan 2022-2026 *Colombia, World Power of Life*, envisages a policy of total peace, promoting the rule of law with social justice and the ecological economy, whose central axis is the protection of life (National Planning Department, 2023). This management tool has three central objectives:

1. Reduce armed violence through dialogic and accountability mechanisms with territorial transformations.
2. To meet the economic, social, cultural, and environmental needs of Colombians, responding to rural and urban communities, taking the weapons out of politics and economics.
3. Implement a security policy, responding to an intelligence operations approach.

One of the five axes of the Development Plan is the environment, whose protagonists are precisely the peasant and indigenous associations; this decision implies an assessment of their perceptions and interests. The fourth axis, called Productive Transformation, Internationalization, and Climate Action, states that "to consolidate Colombia as a world power of life, the country's economic development and social and environmental sustainability can no longer be assumed as independent processes" (National Planning Department, 2023, p. 139).

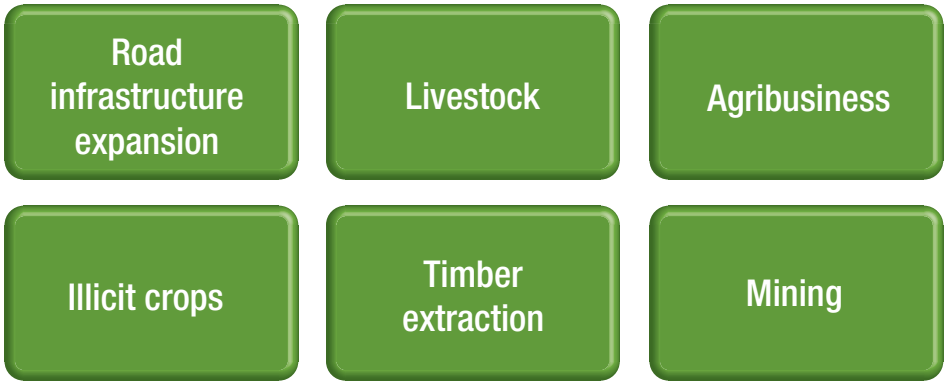
All this coincides with the entry into force of the Escazú Agreement. This international treaty is crucial for Latin America and the Caribbean, as it encompasses provisions for the protection of the environment, the rights of environmental defenders, and the participation of society in environmental decision-making.

Within the foreign policy to face the climate crisis and the loss of biodiversity, cooperation resources are being sought to intensify the preservation of the Amazon, the Government's proposal (National Planning Department, 2023) is to exchange the public debt for the conservation of ecosystems and the development of the economy, as well as the strengthening of the national border care centers (CENAF) and the binational border care centers (CEBAF).

The current Colombian Government considers the Amazon region as a crucial environmental area, but it recognizes that the indigenous territories are most affected by deforestation due to illegal mining activities. These activities contaminate water sources with toxic materials like mercury and cyanide, leading to serious environmental impacts. Additionally, the presence of illegal armed groups in the area, along with the State's absence, makes it crucial to implement a comprehensive peace policy to mitigate the effects of the conflict, restore governance, and ensure the safety of the affected communities.

According to the document *Deforestation Arc April 2021 to March 2022* (USAID, Rainforest Foundation Norway, NICFI, Norwegian Embassy, Andes Amazon Fund and ICN, 2022), the areas most affected by deforestation are: Llanos del Yarí Yaguara Indigenous Reserve, where 60% of deforestation is concentrated, mainly due to the advancement and opening of roads, the expansion of cattle ranches and the presence of illicit crops; and the Nukak Makú Indigenous Reserve, where 20% of deforestation is concentrated, caused by cattle ranches and new crops for illicit use. It is important to note that these communities have precautionary measures to recover their rights.

Figure 1. Causes of Deforestation



Source: Prepared by the authors based on information from USAID, Rainforest Foundation Norway, NICFI, Norwegian Embassy, Andes Amazon Fund and ICN (2022).

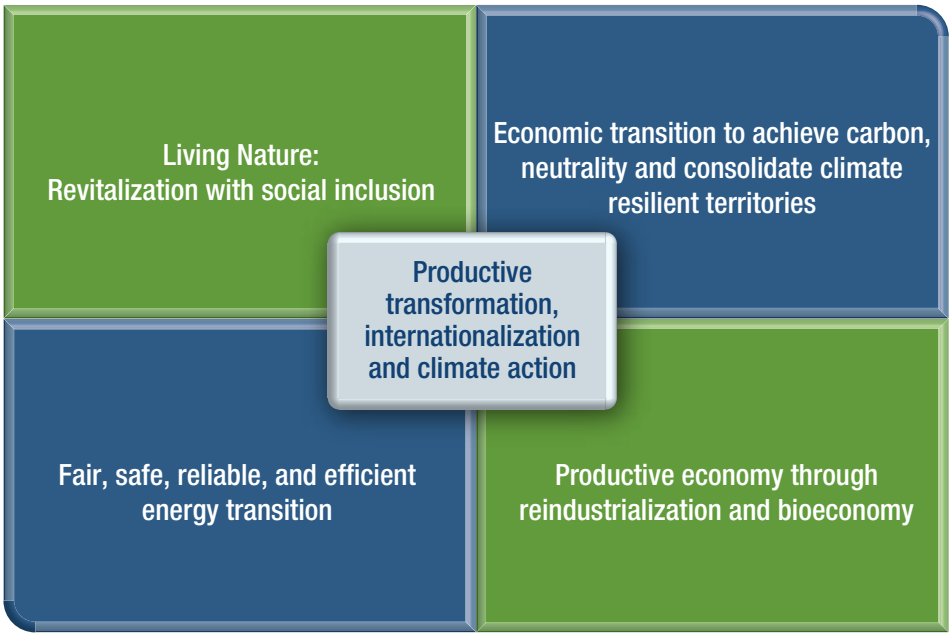
However, the Development Plan includes the elaboration by the Government of a national policy for border development and integration, in order to overcome the gaps and guarantee improvement and adequate socioeconomic development.

In this regard, it is important to point out that the Gustavo Petro government, in order to draw up the development plan, held mandatory regional dialogues, which were spaces for broad citizen participation, so that the government could receive proposals for action based on the needs of the people living in all the municipalities.

In the case of the Amazon, this meeting was held on October 1, 2022, with more than 450 inhabitants of two municipalities and nine non-municipalized areas of the department. The proposals made by this community focused on strengthening the production of Amazonian food products, health for the inhabitants of the region, energy transition, quality of education in rural students, visibility of indigenous communities, women's rights, unlimited academic offer, early childhood nutrition and family basket (National Planning Department, 2022).

As the Amazon is one of the pillars of Gustavo Petro's government plan, one of the priorities is the coordination of a joint agenda among the countries with Amazonian territory to preserve the largest rainforest in the world.

Figure 2. Aspects of the Development Plan 2022-2026 "Colombia a world power of life" relevant to the Colombian Amazon



Source: own elaboration.

Along the same lines, Presidents Gustavo Petro and Lula da Silva held a preliminary meeting in Leticia, on July 8, 2023, in advance of the meeting of the member countries of the Amazon Cooperation Treaty Organization, to be held in Belém do Pará, Brazil, on August 8 and 9, 2023. One of the most urgent issues discussed was deforestation, and the principles of this organization were discussed in depth.

According to a news item published in the *France 24* portal, among the topics discussed in this bilateral meeting were the protection of biodiversity, the fight against deforestation and the protection of the Amazon against illegal mining; both leaders asked the richest countries to contribute to the fund for the preservation of Amazonian territories, since this great forest is key to the mitigation of climate change worldwide (Caro Jiménez, July 9, 2023).

A meeting convened in Belém do Pará, Brazil, spanning from August 4 to 6 of the current year, convened under the banner of "United for Our Forests." Present at this gathering were President Petro, accompanied by Minister of Foreign Affairs Álvaro Leyva Durán, Minister of Environment and Sustainable Development Susana Muhamad, and Administrative

Director of the Presidency Carlos Ramón González. The primary objective of the meeting was to advocate for the comprehensive inclusion of all commitments made by member countries of the Amazon Cooperation Treaty Organization (ACTO) within the Declaration of Belém do Pará. Key proposals put forth during the meeting included the establishment of an environmental justice tribunal aimed at safeguarding the Amazon, cessation of deforestation, prevention of illegal mineral extraction, and halting the expansion of extractive activities into previously untouched areas. Additionally, emphasis was placed on the significance of recognizing the interconnectedness between the Andean and Amazonian biomes as foundational to rainforest and river restoration and preservation efforts. Furthermore, it was underscored that indigenous peoples, as well as traditional and local communities, must be afforded full and meaningful participation in all processes outlined within the Declaration.

However, the meeting was not without its ups and downs. According to information reviewed in the media, it was evident that there were disagreements between the leaders regarding the proposals on zero deforestation by 2030, illegal mining and oil.

As for the Colombian state, President Gustavo Petro has clearly announced that his government will promote the approval of a CONPES document next year, through which the Fund to Protect Biodiversity and Promote the Revitalization of the Amazon Rainforest will be implemented, a mechanism that will have an initial allocation of 600 billion pesos from the national budget in 2023 (Presidency of the Republic, October 26, 2022).

It is important to note that the government of Iván Duque issued the document CONPES 4021 of 2020, *National Policy for the Control of Deforestation and Sustainable Management of Forests, in* which four strategic lines were established to achieve the deforestation goal by 2030. This strategic tool for ten years (2020-2030) focuses on

> Actions planned under the Comprehensive Strategy for Deforestation Control and Forest Management (EICDGB), is articulated with Ruling STC 4360-2018 of the Supreme Court of Justice Amazon subject of rights and is aligned with the country's international commitments such as the Sustainable Development Goals (SDGs), the implementation of the Paris Agreement on climate change, and the goals of the Joint Declaration of Intent (JIU) (General Directorate of the National Planning Department, 2020, p. 4).

Accordingly, it is important to recall that in his speech before the 77th General Assembly of the United Nations, Gustavo Petro called the attention of the States Parties, stating that:

> The destruction of the rainforest, the Amazon, has become the slogan of states and businessmen. It matters not the cry of scientists who baptize the rainforest as one of the great pillars of the climate. For the world's power relations, the rainforest and its inhabitants are to blame for the plague that afflicts them. The power relations are plagued by the addiction to money in order to perpetuate themselves, to oil, to cocaine, and to the hardest drugs in order to numb themselves more (Presidency of the Republic, September 20, 2022, para. 10).

With his speech he called on the States to transform the "irrationality of their world power" and to "end the irrational war on drugs" and asked them to support the Amazon rainforest to save the life of humanity on the planet, contributing to the financing of the fund for the revitalization of the rainforests (Presidency of the Republic, September 20, 2022).

In line with the above, the Supreme Court of Justice, Civil Court of Appeals, in judgment STC 4360 of 2018, whose reporting judge was Luis Armando Tolosa Villabona, ruled in favor of a group of 25 girls, boys and adolescents, namely:

> A group of 25 children, adolescents and young adults [...] between 7 and 25 years old, living in cities that are part of the list of cities most at risk due to climate change [... with] a life expectancy of 78 years on average (75 years for men and 80 for women), reason why they expect [to] develop [their] adult life between the years 2041-2070 and [their] old age from the year 2071 onwards. In those time periods, according to the climate change scenarios presented by Ideam, the average temperature in Colombia is expected to increase 1.6 °C and 2.14 °C, respectively (Supreme Court of Justice, 2018).

In its ruling, the Court explained that both in the Paris Agreement and in Law 1753 of 2015 there are national and international commitments to reduce the rate of deforestation in the Colombian Amazon to zero by 2020, warning that deforestation not only has effects on the region but also on the ecosystem of the rest, so that in that ruling it ordered a plan of action in the short, medium and long term to counteract deforestation by addressing climate change.

How to implement the strategy?

The paradigm of multilevel environmental governance implies understanding, at first, that States are not the only protagonists in transboundary scenarios, but that there are other global actors, from the private and public sectors, non-governmental organizations and local actors, the latter of which inhabit the triple border and have pluricultural characteristics, as they are indigenous people from different ethnic groups, Afro communities with their own particularities and peasants.

This implies that the multilevel environmental governance strategy faces a great challenge insofar as it must include differential, ethnic and territorial approaches in order to identify their values and interests and then generate articulations between them and the other actors. Always bearing in mind that each actor has dissimilar values that guide their interests and that must be considered to guarantee the success of the environmental security strategy.

Therefore, the communities that inhabit the triple frontier zone cannot be understood as a single local actor, but rather as a plurality of local actors with their own cosmogonies. In our opinion, it is precisely thinking of the communities that inhabit the border zone as a homogeneous whole that has been a problem of state interventions of traditional governance.

Secondly, environmental governance should be understood less as mere international regimes and more as a social process shaped by a historical context and environmental realities that require the definition of environmental security objectives under a post-neoliberal perspective, taking as a starting point the values of the communities that have always been the recipients of environmental damage, since their interests should be reflected in their good living.

Although there are currently several environmental governance structures within the framework of both the United Nations system and at the regional level, these mechanisms must interact with the diversity and plurality of the communities that inhabit the area; it is unthinkable that in the 21st century an extractivist economic model should take precedence over the well-being of the people.

It is evident that if prior to the above considerations, multilevel environmental governance had a series of serious challenges, including the strategy proposed in this chapter makes it even more complex. However,

in our opinion, the change of paradigm from a critical and decolonial perspective demands a different type of commitment from all the actors involved, both in the public and private sectors.

This requires participatory dialogues in the triple frontier territories between communities and grassroots organizations, as well as with large companies, to build an environmental security strategy that negotiates interests from a win-win approach.

In parallel, the Colombian Ombudsman's Office could work in coordination with its border counterparts to issue a tri-national environmental alert, in which the environmental risks faced by both the ecosystems and the communities that inhabit them are estimated, and thus set the roadmap for strengthening the dialogues for multilevel governance.

Likewise, it is clear that the Colombian State has the great challenge of strengthening its presence in border areas and not exclusively from a militaristic approach but, on the contrary, through negotiation with the communities regarding the need to legalize non-municipalized areas and guarantee access to ESCR. It should also advance the implementation of urgent measures to ensure the safety of environmental leaders who contribute to the protection of biodiversity.

For their part, the countries that make up the triple border must have a greater state presence and develop a comprehensive strategy for the protection of communities, especially those located in non-municipalized territories.

Such strategy should include proposals at the economic level such as: 1) the increase in the value of GDP due to oil extraction and deforestation should subtract from the accounting of net wealth generation, because it constitutes an expense of natural resources; 2) recognizing natural capital as a measure of the wealth of the country, as was pointed out in the STC 4360 ruling of 2018, because future generations will not enjoy a standard of living equal to that of current generations; and 3) economically strengthen territorial entities so that they do not depend on the national budget.

Conclusions

Environmental concern is one of the new issues on the global agenda of the 21st century, which has been the subject of multilateral, regional, and global agreements that have promoted inter-state cooperation mechanisms based on a neoliberal approach and supported by the logic of sustainable development. This is perhaps the greatest difficulty since state agendas have prioritized an extractivist economic model that has not allowed for a deepening of environmental protection, let alone the inclusion of community interests.

From this perspective, environmental governance already exists, promoted by the States that make up the Amazon Arc and supported by the global agenda; however, the dilemma is to understand what the recommended scope in terms of environmental security is to face different risks.

It is a dilemma insofar as the concept of environmental security depends on the powers and interests of those involved. Therefore, one of the challenges posed by multilevel environmental governance implies assuming a critical and post-neoliberal posture, which in a decolonial key promotes the interests of the global South, including the values and cosmogonies of the pluricultural and peasant ethnic communities that inhabit the triple frontier.

Therefore, the challenges of multilevel environmental governance require redefining the conceptual assumptions of environmental security, giving priority to life in all its expressions, understanding nature in unity with life. This necessarily implies a paradigm shift.

Such a strategy requires thinking about the resources and a methodology to achieve it. From the perspective of the Colombian State, it has the resources to do so, perhaps the most relevant being the coming to power of a leftist government that took up the environmentalist cause as a banner, expressed in the substitution of traditional energies for renewable ones and the budget increase for the protection of biodiversity, the methodology of binding dialogues in the formulation of its National Development Plan and, of course, with the promotion and subsequent ratification of the Escazú Agreement.

Therefore, the Colombian state can strengthen its role as a second-tier power in the region by leading a strategic change in the perception of environmental security in the Amazon.

Regarding the means to achieve the strategy, several actions are proposed, based on the design of a methodology with a differential, ethnic and territorial approach, which will be previously based on dialogues with the communities of the triple border, in the understanding of their diversity and plurality, which will articulate their vital interests and promote spaces of consensus with other local actors of the Peruvian and Brazilian border areas, and at the same time will reach an agreement with private and public interests.

The participation of the public ministries of the three countries is also considered decisive for the preparation of diagnoses aimed at specifying a rights-based road map to guide intergovernmental action.

According to Lykee's model, every strategy has risks that must be considered. In the authors' opinion, there could be three: 1) the failure of the domestic policy of total peace, which would aggravate the lack of governance in the territory; 2) the maintenance of an extractivist economic model in the countries that make up the Amazonian Arc; 3) the superimposition of private interests over the good life of the Amazonian peoples; and 4) the absence of consensus among the plural communities that inhabit the triple frontier.

Recommendations

- To the States that share the border with Colombia, Peru, Ecuador and Brazil: understand the need for an epistemological change in the valuation of the communities that inhabit the triple border, because they do not form a single local actor, but a plurality of local actors with their own cosmogonies. The communities are not a homogeneous whole that inhabits the border zone, but on the contrary, there is a diversity of worldviews that must be taken into account in any process of dialogue and governance.
- To the national government, headed by the Ministry of Foreign Affairs: the creation of a binational commission made up of the administrative authorities of the different countries of the triple border, to which representatives of the communities that are victims of the armed conflict in the subregion are invited.
- To the Ministry of the Interior in coordination with the Ministry of Foreign Affairs: binational coordination with their counterparts to

guarantee the implementation of the Escazú Agreement, in relation to the protection of environmental leaders, and to guarantee their public participation in the debates.

- To the local and departmental territorial entities: coordination for the creation of a protocol that allows the identification and direct participation of the leaders representing the communities in the conflict zone.
- To leaders: develop co-organizing strategies with other disparate communities to identify common points of interest in advancing environmental security.

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Governance Structures and Environmental Security Strategies in the Colombian Amazon: An Analysis of Public Policy Instruments in the Administration of Gustavo Petro

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Introduction

Institutional changes resulting from the change of democratic governments have led to the inclusion of new public problems on government agendas. Some issues are recurrent due to their nature, severity, scope and consequences for contexts and people. Environmental issues are currently a regular part of the agendas promoted by international organizations and have consequently influenced the formulation of development plans, public policies and multilateral cooperation programs, among others. This process has succeeded in mitigating some of the effects of climate change and environmental crimes, and to some extent in committing countries with higher levels of development to reduce greenhouse gases and finance actions to protect biomes such as the Amazon.

The dialogue between different actors at the international level, as well as the promotion of new national agendas that seek to generate alternatives to address environmental problems, have led to the configuration of regional cooperation spaces. In such spaces, discussions are being held on the possibility of building new forms of joint work, not only at the national level but particularly at the decentralized level of Latin American countries. Special attention is being paid to border areas and ethnic communities. Therefore, the Amazon is considered a biome of special interest at the regional level.

Regarding governmental changes, Colombian society chose a leftist political option in the last presidential election for the period 2022-2026. This political shift has permeated the understanding of various public issues such as, among others, the preservation, care, and importance of

environmental issues. This is evident in the formulation of the National Development Plan 2022-2026 "Colombia World Power of Life", the design of the new Security, Defense and Citizen Coexistence Policy "Guarantees for Life and Peace 2022-2026" and, in the international arena, in the proposals expressed by President Gustavo Petro at the Amazon Summit "United for our forests", in Belém do Pará, Brazil.

The above-mentioned public policy instruments, as well as the possible articulations derived from the Amazon Summit, are relevant references for analyzing the national government's position on the care and preservation of the environment, especially the Amazon. Of course, their relevance is not limited to the planning of government actions but lies in the definition of new - seemingly innovative - ways to ensure governance in territories and the security of environmental assets. In other words, the promotion of environmental security as a conceptual and practical dimension to guide government action is understood as the intersection between different interests, capacities and resources or, as referred to by Aguilar (2010), the governance of public affairs.

These notions of governance and environmental security will be presented in the conceptual section of this chapter, with the purpose of providing an interpretative framework for the actions taken by the national government to address environmental problems in the Colombian Amazon. For this purpose, the public policy instruments mentioned above will be analyzed, as they are configured as the main governmental tools to transform the conditions that affect the sustainability of the Amazon biome.

In coherence with the above generalities, the research question that guides the development of the research is: how are the notions of governance and environmental security incorporated in the articulation of the National Development Plan 2022-2026 "Colombia World Power of Life" and the Security, Defense and Citizen Coexistence Policy "Guarantees for life and peace 2022-2026"? Now, in the methodological dimension, this research is framed in qualitative studies. The type of research applied is exploratory-descriptive and, as for the sources of information, documentary sources and text analysis with the MAXQDA tool were mainly used.

Finally, in relation to the structure of the chapter, the first section gathers the conceptual references for the analysis of the public policy

instruments developed by the national government of President Gustavo Petro; in particular, the notions of governance and environmental governance and security. The second section deals with the analysis of the National Development Plan (PND), the Security, Defense and Citizen Coexistence Policy and the declaration derived from the Amazon Summit "United for our Forests". To this end, an analysis of the text of these instruments is carried out with the MAXQDA tool, identifying correspondences and differences between them. Finally, conclusions and policy recommendations are presented, projecting the necessary inputs so that policy makers and decision makers can have better references for the design and implementation of political programs.

Frame of reference

Environmental Security Governance Structures

The manner in which power is exercised to address political and social demands and interests within the framework of the rule of law has been the subject of much discussion among nations, the international community, and institutionalized international organizations. The strategies and programs for the administration of a state are the most debated tools in the face of models and approaches that allow the effective enjoyment of the rights of the nation. They shape the forms of citizenship. Therefore, the way the state administers itself is through models or approaches that allow the execution of ideas for the benefit of society. Thus, historically, governance has been perceived as a vertical exercise of administration, which has prevented reliable knowledge of social problems and needs. Historically, the conceptions of governing and governance were centered or prioritized on the subject, i.e., the ruler. Thus, the classical conception of government has focused mainly on the democratic and legal ruler, who undoubtedly has the right to command and be obeyed, to make socially binding decisions, but whose decisions and directives may be erroneous and ineffective in solving public problems, responding to well-founded social expectations, and leading his society to better coexistence situations (Aguilar, 2010).

In this line, it becomes evident that government is quite conditioned and restricted in understanding and attending to the interests and needs of nations. In addition to this, the problems of legitimacy and effectiveness are emerging as intervening variables in the exercise of government.

Legitimacy, on the other hand, is understood as the social acceptance and conviction to consent governmental decisions and, consequently, provides the framework of social and political recognition for the implementation of government programs. Consequently, the effectiveness of political decisions in the face of social needs is becoming an intervening variable in all government agendas.

At the same time, the question of the managerial capacity and effectiveness of governments has been placed at the center of the disciplines that study government and at the heart of citizens' concerns (Franco and Gómez, 2004). For this reason, effectiveness is becoming an intervening and evaluative analysis variable to determine the suitability of governments and their rulers. However, at the forefront of effectiveness there is a key aspect for the exercise of government: the social needs or demands of the groups or collectives that are part of the nation. How leaders and their institutions perceive and respond to social demands affects the outcomes of governance. It can then be assumed that the surplus of "demands" that affect governance are the demands of individuals or social groups that are in a position to support them, not necessarily with economic means, but with a share of political power. This implies that not just any group of people with unsatisfied needs can influence governance (Franco and Gómez, 2004). Thus, the multiplicity of collectives, interests and needs, in the face of scarce or limited resources, requires new forms of deployment for the exercise of governance.

At the international level, organizations such as the World Bank (WB) and the United Nations, through the United Nations Development Program (UNDP), were the first institutions to refer precisely to the concept of governance in their founding work. Thus, they have defined it taking into account three points, which are considered structural pillars of the concept of governance, namely:

1. The process and rules by which governments are elected, maintained, held accountable and replaced;

2. The ability of governments to manage resources efficiently and to develop, implement and enforce policies and regulations;

3. The respect of citizens and the State for the institutions that govern socioeconomic interactions (Prats, 2003, p. 239).

In this sense, we observe a variable that has an impact on the entire exercise of government: the availability of resources. It is therefore clear that any government and any regulation must have financial resources for its implementation, and that the use of these resources must be in accordance with high standards of efficiency. Undoubtedly, the notion of scarcity in contemporary management and public administration models has influenced the behavior of public officials and institutional actions. Nevertheless, governments and this vertical form of political exercise have not been able to address and satisfy all social demands or needs. On the contrary, the inability of these one-dimensional and personalized governments to address social problems with appropriate strategies has become evident. As a result, the problems of effectiveness, efficiency, and legitimacy are beginning to cut across governments and their political programs.

Likewise, such forms of vertical governments have failed to comprehend large and small changes or transformations in society and collective interests. Most political traditions have recognized the likelihood of divergent interests between rulers and ruled, and have sought to define when it is justified to rebel against and overthrow bad leaders (Mulgan, 2006). For their part, the fundamental needs of human communities have changed relatively little over time and have provided a consistent framework for the legitimization of states. There are differences that separate those who hold power from those they serve and as a result an arsenal of measures is needed to align the behaviors of states with their duties (Mulgan, 2006).

From this it can be concluded that the classical or traditional models of governance are not capable of managing the diversity of interests arising from the plurality of actors and social groups interacting in a territory. Thus, new ways of approaching, managing and coordinating the multiplicity of interests and social needs are emerging with a view to building high levels of social legitimacy. Thus, governance perspectives are beginning to be projected as a framework for the deployment of models for the exercise of public power in relation to citizens. The origins of the concept can be found in the changes in the provision of public goods and services around the world, associated with neoliberal reforms, the transfer of tasks from public to private actors, and questions about the capacity, or lack thereof, of states to respond effectively to collective problems and demands (Montoya and Rojas, 2016, cited by Pastrana and Lowe, 2020).

It is important to note that in addition to academia, other actors such as international organizations, the private sector, civil society, social movements and non-governmental organizations (NGOs) have participated in the construction and evolution of the concept and meaning of governance, both in a theoretical and practical sense (Pastrana and Lowe, 2020). This is to the extent that governance structures make it possible to recognize and link a multiplicity of actors with a diversity of interests in the processes of public policy formulation and the construction of institutional frameworks for the practice of government, more specifically governance.

Governance: Some Concepts

According to Foyer (2010, cited by Pastrana and Lowe, 2020), it is considered relevant to keep in mind that governance is characterized, firstly, by a decentralized exercise of power; secondly, by the evaluation of different interests, certainly conflicting, and a certain depoliticization of national politics resulting from technocracy (Montoya and Rojas, 2016, cited by Pastrana and Lowe, 2020). Therefore, the emergence of new actors and the coordination of their interests are projected from governance structures. New international and national actors are emerging as a result of the need to address problems that transcend the borders of states, which at the same time states have delegated to organizations closer to the individual, as many of those powers that were previously controlled by the central power. These are new actors that establish a model of multilevel cooperation in the new governance architecture, integrated at the local, regional and international levels. In this way, they coordinate the basic statements or strategies of the organizational pattern in all social spheres, since governmental and non-governmental organizations act in an articulated manner, with the small ones associating with the medium ones and these in turn integrating with the larger ones. This form of cooperation is the basis for solving scalar problems (Mayntz, 2002).

There are certainly conflicting, parallel and converging or similar interests. It is conceivable that there is a similar interest among social actors - for example, environmental organizations or gender advocacy groups - to get closer to the state because it gives them access to decision-makers and officials. Indeed, some critics argue that these groups have become too close to the state and have been seduced by access to public policymaking and even funding to continue their activities (Peters

and Pierre, 2005). Therefore, the identification of similar interests is key to project coordination and cooperation in the face of social or political demand.

Governance can be seen as a new political strategy that involves both state and non-state actors in the formulation of public policies and social regulations. This approach recognizes the interests of each specific actor and their involvement in implementing regulatory models to direct social and governmental action for the benefit of social welfare. However, the inclusion of new social groups with different political and socio-cultural interests should not imply that the government should give up its deliberative competencies. Instead, the government or the authority should lead an open dialogue process between all actors (public and private) with interests in the specific area to be regulated.

Therefore, the relationship is dialogic, because in principle it allows the authority to learn more about the problem and the social interests that converge in the need to address the inconvenience or public issue. On the other hand, it allows social groups and citizens to engage in a common purpose, to address the problem in order to manage or solve it together, which will lead to more appropriate strategies for social regulation and will have a positive impact on the construction of the foundations that support trust, which in turn underpins political legitimacy, an indispensable element for good governance.

In short, governance is configured and guided by a complex process in which the definition of the direction of society, the activities to achieve the objectives, the forms of organization and the way costs and benefits are distributed must transcend the exclusivity of government towards an intersectoral outcome, in which joint deliberation, interaction, interdependence, co-responsibility and co-governance are presented as a result of the association between government and private and social organizations (Aguilar, 2010).

It is important to emphasize that governance structures have a margin of maneuver determined by international and national regimes since it is these that shape the regulation of institutional frameworks for decision-makers. In other words, international regimes could reflect the interests of states in the face of common problems, and national regimes institute the possibilities and resources available to the ruler for the deployment of his political model or program, which in this case is

projected from governance structures in the interest of recognizing and linking new non-state actors to public processes.

The international regime in global politics can be understood as rules and procedures that are not as comprehensive or as binding as in the domestic political systems of states. In this sense, institutions are not as powerful or as autonomous, but they have developed a set of rules and procedures to guide states and transnational actors in a variety of fields (Keohane and Nye, 1988). In other words, the international regime is the grouping of normative regulations that at the same time generates diverse spaces of negotiation for relations between the different global actors.

In turn, national regimes are configured on the basis of the political charter of the society in question. This political charter is developed through regulatory frameworks and addressed through public policies as a means of satisfying social needs and demands. Thus, national regimes depend on the sensitivity of the state to incorporate the concepts institutionalized in international regimes and the way in which the government or executive exercises power. Of course, governance models require a horizontal and dialogical exercise.

In any case, regimes are composed of institutions, understood as rules of the game, a version that is related to the public choice approach using game theory. Institutions give rise to organizational structures that can take the form of firms or markets, a view that coincides with the historical approach of neo-institutionalism, which emphasizes the role of individual behavior, power asymmetries related to the functioning of such structures, and historical trajectories with their unexpected events (Coase, 1998; Ostrom, 2008).

Regimes are thus made up of institutions, both international and national. Certainly, if the greatest number of social and political actors participate in the process of institution or institutionalization of institutions, a greater degree of legitimacy of the regime is underpinned, which has repercussions on the participatory protection of the asset in question. On the other hand, the security paradigm of the 21st century has taken some interesting turns by including in the agendas the problems that affect border areas, including drug trafficking, natural and environmental disasters such as deforestation, arms and human trafficking, among others (Pastrana and Lowe, 2020).

Thus, the concept of security has also undergone important changes. Classical security, understood as the elimination of all risks and threats to the survival and self-preservation of human beings as individuals and societies, has been re-evaluated by a modern concept of security, which has been the subject of important international and national debates, but the general characteristics of the new concept have been institutionalized. Traditionally, the concept of international security has been understood as essentially a problem of state security. In recent years, however, another concept has emerged, that of human security, which recognizes that threats can emanate not only from states and non-state actors but can also affect the security of both states and individuals (Ramcharan, 2020).

Hence, on February 2, 2011, Ban Ki-moon, Secretary General of the United Nations (UN), delivered at Oxford University the fourth Cyril Foster Lecture, dedicated to the theme "Human Protection and the United Nations of the 21st Century". On that stage he noted that:

> The founders of the United Nations understood that sovereignty confers responsibility, in particular the responsibility to ensure the protection of human beings from want, war and repression. When that responsibility is not exercised, the international community has a moral obligation to consider it its duty to act in the service of human protection (UN, 2020).

In line with Ban Ki-moon's reflections, climate change has been configured as a non-traditional threat and as a threat intensifier, as stated by Cabrera and Macías (2020). It is important to specify that threats refer to any circumstance or actor that endangers the security or stability of a territory (De la Corte and Blanco, 2014, cited in Cabrera and Macías, 2020). Moreover, in addition to economic, developmental, and environmental concerns, there is a security imperative to address climate change and the relationship between energy, climate, and new security implications (UN, 2020, cited in Cabrera and Macias, 2020). This makes it necessary to conceive new forms of environmental governance that reflect the aforementioned changes in governmental action in terms of interlocution between actors -national and international- regarding common public problems and intervention capacities.

Environmental Governance and Security

Environmental governance as a need and a problem has gained relevance in the international context due to the effects of climate change, deforestation in biomes such as the Amazon, contamination of water basins due to practices such as illegal mining, among others. In the scenario of international cooperation to combat climate change, it acquired greater importance with the Rio de Janeiro Summits (Solano and Molina, 2014) and, consequently, with the promulgation of the Sustainable Development Goals (SDGs), which addressed the needs in terms of governance of environmental problems and, in addition, as an alternative to recommit the international community to the pending or unmet goals of the Millennium Agenda.

These initiatives, as well as other regional articulation mechanisms, seek to establish new visions of development that abandon the predatory position of the environment. Consequently, a sustainable development perspective is supported by the possibility of establishing governance mechanisms that, in sum, bring together organizations, tools, public policies, financial resources, institutional arrangements and regulations, values and interests of various actors that influence or regulate environmental protection and care processes (Solano and Molina, 2014). This sum of "components" allows delimiting the governance of environmental issues as a "set of processes, mechanisms, and organizations through which political and social actors influence environmental actions and outcomes" (Moreno, 2013, p. 66).

These approaches to environmental governance are framed within new institutional, political, and social dynamics due to the crisis of legitimacy and governability of governments. As noted above, the multiplicity of public problems, unmet needs and interests has shifted the focus of government action to new forms of state-society relations. This is under a paradigm shift that tends to address public problems from the perspective of collaboration, co-production and co-creation of solutions. (Vidal, 2017). Such principles are consistent with approaches to environmental security and new dimensions of security that abandon the traditional perspective of threats to international peace and security. These visions gained international relevance with the 1994 Human Development Report, produced by the United Nations Development Programme (UNDP).

This report proposed a different connotation of security, under a new perspective that broadened the traditional position centered on military balances and capabilities. It included threats to security arising from hunger, disease, or repression. In fact, it sought to bring the notions of security and development closer together. It was called "human security" and included or implied economic security, food security, health security, environmental security, personal security, community security, and political security (UNDP, 1994). This relationship between human security and environmental security is supported by Floyd (2008) who states that the human dimension of environmental problems and issues requires an understanding of ecological interdependence, human rights and the impact of consumption patterns between the global North and South.

Specifically, the author adds, the objective - as a goal to be achieved - should not focus on "securitizing" environmental issues; on the contrary, they should be included in the agenda of "normal" public policies to be achieved or regulated. Undoubtedly, Floyd's concern is fueled by the possibility of consolidating a threat-defense vision that obscures the human dimension of environmental security, leading to positions that return these issues to paradigms centered on military capacity and armed deterrence. While these tools are possible within an institutional coordination scheme for addressing public problems, they cannot be reduced to a classic security dilemma. In the author's words, "maximizing security does not mean reducing insecurity. (Floyd, 2008, p. 59).

Analysis of Public Policy Instruments

Land Use Planning around Water and Environmental Justice in the National Development Plan 2022-2026 "Colombia, World Power of Life".

The bases of the PND 2022-2026 establish a series of differentiated aspects with respect to the care and preservation of the environment in the country. In particular, land use planning is based on strategic assets such as water, the implementation of mechanisms to overcome environmental conflicts, and the development of clean energy, among others. Such bases are the result of the national consultation process carried out by the national government prior to the elaboration of the bases of the NDP and the proposal of articles submitted to the Congress of the Republic. By analyzing the contents of the NDP bases with the MAXQDA tool, in particular

the first chapter, *Territorial Planning around Water and Environmental Justice*, it was possible to generate a word cloud that integrates key categories such as *Planning*, *Territorial Instruments* and *Water*, among others (see Figure 1). These appear at least 15 times in the document in different sections of the chapter.

Figure 1. Word cloud of the first chapter of the National Development Plan 2022-2026.

Source: own elaboration.

These key categories make it possible to understand the orientation of the NDP in relation to environmental protection in Colombia, based on an approach linked to management, planning and the definition of new forms of territorial governance. In fact, the NDP includes a connotation called "eco-regions". These zones will integrate strategic ecosystems for the country, such as the Amazon, and will also be linked to the municipalities prioritized for development programs with a territorial approach (PDET). Such articulation, as stated in the PND, will seek to promote coordinated work with institutional, social and community actors for the protection, preservation and recovery of areas affected by crimes against the environment. For this purpose, in addition to the

territorial prioritization through the figure of "eco-regions", the national government will seek the establishment of peasant forest concessions to "contain deforestation, the degradation of natural ecosystems and promote the development of restoration and rehabilitation activities, as well as manage, promote and encourage the development of the forest economy and biodiversity" (MinAmbiente, May 12, 2023, para. 5). These concessions, without knowing the regulations to be established by the Ministry of Environment and Sustainable Development (MinAmbiente), could create tensions regarding the overlapping of areas of special interest for the development of works of public interest. In addition, existing deficiencies in the updating of the country's cadastre could to some extent limit the effectiveness of the concessions in reducing deforestation and other environmental problems.

In addition, the figure of "ecoregions" will overlap with other planning and articulation structures at the decentralized level, such as the PDETs, integrated in the priority areas of the Amazon biome, such as Putumayo, the Caguán basin, and the Caqueteño and Macarena-Guaviare foothills. In other words, it will require the effective implementation of governance mechanisms from an environmental perspective, seeking to integrate visions with different, but not necessarily conflicting, budgets. Although the PDETs were agreed upon as spaces for collegial decision-making on the needs of the municipalities most affected by armed violence in Colombia, the development visions embodied in these regional development plans recognize the need to promote the conservation and redefinition of environmental proposals as paradigms of economic development, among other things.

The importance of PDETs as an articulating axis of actions for the prevention of environmental crimes per 100,000 inhabitants is reflected in Table 1. For the period 2018-2021, in the case of PDET territories, the reduction of environmental crimes stood at 8.6 percentage points, while in non-PDET municipalities it was 2.0%. However, it is important to mention that the highest deforestation rate at the national level for the year 2020 was located precisely in the PDET territories. Of the 171,685 hectares deforested, 85% corresponds to PDET municipalities according to data from the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM). (Agencia de Renovación del Territorio, ART, 2022).

Table 1. Environmental crime rate per 100,000 inhabitants in PDET, non-PDET and national territories, 2018-2021.

Level	2018	2019	2020	2021
PDET territories	17,2	14,2	11,0	8,6
Non-PDET territories	8,6	7,9	7,4	6,0
National total	9,8	8,7	7,9	6,4

Source: ART (2022).

Although not sufficient to compensate for the environmental damage, important tree planting initiatives were carried out during 2021 as a mitigation measure. At the sub-regional level -PDET-, the territories with the highest number of trees planted were: "Sierra Nevada-Perijá (4.9 million), Sur de Córdoba (3.9 million) and Urabá Antioqueño (2.9 million). In contrast, the subregions with the lowest number of trees planted were Arauca (36,022), Sur de Bolívar (46,883) and Pacífico y Frontera Nariñense (270,101)" (ART, 2022, p. 17). These actions, as recognized in the report of the Territorial Renewal Agency (2022), do not allow to compensate the high deforestation rates in the municipalities where the PDETs are integrated, but they do allow to address this problem from an educational point of view, trying to generate a greater awareness among the people who inhabit these territories.

Undoubtedly, the recovery, conservation and protection of the environments that make up the Amazon biome are fundamental for transforming predatory relations with the environment, but they also show viable options for articulating the different planning instruments that the national government is seeking to implement, some designed in the present administration and others derived from past government actions. Thus, the plans for regional transformation (PTAR), agreed upon in the 16 PDET subregions, are valuable instruments for addressing environmental problems such as deforestation linked to extensive cattle ranching and timber trafficking, among others, as well as the environmental crimes that the national government hopes to combat.

With regard to the conservation of water and water basins, the articles of the PND approved by the Congress of the Republic provide for the creation of territorial water councils. The purpose of these councils will be to "strengthen multilevel, differentiated, inclusive and equitable water governance and territorial planning around water, seeking the consolidation of

functional territories with a focus on adaptability to climate change and risk management" (Congress of the Republic of Colombia, 2023, p. 28). In this sense, it is worth recalling the above-mentioned positions on governance from an environmental perspective, as they offer an opportune framework for thinking about government action as an articulating axis of actors, processes, institutions, etc.

At the same time, the national government established the creation of the National Council to Combat Deforestation and Other Environmental Crimes (Conaldef), seeking to coordinate actions to "stop deforestation and coordinate the implementation of rehabilitation, recovery and ecological restoration strategies" (Congress of the Republic of Colombia, 2023, p. 19). This is in line with the National Strategy for the Control of Illegal Trade in Wildlife, created under Article 27 of the NDP, with the aim of establishing coordinated actions to control, prevent and avoid this practice, with an educational approach on the rights of animals and nature. It will also promote timely responses to early warnings and the rehabilitation and reintroduction of confiscated animals to their reference ecosystems (Congress of the Republic of Colombia, 2023).

In fact, in the IX session of Conaldef, the Environment Ministry announced an alliance with the Information and Financial Analysis Unit (UIAF) and the Attorney General's Office (FGN) to track and identify large illegal capitals that may be financing activities that cause deforestation in the country. This is in collaboration with the National Intelligence Board of the Armed Forces of the Ministry of Defense. (MinAmbiente, May 12, 2023).

The articulation of entities and institutions responsible for the care and preservation of the environment with the defense and justice sectors is a recurring feature in Latin America. Of course, in the case of Colombia, it would be premature to speak of a tendency towards so-called "green militarization"; however, the PND and the decisions adopted by the national government seek greater intersectoral cooperation, due, among other things, to the operational difficulties of controlling large areas of Colombian territory with a low state presence and under the control of illegal armed actors, who are key players in financing activities such as illegal mining, timber trafficking, and the commercialization of exotic animals, among other crimes.

The Security, Defense and Citizen Coexistence Policy "Guarantees for Life and Peace 2022-2026": Strategies to protect and conserve biodiversity and water resources.

The policy adopted by the national government on security, defense and coexistence seeks to establish the human being as a reference for government action. It assumes as a challenge for the defense and security sector the protection of "life in urban and particularly rural environments, through prevention, dissuasion, persecution or combat of the social control that national and transnational criminal organizations exercise both in rural areas and in urban centers" (MinDefensa, 2023, p. 4). Such social controls are not limited to the exercise of violence against individuals and collectives; on the contrary, it assumes the existence of multiple threats to peace and security. Thus, the environmental dimension acquires relevance with the formulation of strategies for the protection and preservation of the country's biodiversity.

Figure 2. Word Cloud of the Security, Defense and Citizen Coexistence Policy.

Source: own elaboration.

When analyzing the text of the Policy and generating the word cloud, in addition to the traditional prevalence of concepts such as *defense*, *security* and *national*, the *human dimension* emerges as a central category (see Figure 2). In fact, in its different variants in the text it appears at least 86 times. This is particularly important in relation to the changes in the security paradigm, in that it establishes the human being as the axis of inter-agency action in security matters, because it recognizes human security as the central axis of the formulation of the Policy and, consequently, assumes the existence of multiple risks to peace and national security.

Undoubtedly, the risks to the environment, in many cases materialized, are evident. The Amazon, in particular, has become a scenario of dispute between illegal actors and criminal economies around mining and timber trafficking, among others. For this, the Policy proposes strategies for the protection and preservation of biodiversity and water resources (see Figure 3). In general, these strategies aim to consolidate environmental security under assumptions of human security. In other words, an approach that seeks to mitigate the risks and impacts/problems that may affect the development of people, communities and territories.

In terms of strategies, the Policy assumes as a structural problem the "institutional weakness or insufficiency to guarantee the protection of Colombia's biodiversity, especially the protection of the Amazon" (MinDefensa, 2023, p. 32). (MinDefensa, 2023, p. 32). To address the problem, it proposes the strategies presented in Figure 3.

Figure 3. Strategies to protect and conserve biodiversity and water resources.

Source: own elaboration.

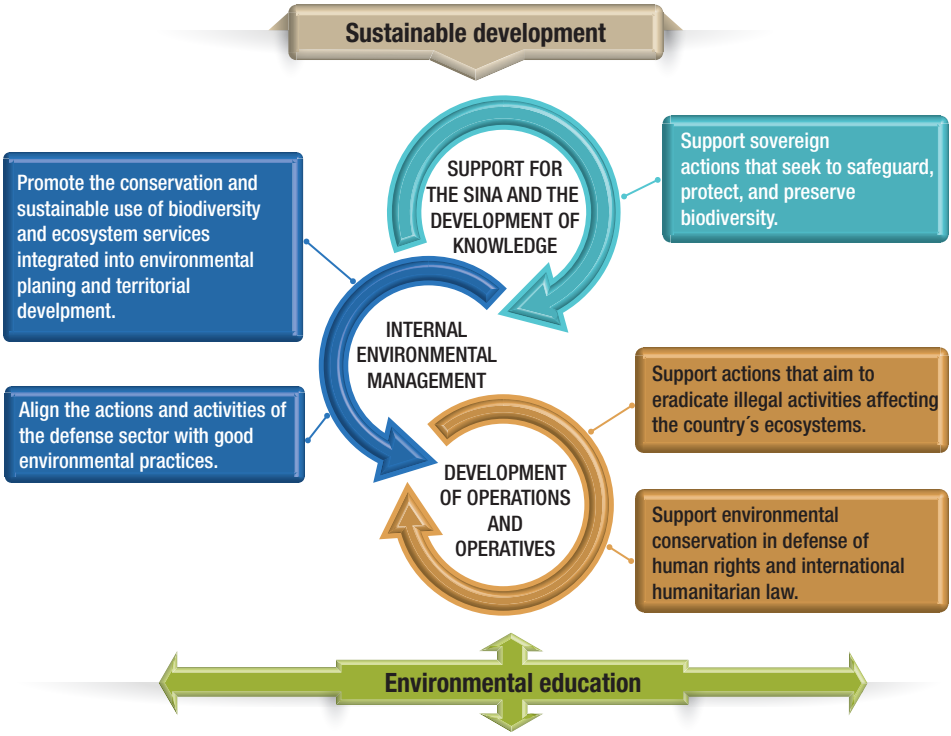
The strategy to fight deforestation seeks, among other objectives, the dismantling of criminal organizations that converge in the territories and carry out illegal actions in cooperation with transnational agencies. For the national government, crimes against the environment would have a broad framework of collaboration of national illegal armed structures and 'partners' abroad. Therefore, it proposes to combat the so-called 'multi-crime' through joint actions between the security forces and the justice system. (MinDefensa, 2023). This would allow consolidating forms of cooperation with international actors, particularly national States and their institutions, as environmental crimes may exceed the capacity and competencies of the Colombian State, a situation or fact that is evident for the protection of the Amazon, as national borders should not impose restrictions for harmonious collaboration between the States that make up the entire Amazon biome. However, the challenge is enormous, since inter-institutional coordination is key for the correct implementation of the related institutional frameworks. In addition, the multiplicity of actors with diverse interests operating in the region must be taken into account.

In relation to the strategy for climate change management and environmental protection, the national government proposes the creation of a national maritime and river strategy in order to consolidate Colombia as an oceanic power (MinDefense, 2023). (MinDefensa, 2023). In addition, it expects to strengthen the State's capacities for comprehensive maritime and river security and to promote bills linked to international commitments for the "promotion and protection of the oceans or maritime activities, thus contributing to environmental security for ocean governance." (MinDefensa, 2023, p. 66). Similarly, progress is expected to be made in updating the Internal Environmental Policy of the Security and Defense Sector, in particular, to strengthen capacities "in terms of criminal investigation and intelligence, as well as interventions that allow the dismantling of criminal structures that affect natural capital" (MinDefensa, 2023, p. 66).

Finally, in relation to the strategy to fight against the illegal exploitation of mineral deposits, it seeks to strengthen coordination between the State and the private sector, in order to dismantle the illegal armed organizations that carry out illegal mineral exploitation activities. It also expects to strengthen military and police intelligence, in order to know the magnitude of the phenomenon of illegal mineral exploitation and establish potential controls over the inputs used in such activities, such as explosives, heavy machinery, fuels or mercury. (MinDefensa, 2023).

The strategies described above are intended to strengthen inter-institutional collaboration between the different branches of government and, in addition, to adapt the actions of the State to the new realities imposed by local contexts. As previously stated, the State's capacity to solve and address the different public problems is overwhelmed by the multiplicity of factors, actors and interests that promote and finance illegal activities against the environment. Therefore, the governance of public affairs and, particularly, the environmental perspective of governance, can be an alternative to establish more robust processes of collaboration between the public, private and social sectors of the country.

Figure 4. In-house Environmental Policy of the Security and Defense Sector



Source: MinDefensa (2018, p. 19).

These collaborative dynamics are present in the current Internal Environmental Policy of the Security and Defense Sector, developed in 2018 and in the process of being updated. Regardless of the security paradigm that the government of President Gustavo Petro seeks to establish in relation to human security, the policy gathers relevant aspects under the heading of security and environmental governance. As shown in Figure 4,

the Policy establishes two transversal axes: sustainable development and environmental education. These axes seek to articulate, on the one hand, the development of knowledge through support to the National Environmental System (SINA) and, on the other hand, internal environmental management in terms of environmental planning and land use.

These last two factors or aspects included in the current Internal Environmental Policy of the Security and Defense Sector correspond to the environmental principles that the National Government intends to promote in the period 2022-2026 through the implementation of the NDP. Therefore, it is possible to continue strengthening the harmonious interinstitutional cooperation for the protection of the natural capital of the Colombian State, not only through actions that involve military and police operations, but also through the construction of knowledge. Not only in collaboration with SINA, but also by strengthening knowledge management within the defense and security sector.

Governance for the Amazon: Stakes and Challenges for Gustavo Petro's Government

The analysis carried out on the National Development Plan 2022-2026 and the Policy of Security, Defense and Civic Coexistence allows us to imagine scenarios for the design and implementation of public policies aimed at fulfilling the commitments established in the Joint Declaration of the Presidents who attended the Amazon Summit "United for our Forests", held in Belém do Pará, Brazil, within the framework of the Amazon Cooperation Treaty Organization (ACTO). This organization aims to promote actions for the development and protection of the Amazon biome. (ACTO, 2010). Its highest body is the Meeting of Foreign Ministers, and it also has the support and backing of the Amazon Cooperation Council (CCA) and the Coordinating Commission of the Amazon Cooperation Council (CCOOR) (ACTO, 2010). Now, at the local - state - level, all member countries have permanent National Commissions (NPCs) responsible for implementing the provisions of the Treaty in their territories.

To further analyze the text of the statement, a word cloud was created of words with at least 15 occurrences. Figure 5 shows the words or concepts with this level of frequency, highlighting *Amazon*, *development*, *indigenous* and *sustainability*. Undoubtedly, the relationship or correspondence between the postulates of the NDP and the Declaration is clear. In particular, the relationship between development and security or even the

prevalence of indigenous populations as subjects of attention in the policy. Terms such as *territorial planning* and *cooperation* also appear.

Figure 5. Word Cloud of the Declaration of Belém do Pará.

Source: own elaboration.

The Declaration recognizes the need to strengthen the mechanisms for dialogue with the indigenous communities that inhabit the Amazonian territories. Undoubtedly, this is a key point for establishing collaborative instruments that, on the one hand, recognize and address the concerns of the indigenous communities and their authorities and, on the other hand, make it possible to establish processes to preserve the Amazon biome. This, in the text of the Declaration, was called the "Amazonian Mechanism of Indigenous Peoples". However, the mechanism must have financial and human resources allocated to it and sufficient procedural clarity for its implementation to make progress on the objectives instituted.

With regard to environmental planning and management, the Declaration proposes the creation of the Forum of Amazonian Cities. Undoubtedly, the Amazon is facing the challenges brought about by urbanization and population growth in the large cities that make up the Amazon territory. Therefore, the Summit raised the need to establish a cross-border articulation mechanism that can advance in dialogue, knowledge transfer and the coordination of actions for the fulfillment of the SDGs. In other words, the development of cities and population centers in terms of preserving, caring for, and mitigating the environmental impact of access to public services or the implementation of public policies that improve the quality of life of people. It also hopes to strengthen the leadership of women, indigenous leaders and local and traditional communities, and to promote interculturality.

Finally, the Declaration also plans to promote joint actions to guarantee the human right to drinking water and basic sanitation without disturbing the harmony of water-related ecosystems. To this end, the member states propose the creation of a network of water authorities to establish timely mechanisms for the sustainable management of water resources in the Amazon region. This would include monitoring protocols for the conservation and protection of water sources, especially watersheds, as well as homologous criteria and parameters for measuring and analyzing water quality. This, like the factors described above, is closely related to the environmental governance mechanisms proposed in the PND 2022-2026 of the Colombian State. In fact, the NDP mentions the consolidation of mechanisms that promote water management. However, it is imperative to achieve the autonomy and permanence of all these protective mechanisms for the Amazon region. Therefore, it is necessary to identify actions and practical allocations for the immediate implementation of all the instruments considered. In this context, the participation of indigenous and campesino communities in all processes of public interest is also of absolute importance, since without the consent and contribution of the communities, the actions to protect and conserve the Amazon will be limited.

Conclusions

The research question proposed to structure the development of the chapter was: how are the notions of governance and environmental security incorporated in the articulation of the National Development

Plan (NDP) 2022-2026 "Colombia, World Power of Life" and the Policy of Security, Defense and Civic Coexistence "Guarantees for Life and Peace 2022-2026"? An analysis of the aforementioned public policy instruments, as well as some key aspects of the Declaration derived from the Amazon Summit "United for our Forests", shows that the notions of governance and environmental security integrate the design of these instruments, not only conceptually, but also in the practical dimension. In fact, they articulate these concepts from a broader perspective: human security; however, it is imperative to begin with administrative and financial actions to implement all the lines projected in the institutional framework. Therefore, the Government must carry out the practical execution of the axes designed in coordination with the competent territorial authorities in each jurisdiction, an aspect that has not been clearly defined by the Executive.

Undoubtedly, the national government and the ACTO member states recognize that governance, as the primary form of relating to citizens to meet their demands and political interests, is quite limited and vertical. Moreover, it does not contribute to the legitimacy of institutional processes. In this line, they advance in the construction of legitimacy based on collaborative institutional processes for the autonomous fulfillment of protection and prevention regimes for environmental security, in this case in the Amazon. This is evident in the postulates or axes of the public policy instruments of the Colombian case, as well as in the commitments set forth in the Declaration of Belém do Pará.

Therefore, public policy instruments integrate different visions of intervention in Amazonian contexts. Thus, governance models are configured as the most appropriate political tool for recognizing the multiplicity of actors and the diversity of interests, since they allow the establishment of dialogical - cooperative - relations and, from a practical point of view, ratify the definition of inter-institutional coordination protocols between social and political actors. For example, the implementation of the Amazon Indigenous Peoples' Mechanism will make it possible to consolidate new forms of relations with national and local governments in the Amazon territories, in order to prioritize their needs and limit confrontations over conflicting visions of development and management of environmental capital.

Finally, in the case of the public policy instruments studied, these governance models are configured around key issues for the government of

President Gustavo Petro. On the one hand, the commitment to human security as a "change" in the security paradigm seeks to improve the institutional articulation between the sectors of defense and security, environment and justice. In fact, the policy of security, defense and coexistence of citizens establishes three main strategies to combat environmental crimes. These include bets on public-private cooperation, the redefinition of national agendas on the oceans as a strategic asset, or the strengthening of institutional frameworks for the protection of natural capitals such as the Amazon. Taken together, this represents a "how to" articulating the conceptual dimensions of governance and practical issues such as planning and defining public policy guidelines. However, the implementation of these instruments is now underway. Only in the medium and long term will it be possible to determine the degree of correspondence between planning - which integrates different governance models - and the public interventions actually implemented.

Recommendations

1. To the government of Gustavo Petro, to go beyond the rhetoric of environmental care to the deliberative or real manifestations; that is, the executive is urged to create binational commissions, the provision of financial and human resources to give them autonomy and the assignment of specific, viable and relevant tasks. In addition, the establishment of indicators and objectives to analyze and evaluate the respective planning actions in the face of the risks and threats to the Amazon, especially for the commitments acquired in the Amazon Summit "United for our Forests".
2. To the Ministry of the Interior, the construction of an administrative cooperation protocol to be implemented by the territorial entities of Colombia and this protocol includes a chapter for the establishment of communication channels and coordination with the governmental authorities of the Amazonian border states.
3. To the Ministry of Environment and Sustainable Development, the creation, by resolution, of a technical working group, with the peasant and indigenous communities that live in the Amazon and share borders with neighboring states, in accordance with the creation of the Amazonian Indigenous Peoples Mechanism.
4. The offices of the mayors and governors who have jurisdiction over the Amazon territory must work together with the authorities

of neighboring states. Local and regional agreements should be created for cooperation and administrative coordination. It is recommended to establish an inter-institutional coordination protocol with all the competent administrative authorities. The participation of local communities and social leaders is also important to give legitimacy to any agreement reached.

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Environmental security strategies in the Southern Cone region

Conditions and Progress in Environmental Security in Chile

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Introduction

As the Industrial Revolution demonstrated in its first hundred years, humans consumed more natural resources than in all human history (Krippendorff, 1993). The primary-export development model that characterizes Latin American economies, whether extractive (mining, fish farming, etc.) or extensive agricultural exploitation (soybeans, timber, etc.), has had similar effects of resource destruction and depletion. In the particular case of Chile, this model has been characterized by the intensive use of water, in drought conditions with a cycle that exceeds a decade, while the overexploitation of marine resources, by large fishing factories mainly from more developed countries (Japan, China, South Korea), has resulted in the application of successive closures for certain species, which has led to the increase in price of other products in the food basket of the local population (Carrere, August 14, 2018).

The transformation of the Chilean model of international insertion requires a constitutional text that allows the progressive and definitive modification of the currently prevailing model, but, at the same time, the export of these natural resources allows the country's economy access to sources of financing. This duality explains contradictory decisions, such as the one that affected Chile's commitment to the Escazú Agreement which, although it was internationally promoted by the government of Sebastián Piñera, when it was signed by the president, his government did not support it and this had a negative impact on foreign direct investment, with projects committed or in the bidding process, especially in mining.

The current governing coalition proposed in its government program the drafting of a new Constitution, which would make possible a new

social pact that would change both the model of development and insertion, as well as the nature of the relationship between the State, the market and society, and would lead to a new conception of development. The text proposed by the Constituent Convention was rejected by the citizenry in the referendum of September 4, 2022, which has made it impossible to implement a new development model and has delayed Chile's commitment to the Sustainable Development Goals (SDGs) and the 2030-2050 Agenda.

Environmental protection legislation and regional environmental governance - such as the Escazú Agreement - are essential to abandon an already exhausted development model. Without a change in development models geared to the exploitation and export of natural resources, environmental protection will be impossible and the damage and dangers to ecosystems will increase. Despite this, the State of Chile has made progress in some public policies and international initiatives to preserve its environmental security, adopting regulatory frameworks, creating oversight bodies, and promoting a foreign policy in line with the SDGs and the 2030-2050 Agenda. The following text addresses the latter issues, against the backdrop of the difficulties posed by the continuity of an exhausted development model and the obstacles that the continuity of the current Constitution imposes to achieve a change in the development model and international insertion that ensures the preservation of the environment and the fulfillment of the objectives of sustainable development.

The case of Chile as a model of unsustainable development

In addressing the problem of sustainable development and achieving the Sustainable Development Goals (SDGs) and the 2030-2050 Agenda, Chile faces two major challenges: The exhaustion of its development model (Dingemans and Ross, 2012; Dingemans, 2015; Ffrench-Davis, 2018), based on openness, financial deregulation, the signing of free trade agreements (FTAs), etc., a system of primary exports, extraction and intensive use of non-renewable resources (minerals, water), and a difficult geography that makes it significantly vulnerable to the effects of climate change and environmental degradation. The implementation of a new concept of development, compatible with a better quality of life and economic and social well-being of its population, depends on both

aspects, but is conditioned by a new institutional framework (new political constitution) and is limited to compliance with international agreements on environmental protection and security, for which it requires a strong commitment to multilateralism that allows it to comply with regional (Escazú) and global agreements (Environmental Agenda, Paris Agreements).

According to the government's priorities, since the second administration of Michelle Bachelet, the SDGs and concern for the environment and climate change have been present in the actual government's agenda.

The situation of the Chilean ocean

According to Carrere (August 14, 2018, para. 1):

> Chile is one of the top ten fishing countries in the world. With its 4,000 kilometers of coastline, it is the tenth with the largest exclusive economic zone. In fact, its long strip of land represents only 30% of its territory. The rest, 70% of its sovereignty, is the sea. The ocean is therefore a fundamental part of the country's geography, economy, and culture. Extensive marine areas have been protected, making Chile a benchmark for marine conservation. In addition, laws and policies are being discussed that will benefit marine conservation. Nevertheless, the outlook for Chile's oceans is not always encouraging. Sixty-two percent of its fisheries are overfished or depleted (own translation)

Pollution from the mining, energy, and aquaculture industries causes great disasters on marine biodiversity, in addition to the pollution caused by the dumping of plastic waste at sea.

As one of the measures to address this degradation process, which is very important for a region of the world where a single country has such a large territorial sea, Chile approved a law in May 2018 that prohibits the use of plastic bags throughout the national territory.

According to the *State of the situation of the main Chilean fisheries in 2017*, the scientific-technical fisheries committees defined through biological reference points the state of the situation of 26 fisheries units: one fishery qualifies in a state of under-exploitation, eight qualify in a state of full exploitation, seven qualify in a state of overexploitation, nine were considered depleted or collapsed and one is undetermined due to the condition of the resource (Subsecretaría de Pesca y Acuicultura, Government of Chile, March 2018). Illegal and unregulated fishing (IUU

fishing) threatens ecosystem conservation, sustainable use of marine resources, food security, and the national economy. The Chilean State shares this assertion. Illegal extractive activity means that legal, artisanal, sustainable fishing, which contributes to the country's economy and promotes the preservation of fish stocks, is endangered, which creates a direct social impact on those who live from it and work following the law (Bonhomme, July 29, 2022).

In 2022, Chile implemented a National Action Plan to Prevent, Discourage and Eliminate Illegal Unreported and Unregulated Fishing (PAN-INDNR), in accordance with the Agenda for Sustainable Development called *Transforming Our World: the 2030 Agenda for Sustainable Development* and adopted by the United Nations in 2015, one of whose main priorities is to conserve and sustainably use the oceans, seas and marine resources for sustainable development.

> The Republic of Chile as a Coastal State, Flag State and Port State, and in the application of measures related to the trade of fishery resources and products, has signed and adopted various international instruments, applying them through a broad and coordinated legislative, political, institutional and operational framework that strengthens fisheries management and governance to address IUU fishing. In this regard, in 2004, it developed its National Action Plan to Prevent, Discourage and Eliminate IUU Fishing (PAN-INDNR), in compliance with the monitoring, control and surveillance section, paragraph 26 of the IUU Fishing PAI, which also establishes the need to update the PAN-INDNR (SERNAPESCA, 2022, p. 8, own translation).

Environmental Security Regulatory Background

The 1980 Constitution established the environment as an object of state protection, emphasizing its care and society's right to live in a "pollution-free" environment. The Law on the General Principles of the Environment (Law 19300 of 1994) created the National Commission for the Environment (CONAMA) and established objectives for environmental protection, including a national environmental policy, a technical agency for environmental matters, a national environmental information system, a national environmental impact assessment system (SEIA), the coordination of environmental agencies, and the funding of environmental education and protection projects. On June 13, 2022, Law 21455 was published in the Official Gazette of the Republic, which sets the goal of

carbon neutrality and climate resilience by 2050 and establishes concrete actions to be taken by 17 ministries to address climate change. It also aims to reduce greenhouse gas emissions caused by climate change, adapt to the effects of abnormal tidal waves, temperature increases, floods and droughts, among others, and improve food security, increase water availability, and reduce pollution and health risks. The law involves not only the public sector but also the private sector to take up the challenge of carbon neutrality (Government of Chile, June 13, 2022).

A new environmental legal framework in the country was discussed and incorporated by the proposal of a new Chilean Constitution, but the population rejected it in the plebiscite of September 4, 2022. However, in the first pre-agreement reached by the political forces with parliamentary representation (except the Republican Party which, paradoxically, obtained 33 of the 51 seats in the Constitutional Council that will draft the second proposal for a new Constitution), 12 constitutional principles or edges were established that should be present as starting points in the drafting of the new constitutional text. One of these principles or edges establishes to consecrate the care and conservation of nature and its biodiversity.

Auditing agencies

Chile adhered to the Rio Declaration on Environment and Development of ECO-92. However, although it is an associate member of Mercosur, its environmental regulations and standards are not incorporated into national legislation, even though several of the objectives pursued by the standards of this regional organization coincide.

The country has an Environmental Evaluation Service (SEA), whose main function is to administer the Environmental Impact Assessment System (SEIA), which came into effect on April 3, 1997.

The SEIA is a preventive environmental management instrument that allows the authority to determine before the execution of a project if:

- Complies with current environmental legislation.
- Addresses potential significant environmental impacts.

The main benefit provided by the SEA is related to the prevention of different impacts that may be generated by public and private investments

and to ensure that, when significant adverse impacts are generated, there is mitigation (SEA, n.d.a).

The concept of environmental regulations or applicable environmental regulations includes those regulations whose objective is to ensure the protection of the environment, the preservation of nature, and the conservation of the environmental heritage, and impose an obligation or requirement whose compliance must be accredited by the owner of the project or activity during the evaluation process.

Therefore, this concept excludes those regulations that, although they have the same objective, do not directly impose obligations or requirements on the owner, but must be considered in order to determine whether a project or activity has any of the effects, characteristics or circumstances described in Article 11 of Law 19300.

The general regulations of the Environmental Impact Assessment System include:

1. Law 19300 on General Principles of the Environment
2. Law 20417, which creates the Ministry, the Evaluation Service, and the Superintendence of the Environment.
3. Law 19880 on the Principles of Administrative Procedure for the Acts of the State Administration Organs
4. Decree with the force of Law 1-19653 that establishes the consolidated, coordinated, and systematized text of Law 18575, the constitutional organic law of the general principles of State administration.
5. Ministry General Secretariat of the Presidency issued Supreme Decree 95 of 2001, which revised the Regulations of the Environmental Impact Assessment System.
6. Supreme Decree 40 of 2012, issued by the Ministry of the Environment, which approves the Regulations of the Environmental Impact Assessment System.

The plans and regulations issued under Law 19300 are as follows:

1. Quality standards
2. Emission standards

3. Prevention and decontamination plans

And among the relevant sectorial regulations are:

1. Sector regulations
2. Regulatory compliance PAS (Sector Environmental Permit)[1]

Given the importance of foreign direct investment in Chile's economic development, particularly in the exploitation of natural mineral resources, the functions of the Environmental Evaluation Service (SEA) are essential for an efficient relationship between the projects that are going to be developed and environmental protection.

The SEA is a functionally decentralized public body with legal personality and its own assets. It was created by Law 20417, published in the Official Gazette on January 26, 2010, which amended Law 19300 on the General Principles of the Environment. Its main function is to modernize and manage the environmental management tool called the Environmental Impact Assessment System (SEIA). Its management is based on the environmental assessment of projects in accordance with current regulations, encouraging and facilitating the participation of citizens in the evaluation of projects. Its function is to standardize the criteria, requirements, conditions, background information, certificates, formalities, technical requirements, and procedures of an environmental nature established by the ministries and other competent state agencies, through the establishment of process guides, among others. The technification of the system aims to establish common criteria for evaluating each type of project to ensure environmental protection in an efficient and effective manner (SEA, n.d.b).

Brief overview of environmental regulations promoted by recent governments

Since the second presidency of Michelle Bachelet (2014-2018), Chile has been adopting rules and regulations to promote environmental security and align itself with the international commitments assumed by the State in relation to the SDGs and the 2020-2030 Agenda. The main milestones during the presidential terms are listed below.

1 According to Oficio 180515 of the Executive Director of SEA, issued on April 23, 2018.

Presidency of Michelle Bachelet:

- Meeting of the Council of Ministers for the development of ocean policy (Ministry of Foreign Affairs, February 28, 2018).
- Public and private sector meeting for the implementation of the 2030 Agenda and SDGs (Ministry of Foreign Affairs, February 9, 2018).
- Fourth session of the National Council for the implementation of the 2030 Agenda (Ministry of Foreign Affairs, January 25, 2018).
- Meeting of the Chinese and Chilean foreign ministers in the framework of the II Forum of the Community of Latin American and Caribbean States (CELAC) with China (Ministry of Foreign Affairs, January 21, 2018) (It is encouraging that this CELAC-China relationship is based on two pillars: the 2030 Agenda and the SDGs.).

Presidency of Sebastián Piñera:

- Chile and the international community reiterate their commitment to the UN 2030 Agenda (Ministry of Foreign Affairs, April 5, 2021).
- Seventh session of the National Council for the implementation of the 2030 Agenda (Ministry of Foreign Affairs, December 21, 2020).
- Launching of the document *Transformations* of the High-Level Panel for a Sustainable Ocean Economy (Ministry of Foreign Affairs, December 2, 2020).
- Work program 2021-2024 for environmental cooperation between Chile and the United States (Ministry of Foreign Affairs, n.d.b).
- Paracas Declaration, which in point 37 recognizes the commitment to the SDGs and the 2030 Agenda (Ministry of Foreign Affairs, October 10, 2019).

Presidency of Gabriel Boric:

- Meeting with the UN Deputy Secretary, highlighting the importance of the SDGs (Ministry of Foreign Affairs, April 26, 2023), and

discussion at the 77th UN Assembly (Press Office, September 20, 2022).

- Chile and UN system sign cooperation framework for sustainable development (Ministry of Foreign Affairs, April 12, 2023)
- The National Council validates the design of an implementation strategy for the 2030 Agenda (Ministry of Foreign Affairs, March 30, 2023).
- The Undersecretary of Foreign Affairs notes the protection of biodiversity in the high seas and reaffirms Chile's support for the Oceans Treaty, BBNJ (Ministry of Foreign Affairs, March 1, 2023).
- In Geneva, the Chilean Foreign Minister holds several bilateral meetings (Ministry of Foreign Affairs, February 28, 2023), among which environmental issues are discussed.
- The dialogue of the National Network Agenda 2030 is inaugurated, highlighting Chile's commitment to the SDGs (Ministry of Foreign Affairs, 28 December 2022).
- The Council of Ministers and Ministers for Ocean Policy Development approves the Ocean Program (Ministry of Foreign Affairs, November 2, 2022)

The New Environmental Policy as a Central Part of the Foreign Policy of the Current Government of Gabriel Boric

A new, broader, and more comprehensive approach to environmental protection and the relationship of the environment to local communities, particularly indigenous peoples, was proposed in the new Constitution, but was rejected in the referendum of September 4, 2022.

However, from the beginning of his term (March 2022), President Boric promoted two initiatives: he signed Chile's accession to the Escazú Agreement, and he implemented a new foreign policy that includes the relationship between sustainable development and environmental protection as one of its central axes, which has been called the "turquoise foreign policy".

Turquoise foreign policy

Chile's commitment to the SDGs is currently represented and expressed mainly by the turquoise foreign policy agenda, a presidential initiative that has been installed as one of the four central pillars of the Boric government's foreign policy.

As Bernal-Meza and González Pizarro (2023a) have recently pointed out, Turquoise foreign policy is based on a set of ideas, conceptions and visions of sustainable development that can be synthesized in political ecologism in International Relations (IR): green theories (Paterson, 2005) or Turquoise foreign policy (Carrasco and Glatz, 2021), which do not constitute a global theoretical or epistemological formulation of IR. However, from the initial idealist and realist theories of the subject, in addition to geopolitical visions, globalism and neorealism, but also integrating reflectivist theories, we can approach a broader and more global conception of the environment and nature. Originally, ontologically, they were understood in terms of the possession of natural resources and synonyms of control, power, and state security (Bueno, 2011). Later, also in the dimension of environmental cooperation through transnational institutions and regimes, as in the theory of complex interdependence and the three-dimensionality of J. Nye's international politics (Velázquez, 2014). Nevertheless, in this theoretical-epistemological macrouniverse, there was a state-centric and materialist perspective of the environmental phenomenon (Bueno, 2011).

When the United Nations (UN) General Assembly adopted the 2030 Agenda for Sustainable Development - with 17 SDGs and 169 targets - it considered that the option of continuing with the same patterns of production, energy, and consumption was not viable, and that there was an urgent need to substantially transform the currently dominant development paradigm in a relatively short period of time, through a long-term vision of sustainable development. One of the main sources of support for this vision is to be found in the so-called *green perspective* in IR, which is based on two theoretical-historical sources:

a. Dobson's (2000) and Eckersley's (1992) green policy theories.

b. The global ecological theory of Sachs (1993) and Chatterjee and Finger (1994).

According to Bernal-Meza and González Pizarro (2023b), these two works together provide an explanation for the destruction of the rest of nature by human societies and a normative basis for resisting this destruction and creating sustainable societies (Paterson, 2005), articulated through three dimensions: 1) ecocentric ethics: rejection of the value of human beings over other living beings and ecosystems; 2) limits to growth as the main cause of the degradation of nature and the consequences associated with climate change; 3) decentralization of political, economic and social power, which is the key element for the feasibility of the above. In parallel, the emergence of climate change has generated challenges and needs relevant to diplomacy and international relations, conceptualized as environmental security (Velázquez, 2014).

Carrasco and Glatz (2021), Mann (2018), and Wainwrigth and Mann (2013) propose the construction of a *climate leviathan* that allows conceptual progress in reforms that change the practices of States and pave the way for a turquoise foreign policy. This policy is theoretically composed of the green wing (environmental ecosystems) and the blue wing (oceans), which require as a critical context a paradigm shift in economic development models to overcome extractivism, especially in Latin America. These are the main sources on which President Boric seeks to promote a new vision of development. According to Carrasco and Glatz (2021), Chile can become an international reference in promoting the conservation of common goods and valuable ecosystems, as well as low-emission continental transport policies, carbon taxes, reduction of waste entering the sea, sustainable management of marine resources, etc.

Institutional Turquoise Policy: Green Multilateralism

In the government program, the turquoise policy was defined as "transversalizing the agendas of fight and mitigation against the global climate and ecological crisis (green component) and the agendas of protection and administration of the ocean (blue component)" (Boric, 2021, p. 224, own translation). In this sense, the protection of biodiversity and ecosystem services are promoted through multilateralism, international cooperation, and sustainable development (Bernal-Meza and González Pizarro, 2023a).

As a concrete foreign policy practice, the first leader to innovate in this area was Heraldo Muñoz, Foreign Minister in the second term of

Michelle Bachelet's government (2014-2017) who supported initiatives such as the Escazú Agreement and Our Ocean, which were reversed by the mandate of Sebastián Piñera (2018-2021), but resumed with greater emphasis by Boric, with the intention of changing the model of development and international insertion, which depended on the possible change of the internal political regime, through the drafting of a new political constitution.

The protection of biodiversity and ecosystem services through multilateralism, international cooperation and the implementation of sustainable development are materialized in the first year of Boric's government as central elements of Chile's foreign policy (Ministry of Foreign Affairs, n.d.a) and in what is formally known as the Turquoise Foreign Policy (TFP) in a territorial context of high consideration, given that this country is highly vulnerable to climate change due to deforestation, drought, natural disasters, low altitude coastal areas and areas of fragile and polluted ecosystems.

At the national level, the *Green Agenda* was implemented, legislating the climate change law and establishing the goal of decarbonization by 2025. Likewise, the foundations for the creation of a national lithium company have been promoted to ensure its exploitation with environmental protection, and to face the water crisis that has affected the country for more than twelve years. In this context, the first Minister of Foreign Affairs, Antonia Urrejola, made the first public reference to this environmental pillar, stating that: "Our turquoise foreign policy seeks to strengthen multilateral cooperation in the protection of the environment and the oceans, both globally and regionally, precisely so that we can face together the serious climate crisis" (Ministry of Foreign Affairs, 18 March 2022, para. 5, own translation).

Ultimately, this subscription was a change compared to what had been decided by the previous government with the Escazú Agreement. Going deeper into the TFP, in August 2022, Minister Urrejola participated in a discussion at the University of Magallanes (southern area of Chile) on environmental protection and terrestrial and marine ecosystems (Ministry of Foreign Affairs, August 24, 2022). In this instance, the Chancellor highlighted the objectives of the TFP:

a. Preservation of our environmental wealth.
b. Guaranteeing the rights of local communities.
c. Transition to clean energy.

d. International leadership in climate change mitigation and protection of the oceans and diverse ecosystems.

e. Internationally promote the use of green hydrogen, decarbonization by 2050 and proper management of chemicals, waste, and plastics.

f. Moving towards a sustainable development model.

g. Creation of the Climate Change Observatory with sensors from the north of Chile to the Union Glacier.

h. Marine conservation areas from Canada to Chile.

Subsequently, other concrete actions of the Ministry of Foreign Affairs and President Boric himself about the TFP emerged at the 77th United Nations Assembly, where he called on the major powers to assume their great responsibility in the climate crisis, both in its causes and in the urgent solutions, considering this issue a global concern that must be addressed collectively and quickly for sustainable development (Press Office of the Presidency, September 20, 2022). In the same line, at the APEC 2022 Joint Ministerial Meeting held in Thailand (Undersecretariat of International Economic Relations, n.d.), where in the first plenary session on *balanced, inclusive and sustainable growth*, Chancellor Urrejola highlighted the TFP that is beginning to be implemented in the country and that:

> It contributes to positioning Chile as a relevant actor in the mitigation of climate change and the protection of oceans and ecosystems, with special emphasis on the transition to a more sustainable development model, with special emphasis on renewable energies, such as green hydrogen, among others (Undersecretariat of International Economic Relations, November 18, 2022, para. 3, own translation).

Additionally, three important advances in this area were highlighted:

a. The leadership of Chile and President Boric at the launch of the *Americas for Ocean Protection* at the IX Summit of the Americas, where the principles of this initiative were established, whose goal is the protected and ecologically connected marine areas from Canada to Chile[2]. In this context, the President has emphasized

2 Initiative led by Chile. See Llompart (June 9, 2022).

that this is part of "a struggle for survival, because the oceans are the main natural carbon sinks and, as such, have a crucial role in the face of the effects of climate change" (*El Mostrador*, June 9, 2022, para. 14, own translation).

b. Evaluate APEC members' joint roadmap against illegal fishing and marine debris.

c. Full support to the Bangkok Goals in the Green Bio-Circular Economy, aiming at a sustainable planet, biodiversity protection with social inclusion, which was later appreciated by Marcela Otero, Director General of Multilateral Economic Affairs, in the Preparatory Meeting for Chile's Participation in the First APEC 2023 Leaders' Meeting, as one of the main agreements of Bangkok 2022.

In the TFP's internal process, on International Mountain Day, the Ministry of Foreign Affairs reaffirmed its commitment to the sustainability of mountain ecosystems at the national level, through the presidency of the National Mountain Committee, composed of 15 national institutions, and its international promotion in multilateral bodies such as the Mountain Partnership and the Andean Mountain Initiative, from a country that has a significant share of the Andean Mountain ranges.

Likewise, in the context of the negotiations of the New Advanced Framework Agreement between Chile and the European Union in the international arena, Minister Urrejola expressed the important achievements that they mean for addressing "climate change and the protection of the environment and our natural resources, also including issues such as social cohesion, energy transition, oceans and their protection, innovation, digitalization and cooperation for regional and territorial sustainable development" (Ministry of Foreign Affairs, December 9, 2022, para. 6, own translation). The above was emphatically highlighted as part of the strengthening of the TFP, as well as of the feminist foreign policy (PEF).

At the beginning of 2023, President Boric highlighted the TFP in Brasilia, during the official visit related to the inauguration of President Lula da Silva, emphasizing that it represents "the concern that I share for the care of the environment, the concern for reforestation and the oceans in the context of a serious climate crisis; what we have called a turquoise foreign policy" (Press Office of the Presidency, January 2, 2023, para. 4, own translation). Furthermore, on January 9, another TFP act with Latin American overtones is evidenced in the joint international consultation

on the climate emergency between the State of Chile and the State of Colombia at the Inter-American Court of Human Rights. This consultation, which took place within the framework of the Escazú Agreement, requested clarification of the scope of their powers and obligations to address the climate crisis in their countries, in order to have legal and political certainty in this regard in the region (Ministry of Foreign Affairs, January 9, 2023). In the same bilateral line and a few days earlier, on January 2, President Gabriel Boric and Antonia Urrejola met with President Lula da Silva and made a commitment to position the care of the environment and the realization of the bioceanic corridor connecting the Atlantic Ocean with the Pacific (Ministry of Foreign Affairs, January 2, 2023). Also, on the same day, a dialogue was held with the Portuguese Minister of Foreign Affairs, Joao Gomes, on the care of the oceans and biodiversity and the use of renewable energies as common points between the two countries.

On the other hand, at the "Regional Workshop on the delineation of the outer limits of the continental shelf beyond 200 nautical miles", organized by the United Nations Division for Ocean Affairs and the Law of the Sea (DOALAS) and the National Directorate of Borders and Limits (DIFROL), Foreign Minister Urrejola again made international mention of the TFP, in her sense of expressing normative principles and interests that represent and are in line with what was exposed by this course in oceanic terms. In this sense, the Minister pointed out that:

> The workshop we are concluding today is fully inserted in the foreign policy designed by our government, what has been called a turquoise foreign policy, because of the importance we want to give to environmental protection, to ocean governance, and also to the strengthening of multilateralism (Ministry of Foreign Affairs, January 12, 2022, para. 3, own translation).

At the end of the first year in office, the Chilean Ministry of Foreign Affairs organized the second meeting of the Foreign Policy Council[3], chaired by Foreign Minister Urrejola, who outlined the areas where leadership has been exercised and given higher priority during this first year of government: a) the promotion of the precautionary pause of underwater mining;

3 "The Foreign Policy Council was established in the Foreign Ministry modernization law that was enacted on March 7, 2018, stating that this is a consultative body, of a permanent nature, responsible for advising the Minister of Foreign Affairs on matters relating to international relations that the latter submits for her consideration" (Ministry of Foreign Affairs, November 11, 2022, para. 6, n/p).

and b) the negotiations of the Agreement on Biodiversity Beyond National Jurisdiction (BBNJ). At the same time, days before the end of the first year of government, on March 6, 2023, another point of the extensive agenda that the Ministry of Foreign Affairs has indicated exists in the area of TFP, was expressed in the II Chile-France Dialogue on Antarctic matters held in Paris. It highlighted the main commonalities between these countries in the protection of the environment, the fight against climate change and the protection of Antarctic ecosystems, such as the pursuit of the challenges posed by the Convention for the Conservation of Antarctic Marine Living Resources (CRVMA) through the designation of marine protected areas, with an important milestone to be reached in Chile between June 19 and 23, 2023, with the Extraordinary Session of the CRVMA Committee (Ministry of Foreign Affairs, March 7, 2023).

Clearly, TFP reflects the emphasis of Boric's foreign policy during his first year in office. Not only did he establish a robust agenda, but also a multidimensional one: bilateral, multilateral, and domestic, and with ministerial and presidential protagonism. Nevertheless, the concrete scope of the measures taken is still intangible given the mainly discursive nature of the TFP agenda, and with multilateral agreements that were not even Chile's original initiative. In any case, the organizations and agreements related mainly to the care of the oceans and the leadership exercised by Chile in this area are undeniable and will surely be Boric's main international bastion in his four-year term, as he intends to install a new foreign policy based on a new development model and political regime.

Risks and Challenges

In terms of environmental security, Chile faces enormous challenges that require the will of its ruling classes, but more importantly, governance and security strategies at the regional and multilateral levels.

Global warming, which is causing an increasing rise in sea levels, is forcing Chile to become more involved in the fight against it. The following are three of many warnings of the disasters this situation will cause on Chile's coasts:

1. A scientific publication (*Impacts in ports on a tectonically active coast for climate-driven projections under the RCP 8.5 scenario: 7 Chilean ports under scrutiny*) in the *Coastal Engineering*

Journal, led by the academic of the Universidad de Valparaíso and member of the Research Center for Integrated Disaster Risk Management, Patricio Winckler, revealed that the effects of climate change, such as storm surges and sea level rise, will impact Chilean port infrastructure in the coming decades, specifically in seven ports in the north of the country (González, August 30, 2022).

2. The Secretary General of the United Nations, António Guterres, has warned the national government of the effects that sea level rise will have on Chile: the sinking of some areas and the flooding of coastal areas, which will force the population to migrate to other cities (Valladares, February 15, 2023).

3. Research by scientists from four Chilean universities (Universidad Técnica Federico Santa María, Universidad de Valparaíso, Pontificia Universidad Católica de Chile and Pontificia Universidad Católica de Valparaíso), published in the scientific journal *Sustainability*, concluded that thirteen coastal cities in Chile will suffer significant flood risks for the period 2026-2045, and four of them (Valparaíso, Viña del Mar, Arauco and Puerto Saavedra) will be the most exposed municipalities, with percentages of 58.9%, 47.1%, 40.8% and 40.5%, respectively (Toro, March 7, 2023).

Regarding the degradation of water availability for human use and food crops, as Bernal-Meza and González Pizarro (2023b) point out, the primary export model of liberal openness to foreign direct investment (FDI) for the exploitation of natural resources, imposed in Chile since the Pinochet dictatorship (1973-1989), has allowed the profitable exploitation of mining, which consumes huge amounts of fresh water, to the detriment of human communities. A thesis presented at the Faculty of Social Sciences of the University of Chile, in 2019, concluded that:

> The analysis shows the unprecedented monetization and commodification of access to water. This is considered key to the development of neoliberalism in Chile and the world [...]. The data analyzed shows that more than half of the cases are related to disputes over water use rights, related to irregularities in the granting of rights and conflicts with indigenous property rights. This is due to the fact that the Water Code, with its concession logic and legal separation of water and land, in the sense of creating independent markets, provided important guarantees for private economic property (Bauer, 1996). In this

> context, there are institutions such as the DGA (Retamal *et al*., 2013) whose functions have been weakened by these institutional changes, with limited oversight capacity and, according to the vision of the experts interviewed, a high dependence on information from companies (Vergara Cáceres, 2019, p. 127, own translation).

In Chile, "mining contact waters" contaminate large areas of the national territory and their effects are currently permanent, since the waters cannot be modified or recovered, according to a publication by Peña Neira and Araya Meza (2021). From an environmental point of view, the hypothesis of a legal vacuum in the regulation of contact waters is sustainable due to the absence of norms to prevent such effects caused by mining waste. The absence of legal norms that regulate the prevention of pollution of contact waters, and the absence of legal norms that regulate beyond the containment and not the recovery of such waters, generates a legal vacuum in the matter. This legal vacuum can be verified not because of the scarcity of legal norms on the subject, but because they do not generally prevent the contamination and generation of mining contact waters and concentrate on specific legal assumptions or antecedents, specific "factual assumptions", which generates an absence of regulation (Peña Neira and Araya Meza, 2021).

In addition to the deterioration of water availability, however, mining extractive activity consumes enormous amounts of energy. An ECLAC study concluded that:

> Northern Chile is one of the driest regions in the world and faces water scarcity, which could become a limiting factor for regional development, given the significant investments announced in this activity. For these reasons, seawater extraction rates will continue to increase. Energy consumption in mining accounted for 14% of the country's total consumption in 2018. The energy sources used (fuels and electricity) are in similar proportions, 77% of the total fuel consumption is in surface mining, followed by smelters with 9%; while the electricity consumption of the concentration process represents 57%, followed by the electro-winning process with 22% of the total.
>
> In addition, Chile faces structural challenges, mainly the increase in concentrate processes compared to leaching processes, as well as the decline in the quality of the deposits during the life of the mine, which leads to an increase in water and energy consumption, since a greater amount of ore must be treated to obtain a ton of product, as well as more energy for crushing due to the hardness of the rock (deep mining); other costs to be considered are the increase in

> transport distances of material and energy for pumping water (from the sea to the high altitude mine) (Lewinsohn, 2020, p. 76).

In 2018, a study by ODEPA, a Chilean State agency, concluded that, of the water availability in the country, 6% of consumption is for domestic purposes. Mining uses reach 9% (Santibáñez Quezada, 2017).

International Political Contributions

At the APEC-2022 Joint Ministerial Meeting held in Thailand, in the Plenary Session on *Balanced, Inclusive and Sustainable Growth*, Chilean Foreign Minister Antonia Urrejola highlighted that Chile's Turquoise Foreign Policy has helped position Chile as a relevant actor in mitigating climate change and protecting oceans and ecosystems, with a special emphasis on the transition to a more sustainable development model and a particular focus on renewable energies, such as green hydrogen, among others, and highlighted three practical advances: 1) Chile's leadership in launching the *Americas for Ocean Protection* at the IX Summit of the Americas, which established the principles of this body, whose goal is to protect and ecologically connect marine areas from Canada to Chile; 2) the evaluation of the common roadmap among APEC members against illegal fishing and marine debris; 3) full support for the Bangkok Goals in the Green Bio-circular Economy, which aim for a sustainable planet where biodiversity is protected and social inclusion is promoted (Ministry of Foreign Affairs, 17 November 2022).

Conclusions

The history of international political economy (Sunkel and Paz, 1973; Cardoso and Pérez Brignoli, 1981; Furtado, 1983; Ferrer, 1996 and 1999) and the history of Chile (Bernal-Meza, 2020) show that development models based on exports of raw materials, extractive nature and liberal openness to FDIs for the exploitation of natural resources are incompatible with economic development and the objectives of sustainable development.

Due to the geographical and institutional conditions (the current Constitution) that support the current development model, Chile needs profound changes, both domestic and international, to ensure a welfare state that complies with international regulations on environmental protection and security.

Internally, Chile urgently needs a radical change in its development model. The continuity of the current model of development and international integration is incompatible with the possibility of complying with the SDGs and the 2030-2050 Agenda. However, this change is conditional on the drafting and approval of a new constitutional text that establishes a new social contract between citizens and the State. At the same time, the commitments made by Chile at the regional level, in accordance with the Escazú Agreement, and at the multilateral level, in accordance with the Paris Agreement, depend to a large extent on internal compliance with the rules committed to, although a significant positive aspect has been the incorporation of the five axes of the turquoise foreign policy agenda, which the government of President Gabriel Boric has been implementing since its inauguration, within the framework of an enterprising and sustainable foreign policy (PES).

Recommendations from *Policy Makers*

To point out the most urgent and immediate recommendations regarding environmental protection and to ensure compliance with the international commitments signed by Chile, the following should be mentioned:

- Promote the change of the development model and international insertion, through the drafting of a new Political Constitution of the State.
- Coordinate multilateral strategies among developing countries characterized by similar extractive models, in order to encourage international partnerships with developed countries committed to the SDGs and the 2030-2050 Agenda, to promote cooperation for the progressive modification of these models.
- Promote multilateral policies to ensure that FDIs are aligned with the SDGs.

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Governance Structures and Environmental Security Strategies in the Southern Cone Region: Mercosur and GTS-6

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Introduction

This chapter seeks to understand, analyze and discuss how the Common Market of the Southern Cone (Mercosur) and the Sub-Working Group 6 (SGT-6), which deals with environmental issues, are incorporating and working with environmental agendas, thus becoming a relevant locus for environmental governance and security in the Southern Cone.

The environmental agenda has been gaining more space in Mercosur (Luciano, Bressan and Salles, 2023). The institution also presents itself as an environmental governance structure to the extent that it has incorporated the environmental agenda with multiple actions and projects. In general, the organization acts in environmental governance to recognize and preserve the immense natural diversity, whether mineral, biological or hydric, in the territories of the four Mercosur countries. To this end, meetings of heads of state, ministers and government technicians are held to work through agreements, decisions, resolutions and recommendations that seek to align strategies, undertake concrete actions and systematize information, taking into account international agreements and national initiatives related to the protection of biodiversity and the environment, as a strategy for environmental security (Mercosur, 2023).

Thus, the environmental issue has been incorporated into different agendas within Mercosur, which has turned this regional integration project into a potential tool for environmental governance. Generally, the purpose of information systems between countries is to store data and contents that favor common environmental objectives. In the first place, there is an effort to harmonize environmental norms, through the differences in legislation among the four countries. To a lesser extent,

the adoption of common environmental provisions in the future is being discussed, in order to guarantee Mercosur a locus for environmental governance.

The environmental framework within Mercosur is made up of different topics (Mercosur, 2008). They range from the management and transportation of hazardous wastes, to the development of a plan for the prevention, monitoring, control and mitigation of invasive exotic species, such as wild boar, to the fight against wildlife trafficking and animal smuggling, to the conservation of biodiversity in general. In the context of international cooperation, it is important to highlight the Memorandum of Understanding signed with the United Nations Environment Programme (UNEP) in 2018. This document establishes that Mercosur and UNEP will maintain close cooperation on issues related to the environment.

This chapter consists of four parts. First, it discusses the main concepts of environmental security and environmental governance, providing important theoretical references to the terms used, with the aim of clarifying and supporting the discussions of this research. Second, the chapter explains Mercosur as an important actor for environmental governance in the Southern Cone, highlighting the main contributions of this regional integration process to the international environmental debate. Next, the paper contextualizes the creation of the GTS-6, characterizing it as the main locus of environmental governance in Mercosur.

Based on a qualitative interview with the deputy national coordinator of SGT-6, Carlos Hugo Suarez Sampaio, advisor for international affairs at the Brazilian Ministry of the Environment and consultant for the analysis of reports and minutes of SGT-6 meetings, this chapter presents the main issues addressed by the group. The issues of biodiversity in Mercosur and the transboundary transport of waste in Mercosur have dominated the SGT-6 agenda in recent years. However, based on the interview with Sampaio, in a fourth and final part of the discussions, the perspectives and agendas of SGT-6's work in the coming months are analyzed and discussed in view of Brazil's *pro tempore* presidency of Mercosur under the Lula government. Finally, after the conclusions, the research manages to put forward some thematic proposals in the sense of deepening and broadening environmental governance and environmental security in the Southern Cone.

Environmental Security and Environmental Governance: Some Concepts

Environmental security refers to the protection and management of the natural environment in a manner that ensures the well-being of present and future generations. It embraces the idea that environmental conditions play a fundamental role in the stability and security of societies, and that threats to the environment can have far-reaching consequences for social, economic and political systems. In addition:

> Traditional security policies and strategies are left behind in the face of the transformations produced by the replacement of a classic international system by territorial borders determined by a globalized system characterized by transnational economic and environmental challenges that escape the jurisdiction of national sovereignty (Pastrana and Burgos, 2021, p. 15).

In essence, environmental security recognizes the interdependence between human security and the health of the planet (Fath, 2020). Some key aspects of environmental security are:

- Resource scarcity and competition: as the world's population grows and natural resources become more limited, competition for essential resources such as water, energy, and arable land can increase tensions between or even within nations (Estenssoro, 2018).
- Environmental degradation and pollution: Pollution, deforestation, loss of biodiversity, climate change and other forms of environmental degradation can negatively impact ecosystems and alter local and regional stability. For example, extreme weather events or food shortages resulting from environmental changes can lead to displacement, conflict and instability.
- Transboundary Environmental Issues: Many environmental issues transcend national boundaries, such as pollution carried by air and water currents, shared water resources, and migratory species. A lack of understanding of how to manage these transboundary issues can lead to diplomatic tensions or conflict.
- Health and human well-being: Environmental degradation can directly affect public health and quality of life. Contaminated water sources, air pollution and exposure to hazardous substances can

cause health problems, which in turn can strain social systems and disrupt stability.

- Climate change is a critical global environmental challenge that poses threats to ecosystems, agriculture, coastal zones and human settlements. Its effects can exacerbate existing vulnerabilities and potentially lead to displacement, migration and conflict (UN, 1 November 2022).

- Natural disasters: Environmental security also includes preparedness for and response to natural disasters such as hurricanes, earthquakes, and floods. These events can cause widespread destruction and disrupt social and economic systems, affecting stability.

Efforts to address environmental security involve environmental protection, sustainable development, diplomacy, international cooperation and conflict prevention. International agreements, such as the Paris Agreement on climate change, aim to unite nations to mitigate environmental challenges and promote global sustainability.

In recent years, the concept of environmental security has gained prominence as awareness of the interconnectedness of environmental, social and political issues has increased. Policymakers, researchers, and advocates emphasize the need to consider the environmental dimension when assessing and addressing security challenges at the local, national, and international levels. Even at the regional level, the environmental issue has been addressed "in various scenarios, leading to treaties and shared objectives" (Pastrana and Burgos, 2021, p. 27).

Environmental governance refers to the systems, processes, institutions, and mechanisms through which societies manage and make decisions about their natural resources and the environment. It involves a complex interaction of government agencies, non-governmental organizations (NGOs), international organizations, businesses, local communities and individuals working together to address environmental challenges and promote sustainability (Adams, Borges, Moretto and Futemma, 2020). In turn, some key aspects of environmental governance consist of policy development and implementation, social participation, transparency and accountability, international cooperation, science and research, capacity building, conflict resolution, adaptive management, local and indigenous knowledge, among others.

Environmental governance primarily involves the creation, implementation and enforcement of policies, regulations and laws that aim to protect the environment and promote sustainable practices. These instruments can cover a wide range of issues, such as pollution control, natural resource management, and biodiversity conservation. In addition, effective environmental governance requires, at a minimum, the participation of a wide range of stakeholders, including government agencies, local communities, indigenous groups, industry representatives, NGOs and researchers. Involving these stakeholders in decision-making processes can lead to more inclusive and informed decisions.

While achieving environmental governance *in the strict sense* is a major challenge for Latin American societies, it often means acting on government impulses, for example when it comes to international cooperation. Many environmental challenges, such as climate change and biodiversity loss, transcend national borders. Thus, cooperation between countries, whether through international organizations or regional initiatives, is essential to address common environmental problems, which justifies the choice of Mercosur in this chapter.

In addition to these terms, environmental governance also involves developing the capacity of individuals, organizations and institutions to effectively manage and address environmental challenges. This may include providing training, resources and technical support, especially when there is a more capable party to provide such support and assistance. To another extent, investment in science and research is essential to ensure effective environmental policies. Scientific knowledge helps policymakers and stakeholders to understand the impacts of different actions and to make correct and informed decisions. Along with investment in science, open communication and access to information allow stakeholders to understand the reasoning behind decisions and hold decision makers accountable.

To a smaller but no less significant extent, environmental governance involves adaptive policy management. Because environmental challenges are complex and uncertain, adaptive management, which requires regular review and adjustment of policies and practices in the light of new information and changing conditions, is a key element of effective environmental governance. In addition to adaptive management, effective governance includes conflict resolution and negotiation mechanisms to prevent tensions from escalating.

The central objective of environmental governance is to promote sustainable development, balancing economic, social and environmental objectives to ensure the well-being of present and future generations. Indeed, in its treaties and regulations, Mercosur intends to ensure the achievement of sustainable development (SDGs) through a series of measures and commissions, as detailed below.

Mercosur and its Contribution to Environmental Governance in the Southern Cone

Since the Treaty of Asunción, the environmental issue has been on Mercosur's working agenda (Mercosur, 2006). In its preamble, the Treaty of Asunción states that the expansion of markets must take into account "the most efficient use of available resources and the preservation of the environment". Considering the environment as a cross-cutting issue, Resolution 22/92 of the Common Market Group (Mercosur, 1992) established a Specialized Meeting on the Environment in 1992. Two years later, it approved a document derived from the meeting, "Basic Environmental Policy Guidelines" (ISM, 2020), that of Resolution GMC 10/94. The following year, 1995, a specific working subgroup linked to the GMC, SGT-6 "Environment", was created to concentrate all technical discussions related to the environment and was represented by specialists from the four countries. In turn, nine years later, the Meeting of Environment Ministers was created to guide dialogue and joint actions on the subject. Thus, environmental issues in Mercosur are not limited to a single area, but are addressed through various mechanisms that are part of the trajectory of this integration process. The first of these are the committees and joint working groups, as committees and working groups dedicated to environmental issues have been established throughout its history. These bodies facilitate discussion, information exchange and coordination among member states on environmental policies and initiatives.

As a result, there are environmental cooperation programs that facilitate the promotion of joint efforts in areas such as biodiversity conservation, sustainable development, pollution control, and adaptation to climate change. It is also possible to identify some sustainable development initiatives in terms of cooperation and trade. This is because Mercosur has recognized the importance of sustainable development and has worked to increasingly reconcile economic growth with environmental protection. This recognition has been reinforced by the agreement

with the European Union, which includes environmental clauses in trade agreements for goods and services.

To a lesser extent, environmental impact assessments exist among Mercosur member countries. Although this is a policy in its infancy, some countries are working on environmental impact assessments for certain development projects, such as infrastructure or industrial projects, to ensure that potential negative environmental impacts are adequately addressed.

Mercosur has made significant progress in addressing a wide range of transboundary environmental issues, including the creation of the Mercosur Citizenship Statute in 2022. In this way, the integration project is addressing a wide range of transboundary environmental issues. As environmental challenges often transcend national borders, Mercosur countries have increasingly cooperated in managing transboundary issues, such as shared water resources and biodiversity.

With regard to environmental emergencies, the Mercosur countries, through Resolution CMC/DEC Nº 14/04, adopted the Additional Protocol to the Framework Agreement on the Environment on Cooperation and Assistance in Environmental Emergencies. The document provides for the development of coordinated actions to face environmental emergencies. In the Protocol, the countries regulate cooperation and assistance actions in the event of environmental emergencies, establishing procedures that enable them to act in a more efficient, rapid and predictable manner in the event of an emergency situation. Members considered an emergency to be a situation resulting from a phenomenon of natural or man-made origin which is likely to cause serious damage to the environment or ecosystems and which, by its nature, requires immediate assistance (SIAM, 2022).

Mercosur member countries also participate in international environmental agreements, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD), thereby strengthening their interest in international environmental cooperation. These agreements help guide their individual and collective actions to address global environmental problems. However, it is important to note that the effectiveness of environmental cooperation within Mercosur can vary due to political, economic and social factors. At times, trade and economic interests take precedence over

environmental concerns, creating challenges to fully integrating environmental sustainability into the bloc's policies.

SGT-6 as a Venue for Environmental Governance in Mercosur

Mercosur's SGT-6 focuses on environmental issues and plays a cooperative role in environmental policies and initiatives among member countries. In general terms, the objective of the work of SGT-6 is to formulate and propose strategies and guidelines on environmental issues that are important for the integration process, with the aim of promoting sustainable development through the protection and integrity of the environment of the member countries, taking into account free trade and the search for consolidation of the Customs Union under equal conditions of competitiveness. To this end, SGT-6 conducts specific studies and prepares reports and documents that support Mercosur members in negotiations at the executive and decision-making levels, provides technical assistance to other sectors in dealing with environmental issues, assists in the definition of export and import quotas and in the establishment of phytosanitary measures and packaging regulations for certain products such as wood and fertilizers. SGT-6 is also responsible for the Environmental Information System (SIAM) (Garcia, 2019).

The SGT-6 is consolidating itself as a platform for member countries to cooperate and discuss the different environmental issues that concern them, including the different aspects of the environmental SDGs of the 2030 Agenda (Mercosur Secretariat, 2019). Therefore, its work includes the discussion of common environmental challenges, joint solutions, potentials, training and capacity building, as well as the harmonization of national policies and regulations.

Similarly, GTS-6 has been working on the environmental dimensions of the 2030 Agenda on several fronts. The first deals with environmental agreements and protocols. While SGT-6 is only an advisory body to Mercosur, the working group facilitates discussions and negotiations between countries to establish international environmental agreements and cooperation. These negotiations cover issues such as water use (GTS-6), combating climate change (GTS-13), and biodiversity conservation (GTS-15). They also cover sustainable development and environmental impact assessment.

The Mercosur Environmental Framework Agreement (AQMAM), derived from a GTS-6 recommendation, is an important milestone in regional

environmental policy. The document originated in the Common Market Council and was signed in 2001. The agreement provides for the promotion of environmental protection and the most efficient use of available resources, and also advocates sustainable development. The principle of environmental integration provided for in the Declaration of Rio de Janeiro (1992), derived from the Conference, was reaffirmed in the Framework Agreement, and thus Mercosur approved the incorporation of the environmental component in its sectoral policies and decisions (ISM, 2020).

The AQMAM has led to the creation of several instruments and information systems, with recommendations for the harmonization of environmental standards and the adoption of common measures. Some important milestones relate to the Guarani aquifer, biodiversity and the preparation of a plan for the prevention, monitoring, control and mitigation of invasive alien species. The issue is also highlighted in Mercosur's Strategic Plan for Social Action, approved in 2011.

Biodiversity conservation has been a very frequent theme in GTS-6's work. There is constant concern about the control of endogenous (invasive) species, the protection of endangered species, and wildlife trafficking, which stem from the concern for biodiversity conservation (SDG 15). In fact, the Mercosur member countries are home to several ecosystems, biomes and habitats of species that cross borders, which consolidates the relevance of this regional organization.

To facilitate the implementation of the different SDGs, the GTS-6 is constantly working on the technical training of inspectors and environmental agents. The exchange of environmental expertise is led by Brazil and has helped all countries in the bloc improve their capacity to effectively address environmental issues (Sampaio, interview, August 21, 2023).

The exchange of environmental data and information consists of the collection of environmental data, monitoring and exchange of information obtained in the framework of GTS-6 activities. Access to accurate and updated environmental data is essential for policymaking, which is why the Mercosur Environmental Information System (SIAM) was created as a relevant mechanism for the implementation of the environmental agenda under the 2030 Agenda (Mercosur, 2019a). SIAM generates support for different SDGs, both environmental and others, such as those related to water and clean energy (SDGs 6 and 7).

Collaboration with other GTSs is also constant in the activities and functions of GTS-6. Environmental issues frequently intersect with other areas of Mercosur's work, such as trade, cross-border issues and agriculture. It is therefore essential that SGT-6 collaborate with other subgroups and working groups to ensure that environmental considerations are integrated into broader policy discussions. Transboundary environmental issues are a recurring theme in SGT-6 and are shared with various groups that deal with such issues. Discussions and agreements in this area aim to promote cooperation and prevent conflicts related to these issues.

Transboundary Transport of Waste in Mercosur: A Vital Agenda for Environmental Security

Every human activity has as a direct and inevitable consequence the generation of waste, whether as a result of the consumption of goods or of industrial activities or services (SIAM, 2022). In some situations, it is necessary to transport waste beyond the borders of the countries where it is generated for treatment or final disposal.

The control of this transport was approved by the Conference of Plenipotentiaries in Basel, Switzerland, on March 22, 1989. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal entered into force on May 5, 1992, and is composed of 176 States Parties, including those of Mercosur.

The main objective of the Basel Convention is to protect human health and the environment from potentially harmful effects resulting from the unreasonable management of hazardous wastes when they are subject to transboundary movements. Such control covers a wide variety of wastes defined as hazardous, considering their origin or composition, or both, and their hazardous characteristics. It also includes other wastes such as domestic waste (collected from households) and waste resulting from incineration.

The provisions of the Basel Convention aim to promote the reduction of hazardous waste generation and the environmentally sound management (ESM) of hazardous wastes, wherever they are disposed of. In addition, the restriction or minimization of transboundary movements of hazardous wastes, except in specially provided cases and under established conditions, respecting the principles of ESM, in addition to the

establishment of a regulatory system applicable to cases where transboundary movements are allowed (SIAM, 2022).

The Stockholm and Rotterdam Conventions complement the Basel Convention on the International Transport of Toxic Substances and Chemicals. The Stockholm Convention is based on Principle 15 of the Rio Declaration on Environment and Development (1992), which aims to protect human health and the environment from persistent organic pollutants (POPS). POPS are organic compounds of natural or anthropogenic origin, resistant to degradation in the environment, with low water solubility and high fat content, which causes them to accumulate in the fatty tissues of living organisms. They are semi-volatile compounds found in air, water and soil and are characterized by their regional and global distribution. These chemicals are toxic to living organisms and are continuously released. The main characteristic of COP is persistence, as they remain in the environment for long periods of time before they degrade or break down into less hazardous forms. A further characteristic to consider is the potential toxicity of COP, which can cause harmful effects even at low concentrations. It is worth noting that COPPERS can be transported over long distances, spanning thousands of kilometers, through various means such as air, water, and even migratory species. The extent of this transport is influenced by factors such as temperature and region. Given that COPPER can easily disperse in shared rivers and biomes, it is important to monitor its presence in Mercosur countries. This contributes to bioaccumulation, as COPPER accumulates easily in the fatty tissues of humans and living organisms that are part of the food chain (Combi, Montone, Corada-Fernandez, Lara-Martin, Gusmao and de Oliveira, 2022).

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC) was adopted in September 1998 and entered into force within the international legal system on February 24, 2004, when it was ratified by 50 countries. It aims to control the transboundary movement of hazardous chemicals based on the principle of prior consent of the importing country and shared responsibility in the international trade of these products (CETESB, 2023).

The Rotterdam Convention (PIC) is derived from the Food and Agriculture Organization of the United Nations (FAO) International Code of Conduct on the Distribution and Use of Pesticides, signed in 1985, and

the London Guidelines, established by UNEP in 1987 for the exchange of information on international trade in chemicals. Information on the substances included in the PIC list can be found in the PIC Circular, a document updated every six months by the Convention Secretariat.

In Mercosur, the Rotterdam Convention applies to chemicals that are banned or severely restricted to protect human health or the environment, as well as extremely hazardous pesticide formulations that cause problems under conditions of use in developing countries or countries with economies in transition (SIAM, 2022).

Thus, the Rotterdam Convention promotes the shared responsibility of the Parties (member countries) in the international trade of certain industrial chemicals and pesticides, through the exchange of information on the physico-chemical and toxicological characteristics of these products. In addition, the document establishes a national procedure for the adoption of decisions on imports and exports - as may occur in the case of Mercosur - and the dissemination of such decisions to the Parties.

In other words, the conventions allow the global community to monitor and control trade in certain hazardous chemicals. The documents also make it possible to decide whether member countries want to receive some of these products or whether they want to exclude those that cannot be handled safely, for example, Uruguay and Paraguay, which often do not do so because they do not have the technological conditions and sufficient volume to handle and properly dispose of the various toxic wastes.

Brazil signed the Rotterdam Convention in 1998, approved its text through Legislative Decree no. 197 of May 7, 2004, and promulgated it through Decree no. 5,360 of January 31, 2005. The Designated National Authorities for matters related to the Rotterdam Convention are the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA), the Ministry of Foreign Affairs (MRE), and the Ministry of Environment (MMA).

Mercosur countries must ensure that waste subject to transboundary movements is subject to ESM (environmentally sound management). The Conventions of the Parties (COP) adopt technical guidelines developed by expert working groups, which, although not legally binding, establish a basis for this concept in several areas: waste classification, disposal operations, and hazardous characteristics, among others.

Mercosur has also adopted the Strategic Approach to International Chemicals Management (SAICM) adopted by the International Conference on Chemicals Management (ICCM 1-2006). The overall objective of the Strategic Approach is to achieve the sound management of chemicals throughout their life cycle so that chemicals are used and produced in ways that minimize significant adverse effects on human health and the environment, in compliance with the Strategic Approach Implementation Plan. World Summit on Sustainable Development, Johannesburg, 2002. SAICM consists of the High-Level Declaration, which states that the Strategic Approach is a voluntary initiative for the international management of chemicals and their hazardous wastes throughout their life cycle, and that it is not a legally binding instrument. It also consists of the Overarching Policy Strategy, which establishes that the EA has a broad scope that includes environmental, economic, social, labor, and health aspects related to chemical safety, as well as chemicals for agricultural and industrial applications, in order to promote sustainable development and address chemicals at all stages of their life cycle, including products containing them.

Based on the Global Action Plan for SAICM, Mercosur's GTS-6 developed the Action Plan for the Management of Hazardous Substances and Chemicals, which covers ten areas of work of which mercury, globally harmonized system of classification and labeling of chemicals (GHS), pesticides and contaminated sites have been prioritized (SIAM, 2022).

The four Mercosur countries are party to the Basel, Stockholm and Rotterdam Conventions and recognize SAICM, which justifies their participation in the Triple COP GTS-6 in May 2023 (Sampaio, interview, August 21, 2023). The triple COP was composed of the members of the 11th Conference of the Parties to the Basel Convention (BC COP-16), the 11th Rotterdam Convention (RC COP-11) and the 11th Conference of the Parties to the Stockholm Convention (SC COP-11). The main themes of the summit were "Accelerating action: targets for sound chemicals and waste management". BC COP-16 adopted 28 decisions on enhanced cooperation with other organizations and States Parties, technical assistance, preventing and combating trafficking and illegal trade, and compensation mechanisms. Although Mercosur is not part of it as an observer organization, the solution was to indicate Argentina as the representative of Mercosur, which held the *pro-Tempore* presidency then. Some of the key outcomes of the Conference include the adoption of updated technical guidelines on the environmentally sound management

of plastic waste, on COP and electronic waste, and the initiation of work to improve the functioning of the Prior Informed Consent (PIC) procedure, among others (Basel Convention, 2023).

This is currently one of the main topics of work within the scope of the GTS-6 on environmental security (Sampaio, interview, August 21, 2023). Transboundary transport of waste in Mercosur is increasingly practiced due to technologies developed by Brazil that are not practiced in neighboring countries. Added to this issue is the insufficient volume of certain toxic waste, such as lead acid batteries discarded in Uruguay. This country needs to export this waste to be treated and disposed of properly, as it does not produce enough volume to apply *on-site* disposal technology. In addition, Paraguay and Argentina prohibit waste import in their constitutions, making Brazil the only destination for waste treatment. Thus, Mercosur members have been working on the issue in GTS-6, intending to harmonize their regulations and policies related to the transboundary transportation of chemical products and wastes.

Biodiversity in Mercosur: One of the Main Pillars of GTS-6

Biodiversity is one of the main interests of Mercosur's environmental agenda. Its members have and share a rich biodiversity, harboring a differentiated set of continental and marine ecoregions with a great diversity of species of fauna, flora and microorganisms, as well as an important hydrological complex. The Southern Cone region boasts unique biomes and species, as well as important cultural diversity in certain areas. Indigenous and local communities in these areas play a fundamental role in conserving biodiversity and promoting its sustainable use.

In defense of biodiversity, the Mercosur countries are party to the Convention on Biological Diversity (CBD). This document is a United Nations treaty established during the famous ECO-92 United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in June 1992. It is one of the most important international instruments related to the environment. Among its objectives, the CBD advocates the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from the use of genetic resources. It also advocates adequate access to resources and appropriate transfer of relevant technologies (MMA, 1998).

The Convention is structured on three main bases - the conservation of biological diversity, the sustainable use of biodiversity, and the fair and equitable sharing of the benefits of using genetic resources - and refers to biodiversity at three levels: ecosystems, species and genetic resources. By covering biodiversity-related issues, the Convention constitutes a legal and political framework for several other specific and regional environmental conventions and agreements, such as the Declaration of the Ministers of the Environment on the Biodiversity Strategy of Mercosur (Mercosur, 2006).

In 2006, the Ministers of the Environment signed the Mercosur Biodiversity Strategy. This document includes a strategic framework with general and specific objectives, regulatory frameworks, vision and principles related to the topic. The countries reinforce in the document that they are convinced of the importance of biodiversity for the quality of life of societies and economic development at the national, regional and global levels and for strengthening the integration process. The Strategy has guidelines and lines of action on the topic that touch on the actions of the GTS-6 for biodiversity from that moment on.

The document provides for joint biodiversity inventories and the conservation and recovery of biodiversity in continental, marine and coastal aquatic ecosystems, such as the Prata basin and the sub-basins of the Paraná, Paraguay and Uruguay rivers (Mercosur, 2006). In addition, actions include protecting and recovering biomes and ecosystems that maintain a high degree of integrity, such as the Pantanal and the Amazon. Along these lines, one of the priorities is to consolidate the Gran Chaco Americano Subregional Program, one of the main environmental governance actions in the Southern Cone.

The Invasive Alien Species Plan is highlighted. In 2019, SGT-6 drafted the resolution that establishes a conceptual framework and guidelines for the development of a plan for prevention, monitoring, control and mitigation of invasive alien species. The objective of this Plan is to minimize the impacts caused by invasive alien species on biodiversity, environment, health, economy and culture within Mercosur.

Biodiversity: Control of Invasive Alien Species

Known as invasive alien species or non-native species, they have negative impacts on native ecosystems, biodiversity, agriculture and human health. Mercosur's approach to combating these species is currently

based on the Brazilian experience, which combines legal frameworks, research, management strategies and public awareness campaigns. According to an interview with Sampaio, Brazil has offered its experience for a common policy of the bloc. Recently, the SGT-6 defined the five most problematic species within the list of invasive alien species, the most important of which is the feral pig (Sampaio, interview, August 21, 2023).

Brazil has legislation in place to address invasive species, such as the National Biodiversity Conservation System (SISBIO) and the National Invasive Alien Species Plan. The Brazilian Biodiversity Law (Law No. 13,123 of 2015) regulates access to genetic resources and benefit sharing, and includes provisions related to the control of invasive species. Government agencies, research institutions and conservation organizations conduct research in the country to identify invasive species and assess their impact on native ecosystems, which may extend to the Mercosur level. Monitoring programs track the spread and establishment of invasive species, which helps inform management strategies.

Based on this experience, in 2019, Mercosur countries signed a document with guidelines for the development of a plan for the prevention, monitoring, control and mitigation of invasive alien species (Mercosur, 2019b).

The Plan distinguishes the species to be addressed. First, alien species (AS): any species, subspecies or lower taxon introduced voluntarily or accidentally into the territory of the Parties, including any part, gamete, seed, egg or propagule of such species that manages to survive and reproduce. Second, invasive alien species (IAS): alien species that are capable of establishing populations and spreading beyond the area of introduction so as to colonize natural or semi-natural environments and pose a threat to biological diversity, the environment, the economy, health or cultural values. Thirdly, potentially invasive alien species (PIS): alien species that, although they have not succeeded in invading natural or semi-natural environments or causing impacts within the territory, have a history or biological characteristics that allow them to be considered a risk to the environment, the economy, health or cultural values. Actions foreseen in the document include prevention, risk analysis, early warning systems, as well as control, management and mitigation of IAS (Mercosur, 2019b.).

In addition, GTS-6 should take advantage of Brazil's experience in risk assessment to measure the potential threat of introduced species prior to their importation or release. Biosecurity measures should be implemented at ports, airports and borders to prevent the introduction of invasive species through trade, human travel and transport.

Each invasive species management plan is developed for specific species or groups of species. These plans may include eradication, containment or control strategies. In the case of Mercosur, there is an agreed policy for the control of exotic species. Biological control methods, for example, the introduction of natural predators or pathogens of invasive species, are considered part of integrated pest management strategies and should be widely used in the countries of the group.

In addition, efforts are made to restore habitats affected by invasive species. This may involve removing invasives, replanting native species and restoring ecological processes. In summary, Brazil has been collaborating effectively with Mercosur and SGT-6 to share knowledge, experiences and best practices in invasive species management.

Biodiversity: Wildlife Trafficking

A final issue that has recently begun to be discussed at GTS-6 concerns wildlife trafficking (Mercosur, 2022). As mentioned, the region is home to rich and diverse ecosystems, which makes it a target for wildlife trafficking due to the high demand for rare and exotic species. Several animals inhabiting Mercosur territories are trafficked, in addition to the jaguar. The countries of the group are both a source and a route for wildlife trafficking, with many animals destined for China and other countries. It is important to note that animals are not always trafficked whole.Sometimes, only bones, teeth and other body parts are of interest to traffickers (Sampaio, interview, August 21, 2023). This is, therefore, a significant challenge for wildlife preservation and biodiversity conservation.

Once again, Mercosur is taking advantage of Brazil's experience in the fight against wildlife trafficking. Indeed, this constitutes a crucial aspect of biodiversity conservation and protection. Brazil is no exception to global efforts to combat this illegal trade; the country employs several strategies to deal with wildlife trafficking within its borders. First, Brazil has strong legal frameworks to combat wildlife trafficking. Brazil's Biodiversity Law (Law No. 13,123 of 2015) and Environmental Crimes Law

(Law No. 9,605 of 1998) include provisions related to wildlife protection and penalties for trafficking offenses. The Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) is the main agency responsible for enforcing environmental laws and regulations, including those related to wildlife.

Brazil and its Environmental Policy in Support of GTS-6

The Brazilian government, during the presidency of Jair Bolsonaro (2019-2022), revealed a position contrary to both environmental issues and regional integration. Military and with a conservative discourse, Bolsonaro presented since his presidential campaign an agenda of deconstruction and environmental exclusion, both in the institutional sphere and in the discourse, whether national or international, thus affecting the entire construction of Brazilian environmental governance (Bressan, 2020). Inaction, destruction, and conflict generation were Bolsonaro's main characteristics for environmental issues (Bressan, 2021).

Domestically, the dismantling of socio-environmental institutions by the Bolsonaro government, with the exclusion of different sectors of society from environmental governance processes in the country, destroyed the institutional apparatus and management capacity of the federal environmental space, with strong repercussions at the international level (Farias, Matos, Leite, Franco, Lagosta, Martins, & Azzi, 2021). Brazil's progress in environmental governance in recent decades has been interrupted by the agenda of destruction of important Brazilian environmental institutional frameworks.

The destruction of Bolsonaro's government occurs in different areas, among them: changes in current environmental laws; new bills in the National Congress; extinction or reduction of investments in environmental policies and programs; extinction of democratic spaces, such as commissions and consultancies; changes in the institutional arrangements of environmental agencies; dismissals and exchanges of technical personnel responsible for policies aligned with deconstruction; dismantling of governmental environmental institutions, such as the Ministry of Environment itself; official speeches in favor of rural farmers and illegal miners, among others (Adams *et al*., 2020). Since his electoral campaign, Bolsonaro expressed positions very contrary to environmental

care and disrespect for the treaties signed by Brazil at the international level (Bressan, 2021). Upon assuming the Presidency of the Republic, Bolsonaro dismantled the government bureaucracy based on Provisional Measure (MP) 870/201948. As a result of this law, Brazilian environmental institutions lost their autonomy and were structurally weakened. They also suffered a significant loss of funding from the federal budget. To support these changes, leaders were elected to positions of trust to act on behalf of interest groups linked to the government, resulting in the dismantling of environmental institutions and the weakening of environmental governance in Brazil (Azzi, 2019; Bressan, 2020).

Regarding Mercosur, the government of Bolsonaro acted similarly. As a presidential candidate, he expressed positions contrary to Mercosur (Bressan, Menezes and Ribeiro, 2021). In August 2017, Bolsonaro defended in a social network: "We must free ourselves from the chains of Mercosur and move towards bilateralism. Brazil has the autonomy to trade with the whole world!" (Bolsonaro's Twitter, August 25, 2017, own translation).

Opposition to Mercosur has not subsided during Bolsonaro's administration. In a hearing before the Senate Foreign Relations Committee in August 2021, the Minister of Economy stated, "It is not Brazil that stays where Mercosur orders, Mercosur has to be comfortable with Brazil" (*Folha de São Paulo*, August 20, 2021, p. A19).

At this point, SGT-6 had a discreet participation due to its Brazilian representation, leaving it to the governments of Argentina and Uruguay to lead this agenda in Mercosur (Sampaio, interview, August 21, 2023). Uruguay, when it took over the coordination of the group, showed an active and interested action in the environmental agenda, which facilitated the discussion of specific issues that guided the work of SGT-6 in recent years, to the detriment of Brazil, which throughout the Bolsonaro administration did not have the support to propose new guidelines.

In 2022, with the victory of Lula da Silva in the Brazilian government, a new perspective opened up for the country's environmental agenda and its international agenda. After the election results were announced, leaders from around the world recognized and saluted President Lula. The next morning, the President of Argentina, Alberto Fernandez, met with Lula in São Paulo. Then, on the occasion of the COP 27 (Conference of the Parties) of the United Nations Framework Convention on Climate

Change, to be held in Egypt in November 2022, Lula received an invitation from the Egyptian president, joining more than ninety heads of state representing Brazil who are not yet in office. His participation signaled Brazil's commitment to future environmental and climate management.

After taking office, Lula visited Argentina and Uruguay, where he reaffirmed his commitment to reestablish Mercosur activities and emphasized the importance of maintaining the bloc's unity in the face of Uruguay's threats to enter into bilateral agreements with China. In this way, Brazil is gradually regaining some regional leadership, betting once again on Mercosur's efforts. In fact, the presence of eleven leaders at the South American Summit in May 2023, at the invitation of President Lula, represented a new phase in Brazilian foreign policy, with concrete possibilities for the country to recover a special role in the region, not only in Mercosur (Bressan, 2023).

Within the activities of the SGT-6, new specific actions and initiatives should be developed by the *pro tempore* Presidency in Brazil (Sampaio, interview, August 21, 2023). Brazil should assume twice the *pro tempore* Presidency *pro tempore* of Mercosur during the Lula administration, with these important issues being taken up again, and new environmental issues should be included in the group's work under Brazilian leadership. The main one is climate change.

Brazil has a number of interests about climate change that make up SDG 13 of the 2030 Agenda. In fact, they are contradictory interests, but they put the country at the center of the regional discussion. If, on the one hand, Brazil is a major global emitter of greenhouse gases, its vast and ecological Amazon rainforest makes it a great ally in the fight against climate change, even if it clashes with its economic and development priorities.

Clearly, Brazil's interest in the climate change agenda is influenced by its economic development goals. Historically, there has been tension between efforts to address climate change and the country's desire for economic growth, leading to debates about the balance between environmental conservation and development, with different emphases throughout history.

As one of the world's largest emitters of greenhouse gases, mainly due to deforestation, agriculture and energy production, Brazil is the target of much discussion. The country reached this rank when its

emissions were driven by activities such as logging, land-use change and cattle ranching. However, Brazil has also made efforts to reduce its emissions through initiatives such as increasing the share of renewable energies in its energy matrix, which is one of the cleanest in the world.

In addition, as home to the Amazon rainforest, the country has another responsibility as its ecosystem has entered a critical phase. Deforestation and land-use change in the Amazon have important implications for global climate change, as the rainforest acts as a carbon sink and plays a critical role in regulating the Earth's climate. Brazilian policies on deforestation, forest conservation and indigenous land rights have come under scrutiny in the context of climate change.

On the other hand, the country has been involved in several international agreements related to climate change, including the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. Brazil's position on these agreements has evolved over time; there have been periods of solid engagement followed by periods of skepticism or resistance, as occurred throughout the Jair Bolsonaro administration. Climate change is an issue that can be strongly influenced by joint domestic policies. It is expected to be a highly favored policy during Lula's third term.

In fact, the country has emphasized its track record of using renewable energy sources, especially hydropower, for its energy needs. It has also invested in other forms of renewable energy, such as wind and solar, which are part of efforts to reduce its carbon footprint. Investments in research and innovation have been made in this area. Solar energy has been gradually adopted at different scales, from large industries to domestic use.

However, many Brazilian citizens, environmental organizations, and indigenous groups are deeply concerned about the impacts of climate change and deforestation in Brazil. These are organized civil society groups that are shaping domestic governance, which is beginning to reassert itself after the change in government. These groups advocate for stricter environmental protection measures, from the protection of biodiversity to the defense of sustainable development practices. Moreover, during the disastrous term of Bolsonaro's government, the country has received much criticism from the international community, either for the sharp increase in deforestation rates or for policy changes that have af-

fected the protection of Brazil's different biomes, including the territories where indigenous peoples live. There is currently a tension in relation to Brazil, based on Lula's discourse. He is concerned about climate change and the conservation of biodiversity, to the point of wanting to restore the Brazilian spirit.

Conclusions

This chapter initially discussed the main concepts of environmental security and environmental governance, which helped to understand the following parts of the chapter. Clearly, Mercosur is in a position to act as an important actor for environmental governance in the Southern Cone, based on its track record and capacity in relation to environmental issues. The creation of the SGT-6 endorses this statement, since this space can be considered a relevant locus of environmental governance in Mercosur.

The collection of primary data made it possible to understand the main themes and topics worked on within GTS-6, such as the transboundary transport of waste in Mercosur, which is an important issue for environmental security among the Southern Cone countries. Biodiversity is being addressed on two fronts: the control of invasive exotic species and the fight against wildlife trafficking. However, many issues may be part of the work of GTS-6 in the coming months before Brazil's *pro tempore* presidency of Mercosur under the Lula government. There is a very positive outlook in relation to the Brazilian government for the incorporation of new issues and also that it can transmute and effectively assist in the environmental governance of the Southern Cone.

This is a timely advantage because it comes when action to address climate change and preserve biodiversity is on the current Mercosur agenda and should be stimulated by the Brazilian *pro tempore* presidency. In addition, we cannot ignore the pressure of new trade agreements that have begun to include environmental protection as an economic counterpart, such as the agreement with the European Union. Despite institutional limitations and challenges, Brazilian leadership has certainly played a crucial role in guiding Mercosur as a relevant actor in regional environmental governance.

Proposals

As an important locus of environmental governance in the Southern Cone, Mercosur could harmonize environmental rules and regulations among its members. This would help ensure that all members adhere to similar environmental practices, thereby reducing the risk of environmental degradation due to regulatory disparities, which are quite asymmetric, as demonstrated by the Southern Cone Group studies. Waste in Mercosur is essential to environmental security.

By ensuring environmental security, Mercosur member countries could increase cooperation on transboundary environmental issues such as water management, air quality and biodiversity conservation. As reiterated in this paper, joint efforts can help solve problems that affect several countries, especially on borders that share different biomes.

According to the analysis of the work of GTS-6, Mercosur can work together to more aggressively protect and conserve critical points of shared biodiversity. Collaborative conservation efforts and the implementation of policies to combat deforestation are essential. The work in this chapter has shown that important policies are in place to control invasive alien species and to combat wildlife trafficking. However, there are other biodiversity-related issues, such as the extinction of certain species and policies to combat environmental degradation, which could be addressed with greater frequency and commitment.

Still on the issue of environmental security, Mercosur countries could do more on disaster preparedness and response mechanisms, especially in regions prone to natural disasters such as floods and forest fires. Sharing resources and knowledge can help mitigate the environmental impact of such events. To this end, establishing an automated and more efficient monitoring system and regular reporting on environmental indicators can help Member States track the progress of their actions, identify areas of concern, and hold each other accountable for their environmental commitments.

By strengthening its commitment to the 2030 Agenda, Mercosur could promote sustainable trade practices by encouraging member countries to adopt sustainable agricultural and forestry practices. This includes measures to reduce deforestation, promote sustainable agriculture, and protect fragile ecosystems. In addition, Mercosur countries could facil-

itate the exchange of green technologies and knowledge among themselves to promote sustainable development and reduce environmental damage.

Despite some difficulties, data exchange and research would be possible through computerization and the application of new technologies. Member countries should cooperate in the collection and exchange of environmental data in order to conduct research and develop common strategies to address environmental challenges. SIAM could be updated and fed back based on current technology mechanisms shared between countries.

Discussions on climate change and its impacts on the region's ecosystems, economies, and societies are increasingly part of the GTS-6 agenda, according to the study in this chapter. This could include cooperation on climate adaptation, mitigation strategies, and regional approaches to addressing climate-related challenges.

SGT-6 could participate in discussions on promoting sustainable development practices in Mercosur member countries. This could include the integration of environmental considerations into economic and social policies, so that the 2030 Agenda is directly taken into account.

Mercosur could also promote environmental education and awareness programs to involve citizens and foster a sense of responsibility towards the environment. Public support is vital for obtaining effective environmental policies.

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For KAS, energy security and climate change have become an important part of building and maintaining a democratic social order. Against this background, the Regional Programme Energy Security and Climate Change in Latin America (EKLA) has been designed as a platform for dialogue in order to promote the political decision-making process on these issues.

Therefore, we organize regional discussion forums, conferences and seminars, in close cooperation with our local offices and other regional programmes of Konrad Adenauer Foundation in Latin America, as well as with national and international partner organizations. In addition, we publish reports, specialized publications and studies.

At a time when environmental issues are urgent, the Regional Programme on Energy Security and Climate Change has become a benchmark for environmental education and action in Latin America and the Caribbean. This carefully crafted book presents an in-depth strategic analysis designed to transform the way we think about natural resource conservation. From the Amazon to the Caribbean coast, specific environmental strategies are explored to protect the natural resources, biodiversity, and fragile ecosystems that make up the region's ecological identity.

In Latin America and the Caribbean, the region faces a complex web of environmental challenges ranging from climate change to deforestation and pollution. These threats, often exacerbated by rapid urbanization and economic pressure, demand robust environmental security strategies. However, the effectiveness of these strategies is compromised by governance challenges, such as corruption and lack of coordination between countries.

The region seeks to address these problems by participating in international agreements, strengthening its institutions, and fostering technological innovation. In addition, the inclusion of civil society in decision-making emerges as an essential component to ensure the accountability and long-term success of environmental security initiatives in the region. The construction of solid governance structures and the implementation of coordinated strategies are presented as crucial imperatives to face environmental challenges and move towards a sustainable and resilient future in Latin America and the Caribbean.

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