

Chapter 3

Actions for Comprehensive Remediation of Deforestation in Colombia^{*}

DOI: <https://doi.org/10.25062/9786287818088.03>

Sharon Gabriela Chavarro Ospina

Escuela Superior de Guerra "General Rafael Reyes Prieto"

Abstract: This chapter analyzes the main actions implemented in Colombia by the relevant entities to contain and even eradicate deforestation, which disproportionately impacts community development and produces environmental damage. Qualitative methods and documentary analysis establish an approach to the brutal reality of the national territory due to deforestation. We examine the most significant actions, point out their achievements, and conclude with some contributions to new policies, plans, and projects that comprehensively improve the lives of people inhabiting the affected areas.

Keywords: Colombia; deforestation; Colombian Military Forces; policies; environment; comprehensive remediation

^{*} Book chapter resulting from the research project *The Role of Security Forces in Protecting the Environment in the Context of Armed Conflict and Peacebuilding from the Perspective of Human Rights and IHL* by the Historical Memory, Peacebuilding, Human Rights, IHL, and Justice Research Group of Escuela Superior de Guerra "General Rafael Reyes Prieto," categorized A by the Ministry of Science, Technology and Innovation (MinCiencias) and registered under code COL0141423. This points of view and results in this chapter belong to the authors and do not necessarily reflect those of the participating institutions.

Sharon Gabriela Chavarro Ospina

Master's in Human Rights and IHL, Escuela Superior de Guerra "General Rafael Reyes Prieto," Colombia. Bachelor's in Political Sciences with an emphasis on Public Management, Pontificia Universidad Javeriana, Colombia. Researcher at the Military Historical Memory Research Center, Escuela Superior de Guerra "General Rafael Reyes Prieto," Colombia.

<https://orcid.org/0000-0002-4856-9349> - Contacto: sharon.chavarro@esdeg.edu.co

APA Citation: Chavarro Ospina, S. G. (2025). Actions for Comprehensive Remediation of Deforestation in Colombia. In L. A. Martín Moreno, & D. F. Cano Cuevas (Eds.), *Security Forces, Environmental Protection, and Peacebuilding within the Human Rights and IHL Framework* (pp. 59-76). Sello Editorial ESDEG.
<https://doi.org/10.25062/9786287818088.03>

SECURITY FORCES, ENVIRONMENTAL PROTECTION, AND PEACEBUILDING WITHIN THE HUMAN RIGHTS AND IHL FRAMEWORK

Print ISBN: 978-628-7818-07-1

Digital ISBN: 978-628-7818-08-8

DOI: <https://doi.org/10.25062/9786287818088>

Human Rights and IHL Collection

Sello Editorial ESDEG

Escuela Superior de Guerra "General Rafael Reyes Prieto"

Bogotá D.C., Colombia

2025



Introduction

The cruel reality of deforestation worldwide goes beyond any precedent of environmental damage we could have previously recognized. Particularly in Colombia, the excessive felling of trees is due to the different social and conflict dynamics in which we are involved. Between January and March 2022, deforestation increased by 10 % (FGN, 2022), which has not only environmental implications, often incalculable, but also social, economic, cultural, and other consequences. This demonstrates the correlation between the environment and community, with the damage it causes to the social fabric.

In Colombia, areas historically recognized as hubs for intensive tree felling possess strategic characteristics that have enabled criminal groups to carry out their operations. These groups engage in violent activities that undermine the social conditions of surrounding communities and, gradually, the entire nation (Cardona Giraldo, 2021).

These processes of environmental damage due to the felling of trees have been, in recent years, part of the new center of attention for the State and governmental and non-governmental organizations that have sought to once again position the environment as the backbone of human development. Under these conditions, it has been essential to establish new actions to comprehensively remediate cases of deforestation that have precedents in society. Among the most notable actions are Operation Artemisa and the Action Plan aimed at reducing deforestation and facing the effects of climate change in the Colombian Amazon (STC 4360 de 2018) and initiatives for reforestation and restoration of watersheds through the planting of native trees in those areas that protect the region's water sources (Red de Árboles, 2019).

These actions have allowed for the integration of new national or community endeavors that seek to remediate not only the apparent physical damage to the environment but also its social, economic, cultural, and structural consequences. These have even been addressed by the law to guarantee the human rights of the population and meet its basic need for a healthy environment that allows it to develop (García, 2018). The social context in which the right to a healthy environment is asserted has international precedent. Various forums for discussing environmental harm and accountability have paved the way for states affiliated with organizations like the UN to constitutionally establish this concept—as both a right for the populace and a duty of care (Vernet i Llobet & Jaria Manzano, 2007).

These precedents underscore the urgent need to address deforestation in Colombia, which undermines the entire population's access to a healthy environment, quality of life, and sustainable development. Consequently, it is essential to review current reforestation efforts—examining the conditions under which they are implemented, evaluating both their positive and negative impacts, and fostering collaborative initiatives that benefit the environment and ultimately eradicate excessive deforestation.

Methods

To meet the objectives of this chapter, we will employ a qualitative methodology for identifying impacts, such as excessive action against the environment, especially deforestation in Colombia (González & Urieta, 2003). We will also review the actions that the national government has implemented to comprehensively remediate the damage caused by deforestation. Community actions that impact the recovery of the environment, such as damage due to the indiscriminate felling of trees by different groups in some regions of the country, will be highlighted.

Continuous data collection from primary and secondary sources reveals the reality of some regions of the country where deforestation occurs, its increase in recent years, and its social implications. Therefore, the documentation collected, its systematization, and analysis will provide a much broader panorama of this phenomenon (Molina & Garza, 2021).

The information collected with a qualitative methodology allows us to identify various parameters that expand the possibility of drawing much more accurate conclusions within the phenomenon concerned—an approach to the real problem, its possible causes, developments, and consequences in the short and long term (Hernández-Sampieri, 2018).

The research adopts an ecosystemic approach, proposing strategies that promote a harmonious balance between natural resource use and development processes. Their objective is to generate actions that protect ecosystem integrity and support coexistence with local communities while ensuring that any environmental damage is met with proportionate remediation measures (Vergara & Schlegel, 2017).

This approach will be used to review strategies for managing natural resources in an integrated manner, promoting their conservation and sustainable use while ensuring equity associated with environmental justice. This concept focuses on the fair distribution of resources and the remediation or compensation required from those whose actions may harm the environment or its resources, ensuring that such actions are proportional (Legarda & Buendía, 2011).

Therefore, implementing this concept, along with the research methodology, will enable a more objective analytical development. It will enhance our understanding of the problem, the actions taken to address it, the conditions in which these actions unfold, the social reality in which it occurs, and the consequences of deforestation on the communities closest to the phenomenon.

Results

Colombia is one of the most biodiverse countries on the planet. Its moors and forests have supported a variety of flora and fauna, thereby providing sufficient natural resources for the population's subsistence along with efficient natural renewal (Molina, 2011). Unfortunately, the excessive actions of humans beyond their notion of development have caused conditions to change continuously. The overuse of resources diminishes the natural regeneration of these resources, and the persistence of such actions without adequate remediation has resulted in environmental degradation that is nearly impossible to reverse (Cafferatta, 2010).

In addition to these dynamic processes, the conflict in Colombia has been a significant factor that has exacerbated damage to the rights of the population, including access to a healthy environment. These conditions have allowed environmental damage from various actions to escalate to a level where it risks becoming irreversible, potentially leading to generational harm as resources are continuously depleted (Quintero & Hernández, 2020).

Given this knowledge and context, it is clear that in recent years, the international system has undertaken various actions to address the issue of deforestation globally. Amid this global surge in acknowledging environmental impacts and

seeking solutions to this problem, we can discuss global governance. Initially, there was a limited focus on international governance frameworks or strategies, which have diminished in significance over the years due to ongoing transformations. Therefore, it is necessary to reassess this governance in situations where new environmental challenges require much more specialized international oversight (Dauvergne & Clapp, 2016). This highlights the significance that the global system places on environmental governance as a process of public deliberation for developing environmental policies. This involves formulation, execution, and evaluation with sector-specific impacts, as it represents a governance approach that acknowledges each phenomenon in a distinct manner (Molina, 2013).

Therefore, it is clear how this has global consequences and can lead to immeasurable and irreversible damage. Adhering to these international processes, programs, and projects that set internal regulations in Colombia is essential to address the issue. This approach aims to tackle what has occurred in the country and create comprehensive remediation efforts focused on achieving peace with the environment, particularly concerning environmental deforestation. Various organizations, including state agencies and internal collectives, have committed to developing initiatives that address the challenges related to reforestation needs in the country (Beltrán, 2021). Deforestation puts livelihoods at risk, causes severe consequences for the stability of populations that depend on forests, and encourages displacement, exacerbating harrying tensions (ACNUR, 2022).

Conditions in a country like Colombia have left different groups of the population at a disadvantage when it comes to facing deforestation, whether due to social conditions, economic stability, institutional presence, or otherwise. These elements must be addressed differentially in order to really develop comprehensive remediation actions for reforestation in the country (Mendoza et al., 2019).

Emphasizing the most vulnerable groups of this problem entails highlighting the undoubted dialectical relationship between peasants, Indigenous or aboriginal people, and the environment, considering the complex environmental knowledge, experience, wisdom, and magical-religious rituals (Altamirano, 2014) to preserve biodiversity over time. However, this population group resists tensions caused by the constant tragedy of the environment (Duque et al., 2014).

Without a doubt, deforestation is an environmental crime with a persistent trend, which takes accelerated steps toward the cataclysm of forested areas (ActionAid, 2020). Due to its destructive action, it directly produces an adverse socio-environmental effect, harms fauna and flora, and fragments the local communities that live the drama of seeing, experiencing, and participating in

the destruction of their habitat due to disinformation or the tactical pressure of intimidation from criminal agents.

In the forests and their surroundings, population settlements depend on natural resources to cover basic subsistence needs and maintain their quality of life. However, the driving factors of the devastation of ecological spaces destabilize the physical, mental, and psychological well-being of local peasants and Indigenous people.

Consequently, deforestation is a practice with a large-scale catalytic effect on the environment, which also spreads to the surrounding populations by triggering social problems such as poverty, territorial inequality, forced displacement, discrimination, destruction of social identity, decreased quality of life, diseases, fragility, loss of territories, violence, disregard for rights, internal cornering, loss of culture and the family unit (Ulloa et al., 2008), abandonment of values, disorderly conduct, and increased administrative corruption (Policía Nacional, Dirección de Antinarcóticos, 2014, p. 173).

From a more general perspective, it should be noted that deforestation is linked to the contamination of water basins, excessive soil erosion in coastal areas, the death of wild species, the burning of vegetation cover for the planting of illicit crops, pollution, the activities of extractive industries (gas, oil, wood, and mining, among others) and commercial agriculture, and forest degradation processes that negatively impact nature.

Likewise, it brings chaos to the population of rural areas due to changes in rainfall patterns, landslides, and floods, declines in harvests, incidences of infectious diseases, viruses, and bacteria, psychological impacts of the environmental effects, and little or no presence of the Colombian State. This results in an evident lack of social services aimed at satisfying the basic needs of the population (IIDH, 2009).

The relevance of comprehensively evaluating the effects of deforestation is evident, which allows for large-scale measures to mitigate environmental impacts and thus reduce risk factors for human settlements. Addressing remedial, restorative, protective, and guaranteeing actions for environmental rights, along with sustainable development strategies that mitigate the consequences of deforestation—particularly the impact on ecosystems vital to Colombian territory—brings attention to the strategies and actions that uphold environmental well-being, thereby implementing restorative justice in nature.

The final peace agreement led to areas of imperfect peace in regions where uncertainty persists, recognizing that the institutional capacity often cannot encompass the entire country due to a lack of necessary resources. This results in

disputes and the appropriation of these areas by illegal groups or irregular actors, primarily because of the economic benefits they offer (Dauvergne & Clapp, 2016). In these scenarios, only the presence of the Military Forces is usually recognized as the closest approach to the national government. Therefore, there should be a good relationship between the population and this part of security forces, seeking networks of cooperation and trust.

Places such as Urabá, Antioquia, and Chocó, among others, have a high presence of groups outside the law due to their geographical conditions and the ease of exploiting them to generate profits. Thus, the presence of security forces is vital to maintain peace and harmony within the territory, not only based on armed confrontations. Part of the Military Forces who are in these parts of the country provides education to raise people's awareness of environmental management and design new conservation strategies to contain and avoid the actions that continue to occur against Colombian water sources, tropical forests, fauna, and flora.

Although little mentioned, the Army carries out different activities through its brigades to try to remediate or contain the actions of these groups, including operational units such as the Brigade against Drug Trafficking and the Brigade against Illegal Mining or tactical units such as the High Mountain Battalions and the Jungle Battalions. Such activities aim to care for and protect the environment and the recovery of environmental zones where illegal actions occur that disproportionately affect citizens and the ecosystem.

Discussion

In Colombia, the actions taken by both the communities and the State have yet to effectively halt deforestation. Comprehensive remediation of damage as complex as that caused by the general population is challenging, but we must recognize that it is a step-by-step process. There are essential elements to replicate at both national and local levels to achieve a greater impact on environmental issues. These elements are crucial for implementing actions that can positively influence and reduce the ecological footprint caused by this type of activity for decades (Cuadros, 2015).

The first step is to acknowledge that over the years, various community actions and initiatives have emerged, even categorized as undertakings dedicated to establishing improved environmental conditions. These initiatives focus on

preventing excessive deforestation, which, if it continues as current figures indicate, will lead to conditions that increase societal precariousness. Certain elements essential for the population's survival begin to be altered due to environmental impacts, to the point where natural disasters may result in displacement. This empowers the community and fosters actions to address emerging needs and respond to these phenomena more effectively (Álvarez et al., 2006).

Some military actions are based on the technical capabilities and operations developed over years of study, along with activities that support civil authorities. For instance, Operation Artemisa aims to control deforestation and related issues, such as illegal mining, illicit crops, and illegal agricultural borders. These actions are taken by the Army to assist local governments in a decentralized state that assigns powers and responsibilities to entities focused on protecting their territories (Pastrana & Piñeros, 2020).

The acts for which the Army fosters cooperation are based on generating information through the Intelligence section, which identifies crimes, provides early warnings, and points to those responsible for these actions, thereby sharing this knowledge to assist local governments. Another method is prevention, through which, under the comprehensive action of coordination, projects are introduced to benefit communities, promote legal economies that support the environment, and aim to weaken ties with criminal groups. Additionally, the relationship between the national government, communities, and institutions such as security forces is strengthened (Romero, 2022).

Furthermore, the control of actions such as deforestation under this plan seeks offensive and defensive operations with inter-institutional coordination that contain these criminal advances by illegal groups to reduce crime, hoping to end these events definitively. The monitoring of control operations and other actions carried out within the identified areas that must be intervened for environmental care, the mitigation of the impact during reforestation days, and ecological restoration by the active Military Forces demonstrate their commitment to the environment and human security in all its spheres (Gómez, 2002).

Another notable project within the military actions that seek environmental care and recovery is "Sowing Frailejón," which aims to restore páramos through the reproduction of frailejones (espeletias). This remarkable project is led by the High Mountain Battalions, more specifically ten of them, which sow two species of frailejón, under environmental guidelines to recover the páramo ecosystem in the country. The assisted natural restoration of the Medellín hill is another project

that aims, from actions of the Military Base of the Infantry Battalion, to establish an environmental corridor by planting trees and fique. This project is conducted in cooperation with the Governor's Office of Antioquia, the Mayor's Office of Medellín, and Universidad San Tomás. This relationship between citizens and security forces encourages care and builds trust, determining new spaces of interaction and harmony between different groups of the population and the national territory (Pérez-Martínez & Velasco-Linares, 2021).

The project "Sowing Peace, Life, and Reforestation in Facatativá" aims to cultivate a culture of care and preservation of natural resources. This culture develops between the troops and the community through reforestation efforts and environmental education focused on three main themes: peace, life, and reforestation, facilitated by higher education institutions (HEIs) and municipal companies. These initiatives support environmental preservation and sustainable development.

In addition, the Military Aviation Project, which is based on sustainability and environmental friendliness, aims to measure the carbon footprint in airfields with the support of Fenalco Solidario Colombia. This joint action intends to address climate change and its effects through early warning of acts that damage the environment and education and awareness of such acts (Jaimes, 2020).

"Military Forest Nurseries" is another initiative through which military units support environmental authorities in afforestation and ecological restoration via nurseries, promoting closer relationships with environmental authorities and the wider community. This project is crucial for enabling military involvement in environmental care, showcasing the multitasking capability of the forces and their units, which aids in the protection and preservation of the environment alongside human security efforts. Finally, the Aero-Reforestation Plan seeks to replicate efforts from other countries for the swift propagation of seeds to rapidly reforest affected areas, particularly in Guaviare. This includes fieldwork for collecting seeds and the use of capsules containing fertilizer and clay, which are combined with the seeds to be dropped from helicopters. This method leverages effective afforestation in areas positively impacted by environmental initiatives (Gordon, 2022).

These are some of the acts carried out by the Military Forces to take care of the environment. It is essential to recognize these actions taken in the pursuit of maintaining harmony and peace in the territory from various areas, as the environment in the country is one of the critical issues that must be addressed. Understanding its significance is vital for different cultures and social groups to effectively develop and enjoy their rights, fostering smooth social relationships.

This highlights the importance of the work done by security forces, which, through their actions, safeguard all citizens' rights, including the right to a healthy environment, as stated by Article 4 of the Code of Civil Procedure (CPC): "Every person has the right to an adequate environment for their development and well-being" (CPC, 1991).

Caring for the environment as part of the Defense and Security Policy of the Republic of Colombia must be included in all public institutions. In this regard, the Defense sector has demonstrated its commitment through projects such as those mentioned. As indicated in this policy, the aim is for society to be equitable and for all citizens to enjoy the same opportunities and rights. Environmental conditions are also a factor that facilitates the formation of human capital thanks to an adequate environment of security and national defense guaranteed by the security force agents that transit the territory (Rodríguez, 2016).

In addition to the work conducted by the National Army on behalf of the Colombian State, it is important to highlight other actions and initiatives undertaken by various communities and groups dedicated to reforestation. The conditions for environmental care have improved, and developments have emerged in the country that aim to promote the protection and preservation of the environment, as well as to reduce the environmental footprint of excessive human activities.

A clear example of this is the Red de Árboles Foundation. This organization began its activities in 2015 and carries out voluntary reforestation activities that consist of repopulating areas to recover forests that were cut down, as well as actions to create a culture in companies associated with the *corporate social responsibility* concept. The Red de Árboles Foundation has partnered with different companies that have sought to improve environmental care from different angles, such as the conditions established by industries and their environmental responsibility, and to comprehensively remediate the damage caused (Flórez, 2021).

The Andean Amazon Monitoring Project is an action promoted by the IDEAM Forest Monitoring Group, the Sustainable Colombia Fund, and the Ministry of Environment and Sustainable Development. It seeks to fulfill the SDGs and hopes to take measures to combat the causes of deforestation through community consultation processes and undertakings, especially three National Natural Parks (NNP) of Colombia and Indigenous reserves (Sarmiento et al., 2015).

This project provides opportunities for the most vulnerable communities affected by deforestation, that is, the peasant and Indigenous communities, who, to a greater extent, inhabit the NNPs where the project takes place. It carries out ecological restoration activities, which allow for improving the excessive

deforestation occurring in a specific part of the national territory, including these parks. Comprehensive processes to remediate the damage caused are an essential part of this project to achieve the proposed objective of improving the environmental conditions of communities (García, 2012).

As part of other initiatives established in the country, the program co-financed by the German cooperation Kreditanstalt für Wiederaufbau (KfW) was developed and designed by the National Federation of Coffee Growers of Colombia. This program aims to encourage forestry as an alternative for improving livelihoods and contributing to the reforestation of the Province of Huila. Through this initiative, farmers are involved in reforestation and environmental care and strive to combat the significant loss of forest by conserving it and implementing forest plantations to create tree planting systems around coffee crops (Saavedra, 2018).

The tools developed in Huila through these actions implemented by groups that seek to improve environmental conditions and land use account for a community interested in solving social phenomena identified in the territory and adversely affecting part of the social fabric. With this process, Huila has been recently recognized for its reforestation efforts, reduction of this problem, and interest in creating a culture of environmental responsibility (Mosquera, 2020).

These internal actions, plans, and projects demonstrate how communities or social groups have been empowered in the fight against environmental damage. This responsibility has led them to generate comprehensive actions, driven by their understanding of the problem and a commitment to maintaining the territory they inhabit, as it provides them with the means of livelihood necessary for their daily development. It is also worth noting the sacred importance that certain Indigenous communities attribute to their territories and the traditions surrounding them.

To establish any project within the State or beyond, it is essential to consider the environmental, social, and economic indicators, which are fundamental when discussing the most critical elements for identifying the most effective actions. Therefore, it is important to determine how resources should be allocated consistently with the phenomena occurring in the territory, such as deforestation. While the aforementioned strategies are crucial, specific criteria and elements within the imposed projects must be enhanced to create effective actions (Charry et al., 2018).

The conditions in the country demonstrate that beyond merely complying with the SDGs, there is a need to enhance not only the country's environmental conditions but also the entire international system. This requires understanding the significance of Colombia in global biodiversity and, consequently, the necessity to preserve the diverse ecosystems within its national territory.

Conclusions

The various strategies recognized throughout the chapter address a problem that has become increasingly systematic and industrialized over the years, leading to prolonged damage to the population. This is why new actions were developed to contain and potentially eliminate it, reflecting the positive implications of policies and projects from both the State and local communities. This is a crucial aspect for enabling the comprehensive remediation of areas suffering from excessive deforestation caused by human activity.

The skills learned from the actions of the State, communities, and other organizations make specific points clear. First, it is essential to thoroughly understand the problem and its associated elements, especially the existence of groups operating outside the law, the cultivation of both illicit crops and crops unsuitable for the soil properties, extensive livestock farming, and other issues that, in various ways, contribute to deforestation. Without knowing the root cause of this problem and the context in which it occurs, it is almost impossible to solve it (Álzate Rodríguez, 2022).

Second, understanding the affected population is crucial for establishing any action based on the experiences of those facing the issue. This includes grasping the extent of the community most impacted by deforestation, identifying the factors that need to be addressed to eliminate or mitigate the problem, and recognizing the actions that the affected individuals believe would enhance their conditions and subsequently resolve the issue. This serves as a foundational element for comprehensive remediation that does not harm the community and, instead, provides them with the essential tools to address these actions that fail to improve conditions and, in fact, may exacerbate them, even affecting future generations.

Third, support networks should be built up. These actions only affect a portion of the national territory; they do not have the necessary impact to effectively eradicate the phenomenon, especially considering the complexities of the environment. Therefore, it is essential to strengthen the collaboration between state institutions and community actions, allowing for a more significant impact across the territory and improving conditions for a large part of it. This, in turn, will establish elements that provide greater guarantees for the rights of the population, such as the right to a healthy environment.

Fourth, similar to designing actions, a collaborative relationship must exist between the population and the institutions to implement projects, plans, or actions

that establish internal oversight, allowing us to understand whether the actions taken have the desired impact. Furthermore, we must recognize the factors that can be applied to continue addressing the problem and ensure that if not, the proposed action should be reevaluated and enhanced to achieve the desired objective.

These four points serve as a guide that can be effectively compared to what was recognized prior to the country's comprehensive actions being implemented. These points aimed at fostering cooperation between institutions and communities would facilitate efficient actions that help improve the overall environmental conditions for the population, taking into account the various contexts in which individuals can thrive and the externalities—both positive and negative—encountered to achieve the primary goal, in this instance, reforestation (Bernal et al., 2020).

The most compelling cases for minimizing deforestation in the country are tied to the actions of local communities. These communities, through their presence in this area of the national territory, are tasked with maintaining reforestation and implementing rigorous monitoring to support its progress and remediate environmental damage caused by humans. A prime example is the actions of Indigenous peoples who, due to their relationship with nature and concept of good living, undertake various initiatives to stay in harmony with the land and restore part of what the population enjoys (Acosta, 2022).

In addition to the previously mentioned elements, Colombia can implement an environmental education process as part of reforestation efforts. This process aims to instill attitudes and values in citizens, guiding them away from the culture of deforestation prevalent in certain regions of the country (Lezcano et al., 2018). Environmental education is a crucial foundation for developing a plan, policy, or action that goes beyond mere initiatives and is ingrained in the community's culture. This educational approach focuses on the connections between living beings and nature, which fosters environmental conservation or recovery through initiatives like interest in reforestation in Colombia (Franco, 2018).

Empirical reforestation that incorporates ancient knowledge, along with the modernization of improved processes, has led to small advancements in environmental conservation. By merging these innovative processes with technological enhancements and other new elements, we can effectively remediate various areas affected by excessive deforestation. Consequently, relying on technological advances that are economically supported by the State is essential to halt the mass felling of trees.

In summary, the remediation, restoration, and comprehensive recovery of the environment, ecosystems, and environmental conditions in territories affected by excessive deforestation in Colombia require the maintenance and enhancement of strategies established by the State. This emphasizes the role that the Military Forces have played through Jungle, High Mountain, and other battalions, as well as the involvement of the population and organizations dedicated to improving the affected environmental conditions and defending ecosystems. These efforts are crucial for the re-establishment of the damaged tree cover due to the multitude of crimes and factors contributing to the phenomenon of deforestation in Colombia.

References

- Acosta Fuentes, J. C. (2022). *La reparación integral de la naturaleza, pueblos y comunidades indígenas en el caso Sarayaku vs. Ecuador* [Bachelor's thesis, UCE].
- ActionAid. (2020). *Las comunidades campesinas gravemente afectadas por el aumento de la deforestación en regiones tropicales*. <https://n9.cl/gguvj>
- Altamirano, T. (2021). *Refugiados ambientales: Cambio climático y migración forzada*. Fondo Editorial de la PUCP.
- Alto Comisionado de las Naciones Unidas para los Refugiados (ACNUR). (2022). *Cambio climático y desplazamiento por desastres*. <https://n9.cl/cyftt>
- Alzate Rodríguez, L. (2022). *Análisis de la deforestación en Colombia desde la Curva Ambiental de Kuznets* [Bachelor's thesis, Universidad Nacional de Colombia].
- Beltrán Bustos, V. M. (2021). *Normatividad de la adjudicación de bienes baldíos: Un incentivo perverso a la deforestación en Colombia* [Doctoral dissertation, Universidad Externado de Colombia].
- Bernal Suárez, A. L., Pinzón Carreño, K. D., Gutiérrez Mejía, D. P., & Colmenares Botía, L. L. (2020). Oportunidades de desarrollo económico local que podrían potencializarse a través de la cooperación internacional, en el sector agrícola del municipio de Socha Boyacá. *Revista de Economía del Caribe*, (26), 66–94. <https://doi.org/10.14482/ecoca.26.338.98>
- Cafferatta, N. (2010). La responsabilidad por daño ambiental. In *Memorias del V Programa Regional de Capacitación en Derecho y Políticas Ambientales*.
- Cardona Giraldo, A. (2021). *Aproximación al impacto social de la estrategia educativa: Taller sobre deforestación en los municipios de Segovia, Remedios y Zaragoza, Antioquia, en el marco del proyecto "Alianza por la sostenibilidad y el cambio climático" de la Gobernación de Antioquia y WWF* [Project report].
- Charry, A., Jäger, M., Enciso, K., Romero, M., Sierra, L., Quintero, M., Hurtado, J. J., & Burkart, S. (2018). Cadenas de valor con enfoque ambiental y cero deforestación en la Amazonía colombiana: Oportunidades y retos para el mejoramiento sostenible de la competitividad regional. *CIAT Políticas en Síntesis*, (41). <https://hdl.handle.net/10568/97203>
- Cuadros, G. M. (2015). Conflictividad y desplazamiento ambiental: Elementos jurídico políticos de justicia ambiental y reparación a sociedades tradicionales. *Revista Catalana de Dret Ambiental*, 6(1). <https://doi.org/10.17345/rcda1528>
- Dauvergne, P., & Clapp, J. (2016). Researching global environmental politics in the 21st century. *Global Environmental Politics*, 16(1), 1–12. https://doi.org/10.1162/GLEP_e_00333
- Duque Quintero, S., Quintero, M., & Duque Quintero, M. (2014). La educación ambiental en comunidades rurales y la popularización del derecho a la conservación del entorno natural: El caso de la comunidad de pescadores en la ciénaga de Ayapel, Colombia. *Luna Azul*, 39(1). <https://doi.org/10.17151/luaz.2014.39.2>
- Fiscalía General de la Nación (FGN). (2022, junio 15). *Acciones investigativas de la Fiscalía han puesto en evidencia una deforestación que equivale a 8 925 canchas de fútbol*. <https://n9.cl/2uxmi>

- Flórez, Á. (2021). *Fortalecimiento integral de la estrategia comunicativa de la red social interna, externa y digital de la Fundación Red de Árboles* [Diplomado de course]. Repositorio Institucional UNAD.
- Franco, V. C. (2018). *Educación ambiental y conservación al medioambiente en la Institución Educativa Inicial N.º 032 Niño Jesús de Zárate – San Juan de Lurigancho, 2017* [Master's thesis, Universidad César Vallejo].
- García, E. (2018). El medioambiente sano: La consolidación de un derecho. *Iuris Tantum Revista Boliviana de Derecho*, (25), 550–569.
- Gómez, V. (2002). *Reflexiones sobre la seguridad nacional y la política exterior*. FLACSO.
- González, R., & Urieta, A. O. (2003). Método de evaluación cualitativa de impactos ambientales: Una propuesta. *Estudios y Perspectivas en Turismo*, 12(1), 79–92.
- Gordon, K. (2022). *Construcción de viveros en unidades militares del Ejército Nacional de Colombia, ubicados en ecosistemas estratégicos del país* [Bachelor's thesis, Universidad Jorge Tadeo Lozano].
- Hernández Sampieri, R. (2018). *Metodología de la investigación: las rutas cuantitativa, cualitativa y mixta* (5th ed.). McGraw-Hill.
- Instituto Interamericano de Derechos Humanos (IIDH). (2009). *Campaña educativa sobre derechos humanos y derechos indígenas: Módulo medioambiente y derechos indígenas desde la dimensión de la pobreza*. <https://n9.cl/fnm1dq>
- Jaimes, S. J. (2020). *Análisis de factibilidad para la implementación de biocombustibles en la aeronave T-90 Calima de la Fuerza Aérea Colombiana*. <http://hdl.handle.net/10654/37215>
- Legarda, A. A., & Buendía, M. P. (2011). Justicia ambiental: El estado de la cuestión. *Revista Internacional de Sociología*, 69(3), 627–648. <https://doi.org/10.3989/ris.2009.12.210>
- Lezcano, A. M., Suero, L., & Garbizo, N. (2018). Proceso de gestión de la educación ambiental comunitaria. *Apuntes Para un Debate*. <https://n9.cl/yzv90>
- Mendoza, C., Mendoza, L., González, Y., Gómez, I., & Burgos, Y. (2019). Caracterización de la especie *Chrysobalanus icaco* como alternativa de reforestación para mitigar procesos de erosión costera: Estudio de caso en el departamento de Bolívar Colombia. *Investigación e Innovación en Ingenierías*, 7(1), 6–33. <https://doi.org/10.17081/invinno.7.1.3129>
- Molina Orjuela, D. (2013). Turismo rural y gobernanza ambiental: Conceptos divergentes en países desarrollados y países en vías de desarrollo. *Turismo y Sociedad*, 14, 215–235. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2435341
- Molina, A. A. S., & Garza, A. M. (2021). Enfoques metodológicos en la investigación histórica: Cuantitativa, cualitativa y comparativa. *Debates por la Historia*, 9(2), 147–181. <https://doi.org/10.54167/debates-por-la-historia.v9i2.792>
- Mosquera Salazar, J. (2020). *Reforestación de la quebrada Las Toldas, vereda Las Toldas municipio La Argentina–Huila* [Bachelor's thesis, UNAL]. <http://hdl.handle.net/11371/3073>
- Pastrana, E., & Piñeros, D. (2020). La identidad y los intereses nacionales. *Identidad*, 21.

- Pérez Martínez, L. V., & Velasco Linares, P. (2021). *Viveros de páramo para la restauración ecológica*. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt.
- Policía Nacional, Dirección de Antinarcóticos. (2014). *Coca: Deforestación, contaminación y pobreza. Acercamiento a la actividad agronómica y la problemática ambiental de los cultivos de coca en Colombia*. <https://n9.cl/a6dbgg>
- Quintero, C. A. M., & Hernández, J. G. V. (2020). Los conflictos socioambientales en Colombia en el contexto de las licencias ambientales y el acceso a la justicia. *Jurídicas*, 17(1), 42–63. <https://doi.org/10.17151/jurid.2020.17.1.3>
- Red de Árboles. (2019). *3 principales proyectos de reforestación en Colombia*. <https://n9.cl/q9a0e>
- Rodríguez, M. (2016). *Análisis de las ejecuciones extrajudiciales en Colombia en un contexto de seguridad democrática* [Doctoral dissertation, Universidad del Rosario].
- Romero Peña, N. C. (2022). *Práctica empresarial sobre programa de reforestación de la Décima Primera Brigada y batallón de servicios* [Project report]. <https://n9.cl/nz47ru>
- Saavedra, A. (2018, August 1). Huila: La tierra donde siembran madera para conservar bosques nativos. *El Tiempo*. <https://n9.cl/v6wjjs>
- Sarmiento, M., Buitrago, L., Cardona, W., Sarmiento, A. M., Forero, G., Ríos, C., & Victurine, R. (2015). *Orientaciones para el diseño e implementación efectiva de planes de compensación ambiental en la Amazonía Andina de Colombia, Ecuador y Perú*. Wildlife Conservation Society [WCS] Colombia.
- Ulloa, A., Escobar, E., Donato, L., & Escobar, P. (2008). *Mujeres indígenas y cambio climático: Perspectivas latinoamericanas*. UNAL; Fundación Natura de Colombia; UNODC. <https://n9.cl/a3nyu>
- Vergara Asenjo, G. E., & Schlegel Heldt, B. C. (2017). Degradación forestal: Enfoques conceptuales y sus implicancias para Chile. *Ciencia & Investigación Forestal*, 23(3), 73–84. <https://doi.org/10.52904/0718-4646.2017.487>
- Vernet i Llobet, J., & Jaria Manzano, J. (2007). El derecho a un medioambiente sano: Su reconocimiento en el constitucionalismo comparado y en el derecho internacional. *Teoría y Realidad Constitucional*, (20), 513–533. <https://doi.org/10.5944/trc.20.2007.6774>