

# Biodiversity conservation under green extractivism and armed neoliberalism in Colombia

Jane Kathryn Feeney<sup>1</sup>

Independent scholar

## Abstract

In the context of the global climate and ecological crisis, increasing pressure on governments and the private sector to act, combined with inertia and resistance to transformative change, has led to a new form of extractivism. Green extractivism refers to actions or activities that are promoted as environmentally sustainable but that rely on or facilitate the unsustainable extraction of natural resources. Conservation tools such as environmental offsets are embraced by governments and the private sector as a solution to address the contradictions between economic development and environmental conservation. How do such conservation measures play out in places afflicted by a history of armed conflict? Examining the evolution of environmental compensation policy in Colombia and a case study of the Hidrosogamoso dam, this article explores multiple manifestations of green extractivism intertwined with armed neoliberalism. These include the creation of biodiversity and carbon sacrifice zones that facilitate the concentration of land and the capture of natural assets; the promotion of green narratives that distract from the extensive social and ecological impacts; and the use of violent tactics to quieten dissent from local communities and environmental defenders.

**Keywords:** biodiversity offsets, green extractivism, armed neoliberalism, Colombia, conservation

## Résumé

Dans le contexte de la crise climatique et écologique mondiale, la pression croissante exercée sur les gouvernements et le secteur privé pour qu'ils agissent, combinée à l'inertie et à la résistance au changement transformateur, a conduit à une nouvelle forme d'extractivisme. L'extractivisme vert fait référence à des actions ou des activités qui sont promues comme durables sur le plan environnemental mais qui reposent sur ou facilitent l'extraction non durable de ressources naturelles. Les outils de conservation tels que les compensations environnementales sont adoptés par les gouvernements et le secteur privé comme solution pour résoudre les contradictions entre le développement économique et la conservation de l'environnement. Comment de telles mesures de conservation se déroulent-elles dans des endroits touchés par une histoire de conflits armés? En examinant l'évolution de la politique de compensation environnementale en Colombie et l'étude de cas du barrage Hidrosogamoso, cet article explore les multiples manifestations de l'extractivisme vert mêlées au néolibéralisme armé. Il s'agit notamment de la création de zones de biodiversité et de sacrifice de carbone qui facilitent la concentration des terres et la capture des actifs naturels; la promotion de récits verts qui détournent l'attention des vastes impacts sociaux et écologiques; et le recours à des tactiques violentes pour apaiser la dissidence des communautés locales et des défenseurs de l'environnement.

**Mots-clés:** compensations de biodiversité, extractivisme vert, néolibéralisme armé, Colombie, conservation

---

<sup>1</sup> Dr Jane K. Feeney, Independent Consultant, Danu Research and Communications. Email: [jane@danuresearch.com](mailto:jane@danuresearch.com). I would like to thank Laura Peña for assistance with community interviews and all the interviewees who shared their valuable time and insights. I am very grateful to the special issue editors Alexander Dunlap and Judith Verweijen and the four anonymous reviewers for their helpful comments. The research was undertaken at Trinity College Dublin, the University of Dublin, and funded by the Irish Research Council Government of Ireland Postgraduate Scholarship (GOIPG/2016/510). In [Alexander Dunlap & Judith Verweijen \(eds.\) \(2023/4\), \*The political ecology of green extractivism\*. Special Section of the \*Journal of Political Ecology\*.](#)

## Resumen

En el contexto actual de la crisis climática y ecológica global, la creciente presión sobre los gobiernos y el sector privado para que actúen, combinada con la inercia y la resistencia a un cambio transformador, ha resultado en una nueva forma de extractivismo. El extractivismo verde se refiere a acciones o actividades que se promueven como ambientalmente sostenibles pero que dependen o facilitan la extracción insostenible de recursos naturales. Los gobiernos y el sector privado usan herramientas de conservación como las compensaciones ambientales en un intento de promover una solución para abordar las contradicciones entre el desarrollo económico y la conservación del medio ambiente. Pero ¿Cómo se desarrollan tales medidas de conservación en lugares afectados por una historia de conflicto armado? Al examinar la evolución de la política de compensación ambiental en Colombia y el estudio de caso de la represa Hidrosogamoso, este artículo explora las múltiples manifestaciones del extractivismo verde entrelazadas con el neoliberalismo armado. Estos incluyen la creación de zonas de sacrificio de biodiversidad y carbono resultando en mecanismos que facilitan la concentración de tierras, la captura y privatización de activos naturales; la promoción de narrativas verdes que distraen la atención sobre los amplios impactos sociales y ecológicos; y el uso de tácticas violentas para silenciar la oposición de las comunidades locales y defensores del medio ambiente.

**Palabras clave:** compensaciones de la biodiversidad, extractivismo verde, neoliberalismo armado, Colombia, conservación

## 1. Introduction

In the Serranía de los Yariguíes mountain range in Santander, Colombia, lies a water source that feeds the surrounding rivers and watershed of the Magdalena Medio. The water that emerges from the *páramo*, a crucial wetland ecosystem in the tropical Andes, also feeds the Hidrosogamoso hydroelectric dam, one of the country's principal dams that provides around 10% of Colombia's electricity (ISAGEN, 2015a). To compensate for the impacts of the dam, and to protect this critical water source, the Serranía de los Yariguíes National Natural Park was chosen as one of the locations to establish the Hidrosogamoso dam's environmental offsets.

Environmental offsets or compensation refer to positive environmental measures to correct, balance or otherwise atone for the loss of environmental resources (Cowell, 2000, p. 690).<sup>2</sup> Conservation and ecosystem restoration projects were carried out in the national park and surrounding the dam, aiming to offset the environmental impacts of the megaproject, which included loss of forest, habitat, and species. Despite the environmental and social compensation projects, the dam has transformed the landscape and caused extensive long-term impacts to the local community and ecosystems. The Hidrosogamoso dam is itself registered as a carbon offset under the United Nations Clean Development Mechanism (CDM) to offset carbon emissions produced in industrialized countries with the reduced emissions from hydropower. The long history of the Hidrosogamoso dam reveals how environmental policy has evolved through interlinked phases of neoliberalism and extractivism. Throughout this time, Colombia has experienced many waves of violence and is currently navigating a post-conflict transition (United Nations, 2023). In this context, this article explores how conflict and violence become intertwined with sustainability agendas and to what extent they intersect, reinforce, and contradict each other.

Contributing to the emerging political ecology literature on green extractivism, the article examines multiple layers and scales of green extractivism through the Hidrosogamoso dam and its offsets: through lower-carbon energy/carbon offsets and environmental offsets. The dam is portrayed as a clean energy project that will contribute to international carbon emissions targets, while the dam's environmental offsets are put forward as solutions to cancel out any adverse impacts on the local environment. The emergence of parallel socio-ecological conflicts at both the dam and the offset sites challenges the win-win narratives associated with offsets. Colombia has a long history of conflict and is a dangerous place for environmental and human rights defenders who obstruct business interests (Global Witness, 2019; Grupo de Memoria Histórica, 2013; Le Billon

---

<sup>2</sup> The terms "environmental offsets" and "environmental compensation" are used in this article to refer to different activities that aim to compensate for the environmental impacts of development projects, encompassing offsets for impacts on biodiversity, forests, and water. Offsets for carbon emissions are referred to as "carbon offsets." For a fuller discussion on the different uses of these terms in the literature, see Feeney (2021).

*et al.*, 2020). Given this context, I will consider how Colombia's economic model and political ideology, which has been described as *armed neoliberalism* (Seoane *et al.*, 2010), shapes or is shaped by green extractivism. The article demonstrates two dimensions of green extractivism: the creation of biodiversity and carbon sacrifice zones that facilitate the concentration of land and the capture of natural assets, and the promotion of green narratives that distract from the extensive social and ecological impacts. In an armed neoliberal context, it also illustrates the use of violent tactics to suppress dissent from local communities and environmental defenders.

The article proceeds as follows. After an overview of the theoretical concepts and methodology used in this research, section two explains the background to the Hidrosogamoso dam. Section three explores the evolution of green extractivism through environmental offsetting policy and the creation of sacrifice zones and green narratives. Section four discusses how socio-ecological conflicts have arisen amid war and neoliberal agendas and how this has manifested in the territory of Santander. The article concludes by reflecting on the changed political landscape in Colombia, as the country's first left-wing government aspires to build peace and foster a green transition.

#### *Understanding (green) extractivism and (armed) neoliberalism*

The term extractivism or *extractivismo* originates from Latin America and is traditionally used to describe activities that literally extract natural resources (in large volumes and/or high intensity) and export them as commodities with limited or no industrial processing done in the region (Gudynas, 2018, p. 62). The objects of extraction include oil, gas, and minerals, or, to draw on Roa Avendaño and Navas (2014), components of nature that are essential for its equilibrium (e.g., water, soil nutrients, energy). Extractivism can encompass a range of activities that intensively exploit nature in an unsustainable way, such as mining and intensive farming, forestry, and fishing (Acosta, 2013; Raftopoulos, 2017). Violence is intrinsic to extractivism, both through the direct extraction of natural resources, leaving environmental damage in its wake, as well as structural forms of violence (Galtung, 1990) through the appropriation and exploitation of territories and the marginalization of local communities.

Extractivism is often conceptualized in the literature as a process of accumulation associated with global capitalism. The global capitalist economy has facilitated the accumulation of wealth in certain countries and regions thanks to the extraction of resources from "extractive hubs" (Bruna, 2022, p. 9) in other parts of the world. In *Open Veins of Latin America*, Eduardo Galeano spells out how human and capital development in Europe and the United States was directly dependent on Latin America's underdevelopment: "We lost; others won. But the winners happen to have won thanks to our losing" (Galeano, 1997, p. 2). The value of the drain of resources (raw materials, land, energy, and labor) from "emerging"/"developing" to "advanced" economies has been estimated at over US\$10 trillion per year in recent decades (Hickel *et al.*, 2022).

Importantly, extractivism has been conceptualized not only as a practice but as a *mentality* (Chagnon *et al.*, 2022). Naomi Klein (2014, p. 97) describes the extractive mentality as "a nonreciprocal, dominance-based relationship with the earth, one purely of taking", antithetical to principles of stewardship and reciprocity. The extractive mentality is a colonial mindset based on the exploitation of ecosystems and people, and typically occurs in colonized territories (Achieme, 2019). Yet the inequalities produced by extractivism are not only between countries but also within countries and regions, including in higher income countries, where certain groups (e.g., elites, corporations) or geographical areas benefit at the expense of others. For example, Del Bene (2018) describes the "internal extractivism" that occurs when electricity generated from hydropower in the Indian Himalayas is sold to other states within India to feed the national grid and industrial and extractive industries. Drawing parallels with internal colonialism (González Casanova, 1965) and the domination of some groups of people by others in the same nation state, internal extractivism sees the domination and exploitation of nature, and the people who depend on it, for the benefit of others within the same country.

In the context of the global climate and ecological crisis, increasing pressure on governments and the private sector to act, combined with inertia and resistance to transformative change, has led to a new form of extractivism. Green extractivism is understood here as actions or activities that are promoted as environmentally sustainable but that rely on or facilitate the unsustainable extraction of natural resources. Verweijen and Dunlap (2021) distinguish *direct* and *indirect* forms of green extractivism, the former referring to the direct extraction

of energy from wind, solar, hydrological and bioenergy resources and the latter to the operations that produce direct green extractivism. Under "green" narratives, extractive development, economic growth, and nature conservation are deemed compatible and interdependent – framed as eco- or climate-friendly extraction (Voskoboynik & Andreucci, 2022). Dunlap and Riquito (2023, p. 5) emphasize the *systematic* nature of green extractivism, which uses "environmental and climate claims, economic development and the national, if not global, 'common good' to further justify global statist-capitalist extractivisms."

Political ecologists have demonstrated examples of green extractivist projects across industries, economies, and regions. These include an offset project linked to a coal mine in Germany (Brock, 2023), a REDD+ project in Mozambique (Bruna, 2022) and initiatives aimed at advancing the low-carbon energy transition, such as wind farms in Colombia (Ulloa, 2023), Mexico (Dunlap, 2020; Dunlap & Brock, 2021) and Europe (Dunlap, 2023) which simultaneously extends to lithium mining in Latin America, the United States, and the EU (Dunlap & Riquito, 2023; Riofrancos, 2023, 2019; Voskoboynik & Andreucci, 2022). These seemingly distinct and disconnected projects have many common features, driven by public-private-NGO partnerships and transnational finance, and shaped by sustainability agendas.

The expansion of lower-carbon energy production has not replaced fossil fuels, but rather added additional energy to feed an ever-growing global demand (York & Bell, 2019; Dunlap, 2023). Meanwhile, people resisting the impacts of dams hailed as a clean energy solution have met with marginalization, criminalization, violence, and death (Del Bene *et al.*, 2018; Helmcke, 2023; Käkönen & Nygren, 2023). Green extractivism embraces the extractivist mentality as money-rich countries that have largely obliterated their own natural ecosystems seek to capitalize on biodiversity-rich countries as a way out of the environmental crisis, without meaningfully addressing the root causes. These "nature-exporting societies" (Coronil, cited in Kingsbury, 2021) in turn deal with the consequences of extractivism – biodiversity loss, pollution, and human rights violations.

In the Latin American context, Daniela Andrade (2022) has highlighted that neoliberalism was largely set aside in the extractive debate, as the "pink tide" swept through much of the region during the 2000s, a political wave that saw countries elect leftist governments and try to distance themselves from neoliberalism. She describes this as "perhaps the largest oversight in the extractive debate" (Andrade, 2022, p. 796). In Colombia, which was not part of the pink tide, and where neoliberal governments have until recently reigned strongly, an examination of extractivism cannot be isolated from neoliberalism and the history of conflict. While there is no single definition or expression of neoliberalism (Springer *et al.* 2016), in the Latin American context, it has been associated since the 1980s with welcoming the free market economy, transnational companies and foreign capital, and the privatization of state-owned enterprises (Andrade, 2022; Ávila-García, 2016). The economic model that sustains Colombia's political system (and others such as Mexico and Chile) has been termed armed neoliberalism (*neoliberalismo armado* or *neoliberalismo de guerra*) (González Casanova, 2002; Seoane *et al.*, 2010). This refers to the commercialization and transnationalization of natural assets and resources under increasing corporate control and the use of military tactics and repressive policies oriented towards the criminalization of protest (Seoane *et al.*, 2010).

Environmental offsets have come to be emblematic of the neoliberalization of nature for embodying some of the key principles of neoliberalism, notably the privatization, commodification, and marketization of nature (Apostolopoulou & Adams, 2019; Robertson, 2004; Sullivan, 2013). Carbon markets, wetland banking, REDD+, payments for ecosystem services, and biodiversity offsets come under the banner of neoliberal environmental governance. Some have questioned to what extent these can be considered truly neoliberal or market-based instruments, since they have had limited success in creating functioning markets (Lockhart & Rea, 2019; Vaissiere & Levrel, 2015). For instance, biodiversity offsets are largely driven by regulation, with few operating in a market as such (Bull & Strange, 2018; Koh *et al.*, 2019; Lapeyre, 2015). Nevertheless, others argue that the diversity in form and functionality of this array of instruments should not distract from the bigger picture that they represent, and the consequences that they bring, promoting a neoliberal philosophy that alienates people from the rest of nature (Dunlap & Sullivan, 2020; Fletcher, 2020). Offsets are intrinsically

connected to the extractive industries, a tool that ultimately maintains the status quo of environmental destruction for business interests, representing a form of green extractivism.

### *Data collection and methods*

To examine environmental offsetting in policy and practice in Colombia, this article draws on data gathered from a policy analysis (national environmental policy documents from the 1990s to 2018, in particular the 2012 and 2018 biodiversity offsetting manuals); interviews (44 semi-structured interviews with 52 stakeholders); documents (industry and NGO reports, freedom of information responses from environmental authorities, relevant legal documents, transcripts of two public hearings, an independent audit report, peer- and non-peer reviewed articles, online news articles, videos, and websites) and qualitative observation. Fieldwork was carried out by the author in Colombia between March 2018 and January 2019. This included visits to the Hidrosogamoso dam and to the fishing communities and activists living close to the dam. At the Serranía de los Yariguíes National Natural Park, visits were made to two environmental offset sites and to the homes of community members living inside and near the national park (one visit accompanied and approved by the parks authority and one on the invitation of community members living within the park, accompanied by a guide). Additional interviews and meetings were held in several towns and cities in the Department of Santander, in the city of Medellín, Antioquia, where ISAGEN headquarters are located, and the capital city of Bogotá. All interviews were in Spanish and in-person except for two international interviews that were in English over telephone/video call. A research assistant, a sociologist from Santander, assisted with the majority of the community-level interviews with farmers and fishing communities. All other interviews – with institutional representatives and a number of ad hoc interviews with community members – were carried out by the author alone. All interviewee data is anonymized to protect the identities of the participants. Most interviewees (67%) were male and 33% were female,<sup>3</sup> reflecting the gender imbalance among the staff involved in the ecological restoration projects. The reasons for this gender bias are briefly explored later in the article. Any translations of direct quotations that appear in this article were translated by the author.

## **2. Background to the Hidrosogamoso dam**

The Sogamoso hydroelectric dam, known as Hidrosogamoso, is located on the Sogamoso River in the Department of Santander, Colombia. The history of the megaproject spans almost a century. Starting from an initial idea proposed by an engineering student in the 1940s, the project eventually received its environmental license in 2000, started operating in 2014 and is expected to continue producing energy until the 2060s. In that space of time, the political and social landscape has changed substantially. The ownership of the project, the form of the company and its environmental commitments have evolved on par with wider political and development trends.

In 1967 Interconexión Eléctrica S.A. E.S.P. (ISA) was established as Colombia's first national electricity network that integrated four regional electricity systems that had been working in isolation up to that point. In the second half of the 20<sup>th</sup> century, dams came to represent development and modernization, and in the 1990s processes of privatization began, driven by a market model and justified by the need to increase energy capacity and security (Correa-Casas, 2018). ISA was later divided into two public-private entities – ISAGEN S.A. E.S.P. (hereafter ISAGEN) in charge of generation, and ISA in charge of transmission. The Hidrosogamoso project got the push it needed under the government of ex-president Álvaro Uribe Vélez between 2002 and 2010, as part of a package of projects aiming to increase energy generating capacity and exports to other countries in South and Central America (Roa Avendaño & Duarte Abadía, 2012). At the inauguration of Hidrosogamoso in 2015, then-president of Colombia, Juan Manuel Santos, and General Manager of ISAGEN, Luis Fernando Rico Pinzón, celebrated the energy security to be provided by the dam, describing it as a "dream" that Santander had

---

<sup>3</sup> Three gender options were included on the informed consent form: female / male / other. All respondents identified as either male or female.

been yearning for, for more than half a century (ISAGEN, 2015b, 03:38, 08:01). In 2008, ISAGEN acquired total ownership of Hidrosogamoso. At that time, ISAGEN was 57% state-owned (ISAGEN, 2009) until it was privatized in 2016 when the majority share was purchased by Brookfield Asset Management (hereafter Brookfield), a global firm with headquarters in Canada. In a Financial Times article, Mark Vandeveld (2020) describes Brookfield as highly secretive, conceptualizing the group as:

...not so much a company as a giant, triangular jigsaw board that spreads across the world and covers assets worth \$500bn. The pieces are hundreds of corporate entities, all locked together by elaborate contracts, which give 40 people at the top the right to rule huge sections of the puzzle almost as if it were their own.

In the three years since that article was published, Brookfield has expanded its assets by over 50% to about US\$800 billion and owns 229 hydroelectric plants in North and South America, as well as wind power, real estate and infrastructure across the world (Brookfield, 2023). In an interview with Bloomberg, Bruce Flatt, CEO of Brookfield, said that "infrastructure moving into private hands is good for everybody – it's good because it brings the debt down in the countries, it's good for individuals because they often get a better service and often at a lower price" (Rubenstein, 2022, 14:50). However, Brookfield's activities have been linked to land grabs, deforestation and the eviction of indigenous groups, as seen in Brazil where the company has used multiple strategies such as the creation of subsidiaries, debt-to-equity swaps and international investment funds to circumvent restrictions on the foreign purchase of land (Global Witness, 2022b; Kato *et al.*, 2020). These examples show how transnational companies such as Brookfield engage in and facilitate green extractivism, externally promoting net zero missions, while at the same time extracting resources and wealth from investments in infrastructure, intensive agriculture, and mining across the world.

In Santander, Hidrosogamoso led to widespread environmental and social impacts. An area of 7,000 hectares of agricultural land and natural forest was flooded to create the Topocoro reservoir, which stores and feeds water to the dam to generate electricity. Over 1,000 people were relocated and there was loss of forest, species and habitat. By changing the course of the river, scientists and local communities reported impacts on water quality and aquatic diversity. In interviews, farmers in surrounding areas reported changes to the microclimate, crop diseases and an increase in animals and snakes arriving on their farms due to the loss of habitat, which pose a threat to crops and humans. These impacts have also been documented in NGO reports, by the Ombudsman's Office of Colombia, in peer-reviewed and non-peer reviewed articles and in letters from civil society to the national environmental licenses authority (ANLA) collected during this research (Defensoría del Pueblo, 2017; Duarte-Abadía *et al.*, 2015; Perez-Adriana Zamora, 2019; Puentes Bruges, 2016; Roa Avendaño & Duarte Abadía, 2012; Rodríguez-De-Francisco *et al.*, 2019). ISAGEN carried out relocation programs to re-house people and relocate animals. Despite these efforts, many more humans and non-humans were affected directly and indirectly, with around 17,000 people exposed to risks associated with the dam (International Hydropower Association, 2017). The dam met with resistance from local communities who say that they were not properly consulted over the project. The first public hearing on the dam took place in 2009, nine years after the environmental license was granted.

The next section explores the evolution of environmental offsetting policy in Colombia and how this shaped the next phase in the Hidrosogamoso timeline, as the communities and territory adjust to the existence of the dam.

### 3. The greening of extractivism and the rise of offsets

#### *The evolution of offsetting policy in Colombia*

The environmental license, the evaluation of the environmental impacts of development projects and monetary compensation for the use of environmental services first appeared in Colombian legislation in 1974

under what was called the "Environmental Code," following the North American model of environmental regulations (Rodríguez 2011). Even before a ministry of environment was established in the country, certain private sector players started working on environmental issues in the 1980s in response to the requirements of international lenders, specifically the World Bank. With the 1991 Constitution and the General Environmental Law of 1993, sustainable development and the concept of restoring or replacing resources became enshrined in Colombian environmental policy. With these processes emerged a recognition of the need to incorporate biodiversity into the economy, as well as to identify priorities and sacrifices in order to balance economic and ecological interests. Manuel Rodríguez Becerra, Colombia's first Minister for Environment, wrote around that time: "If we are not able to incorporate our biodiversity into economic development, we will be condemned to the sad role of the guards of a large national park for the use of industrialized countries" (Rodríguez Becerra, 1994, ch. 6). He further stated that "as well as indicating those priority areas for conservation and sustainable use, [we] will also have to choose those that we must sacrifice" (*ibid.*). This concept of sacrifice areas has been carried into the national policy on biodiversity offsets and, I argue, constitutes one dimension of green extractivism. This is because offsets are based on the premise of sacrificing nature in one place with the *promise* of biodiversity protection elsewhere.

Over time, there has been a progressive simplification and increasing flexibility of environmental licensing procedures for extractive projects in Colombia, encouraging foreign investment (McNeish, 2017; Rodríguez, 2011). International institutions such as the World Bank tasked with promoting development and peace and acting as "powerful transnational agents of neoliberal reform" (Gutiérrez Sanín, 2010), were also behind the initial adoption of environmental compensation in Colombia. Since 1996, developers applying for a logging permit were required under Colombian law to compensate for the trees felled, generally through reforestation based on a calculated number of trees or hectares. However, there was a growing realization among the scientific community and practitioners that this type of forest compensation was not effective as it didn't account for biodiversity losses and gains. These groups expressed a need to move towards a more integrated ecosystem-level approach. Meanwhile, in the private sector, companies were facing increasing pressure to improve their environmental impact to fulfil legal obligations and improve their social license to operate. These factors, combined with the influence of international environmental policy and biodiversity offsetting standards, led to the development of biodiversity offsetting policy in Colombia in 2012, which was revised in 2018 (Ministerio de Ambiente y Desarrollo Sostenible [MADS] 2012, 2018). An industry professional comments on these drivers of offsetting policy in Colombia:

There are other movements, such as financing for biodiversity, which signal the potential contribution of the private sector to biodiversity management. Also, I believe that the Convention on Biological Diversity has given signals about the responsibility that the sectors have to generate real changes in the management of biodiversity. So, I think that those macro policies too have pushed new models.<sup>4</sup>

International NGOs played a central role in leading the development of offsetting policy and acting in an advisory role to the Ministry of Environment and Sustainable Development, in particular The Nature Conservancy (TNC), as well as Conservation International, the Wildlife Conservation Society, World Wide Fund for Nature (WWF), and the German development agency GIZ. The policy incorporated many of the conceptual hallmarks of global biodiversity offsetting standards – no net loss, ecological equivalence, additionality<sup>5</sup> – and marked Colombia as one of the leaders in offsetting policy in Latin America (Sarmiento,

---

<sup>4</sup> Interview #21, 27/08/2018.

<sup>5</sup> No net loss refers to a situation where "the impacts on biodiversity caused by the project are balanced or outweighed by measures taken to avoid and minimise the project's impacts, to undertake on-site restoration and finally to offset the residual impacts, so that no loss remains." Business and Biodiversity Offsets Programme (BBOP). (2012). Glossary (2nd updated edition). p. 30.

2013). Implementation of the initial policy was stalled due to a lack of articulation between different offset obligations, institutional challenges, and lack of available areas for implementing offsets, among other reasons. This led to a revision of the policy and offsetting "manual" in 2018. This version of the manual makes the granting of an environmental license contingent on the approval of an offset plan, where previously the licenses were granted on the condition that offset plans be submitted within one year. While this makes it more challenging for developers at the beginning of the process, other rules were relaxed that make it easier to get an offset plan approved and implemented, as discussed below.

The 2012 version of the manual was based on ecosystem units, with more than 1,700 different units representing the diversity of ecosystems in the national territory. With such a high number of ecosystems categorized according to unique characteristics, finding a matching offset site that was "ecologically equivalent" was very difficult. The 2018 version of the manual incorporates IDEAM *et al.* (2017)'s updated National Map of Ecosystems, which uses the Biome-Biotic unit of analysis, with a total of 399 units at country level. Classifying ecosystems into 399 units instead of 1,700 makes it easier find offset sites that can be considered "equivalent" under the legislation, facilitating the exchange of units of biodiversity and thus its commodification. This, however, comes at the expense of simplifying and ultimately undermining the unique diversity of the country's ecosystems. Moreover, proving the goal of "no net loss" represented a stumbling block since it is largely considered by stakeholders as an aspirational, utopian goal, as this researcher explained:

No net loss is placed in the manual as a principle, but it is a principle that pursues an unattainable goal, a utopia, in the end...What we are really looking for is the balance between loss and gain that generates additionality.<sup>6</sup>

As a result, under the second version of the manual it is no longer necessary to prove that an offset achieves no net loss, but rather to demonstrate that the set of actions outlined in the offset plan have been met, as an approximation towards no net loss. It is a common trend in the implementation of offsetting policies in different countries that standards are relaxed over time and are failing to deliver on promised environmental outcomes (Dunlap & Sullivan, 2020; Goncalves *et al.*, 2015; Nature Conservation Council of NSW, 2016; Zu Ermgassen *et al.*, 2020). Offsets have also been criticized for leading to the weakening of existing protections, challenging the common defense of offsets as being "better than nothing" (Moreno-Mateos *et al.*, 2015).

Colombia's offsetting policy evolved under the Green Growth Mission established by the government of Juan Manuel Santos in 2014 and a strategy to ensure "as much market as possible, and as much state as necessary" (Departamento Nacional de Planeación [DNP], 2015, p. 28). Under the presidency of Iván Duque, 2018-2022, a sustainability agenda under the motto "produce conserving and conserve producing" sought to find "a balance between the conservation of natural capital, its responsible use and national production, so that the natural wealth of the country is considered as a strategic asset of the Nation" (DNP, 2019, p. 461). As will be shown later in this article, the positioning of biodiversity as a strategic asset of the nation has been accompanied by a militarized strategy to tackle environmental crimes, including in national parks and protected areas.

#### *Hidrosogamoso: offsets and green extractivism*

Hydropower is promoted as a "clean energy" source, and the Hidrosogamoso dam is registered under the United Nation's Clean Development Mechanism (CDM). The CDM was created under the 1997 Kyoto

---

Ecological equivalence refers to "areas with highly comparable biodiversity components. This similarity can be observed in terms of species diversity, functional diversity and composition, ecological integrity or condition, landscape context (e.g., connectivity, landscape position, adjacent land uses or condition, patch size, etc.), and ecosystem services (including people's use and cultural values)" (*ibid.*, p. 15).

Additionality refers to a "property of a biodiversity offset, where the conservation outcomes it delivers are demonstrably new and additional and would not have resulted without the offset." (*ibid.*, p. 1.)

<sup>6</sup> Interview #13, 10/07/2018.



Protocol to allow developed countries to buy emissions reductions from developing countries in the form of credits. The inclusion of large-scale hydropower projects in the CDM is criticized due to the environmental and social impacts of dams, and the failure to meet additionality criteria, i.e., that the emissions reductions would not have happened without the mechanism (Cames *et al.*, 2016; Haya & Parekh, 2011; Koo, 2017). The construction of the Hidrosogamoso dam was nearing completion when the Colombian government approved its application to the CDM in 2013, so it seems clear the project would have gone ahead with or without financing from carbon credits. Nevertheless, developers can demonstrate additionality based on different justifications, such as lack of financial viability compared to benchmarks or barriers to implementation, for example, lack of skilled labor to operate and maintain the technology (UNFCCC, 2023). Opaque rules that stretch the concept of additionality have allowed misleading narratives associated with megaprojects to continue under the CDM.

ISAGEN is legally required to compensate for the impacts of the Hidrosogamoso dam on people, flora, fauna, air, water, and soil. Since the project was granted its environmental license in 2000, twelve years before the biodiversity offsetting legislation was passed, it was subject to environmental compensation under the "1% investment" and "forest use" laws.<sup>7</sup> But since the offset projects were being designed amid wider policy changes and moves towards biodiversity offsetting, company executives explained in interviews that this influenced the design of the project. They decided to go beyond the minimum legal requirements of simply planting trees through reforestation and carry out ecological restoration to benefit the wider ecosystem. ISAGEN undertook restoration and reforestation projects in degraded areas of land in the buffer zone surrounding the Topocoro reservoir, in the Serranía de los Yariguíes National Natural Park, and in resettlement areas.

The Serranía de los Yariguíes National Natural Park is a protected area covering 59,063 hectares in the Department of Santander that received national park status in 2005. To undertake the offset project within the park, an agreement was signed between three entities: ISAGEN; national parks authority Parques Nacionales Naturales de Colombia; and Patrimonio Natural Fondo para la Biodiversidad y Áreas Protegidas, a Colombian non-profit fund that invests in environmental projects. These entities subcontracted NGOs and contractors to implement the restoration projects. Combining the efforts of public and private institutions to carry out a project within a protected area, something that had little precedent in Colombia, the project has been presented by the Parques Nacionales as "one of the most important ecological restoration projects carried out in a protected area" (Villamizar Durán *et al.*, 2018, p. 20).

The project involved the purchase of forty properties within the protected area to bring them under state control and to implement the restoration projects. The purchase of land and issues over unclear land tenure led to tensions and conflict between local communities and the parks authority, and within the community itself, representing parallel socio-ecological conflicts at the impact site (the dam) and the offset site (the park) (Feeney, 2023). This reflects the central land issue (access, use, and tenure) that is a key factor in both the origins and the endurance of the armed conflict in Colombia (Grupo de Memoria Histórica, 2013; Romero, 2010). There were disparities between the areas in the national park that had been identified on maps as target offset sites and the actual status of the land. As a result, when teams went out to the territory to start implementing the restoration activities, they discovered that areas that had been presumed vacant were in fact occupied by people. These included smallholder farmers, some of whom had land title, and others who did not but in some cases had lived there for decades. Negotiations with the owners and occupiers of land were lengthy and complicated, due to complex land tenure issues and contested valuations of the land. A similar situation was confronted in the buffer zone surrounding the Topocoro reservoir, when the contractors who arrived to start the reforestation offset found that the land had not been obtained. The contractor explained: "Well they hired me to plant [trees] and I arrived, and the man said, 'No, no, they haven't paid me, they haven't bought [my land]'... My job is to

---

<sup>7</sup> ISAGEN was required to direct no less than 1% of the total investment cost of the project towards the recuperation, conservation, preservation and monitoring of the affected watershed (Law 99, art. 43, Decree 1900 of 12 June 2006). Under the forest use system (*el régimen de aprovechamiento forestal*), the company was required to carry out reforestation to compensate for the impacts on the forest. The forest use permit was authorised as part of the environmental license and modified following a revised environmental impact assessment (Resolution 1497 of 31 July 2009, Resolution 2329 of 2009).

plant, not to manage people... It was very tiresome."<sup>8</sup> Some community members claim they were not consulted prior to the offset implementation and that the strategy employed by Parques Nacionales divided the community:

Of all the land that Parques bought, they came and looked for the most diligent, the heads of the area, the leaders. And, to them [they said]: 'Come here, we'll pay you a lot' ... They were leaving the communities without a representative, right? If they paid one, why didn't they pay the others? Yes? That is the way to silence the people, the communities.<sup>9</sup>

These community members claimed that the leaders were approached first by Parques Nacionales to buy their land, a common strategy by companies to divide and conquer opposition (Gilbert *et al.*, 2021; Verweijen & Dunlap, 2021). There were reports by local communities living in the park of harassment, verbal threats, and the destruction of crops by representatives of the park authorities (Feeney, 2023). Meanwhile, representatives from ISAGEN and the consortium partners and contractors reported that problems with the community were some of the major barriers to implementing the restoration project. Similar social conflicts are emerging with increasing frequency as biodiversity offsetting policy and practice has spread throughout the world (Anaya & Espirito-Santo, 2018; Bidaud *et al.*, 2018; Brock, 2015). These conflicts are arising among communities who are experiencing negative impacts of projects with noble causes like biodiversity conservation and climate change mitigation. In the case of Hidrosogamoso, green extractivism manifests by means of *sacrifice* and *distraction*, facilitating the ongoing extraction of resources, as discussed in the remainder of this section.

*"What we have" and "what we have lost": Offsets and the creation of sacrifice zones*

Offsets represent the final stage of the mitigation hierarchy,<sup>10</sup> which is said to be based on the principle to "do no harm." However, since the aim of environmental compensation is to recompense for environmental damage incurred by projects, then offsets necessarily involve harm, sacrifice, trade-offs, and moral judgements. Offsets are designed around the concept of sacrifice zones – accepting biodiversity loss in one place for the promise of its protection elsewhere. Naomi Klein (2014) describes how sacrifice zones are linked to an extractive and colonial mindset that is ready to sacrifice places, people, and cultures in the relentless pursuit of conquest, justified by the supposed greater good of economic progress. In addition, a lack of baseline ecological information means the extent of the environmental damage is often unknown.

The concept of sacrifice emerged most clearly from the interviews when we asked people what the concept of biodiversity means to them. The community members living beside the dam and those living in the national park shared many common experiences, but when it came to discussing their local environment, one difference stood out. The interviewees living in or close to the national park talked about biodiversity as "what we have," acknowledging the abundance of natural resources in their area, conscious that what they have is unique compared to many other parts of the country or world – in the words of one farmer, a "paradise." Although some of the community members were negatively affected by the offset project, they also felt privileged to live amongst nature and felt lucky that they were not living closer to the dam. This is why some of them chose to stand their ground in the face of being evicted from the national park, such as this female farmer:

---

<sup>8</sup> Interview #37 08/10/2018.

<sup>9</sup> Interview #29, 16/09/2018.

<sup>10</sup> The mitigation hierarchy is part of the environmental impact assessment process, involving the following steps: first avoid impacts, then minimise them, take measures to rehabilitate or restore, before finally offsetting residual, unavoidable impacts (avoid–minimise–restore–offset) (BBOP, 2012).

Without forest we are nothing, without water we are nothing. I mean, without any of that, we are nothing. So, well, for me, this means a lot and that's why I defend it. That's why I defend it, because nature, that is, everything that's called life in one way or another, well, of course, that's very, very important.<sup>11</sup>

On the other hand, those living near the hydroelectric dam, when asked about their conception of biodiversity, immediately discussed the loss of biodiversity and negative changes to the environment over time. One community member defined biodiversity as "what we used to have"; something that was lost with the arrival of the hydroelectric dam and cannot be replaced with offsets:

For me, biodiversity is what we used to have. I call it what we used to have because biodiversity is when a river is free, when a river is clean, when a river runs and brings its food to the people. For me, the little birds, the trees, for me, all of that is biodiversity. The different animals, the different number of trees, the different streams, rivers, for me that is biodiversity. And for me, Hidrosogamoso totally destroyed it. Even if they say, 'Madam, I take 10 trees and I plant 100 ...', they are growing and planting trees that do not work.<sup>12</sup>

Another woman from the fishing community talked nostalgically of the native trees and range of fish species that they had in the past and attributed the loss of biodiversity to development projects like Hidrosogamoso and the Ruta del Cacao highway, part of Colombia's 4G infrastructure program:

Here we used to have catfish, bocachico, hocicón, picuda, dorada, toad fish, barbudo, nicuros, chocas, corocoros, baralcaldes, shrimp, pinchos, crabs, blanquillo, doncella, arencas, golosas, manamana, lampreys ... and other things that I can't think of... There were 63 kinds of species. [...] That tree coverage that we had, so beautiful, that air, all that coolness that we had, it's gone. Because the native trees were the ones that brought us our shade ... And now, on top of that, the Ruta del Cacao [highway] finishes us off... we have lost everything, we have lost everything.<sup>13</sup>

It is possible to observe from this case study the gender dimensions of (green) extractivism. Just as the majority of employment benefits arising from the dam went to men, most of the locals employed to work on the restoration project were men too, except for a small number of women who worked as coordinators, seed sorters and cooks. The exclusion of women was attributed to the intensive manual labor, long hours and difficult conditions, with the restoration offset sites being located in remote areas, difficult to access. Camps were set up at the offset sites for team members to stay for periods of a week or so at a time. However, to return home to her family every night, one woman walked three to four hours each day to get to the restoration site, on top of working from 7am to 4pm. As a result, women were at the center of resistance movements against both the dam (the Ríos Vivos Santander movement) and against displacement from the park (the community association in the Serranía de los Yariguíes National Natural Park). This finding resonates with other cases in Colombia, across the Americas and beyond, where women often lead the struggles for defense of their territories, protesting against extractivist and green extractivist processes (Caretta *et al.*, 2020; Harcourt & Escobar, 2002; Ulloa, 2016).

This case demonstrates multiple manifestations of green extractivism. The physical extraction of energy from a river using a dam, and the environmental and social consequences of this process, including deforestation and displacing humans and non-humans, represents *direct* green extractivism (Verweijen & Dunlap 2021). Offsetting, meanwhile, can be seen as a form of *indirect* green extractivism (*ibid.*). Biodiversity conservation

---

<sup>11</sup> Interview #31, 17/09/2019.

<sup>12</sup> Interview #25, 13/09/2018.

<sup>13</sup> Interview #24, 13/09/2018.

and ecosystem restoration are the opposite of extractivism: protecting and reviving natural resources and ecosystems instead of unsustainably exploiting them. However, when violent or extractive acts are combined with or repackaged as conservation, this represents green extractivism, as political ecologists have shown in cases like trophy hunting (Sullivan, 2023) and jaguar conservation (Espinosa & Dunlap, 2023). Likewise, when an act of conservation/restoration is an offset for some form of (green) extractivism (e.g., mining, lower-carbon energy), nature becomes subordinate to other goals – energy production, profit – and inextricably tied to environmental and social harm. In this way, offsetting maintains the status quo and creates a comfortable state of delusion, while avoiding the discomfort of the change actually needed to halt the processes leading to an increasingly uninhabitable planet.

*Offsets as a "sophism of distraction"*

The extractivism incurred by the dam was justified on the basis of its environmental merits – promoted as a clean energy project, with environmental compensation projects to conserve and restore local ecosystems. As Hidrosogamoso was marketed as an "engine for development," offsets started to be promoted by the Colombian government as the "engine for a new sustainable development model" (MADS, 2017). Through offsetting, resource exploitation is framed as compatible with, and even necessary for, biodiversity conservation. The parallels between the impacts and tensions at the development site and the offset site reveal similar tendencies arising from an extractive mindset that sacrifices land, nature, livelihoods and even lives that are deemed less valuable.

ISAGEN, Parques Nacionales and some contractors consider the offset project a great success, and it is promoted in the media as "handing over to the country a restored natural park" (Arias, 2018). On the other hand, some local people living near the restoration sites claim the sites and native trees planted were abandoned and they see the project as a money laundering or greenwashing scheme. One community leader declared that "offsets are a sophism of distraction but, deep down, there are many, many lies."<sup>14</sup> He was referring to activities undertaken by ISAGEN, such as building new roads and the social and environmental compensation programs that distract the community from the long-term impacts incurred by the dam and that often do not live up to the initial promises or expectations. In between, there are many different views on the project among the community and for some people it brings up contradictory emotions. An ecologist hired to work on the restoration project was enthusiastic about the career opportunity, but struggled knowing that their salary was financed by the company responsible for the dam that transformed their local environment.

While most stakeholders interviewed for this research recognize the limitations of offsets, they are seen by many working in the environmental sector in Colombia, especially within international NGOs and the public sector, as an attractive and necessary source of finance to fund their work. A consultant with the Ministry of Environment and Sustainable Development stated:

We do not have resources to administer and manage our protected areas, the government does not allocate sufficient resources for the management of those protected areas. So, we consider that investment through offset actions, not the delivery of money, but investment through offset actions, such as restoration, can contribute a lot to the gain in biodiversity within those protected areas.<sup>15</sup>

In Colombia, biodiversity conservation is underfunded despite being a global priority – a megadiverse country hosting approximately 10% of global biodiversity (Convention on Biological Diversity, 2017). Offsets and similar programs have the capacity to raise significant amounts of funds. Currently, at a global level, the private sector contributes 17% of total finance for nature-based solutions, with biodiversity offsets bringing in an estimated US\$6 billion, payment for ecosystem services US\$3 billion, and carbon markets US\$2 billion

---

<sup>14</sup> Interview #9, 25/05/2018.

<sup>15</sup> Interview #16, 10/08/2018.

annually (UNEP, 2022). However, using offsets to meet national restoration targets or to fund conservation in areas that are in theory "protected" does not consider the additional negative impacts to the environment occurring from the development impact. Used in this way, offsets risk undermining existing legislation and generating perverse incentives (Githiru, 2015; Maron *et al.*, 2016). By attempting to neutralize the conflict between economic growth and environmental protection, environmental offsets simultaneously admit harm and detract attention from the extent of the losses incurred (Moreno-Mateos *et al.*, 2015; Sullivan, 2017).

Environmental offsetting policy has evolved from Colombia's green growth agenda to balance economic growth and environmental sustainability, influenced by international standards and trends. The Hidrosogamoso dam and its offsets illustrate green extractivism through the creation of sacrifice zones, where a permit is granted for biodiversity loss or carbon emissions in one place in exchange for the promise of biodiversity gain or carbon savings elsewhere. This process facilitates the material extraction of habitats and the uprooting of humans and other species. The simplified narratives and universal concepts employed in offsetting policy and standards mask the uncertainties, complexities and failures entangled in implementing offsets in practice. In this way, offsets attempt to distract from the environmental harm while facilitating the continued extraction of natural resources through claims of low-carbon development and no net loss of nature. The next section will explore how different phases of government and war created the conditions for an armed neoliberal model that leads to violence in territories of extraction.

#### 4. Armed neoliberalism and environmental conflict in Colombia

Eduardo Galeano (1997, p. 265) writes that "places privileged by nature have been cursed by history." Across the world, biodiversity hotspots overlap with sites of violence and conflict (Hanson *et al.*, 2009). Latin America has experienced centuries of socio-ecological conflict across the region, but these conflicts are becoming increasingly frequent and visible, with almost a third of the conflicts recorded on the Environmental Justice (EJ) Atlas located in Latin America.<sup>16</sup> The violent nature of many of these conflicts makes Latin America a particularly dangerous region for human rights activists and environmental defenders (Menton & Le Billon, 2021). Colombia has consistently been one of the countries with the highest numbers of killings of land and environmental defenders over the past decade (Global Witness, 2022a). Socio-ecological conflict in Latin America is not new and many see such conflict as a symptom of discontent and resistance under successive generations of extractivism (Front Line Defenders, 2020; Svampa, 2019) and neoliberal policies that represent a "declaration of war on nature and humanity" (Escobar, 2006, p. 6).

Regardless of its political regime, every country in Latin America has promoted extractivist policies and felt the impacts to varying degrees (Gudynas, 2018). Since the year 2000, the discourse coming from political elites in Latin America (progressive and conservative) is that there is no alternative to extractive development (Svampa, 2019). It follows that those who are opposed to extractivism are opposed to social development and the national interest. This argument has been used by states to criminalize and delegitimize protestors, and has led to the toleration of repression and killings of local leaders (Gudynas, 2018). In Colombia, social mobilization is often stigmatized and delegitimized as "guerrilla activity," while repression against opposition is legitimized under the guise of tackling drug trafficking or terrorism (Harvey, 2005, p. 165; Lederach, 2017).

Some of the key signs of (armed) neoliberalism in Colombia have been the welcoming of foreign capital, the privatization of security, the increasing concentration of land, and threats to land and human rights defenders (ALBA Movimientos, 2020; Gutiérrez Sanín, 2010). At the heart of the history of conflict and violence in Colombia are land disputes, which long predate the arrival of neoliberalism. But, in recent years the concentration of land has intensified, with estimates that 80% of agricultural land in Colombia is concentrated in 1% of the largest landholdings (Guereña & Burgos, 2017). In Colombia, war and neoliberalism, "not only overlapped, but sometimes even seemed to reinforce each other" (Gutiérrez Sanín, 2010, p. 212). Plan Colombia and the so-called "war on drugs" is emblematic of a neoliberal and military strategy which failed to address the drug issue (Franz, 2016), while hurting the poorest by destroying crops and causing illness as a result of the

---

<sup>16</sup> 1,031 of a total of 3,731 cases (28%) are located in South America / Meso America / Caribbean, search performed 15 November 2022 at <https://ejatlas.org/>.

aerial spraying of glyphosate. Starting in 2000, Plan Colombia, with a US\$10 billion aid package from the United States, mobilized armed forces to crack down on illegal drug production and violence. At the same time, the economic component of Plan Colombia promoted neoliberal development through the expansion of international trade, enhanced access to foreign markets and free trade agreements to attract foreign and domestic investment (United States Institute of Peace, 2000). This invited transnational corporations to extract mineral and energy resources and biodiversity in the country, operations that were often facilitated by an increased military and paramilitary presence that displaced communities and repressed dissent (Paley, 2014; Tricontinental, 2019). Paley (2014) cites examples of energy companies that collaborated with and financed paramilitary groups during and in the wake of Plan Colombia. Allegations have arisen about the links between Hidrosogamoso and military and paramilitary actors in the violence against community leaders opposed to the dam, as the next section will discuss.

#### *Hidrosogamoso and armed neoliberalism*

During the construction phase of the Hidrosogamoso dam, when tensions were at their peak, several social leaders were killed or disappeared. In an interview, an NGO coordinator listed the people who he claims were killed because they resisted against Hidrosogamoso and he described the threats to his own life:

People who protested, they went and killed them... they killed the leaders of the fishermen, the leaders of the sand miners, the leaders of the community action boards and the social leaders. [...] Yes, yes, they tried to kill me, they tried to kill me. Two guys took me and beat me and they were going to put me into a truck and I wouldn't go and a lady appeared and, 'Don't rob the man, don't rob the man!' and I got away and went quickly to the house, and the police arrived right away, but the minute the police arrived, they were all united there. And then, one night they shot at my house, yes, they shot at 11 at night, they shot at my house... That was in 2009, as soon as ISAGEN arrived, that happened, that happened to me. So, I have had escorts and I have precautionary measures of the Inter-American Commission on Human Rights. This office, the door is armored and there are some cameras there and some cameras behind, that the Ministry of Interior has to protect us.<sup>17</sup>

According to the Somos Defensores Program (2010), Santander was the department with the highest number of aggressions against human rights defenders in 2009. While the report does not specify the perpetrators of these aggressions by department, at a national level they included paramilitary groups, unidentified persons or groups, members of various state institutions, and guerrillas. The multimedia documentary, *Río Sogamoso en la Guerra* (Sogamoso River in War), created by Censat Agua Viva (Friends of the Earth Colombia) and the Social Movement in Defense of the Sogamoso and Chucurí Rivers – Ríos Vivos Santander, describes the history of war and extractivism in the territory surrounding the Sogamoso River, affected by oil extraction, African palm monocultures, cattle ranching and the Hidrosogamoso dam. The documentary website states that the "extractive sector was not only an economic priority for the national governments of the era, but it was also central to the country's security policies, which were directed towards the care of the mining-energy sector infrastructure by state security forces" (Censat Agua Viva & Ríos Vivos Santander, 2022). This included a strong militarization in the territory between 2007-2016, overlapping with the construction period of the dam. The documentary states that public security forces were hired by ISAGEN to protect the dam, despite guerrilla groups not having a strong presence in the zone at that time that would justify the military presence. This statement is supported by investigations by Senator Iván Cepeda Castro, who reported that between 2008 and 2014, ISAGEN paid COP\$100.732 million (approximately US\$21 million today) to state security forces including the National Army and National Police (Cepeda Castro, 2015; Rutas del Conflicto & La Liga Contra el Silencio, n.d.). Activists claim that the military and paramilitary presence

---

<sup>17</sup> Interview #20 10/09/2018

was employed to stifle community resistance against megaprojects. For example, the right-wing paramilitary group Águilas Negras or Black Eagles has issued death threats to a list of community leaders they describe as "guerrillas disguised as leftist leaders who oppose development of the area" (Figure 1).

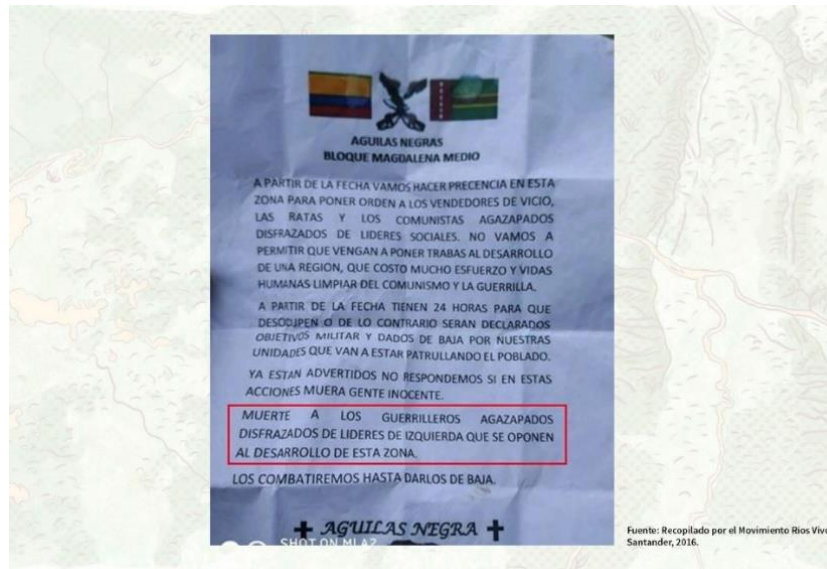


Figure 1: Flyer issued by the Águilas Negras paramilitary group in 2016. The text in the red box reads "Death to the crouching guerrillas disguised as leftist leaders who oppose the development of this area." Source: Censat Agua Viva & Ríos Vivos Santander (2022)

The Hidrosogamoso project was given the green light when ISAGEN was still a majority state-owned company, justified on the grounds of employment opportunities it would bring to Santander and the energy security it would provide for Colombia. The Hidrosogamoso dam, however, had only been in operation for one year when ISAGEN was privatized and the majority share bought by Brookfield Asset Management. The policy reforms to incentivize foreign investment and the privatization of ISAGEN, one of the most important national energy companies, reflect the neoliberal strategy adopted by Colombia's right-wing government. According to a professional involved in the offset project, after the change of ownership when Brookfield purchased ISAGEN, there was less will within the company to finance long-term monitoring of the offset sites beyond their legal requirements:

Initially, there was an endowment fund that was supposed to fund monitoring for a long time. What has happened is that with the change that occurred in ISAGEN in its structure, well, with the sale, that also changed, they are not interested in sustaining this type of thing... Now what they say is, 'Comply with what is required, no more', right? So, that money, it has to be spent, what was going to be invested in monitoring has to be spent before the agreement ends because if not, then, well, they collect it and it goes elsewhere. So, what is that money going to be spent on? On property sanitation, on buying property.<sup>18</sup>

<sup>18</sup> Interview #11, 30/05/2018.

Funds were reallocated from ongoing monitoring of the offset sites to purchasing more land and hiring private security to protect the national park (Contraloría General de la República, 2019, p. 62; Feeney, 2023). This is an ecological risk since restoration outcomes are highly dependent on long-term monitoring, but also generates social risks associated with the militarization of conservation, such as threats against local communities (Bocarejo & Ojeda, 2016; Duffy, 2016; Verweijen & Marijnen, 2018).

Stakeholders involved in the offset project were critical of the tendering processes used to hire contractors to implement reforestation and ecosystem restoration, since it is often the organization that offers the lowest bid that wins, rather than the organization with best technical capacity and experience in conservation or restoration. Further suggestions of this emerged during fieldwork in relation to a reforestation project being implemented by an engineering firm contracted by the regional environmental authority, Corporación para la Defensa de la Meseta de Bucaramanga (CDMB). In a meeting with the contractor, the coordinator of the project explained that the company had no prior experience in reforestation and that their last project involved supplying missiles for the Ministry of Defense.<sup>19</sup> This is a hint of the extent of the "dependent military-industrial complex" that Plan Colombia left in its wake, in which private companies are involved in the sale of weapons, logistics and technical capacity (Tricontinental, 2019). It could also be a hopeful sign that, in a post-conflict context, contractors might transition from supplying arms to planting trees. A peace agreement was signed in 2016 between the Colombian government and guerrilla group the Revolutionary Armed Forces of Colombia (FARC) after 50 years of internal conflict, marking the start of an ongoing post-conflict transition.

Enlisting military and private security demonstrates an aggressive strategy to control the territory and suppress opposing voices in the areas affected by the Hidrosogamoso dam and its offsets. This is an example of how, when conservation is tied to larger megaprojects, similar militarized practices are used to ensure the project proceeds as planned, illustrating how violence is instrumental to green extractivist processes.

## 5. Conclusion

Since 2018, Latin America has experienced a second pink tide as leftist governments have risen to power across the region. Colombia elected its first left-wing government in 2022, led by President Gustavo Petro, a former guerrilla and former mayor of Bogotá, and Vice-President Francia Márquez, an Afro Colombian environmental activist and human rights lawyer. Commentators have noted that this second pink tide has a "green tint" (Haynes, 2022) as the new progressive leaders express their commitment to climate action and reducing dependency on fossil fuels. But with a recession and right and far-right opposition, the new pink tide may prove to be short-lived (Riofrancos & Adler, 2022). Colombia's current administration aspires to overcome neoliberalism, transition away from fossil fuels, and build peace through dialogue rather than counterinsurgency – indicating a move away from both green extractivism and armed neoliberalism. But violence continues in rural areas, through visible and "invisible" forms of violence such as coercion and gender-based violence, combined with curfews (International Crisis Group, 2023).

From a regime of armed neoliberalism in one of the most biodiverse countries in the world, green extractivist approaches have emerged as a response to increasing international environmental concern. This article aimed to examine the interlinkages of green extractivism and armed neoliberalism in a case study of environmental offsets implemented in Santander, Colombia, to compensate for the impacts of the Hidrosogamoso dam. The case study demonstrates two dimensions of green extractivism through sacrifice zones and tools of distraction. First, offsets facilitate the creation of sacrifice zones that require the destruction of land, nature, livelihoods, and lives in one place for the promise of protection elsewhere. This process involves the commodification of nature and the creation of complex chains of offsets from the local to the international level that make monitoring and accountability extremely challenging. Restoration gains in the Serranía de los Yariguíes National National Park financed by ISAGEN aim to compensate for the harm to water, forests, and biodiversity caused by the Hidrosogamoso dam, while the reduced emissions from the dam are meant to compensate for carbon emissions of other projects in other countries. Second, offsets distract from the harms

---

<sup>19</sup> Meeting, Bucaramanga, 10/10/2018.



produced by the dam, a "sophism of distraction", facilitating continued extractive development and attempting to build social acceptance for the project through sustainability narratives.

The case also contains the elements of armed neoliberalism described by Seoane *et al.* (2010) – the commercialization and transnationalization of natural assets and resources under increasing corporate control and the use of military tactics and repressive policies oriented towards the criminalization of protest. The policy reforms to incentivize foreign investment and the sale of ISAGEN, one of the most important national energy companies, to Brookfield Asset Management reflect the neoliberal strategy adopted by Colombia's government. Violence appears through both soft and hard strategies – social and environmental schemes to quieten dissent as well as verbal threats and physical violence against those that oppose development. The complex mix of actors in the regions also makes attaining justice on assassinations and disappearances very challenging. These strategies to control and divide communities at both the dam site and offset site illustrate the coercive practices and violence that are central to green extractivism. Following the privatization of ISAGEN, funds were reallocated from ongoing monitoring of the offset sites to the hiring of private security to protect the national park. It takes years or decades for the environmental benefits of restoration to come to fruition, yet this time consideration is often not accounted for in determining if an offset project has been a success. This requires long-term monitoring and protection in perpetuity. As a result, a real and tangible biodiversity loss is equated with an uncertain and aspirational biodiversity gain. In addition, the social costs associated with environmental offsets, such as displacement and loss of livelihoods, remain largely unaccounted for.

Ultimately, there is simply not enough space on the planet to offset the ecological destruction caused by current levels of extraction and emissions. It has been estimated that the global footprint of development projects will be 3.60 million km<sup>2</sup> from 2019 to 2050 (Deutz *et al.*, 2020) – equivalent to the size of India and France combined. The minimum offset:impact ratio in biodiversity offsetting standards is 1:1, although in cases of critically endangered ecosystems, this can rise to figures such as 30:1 (Pope *et al.*, 2021). Where will these offsets, multiple times the size of India and France combined, go? It seems clear that companies should indeed be required to invest in conservation and restoration, but without unrealistic expectations that this will offset emissions or biodiversity loss in the hope that extractive development can continue.

## References

- Achime, T. (2019). *Global extractivism and racial equality*: Report of the Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance (UN Special Rapporteur No. A/HRC/41/54). United Nations. <https://www.ohchr.org/en/documents/thematic-reports/ahrc4154-global-extractivism-and-racial-equality-report-special>
- Acosta, A. (2013). Extractivism and neoextractivism: Two sides of the same curse. In *Beyond development: Alternative visions from Latin America* (pp. 61–86). Permanent Working Group on Alternatives to Development. <https://www.tni.org/en/publication/beyond-development>
- ALBA Movimientos. (2020, October 29). Neoliberalismo de guerra, para-estatalidad y disputas por la paz: El caso colombiano - Clase 7. *YouTube*. <https://www.youtube.com/watch?v=DtOE2ONhLLI>
- Anaya, F. C., & Espirito-Santo, M. M. (2018). Protected areas and territorial exclusion of traditional communities: Analyzing the social impacts of environmental compensation strategies in Brazil. *Ecology and Society*, 23(1), 13. <https://doi.org/10.5751/es-09850-230108>
- Andrade, D. (2022). Neoliberal extractivism: Brazil in the twenty-first century. *The Journal of Peasant Studies*, 49(4), 793–816. <https://doi.org/10.1080/03066150.2022.2030314>
- Apostolopoulou, E., & Adams, W. M. (2019). Cutting nature to fit: Urbanization, neoliberalism and biodiversity offsetting in England. *Geoforum*, 98, 214–225. <https://doi.org/10.1016/j.geoforum.2017.05.013>
- Arias, J. (2018). Así fue la titánica restauración del Parque Natural Los Yariguíes en Santander. *Vanguardia*. <https://www.vanguardia.com/economia/local/asi-fue-la-titanica-restauracion-del-parque-natural-los-yariguies-en-santander-HBVL444928>
- Ávila-García, P. (2016). *Hacia una ecología política del agua en Latinoamérica*. *Revista de Estudios Sociales*, 18–31.

- Bidaud, C., Schreckenber, K., & Jones, J. P. G. (2018). The local costs of biodiversity offsets: Comparing standards, policy and practice. *Land Use Policy*, 77, 43–50. <https://doi.org/10.1016/j.landusepol.2018.05.003>
- Bocarejo, D., & Ojeda, D. (2016). Violence and conservation: Beyond unintended consequences and unfortunate coincidences. *Geoforum*, 69, 176–183. <https://doi.org/10.1016/j.geoforum.2015.11.001>
- Brock, A. (2015). 'Love for sale': Biodiversity banking and the struggle to commodify nature in Sabah, Malaysia. *Geoforum*, 65, 278–290. <https://doi.org/10.1016/j.geoforum.2015.08.009>
- Brock, A. (2023). Securing accumulation by restoration – Exploring spectacular corporate conservation, coal mining and biodiversity compensation in the German Rhineland. *Environment and Planning E: Nature and Space*, 6(4), 2134–2165. <https://doi.org/10.1177/2514848620924597>
- Brookfield. (2023). Brookfield 2022 Annual Report. Brookfield Asset Management. <https://www.brookfield.com/about-us/2021-annual-report>
- Bruna, N. (2022). A climate-smart world and the rise of Green Extractivism. *The Journal of Peasant Studies*, 49(4), 839–864. <https://doi.org/10.1080/03066150.2022.2070482>
- Bull, J. W., & Strange, N. (2018). The global extent of biodiversity offset implementation under no net loss policies. *Nature Sustainability*, 1(12), 790–798. <https://doi.org/10.1038/s41893-018-0176-z>
- Business and Biodiversity Offsets Programme (BBOP). (2012). Glossary (2nd updated edition). Business and Biodiversity Offsets Programme.
- Cames, M., O. Harthan, R., Füssler, J., Lazarus, M., Lee, C. M., Erickson, P., & Spalding-Fecher, R. (2016). [How additional is the Clean Development Mechanism? Analysis of the application of current tools and proposed alternatives](#). Study prepared for DG CLIMA. Öko-Institut.
- Caretta, M. A., Zaragocin, S., Turley, B., & Orellana, K. T. (2020). Women's organizing against extractivism: Towards a decolonial multi-sited analysis. *Human Geography*, 13(1), 49–59. <https://doi.org/10.1177/1942778620910898>
- Censat Agua Viva, & Ríos Vivos Santander. (2022). Río Sogamoso en la Guerra. Río Sogamoso en la Guerra. <https://riosogamosoenlaguerra.com/hecho-n3-capitulo-8-panfletos-y-amenazas>
- Cepeda Castro, I. (2015, November 3). Convenios entre empresas del sector minero-energético y fuerza pública. <https://www.ivancepedacastro.com/wp-content/uploads/2015/11/DEBATE-CONVENIOS.pdf>
- Chagnon, C. W., Durante, F., Gills, B. K., Hagolani-Albov, S. E., Hokkanen, S., Kangasluoma, S. M. J., Kontinen, H., Kröger, M., LaFleur, W., Ollinaho, O., & Vuola, M. P. S. (2022). From extractivism to global extractivism: The evolution of an organizing concept. *The Journal of Peasant Studies*, 49(4), 760–792. <https://doi.org/10.1080/03066150.2022.2069015>
- Contraloría General de la República. (2019). Informe Auditoria Cumplimiento Patrimonio Natural Para la Biodiversidad y Áreas Protegidas Vigencia 2018. CGR CDMA No. 017. Julio de 2019. <https://www.contraloria.gov.co/documents/20181/1478524/017+Informe+Auditoria+Cumplimiento+Patrimonio+Natural+v2018+Is.pdf>
- Convention on Biological Diversity (CBD). (2017). Colombia—Overview. CBD Secretariat. <https://www.cbd.int/countries/?country=co>
- Correa-Casas, M. (2018). Reconfiguración territorial y apropiación del agua: Construcción de la represa Chivor, Colombia. In A. Ulloa & H. Romero-Toledo (Eds.), *Agua y disputas territoriales en Chile y Colombia* (pp. 225–260). Universidad Nacional de Colombia. Facultad de Ciencias Humanas. Departamento de Geografía.
- Cowell, R. (2000). Environmental compensation and the mediation of environmental change: making capital out of Cardiff Bay. *Journal of Environmental Planning and Management* 43(5), 689–710. <https://doi.org/10.1080/713676580>
- Defensoría del Pueblo. (2017). Impactos socioambientales y posible afectación de derechos derivada de la generación hidroeléctrica en Colombia. Defensoría del Pueblo.

- Del Bene, D., Scheidel, A., & Temper, L. (2018). More dams, more violence? A global analysis on resistances and repression around conflictive dams through co-produced knowledge. *Sustainability Science*, 13(3), 617–633. <https://doi.org/10.1007/s11625-018-0558-1>
- Departamento Nacional de Planeación (DNP). (2015). *Plan Nacional de Desarrollo 2014-2018: Todos por un nuevo país*. Departamento Nacional de Planeación.
- Departamento Nacional de Planeación (DNP). (2019). Bases del Plan Nacional de Desarrollo 2018-2022: Pacto por Colombia, pacto por la equidad. Departamento Nacional de Planeación.
- Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Li, Z., Delmar, A., Meghji, A., Sethi, S. A., & Tobin-de la Puente, J. (2020). *Financing Nature: Closing the global biodiversity financing gap*. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability.
- Duarte-Abadía, B., Boelens, R., & Roa-Avedaño, T. (2015). Hydropower, encroachment and the re-patterning of hydrosocial territory: The case of Hidrosogamoso in Colombia. *Human Organization*, 74(3), 243–254. <https://doi.org/10.17730/0018-7259-74.3.243>
- Duffy, R. (2016). War, by conservation. *Geoforum*, 69, 238–248. <https://doi.org/10.1016/j.geoforum.2015.09.014>
- Dunlap, A. (2020). Wind, coal, and copper: The politics of land grabbing, counterinsurgency, and the social engineering of extraction. *Globalizations*, 17(4), 661–682. <https://doi.org/10.1080/14747731.2019.1682789>
- Dunlap, A. (2023). Spreading 'green' infrastructural harm: Mapping conflicts and socio-ecological disruptions within the European Union's transnational energy grid. *Globalizations*, 20(6), 907–931. <https://doi.org/10.1080/14747731.2021.1996518>
- Dunlap, A., & Brock, A. (2021). [When the wolf guards the sheep: Confronting the industrial machine through green extractivism in Germany and Mexico](#). Working Paper No. 21 (p. 45). The Centre for Global Political Economy, University of Sussex.
- Dunlap, A., & Riquito, M. (2023). Social warfare for lithium extraction? Open-pit lithium mining, counterinsurgency tactics and enforcing green extractivism in northern Portugal. *Energy Research & Social Science*, 95, 102912. <https://doi.org/10.1016/j.erss.2022.102912>
- Dunlap, A., & Sullivan, S. (2020). A faultline in neoliberal environmental governance scholarship? Or, why accumulation-by-alienation matters. *Environment and Planning E: Nature and Space*, 3(2), 552–579. <https://doi.org/10.1177/2514848619874691>
- Escobar, A. (2006). Difference and conflict in the struggle over natural resources: A political ecology framework. *Development*, 49(3), 6–13. <https://doi.org/10.1057/palgrave.development.1100267>
- Espinosa, A. R., & Dunlap, A. (2023). How jaguars are actually stolen: Big cat conservation and the green extractivism nexus in the Yucatán Peninsula, Mexico. *Journal of Political Ecology*, 30(1). <https://doi.org/10.2458/jpe.5453>
- Feeney, J. K. (2021). Environmental offsets in Colombia: Policy, practice and conflict. PhD dissertation. Trinity College Dublin, School of Natural Sciences. <http://hdl.handle.net/2262/96611>
- Feeney, J. K., (2023) A dam, a park, and offsets: Analyzing socio-ecological conflict in Santander, Colombia, through political ecology and Galtung's conflict triangle, *Journal of Political Ecology* 30(1), 166–190. <https://doi.org/10.2458/jpe.4685>
- Fletcher, R. (2020). Neoliberal Conservation. *Oxford Research Encyclopaedia of Anthropology*. <https://doi.org/10.1093/acrefore/9780190854584.013.300>
- Franz, T. (2016). Plan Colombia: Illegal drugs, economic development and counterinsurgency – a political economy analysis of Colombia's failed war. *Development Policy Review*, 34(4), 563–591. <https://doi.org/10.1111/dpr.12161>
- Front Line Defenders. (2020). *Front line defenders global analysis 2019*. Front Line - the International Foundation for the Protection of Human Rights Defenders. [https://www.frontlinedefenders.org/sites/default/files/global\\_analysis\\_2019\\_web.pdf](https://www.frontlinedefenders.org/sites/default/files/global_analysis_2019_web.pdf)

- Galeano, E. (1997). *Open veins of Latin America: Five centuries of the pillage of a continent* (25th anniversary ed). Monthly Review Press.
- Galtung, J. (1990). [Cultural violence](#). *Journal of Peace Research*, 27(3), 291-305.
- Gilbert, J. E., Gilbertson, T., & Jakobsen, L. J. (2021). Incommensurability and corporate social technologies: A critique of corporate compensations in Colombia's coal mining region of La Guajira. *Journal of Political Ecology*, 28(1), 434-452. <https://doi.org/10.2458/jpe.2952>
- Githiru, M., King, M. W., Bauche, P., Simon, C., Boles, J., Rindt, C., & Victorine, R. (2015). Should biodiversity offsets help finance underfunded Protected Areas? *Biological Conservation*, 191, 819–826. <https://doi.org/10.1016/j.biocon.2015.07.033>
- Global Witness. (2019). *Enemies of the State? How governments and business silence land and environmental defenders*. Global Witness. [https://www.globalwitness.org/documents/19766/Enemies\\_of\\_the\\_State.pdf](https://www.globalwitness.org/documents/19766/Enemies_of_the_State.pdf)
- Global Witness. (2022a). *Decade of defiance: Ten years of reporting land and environmental activism worldwide*. Global Witness. <https://www.globalwitness.org/en/campaigns/environmental-activists/decade-defiance/>
- Global Witness. (2022b). *Slash and sell*. Global Witness. <https://www.globalwitness.org/en/campaigns/forests/slash-and-sell/#net-zero-promises>
- Goncalves, B., Marques, A., Soares, A., & Pereira, H. M. (2015). Biodiversity offsets: From current challenges to harmonized metrics. *Current Opinion in Environmental Sustainability*, 14, 61–67. <https://doi.org/10.1016/j.cosust.2015.03.008>
- González Casanova, P. (1965). Internal colonialism and national development. *Studies in Comparative International Development*, 1(4), 27–37. <https://doi.org/10.1007/BF02800542>
- González Casanova, P. (2002). [Neoliberalismo de guerra y pensamiento crítico](#). *La Jornada*. 13 Sept.
- Grupo de Memoria Histórica. (2013). [¡BASTA YA! Colombia: Memorias de guerra y dignidad](#). Centro Nacional de Memoria Histórica.
- Gudynas, E. (2018). [Extractivismos: El concepto, sus expresiones y sus múltiples violencias](#). *Papeles de Relaciones Ecosociales y Cambio Global*, 143, 61–70.
- Guereña, A., & Burgos, S. (2017). A snapshot of inequality: What the latest Agricultural Census reveals about land distribution in Colombia. Oxfam. <https://www.oxfam.org/en/research/snapshot-inequality>
- Gutiérrez Sanín, F. (2010). Colombia: The re-structuring of violence. In Gutiérrez, F. & Schönwälder, G. (eds.). [Economic liberalization and political violence: Utopia or dystopia?](#) (pp. 209–244). Pluto Press.
- Hanson, T., Brooks, T. M., Da Fonseca, G. A. B., Hoffmann, M., Lamoreux, J. F., Machlis, G., Mittermeier, C. G., Mittermeier, R. A., & Pilgrim, J. D. (2009). Warfare in Biodiversity Hotspots (Guerra en sitios de importancia para la Biodiversidad). *Conservation Biology*, 23(3), 578–587. <https://doi.org/10.1111/j.1523-1739.2009.01166.x>
- Harcourt, W., & Escobar, A. (2002). Women and the politics of place. *Development*, 45(1), 7–14. <https://doi.org/10.1057/palgrave.development.1110308>
- Harvey, D. (2005). *A brief history of neoliberalism*. Oxford University Press.
- Haya, B., & Parekh, P. (2011). Hydropower in the CDM: Examining additionality and criteria for sustainability. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2120862>
- Haynes, B. (2022, December 22). Latin America's 'pink tide' may have hit its high-water mark. *Reuters*. <https://www.reuters.com/world/americas/latin-americas-pink-tide-may-have-hit-its-high-water-mark-2022-12-22/>
- Helmcke, C. (2023). Technology of detachment: The promise of renewable energy and its contentious reality in the south of Colombia. *Environment and Planning C: Politics and Space*, 41(5), 976–992. <https://doi.org/10.1177/23996544231168390>

- Hickel, J., Dorninger, C., Wieland, H., & Suwandi, I. (2022). Imperialist appropriation in the world economy: Drain from the global South through unequal exchange, 1990–2015. *Global Environmental Change*, 73, 102467. <https://doi.org/10.1016/j.gloenvcha.2022.102467>
- Instituto de Hidrología Meteorología y Estudios Ambientales (IDEAM), Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Instituto Geográfico Agustín Codazzi (IGAC), Instituto de Investigaciones Marinas y Costeras "José Benito Vives de Andrés" (Invemar), & Ministerio de Ambiente y Desarrollo Sostenible (MADS). (2017). Mapa de Ecosistemas Continentales, Costeros y Marinos de Colombia (MEC). Versión 2.1, escala 1:100.000. [Map].
- International Crisis Group. (2023). Protecting Colombia's most vulnerable on the road to "total peace." *Latin America Report* N°98. <https://www.crisisgroup.org/latin-america-caribbean/andes/colombia/98-protecting-colombias-most-vulnerable-road-total-peace>
- International Hydropower Association. (2017). Better Hydro: Compendium of case studies 2017. International Hydropower Association, World Bank Group. <https://documents1.worldbank.org/curated/en/247261519658051630/pdf/Better-hydro-compendium-of-case-studies-2017-better-understanding-better-examples-better-policies.pdf>
- ISAGEN. (2009). Proyecto Hidroeléctrico Sogamoso: Reunión Informativa. <https://www.yumpu.com/es/document/view/15357657/presentacion-del-proyecto-hidroelectrico-sogamoso-isagen>
- ISAGEN. (2015a). Central Hidroeléctrica Sogamoso: Balance de resultados durante la construcción 2009—2014. ISAGEN S.A. E.S.P.
- ISAGEN. (2015b). Inauguración Central Hidroeléctrica Sogamoso. <https://www.youtube.com/watch?v=6FXUr8x32I&t=326s>
- Käkönen, M., & Nygren, A. (2023). Resurgent dams: Shifting power formations, persistent harms, and obscured responsibilities. *Globalizations*, 20(6), 866–886. <https://doi.org/10.1080/14747731.2022.2098668>
- Kato, K., Furtado, F., Aleixo, O., & Siviero, J. (2020). *Global financial funds, land grabs, and the (re)production of inequalities: A contribution From Brazil*. International Land Coalition Secretariat, IFAD.
- Kingsbury, D. V. (2021, July 20). 'Green' Extractivism and the limits of energy transitions: Lithium, sacrifice, and maldevelopment in the Americas. *Georgetown Journal of International Affairs*. <https://gjia.georgetown.edu/2021/07/20/green-extractivism-and-the-limits-of-energy-transitions-lithium-sacrifice-and-maldevelopment-in-the-americas/>
- Klein, N. (2014). *This changes everything: Capitalism vs. the climate*. Alfred A. Knopf Canada.
- Koh, N. S., Hahn, T., & Boonstra, W. J. (2019). How much of a market is involved in a biodiversity offset? A typology of biodiversity offset policies. *Journal of Environmental Management*, 232, 679–691. <https://doi.org/10.1016/j.jenvman.2018.11.080>
- Koo, B. (2017). Preparing hydropower projects for the post-Paris regime: An econometric analysis of the main drivers for registration in the Clean Development Mechanism. *Renewable and Sustainable Energy Reviews*, 73, 868–877. <https://doi.org/10.1016/j.rser.2017.01.095>
- Lapeyre, R., Froger, G., & Hrabanski, M. (2015). Biodiversity offsets as market-based instruments for ecosystem services? From discourses to practices. *Ecosystem Services*, 15, 125–133. <https://doi.org/10.1016/j.ecoser.2014.10.010>
- Le Billon, P., Roa-García, M. C., & López-Granada, A. R. (2020). Territorial peace and gold mining in Colombia: Local peacebuilding, bottom-up development and the defence of territories. *Conflict, Security & Development*, 20(3), 303–333. <https://doi.org/10.1080/14678802.2020.1741937>
- Lederach, A. J. (2017). "The Campesino was born for the Campo": A multispecies approach to territorial peace in Colombia. *American Anthropologist*, 119(4), 589–602. <https://doi.org/10.1111/aman.12925>

- Lockhart, A., & Rea, C. (2019). Why there and then, not here and now? Ecological offsetting in California and England, and the sharpening contradictions of neoliberal natures. *Environment and Planning E: Nature and Space*, 2(3), 665–693. <https://doi.org/10.1177/2514848619850778>
- Maron, M., Gordon, A., Mackey, B. G., Possingham, H. P., & Watson, J. E. M. (2016). Interactions between biodiversity offsets and Protected Area Commitments: Avoiding perverse outcomes. *Conservation Letters*, 9(5), 384–389. <https://doi.org/10.1111/conl.12222>
- McNeish, J.-A. (2017). Extracting justice? Colombia's commitment to mining and energy as a foundation for peace. *The International Journal of Human Rights*, 21(4), 500–516. <https://doi.org/10.1080/13642987.2016.1179031>
- Menton, M., & Le Billon, P. (Eds.). (2021). *Environmental defenders: Deadly struggles for life and territory*. Routledge.
- Ministerio de Ambiente y Desarrollo Sostenible (MADS). (2012). Manual para la asignación de compensaciones por pérdida de biodiversidad. Ministerio de Ambiente y Desarrollo Sostenible.
- Ministerio de Ambiente y Desarrollo Sostenible (MADS). (2018). Manual de compensaciones del componente biótico. Ministerio de Ambiente y Desarrollo Sostenible.
- Ministerio de Ambiente y Desarrollo Sostenible (MADS). (2017). Las compensaciones ambientales son el motor de un nuevo modelo de desarrollo sostenible para Colombia. Ministerio de Ambiente y Desarrollo Sostenible <https://www.minambiente.gov.co/index.php/noticias/2975-las-compensaciones-ambientales-son-el-motor-de-un-nuevo-modelo-de-desarrollo-sostenible-para-colombia>
- Moreno-Mateos, D., Maris, V., Béchet, A., & Curran, M. (2015). The true loss caused by biodiversity offsets. *Biological Conservation*, 192, 552–559. <https://doi.org/10.1016/j.biocon.2015.08.016>
- Nature Conservation Council of NSW. (2016). *Paradise Lost—The weakening and widening of NSW biodiversity offsetting schemes, 2005-2016*. Nature Conservation Council.
- Paley, D. (2014). *Drug war capitalism*. AK Press.
- Perez-Adriana Zamora, M. A. (2019). Hidrosogamoso dam, Colombia. *EJ Atlas*. <https://ejatlas.org/conflict/hidrosogamoso-dam-colombia>
- Pope, J., Morrison-Saunders, A., Bond, A., & Retief, F. (2021). When is an Offset not an Offset? A Framework of necessary conditions for biodiversity offsets. *Environmental Management*, 67(2), 424–435. <https://doi.org/10.1007/s00267-020-01415-0>
- Programa Somos Defensores. (2010). Sistema de Información sobre Agresiones a Defensores y Defensoras de Derechos Humanos en Colombia Informe 2009. <https://somosdefensores.org/informe-anual-1/>
- Puentes Bruges, J. (2016, June 29). ¿Hidrosogamoso afectó el clima y la agricultura local? *Vanguardia*. <https://www.vanguardia.com/opinion/columnistas/jairo-puente-bruges/hidrosogamoso-afecto-el-clima-y-la-agricultura-local-PGVL363941>
- Raftopoulos, M. (2017). Contemporary debates on social-environmental conflicts, extractivism and human rights in Latin America. *The International Journal of Human Rights*, 21(4), 387–404. <https://doi.org/10.1080/13642987.2017.1301035>
- Riofrancos, T. (2023). The security–sustainability nexus: Lithium onshoring in the Global North. *Global Environmental Politics*, 23(1), 20–41. [https://doi.org/10.1162/glep\\_a\\_00668](https://doi.org/10.1162/glep_a_00668)
- Riofrancos, T. (2019). What green costs. *Logic Magazine*. <https://logicmag.io/nature/what-green-costs>
- Riofrancos, T., & Adler, D. (2022, March 11). Gabriel Boric and Latin America's new pink tide. *New Statesman*. <https://www.newstatesman.com/ideas/2022/03/gabriel-boric-and-latin-americas-new-pink-tide>
- Roa Avendaño, T., & Duarte Abadía, B. (2012). *Aguas represadas: El caso del proyecto Hidrosogamoso en Colombia*. CENSAT Agua Viva.
- Roa Avendaño, T., & Navas, L. M. (Eds.). (2014). *Extractivismo. Conflictos y resistencias*. Censat Agua Viva – Amigos de la Tierra Colombia.

- Robertson, M. M. (2004). The neoliberalization of ecosystem services: Wetland mitigation banking and problems in environmental governance. *Geoforum*, 35(3), 361–373. <https://doi.org/10.1016/j.geoforum.2003.06.002>
- Rodríguez Becerra, M. (1994). Crisis ambiental y relaciones internacionales: Hacia una estrategia colombiana. Fescol, Fundación Alejandro Angel Escobar y CEREC. <http://www.manuelrodriguezbecerra.org/bajar/cisisambiental/vi.pdf>
- Rodríguez, G. A. (2011). *Las licencias ambientales y su proceso de reglamentación en Colombia*. Foro Nacional Ambiental.
- Rodríguez-De-Francisco, J. C., Duarte-Abadía, B., & Boelens, R. (2019). Payment for Ecosystem Services and the Water-Energy-Food Nexus: Securing resource flows for the affluent? *Water*, 11(6), 1143. <https://doi.org/10.3390/w11061143>
- Romero, M. (2010). El acceso a la tierra ha sido el eje del conflicto armado. *Semana*. <https://www.semana.com/nacion/articulo/el-acceso-tierra-ha-sido-eje-del-conflicto-armado/125048-3>
- Rubenstein, D. (2022, April 6). Brookfield CEO Bruce Flatt on Bloomberg wealth with David Rubenstein. <https://www.youtube.com/watch?v=y3UOPIIHADw>
- Rutas del Conflicto, & La Liga Contra el Silencio. (n.d.). Convenios de Fuerza y Justicia :EMPRESA: ISAGEN S.A. E.S.P. Convenios de Fuerza y Justicia. Retrieved 20 January 2023, from <http://rutasdelconflicto.com/convenios-fuerza-justicia/node/351>
- Sarmiento, M. (2013). Colombia takes lead in Latin American biodiversity offsetting. *Ecosystem Marketplace*. <http://www.ecosystemmarketplace.com/articles/colombia-takes-lead-br-in-latin-american-biodiversity-offsetting/>
- Seoane, J., Taddei, E. H., & Algranati, C. (2010). *Recolonización, bienes comunes de la naturaleza y alternativas desde los pueblos*. Diálogo de los Pueblos, Grupo de Estudios sobre América Latina y el Caribe.
- Springer, S., Birch, K., & MacLeavy, J. (eds.). (2016). *Handbook of Neoliberalism* (1st ed.). Routledge.
- Sullivan, S. (2013). After the green rush? Biodiversity offsets, uranium power and the 'calculus of casualties' in greening growth. *Human Geography*, 6(1), 80–101. <https://doi.org/10.1177/194277861300600106>
- Sullivan, S. (2017). What's ontology got to do with it? On nature and knowledge in a political ecology of the 'green economy'. *Journal of Political Ecology*, 24, 217–242. <https://doi.org/10.2458/v24i1.20802>
- Sullivan, S. (2023). 'Hunting Africa': How international trophy hunting may constitute neocolonial green extractivism. *Journal of Political Ecology*, 30(1). <https://doi.org/10.2458/jpe.5489>
- Swampa, M. (2019). *Las fronteras del neoextractivismo en América Latina. Conflictos socioambientales, giro ecoterritorial y nuevas dependencias*. CALAS Centro Maria Sibylla Merian de Estudios Latinoamericanos Avanzados en Humanidades y Ciencias Sociales.
- Tricontinental. (2019, December 3). Peace, neoliberalism, and political shifts in Colombia. *Tricontinental: Institute for Social Research*. <https://thetricontinental.org/peace-neoliberalism-and-political-shifts-in-colombia/>
- Ulloa, A. (2016). [Feminismos territoriales en América Latina: Defensas de la vida frente a los extractivismos. Nómadas](#), 123–139.
- Ulloa, A. (2023). Aesthetics of green dispossession: From coal to wind extraction in La Guajira, Colombia. *Journal of Political Ecology*, 30(1). <https://doi.org/10.2458/jpe.5475>
- UNEP. (2022). State of finance for nature. Time to act: Doubling investment by 2025 and eliminating nature-negative finance flows. United Nations Environment Programme. <https://wedocs.unep.org/20.500.11822/41333>
- UNFCCC. (2023). CDM: Tool for the demonstration and assessment of additionality. Clean Development Mechanism (CDM). [https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v5.2.pdf/history\\_view](https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v5.2.pdf/history_view)

- United Nations. (2023, July 12). Implementation of Colombia Peace Accord gaining traction, Special Representative tells Security Council, as it prepares to discuss expanding verification mission. *UN Press*. <https://press.un.org/en/2023/sc15353.doc.htm>
- United States Institute of Peace. (2000). *Plan Colombia: Plan for Peace, Prosperity, and the Strengthening of the State*. <https://www.usip.org/publications/2002/05/peace-agreements-colombia>
- Vaissiere, A. C., & Levrel, H. (2015). Biodiversity offset markets: What are they really? An empirical approach to wetland mitigation banking. *Ecological Economics*, 114, 242–242. <https://doi.org/10.1016/j.ecolecon.2015.04.007>
- Vandeveldt, M. (2020). Brookfield: Inside the \$500bn secretive investment firm. *Financial Times*. <https://www.ft.com/content/595a77d0-3867-11ea-a6d3-9a26f8c3cba4>
- Veltmeyer, H. (2013). The political economy of natural resource extraction: A new model or extractive imperialism? *Canadian Journal of Development Studies / Revue Canadienne d'études Du Développement*, 34(1), 79–95. <https://doi.org/10.1080/02255189.2013.764850>
- Verweijen, J., & Dunlap, A. (2021). The evolving techniques of the social engineering of extraction: Introducing political (re)actions 'from above' in large-scale mining and energy projects. *Political Geography*, 88, 102342. <https://doi.org/10.1016/j.polgeo.2021.102342>
- Verweijen, J., & Marijnen, E. (2018). The counterinsurgency/conservation nexus: Guerrilla livelihoods and the dynamics of conflict and violence in the Virunga National Park, Democratic Republic of the Congo. *The Journal of Peasant Studies*, 45(2), 300–320. <https://doi.org/10.1080/03066150.2016.1203307>
- Villamizar Durán, F., Cogollo Calderón, A. M., Duarte Sánchez, I., & Moreno Valderrama, H. (2018). La restauración ecológica en el Parque Nacional Natural Serranía De Los Yarigués (PNN SYA): Antecedentes. In L. F. Prado-Castillo, D. P. Caro-Melgarejo, D. A. Rincón Puerta, J. J. Parada-Rendón, & M. E. Morales-Puentes (Eds.), *Caminando entre huellas de Yarigués: La gente y la ciencia en la gestión temprana de la restauración ecológica del área protegida* (pp. 17–26). Editorial UPTC.
- Voskoboynik, D., & Andreucci, D. (2022). Greening extractivism: Environmental discourses and resource governance in the 'Lithium Triangle'. *Environment and Planning E: Nature and Space*, 5, 251484862110063. <https://doi.org/10.1177/25148486211006345>
- York, R., & Bell, S. E. (2019). Energy transitions or additions? Why a transition from fossil fuels requires more than the growth of renewable energy. *Energy Research & Social Science*, 51, 40–43. <https://doi.org/10.1016/j.erss.2019.01.008>
- Zu Ermgassen, S. O. S. E., Maron, M., Corlet Walker, C. M., Gordon, A., Simmonds, J. S., Strange, N., Robertson, M., & Bull, J. W. (2020). The hidden biodiversity risks of increasing flexibility in biodiversity offset trades. *Biological Conservation*, 252, 108861. <https://doi.org/10.1016/j.biocon.2020.108861>