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Integrating corruption considerations into Nationally Determined Contributions

Insights from Colombia's climate adaptation efforts at the local level

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Colombia's Nationally Determined Contributions have placed a great deal of responsibility on municipal governments to deliver adaptation and mitigation responses to climate change. However, flawed models of participation – and an ongoing default towards 'grey' infrastructure – invite corruption into the process, and leave local governments poorly equipped to deal with the enormity of climate change. This paper recommends ways forward for national and local government, and every level of decision making.

Main points

- Local governments are a vital link in the chain of climate change adaptation and mitigation action. They are the ultimate level at which climate impacts, such as natural hazards, are experienced, and they can be an effective level at which to tackle them.
- Colombia's latest Nationally Determined Contribution devolved many tasks and responsibilities to subnational and municipal governments. Among the sectors Colombia has prioritised in its NDC, the most vulnerable to corruption are environment, transport, and water and sanitation.
- Nationally Determined Contributions can open the door for corruption at the local level, including through flawed models of participation and a restricted civic space, and poor conditions for whistleblowing, reporting and protection.
- Local governments in Colombia and elsewhere are simply not equipped to meet their responsibilities under the NDCs, or to plan and implement climate-related policies. They lack institutional and financial capacity, and face enormous external challenges.
- Deforestation is a significant issue for local government in Colombia, creating a cycle of corruption. Organised criminals, officials and others facilitate deforestation, and the militarised response of the central government brings additional problems.
- Specific recommendations for national government, local government, private sector and donors involve improving transparency, dialogue, inclusion and participation at every level of decision making as critical ways of reducing corruption.
- 'Grey' (physical) infrastructure should not be the default mode for adaptation schemes. They rely on materials and construction processes that are open to corrupt actors. Nature-based solutions should be preferred, as they can be more effective, and less prone to corruption.

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Abbreviations

CAF

Development Bank of Latin America

CAM

Climate Adaptation and Mitigation

CAR

Corporación Autónoma Regional
Regional Environmental Authority

CO₂

Carbon dioxide

COP

Colombian peso

CORALINA

Corporación para el Desarrollo Sostenible del Archipiélago de San Andrés, Providencia y Santa Catalina
Environmental Regional Authority for the Archipelago of San Andrés, Providencia y Santa Catalina

CORPOCALDAS

Corporación Autónoma Regional de Caldas
Regional Environmental Authority for Caldas

CSC

Competitive and Sustainable Cities Programme

CVS
Corporación Autónoma Regional del Valle del Sinú y San Jorge
Regional Environmental Authority for the Sinú and San Jorge Valley

DANE
Departamento Administrativo Nacional de Estadística
National Statistics Agency

DRM
Disaster risk management

GHG
Greenhouse gas emissions

UN-Habitat
United Nations Human Settlement Programme

IDB
Inter-American Development Bank

IDEA
Instituto de Estudios Ambientales
Institute of Environmental Studies

IDEAM
Instituto de Estudios Ambientales, Hidrología and Meteorología
Institute for Environmental Studies, Hydrology and Meteorology

MGS
Multi-level governance system

NBS
Nature-based solutions

NDC
Nationally Determined Contribution

NGO
Non-governmental organization

OECD
Organisation for Economic Co-operation and Development

PDET
Programas de Desarrollo con Enfoque Territorial
Development Programs with Territorial Focus

POT
Plan de Ordenamiento Territorial
Territorial and ordering plan

TM
Transparency mechanism

UN
United Nations

UNDP
United Nations Development Programme

UNFCCC
United Nations Convention on Climate Change

UNODC
United Nations Office on Drugs and Crime

US
United States

WWF
World Wide Fund for Nature

Introduction

Urban areas should be at the forefront of efforts to tackle the climate crisis. Cities account for 70% of global CO₂ emissions from energy use and consume 78% of the world's energy. These two indicators are even expected to rise as urbanisation grows:¹ the share of the world's population living in cities is projected to increase from 50% in 2020 to around 70% by 2050.

According to the Cities Climate Finance Leadership Alliance,² 70% of the world's cities are already experiencing the impact of climate change on their inhabitants. On top of that, climate change has catalysed inequality in cities as its less well-off dwellers often live and work in informal settlements highly vulnerable to climate hazards.³ Cities will also suffer hardest from more frequent and severe extreme weather events, such as flooding and heatwaves, due to population concentration and poor infrastructure quality. These extreme weather events will also lead to yet higher levels of air pollution.

Climate change adaptation planning and policy on the local level include measures to maintain or improve water quality, minimise or avoid the impact of natural hazards, and maintain or restore landscape structure, composition and function.

Urban governance constitutes a crucial piece of the climate response puzzle. For many people, local government is the closest democratic institution for assessing, planning and implementing adaptation policy, tailored to the social and environmental context in which they are located.⁴ Indeed, in many cases local governments are required to design and implement climate change adaptation and mitigation plans. Climate change adaptation planning and policy on the local level include measures to maintain or improve water quality,

1. Cities Climate Finance Leadership Alliance 2021.

2. 2021.

3. Islam, Walkerden, and Amati 2017; The World Bank Group 2011.

4. Hoff and Strobel 2013.

minimise or avoid the impact of natural hazards, and maintain or restore landscape structure, composition and function.

The 2015 Paris Agreement represents a paradigm shift in climate governance. It shifted away from mandatory national commitments to voluntary contributions through NDCs to achieve the long-term goal of limiting global warming to ideally 1.5°C above pre-industrial levels. NDCs make up national governments' actions to reduce national emissions and adapt to climate change impacts. The Paris Agreement requests that each country draft, communicate and maintain NDCs every five years in the run-up to the conference of the parties (COP). Furthermore, it acknowledges that the ambition of the long-term goals will be scaled up over time, requiring countries to ratchet up collective and individual ambition. NDCs are divided into adaptation and mitigation actions; the participation of municipalities in both aspects is vital, as they are the ultimate scale at which climate change effects materialise.

A strengthened role for local governments in fulfilling NDCs is visible in Colombia's latest communication from 2020. There, Colombia seeks to become carbon neutral by 2050 and reach half-way to net zero by 2030. The commitment is divided into 148 mitigation actions and 30 adaptation actions. Of these, 32 are overseen by the central government, 89 by subnational governments, and 24 by the private sector. As Table 3 shows, a large portion of these actions pertain to sectors like water and sanitation, disaster risk management, environmental governance, and adaptation planning.

As the literature has posited, tackling climate change on the local level will prove challenging in many developing countries due to existing pressures on resources and institutional capacity.⁵ As U4 research has shown, corruption can affect priority climate ambitions such as reducing greenhouse gas (GHG) emissions, achieving optimal mitigation, and ensuring access to climate finance.⁶ If local government is to fulfil climate commitments laid out in international agreements and national strategies it is important that corruption challenges are considered and addressed. Hence, throughout this paper we seek to unpack corruption challenges in Colombia's NDC-prioritised sectors, given their prominence in local governments' tasks. In doing so, we rely on insights from two mid-sized Colombian cities, which we have used as case studies: Manizales and Montería. Besides, we aim to shed light on local governments'

5. Pasquini, Cowling, and Ziervogel 2013.

6. Nest, Mullard, and Wathne 2020.

approaches to adaptation governance and extract lessons with a potential to foster corruption breaks in adaptation efforts.

Our findings suggest various entry points for corruption in the sectors prioritised by the NDC. As regards the environment sector of the NDC, flawed prior consultation and environmental participation have severely restricted civic space and opportunities for whistleblowing. Precisely, a major concern remains the lack of basic conditions for corruption reporting, whistleblowing, and social accountability, especially in areas of limited state presence. Absent participatory mechanisms and incentives render areas of special environmental interest, such as wetlands, rainforests and mangroves, severely unprotected, and might also jeopardise climate mitigation. Our work also identifies public procurement as an area to focus on since large sums for adaptation will be awarded and executed to fulfil tasks assigned to local governments in the context of the NDC. In sum, we found that local governments are ill-equipped to design and implement responses to the impacts of climate change.

This paper refers to the existing literature on corruption in climate projects, which is far from exhaustive. There are several indications of the types of corruption and the systems of corruption that can jeopardise climate action. For example, the case of bribery and collusion between private developers and local councillors to bypass local planning regulations in the construction of the Jakarta bay dyke (a project designed to prevent the flooding of Jakarta due to sea-level rises) demonstrates how the interface between private contractors and the public sector remains a pertinent issue for climate mitigation projects.⁷

The remainder of the paper is structured as follows: Section 1 describes the role of local governments in climate adaptation, with a focus on NDCs. Section 2 looks at the link between corruption and environmental performance at the local level. Section 3 introduces Colombia as a case study, the role of local governments in environmental affairs, and situates the country within the global challenge of climate change. Section 4 delves into a set of conditions that might feed into corruption in climate change adaptation sectors prioritised by the NDC, as does Section 5 with a view into corruption risks and specific instances from our two mid-sized case study cities. Finally, Section 6 presents a conclusion and lays out recommendations.

7. Nest, Mullard, and Wathne 2020.

Methodology

This paper addresses the following research question:

What corruption challenges do Colombia's local governments face within the NDC-prioritised sectors?

To answer the research question, this report relies on qualitative data analysis strategies. We conducted seven semi-structured interviews with key informants. Interviews took place throughout January and February 2022, remotely via Zoom, and participants were contacted by email. On average, the interviews lasted between 30 and 50 minutes and were conducted in Spanish. Interviews were recorded with the permission of the participants, who were told at the beginning about the full scope of the study, the commissioning organisation, the objectives, and the interview mechanics. They were also assured of full confidentiality. Interviews were transcribed, manually coded, and analysed using the qualitative data analysis software NVivo. Transcribed texts were coded by labelling related data with several category codes. Then, coding categories were combined, divided, or eliminated to identify repeating overarching themes and ideas that connected codes. Through interviews, we investigated, among others, issues such as:

- Corruption risks and corrupt acts in climate change adaptation at the local level.
- Drivers of corruption risks and corrupt actions in climate change adaptation at the local level.
- Initiatives or approaches to mitigate corruption risks and lessons learned.
- Recommendations to prevent, investigate and sanction corruption in climate change adaptation.

We identified a total of 20 organisations to contact for an interview, as Table 1 illustrates. Upon contacting them, we narrowed down the list to eight organisations (see Table 2), ensuring the participation of at least one representative from each sector outlined in Table 1. We also strived to reflect gender parity in sampling interview participants by ensuring the participation of five (out of nine) female interviewees.

Table 1. Institutional sampling for expert research interviews

No.	Sector	Organisation
1	Academia	Institute of Environmental Studies (IDEA Manizales)
2	Civil society	Transparency International Colombia
3	Civil society	Dejusticia
4	Civil society	World Wildlife Fund (WWF) Colombia
5	Civil society	World Resources Institute (WRI) Colombia
6	Civil society	Cordupaz – Peace and Development Programme for Córdoba and Urabá
7	Expert	Climate Focus Colombia
8	Expert	CEO Ecología, Economía y Ética
9	Media	La Silla Vacía
10	Media	La Patria
11	Multilaterals	UNODC Colombia
12	Multilaterals	CAF – Development Bank of Latin America
13	Multilaterals	Impact Investing for a Regenerative Economy & Re-wilding of the Finance Sector
14	Public sector	Ministry of Planning/Government Division
14	Public sector	Ministry of Planning/Environment Division
15	Public sector	Transparency Secretariat
16	Public sector	Ministry of Environment/Climate Change Division
17	Public sector	Mayorality of Montería
18	Public sector	Mayorality of Manizales
19	Public sector	Institute for Environmental Studies, Hydrology and Meteorology (IDEAM)
20	Public sector	Attorney General's Office

Table 2. Expert interview participants

Identifier	Institution type
R01	Expert/private sector
R02	Civil society
R03	Civil society
R04	Expert/independent
R05	Media
R06	Academia
R07	Public sector
R08	Public sector
R09	Public sector

To help validate the interview data, we also gathered and reviewed key documents such as reports, institutional documents, policy evaluations, audits, press articles, institutional guides, and handbooks, as well as policy drafts.

Case selection

The paper draws upon a case analysis of two mid-sized Colombian cities. According to the US National Intelligence Council,⁸ Colombia ranks among the 11 countries of greatest concern when it comes to climate change, as it is highly vulnerable to its physical effects and lacks the capacity to adapt. Besides, Colombia is a priority country for several U4 partners. In 2021 alone, Norway, Germany and the UK combined granted US\$366 million to end deforestation.

A vast, decentralised country, Colombia offers a suitable setting for conducting this study as the national strategy on climate change relies heavily on local governments' role, capacity and infrastructure. For instance, its Nationally Determined Contribution (NDC), presented at COP26, assigns 89 key responsibilities to local governments, in areas such as water, sanitation and public transport, whereas 30 are restricted to the central government.

8. 2021.

The study focuses on the cities of Montería (Caribbean region) and Manizales (Andean region) and draws upon relevant literature on municipal governance in these regions. With populations of nearly 400,000, both cities are deemed highly vulnerable to natural hazards, yet face different risk sources: flooding/drought for Montería and landslides for Manizales. The two municipalities comprise both urban and rural, forested areas, and cover nature reserves and national parks, which are subject to special environmental protection by legal mandate. Besides, as their adaptation approaches differ, we used this variation to give a broad picture of corruption challenges in dissimilar adaptation strategies.

1. The role of local governments in climate change adaptation

Climate change constitutes a global issue that demands action from all levels of governance. Indeed, the 2015 Paris Agreement introduced a bottom-up approach to climate governance, shifting away from the top-down, nation-state-based scheme of the 1998 Kyoto Protocol, based on legally binding agreements. Since Paris, political actors decide for themselves through Nationally Determined Contributions (NDCs). There, signatories to the United Nations Framework Convention on Climate Change (UNFCCC) lay out climate mitigation and adaptation ambitions. National commitments are universal, periodical and incremental, with countries ratcheting up efforts collectively and individually every five years. NDCs further develop the notion of climate change as a ‘wicked issue’ that demands the involvement of multiple levels of governance. Therefore, designing, fulfilling and following up on national commitments requires collaboration between national and subnational governments.

The need for local action to tackle, mitigate and adapt to climate change has been increasingly recognised. Three reasons explain why local efforts have gained momentum: i) climate change ultimately manifests at local and regional levels; ii) local climate governance results from a ‘subsidiarity principle’, which requires the lowest relevant level of governance to face a challenge; and iii) local settlements represent the scale at which individuals’ behaviour is more directly influenced.⁹

9. Pasquini and Shearing 2014.

Research from developed countries suggests that cities with climate plans have greater success in reducing GHG emissions than their counterparts without such plans.

Local governments bear the responsibility to face climate change effects via adaptation planning.¹⁰ Given devolved competencies, municipalities are accountable for a wide range of policy areas, core functions, and services such as land-use planning, utility provision, transportation infrastructure development, waste management, community education, disaster management, health care and environmental management. Research from developed countries suggests that cities with climate plans have greater success in reducing GHG emissions than their counterparts without such plans.¹¹

However, local governments worldwide are ill-prepared to confront the complex challenges of climate change. The policy context in which local governments operate plays a key role in shaping local adaptation responses. Many developing countries suffer from resource and capacity constraints and these make mainstreaming climate and environmental issues challenging.¹² Besides, adaptation decisions at the local level hardly occur independently of national-level policies. Policies not related to climate change can influence the capacity to develop adaptation responses at this scale. Research on developed countries casts doubt on the capacity of local governments to implement effective local adaptation plans.¹³

A major challenge local governments face stems from a lack of scientific information at a scale relevant to local planning. At this level, climate change vulnerability is not only driven by climate impacts but also socio-economic factors, demographic shifts and trends, and current resource accessibility. Analysis of non-climate determinants, local knowledge and history, and contextual factors are largely lacking in projections of vulnerability to climate change in the plans. Local governments face several constraints, including knowledge and understanding barriers, regulatory barriers and capacity constraints, among others. Besides, research indicates how political factors can

10. Measham et al. 2011.

11. Millard-Ball 2011; Torabi, Dedekorkut-Howes, and Howes 2017.

12. Pasquini and Shearing 2014.

13. Azevedo and Leal 2020.

challenge the functioning of municipalities and thus their ability to handle climate change issues.¹⁴

2. Corruption and environmental performance at the local level: Why is there a connection?

Corruption is an elusive concept. As a multi-faceted phenomenon, its definitions might surface from normative assessments: It could overlap with ethical breaches or be distinguishable according to what legislation deems ‘corrupt’.¹⁵ Hence, what falls under any notion of corruption risks being highly context-based and time-variant. There have been several attempts from scholars at offering an encompassing definition. Nye’s classical concept from 1967 reads: ‘Behavior which deviates from the formal duty of a public role because of private-regarding gains (personal, family-based, private, pecuniary, or status); or violates rules against the exercise of private-regarding influence’.¹⁶ However, the use of terms such as ‘rules’ and ‘formal duty’ has met harsh criticism as corruption could be embedded in formal rules seeking special favour for private interests.¹⁷

The academic debate on the meaning of corruption has resulted in a more satisfactory notion, to which this paper adheres: ‘The abuse of entrusted power for private gain’.¹⁸ It is not the purpose of this paper to enter the debate over corruption definitions. It suffices to point out that numerous scholars, international, and civil society organisations have developed their agendas upon this concept.¹⁹ Yet, the conventional definition of corruption seems to leave several disparate topics under the same notion, making it crucial to distinguish among its main typologies.

Local governments oversee a wide range of responsibilities relating partially or wholly to climate adaptation. Local governments’ regulatory, enforcement, procurement and oversight powers can be the targets of organised interests who have high stakes in public goods provision and service delivery in environmental affairs. For instance, firms and businesspeople can exert undue influence on the

14. Pasquini and Shearing 2014.

15. Milani 2019.

16. Mungiu-Pippidi 2015, 11.

17. Kaufmann and Vicente 2011; Mungiu-Pippidi 2015; Thompson 2018.

18. Mungiu-Pippidi 2015; Rose-Ackerman 1996; Tanzi 1998; Transparency International 2019.

19. Heywood 2017; Huther and Shah 2000.

local government regarding pollution by demanding favourable pollution taxes.²⁰ Besides, public procurement needed for climate adaptation, such as building 'grey' or physical infrastructure, can be siphoned off via kickbacks and price overruns, to the detriment of good provision and public service delivery.

Corruption hollows out the stringency of environmental regulation and the effectiveness of enforcement and oversight. Companies in pollution-intensive sectors can resort to kickbacks and bribery to push through policies that directly or indirectly affect the environment, postpone environmental directives, and overlook inspections.²¹ Climate financing can be diverted and allocated to private pockets or organised interests, especially in the haste of climate finance channelled to developing countries.²² The impact of corruption on environmental quality is mediated by the strength of lobby groups. Environmental lobbying leads to the ratification of international climate agreements in all but the most corruption-prone countries. There, in turn, corruption explains the reluctance to adhere to climate accords.²³ Corruption can manifest by either placing certain policies on the agenda or impeding progress on the climate agenda.

Consider the case of Bangladesh, a country highly vulnerable to climate change given its geographic location and a lack of capacity to adapt. Recent research zooms into the role of corruption in climate relief efforts.²⁴ There, the local government provides significant support (relief distribution, livelihood assistance, and construction of major community services) to cyclone-affected villages. Nevertheless, patronage relationships, such as favouring political supporters, and bribery determine how those responsibilities are executed, resulting in reduced equity and relief inefficiency. Besides, corruption takes a toll on ultra-poor households as natural-hazard preparedness in areas prone to such hazards is reduced. In the aftermath of cyclone Aila, in 2009, 99% of households reported losses from corrupt practices in relief interventions ranging from food supplies to public work reconstruction. In turn, the wealthiest groups were affected by corruption in post-disaster efforts.

Research from Bangladesh also indicates that the participation of major stakeholders from the private sector might be instrumental in curbing

20. Hu et al. 2021.

21. Hu et al. 2021.

22. Nest, Mullard, and Wathne 2020.

23. Dincer and Fredriksson 2018.

24. Islam, Walkerden, and Amati 2017.

corruption in hazard-prone regions.²⁵ Digging into four project sites (two embankments and two cyclone shelters), Khan et al. found that corruption is less prevalent in areas where participation of influential land-and-business owners in monitoring – and community engagement in general (in monitoring projects) – is more robust. Furthermore, local involvement is linked to the extent and distribution of dual-use benefits of climate investments, such as embankments used as roads, cyclone shelters as schools, and offices as community centres. Participation of above median-income people (especially in informal contexts) triggers the involvement of other citizens, resulting in more effective anti-corruption efforts. Along these lines, the dual use of climate investments for local communities can foster anti-corruption and the involvement of local communities in the project design phase. Development partners should therefore ensure that projects consider alternative designs for location, specification and uses, and select designs that ensure dual-use community services. In contexts of weak formal governance, informal pressures are an effective way of constraining corruption while the rule of law is strengthened.

Research suggests that public participation, in connection with community engagement, leads to higher quality adaptation planning, and is more likely to be implemented and maintained.

Participation and civic engagement also help ensure sustainability and effectiveness. Citizen participation is highly functional to adaptation planning, sustainability and quality. Earlier research suggests that public participation, in connection with community engagement, leads to higher quality adaptation planning, and is more likely to be implemented and maintained.²⁶ A budget increase and a higher number of funding sources might lead to higher engagement in policy changes and a successful implementation of climate projects.²⁷ In Tunisia, NGOs receiving funds from international organisations and cooperating with the government are more likely to be involved in climate change actions, policy, negotiations and community projects. However, they often lack the financial resources to simultaneously undertake several tasks. It is noteworthy that the contributions of NGOs become more relevant in the

25. Khan et al. 2020.

26. Youssef 2021.

27. Youssef 2021.

contexts of crises and extreme climate-related events as they tend to have better knowledge of local communities and resilience building.

Yet internal measures must accompany participatory planning.²⁸ In China, provinces have set up special task forces on climate change, research plans, and mitigation and adaptation measures. Nonetheless, local officials long lacked interest in tackling climate change, assuming this would cost substantial economic growth and affect their performance evaluations. They assumed this would jeopardise their political career prospects. The preference for climate policy hesitancy suffered a U-turn in 2007 and reducing energy intensity began to be considered not only as an evaluation item in performance evaluations but also an input for the promotion of local officials. Some provinces used a veto mechanism and punished localities for not reaching their energy-intensity reduction targets, even if they did well in other policy areas.

3. Setting the scene: Colombia's local level as a case study

Box 1. Colombia's multi-level governance system (MGS)

Colombia is a presidential, unitary state with a multi-level governance (MGS) system. It consists of three layers of directly elected authorities. Besides the central government, the subnational level consists of two government tiers: Municipalities (*municipios*) and departments (*departamentos*). On the local level, there are 1,103 municipalities, including the capital district of Bogotá, and at the intermediate level 32 departments (San Andrés, Providencia and Santa Catalina, are classified as both departments *and* municipalities). Municipality sizes range from 976 to 7.9 million inhabitants, with an average of 43,759 inhabitants per municipality. At the intermediate level, the smallest department has 40,797 inhabitants and the largest 8.1 million, with an average of 1.3 million inhabitants (Centro de Estudios sobre Desarrollo Económico (CEDE) 2020).

By constitutional mandate, municipalities are the main level of Colombia's public administration. Municipalities provide a wide range of public services such as primary and secondary schooling and nutrition, health care, and care for the elderly. They also provide social services for minorities like victims of the armed conflict, displaced people, ethnocultural groups and the rural population.

28. Hu et al. 2021.

Local governments are also responsible for public infrastructure, sanitation and sewage, water supply, housing, citizen security, physical planning, land use and building permits. Since most of these government functions are carried out on behalf of the central government, municipalities have been regarded as the single conduit for central government's spending priorities.²⁹

According to Martínez,³⁰ municipal revenues originate mainly from a formula-based transfer system from the central government named *Sistema General de Participaciones*, which makes up 63% of total municipality revenue. The average share of total municipality revenues generated by local taxes (property tax, business tax and the oil surcharge) equates to 13%. The third main source is royalties from natural-resource extraction (mainly oil and coal). By 2017, the last year for which there are consolidated records, the local government's share in government revenue totalled 17%, yet investment by local governments accounted for 45% of overall government investment.³¹ A year before, subnational governments accounted for 51% of total public procurement, which equated to 41.4 trillion Colombian pesos (COP) (US\$14.02 billion).^{32, 33} The main challenge for most municipalities remains access to sewage and gas connections: In 2018, 56.6% of Colombian households were connected to sewer systems and 66.8% had gas service.³⁴

Municipalities oversee a wide range of duties in environmental and natural resource protection. According to Article 65 of Law 99 of 1993, municipalities' tasks in the field of environment and natural resources might be grouped in three areas: **multi-level coordination, regulation, and oversight and enforcement**. Regarding multi-level coordination, municipalities make up the lowest implementing layer of national policies, programmes and strategies, in close consultation with state- and regional-level peers. Close cooperation is also mandated with Regional Environmental Authorities (*Corporaciones Autónomas Regionales*, or CAR), public, autonomous bodies overseeing natural-resource protection and environmental management of regional ecosystems. As regards regulation, the local level supervises land-use planning and permits, as well as environmental control, preservation and protection rules.

29. López 2016.

30. 2016.

31. OECD 2020.

32. Author's own calculation, based on the average exchange rate of US\$2,951.32 COP in 2018.

33. Saavedra and Conde 2018.

34. DANE 2018.

Finally, a set of tasks focuses on oversight and enforcement. Municipalities oversee the control, conservation and protection of local natural heritage, in cooperation with the local police. In doing so, they are mandated to:

- Perform inspections over works involving natural resource extraction and usage.
- Enforce compliance with regulations on natural resources and pollutants management, with a special focus on transport, usage, exploitation, and trade.
- Clean up rivers and water sources and remove pollutants from nature reserves.
- Ensure prevention, relief and protection against natural hazards and recovery of affected areas.
- Control GHG emissions.
- Promote, finance and execute irrigation and sewage.

Given the breadth of these tasks, corruption in local natural resource and environmental management has been commonplace.³⁵ For instance, in 2019, the mayor of California (Santander) was convicted over accusations of illegally facilitating gold mining in the protected ‘Santurban’ wetland. The prosecutor’s office determined that the mayor and his associates bypassed safety checks, allowing pollutants to be released into the air and rivers, upon which neighbouring municipalities depend for water. According to the prosecutor, the activities were backed by several public officials who overlooked safety checks and accessed explosives to blow up the sinkholes. Army officials were also convicted over the same charges.

Public procurement forms a major government function used to embezzle public resources and overlook regulations.

Public procurement forms a major government function used to embezzle public resources and overlook regulations. In 2018, the mayor and the secretary of planning for Suárez (Cauca) were found guilty of polluting, via illegal mining, a rural village stretching between the Guachicono and Patia rivers. Considering the prosecutorial documentation, the mayor awarded and liquidated a related public tender for sand extraction and provision, despite its failure to comply

35. Monitor Ciudadano de la Corrupción 2022.

with all legal provisions. Similarly, the local secretary of planning was accused of forging paperwork and faking payments to contractors for undelivered work and issuing sand exploitation licenses that overlooked environmental protection standards.

Emergencies triggered by natural hazards can also facilitate corruption at the local level from the public sector front. The mayor of Mogotes (Santander) signed a contract to procure reforestation services worth COP104 million (US\$23,500). The prosecutor's office found that the procured services were not fully delivered, which earned the mayor a formal accusation of embezzlement. Relatedly, Jamundí's mayor (Valle del Cauca) declared 'a public calamity' in the aftermath of two natural disasters (severe rainfall and flooding) affecting various parts of the town. This triggered a rule that relaxes public procurement processes in the face of certain emergencies and crises. Following investigations by audit institutions, the Comptroller's Office and the Prosecutor's Office alleged the official had fraudulently benefited from the local emergency. He had directly awarded a series of public tenders totaling COP800 million (US\$200,000) to procure services and goods unrelated to the emergency, under the relaxed public procurement rules. The mayor and the secretary of infrastructure were convicted of awarding public tenders bypassing select legal requirements.

The context concerning climate change adaptation and mitigation

Colombia hosts 10% of the world's biodiversity in an area that makes up only 0.22% of the world's surface. Thanks to this, it is deemed one of the 17 so-called 'mega-biodiverse' countries worldwide. The South American country is, therefore, particularly vulnerable to climate change given its location between the tropics and abundant hydrologic sources. All year round, shifting rainfall patterns increase the level of various rivers, and spark major extreme weather events, such as flooding and landslides. The Pacific and Andean regions, home to nearly one-third of the population, bear the greatest consequences of those. In addition, rising temperatures will make droughts ever more acute, and reduce agricultural productivity and water sources, leading to a higher frequency of heat waves, especially in urban areas.³⁶ Climatic events, such as *La*

36. Ministerio de Ambiente 2017.

Niña and *El Niño* phenomena, will result in landslides affecting the country's infrastructure.

The Colombian case can illustrate the inequitable effects of climate change. It has contributed a meagre 0.4% of global CO₂ emissions, stemming predominantly from deforestation.³⁷ By 2012, the latest year for which we have data, cattle ranching, agriculture and other land use, which require sizeable areas to be deforested, accounted for 46.01% of Colombia's CO₂ emissions. And yet, Colombia has suffered substantially from natural hazards and will continue to do so. For instance, Colombia ranks tenth worldwide in terms of economic risk driven by two or more threats associated with climate change. 84.7% of the population and 86.6% of assets are in geographical areas at risk of two or more natural hazards, according to IDEAM.³⁸

Climate change vulnerability threatens all Colombian municipalities at various levels. Serious concerns remain over poor compliance with disaster risk management policies. Considering a series of factors such as food security, habitat, infrastructure, hydric resources, biodiversity and health care, no municipality is immune to some degree of climate change risk³⁹ according to the United Nations Development Programme (UNDP) and IDEAM.

Vulnerability to climate change threatens the Amazon basin and the Orinoquía region especially (as measured by the number of climatic risks each region faces), followed by major urban centres in the Andean and Caribbean regions. Regional diversity remains an important challenge facing the country's response to climate change, since regional variation has hardly translated into region-specific plans structured around their features and needs. Besides, the complexity of Colombia's territory, coupled with threats of diverse geological and hydrometeorological natures and a disordered land-use process, contributes to greater disaster risk.

37. IDEAM 2012.

38. 2022.

39. National Intelligence Council 2021.

Deforestation, according to several sources, is driven by at least four of the same root causes as Colombia's armed conflict: land grabbing, drug smuggling, illegal mining, and illegal logging.

And yet, the country is not only deemed highly vulnerable to climate change impacts but also one that lacks the capacity necessary to adapt.⁴⁰ A lack of institutional capacity at the local level inhibits the response to climate change mitigation and the preparedness to adapt in the country's main deforestation spots. Deforestation, according to several sources, is driven by at least four of the same root causes as Colombia's armed conflict: land grabbing, drug smuggling, illegal mining, and illegal logging.⁴¹ It is said to be overseen by guerrilla groups, alongside drug cartels and influential cattle ranchers with links to regional and local politicians. It takes place mainly in three departments: Caquetá, Meta and the Guaviare, whose affected areas combined, made up 64% of the total deforested areas country-wide between 2013 and 2018.

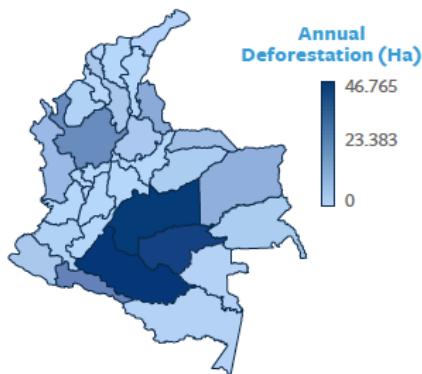
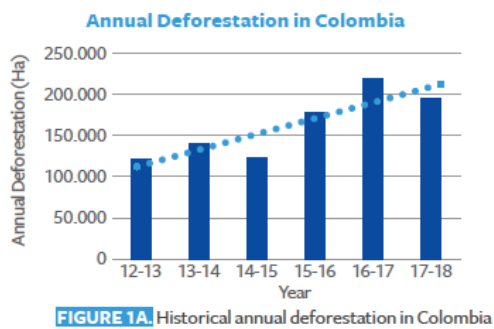
Even though cities produce the bulk of GHG emissions, strategies to tackle climate crises should be strongly anchored in rural areas, where deforestation occurs. Consider the case of the National Natural Park of Paramillo, not far from Montería, one of the case studies of this paper. Paramillo is one of the areas most affected by deforestation resulting from illicit crops, as well as by land-use and occupation conflicts. An adequate management of nature reserves and protected areas is considered as highly beneficial for tackling climate change and enhancing adaptation measures in cities. Besides, much of the decision-making and resources around adaptation and mitigation strategies in rural areas – as well as environmental policies affecting those areas – are still concentrated in cities. In addition, rural areas can be severely affected by corruption in the local governments based in intermediate cities, as exemplified by the case of the former governor of the Guaviare department, who used his position to promote deforestation in the Amazon.⁴²

40. National Intelligence Council 2021.

41. Lopez et al. 2020; Ministerio de Ambiente 2017.

42. For further information: <https://www.elespectador.com/ambiente/el-patron-del-guaviare-article-841454/>, <https://es.insightcrime.org/noticias/noticias-del-dia/deforestacion-autoridades-guaviare-colombia/>, <https://www.semana.com/medio-ambiente/articulo/gobernador-del-guaviare-prendio-alarmas-entre-los-ambientalistas/42648/>

Figure 1. Deforestation rates by year and department in Colombia



Source: Adapted with data from IDEAM: 2019⁴

Credit: Climate Focus (2020)

Colombian local governments have only recently placed climate change onto the public agenda. Our experts attest that this is because municipalities have historically focused on primary public service delivery, such as infrastructure, schooling, health care and poverty alleviation. Only recently have they realised that climate change, via extreme weather events such as flooding, landslides or droughts, is increasingly threatening public infrastructure. Since extreme weather events have become ever more frequent and severe due to anthropogenic climate change, local governments' climate agenda has gathered pace, with disaster management and relief policies also becoming necessary.

Yet the government's response has focused on mitigation rather than adaptation. Though the country produces a negligible share of global CO₂ emissions, it is seriously threatened by natural hazards that should foster actions on the adaptation front. According to interviewee RO6, this can be partly explained by the Colombian government's urgent need for funds from international partners to bankroll the local climate agenda. In connection with this, during COP26 the national government publicly committed to reducing emissions by 176 mt CO₂ eq (megatonnes of carbon dioxide equivalent), that is, by 51% by 2030. It secured a bigger pot of resources to counter deforestation

and bankroll various strategic actions in the transport, energy transition, and water and sanitation sectors. Besides, the latest NDC is sorted into 148 mitigation actions and 30 adaptation actions, of which 32 are overseen by the central government, 89 by subnational governments, and 24 by the private sector.⁴³ Table 3 contains a summary of goals by sector, including in water and sanitation, transport, agriculture and rural development, and environment. Local governments bear most responsibilities in these sectors.

Table 3. A summary of priority actions in Colombia's NDC, by sector

Sector	Actions and goals
Housing	Integrating climate change adaptation into sectoral tools through guidelines.
Water supply and sanitation	Protection and conservation of 24 river basins, which are key to water provision to municipalities vulnerable to water shortages during high-rainfall season.
	Disaster risk management in 30% of prioritised municipalities due to vulnerability to water shortages.
	68% of wastewater treatment in urban areas by 2030
	Reusing 10% of wastewater treated by utility providers by 2030
Transport	Three tools implemented to improve geographic information systems for transport infrastructure for risk management.
	Two documents with guidelines on risk management in transport infrastructure.
	Two methodologies to calculate disaster risk in transport infrastructure.
	One pilot project on the applicability of the green infrastructure guidelines.
Agriculture and rural development	Integrate climate change into agriculture planning tools and implementation of adaptation measures.
	Ten sectors (rice, corn, potato, cattle ranching, dairy, cocoa, banana, coffee, and sugar cane) strengthened in climate adaptation.
	Three regions with high agricultural potential participating in technical committees linked to the national committee.
Environment	135 plans for management of river basins adjusted to climate change considerations.
	Delimit 100% of wetlands through management instruments.
	Increase the number of ecosystems of the National System of Environmental Information by 15%.
	Integrating climate change considerations in tools for environmental management and control under the jurisdiction of the national environmental licensing authority.

43. Ministerio de Ambiente, Alianza clima y desarrollo, and E3, Ecología, economía y ética 2021.

	Increase by seven percentage points the share of the monitoring network connected to an early warning system by 2030.
	Updating and implementing 50% of the national programmes for the sustainable use, management and conservation of mangroves by 2030.
	Adopting and implementing 100% of plans for integral management of coastal areas based on nature-based adaptation solutions.
Mining and energy	Incorporate a strategic working area for resilient infrastructure by 2025 by sector (hydrocarbons, coal mining, and electricity)
	By 2025, one project of nature-based solutions for the electricity sector to support companies to guarantee compliance with strategic goals.
Industry, trade and tourism	At least 10% of small, medium and large enterprises in these sectors implementing strategies, actions and projects relating to climate change adaptation.

The emphasis on mitigation rather than adaptation raised concerns among our key informants as it might show a poor understanding of the perilous effects of climate change. For instance, R06 described the lack of disaster risk management through the recent experience of Providencia, an island in the Caribbean hit by Hurricane Iota in late 2020:

Everybody knew what would happen to Providencia. It was vulnerable to hurricanes and storms, but its infrastructure was ill-prepared. It was evident that most houses would be destroyed should a hurricane hit the island. Aside from that, Providencia lacks a sewage system, it lacks wastewater treatment, hence there is flooding all year round, despite the island being surrounded by nature. I do believe this proves that adaptation, especially disaster risk management, is a weakness in Colombia's response to climate change.

In parallel, the central government has imposed policies and instruments to design policy mechanisms at the local level through the guide for drafting comprehensive plans of climate change at the subnational level. This guide demands that local governments design and implement climate change policies, evaluate its impacts, and identify risks, as well as the areas at highest risk. This is informed by the central government and IDEAM through a targeted study on possible climate change scenarios by region.

Implementation of climate adaptation measures on the subnational level is uneven. Municipalities' preparedness depends upon a series of capabilities, knowledge and financial resources, which vary significantly among regions. At the subnational level, negotiations for climate finance and related resources are

conducted directly with the central government, which plays a key role in policymaking and the distribution of resources.⁴⁴

To sum up, local governments will bear the burden of adaptation to climate change, where great corruption risks exist. Governance issues, such as corruption, are at the core of climate change adaptation and mitigation, as the next section will argue.

4. Fertile ground for corruption: In which contexts might corruption flourish?

This section tackles a series of conditions, social and economic, that can facilitate corruption in climate change adaptation at the local level. It is about a group of factors that provide fertile ground for corruption to emerge at the local level, especially in the environmental sector. The enabling factors are mainly institutional arrangements and practices that characterise environmental management as performed by local governments. This ranges from flawed prior consultation and environmental participation to the role of deforestation and the national government in the field of climate change adaptation. Therefore, this section seeks to answer the question: What can trigger or facilitate corruption?

It is noteworthy that Colombia's first NDC focuses heavily on mitigation actions, in line with the Paris Agreement's core goals of limiting global warming. At this stage, adaptation efforts relate mostly to aligning climate change considerations with existing planning and management tools in prioritised sectors. It also spans conducting technical studies and laying out guidelines to identify and approach challenges facing different sectors through an adaptation lens. Actionable endeavours concentrate on water and sanitation, environment, and disaster risk management. Hence, this section frames corruption issues in light of workable, short-term NDC-related actions.

Flawed prior consultation and environmental participation

Colombia's NDC regarding environment strives to protect areas of strategic environmental interests such as wetlands, rainforests, mangroves, and natural

44. Interview, RO1, February 2022.

reserves (*parques naturales*). Our key informants identified flawed prior consultation and participation as the most common issue that could facilitate corruption in adaptation actions in that sector. RO3 noted that the Constitutional Court has acknowledged a gap in environmental participation since previous legislation was overturned by a court decision due to disputes between the national government and subnational units over natural resource exploitation. The court ruling invalidated the one participatory mechanism enabling citizens to partake in environmental decision-making at the local level. Ever since, so-called Environmental Public Hearings (*audiencias públicas ambientales*) stand as the only participatory mechanism for decision-making. However, according to RO3, it has turned out to be a forum to ‘notify’ stakeholders of decisions that have already been taken, such as awarding a mining license, rather than an actual space for prior consultation with the concerned communities, to make their voices heard. This is neither a deliberative nor consultative process. Since plaintiffs are not allowed to object to environmental impact studies, participation is poorly conceived, given the absence of deliberation.

RO3 added that the Constitutional Court, in a ruling on spraying coca-leaf plantations with glyphosate, a herbicide that quickly dries the coca-leaf up, stipulated that the concerned parties must ensure prior consultation at the beginning of the project. However, prior consultation remains the most litigated mechanism before the Constitutional Court. Spraying coca-leaf plantations comes at a prohibitive cost to Indigenous communities’ culture, livelihoods and ways of life, inherently dependent on the ecosystems they inhabit. RO3 claimed that national government policies are incompatible with environmental protection in areas of special conservation, such as the Amazon basin:

To some extent, it is inconceivable that amid current discussions on preventing climate change and deforestation in the Amazon, and the Supreme Court of Justice ruling granting rights to the Amazon as an ecosystem, the national government seems keen to green-light gold mining in the Amazon. Hence, I ask myself: how come this is all happening? Under which criteria?

Another expert interviewee added that the national government bears responsibility for reducing civic space during the Covid-19 emergency. The Government has sought to further limit environmental participation mechanisms by using the Covid-19 pandemic as an excuse to conduct only virtual hearings before deciding to resume aspersions of glyphosate, limiting even more the opportunities of rural communities most affected by this policy to be heard. Consequently, the problem is not only of a lack of local government

capability, but of active efforts from the national government that reduce their autonomy.

Ro3 also mentioned that the current legislation negatively incentivises mining in protected Indigenous communities' areas. As a result, they feel compelled to enter the business, which might affect their traditions, ways of life and culture:

This could pose a challenge to Indigenous communities. I recall that some time ago, and pick this up, particularly for a case that drew my attention, and it was the case of the Nasa community, in the department of Cauca. The Nasa people requested a mining licence. Indigenous communities' rights prevail over those of their counterparts in any business. However, if they refuse to use a right to preference ahead of any interested parties, the first-come-first-served rule applies to grant the mining licence. This forces them to take the licence and switch to mining to make a livelihood, which entails an incentive to change their customs, traditions and ways of life.

A flawed participatory environment provides fertile ground for hostility against whistleblowers and environmental defenders. All our experts brought up the issue of lethal attacks against environmental defenders as retaliation for exposing corruption or a warning against doing so. In deforestation hotspots, the prosecution of murders of public officials and community leaders, allegedly due to reporting deforestation eased by corruption, has stalled – largely due to security concerns. Furthermore, municipalities lack the institutional conditions to receive, process and investigate corruption reports; local independent media are cracked down on; and delivery of manipulated information by local governments is alleged as the norm. The absence of minimal conditions for whistleblowing harms participation, accountability and responsiveness.

Ro4 further illustrated how this poses a challenge to local governments:

Public officials fear threats and intimidation while performing controls within or outside assigned jurisdictions. For example, performing controls or reacting to people's reports already puts their lives at risk. There are many cases, even murders of public officials. They ask you: To what degree can omission of duties be deemed corruption if I do not deliver because my life is under threat? They are not overlooking their duties because they want to, but rather because they are threatened by criminal groups.

Ro7 added that community leaders and advocates are the first line of defence against climate change and yet they are also the first victims of profit-driven industries with an interest in ancestral lands:

Community leaders are not heard. At the community level, they play a significant role: Meeting with community leaders is at the top of the agenda whenever I visit certain regions, as they have a good knowledge of the territory, its issues, and workable solutions. Yet they are not only unheard but also molested, SLAPPed [strategic litigation against public participation], and legally threatened. At the community level, they hold the power to disturb the industries and companies that oppose their ways of life and relationship with nature.

Due to the attacks by influential industries, community leaders' political role is shrinking. Not only are they fleeing the communities to protect their lives but also are forced to leave permanently as they counter powerful economic and political interests. This undermines the protection of ecosystems such as wetlands since it has been made impossible for those supplying environmental services to stay:

We have been taught to pursue bottom-up approaches to accountability and participation at the community level. As a first step, I involve my community and then the local administration. But here it does not work that way. The value chain is often cut off at its very lowest layer, the concerned communities, and that prevents communities from raising the issues they face and having a say in the co-production of policies.

The strong connection between deforestation and armed conflict also threatens local and regional journalists, as RO6 pointed out:

Being a journalist in the south of the country is extremely hard, as is talking about deforestation in Caquetá, Guaviare, Meta and Amazonas. It is overly complex because deforestation in those areas is bound to the armed conflict and the dissident guerrillas in those areas. Thus, getting involved in those areas is like putting your head in the wolf's mouth. I think there is a huge constraint for journalism, and that explains why one usually does not see local journalists raising issues relating to deforestation.

Since the state's strategy to counter deforestation has largely relied on militarisation, and critical security concerns in those areas remain, communities find themselves amid an armed confrontation between the state and criminal groups.

Since the state's strategy to counter deforestation has largely relied on militarisation, known as 'Operation Artemisa' (*operación Artemisa*), and critical security concerns in those areas remain, communities find themselves amid an armed confrontation between the state and criminal groups. Local communities regularly reject public authorities' involvement as they believe the further militarisation that comes with it will have lethal consequences in their day-to-day lives:

There is disquiet among local communities because the state's strategy turned out to be predominantly military. Local communities are not directly consulted, peasants are being targeted and the heads of criminal groups responsible for corruption and criminal acts are not held accountable.

RO4 went as far as to claim that a response based on military presence would foster corruption risks since the army is known to suffer from endemic corruption problems. The emphasis on militarisation has led to abuses of power by officers against local communities. Not to mention that soldiers are neither tasked to gather intelligence from peasants and rural communities nor to prevent wildfires. It is not clear where the funds of Operation Artemisa come from because the National Government has turned down freedom of information requests about it. Thus, the involvement of the army may increase the risk of corruption in the implementation of adaptation and mitigation measures. This is compounded by the overall lack of transparency, accountability and whistleblowing to prevent and prosecute corruption within the armed forces.

RO3 added that an emphasis on militarisation could be explained by the belief that deploying armed forces to a region is an equivalent or a 'signifier' of statehood. Analogously, the historic lack of statehood that those regions have endured offers fertile ground for criminal economies to grow, such as those that benefit from deforestation:

The State is predominantly present in the centre, and those regions have lacked statehood, rather than militarisation, as the military has always been there. No military power will ever successfully tackle a complex phenomenon such as the criminal economies across the country if people's livelihoods continue to depend heavily on those economies.

*Security organisations and local governments
enjoy relatively high levels of trust.*

Interestingly, security organisations and local governments enjoy relatively high levels of trust. Trust is known to be a driver of participation, fruitful implementation of public policies, the institutional gear and territorial governance, as well as an indicator of transparency. By 2017 (the latest year for which data are available), The AmericasBarometer

45, 46

(*Barómetro de las Américas*) confirmed that security institutions such as the armed forces and the police are the institutions that Colombians trust most. However, the levels of trust they enjoy are far from desirable. The third institution that enjoys a good reputation among surveyed Colombians is the mayoralty or city council (*alcaldía municipal*). Political parties, elections, President and Congress are among the least trusted political institutions nationwide. Though as shown by Pollitt and Bouckaert,⁴⁷ it is relevant to bear in mind the context in which this picture was taken and that the information is disaggregated by different characteristics of the participants. Institutions tasked with granting security are slightly more trustworthy than the executive and politicians (understood as political parties and Congress).

Following the AmericasBarometer report,⁴⁸ the explanatory variables of such distrust include economic performance, public service delivery, corruption and insecurity, which vary along with factors such as political ideology, interest in politics and political affiliation, crime and corruption victimisation, and state of residence. Counterintuitively, the study shows that people less interested in – and less knowledgeable about – politics tend to trust politics *more*; lower levels of education correlate with higher levels of trust.

The building of a harbour in Tribugá Bay, on the Pacific coast, was overturned thanks to the mobilisation of journalists, politicians and environmental activists in response to local activists' call to halt the port's development.

45. Annual survey of public opinions and attitudes towards democracy and political institutions conducted in 27 Latin American countries. For further information:

46. <https://www.vanderbilt.edu/lapop/about-amicasbarometer.php>

47. 2017.

48. 2018.

Additionally, the outgoing government of President Ivan Duque refused to ratify a novel regional agreement on access to public information and environmental protection, known as the Escazú Agreement. This regional agreement was eventually passed in July 2022 by a new legislature, composed largely of leftist and centre-left political parties that widely engage with environmentalists, ethnic minorities, women, youth and peasants. In response to a long-standing lack of protective legal frameworks – which have reduced the space for environmental defence, and disincentivised whistleblowing – environmentalists and journalists have partnered up to carry out online and media activism against the construction of flagship infrastructure projects in areas of a natural reserve. The building of a harbour in Tribugá Bay, on the Pacific coast, was overturned thanks to the mobilisation of journalists, politicians and environmental activists in response to local activists' call to halt the port's development.

Wrong adaptation approach

The NDC also encourages nature-based solutions (NBS) as an adaptation strategy in the environment and transport sectors. For instance, the commitment allows the management and zoning of mangroves and coastal ecosystems, as well as green transport infrastructure, to rely on NBS. In light of this approach, our key-informant interviews suggest that failing to pursue this strategy will foster corruption. The second factor that enables corruption, according to our key informants, is misconceptions and misunderstandings of adaptation. Usually, public officials approach climate adaptation as grey (physical) infrastructure building. For instance, public officials would likely recommend the use of concrete to prevent flooding and landslides. A different strategy, according to established views, would be inefficient from financial and practical perspectives.

This line of reasoning carries a harmful corruption incentive since it encourages officials to procure materials and goods, via public tenders, which can be easily targeted for corruption. Besides, since a mayoral term lasts four years and usually marks the beginning of mayors' political careers, public spending falls prey to the assumption that delivering as much grey infrastructure as possible will be rewarded by voters in the future. That grey infrastructure-based approach largely contradicts the spirit of climate change adaptation because a mayor can end up intervening in nature or transforming the landscape to show higher performance. This belief is shared not only by mayors' advisors but also

by local communities. By contrast, an NBS could have a long-lasting effect and be less detrimental to ecosystems.

The corruption risk derived from an emphasis on grey infrastructure stems from over-reliance on construction materials and the need for multiple providers. As an alternative, experts recommended the design and implementation of NBS. NBS can attract local community involvement, provide access to jobs, and guarantee participation, stewardship, ownership and conservation of such infrastructure. Yet ensuring local community engagement might prove challenging. Engagement can become time-consuming, especially at the implementation stage, though it might yield higher benefits for local communities, and present stronger barriers to corruption or misappropriation of resources.

The second stream of corruption risk relates to the prominence of direct awarding in public procurement, including in hiring contractors and service staff, and selection of providers. Even though competitive tenders are a requirement of international donors and there are often good reasons for open tenders, this demand can be overlooked on efficiency and time-saving grounds, with personnel hired from political patronage networks. The emphasis on public procurement might partly explain why the state's role in climate adaptation is seen as a source of distrust and disquiet. RO1 alluded to this by highlighting the private sector's hesitancy to partake in climate adaptation projects channelled through the central government. The experts pointed out that precisely the absence of the private sector can supply a gateway to corruption as there will be less accountability and responsiveness. The government's all-encompassing role in climate finance management will see the private sector walk away and might incentivise corruption.

Finally, our experts converged on climate finance flows as a driver of corruption in climate adaptation. RO1 argued:

If one looks at the amount of finance that developing countries will manage, if those countries don't have the infrastructure in place necessary to manage it, corruption will flourish.

The previous quote summarises our respondents' opinions about climate finance as an incentive for corruption. RO3 expressed themselves along the same lines, adding that a lack of control, accountability, information and

transparency amplify the risk. RO5 emphasised the lack of transparency and traceability of resources:

The amount of climate finance is a challenge. Some projects are easy to get, and transparency and resource traceability will be more difficult. Given the size and scope of those projects, it is difficult to track down or monitor if the allocation was completely transparent, to ensure that the awarded resources were delivered without cost overruns.

However, RO5 warned that stealing donor funds is difficult because of audits in place. They said that audits are often strict and comprehensive, though tend to conclude without corruption allegations, hence they might be ineffective. For instance, watchdog institutions have found cost overruns and misallocation of resources (by shifting the destination of resources without following standard rules and practices), which were not reflected in the audit reports.

The case of Manizales illustrates the intersection between the two previous underlying issues that might facilitate corruption in climate change adaptation.

Box 2. Corruption risks in public procurement and a lack of transparency in Manizales

A medium-sized city of around 400,000 inhabitants, Manizales has some of the highest standards of living in Colombia. It is at the centre of the so-called coffee axis, an area known for its coffee plantations and production that shaped Colombia's economy and social life during the twentieth century. The city has been recognised as an exemplar of good practice in Latin America in disaster risk management (DRM) (Wesley 2021), which spans climate change adaptation efforts.

DRM in Manizales has been possible thanks to a collaborative effort between various organisations. The public sector, academia, associations, trade unions, civil society and CORPOCALDAS (*Corporación Autónoma Regional de Caldas*, the regional environmental authority), have all partaken in an institutional partnership over the past two decades. Manizales, interestingly, has benefited from the academic and technical support of its five universities. These include the National University of Colombia (via the Institute of Environmental Studies – IDEA), the University of Caldas, and the Catholic University of Manizales. The local community, through civic committees, civil society organisations and business associations, has also

been instrumental in the partnership's sustainability (interview, R06, February 2022)

However, the institutional partnership – or coalition – has suffered from a few shortcomings. Earlier local governments had not supported these partnerships as strongly as they could have and rarely followed the technical recommendations that they supply. As R06 acknowledged, public officials decide to ignore expert knowledge and 'to have some wiggle room to favour specific political interests during policy implementation.' The coalition has reacted by reorganising its composition, redefining its outreach strategy, and exerting pressure on the local government. According to a coalition member, 'the key message we have conveyed has been for them (local government) to understand that climate change has daunting effects on economic development and, thus, their political agenda.'

Informal practices have sustained the long-standing relationship between these institutional actors. As a coalition member recognised, these informal networks are the drivers of a well-functioning collaborative framework. They span kinship, origin, language spoken, and friendship (Hardoy and Velásquez Barrero 2014). R06 also raised other notable informal practices. One is having 'contacts in Bogotá', meaning in national-level institutions, such as relevant ministries and the Adaptation Fund.

The partnership, however, has not been fully sustained over time, with periods of uncertainty at the beginning of every mayoral term. This undermines meritocracy. The turnover means regular appointments of new personnel, likely politically connected to the incoming mayor. As R08 admitted:

This exchange has been a terribly slow process, and our struggle to get it off the ground continues. It is not yet up and running. We still must lobby and draw the government's attention to the issue. Every four years, we must show up at the mayoralty and explain the importance of environmental monitoring to the officials in charge, and then figure out how our approach fits theirs.

As R08 added, the coalition has identified corruption risks in climate change adaptation. These include price overruns, tender value overestimation, kickbacks to get contracts and avoid public fines, and tender buying. On top of that, nepotism and favouritism in public procurement lead to bid-rigging and awarding tenders to political campaign donors. In rural areas, corruption can force land-use change, from forestry to plantations or cattle ranching, and affect reforestation and river management. Similarly, manipulated information and lack of transparency might serve powerful agricultural interests. For instance, maintaining ecosystem services

can be more profitable than agriculture, but the data and evidence for this are not transparently available.

The institutional partnership has tried bottom-up approaches in a context of violence and lack of state presence, especially in rural areas. These approaches have proven unsuccessful. In rural settings, wetland protectors and environmental defenders are the targets of powerful interests, especially where land conflicts abound. Environmental defenders have been met with displacement, threats and disappearance. Therefore, considering the institutional partnership, established actors might be better protected to hold power to account while training grassroots movements and community organisations to take over once security conditions are met.

5. Corruption risks and corrupt acts in local-level climate change adaptation

This section addresses a set of corruption risks and corrupt acts our informants identified. It spans institutional conditions, cooptation, public procurement corruption, and approaches in the public sector to tackling corruption-related issues in climate change.

Institutional scarcity

Colombia's response to climate change at the local level is characterised by the distribution of tasks between the central government and the subnational units. Referred to as devolution, it entails that certain state tasks are performed by the local level on behalf of the national government, while the latter keeps some accountability and oversight responsibilities over the role of local governments. Regional environmental authorities complement the governance landscape. These are independent bodies in charge of environmental protection and conservation in a specific area, usually spanning several departments, so they must tightly coordinate their work with both levels of government to pursue joint policies and programmes.

RO3 illustrated the tensions between the national and the local government through an example from Providencia:

In Providencia one could note that the Ministry of Defence wanted to set up a coastal surveillance base as mandated by the central government at the outset of a natural hazard that hit the island at the end of 2021. They wanted to militarise the area, circumventing local communities' decision to reject the military base following a consultation with the affected communities. CORALINA, the regional environmental authority, had also said that the base would produce substantive environmental damage if built on the Seaflower Marine Protected Area.

National level directives are opposed when local governments are neither consulted nor informed about the prospective decisions.

RO7 labelled such a tension a 'disconnection' between the national and the local government, adding that the latter oppose national level directives when local governments are neither consulted nor informed about the prospective decisions.

Relatedly, much of the responsibility for climate adaptation will be borne by local governments which suffer from institutional scarcity. This can be defined, according to our expert respondents, as lacking the technical knowledge, administrative capacity, financial resources and staffing levels to implement and oversee devolved tasks. Municipalities' staff are usually overburdened with oversight of several tasks on different fronts. For instance, RO4 said that in a municipality only two or three forestry engineers oversee forest protection across millions of acres of forest in areas of limited statehood. Relatedly, RO2 blamed this on the national government, explaining that the bulk of resources gets stuck in national agencies, such as the Ministry of Environment, the National Agency for Mining Licensing, and the National Mining Agency. This concentration deprives local governments not only of access to resources but also the chance of overcoming structural institutional deficiencies.

RO1 pointed out that the emphasis on the national government's leadership deprives local governments and Indigenous communities of access to climate finance. Consequently, the hands of municipalities and local communities are tied, leaving them unable to address the institutional deficiencies that prevent them from tackling climate change challenges. Our respondents converged on the idea that structuring a climate change response around local government will prove unsuccessful given the lack of technical capacity to handle large financial flows, allowing corruption to flourish. As RO1 added:

Climate adaptation and mitigation at the local level can be well planned by the central government but the infrastructure at the regional level is either lacking or very weak. They possess neither the administrative nor financial capacity to operate large projects or lack the technical capacity to draw up logical frameworks and projects. Their operational capacity is rather low.

Similarly, the experts were concerned about the role of checks and balances systems, audits and controls, and added that opacity fuels distrust in the relevant authorities and institutional bodies.

Cooptation

Cooptation refers to undue influence in policymaking and implementation in state sectors, specific policy areas, or limited geographic areas. At the local level, resource-rich municipalities are vulnerable to cooptation and capture by mining companies' lobbying, in opposition to smaller mining ventures whose environmental impact is comparatively lower. For instance, according to R03, undue influence lay behind Colombia's lengthy refusal to ratify the Escazú Agreement. Although the Constitutional Court has demanded Congress regulate environmental participation, there was consensus that the latter has overlooked this requirement, since representatives from polluting industries outnumber environmental defenders and community leaders' representation in Congress.⁴⁹

R04 added that the prosecutorial power at the local level is limited, and exposed to institutional capture. For this reason, in the framework of the state-led counter-deforestation offensive, prosecutors have been assigned from other regions to mitigate the risk of capture. R05 argues, however, that the root of the problem is the high rotation of the officials who prosecute deforestation since this leads to reduced capabilities in law enforcement organisations.

Local and regional politicians have a role to play in curbing deforestation.

Indirectly, local and regional politicians have a role to play in curbing deforestation. They are said to influence the appointments of regional environmental authorities' heads and, thus, the decisions they make. Journalistic inquiries into corruption have revealed the takeover of such bodies

49. The coal industry has intensively lobbied Congress to impede carbon taxes (which are in place in the country). However, coal itself is not taxed by law.

by local and regional politicians and highlighted the role of local politicians in capturing public entities for advancing political patronage networks, clientelism, and steering public procurement to connected stakeholders.

Consider the case of carbon bonds for forest conservation. A recent journalistic investigation⁵⁰ found that local governments have granted carbon bonds to cronies, associates, or close affiliates, instead of local communities. Local governments have thereby undermined the potential of local communities to protect forests and capture carbon.

To advance cooptation, local politicians use tactics involving national actors. The rationale behind monopolising the links between the local and national levels is to prevent national actors from becoming aware of the situation at the local level. This strategy – of preventing the establishment of any links with the centre – is highly beneficial for local politicians with conflicting interests in deforestation-driven businesses. They persistently fail to declare these interests at Congressional votes, in order to further their own business or those of their associates relating to land or property rights, or emerging businesses tied to campaign donors.

Finally, cooptation might take over the judiciary. RO4 illustrated how organised interests might penetrate the judiciary via the following statement on Operation Artemisa, the state's military response to deforestation:

I would ask the minister of environment in an interview: You kicked off Operación Artemisa, but show us which gang heads you have arrested, prosecuted, or sentenced. None! They have only arrested peasants, which are the weakest tier of the food chain. That drew my attention to the fact that the government does not have the political will to go after the true heads of business, because at the end of the day one could end up finding politicians and businesspeople behind those criminal networks.

RO4 said that deforestation in the Amazon rests on illegal networks involving government officials and security forces. These networks facilitate drug smuggling, a driver of deforestation, transport of chemical inputs, and ensure flows of people to populate deforested areas. RO4 disagreed with the view that logging was a cause of deforestation in Colombia: 'timber is worthless. [Deforestation] is a topic that goes beyond: It is about power, land grabbing and

50. El mayor Proyecto de bonos de carbono de Colombia prodria estar vendiendo aire caliente (No longer available online) [La Silla Vacía](#)

drug smuggling.’ It feeds into transnational criminal networks of gold mining established in the Amazon, more precisely on the border shared between Colombia, Brazil and Peru.

The second most common type of corruption our experts highlighted was ‘petty corruption’. This includes granting licences through bribes for forestry and land-use change by regional environmental authorities, bodies known to be rife with corruption; and bribing to get licences for strategic use of no-reforestation zones. Similarly, bribes to forge documents to transport cattle, smuggle cattle from abroad, and bribes to officers who stop cargo vehicles to do inspections, or even bribes to settle cattle in natural reserves, are all avenues for petty corruption. Since authorities rarely check licences, licence-holders (and those without licences) are incentivised to continue paying bribes.

Lack of access to information and transparency

Lack of access to information and transparency is seen as one of the greatest challenges facing corruption in adaptation initiatives, and it is a risk that was raised constantly during the interviews. Interviewees said it lead to distrust, as it is unclear where the money ends up. Our experts reported that, for instance, hardly any carbon tax revenue has been allocated to coastal area management or to counter deforestation. Instead, according to a freedom of information request RO1 shared with us, carbon tax revenue has long been used to bankroll the peace agreement’s implementation in PDET (Regional-based Development Programmes, or *Programas de Desarrollo con Enfoque Territorial*) municipalities, but the information is not entirely clear.

The information that is available is deemed technical and impenetrable. Lack of transparency is seen as a barrier to accountability, checks and balances, and vertical accountability. It remains unclear how resources are spent, and how the entire system works, especially in the aftermath of extreme weather events, when norms and practices are under pressure. Local communities lack the information and training to access the necessary information on deforestation and degradation.

Box 3. Examples of corruption in the water and sanitation sector in Montería

Montería is the capital of the northern department of Córdoba, in the Colombian Caribbean, with an estimated population of 471,000 inhabitants. Though the population lives in the urban area, the municipality is predominantly rural. Its main economic activities are agriculture and cattle ranching, with the Sinú River crossing the city from south to north. Montería is one of the few cities in Colombia and Latin America that have formulated a local climate adaptation plan. It is highly vulnerable to adverse high rainfall and, therefore, increased risk of flooding and landslides. Given that a substantial proportion of Montería's informal settlements are on the riverbanks, climate change poses a considerable risk in these areas. Since the city is flat, flooding lingers for a long time.

Climate adaptation governance is structured around an elevated level of inter-institutional coordination at the local committee on climate change. The committee is composed of public organisations, the regional environmental authority (*Corporación Autónoma Regional del Valle del Sinú y del San Jorge, CVS*), a representative from academia, and two business associations. The committee supplies technical and administrative support for the local climate change plan (15 goals and 26 actions) and monitors climatic trends in the municipality. The second mechanism for coordination is the local disaster risk management committee, which holds a seat for representatives of community leaders and public utility companies. Climate change plans and coordination mechanisms stem from the 2010 Mexico City Pact, which resulted from the World Mayors Summit on Climate. The Summit aimed to lay out mitigation and adaptation actions to access multilateral climate finance.

According to our interviews, corruption has hardly emerged in climate change adaptation in the municipality of Montería. According to the interviewees and policy reports, two factors explain corruption restraints. First, joining a multilateral-funded programme bankrolling climate efforts, such as the CVS, has reinforced monitoring and oversight by national and international audit institutions. Second, institutional coordination with academia, associations, and community leaders has increased the cost of allowing corrupt behaviour. As it has imposed further checkpoints, such as empowering social actors, it has elevated transaction costs for the corrupt. Besides, the city has gained international recognition for its climate ambition, including Montería's mayor being named 'mayor of the month' by City Mayors in 2014. It has also made it to the finals of the WWF One Planet City challenge.

6. Concluding remarks and recommendations

In this paper, we sought to understand corruption as a constraint on the fulfilment of NDCs at the local level. NDCs require signatories to the Paris Agreements to design, communicate and monitor actions to mitigate and adapt to climate change. Hence, NDCs represent countries' main climate policy instrument in the international arena. Local governments play a major role in NDCs, from their inception to implementation. Based on the distribution of tasks between the national and local governments for NDC-related goals, we studied Colombia's latest NDC and corruption challenges by prioritised sectors. We further illustrated these through the cases of two mid-sized cities: Manizales and Montería. The chosen cities have been recognised as exemplars of good practice across Latin America in disaster risk management and local climate planning, respectively.

Our findings suggest that Colombia's local government level is ill-prepared to take on climate adaptation tasks under the NDC. Local governments lack the institutional capacity to carry out the menu of responsibilities the national government has assigned them. The local level also endures pervasive corruption risks. To name a few, they lack environmental participatory mechanisms, accountability, policies to scale up corruption reports, protection for whistleblowers, and independent media. A set of competencies regarding climate adaptation fall under the umbrella of municipalities that continue to lack statehood, and can hardly exert territorial control. Furthermore, they are tasked with countering deforestation, a systemic issue managed by criminal networks that public forces can hardly counterbalance. A state-led strategy to cope with deforestation, via militarisation, leads to increased corruption risks due to endemic corrupt practices in the military and a history of abuse of power against rural dwellers. Municipalities can be coopted by powerful interests, influencing how policies and guidelines are drafted.

Upon analysis of corruption enabling factors and risks, environment, transport, and water and sanitation stand as the prioritised sectors most vulnerable to corruption impacts. Regarding the environment, the NDC lays out actions for natural protection, including designating areas of strategic environmental interest. However, it is in these areas where deforestation is ravaging entire ecosystems. There, local communities' voices are dismissed and deprived of spaces for participation in decision-making. Absent conditions for participation and accountability are the antecedents of physical attacks, defamation, threats, and legal harassment against whistleblowers, environmental defenders, local

journalists and community leaders. Congress has persistently refused to discuss a new regional agreement on access to public information and environmental defenders' protection.

Finally, adaptation to climate change at the local level must shift away from the established approach to grey infrastructure, as evidence suggests. More adaptation resources might be channelled to nature-based solutions, but the policy and strategy consensus at the local level still focuses on grey infrastructure. Through this strategy, the potential benefits for corruption are greater because it relies upon the public procurement of construction materials and services, and corruption risks in public procurement are greater when infrastructure construction is concerned. In particular, price overruns, bid rigging and direct awarding of public tenders can be used to grab public resources channelled to adaptation. This emphasis on public procurement has been met with criticism by private sector actors who distrust the public sector as the backbone of climate change efforts. Hence, the private sector is keen to engage widely with the public sector to improve access to climate finance and participate broadly in climate governance.

Based on our findings, we lay out the following recommendations, sorted by implementing organisation or government area:

National government:

Promote environmental participation and accountability: Corruption flourishes in the absence of social oversight and monitoring. Hence, increased participation of local communities, civic organisations, journalists and watchdogs is intrinsically important and should be instrumental in reducing avenues for corruption. Environmental participation can be enhanced via mechanisms such as roundtables and local committees, focusing on deforestation. These mechanisms should include discussions on corruption and establish regular follow-ups from the concerned actors. Central government should comply with the criteria of strengthened environmental participation that have been already formulated by the Constitutional Court, for example in rulings related to the delimitation of wetlands (*páramos*) (T-361/2017) and aspersions of glyphosate (T-236/2017).

Guarantee deliberation and dialogue: One of the reasons why existing participatory mechanisms have proven unsuccessful is a lack of deliberation and

debate. Hence, to try to reduce corruption, authorities should ensure exchange and dialogue between participating actors and increase genuine efforts to consider concerned actors' perspectives and recommendations. Participatory mechanisms should ensure a two-way interaction and show commitment to incorporating feedback from local communities. National government should strengthen the support to grassroots civil society organisations and to existing community projects of conservation, adaptation and mitigation.

Public sector (with emphasis on local governments):

Strengthen transparency in environmental issues through digital technology: Disclose public information by government agencies on environmental issues through digital platforms. According to RO4, since relevant information is spread across several platforms, there should be a one-stop shop for environmental information that allows information to be accessed and cross-referenced from relevant databases. Special transparency measures should extend to climate change adaptation resources. Agencies might consider strengthened transparency for the media and watchdogs investigating or conducting anti-corruption monitoring.

Increase budgetary transparency: In line with the previous recommendations, participation should be informed by evidence and background information. Advancing this requires making available information on resources for climate adaptation, such as budgets, allocation of resources, deliverables, spending, and challenges found along the project stages. Design mechanisms for transparency and accountability similar to those used by the national government to account for resources from international cooperation aimed at curbing deforestation or mitigation and adaptation strategies.

Advance corruption risk mapping: Build capacity in local governments and agencies with a regional presence to map corruption risks at the entity and sectorial levels. This includes an assessment of corruption risks across prioritised sectors in the NDC. Corruption risk mapping should also determine the relationship between deforestation and corruption, and target hotspots such as Caquetá, Meta and the Guaviare. Corruption risk mapping should be accompanied by a mitigation plan with periodical assessments. Our respondents suggested an agreement or a memorandum of understanding between regional environmental authorities and the Transparency Secretariat. The agreement

should aim to guide the latter in corruption risk mapping, foster transparency and, most importantly, address the link between corruption and deforestation.

Promote nature-based solutions and research on its potential to curb corruption: Train local public officials and communities in the potential of nature-based solutions for climate adaptation, including the conditions they might offer to control corruption. In connection with this, support research on the benefits of nature-based solutions to prevent corruption, focusing on public procurement and increased opportunity for participation of communities.

Adaptation and mitigation actions, and more generally environmental policies, should not be assigned to the defence sector. Reallocate resources from military and punitive activities aimed at preventing deforestation or protecting the environment, to alternatives of participative ecological restoration, reconversion of economic activities of peasant communities, and community-based conservation strategies.

Update the territorial and ordering plan (*Plan de Ordenamiento Territorial, POT*) and other public instruments that regulate the uses of land. The Supreme Court ordered the POT of the municipalities of the Amazon to be updated, and for pedagogic activities and other measures to tackle socio-environmental conflicts in the region to be increased, as it acknowledged those are necessary steps to reduce deforestation and greenhouse gas emissions.⁵¹ It is also vital that point 1.1.10 of the Final Peace Agreement about environmental zoning plans is adequately implemented.

Government and private sector:

Define areas of collaboration with the private sector: The public and private sectors can come together to map out the ‘inputs’ and ‘outputs’ of climate governance and finance. Regarding inputs, the public sector could streamline procedures for access to climate finance and rely on the private sector knowledge of project management. The public sector could also define various conditions for the private sector to access climate finance. Rules governing private sector involvement should be more explicit, for instance, in terms of evaluation and control, with civil society organisations involved in project monitoring. The private sector might collaborate with local governments

51. For further information: <https://cortesuprema.gov.co/corte/index.php/2018/04/05/corte-suprema-ordena-proteccion-inmediata-de-la-amazonia-colombiana/>

to take forward existing measures to counter deforestation. Examples of these initiatives include sustainable cattle ranching and tracing the meat supply chain to better identify products from deforested areas.

Enhance institutional partnerships in climate adaptation efforts to help ensure that stakeholders are holding the government to account. They also prevent the likelihood of being seen as seeking a political profit from participation in inter-institutional schemes. Involve academia in partnerships as technical partners, with the support of private and social stakeholders. Academia-led coalitions might be less attractive for bribes since universities are subject to strengthened oversight by audit institutions.

Donors:

Improve coordination among agencies on the ground: Double-check if institutional presence overlaps with other international agencies and define areas of cooperation with peer agencies. Relatedly, check for a potential concentration of interventions and projects in relevant areas and gauge if this might lead to other areas being left behind. Better information systems and platforms can help identify where the resources are needed the most and where they are not. Agencies can consider operating a shared website to host certain information on projects' implementation status. Reporting to this platform should be mandatory for donor agencies and project developers at the local level, including regional environmental authorities. Detailed information should be sorted by categories and provide broad statistics and visualisations. Evaluations should also be available to the public.

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