

Assessment of Bucaramanga's Legislation and Policy through UN's Law & Climate Change Toolkit



University of Michigan, Taubman College of Architecture and Urban and Regional Planning in collaboration with the United Nations Human Settlements Programme and the Alcaldia de Bucaramanga, Colombia.

Ann Arbor, Michigan - 2022

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Funding

DOW Sustainability Fellowship

LACS Tinker Field Grant

Ford School International Policy Center

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EXECUTIVE SUMMARY

Introduction

The Law and Climate Change Toolkit (LCCT) is a legal assessment tool developed by the United Nations to assess national legal frameworks. The nation in question is then able to specifically target its legislative efforts at specific areas left unaddressed prior to the assessment. The assessment for Colombia was completed in 2021, in partnership with the Urban Planning Program at The University of Michigan. The LCCT has five assessment areas, namely a) Governance framework for urban and climate planning; b) Urban and territorial planning; c) Urban planning and design for adaptation; d) Urban planning and design for mitigation; and e) Economic and non-economic instruments for climate friendly urban planning

The University of Michigan Research Team adapted this national framework to the municipal level by analyzing Bucaramanga, Colombia's laws in the broader context of the national climate change legislative framework of Colombia. A summary of the analysis of each section is outlined below.

The Research Team searched Bucaramanga's online database to locate laws for the analysis. The Research Team then read the laws, interpreted them using the guiding questions posed by the LCCT. During the site visits, the Research Team was able to pose questions to local officials and tour infrastructure associated with Bucaramanga's climate change mitigation efforts.

Governance

The Governance section of the Toolkit provides an overview of the structure of institutions working to implement climate change laws focused on planning, mitigation, and adaptation. The structure of governance includes information on what level

of government the laws are stemming from, how much public participation is included, the level of data sharing and collection, and more. Using the Toolkit structure to analyze the laws of a municipality instead of a nation requires a more nuanced approach of interpreting the questions and a broader view of what is required by laws of the city of Bucaramanga, the Metropolitan Area of Bucaramanga (*Area Metropolitana de Bucaramanga - AMB*), regional agencies, the Department of Santander, and from Colombian national laws. Due to the national structure of government, the spaces in which Bucaramanga's government is able to create their own policies and laws may be limited within a structure in some areas or there may be new programs with none or little direction from the higher levels of government. However, within this national structure, Bucaramanga does have an active social public sphere that has been structurally incorporated into some aspects of decision making.

Planning Instruments

Planning Instruments serve as a fundamental tool for mitigative and adaptive strategies in advancing climate action for a new urban agenda. Under the UN Law and Climate Toolkit, Planning Instruments are categorized into National Territorial Planning, Regional Territorial Planning, and Spatial Plans for Urban Areas. The three distinct sections organize the various policy mechanisms (e.g., decrees, laws, and urban plans) to create actionable steps by the local, regional, and national entities toward climate action and prevention. On the municipal level, public policies improve equity, environment and sustainability, and economic development for the quality of life for disadvantaged communities, the general public, and Colombia.

On the national level, Colombia's national laws

and policies establish the parameters for spatial planning in decentralized units, such as departments, districts, and municipalities. Within the urban policy framework, Bucaramanga's laws, decrees, and plans acknowledge these planning parameters, concurrent competencies with higher planning bodies, observance of constitutional principles, and compliance with deadlines.

Using the development plans, the **Plan de Desarrollo Municipal (PDM)** and **Plan de Ordenamiento Territorial (POT)**, Bucaramanga upholds national and regional territorial provisions for climate action. The Alcaldia de Bucaramanga has adopted planning instruments from the wider Metropolitan area. Zonal structuring, partial plans, strategic urban operations, and master plans.

Within these initiatives, Bucaramanga establishes legal provisions that assess future land needs and uses while also identifying land safe from the effects of climate change adequate to meet these needs. Through effective development plans, Bucaramanga upholds an action-based approach to territorial planning by performing robust assessments.

Planning for Adaptation

The City of Bucaramanga's adaptation-based approach has forced the city to evaluate the risks that climate change poses to its people, economy, infrastructure, and urban ecology. This section of the Law and Climate Change Toolkit examines the extent to which Bucaramanga's adaptation-based approach to climate change planning takes risks to infrastructure, people, ecology, and the economy into account.

Through developing plans and legislation, the Municipality of Bucaramanga has implemented planning strategies to combat climate risk and its vulnerability to climate change. Efforts to engage the community would support a more proactive

approach to adaptation options, as detailed in the PMGRD, aimed at strengthening emergency response management. This approach should be done in alignment with planning strategies supporting climate risks. Furthermore, expanding participatory planning methods will promote the construction of initiatives and enable joint construction with the central administration, ensuring influence on the decisions of the public administration.

Decree No. 0090 of 2018 has proven to be an asset when framing municipal policy with the United Nations' Climate Change Policy Toolkit. This decree addresses various strategies for climate adaptation, yet these strategies are only authorized to be implemented in the development of the Norte Surata zone.

Early in 2022, the Municipality approved five resolutions to legalize and regulate informal human settlements in five parts of Bucaramanga. Bucaramanga has adopted legislation to support planned relocations, including the relocation of vulnerable populations and those living in informal human settlements.

Planning for Mitigation

Planning for Mitigation targets explicitly the energy efficiency, transportation, solid waste, and risk management sectors. The Tool Kit distinguishes the policies that proactively seek to remediate ongoing issues stemming from greenhouse emissions, infrastructure, and development in these sectors. This section outlines how the government can incentivize and monitor the use of energy-efficient buildings. However, given Bucaramanga's temperate climate, this may not be necessary.

Upon analysis of the legislation that applies to the framework, the most significant weakness in the

existing legal framework is Section 4.4: Energy Savings in Buildings. Building design specifications are handled at the national level, meaning municipalities do not need to legislate in these areas. Bucaramanga could pass legislation on building design specifications that go beyond the national requirements to make buildings in the city as friendly toward its microclimate as possible.

Financial Instruments

This section examines Bucaramanga's financial mechanisms for combating climate change. It examines the linkages between the national and local tools, in terms of generating revenue and allocating funding. Municipalities can spend nationally generated tax revenue on certain projects, generate tax revenue locally or earmark certain resources for climate change adaptation and mitigation.

Bucaramanga has allocated funding to clean technology, water preservation, green space preservation, and emergency response improvement. Municipal budget shortfalls from short term tax revenue shortfalls can be mitigated by a nationally issued, 0% interest bond system.

Bucaramanga has fostered public private partnerships to execute projects. These partnerships rely on input by stakeholders for success. Bucaramanga should clarify its non-economic strategies to facilitate their implementation.

ACKNOWLEDGMENTS

The research in this report was compiled by students from the University of Michigan's A. Alfred Taubman School of Architecture and

Urban Planning, The University of Michigan Law School, and the Gerald R. Ford School of Public Policy, with faculty advice from Dr Ana Paula Pimentel Walker.

The research was supported financially by the Graham Sustainability Institute at the University of Michigan, The Weiser Diplomacy Center at the Gerald R. Ford School of Public Policy at the University of Michigan, the Center for Latin American and Caribbean Studies at the University of Michigan through Tinker Field Research Center grants, and the Dow Chemical Corporation.

Thanks to the Graham Sustainability Institute Director Margaret Wooldridge and Elizabeth LaPorte for providing guidance on presentations and other logistics, as well as Dan Ellis from the Weiser Diplomacy Center for supporting the students through their financial aid applications.

In Colombia, the Team would like to thank the Bucaramanga Mayoral Staff: Rubén Amaya Julian Constantino Carvajal Miranda, Brayan Perez, Paola Ruiz, Juan Manuel Santos, Leidy Almeida, Ivan Dario Sanchez Florez, Catalina Ruiz, Miguel Orgolo, Lina Marcela Romero Colmenares, Cesar Augusto Stapper Ortega. The team would also like to thank the staff of GOAL Global for arranging research visits to the settlements.

From the Junta of Luz de Salvacion II, the team would like to thank Ligia Peña Rondon, Jose Cincente Estevez, Marta Ortega Jacomé, Blanca Inés Barrios Castellanos, Gilma Jimenez, Claudia Estafany Rieda Acevedo, Maria Consuel Guevara, and Flor Elide Maldonado. GOAL

Additionally, the project was made possible by representatives from the United Nations Andean Countries HUB staff Alejandro Saavedra and Vivienne Caballero. The United Nations Habitat team provided further assistance, as did the United Nations Office for the Coordination of Humanitarian Affairs.

Section 1 - Governance Framework for Urban and Climate Planning

Introduction

The following section examines Bucaramanga's laws and policies in relation to governance and institutional arrangements for climate change planning. This includes a review of the municipality's legal framework with regards to Multilevel Institutional Coordination, Participatory Governance, Data Collection and Sharing and Local Governments' Mandate for Urban Planning in Urban Areas.

The municipality's legal framework must be examined in relation to the regional and national laws of the area. The national framework of the Colombian government provides some direction for cities and regional departments to create programs to address climate change, include participatory processes, and guidelines for the planning process. There are also other aspects that the national government does not address through laws, allowing municipalities to create their own paths and prioritize their needs. This can be seen in Bucaramanga's individual projects and laws related to parks, implementing circular economy processes, and participation in comprehensive planning. The following section examines Colombian National Law and local Bucaramanga laws that address the coordinated governance of urban planning and climate related issues.

1.1 Multi-level Institutional Coordination

Bucaramanga's governance structure is unique because of its size and position in the region. Bucaramanga is the fifth largest city in Colombia and the capital of the Santander

department, a regional subdivision. Within Santander, Bucaramanga is the largest municipality in the Bucaramanga Metropolitan Area. In fact, Bucaramanga innovated by joining a few other municipalities nation-wide that applied to legally establish a metropolitan area.¹ The Bucaramanga Metropolitan Area consists of four individual municipalities, Bucaramanga, Floridablanca, Girón, and Piedecuesta, and has a coordinating body with a small professional staff. This coordination group's primary focus is metropolitan development projects of areawide significance like transport, mobility, water supply and sewerage, and housing.² Colombia's government structure utilizes geographic levels as well as independent agencies and councils to streamline certain aspects of government.

Vertical inter-institutional coordination between national, subnational, and local jurisdictions is fundamental for local action planning. The city of Bucaramanga complies with and acknowledges the relevance of intergovernmentalism in territorial planning. Colombia is a unitary and decentralized Republic, with administrative autonomy and distinct functions for departments, districts, municipalities and indigenous territories.³ **The Colombian Constitution of 1991** established a framework that allows for decentralization and administrative autonomy and the congress subsequently passed laws that promoted urban

¹ OECD 2019 Asymmetric Decentralisation: Policy Implications In Colombia, p. 28.

²<https://www.theiciip.org/sites/ciip/files/Competitive%20Cities%20Report%20Web.pdf>

³ The Political Constitution of Colombia, art. 1.

development ideals. This autonomy allows departments to pursue their own interests and

LDT contains language to encourage multi-level government participation⁴ through activities

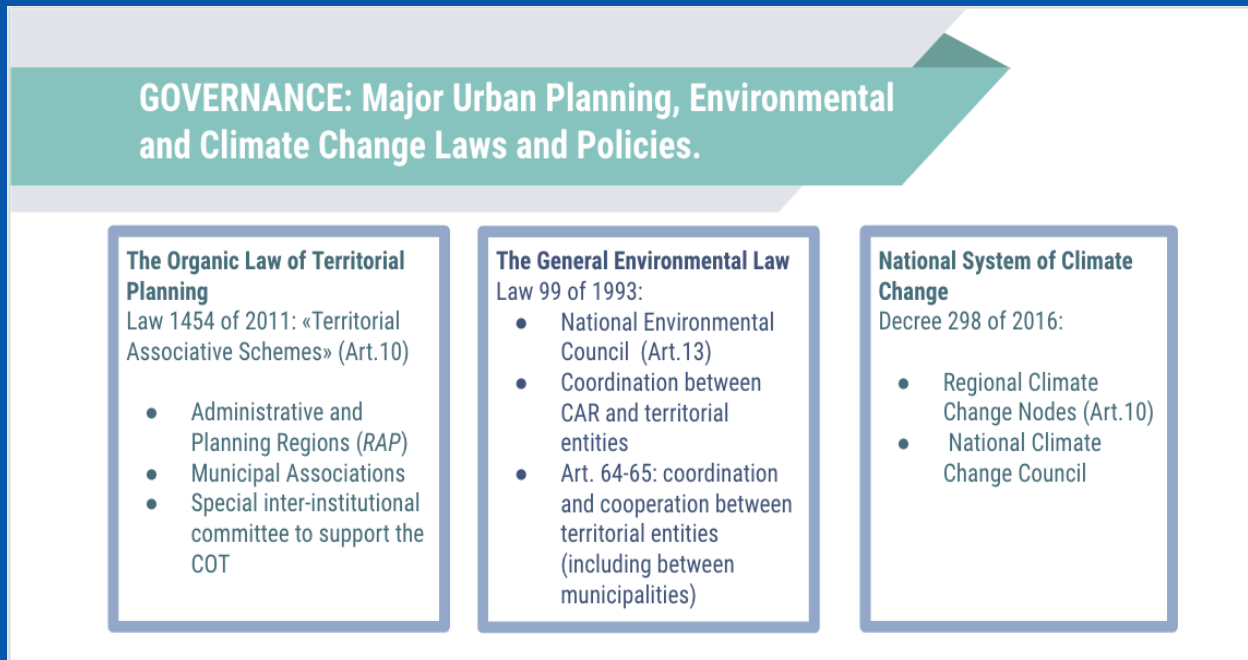


Figure 1: Major Urban Planning, Environmental, and Climate Change Laws and Policies.

Source: *Accelerating Climate Change Action*, Pimentel Walker, 2021

respond to residential needs while still following a national framework. The Constitution established the social and ecological functions of property.

National level laws in Colombia set the priorities and structure for land development. At the national level in Colombia, **Law 388 of 1997 (*Ley del Desarrollo Territorial (LDT)*, *Urban Development Law*)** demonstrates this principle of overarching legislation. The law promotes the principle of public interest in land use over private interest. The LDT introduced planning, land management, and financial tools to execute territorial development. The law adds two new principles, namely the public function of urbanism and the equitable distribution of benefits and burdens of urban development.

such as considering inter-municipal, metropolitan and regional relations; the conditions of ethnic and cultural diversity etc., however this coordination and consideration is not always explicitly mandated.⁵ For example, municipalities and districts are supposed to work together to create territorial action plans. The national government can also set standards as to how municipalities are to conduct themselves based on their population sizes. LDT also introduced a “cascade” planning system, at the top of the “cascade system” is the Land Use Plan (in Spanish, the Plan de Ordenamiento Territorial - POT) - the main planning tool for territorial development in Colombia.

Law 1454 of 2011 (*Ley 1454 de 2011*), the Organic Law of Territorial Planning, is another national level law that formally delegates the power to plan locally and requires the

⁴ Law 388 of 1997, Article 1, Paragraph 1.

⁵ Decreto NÚMERO 1077 DE 2015, Artículo 2.2.2.1.1.1

metropolitan areas to develop comprehensive long-term plans.⁶ The decentralization of planning allows for neighboring departments and municipalities to cooperate and promote community development, however, it is not required. **The Territorial Planning Commission (COT)** can advise departments, districts, and municipalities to facilitate and promote integration.

Institutional coordination comes from the top-down so many local laws will include the national level laws in the introductory paragraph to give background and purpose information, but have not codified them. For example, Bucaramanga does not have any laws requiring multi-level institutional coordination but there will be introductory stanzas in laws relating to urban development citing the national LDT. There are no laws within Bucaramanga’s books

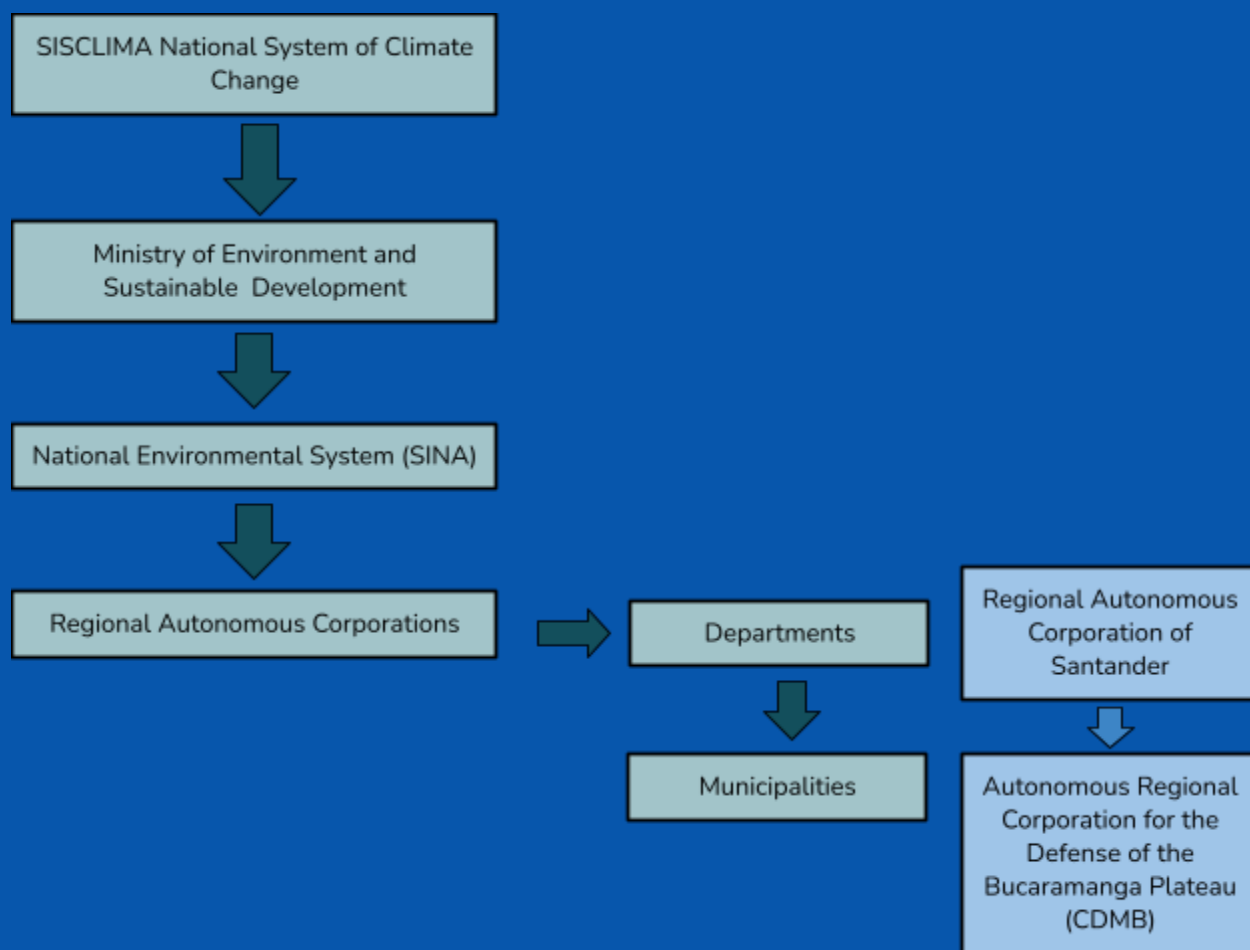


Figure 2: Major Entities Responsible for Environmental and Climate Change Planning, Multi-Level Governance.

Source: Authors, 2022

⁶ Ley 1454 de 2011 sobre el ordenamiento territorial article 4

requiring the city to coordinate among departments or coordinate across secretaries and offices at the local level. However, this is normal practice and can be seen in the interdisciplinary projects the city has taken on. For instance, the program to legalize informal settlements demonstrates how a national law promotes an

idea for land development and allows for autonomy in setting up the program and structuring it within a locality's office. **Agreement 048 of 2014 (*Acuerdo 048 de 2014*)** is a Bucaramanga law that adopts the national public policy of legalizing informal settlements in Bucaramanga. This law cites Colombia's Constitution, **National Law 9 of 1989**, **National Law 2 of 1991**, **Law 99 of 1993**, **Law 388 of 1997**, **Decree 1469 of 2010**, and **Law 1551 of 2012**, all of which discuss access to housing and ensuring government services to these settlements. This law adopts the public policy standards of the National laws and expands on the city's own process to legalize. The focus of the law is the interdisciplinary shift in the legalization process, specifically towards addressing climate change, pollution, public participation, and risk management. The legalization process requires the Secretary of Planning and the planning department, INVISBU (Institute of Social Interest Housing and Urban Reform, *Instituto de Vivienda de Interés Social y Reforma Urbana*), and an interdisciplinary team within the Mayor's office. This interdisciplinary legalization team is made up of social workers, lawyers, geologists, architects, and others that bring their specific knowledge to this process in order to incorporate these settlements into the urban framework of Bucaramanga.

Bucaramanga's municipal governance structure consists of a mayor and city council. The legislation regulating the Municipal Council of Bucaramanga can be found in **Agreement 031 of 2018 (*Acuerdo 031 de 2018*)**. This updated law incorporates national guidelines for city councils and provides the local council's structural role. There is not much consideration within the law for bottom-up coordination between the council and the regional or national government. One paragraph discusses the city working with the national and regional

governments to improve environmental sustainability and social equity in Article 60 (page 5). Section 20 of this article authorizes the mayor to work with regional mayors to organize public services and execute regional projects (page 41).⁷

The legal instruments related to climate change follow a more top-down model of advisory boards and councils at different levels of government. Furthermore, urban planning and environmental laws and policies preceded climate change law. For instance, the National System of Climate Change, *Sistema Nacional de Cambio Climático SISCLIMA* was established only in 2016 by **Decree 298**, two decades after most landmark environmental laws. **Law 99 of 1993 (*Ley 99 de 1993*)**, the General Environmental Law, created the Ministry of the Environment, a state entity charged with guiding and regulating the use of Colombia's territory and natural resources sustainably. This law created the "National Environmental System" (SINA) which is the authority that works with municipalities, departments, and Regional Autonomous Corporations.⁸

At the regional level, Colombia has several Regional Autonomous Corporations (Corporaciones Autónomas Regionales, CARs), which are public corporate entities established with legal status, administrative, and financial autonomy to manage territorial entities under their jurisdiction. The CAR territories are geographically designated by characteristics like similarities in ecosystems, geopolitics, biogeography, or hydro geography. The goal is to manage the environment and renewable natural resources, while promoting their

⁷ This section is authorized by Colombia's *Ley 1454 de 2011 (Law 1454 of 2011)*#, dictating norms on territorial planning. This section does not require coordination between municipalities and rural areas but allows it.

⁸ Ley 99 de 1993

sustainable development in accordance with the legal provisions and policies of the Ministry of the Environment and Sustainable Development.⁹ The department of Santander has its own CAR, known as CAS, which includes all the municipalities, except those included in the *Corporación Autónoma Regional de Defensa de la Meseta de Bucaramanga* (CDBM) (Autonomous Regional Corporation for the Defense of the Bucaramanga Plateau). The CDBM includes the municipalities of Bucaramanga, California, Charta, Floridablanca, Girón, Lebrija, Matanza, Piedecuesta, Playón, Río Negro, Suratá, Tona and Vetás.

Colombia's decentralized government structure can be seen as a hindrance to multi-level institutional coordination since there are no regulations requiring coordination between subnational governments. Notwithstanding, there seems to always be the option and opportunity for national inter-institutional, inter-jurisdictional, and local coordination through national and regional councils and commissions.

1.2 Participatory Governance

The first article of the 1991 Colombian Constitution establishes the country as a participatory and democratic republic. The constitution emphasizes public participation and prioritizes citizens assisting in decisions that will affect their lives, as described in Section 3 -

⁹Information provided by IDEAM: Institute of Hydrology, Meteorology, and Environmental Studies, consulted on November 18, 2022.

<http://www.ideam.gov.co/web/ocga/autoridades#:~:text=Las%20Corporaciones%20Aut%C3%B3nomas%20Regionales%20%2D%20CAR,o%20hidrogeogr%C3%A1fica%2C%20dotados%20de%20autonom%C3%ADa>

Urban Planning and Design for Mitigation . Article 79 of the **Collective Rights and the Environment** states that “every individual has the right to enjoy a healthy environment. An Act shall guarantee the community’s participation in the decisions that may affect it.”¹⁰

The General Environmental Law, **Law 99 of 1993** (*Ley 99 de 1993*), institutionalized the requirement of public participation in governmental decisions on environmental issues.



Figure 3: Members of the JAL of Bucaramanga's Luz de Salvacion II settlement in discussion with the Research Team

Source: Authors, 2022

The law mandates seeking community participation as a responsibility of the implementing bodies it created, such as the Regional Autonomous Corporations.¹¹ Similarly, **Law 1454 of 2011** (*Ley 1454 de 2011*), in Article 3. Guiding Principles of Territorial Ordering, participation is promoted and citizens are encouraged to take an active role in decision

¹⁰ The Political Constitution of Colombia, Art. 79

¹¹ Law 99 of 1993, Article 31

making. Associations of territorial entities will ensure participation on the community level.

Law 134 of 1994 (*Ley 134 de 1994*) provides the national regulations for public participation.¹² The law sets out regulations and processes for referendums, popular consultation, constituent assemblies, open councils for public comment, and citizen oversight. These rights and regulations are protected and expanded on by **Law 1757 of 2015 (*Ley 1757 de 2015*)**. The top-down structure of national laws does not require these regulations to also be codified within Bucaramanga's laws, but they are cited and followed.

Colombian national laws have created a structure of participatory governance that reaches all the way down to neighborhoods. There is political structure at the smallest community and organized up to the municipal level. National law created the *Junta de Acción Comunal (JAC)* and the *Junta Administradora Local (JAL)*.¹³ These *juntas* are locally elected councils of residents that represent their neighborhood or district on a council. The JAC is the most local body, solely representing a neighborhood. The JAL is composed of council members from different neighborhoods.

The *Juntas de Acción Comunal (JAC)* (Community Action Boards) have their origin in the 1950s as voluntary organizations in the rural areas. The Colombian Constitution of 1991 guarantees the freedom of association in its article 38. Since then, several regulatory frameworks have been applied to JACs. Colombia has hundreds of thousands of JACs. In Bucaramanga, the Asociación Municipal de Acciones Comunes, AMAC, coordinates with the municipal program of community development of the Social Development

Department, *Programa de Desarrollo Comunitario de la Secretaría de Desarrollo Social de Bucaramanga*, to ensure training and capacity building in the process to elect JAC's leadership. While the JAC operate at the neighborhood level, the *Juntas de Administración Local _ JAL _* operate at the level of the *comuna urbana* or corregimiento rural. Figure 4 further explains the differences between these two community organizations.

¹² Ley 134 of 1994

¹³ Ley 136 of 1994 and Decreto 1930 of 1979

Figure 4: Community Organizations in Local Participatory Planning

Five Functions of Juntas de Accion Comunal JAC	Five Functions of Juntas de Administracion Local
<ol style="list-style-type: none"> 1. Organize programs to improve the conditions of a sector and promote a sense of belonging to the community. 2. Resolve and eliminate the difficulties that may arise and address the problems that need to be solved, within their limits of its organization 3. Seek greater coverage and quality in public services in their sector. 4. Seek access to social safety nets for their neighbors. 5. Enter into contracts with public and private international, national, departmental and municipal companies in order to promote programs and projects in accordance with community and territorial development plans. 	<ol style="list-style-type: none"> 1. Participate in the elaboration of municipal plans and programs for economic and social development, and public works. 2. Monitor and control the provision of public services in the commune or corregimiento. 3. Distribute the global allocations assigned to them by the municipal budget. 4. Intervene in the discussion of the Investment Plan and the Municipal Budget, for which they will be heard by the respective Council commissions. 5. JALs are responsible for disseminating among the inhabitants of the jurisdiction the decisions made by the municipal administration regarding the planning of the urban commune or rural corregimiento.

Both bodies were created to give voice to communities and a structure in which to plan locally and organize a unified voice to coordinate with the city council or mayor. The objectives are to promote participatory democracy, create channels of communication, organize sustainable community development, and evaluate planning done in their communities.¹⁴

Having these local boards/councils creates a culture of participation that is then incorporated

into other aspects of government and planning. Since there are already these lines of communication with neighborhoods and districts (comunas), it becomes easier for the municipality to get feedback on their work and incorporate community voices into their efforts. Many national laws promote the idea of participation, but the creation of these *juntas* is what advances the idea of participatory governance into a reality where participation is the norm and residents have a say in the actions of the government.

The guiding planning document for Bucaramanga, **Accord 13 of 2020 (Acuerdo 13 de 2020- Plan de Desarrollo Municipal**

¹⁴ Article 16 is this Ley 2126 de 2021? <https://www.studocu.com/co/document/universidad-autonoma-de-bucaramanga/musicas-y-contextos-iv/ley-2166-del-18-de-diciembre-de-2021/30864617>

2020-2023), promotes and details the city's process and philosophy on public participation in urban planning. Interaction between the government and the public is guided by six concepts: participatory planning, communication, adaptability, transparency, gendered perspective, and the environment. The participation process for creating a plan included envisioning a future of the city, identifying problems at the neighborhood level, and prioritizing possible solutions. The public identified three overarching concerns among residents: unemployment (especially for young people), environmental quality, and water regulation.

The city held focus groups with businesses, environmental groups, groups of women, victims of the armed conflict, *junta* leaders, and other social groups to find solutions to these issues. Some of these participatory sessions involved organized rural residents (*ediles y edilesas*). They were tasked with expanding this model of participation to suburban parts of the city. Online participatory meetings were set up with other rural leaders and university faculty.

In addition to the *juntas*, Bucaramanga has shifted from including vague language promoting public participation to implementing programs and laws requiring the municipality to include participatory planning processes.

Decree 78 of 2008 (*Decreto 078 de 2008*) compiles Agreements 034 of 2000, 018 of 2002, 046 of 2003, and 046 of 2007 which make up the Territorial Ordering Plan (Plan de Ordenamiento Territorial) of the Municipality of Bucaramanga. The decree supports the Land Management Plan for the Municipality of Bucaramanga of 2002. Article 17 of this decree creates the strategy to “make citizen participation and co-responsibility a tangible reality that contributes to equitable and full

access to goods and services” in Bucaramanga.¹⁵ The decree exemplifies the way in which laws previously mentioned participatory governance. Specifically, the decree did not provide sufficient details about how participation should be facilitated or regulated.

An exemplary update to older regulatory frameworks of public participation, and an introduction to participatory governance can be found in **Decree 5 of 2022 (*Decreto 005 de 2022*)**. The decree updates the solid waste management plan (PGIRS) from a linear model to a circular economy model. This update opens an application process for recyclers to apply and be selected to the committee or technical working group that will formulate, implement, and update the plan.¹⁶ Program 7 of the decree includes three projects specifically targeting the inclusion of recyclers with affirmations of the trade, training on the circular economy, and inclusion of non-formalized workers.

Decree No. 0144 of 2016 (*Decreto 0144 de 2016*) created the Territorial Table of Social Accompaniment and Social Infrastructure of the Municipal Order "with the purpose of providing a healthy, calm and dignified environment for the families."¹⁷ There is a detailed description of who will make up this committee and topics to be discussed. However, there is little discussion of public participation. By 2021, public participation had become a priority and a structure for public participation was added to the Table with **Decree No. 0015 of 2021 (*Decreto 0015 de 2021*)**. This decree includes

¹⁵ Decree 78 of 2008, 3. Participación Ciudadana. Desarrollar entre las ciudadanas y ciudadanos, competencias y valores necesarios para hacer de la participación y la corresponsabilidad ciudadana una realidad tangible que contribuya al acceso equitativo y pleno a bienes y servicios, así como a relaciones de convivencia pacífica. (page 9)

¹⁶ Decreto 5 de 2022.

¹⁷ Decreto 144 de 2016

residents on the table and addresses public participation at meetings.

Decree 82 of 2020 (*Decreto 82 de 2020*) sets Bucaramanga's intentions to improve air quality and includes reference to the use of public participation comments as well as interest group feedback. A draft decree was placed online for residents to comment on for three hours. In addition, comments were received from interest groups, trade associations, and educational institutions. The decree sets the intention to continue to collect observations and comments from the public for air quality monitoring projects.

Decree 0159 of 2021 (*Decreto 0159 de 2021*) created a participatory budgeting committee to modify the planning process. The committee consists of the Mayor, Secretary of Municipal Planning, Secretary of Municipal Education, Secretary of Agriculture, "El Orientador," three representatives of presidents from Juntas Administradoras Locales (JAL), one representative from a rural JAL. Bucaramanga has even planned to triple the amount of resources allocated for participatory budgeting.¹⁸

Bucaramanga has not only prioritized participatory governance, but introduced it in a number of ways. The laws listed above show how participation has been included in laws that require interested parties to be included on decision making boards, opens up draft reports to the public, and introduces participatory budgeting to the city.

Bucaramanga's most recent Municipal Development Plan (*Bucaramanga: Una Ciudad*

de Oportunidades Para Todos 2020-2023) prioritizes participatory governance and outlines programs being created to facilitate more public participation. This plan was created using participatory methods, specifically coordinating with the Territorial Planning Council (*CTP-Consejo Territorial de Planeación*). The Territorial Planning Council is a locally elected council of experts nominated by members of the local administrative boards, NGOs, various sectors in the community, and the general public.¹⁹ This development plan identifies community stakeholder groups to target for greater participation and policy purposes. There is a specific focus on incorporating rural voices in addition to urban voices.

While participatory practices are growing and becoming the norm in Bucaramanga, these laws are still missing legal provisions that grant the public access to dispute or appeal mechanisms.

1.3 Data Collection & Sharing

Bucaramanga's legal provisions regarding data collection and sharing fulfill one out of three of the toolkit sections. There are no legal provisions requiring vertical and horizontal data collection and sharing in Bucaramanga's law, but Bucaramanga has some provisions for local data collection, and sharing.

Under Decree 1000 of 2018 (*Decreto 0100 de 2018*) Article 5, which is regarding the Committee of Vital Statistics, two representatives from the health and environment department (at least one epidemiologist and one statistician), a representative from the civil registry office, a representative from a territorial

¹⁸ Programa de Gobierno: Plan Desarrollo 2020-2023 "Bucaramanga, una ciudad de oportunidades", Versión Explicativa, <https://www.bucaramanga.gov.co/wp-content/uploads/2022/02/Programa-Juan-Carlos-Cardenas-Version-Explicativa1.pdf>

¹⁹ The creation of the council was permitted by national law, Law 152 of 1994 (*Ley 152 de 1994, Orgánica del Plan de Desarrollo de Colombia*). <https://colaboracion.dnp.gov.co/CDT/Consejo%20Nacional%20de%20Planeacin/Importancia%20CTP%20Gestion%20P%C3%B9blica.pdf>

office, a representative from the Instituto de Medicina Legal y Ciencias Forenses, and IPS from the municipality. This decree intends to share essential data and information between departments at the municipal level.

Accord 13 of 2020 (Acuerdo 13 de 2020- Plan de Desarrollo Municipal 2020-2023), the guiding planning document, contains various descriptions of data collected by different departments. Information from different planning instruments and departments was consolidated in a database to create categorizations during the participatory planning process.²⁰ Other sections of the plan discuss how unreliable the collection of data has been for environmental projects such as air quality and water quality.²¹ Along with the sharing of data, Bucaramanga can work on the systematic collection of data to be able to monitor and evaluate programs.

National level data is used on the local level. SISBEN III, the identification system for potential beneficiaries of social programs, is mentioned in Accord 13 but it is unclear what local level involvement is required in this data collection.

Overall it seems that there is sharing of data on multiple levels, but due to the decentralization of the government there is not a requirement for this data sharing written into law. Separately, Bucaramanga has prioritized the sharing of data with residents in an effort to be transparent and combat corruption. This type of data sharing is helpful in keeping the public informed and able to participate in the planning and environmental programs.

1.4 Local Government Mandates

Local government mandates are national level requirements put upon smaller, local level governments such as municipalities. The decentralized nature of Colombia's government reduces the likelihood of government mandates, instead there are authorizations. For example, Law 1454 of 2011 (**Ley 1454 de 2011**), delegates the power to plan to municipalities with only a couple of provisions about the roles and responsibilities.

Law 1625 of 2013 (**Ley 1625 de 2013**) allows for inter-municipal collaborations beyond administrative boundaries for urban and infrastructure planning, creating advisory committees.²² Law 1625 of 2013 strengthened the legal framework for coordination amongst municipalities within metropolitan areas, further supporting the Territorial Development Law by mandating cities to coordinate through the Metropolitan Board. This law calls on metropolitans to support municipalities in both technical and financial capacity.²³ However, the national congress regulates and caps the land tax, a primary revenue source for local governments, historically leaving local governments resource-constrained and unable to raise taxes and increase revenues.²⁴

The Área Metropolitana de Bucaramanga has been highlighted in external sources as having effective coordination and leadership at the metropolitan level. Connected Places Catapult, a UK-based innovation accelerator for cities, transport, and places., ranked Bucaramanga 20/58 for Metropolitan-level governance

²⁰Accord 13, Page 26

²¹ Accord 13, page 88

²² Law 1625 of 2013, Article 26

²³ Ley 1625 de 2013, Artículo 11, Paragrafo 1.

²⁴ Natalia Aristizabal (Harvard Law School), "Land Taxes in Colombia", World Bank, <http://www1.worldbank.org/publicsector/decentralization/June2003Seminar/Colombia.pdf>

coordination among Latin American cities,²⁵ Their report particularly highlighted the Metropolitan Bicycle Strategy that was guided and directed by UN-Habitat.

The United Nations' Law and Climate Change Toolkit has thus far been directed at evaluating laws and policies on the national level. The previous sections have already covered many of the institutional roles and responsibilities taken on at the local government level to address urban planning. These laws will also be further discussed in the next section.

Recommendations

While Colombia's top-down decentralized governmental structure has its strengths, providing more rigorous interregional and intermunicipal coordination would help cities like Bucaramanga. The centralized regulatory processes don't require subnational levels of governments to take on legislative responsibilities, however they are required to enforce the legislation created by the national government, for which they may not have resources.

The significant amount of public participation through the JALs and JACs can serve as an example in other countries. This governmental structure allows for more public input and accountability to the neighborhood level.

Include a model for public participation in **Decree No. 0144 of 2016 (*Decreto 0144 de 2016*)**, the Territorial Table of Social Accompaniment and Social Infrastructure of the Municipal Order "with the purpose of providing

a healthy, calm and dignified environment for the families."²⁶

While the Municipal Development Plan (*Bucaramanga: Una Ciudad de Oportunidades Para Todos 2020-2023*) and the Territorial Planning Council (*CTP- Consejo Territorial de Planeación*) contain clauses on public participation, the new editions of those plans could integrate it formally.

Colombia and Bucaramanga could benefit from the creation of a comprehensive data sharing structure. This would allow governments of all levels to share data horizontally and vertically, aiding each other in mitigating and adapting to the effects of climate change.

²⁵ Ley 1625 of 2013, Artículo 26, Paragrafo 1.
<https://1hir952z6ozmkc7ej3xlcfs-wpengine.netdna-ssl.com/wp-content/uploads/2021/04/Bucaramanga-Net-Zero-Profile-Final.pdf>

²⁶ Decreto 144 de 2016

Section 2 - Urban and Territorial Planning Section

Introduction

Planning Instruments serve as a fundamental tool for mitigative and adaptive strategies in advancing climate action for a new urban agenda. Under the UN Law and Climate Change Toolkit, Planning Instruments are categorized into National Territorial Planning, Regional Territorial Planning, and Spatial Plans for Urban Areas. The three distinct sections organize the various policy mechanisms (e.g., decrees, laws, and urban plans) to create actionable steps by the local, regional, and national entities toward



Figure 1: Cycling Infrastructure in Bucaramanga

Source: Authors, 2022

climate action and prevention. On the municipal level, public policies improve equity, environment and sustainability, and economic development for the quality of life for disadvantaged communities, the general public, and Colombia.

On the national level, Colombia's national laws

and policies establish the parameters for spatial planning in decentralized units, such as departments, districts, and municipalities. Within the urban policy framework, Bucaramanga's laws, decrees, and plans acknowledge these planning parameters, concurrent competencies with higher planning bodies, observance of constitutional principles, and compliance with deadlines.

Using the development plans, the **Plan de Desarrollo Municipal (PDM)** and **Plan de Ordenamiento Territorial (POT)**, Bucaramanga upholds national and regional territorial provisions for climate action. The Alcaldía de Bucaramanga has adopted planning instruments like zonal structuring, partial plans, strategic urban operations, and master plans from the wider Metropolitan area.

Within these initiatives, Bucaramanga established legal provisions that assess future land needs and uses while also identifying land safe from the effects of climate change adequate to meet these needs. Through effective development plans, Bucaramanga upholds an action-based approach to territorial planning by performing robust assessments.

2.1 National Territorial Planning

Bucaramanga's development plans closely align with national standards. In 1994, Colombia passed **Law 152**, the **Organic Law of Development Plans** (*Ley Orgánica del Plan de Desarrollo*) which establishes that the nation and its territorial entities, including municipalities, have the autonomy to elaborate and approve their development plans.²⁷ Simultaneously, the law requires local

²⁷ Ley 152 de 1994, Artículo 3.

and territorial entities to observe the principles of harmony and coherence between the municipal and other development plans. **Law 152 of 1994** also assigns municipalities, districts, indigenous and other territories, as much as possible, the same procedures as those it established for the national development plans.²⁸ Thus, the law focuses on formulating development plans for the Nation and public entities of the territorial order, setting the procedure for its preparation, approval, implementation, monitoring, evaluation, and control.

In compliance with the national Law 152 of 1994, Bucaramanga's Plan de Desarrollo Municipal - PDM, **Municipal Development Plan, 2020-2023 "Bucaramanga, City of Opportunities"** was approved by **Acuerdo 013 of 2020**.²⁹ The PDM outlines specific strategies to create a sustainable development plan for the city.³⁰ The PDM uses benchmarks to guide public policy toward these goals. The primary tool for this strategy is the **Municipal Environmental Management System** (*Sistema de Gestión Ambiental Municipal, or SIGAM*) which houses numerous action plans for air decontamination, climate change adaptation and mitigation, and greenhouse gas emissions reduction. PDM assesses the environmental risk of the municipality.

2.2 Regional Territorial Planning

In addition to planning at the national level, Colombia's planning instruments address planning needs on the regional and municipal levels, making Bucaramanga a case study for an integrative approach to environmental planning. Using the guidance of Law 152 of

1994, Bucaramanga has outlined four integral development plans that target climate action through different policy perspectives.

As done at the national level, Bucaramanga has financial mechanisms geared toward climate change mitigation. These mechanisms are discussed in the "**Plan de Desarrollo Municipal 2020-2023 'Bucaramanga, Una Ciudad de Oportunidades'**" created by the "Concejo Municipal de Colombia." It is also discussed in the **Plan Estratégico Metropolitano de Ordenamiento Territorial (PEMOT)**. These strategic plans guide Bucaramanga's efforts toward a "*Bucaramanga sostenible, una región con futuro*" ("sustainable Bucaramanga, a region with a future.") In addition, PEMOT serves as an intermediary between the strategic plans and the POT. Albeit an older development plan, its goals and mechanisms demonstrate the dedication to climate action on the regional level. A plan is an organizational tool for the surrounding areas of the Metropolitan area. It details the process of conducting research and creating guidelines, obligations, and strategies of the mechanisms for the management of proposals. This plan builds on Law 388 of 1997, Law 1454 of 2011, or Law 1625 of 2013, which all provide frameworks for territorial planning.

In the **Plan Integral de Desarrollo Metropolitano 2016 - 2026 (Law 1625 of 2013)**, Bucaramanga promotes overall development in the four municipalities through combined efforts which would be more easily achieved as a collective rather than just a particular municipality. This regional plan is a derogation of **Law 128 of 1994** and includes four Municipalities: Bucaramanga, Floridablanca, Girón, and Piedecuesta. The plan consists of five components:

- 1) Planning, government, and culture,
- 2) Productivity in the Metropolitan

²⁸ Ley 152 de 1994, Artículo 39.

²⁹ Bucaramanga, Ciudad de Oportunidades

³⁰ Bucaramanga Sostenible, una Región con Futuro, 2.2 Línea Estratégica

Economy,

3) Infrastructure of services and Metropolitan connectivity,

4) Sustainability and protection of natural resources,

5) Social Equity.

Transportation-related decisions in the Bucaramanga Metropolitan Area, comprising Bucaramanga, Giron, and Floridablanca, are guided by the **Plan Maestro Metropolitano de Movilidad (PMMM) 2022-2037** (Master Metropolitan Plan of Mobility). The purpose of the master plan is to create a sustainable and robust strategy to integrate all transit and mobility networks within the metropolitan area.

The **Municipal Development Plan 2020-2023 (Agreement N. 13 of June 10, 2020)** emphasizes the role of Bucaramanga in efforts towards equity, including disadvantaged communities by promoting sustainability, environmental consciousness, and growth.

At the metropolitan level all plans must interact, especially when the issue is the environment. For instance, Bucaramanga’s PDM and POT must be in conformance with metropolitan plans and the Corporación Autónoma Regional Para la Defensa de la Meseta de Bucaramanga, CDMB. This is the case for conservation areas established for water security in Alto Lebrija River Basin, the La cuenca Alto Lebrija y al Páramo de Santurbán.

2.3 Spatial Planning for Urban Areas

Spatial Planning for Urban Areas focuses on land use planning and regulations on ongoing development plans. This section explores the number of laws used for

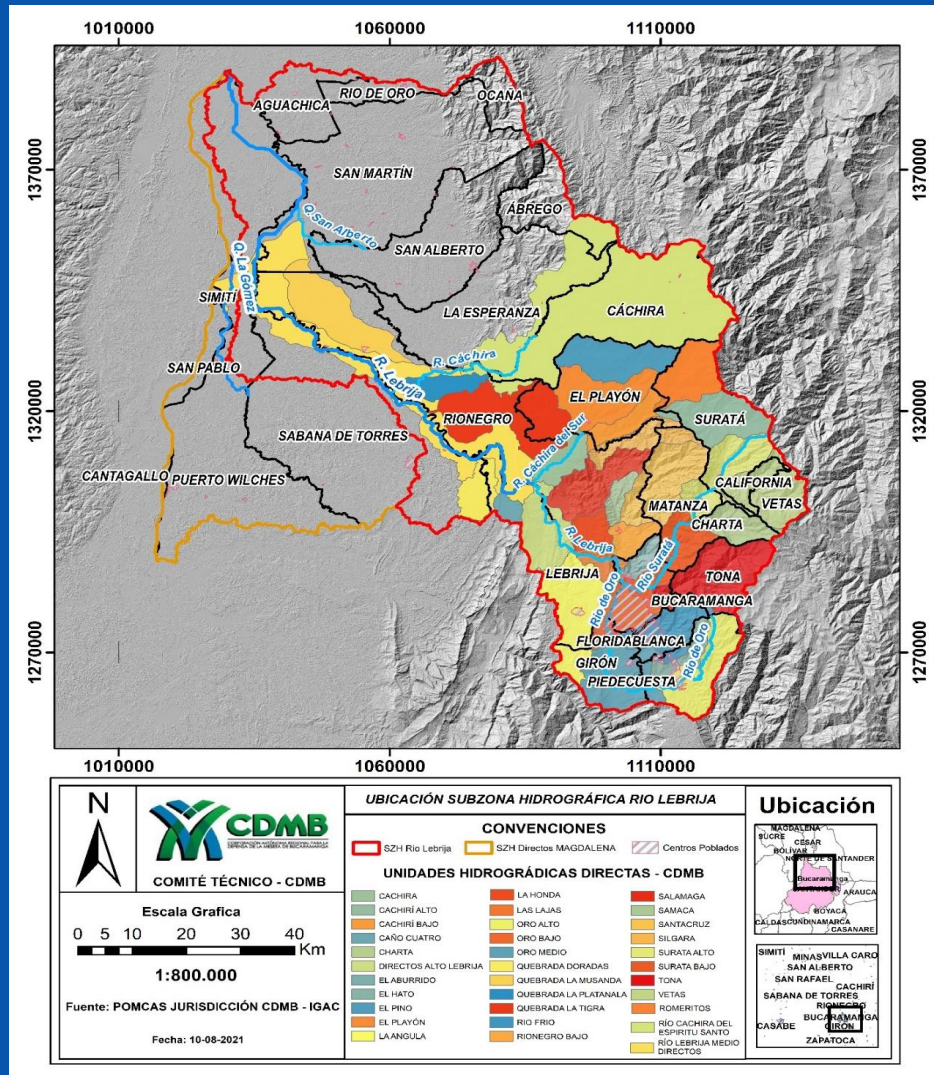


Figure 2: River Lebrija

Source: ERA - CDMB, IDEAM

creating a built and equitable environment within the municipality of Bucaramanga.

As one of the guides on land use rights, **Acuerdo No. 034 de 2000** includes land use provisions which are broken down into

permissible uses within urban areas of activity and include an urban growth boundary to manage the buildable area.³¹ The article allows several demarcated perimeters within the city for urban, expanded urban core, protected, and rural-suburban areas. Specifically, the expanded

process.³²

Acuerdo No. 034 and Decreto 078 include language on planning for environmentally at-risk areas. Since there is already active work to address climate risks and implement new

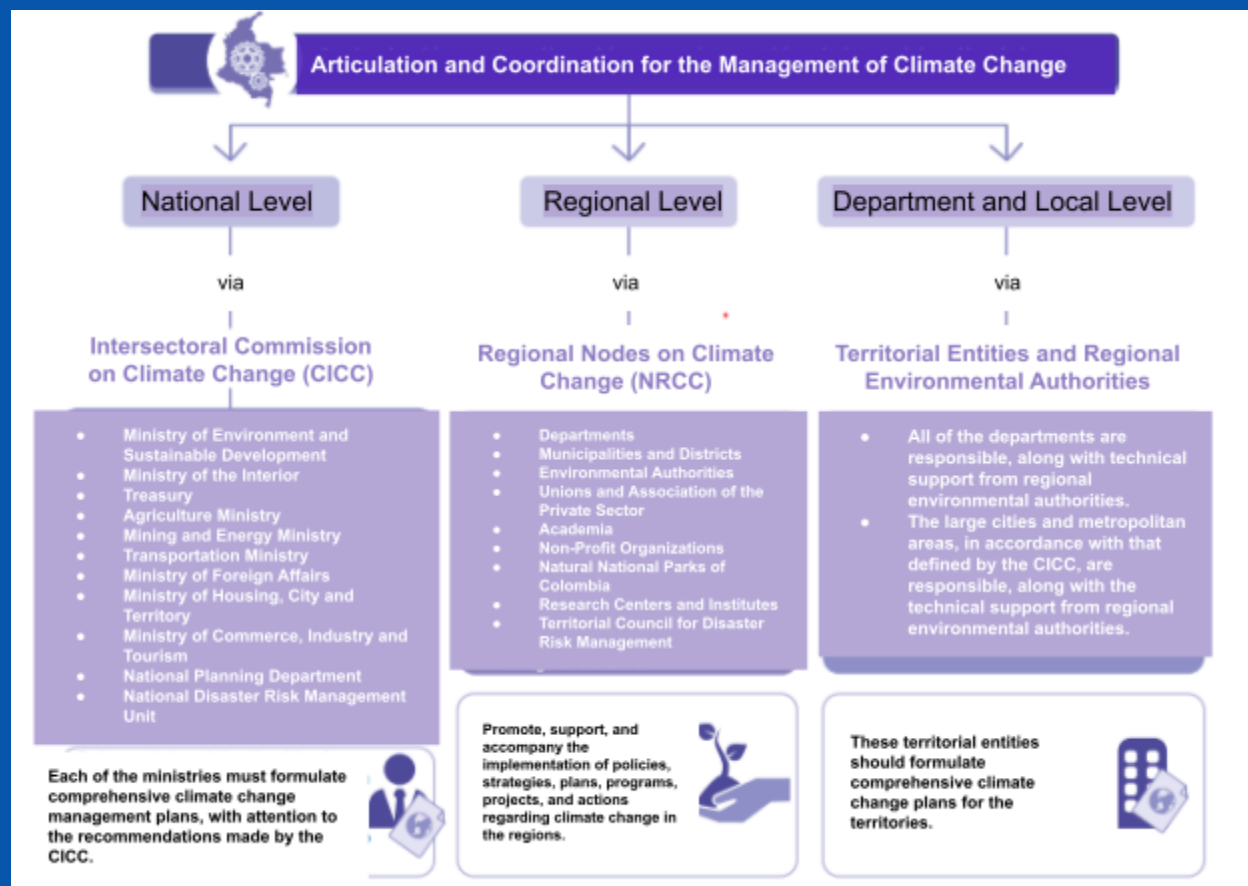


Figure 3: Articulacion y Coordinacion Para la Gestión del Cambio Climático Para

Source: Colombia Baja en Carbono

area ensures sufficient land to meet current and future needs and to develop progressive projects that integrate the city's periphery (Artículo 27). Additionally, **Decreto 078 of 2008** compiled regulations and justifications for territorial plans to streamline requirements and embed the municipality within the spatial planning

climate adaptation options, there is less focus on including legal provisions that require it. There are also no legal provisions requiring a planning horizon of at least 20 years. Articles within both laws push these land-use plans to assess future needs, but no specific date is set. These laws require Bucaramanga to implement national objectives from Colombia's territorial plan for the general road system, agricultural development and technology, and restoration of

³¹ Acuerdo No. 034 de 2000, pp. 166-232

³² This decree compiles national laws (Ley 388 de 1997 and Ley 810 de 2003) and municipal legislation (Decreto 2079 de 2003, el Acuerdo No. 004 de 2004, y 046 de 2007).

ecosystems. While Colombian law enables spatial planning within the municipality, few national objectives must be followed.

Planes parciales (partial plans) have also served as instrumental to Bucaramanga's spatial planning. Partial plans as a planning instrument supports the goals of territorial planning for existing urban areas. Based on the national understanding of partial plans, this serves as an opportunity to provide additional support and expand plans for urban space uses. For example, **Decreto 090 de 2018** adopted the zonal structuring for "Norte Suratá," which establishes guidelines, urban conditions, and land management, regulatory criteria. These partial

plans serve as the basis for the urban intervention processes that will be carried out in the North Suratá metropolitan expansion area

Recommendations

Bucaramanga has comprehensive plans addressing the economic, social, and environmental aspects of climate change. However, these plans do not have a definite time frame. Setting specific target dates for these plans would aid the city in meeting the benchmarks contained therein.

Section 3: Urban Planning and Design for Adaptation

Introduction

Background on Adaptation in Bucaramanga

Bucaramanga has moved away from response-oriented planning strategies regarding climate change to adaptation and mitigation-based ones since 1990. The city accomplished this shift by centering plans on the unique characteristics of the local land, weather patterns, and community. Our analysis indicates multiple and distinct efforts to preserve the

As part of its planning process, the Bucaramanga municipal government details the need to produce climate risk and vulnerability assessments and conduct estimates for future climate change-related vulnerabilities and risks. These assessments are detailed in three plans:

- (1) **Government of the Citizens: 2016-2019**
- (2) **Municipal Disaster Risk Management Plan Bucaramanga (PMGRD)**, and

Urban planning and design for adaptation – National Legislation and Policies

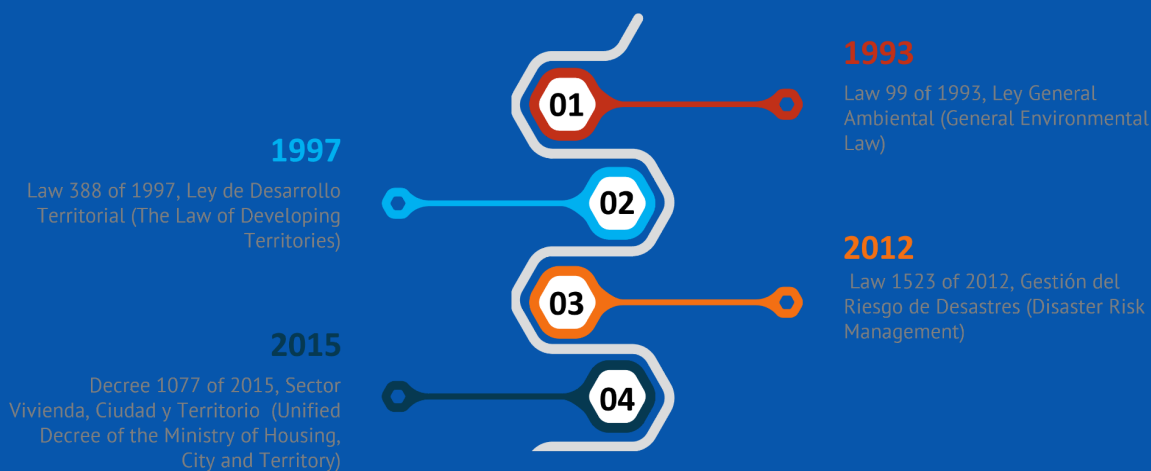


Figure 1: Urban Planning and Design for Adaptation - National Legislation and Policies

Source: Authors

health and well-being of residents against the increasing threat of climate change. These proactive planning strategies present an opportunity to protect the environment in addition to vulnerable populations.

(3) Bucaramanga, City of Opportunities 2020-2023

Legislatively, the Municipality has supported the implementation of adaptation planning methods. In 2020, the city government passed legislation to reduce greenhouse gasses. Adopted in 2018, **Decree No. 0090 of 2018, Estructuración Zonal Norte Suratá (North Suratá Zonal Structuring)** establishes adaptation measures as part of the development structure for the

expansion of the urban area Norte Surata zone as a complement to the Territorial Ordering Plan. The decree includes many planning strategies specific to climate adaptation.

The analysis reconciles the municipal and national policies and laws to adapt to climate change through legislation and planning tools. Additionally, the report focuses on the impact of laws and policies that affect those living in informal human settlements and other vulnerable populations.

3.1 Climate Risks and Vulnerability for Planned Areas and Infrastructure

3.1.1. *Climate Risks and Vulnerability Assessments*

The climate change tool kit provides a framework for governments to assess climate risk vulnerabilities for planned areas and infrastructure via its land and urban plans. On the national level, Colombia implemented **Law 99 of 1993, *Ley General Ambiental (General Environmental Law)***, which requires official environmental impact assessments during the decision-making process for construction projects “that significantly affect the natural or artificial environment.” In doing so, municipalities across the country must adhere to national risk management standards.

Law 1523 of 2012, *Gestión del Riesgo de Desastres (Disaster Risk Management)* adopts a disaster risk management policy, declaring disaster risk management as essential for sustainable development in Colombia and maintaining the safety, well-being, and quality of life of all its residents. The law establishes the National Disaster Risk Management System and empowers all levels of government, including municipal governments, to prioritize disaster risk management and integrate it into planning and development decisions.

In extension to previous law, **Decree 1807 of 2014, *La Gestión del Riesgo (Risk Management)*** establishes “the conditions and scales of detail to gradually incorporate risk management” into municipal and district land-use planning. Article 2 of the decree calls for technical studies to be incorporated into risk management for territorial planning.

With **Decree 308 of 2016, *Plan Nacional de Gestión de Riesgo de Desastres (National Disaster Risk Management Plan)*** Colombia adopts the **National Disaster Risk Management Plan, A Development Plan** for the period of 2015-2025, developed by the **National Disaster Risk Management System**. The Plan outlines a strategic risk management framework and includes a programmatic component. Strategies outlined in the plan include incorporating disaster risk management instruments and adaptation measures in development and land use planning.

The **Government of the Citizens: 2016-2019** plan details forty-three risk scenarios that are defined by the following categories: seismic activity, mass movement, flooding, forest fires, droughts and spillages due to transport or storage of chemicals³³. Each category expands on Bucaramanga's weather patterns and social conditions. This holistic review creates a city where residents can rely on meeting the challenge of climate change.

Similarly, the **Municipal Disaster Risk Management Plan (PMGRD)** characterizes the risks posed by natural hazards including seismic activity, erosion, landslides, flooding, and wildfires. It includes details on the unique factors that contribute to the municipality's vulnerability to the identified disasters. In the risk scenarios, the plan discusses the social,

³³ Government of the Citizens: 2016-2019, P. 169

economic, institutional, and physical factors that contribute to specific risk areas.

In an attempt to develop an urban model that incorporates elements of the main ecological structure, Article 10 of **Decree No. 0090 of 2018 (North Surata Zonal Structuring)** establishes the need for development projects to include risk assessments of natural phenomena. While this decree only applies to one specific development project in the urban area of Norte Surata, it serves as an example of adaptation strategies linking infrastructure and natural hazards.

3.1.2. *Methods and Processes to Conduct Risk and Vulnerability Assessments*

The legal requirements concerning methods and processes to conduct risk and vulnerability assessments are outlined in the **Municipal Disaster Risk Management Plan (PMGRD)**. Throughout this plan, there is a uniform method used to analyze, evaluate and conduct risk and vulnerability assessments. The plan demonstrates methodologies that draw from direct observation of boulders and historical accounts of earthquakes to then make recommendations on best adaptation strategies. As part of the PMGRD, detailed studies of threats and/or risks of mass removal and flooding phenomena were conducted. These studies are complemented with additional studies on issues pertaining to precarious urban settlements and neighborhoods as well as studies on flooding in informal and formal urban settlements. The studies intend to inform the risk management plan and make recommendations for adaptation strategies. In doing so they identify populations and land that are most susceptible to catastrophic outcomes due to natural disasters.

Other legal requirements for risk assessments were adopted specifically for the development of Norte Surata in **Article 10 of Decree No. 0090**

of 2018 which declares that mitigation measures for identified threats must be established in a manner that ensures the stability, habitability, and functionality of the area planned for development.

3.1.3. *Inclusive and Participatory Vulnerability Assessments*

Inclusive and participatory requirements as parts of vulnerability assessments are included in the **National Disaster Risk Management Plan, A Development Plan**. This plan aims to strengthen governance, education and social communication in risk management with a differential, gender and cultural diversity approach. The plan promotes strategies for disseminating risk knowledge for risk reduction and disaster management.

Since 2020, Bucaramanga has taken significant steps in embedding inclusive and participatory planning methodologies into its urban and land policies. For instance, the **Bucaramanga, City of Opportunities 2020-2023** plan prioritizes a participatory planning lens³⁴. A leading tenet in their engagement approach is to ensure that citizens can not only be present during key decision-making processes but also have the authority to intervene on public policies, deliverables in plans, and any programs or projects in the development plan that interest a specific population. These inclusive practices are vital for preserving the city's character and ensuring that municipal planning services extend to vulnerable populations.

3.1.4. *Identifying Potential Climate Hazards*

One of the goals of the **National Disaster Risk Management Plan, A Development Plan** adopted by Decree **308 of 2016 (National Disaster Risk Management Plan)** is to reduce

³⁴ Bucaramanga, City of Opportunities 2020-2023, Administrative Department of Public Function, 2018, p.26

damage caused by disasters in drinking water services.

As part of the analytical lens developed by the UN, the toolkit asks governments to create lists of hazards that need to be assessed. **Government of the Citizens: 2016-2019, Bucaramanga, City of Opportunities 2020-2023**, and the **Municipal Disaster Risk Management Plan Bucaramanga (PMGRD)** all identify multiple examples of climate hazards which include erosion, flooding, forest fires, and seismic activity. The PMGRD was produced by the **Bucaramanga Municipal Disaster Risk Management Council (CMGRD)**. It distinguishes and prioritizes climate hazards according to urban or rural spaces. For example, the document has identified geological faults, flooding, and landslides as key natural disasters for populations and infrastructure in both rural and urban areas. The **Municipal Disaster Risk Management Plan of 2013** (Plan Municipal de Gestión del Riesgo de Desastre de 2013) (PMGRD) also identified seismic activity, erosion and mass movement, mudslides, and flooding as priorities to preserve the environmental integrity of the city³⁵. Although surrounded by rich green spaces, the topography frames the challenges of protecting the city's ecology and promoting economic growth.

3.1.5. *Climate Hazard Maps*

The Climate Change Toolkit asks governments to identify locations where climate change hazards are most likely to occur. **National Decree 1077 of 2015 of the Housing Sector, City and Territory** recommends mapping climate hazards as part of the land use planning process. Following that recommendation, the PMGRD includes maps that display the earthquake, mudslide, and flooding risk throughout the city.

The **National Policy on Climate Change** (Política Nacional De Cambio Climático) promotes the advancement of a climate-resilient, low-carbon development pathway³⁶. It discusses the need to produce a geographic diagnosis of exposure and vulnerability in urban and rural areas³⁷. Meanwhile, the **PMGRD** produces multiple maps that visualize Bucaramanga's susceptibility to earthquakes, flooding, and landslides. The maps include groundwater, parcels of varying sizes, neighborhood boundaries and other natural features.

Article 3 of **Resolution No. 0297 of 2019, Política y Administración del Riesgo (Risk Policy and Management)** establishes the requirement for the creation of risk map to be used as a tool to identify, analyze, assess, and form preventative measures as a way to mitigate risk.

3.1.6. *Identifying People, Property, and Economic Sectors Exposed to Climate Risks*

People, property, and economic sectors that are exposed to climate change risk must be identified by the Climate Change Toolkit. Reducing the number of people and houses affected by disasters is a goal of the **National Disaster Risk Management Plan, A Development Plan**, adopted by Decree 308 of 2016.

Bucaramanga, City of Opportunities 2020-2023 provides details on key stakeholders vulnerable to natural disasters. The plan prioritizes involvement from government employees and everyday citizens and highlights residents from informal, and formal settlements as key stakeholders. Furthermore, Bucaramanga's Mayor's Office identified a range of interest groups and subjects of special

³⁵ Plan Municipal de Gestión Riesgo de Desastre, p. 9

³⁶ Política Nacional De Cambio Climático, p. 99

³⁷ Política Nacional De Cambio Climático, p. 119

constitutional protection in the plan. In creating the plan, they employed community engagement strategies such as focus groups held with business people, environmental organizations, women's and LGBTQI groups, youth, and the Municipal Board of Participation of Victims of the Armed Conflict. In addition, city representatives met with a board of directors that oversee the care for infants, early childhood, and adolescence and with the key figures that promote the city's culture³⁸.

3.1.7. Publicly Accessible Climate Hazard Maps

In order for these maps of environmental hazards to inform the public, they must be publicly accessible. The **PMGRD** outlines efforts to engage with community members and educate them on climate hazards. Part of this education includes engaging on a diverse range of formats which aim to translate material into easily digestible information including graphs that highlight key findings in maps. The plan noted that “panic and anguish are the immediate expressions in the community before, during, and after an emergency due to natural phenomena (earthquakes, landslides, and floods)”³⁹. Residents can be better prepared when they have access to maps and know their susceptibility to disasters. Community members feel empowered if they have the proper tools to make well-informed decisions during and after an emergency or disaster. In addition, disaster risk management requires that multiple players be involved in reducing the distress resulting from disasters⁴⁰.

3.1.8. Reviewing Climate Hazard Maps

The Climate Change Toolkit recommends that national climate change hazard maps be

³⁸ Bucaramanga, Ciudad de Oportunidades 2020-2023, p.30

³⁹ PMGRD, p. 51

⁴⁰ PMGRD, p. 51

reassessed every 10 years. Index 4 of the **Third National Communication of Colombia to The UN Framework Convention on Climate Change**, completed in 2015, includes results of a multidimensional analysis of climate change risk and vulnerability at the national level⁴¹.

Bucaramanga legally requires the mapping of management risk twice a year. Article 5 of **Resolution No. 0297 of 2019 (Risk Policy and Management)** appoints the Head of the **Internal Management Control Office** in charge of advancing the monitoring of consolidated risks. The resolution also requires the office to review the corruption risk map three times per year.

3.1.9. Assessing Climate Vulnerability Through Environmental or Strategic Impact Assessments

In order to minimize the effects of infrastructure on the local ecosystem, and the impact of climate change on infrastructure, the Climate Change Toolkit recommends that governments conduct environmental impact assessments or strategic impact assessments on urban plans and urban plans. **Bucaramanga, Ciudad de Oportunidades 2020-2023** details the region's high susceptibility to earthquakes. When creating development projects, the plan underscores the need to analyze seismic risk conditions and design strategies to adapt to them⁴². Adapting to natural disasters is key to navigating catastrophic scenarios and improves capacity to recover for all entities involved. A general objective of the **Disaster Risk Management Plan** is to establish a strategy that identifies, characterizes and prioritizes risk

⁴¹ Third National Communication of Colombia to The UN Framework Convention on Climate Change, p 198

⁴² Bucaramanga, Ciudad de Oportunidades 2020-2023, p. 171

scenarios to minimize the impacts of possible disasters and increase resilience.

3.2 Adaptation Options

3.2.1 *Adaptation Options for Identified Risks*

The Climate Change Toolkit asks whether the government in question has prioritized adaptation options for the risks and vulnerabilities identified in the previous section. The first criteria is whether or not the available options for adaptation to the effect of climate change are described in detail. The goal of the 2016 **National Plan for Adaptation to Climate Change** is to reduce the country's climate change vulnerability while increasing its capacity to respond to the threats and impacts of climate change. The plan discusses climate change adaptation strategies which include the reduction of climate change risks⁴³.

The **National Policy on Climate Change** aims to reduce the climate change risks and promotes climate change adaptation measures. The policy highlights disaster risk management at national, regional, and local levels.

The **PMGRD** references national policy as a critical guide in its design and decision-making processes. For example, the city aims to comply with the **Colombian Standard for Earthquake Resistant Design and Construction (NSR-10)**, **Law 400 of 1997**, and **Decree 926 of 2010**, which establish the need for structural reinforcement in buildings classified as essential⁴⁴.

In the North Surata expansion zone, Article 4 of **Decree No. 0153 of 2017, Calamidad Pública (Public Calamity)** requires development to consider waste treatment and management alternatives to minimize their volume and the

environmental impacts. This Decree emphasizes ecological risks posed by poor waste management and offers different methods to remedy them. This requirement is extended in **Decree No. 0137 of 2019, Comité de Vigilancia Parque El Carrasco (El Carrasco Park Surveillance Committee)**.

3.2.2 *Assessing Adaptation Options: Time, Cost, Benefits and Barriers to Implementation*

The Toolkit also asks whether the available options are identified based on cost, benefits, and barriers to implementation. **Law 1931 of 2018** establishes guidelines to support climate change management. It prioritizes “the implementation of climate change adaptation options that bring the greatest benefit in terms of reducing impacts for the population at the lowest cost or effort invested, and with the greatest social, economic or environmental co-benefits generated.”

3.2.3 *Prioritizing Adaptation Options*

The Toolkit recommends prioritizing the available mitigation options. **Decree 1077 of 2015, Sector Vivienda, Ciudad y Territorio (Unified Decree of the Ministry of Housing, City and Territory)** authorizes the Ministry of Housing, City and Territory with the management of public policy, plans and projects for territorial and urban development of the country. The decree dictates these policies, plans, and projects must prioritize sustainable land-use practices⁴⁵. On the other hand, **Law 1931 of 2018** prioritizes climate change adaptation options that generate the greatest social, economic or environmental benefits.

⁴³ National Plan for Adaptation to Climate Change, p. 43

⁴⁴ PMGRD, p. 55

⁴⁵ Decree 1077 of 2015, Sector Vivienda, Ciudad y Territorio, Artículo 1

3.2.4 Stakeholder Engagement

Stakeholder involvement is interrogated by the Toolkit as well. **Decree 330 of 2007** establishes environmental public hearing and allows for public comments to engage the community and social organizations, allowing them to weigh in on public and private requests for environmental projects and on their possible impacts.

Article 11 of **Decree No. 0153 of 2017 (Public Calamity)** requires development in the North Surata expansion zone to continue carrying out campaigns to raise awareness on solid waste management in the community.

3.2.5 Identifying Infrastructure-based and Ecosystem-based Adaptation Measures

The Toolkit advises the government in question to consider ecosystem-based and infrastructure-based adaptation measures. **Decree No. 0005 of 2022, Actualización Plan Gestión Integral Residuos Sólidos (PGIRS) (PGIRS Update)** establishes updating the PGIRS with the primary objective of redefining the solid waste management model, moving away from a linear model to a circular economy model, in accordance with the national solid waste policy to promote separation at the source⁴⁶.

Decree No. 0090 of 2018 establishes areas of environmental conservation and protection in the North Surata expansion zone in order to preserve, restore, and reinforce ecological connectivity⁴⁷. Article 28 of the decree establishes that land to be developed in the North Surata expansion zone must allocate public space for parks and green areas.

⁴⁶ Decree No. 0005 of 2022, Actualización Plan Gestión Integral Residuos Sólidos, Artículo 2

⁴⁷ Decreto No. 0090 de 2018, Artículo 6.2

Decree No. 0137 of 2019 establishes El Parque Contemplativo de Carrasco on a capped and sealed former landfill. This park converted a former source of environmental blight into a resource for the community, and stabilized the landfill to prevent collapse.

3.2.6 Targets and Benchmarks

To best assess the effectiveness of these measures, the Toolkit urges the government to set quantifiable benchmarks to assess the progress that the implemented adaptive measures have. Article 1 of **Decree No. 0082 of 2020, Medidas De Prevención Control De Contaminación (Pollution Control Prevention Measures)** adopts measures to reduce greenhouse gas emissions and emissions related to particulate matter PM2.5. This particle is an emission from internal combustion engines. This decree limits the days on which cars are allowed to be driven by the last digit of their license plate.

3.2.7 Integrating Climate Adaptation Strategies, Targets, and Measures

The municipality of Bucaramanga operates in concert with regional and national governments to ensure that they adhere to national policy and implement innovative practices to adapt their city. In addition, the city collaborates with multiple levels of government and departments to meet its climate change strategies, adaptation targets, and measures.

The **National Plan for Adaptation to Climate Change (2016)** includes details on the evaluation and monitoring of climate change adaptation strategies. It recommends that municipal and regional governments adopt metrics in their plans to evaluate the needs to protect infrastructure, people, economic sectors and ecosystems.

Bucaramanga has a risk management plan, the **Plan Integral de Desarrollo Metropolitano (PIDM)**, which includes the metropolitan region of Bucaramanga and collaborates with multiple stakeholders to implement strategies that meet adaptation targets and measures. The PIDM is designed according to environmental standards established by **Acuerdo Metropolitano No. 031 of 2014**.

3.3 Implementation of Adaptation Options

Section 3.3 of the toolkit asks if the government in question has legal provisions in place to implement climate change impact mitigation measures in planned infrastructure areas. Broadly, this is covered by **Decree No. 0005 of 2022 (PGIRS Update)**, which requires updating the PGIRS every twelve 12 years. The decree also calls for the evaluation of the PGIRS to ensure compliance to new standards set since its previous iteration. This decree furthers a commitment to environmentally friendly practices such as reinforcing recycling and promotes a circular economy for managing solid waste.

3.3.1 *Restrictions on Land Use and Development in Hazard Prone Areas*

The toolkit asks whether the government in question has development restrictions on land that is exposed to environmental hazards. One of the objectives of **Law 388 of 1997 , Ley de Desarrollo Territorial (Law of Developing Territories)** is to ensure environmental protection and disaster prevention. Article 1 of the law enables municipalities to promote “the prevention of disasters in high-risk settlements, as well as the execution of efficient urban actions.” Article 2 discusses territory planning, which must consider the social and ecological function of property.

The **PMGRD** identifies high risk zones by their susceptibility to climate hazards, and discusses the potential relocation of households from those areas. For example, the PMGRD details a need for a comprehensive intervention that aims to establish 30 hectares suitable for an urban macro project⁴⁸. The main goal of the 30-hectare project is to advance a process of resettlement for families that need decent and safe housing. This project aligns with the goals of sustainable urban development. Such a project requires collaboration among social, economic, political, and institutional actors to enact.

Bucaramanga has an incomplete network of laws protecting water resources and people by limiting development near waterways. In the development of Norte Surata, Article 7.3 of Decree No. 0090 of 2018 extends land protection to conservation and environmental areas as well as areas of threat and non-mitigable risk.

Article 1 of **Decree No. 0137 of 2019 (El Carrasco Park Surveillance Committee)** grants land protection for a park development project in order to compensate for the environmental impact of the historic use of the site as a landfill.

3.3.2 *Public Land Buffers*

The toolkit recommends that governments legally create buffer zones around watersheds. Nationally, **Article 330 of Decree 2811 of 1974**, gives municipalities the power to create buffer zones to mitigate the impact of anthropogenic activities on hydrologies.

Article 4 of Bucaramanga’s **Decree No. 0090 of 2018** states that the public spaces in the North Surata must be designated as environmentally protected and used as a green way as part of the

⁴⁸ PMGRD, p. 57

city's park system. **Article 7** limits the development that can take place in this area.

3.3.3 *Riparian Setbacks*

Setbacks from rivers are included as a part of the toolkit to protect watersheds from pollution and people from flooding or other adverse water related events. Article 8 of Decree No. 0090 of 2018 extends environmental protection to riparian buffer zones and areas with large slopes in the North Surata expansion zone.

The city has been purchasing land bordering waterways, especially the Rio de Oro, and limiting its development. However, undeveloped riverbanks are often settled informally, posing a challenge to Bucaramanga. Informal settlers in Bucaramanga often mine and sell sand from the river as a livelihood.

3.3.6 *Essential Infrastructure and Flood-prone High-risk Areas*

Law 388 of 1997 (Law of Developing Territories) follows the toolkit recommendations of avoiding sensitive or climate disaster-prone land for essential infrastructure. The law restricts land use according to natural hazards, and passes the authority of designating land as such to local governments.

Bucaramanga designated its environmental risk areas through the PMGRD. This assessment found that current development left lives, property, and public infrastructure exposed to potentially catastrophic flooding⁴⁹.

3.3.7 *Nature-based Stormwater Management*

The toolkit asks that governments include nature-based stormwater management practices, as the amount of stormwater is expected to

increase as climate change progresses. Article 12 of **Decree No. 0090 of 2018** requires that the sanitary and storm sewer system in the North Surata expansion zone include the necessary infrastructure for rainwater drainage and wastewater conduction.

Decree No. 0005 of 2022 advocates for a circular economy. Specifically, the decree establishes that the main objective of the PGIRS is to move away from a linear waste management economy into a circular economy, following national guidelines.

3.3.8 *Integrating Land Information Systems*

Law 1523 of 2012 establishes the **National Information System for Disaster Risk Management** at the national level to satisfy the toolkit recommendation that governments gather spatial data on climate risk areas. This information system is designed to improve emergency responses and offer information support to risk managers. However, because it exists at the national level, there is no such system specifically for Bucaramanga.

3.3.9 *Evacuation Routes*

The toolkit recommends that governments legally mandate the publishing of evacuation routes and safe locations in areas of high environmental risk. To strengthen emergency preparedness efforts, the city of Bucaramanga aims to inform its residents on best practices during an emergency. To prepare people at risk in the event of an emergency, the city is installing early warning systems and conducting evacuation drills for their protection⁵⁰. This work is already being undertaken in part by GOAL, an NGO that addresses humanitarian crises. This organization has created environmental disaster response plans for settlements in Bucaramanga.

⁴⁹ PMGRD, p. 14

⁵⁰ PMGRD, p. 34

3.4 Adaptation of Slums

This section asks what the adaptation process for informal settlements to climate change in the City of Bucaramanga is.

3.4.1 Tools for Urban Expansion, Infill, and Redevelopment

To include urban planning and land management tools for urban expansion, infill redevelopment to change the shape and configuration of plots, the Bucaramanga city council adopted the **Agreement No. 048 of 2015, Política Pública de Legalización de Asentamientos Humanos**

Later that year, the municipality of Bucaramanga adopted **Decreto No. 233 of 2015, Curaduría Social Cero (Zero Social Curatorship)**, which tasks the Secretary of Municipal Planning with the legalization of human settlements according to **Decree 1077 of 2015 (Unified Decree of the Ministry of Housing, City and Territory)**. **Decreto No. 233 of 2015** also discusses the process for legal recognition of buildings within informal settlements while providing details on the situations in which recognition of these buildings cannot be granted. Such conditions include buildings located in environmentally protected areas or zones and those located in



Figure 2: Example of houses in Luz de Salvacion II, an informal settlement in Bucaramanga

Source: Authors 2022

(Public Policy for the Legalization of Human Settlements) to “ensure a better urban planning of the municipality and guarantee decent housing for the poorest families who live in informal conditions” in 2015. This agreement authorizes the construction of housing for the resettlement projects of those living in areas where legalization is not possible due to the existence of non-mitigable risks.

zones with high unmitigable risks.

In the North Surata urban area, Article 5.4 of **Decreto No. 0090 of 2018** states that one objective of the expansion is to promote land suitable for the development of housing programs of social interest to address informal housing.

The municipality of Bucaramanga has passed resolutions that address informal settlements. **Resolution No. 0338 of 2021, Procedente y Proceso de la Legalización de Asentamiento La Fortuna (Origin and Process of the**

Legalization of Settlement La Fortuna), Resolution No. 0013 of 2022, *Modificación de Planos del Asentamiento Guayacanes* (Modification of Guayacanes Settlement Plans), Resolution No. 0014 of 2022, *Modificación de Planos del Asentamiento Punta Paraíso* (Modification of Punta Paraíso Settlement Plans), *Modificación de Planos del Asentamiento María Paz* (Modification of María Paz Settlement Plans), and Resolution No. 0016 of 2022, *Modificación de Planos del Asentamiento Brisas del Paraíso* (Modification of Brisas del Paraíso Settlement Plans) approved the legalization and regularization of the human settlement in the neighborhoods of La Fortuna, Guayacanes, Punta Paraíso, María Paz, and Brisas del Paraíso, respectively.

These decrees place the settlements into the jurisdiction of the municipal and regional plans, legalize the extension of utilities to the residents, and legalize lot demarcations. They also provide for a soil analysis, structural analysis of the buildings in the settlement, outline the obligations that are contingent to legalization, and demarcate public space.

3.4.2 *Standards for Slums and Other Vulnerable Settlements*

To include differentiated and flexible planning and infrastructure standards for slums and other vulnerable settlements, **Law 388 of 1997 (The Law of Developing Territories)** requires the development of social interest housing projects for low-income households, including precarious human settlements. The law offers a medium-term strategy to develop these programs with comprehensive improvement plans, which “provide guidelines and parameters for the location on urban land and urban expansion of land necessary to meet the demand for low-income housing.”

In accordance with **Law 1955 of 2019**, social interest housing projects must maintain quality standards in terms of urban, architectural, and sustainable design, including measures that save water and energy.

Article 1 of **Decree No. 0144 of 2016, *La Mesa Territorial* (The Territorial Table)** establishes the Territorial Table of Social Accompaniment and Social Infrastructure of the Municipal Order “with the purpose of providing a healthy, calm and dignified environment for the families”. This decree is expanded in 2021 with **Decree No. 0015 of 2020, *Deroga Decreto No. 0144 de 10 Octubre de 2016* (Repeals Decree No. 0144 of October 10, 2016)**. In expanding this decree, the municipality aims to achieve adequate sustainability and stabilization for families while providing a healthy, calm, and dignified environment.

3.4.3 *Participation of Owners and Residents of Slums in Upgrading*

The Toolkit asks the city to outline its process of inclusion of all owners and tenants in vulnerable settlements in the planning process of upgrading settlements.

Under **Acuerdo 013 de 2016**, the “Proyecto de 20,000 Hogares Felices” (“20,000 Happy Homes Project”) aims to convert 200 hectares of rural land into affordable housing units⁵¹. The objective is to reduce the lack of quality housing units and embed new housing units in the social fabric of the municipality. Allotment of these parcels will be according to families that are considered in most need. Additionally, the residences will have high standards for development, which will include ample public spaces. Homes managed by this project will be financed and constructed in a dignified, livable manner.

⁵¹ Government of the Citizens: 2016-2019, p. 71

3.4.4 Community-Led Surveys, Maps, and Household Enumerations

To ensure the inclusion of all necessary people, the toolkit asks whether the government in question has laws requiring community-led surveys, maps, and censuses to facilitate the adaptation of slums and other vulnerable settlements.

There is no legislation governing the frequency of surveys, maps, or household enumeration at the national, regional, or local level. The Departamento Administrativo Nacional de Estadística (Department for the Administration of National Statistics) gathers statistics at the national level, however not at regular intervals⁵². This provides local governments with challenges in tracking population numbers and changes.

3.4.5 Accessibility of Water, Sanitation, and Electricity Services

The Toolkit also asks whether the city has provisions that ensure the accessibility of water, sanitation and electricity services based on the provision of customary and non-documentary forms in addition to formal tenure and rights documents.

In their management of public policy, plans, and projects for territorial and urban development of the country, the Ministry of Housing, City and Territory must consider “the provision of public services of drinking water and basic sanitation” in accordance with Article 1 of **Decree 1077 of 2015**. The decree allows for home improvement interventions to be “carried out in neighborhoods likely to be legalized... as long as the legalization process has been initiated.”

⁵²<https://www.dane.gov.co/index.php/en/about-dane/institucional-information/generalities>

3.4.6 Affordability

Article 2 of **Decree 1077 of 2015** establishes that policies, plans, and projects managed by the Ministry of Housing, City and Territory for territorial and urban development should consider “the conditions of access and financing of housing”. This is in response to the Toolkit asking whether there are legal requirements to maintaining the affordability of housing in upgraded settlements.

3.4.7 Assessment

To meet the requirement of assessment of the urban plan’s ability to adhere to the city’s climate change and development plans, the **Municipal Disaster Risk Management Plan Bucaramanga (PMGRD)** references the Colombian Standard for Earthquake Resistant Design and Construction (NSR-10), Law 400 of 1997 and Decree 926 of 2010, which establish the need for reinforcement in buildings as essential.

3.5 Planned Relocations

This section is intended to outline what laws the government in question has to support the planned relocation of people in areas to the effects of climate change, and what laws exist to support the people that will be relocated in these efforts.

3.5.1 Land for Relocation Resulting from Extreme Weather Events

Law 1523 of 2012 (Disaster Risk Management) explains that risk management must include mechanisms for the relocation of settlements during situations of disaster or public calamity in a manner that prevents high-risk resettlement. The purpose of this is to set aside land for relocation in the event of extreme weather, as suggested by the Toolkit.

3.5.2 *Resettlement Land and Climate Hazards*

The Toolkit asks whether the land set aside for resettlement is required by law to be safe from climate hazards. The City of Bucaramanga has multiple avenues to resettle people due to housing and climate hazards (PMGRD). Such programs include the 20,000 Happy Homes which cater to low-income families. This program sets aside 200 hectares of land outside of the city for a planned development in an environmentally secure area.

In accordance with Article 40 of **Law 1523 of 2012**, risk management mechanisms for the relocation of settlements during situations of disaster or public calamity should include the transformation of areas, the use of land reserves for resettlement, and “the use of legal instruments for the acquisition and expropriation of real estate that are necessary for the relocation of populations at high risk”.

The **PMGRD** discusses relocating households due to high-risk zones defined by flooding. However, they expressed concern regarding relocation efforts because vacated properties are then reoccupied. Often these housing units are reoccupied because they are available at a low cost to families in need⁵³.

3.5.3 *Inclusive Consultation and Engagement*

Bucaramanga, Ciudad de Oportunidades 2020-2023 reiterates the importance of protecting the rights of minorities and vulnerable groups, which is encouraged by the CCTK concerning relocations. The plan is a strong proponent of social inclusion of historically marginalized populations and a facilitator of civic participation in the social, political,

economic, and cultural spheres. It frames the Municipality’s efforts as a necessary tool.

3.5.4 *Relocation & Livelihood Opportunities, Water and Food Security, Sanitation, Education, and Health Facilities*

To minimize the impact of relocations on people, the Toolkit asks whether the government of Bucaramanga will supply utilities and livelihood opportunities to relocation sites. The strategy for developing low-income housing detailed in **Law 388 of 1997** provides guidelines on the mechanisms used for the “relocation of human settlements located in areas of high risk to the health and integrity of their inhabitants” These include strategies that prevent job disruption.

According to **Government of the Citizens: 2016-2019**, more than 60,000 people live in precarious settlements in Bucaramanga. Approximately 20% of residents live in informal settlements, most of which live in poverty or extreme poverty⁵⁴. The plan aims to develop comprehensive plans that improve the infrastructure of informal settlements. In particular, the plan acknowledges the disconnect between public services and people living in recently legalized settlements⁵⁵.

3.6 Security of Tenure

3.6.1 *Legal recognition of Various Tenure Forms*

Bucaramanga has a long history of recognizing informal settlements in the interest of providing impoverished residents with homes. The Law and Climate Change Toolkit asks whether Bucaramanga recognizes multiple forms of land tenure, including customary rights, informal tenure rights and occupation. **Law 1001 of 2005**

⁵³ PMGRD, p. 39

⁵⁴ Government of the Citizens: 2016-2019, p. 117

⁵⁵ Government of the Citizens: 2016-2019, p. 25

requires public entities to cede land “illegally occupied for social interest housing, as long as the illegal occupation has occurred prior to November 30, 2001” by an administrative resolution, which will constitute a title deed.

Such laws were expanded and amended by others, including **Decree 1077 of 2015** and **Law 2044 of 2020** which grant ownership to residents of precarious and informal human settlements with demonstrated occupation or possession for ten or more years.

Decree 1203 of 2017 explains the legalization process of human settlements, which includes the municipal administration recognizing the existence of a human settlement consisting of low-income housing, approving urban plans and issuing urban regulations “without contemplating the legalization of the property rights.”

Law 1848 of 2017 explains the formalization, titling and recognition of human settlements. In Article 6, the law allows the recognition of buildings that were constructed without the resident or builder having obtained “the respective license, as long as they comply with the intended use by current urban regulations and that the building has been completed at least five (5) years before the request for recognition.”

3.6.2 Process to Regularize Informal Land and Property Rights

Regularization processes are another aspect of government and legal structures that the Toolkit examines. **Decree 1203 of 2017** modifies **Decree 1077 of 2015** and regulates **Law 1796 of 2016** in terms of processing urban planning licensure, which grants the right to use and exploit land. This includes permitting for “the occupation of public space with any kind of furnishing.”

According to **Decree 1203 of 2017** legalization “implies the incorporation to the urban perimeter and services and the urban regularization of the human settlement”, clearing the way for informal settlements to be connected to municipal utility and service networks.

3.6.3 Tenure forms in the Official Land Information System

The Toolkit asks whether multiple forms of land tenure are recorded in the official land information systems of the country. **Law 1001 of 2005** grants informal settlements occupied before November 30, 2001 with the opportunity to obtain a title deed that “once registered in the Office of Public Instruments, will be full proof of ownership.” This gives long-term informal residents a path to a permanent tenure.

3.6.4 Conducting Evictions and Relocations

Regulations on evictions are another area that the Toolkit investigates. Chapter VIII of **Law 2044 of 2020** provides protection from evictions to residents who can prove they have lived on an illegally developed piece of public or private land continuously for ten years or more. The law does permit evictions in the interest of connecting utilities, or other public infrastructure, clarifying article 58 of Law 388 of 1997. Protections such as these further the ability of residents in informal settlements to remain in their homes despite competing economic or governmental interests.

3.6.5 Land acquisition and Compensation

The Toolkit asks whether governments have laws that entitle evictees to compensation, regardless of their land tenure status. Article 30 of **Law 2044 of 2020** amends Article 53 of **Law 9 of 1989** to allow the city to evict and relocate residents of settlements in environmental high-risk or vulnerable locations.

Law 2044 of 2020 explains that land acquisition due to forced expropriation may not be valued at “less than seventy percent (70%) of the commercial appraisal of the property defined by experts.”

The acquisition price for voluntary expropriation shall be equivalent to the commercial value determined by approved experts as determined by **Decree-Law 2150 of 1995**. Payment may be in the form of “cash or in kind, in securities, construction and development rights, participation rights in the project to be developed or exchange.”

These laws ensure that residents of informal settlements are still protected and receive compensation in the event of a land seizure.

3.6.6 Access to Formal Mechanisms for Land and Property Disputes

Law 2044 of 2020 establishes that appeals against evictions “must be filed within fifteen (15) days following the date of the notification”. This law answers the question of whether or not there is an appeals process for evicted residents. Once two months have passed since the appeal, and no resolution has been reached, then the appeal “will be understood as denied”. The goal of this legislation is to give residents the opportunity to defend themselves in court if they are under the impression that their eviction was illegal.

3.6.7 Alternative Dispute Resolution Mechanisms for Land and Property Disputes

Bucaramanga has no has no municipal laws that create alternative dispute resolution mechanisms for land and property conflicts such as customary institutions, negotiation, mediation, or arbitration, as recommended by the toolkit. This can leave residents in informal settlements exposed to unjust evictions.

3.7 Development Approval and Adaptation

Many of the legal areas discussed in this section, like planning and design standards for adaptive measures to climate change are covered under national legislation, leaving local jurisdictions without the need to regulate these areas themselves.

3.7.1 Linking Development Approval Process

Development should fall in line with local, regional and national planning frameworks that take climate risk into account, according to the Climate Change Toolkit. At the national level, the approval of informal settlements is dictated by **Decree 1203 of 2017** which modifies **Article 2.2.6.5.1 of Decree 1077 of 2015**. Bucaramanga has created a legalization process that fits within the national framework, as shown in Section 3.4.1. The PEMOT, PMGRD, and regional and local development plans include geological and environmental assessments of Bucaramanga and the surrounding areas. These restricted areas are unstable terrain that is at risk of mud or landslides during rain events or earthquakes, or areas that are at risk of flooding. To prevent these areas from being settled permanently, the city will not legalize informal settlements there.

3.7.2 Developer Costs & Monitoring Compliance

The Toolkit asks whether developers must make cash or in-kind contributions to adaptive measures in order to secure approval for their projects, and whether or not they must comply with monitoring of their work. Article 37 of **Law 388 of 1997** allows districts or municipalities to establish compliance regulations and impose fines on developers who encroach on public space requirements. **Decree 1203 of 2017** explains urban planning licensure requires compliance with urban, architectural, and structural regulation.

Since the adoption of the 2015 Paris Climate Accords by Colombia, the private financial sector has provided effective financial incentives in partnership with national agencies to steer the construction sector toward energy efficiency and greener building practices.

3.7.3 *Mechanisms for Enforcement of Compliance*

The Toolkit asks whether the government has enforcement mechanisms in place in the event that developers do not comply with development plans and laws. This area is covered under national legislation. **Article 38 of Law 388 of 1997** established that all citizens are entitled to the benefits of urban planning and development. This includes benefits derived from preserving the natural environment as well as those derived from the physical built environment. Therefore, **Law 810 of 2003, Sanciones Urbanísticas (Urban Sanctions)** expands on **Law 388** to include financial penalties on entities that encroach on ecologically protected land.

Recommendations

Through developing plans and legislation, the Municipality of Bucaramanga has implemented planning strategies to combat climate risk and its vulnerability to climate change. The Municipality's robust Disaster Risk Management Plan helps minimize climate change impacts and increase resilience. Recently, a focus is being placed on efforts that ensure those living in informal human settlements and other vulnerable populations are able to better adapt to climate change and its impacts. To measure the success of these efforts, the Municipality should consider establishing clearer benchmarks and standardizing the monitoring of those benchmarks, ensuring all adaptation measures are available and relevant as options in informal human settlements and to other vulnerable populations, or provide alternative measures that

can be implemented in these communities. This should be done in collaboration with community leaders of informal settlements as well as the inclusion of persons living with disabilities, older adults, households headed by single mothers, street-based folks, ethnic minorities, and LGBTI individuals.

Efforts to engage the community would support a more proactive approach to adaptation options, as detailed in the PMGRD, aimed at strengthening emergency response management. This approach should be done in alignment with planning strategies supporting climate risks. In the expansion of the North Surata zone, the municipality required the continuation of grassroot strategies to educate the community on waste management, which would help lessen ecological risks. Through participatory planning, the municipality can reinforce goals set in the PMGRD. These efforts would be strengthened by establishing a rigorous method of evaluating their impact on multiple stakeholders. For example, it is important to know how renters, homeowners, business owners, and other vulnerable populations, such as children and the elderly, are impacted by the PMGRD and whether there are populations that the PMGRD does not reach. In doing a rigorous impact evaluation of the PMGRD's success, the city can bridge the gap between emergency preparedness and the ability for vulnerable populations to recover. Analyzing the success of these efforts and other adaptation measures, can help guide the standardization of best adaptation practices specific to the municipality.

Furthermore, expanding participatory planning methods will promote the construction of initiatives and enable joint construction with the central administration, ensuring influence on the decisions of the public administration. This principle allows citizens to intervene in decision-making related to public policies and

lines of action that are specified in plans, programs, or projects of the development plan that interest a specific population (Administrative Department of Public Function, 2018) (Bucaramanga, City of Opportunities 2020-2023, p.26). Promoting participatory planning methods among target groups that have traditionally not been represented such as persons living with disabilities, older adults, households headed by single mothers, street-based people, ethnic minorities, LGBTI individuals, will support their inclusion.

Decree No. 0090 of 2018 has proven to be an asset when framing municipal policy with the United Nations' Climate Change Policy Toolkit. This decree addresses various strategies for climate adaptation, yet these strategies are only authorized to be implemented in the development of the Norte Surata zone. Decree No. 0090 of 2018 can act as a model for establishing and expanding planning adaptation strategies in the Municipality of Bucaramanga. The Municipality should consider conducting a review of the success of the adaptation strategies and build upon those findings to establish more comprehensive adaptation strategies for all development in Bucaramanga.

Early in 2022, the Municipality approved five resolutions to legalize and regulate informal human settlements in five parts of Bucaramanga. These resolutions present an opportunity for the Municipality to expand adaptation strategies in these informal human settlements and precarious settlements in general. Just as it did in the Norte Suratea development area, the municipality can address climate adaptation strategies in detail for the development of these informal settlements.

Bucaramanga has adopted legislation to support planned relocations, including the relocation of vulnerable populations and those living in informal human settlements. However, legislation that supports the security of tenure and development approval and adaptation processes in Bucaramanga exists only at the national level. Securing tenure can be addressed as the Municipality develops adaptation strategies to implement in the legalization and regulation of informal human settlements.

Section 4. Planning for Mitigation

Introduction

While climate action is not directly embedded in the Colombian Constitution, Colombia's national government was a signatory of the 2015 Paris Climate Accord. Since then, governments of all levels have implemented policies and initiatives to mitigate the effects of climate change across the country. Bucaramanga's Municipal and Metropolitan plans were developed and implemented in response to Colombia joining the Paris Accord.

On the local level, **Planning for Mitigation** is a critical tool for urban planners to combat ongoing climate change issues. Municipal governments face challenges in implementing large-scale and sustainable policies. Over the past 15 years, previous Mayors of Bucaramanga have signed and enacted several mitigation policies to reduce the effects of climate change on the city's residents. According to the city's **Plan Desarrollo Municipal, 2020 - 2023 (PDM)** (Municipal Development Plan 2020 - 2023), the city will invest 1.9 billion Colombian Pesos (US\$421,000.00) in climate change mitigation measures from 2020 to 2023.⁵⁶

This report consulted eight laws and policies and four local, regional, and national plans on the national and municipal levels to understand Bucaramanga's mitigation efforts.

4.1 Urban Plans and Greenhouse Gas Emissions

The UN's Law and Climate Change Toolkit encourages cities to measure the emissions and carbon sinks impact of urban planning. Completing assessments of greenhouse gas emissions of different planning options is

essential for municipalities to mitigate climate change through planning instruments. Bucaramanga is not currently engaging in scenario planning for climate change. This means there is no public debate surrounding the proposal of planning alternatives that include emissions estimates for each proposed planning scenario. The city controls air quality and emissions for public health purposes. Through *Sistema de Vigilancia de Calidad del Aire — EOLO, the Air Quality Monitoring System*, and its reports, the Bucaramanga metropolitan area keeps track of emissions that surpass legal requirements⁵⁷.

Municipal Development Plan 2020 - 2023 refers to the need to monitor and reduce air pollution, as formalized by **Decreto 82 de 2020 - Medidas de Prevención y Mitigación Temporal para el Control de la Contaminación Atmosférica en el Municipio de Bucaramanga**⁵⁸ (Temporary Prevention and Mitigation Measures for the Control of Atmospheric Pollution in the Municipality of Bucaramanga), reflects the city's dedication in mitigating the consequences of air pollution by reaffirming the constitutional right to clean air. This particular decree emerges as a response to increased levels of PM2.5, associated with automobiles. In response, the municipality has focused on reducing automobile usage, as stated in their MPD, by limiting vehicle use to specific days of the week based on the last digit of their license plates.

⁵⁶ Plan Desarrollo Municipal, 2020 - 2023, Table 29, p 198

⁵⁷ Área Metropolitana de Bucaramanga, Calidad del Aire. <https://www.amb.gov.co/calidad-del-aire/#:~:text=El%20Sistema%20de%20Vigilancia%20de,material%20particulado%20PM10%20y%20PM2.>

⁵⁸ Decreto 82 de 2020, p 3

The explanatory version of the municipal plan, **Plan Desarrollo de Bucaramanga**, also targets air quality by setting forth the goal of updating air quality monitoring equipment. The city has been discontinuously participating in air quality monitoring since 2012 but will increase these efforts through this decree.

Air quality is a focus of the **Plan Maestro de Movilidad Área Metropolitana de**



Figure 1: Cycling Infrastructure in Bucaramanga

Source: Authors 2022

Bucaramanga (2011 - 2030). The expansion of Bucaramanga's transit network is intended to have social, economic, and environmental benefits. Expanding the network will reduce the degree of auto-dependency within the city, decreasing air pollution and allowing room on the roads for bicycles and pedestrians. While not all parts of the city can be serviced directly, the city builds parking lots near its transit hubs to allow citizens to drive to a bus stop from which to commute using the transit services.

Not all of Bucaramanga's mass transit is publicly owned. The network is a public-private partnership. This allows for expanding routes

and services to informal settlements on the city's outskirts, whose tight, winding streets are too small for municipal buses. Still, they do allow for smaller, privately owned vehicles.

The Plan Estratégico Metropolitano de Ordenamiento Territorial (PEMOT) mentions the need to restrict air pollution; however, it does not outline exact practices for how to do so.

4.2 Urban Form and Reduction of Greenhouse Gas Emissions from Transportation and Infrastructure

The UN Climate Change Tool Kit encourages governments to prioritize mass transit plans on the national, regional, and interregional levels and non-motorized transit on the local level. The Toolkit interrogates the legal and planning provisions through which local and regional governments intend to develop these modes of transportation.

To achieve these goals, the Tool Kit assesses the extent to which cities monitor air quality and regulate streetscapes. Due to their vulnerability, pedestrians and cyclists require specialized infrastructure to protect them from motorized traffic. Additional criteria include pedestrians, cyclists, and mass transit access to jobs and housing. Accessing the means of living without a car is a major incentive in steering transportation habits. The Tool Kit evaluates whether cities have density limits or requirements around transportation hubs and whether their transportation plans consider housing and working patterns.

Bucaramanga is an ideal city for non-motorized transit. The city is geographically confined by mountains to its east and the canyon of the Rio de Oro to its west. These spatial restrictions force the city into a high-density development with narrow streets and tall buildings. Combined

with the relative flatness of the plateau, the city is ideal for pedestrians and cyclists.

The use of bicycles is supported on the national level by **Law 1811 of 2016, *Ley de Use de la Bicicleta (The Law of Bicycle Usage)***. This law contains engineering and dimensional requirements for bike lanes and encourages integrating bike racks into parking facilities. In Bucaramanga, the **Plan Desarrollo Municipal Section 2.4.3.1.5** outlines how the city will expand, reinforce, and promote the construction of non-motorized infrastructure to provide commuters with alternatives to motorized vehicles, which was implemented through **Decree 0325 of 2019**.

In accordance with this decree, Bucaramanga built 22 kilometers of dedicated bicycle lanes, protected by curbs, and demarcated with paint, and plans to build more. The city built the lanes in what had been lanes dedicated to cars instead of taking room away from pedestrians.

The city has also created the country's only publicly owned bike share system, CLOBI. Commuters can rent bicycles from one of several stations throughout the city. This program has been growing as the city increases the number of bike lanes.

The **Plan Maestro de Movilidad Bucaramanga 2010 - 2030 (Master Mobility Plan)** outlines the shortfalls and long-term goals of the city's mobility goals. Two of the main mass transit goals identified by the city in **Section 3.3.5** are to increase services to areas in socioeconomic strata 1 through 3 and to increasing services along high-trafficked corridors. The social strata refer to a classification index the Colombian government uses to classify neighborhoods by socioeconomic status, 1 being the poorest and 6 the wealthiest. Lack of adequate transit access for poor residents leaves them to either drive,

take taxis, or rely on informal means of transportation. Eliminating this need would help increase the average ridership from 1.5 occupants per car, where it currently stands, according to the transportation plan. Increasing service along high-traffic corridors would alleviate congestion.

Section 4.2 of the Mobility Plan outlines a campaign to support a cultural shift in attitudes



Figure 2: Metrolinea Bus Stop

Source: Authors. 2022

towards mass transit. The city hopes to support a shift to non-motorized transit modes by reinforcing the right of pedestrians and cyclists to use transit infrastructure through education and outreach to schools.

Both local and national frameworks point to automobile traffic as a major source of air pollution, and outlines plans to reduce traffic volume. The most notable method is restricting automobile traffic based on license plate numbers, only permitting some to drive on certain days. Bucaramanga adopted this practice with **Decree 82 of 2020**. This system is effective in reducing traffic for those who cannot afford a second car, however wealthier residents may choose to buy a second car and ensure that the registration allows them to drive on days when the first car cannot.

A major challenge that Bucaramanga faces is the prevalence of informal transportation. 17% of commuters use unlicensed commercial transit, such as moto-taxis, rideshare services, or illegal taxis to complete their trips⁵⁹. In order to reduce the popularity of these means of transportation, the city needs to provide a viable alternative. However, informal means of transit are the primary source of income for people in the informal settlements. Eliminating these streams of revenue would have a negative effect on some of the city's most vulnerable citizens⁶⁰.

Bucaramanga's development plans and legal framework do not mention sources of air pollution from sources other than cars. Therefore, the city does not address emissions from industry, commerce, agriculture, or other sources.

4.3 Green Spaces for Environmental and Climate Services

Urban green spaces provide environmental services by filtering air, relieving heat island effects, and providing a more comfortable street environment for pedestrians. As such, the Climate Change Toolkit incentivizes their development and preservation, by urging cities to set minimum standards, and their adequate distribution throughout the city. Additionally, the toolkit recommends connecting green spaces into a network that includes bodies of water.

At the national level, the **CONPES 3919 of 2018: Política Nacional de Edificaciones Sostenibles (National Sustainable Building Policy)** sets suggested amounts of greenspace per capita in cities. Bucaramanga faces the

challenge of its geographically bounded location in this regard. However, the city has used the existing network of parks to use as the basis of its pedestrian and cycling infrastructure.

The PEMOT and Plan de Ordenamiento Territorial mention using green corridors and green belts to connect parks and create ecological buffer zones designed to protect waterways and agriculture. These are created by **Decree 137 of 2019**. These are intended to protect the waterways from development and pollution. The city has further been purchasing lands around waterways to protect them from developers. A challenge the city is facing is the illegal development of protected lands. Informal settlements in these areas cannot be legalized, leaving vulnerable populations without services. Additionally, politically connected individuals have purchased protected land in the past at low prices, used their connections to lift the protected status, and resold the land as a valuable development opportunity⁶¹.

The decree creates El Carrasco Contemplative Park, and establishes the park's land use rights. This section refers to laws and regulations that permit the government the right to regulate green space. The law references the Master Plan for Public Space and deliberates over creating a green belt along the escarpments of the Bucaramanga Plateau for water resource protection.

⁵⁹ Presentation to the Student Team by Brayan Perez and Paola Ruiz, CLOBI, August 7, 2022

⁶⁰ Jaime Bonet, Javier Perez, Edwin Chiviri. *Labor informality and informal settlements: A First Approach for Colombian Cities*. 2016. <https://www.researchgate.net/publication/324262898>

⁶¹ Presentation by Julian Constantino Carvajal Miranda to the Student Team, Alcaldía de Bucaramanga, August 8th, 2022



Figure 3: Carrasco Contemplative Park, 2022.

Source: Authors, 2022

The Carrasco Contemplative Park is built over top of a former informal landfill. The capping of and repurposing of the landfill is a model the city looks to replicate as it continues to use the area for household waste disposal. A challenge that this has posed for the city is that due to its remote location, the park is not easily accessible.

Bucaramanga's recycling and composting programs are not managed by the city, but by a cooperative of recycling collectors. They deliver the recycling they collect to a processing facility where they receive payment⁶².

Decree 398 of 2020 addresses the issue of erosion around the populated side of the Bucaramanga plateau. The area in question is approximately 51 kilometers long, 7 of which have stabilized. The remaining area threatens about 5400 homes. Climate change has been a factor in the destabilization of this area. This number is likely higher at the time of writing. Informal settlements grow very quickly in

Bucaramanga. The decree calls for a state of emergency declaration and mitigation to immediately begin along certain named roads and neighborhoods. It ties certain municipal agencies to the progress and success of the work and the site's rehabilitation following the Specific Action Plan.

The geological instability of the sides of the plateau poses a serious threat to the informal settlements of the city, many of which are located in canyons surrounding the plateau.

Climate change mitigation is also mentioned in the **Municipal Development Plan 2020 - 2023, Section 2.2.3.2.1**. The city is concerned about protecting the quality of its watershed. The plan stresses the importance of protecting local water resources, while balancing economic development.

4.4 Neighborhood Design and Energy Saving in Buildings

A significant part of mitigating the impacts of climate change is energy savings in building and neighborhood design. The toolkit urges cities to consider including the orientations of prevailing winds and the sun in how they lay out

⁶² Presentation by Rubén Amaya to the Student Team, Empresa de Asea de Bucaramanga, August 5th, 2022

neighborhoods. Additionally, in order to mitigate heat island effects, the Climate Change Tool Kit asks cities to consider cladding the exteriors of buildings with materials that have positive thermal properties.

Building requirements were passed at the national level in 2015 in the form of **Resolution 549**. This legislation established definitions for sustainable construction, active and passive measures, rendering local legislation redundant. As a result, there is no local legislation governing this sector of the building industry. This national legislation has made Colombia a leader in green building in Latin America, in partnership with the private sector⁶³.

Through a partnership of private actors in the construction and finance sectors, Colombia has developed a robust green building sector. In 2021, 20% of newly built buildings in Colombia carried a green certification. The national government accomplished this by defining green building, energy efficiency, and a national building code. Green building was largely driven by support from the private financial sector, starting with a 350 billion (\$115 million) investment by Bancolombia in 2016. Since then, four other banks, Davivienda, BBVA, Banco Bogotá and Caja Social, have started offering green financial products.

4.5 Development Approval and Mitigation

The Climate Change Tool Kit incentivizes cities to condition new development on measures to reduce greenhouse gas emissions, by linking development approval to certain provisions set by urban plans and zoning regulations.

Conditioning development on fees paid by developers toward mitigation measures, subject to future monitoring, are the enforcement mechanisms outlined in the tool kit.

As in the Section 4.4 Neighborhood Designs and Energy Savings in Buildings, much of the legislation on this subject occurs at the national level. These govern energy extraction (**Law 1715 of 2014, Ley de Fuentes de Energía no Convencionales (Law of Non-Conventional Sources of Energy)**), building and environmental policy (**General Environmental Law, National Sustainable Building Policy**, respectively). Under national **Law 388 of 1997**, local and regional governments have the power to write, enact, and enforce development and climate action plans. It also grants municipalities the power to condition development of land, like restricting or mandating certain forms of development.

The Section 2.2.3.3.2 of the 2020 - 2023 Municipal Development notes the importance of planning infrastructure to protect vulnerable populations from the physical dangers that may be the consequences of climate change. However, the development plan does not outline any specific implementing measures. Under this plan, the city has been forbidding the development of land around waterways to protect their quality, and to protect potential residents of those areas from climate change related flooding and landslides.

Decree 398 of 2020 addresses the issue of erosion around the populated side of the Bucaramanga plateau. The area under threat of collapse is approximately 51 kilometers long, seven kilometers of which have stabilized. Approximately 5,400 homes are threatened by landslides in this area. Climate change has been a factor in the destabilization of this area. The law calls for a state of emergency to be declared

⁶³ Lozada Andrade, Cecilia. *Colombia: Green Buildings Accelerate from Zero to 20 percent of the Market in Four Years*. <https://edgebuildings.com/the-transformation-of-colombias-green-building-market-from-zero-to-20-percent/>. Oct 19, 2021.

and mitigation to immediately begin along certain named roads and neighborhoods. It ties certain municipal agencies to the progress and success of the work and the site's rehabilitation following the Specific Action Plan.

Additionally, informal settlements tend to form in the canyons surrounding the plateau, endangering the homes of some of the most vulnerable residents of Bucaramanga.

Decree 153 of 2017 extends a state of emergency from open-pit landfills around the Bucaramanga plateau. The landfills affect adjacent residents and the approach zone of the airport. The law outlines the legal parameters of garbage disposal and the landfill's limitations, and explains the history of landfill regulation. The law provides a framework for the stabilization of the landfill to prevent a collapse along the plateau slope and the mitigation measures to prevent the landfill from polluting the groundwater. The decree also outlines how to construct a landfill that mitigates the risk of collapse from unstable terrain.

Decree 3600 of 2007 established the EEC with the function of providing support and offering resources to the human, productive, and cultural activities, which are developed in geographical space. This definition is constituted from the productive areas with agricultural and livestock vocation, the ecosystems that supply and regulate the residential public services, the sectors with expressions of cultural heritage, the areas that fulfill regulation services to the manifestations of natural threats.

Recommendations

Bucaramanga's legal network does not take varying climate change scenarios into account. While Colombia has committed itself to reducing its greenhouse gas emissions by 51% as per the Paris Climate Accords, its plans do

not provide the means to adjust planning and legislative initiatives based on the development of climate change effects. The city also does not have specific climate change metrics. With the exception of PM2.5, an emission from automobiles, there are no other emission benchmarks.

Bucaramanga's municipal laws fail to cover many of the criteria governing greenhouse gas emissions from transportation and infrastructure, as these areas are covered at the national level. A potential area of improvement for reducing greenhouse gas emissions from infrastructure is developmental density around transportation infrastructure. Currently, plans call for parking spaces and bike racks near bus stops to allow residents transition between transit modes more easily, however they do not encourage increasing density of development around these nodes.

Bucaramanga does not have any laws governing neighborhood design or development. While Colombia has laws governing energy efficiency and green building standards, Bucaramanga has room to plan neighborhoods more proactively and intentionally. This could include the directions in which buildings are facing, the height and density, as well as the materials used in construction.

Informal settlements pose a unique challenge, as they are generally located in environmentally risky areas like steep slopes threatened by collapse. Research has shown that it is possible to build in such unstable terrain, although the limited resources available to residents make it difficult to do so⁶⁴.

⁶⁴ Elisa Bozzolan, Elizabeth Holcombe, Francesca Pianosi and Thorsten Wagener. *Including informal housing in slope stability analysis - an application to a data-scarce location in the humid tropics*. Nov. 27, 2020. *Natural Hazards and Earth System Sciences* (Vol. 20, Issue 11).

Section 5 - Economic and Non-Economic Instruments for Climate Friendly Urban Planning

Introduction

The following examines Bucaramanga's laws and policies concerning Economics and Financial Instruments for Climate Change Planning. This includes a review of the municipality's legal framework and incorporating outside literature to develop a comprehensive understanding of Colombia's economic and financial instruments. They also summarize Bucaramanga's legal framework for climate finance to better direct future policy initiatives. It is important to note that Bucaramanga's climate financing strategy has been challenging to evaluate due to a lack of specific financial and economic systems in some areas. Still, we hope this analysis will help the development of future policy initiatives.

As done at the national level, Bucaramanga has financial mechanisms geared toward climate change mitigation. These mechanisms are discussed in the "**Plan de Desarrollo Municipal 2020-2023 'Bucaramanga, Una Ciudad de Oportunidades'**" created by the "Concejo Municipal de Colombia." It is also discussed in the **Plan Estratégico Metropolitano de Ordenamiento Territorial (PEMOT)**. These strategic plans guide Bucaramanga's efforts toward a "Bucaramanga sostenible, una region con future" ("sustainable Bucaramanga, a region with a future"). The Student Team assessed current economic and noneconomic incentives for climate-friendly urban planning through these documents and other key policies and legislation.

5.1 Resources for Urban Planning and Climate Change

Several legal provisions dedicate intergovernmental funds to climate change mitigation and adaptation work in the metropolitan area's planning efforts. **Article 317 of the Constitution** saves a percentage of taxes, including municipal taxes, to municipal entities in charge of conserving the environment and natural resources. Such funds from the national level are then used to fund local projects, such as **Project 1, "Red Conectada de Parques Metropolitanos"**, included in the "**Plan Estratégico Metropolitano de Ordenamiento Territorial**" (PEMOT) aimed at connecting green spaces and parks through the city and region to create a network of municipal parks. Connecting the parks is to counteract irregular urban expansion with physical barriers and promote the protection of natural resources.

Additionally, local governments can collect and decide how to spend locally generated revenue, which is useful for funding local climate change action. The municipality of Bucaramanga collects taxes (known as 'sobretasas') to protect the environment. **Article 17 of Law 14 of 1983**, regarding *Normas Sobre Impuestos (Predial, de Renta, Complementarios, Comercio, Industria)* states that the municipality disseminates tax funds to two sources who then decide how to use the funds. The first recipient is the regional autonomous entities, known as 'sectores empresarial' corporations; the other recipient is public entities throughout the metropolitan area. **Article 28 of Law 1625 from 2013**, known as

Régimen para las Áreas Metropolitana, establishes this tax as a resource owned by the metro area to care for the land. This is notable as worldwide metropolitan regions struggle to develop a tax base across municipalities (cite).

In addition to sobretasas (taxes), municipalities can create additional taxes and increase existing taxes to meet the public's needs. **Article 338 of the Constitution** allows the municipality to create additional taxes. It states a local ordinance or agreement can establish a tax or 'contribucion' and set its parameters based on the predetermined needs of public services and the benefits it will bring, as well as establishing the distribution. **Article 28 of the Constitution** permits the Councils of the Municipality (*Los Concejos de los Municipios*) to increase taxes to finance work in the interest of the metropolitan area.

The “Estatuto General de Valorización del Área Metropolitana de Bucaramanga” and **Article 20 of Law 1625 from 2013** (previously ‘Leyes Orgánicas 128’ from 1994) also allow the Metropolitan Board/Council to instate a tax and determine the system (meaning its rate and their method of collection and distribution) within its jurisdiction, if it for necessary use for the social interest of property/property value, especially if the actions correspond with goals or actions in the **Plan de Desarrollo del Área Metropolitana de Bucaramanga y los Planes de Ordenamiento Territorial del Municipio**⁶⁵. The articles of the ‘Estatuto General de Valorización del Área Metropolitana de Bucaramanga’ include further details about the rules and procedures for collecting and using public funds.

Local governments can decide how to use the general fund, they can dedicate funds to allow

for more sustainable growth and development patterns, as well as sustainable land practices. An example of this is Project 7 from PEMOT called “Formación del Cinturón Verde Metropolitano.” It allows the use of the general fund (“Presupuesto Público”) to create a greenway or green corridor, and protects areas of risk to allow for more sustainable growth and development patterns. It will form along the point where urban and rural areas touch, seeking to restore the ecosystems and create smooth systems of infrastructure that work with natural elements. This project will be implemented by the municipalities, the metropolitan area, the Authority on Climate (“Autoridad Medio Ambiental”) and sport institutions.⁶⁶

Bucaramanga also has the ability to earmark resources for urban planning and climate change. This ability is clear through the goals and strategies set in the Municipal Development Plan 2020-2023, known as the **“Plan de Desarrollo Municipal 2020-2023 ‘Bucaramanga, Una Ciudad de Oportunidades’”**. The provisions earmark funds to pursue the goals included in the plan. The first provision is **Section 2.2.3.1.1 “Planificación y Educación Ambiental”**, which sets out to create and maintain a Municipal Environmental Management System (“Sistema de Gestión Ambiental Municipal”) consistent with the Municipal Climate Policy. The plan formulates strategies of climate education for citizens, businesses, and decentralized institutions; inter-institutional and intergovernmental participation to generate scenarios for dialogue, planning, and financing of sustainable development; and a “Public Climate Policy of Climate Change and Energy Transition” plan for the Environmental Management System of Bucaramanga to

⁶⁵ Plan Estratégico Metropolitano de Ordenamiento Territorial _ PEMOT p95

⁶⁶ Plan Estratégico Metropolitano de Ordenamiento Territorial _ PEMOT pp84-85

implement. This provision allocates \$221.000 in 2020, \$213.000 in 2021, \$363.500 in 2022, and \$340.000 in 2023 to carry out the plans.⁶⁷

Additional provisions in this plan include section **2.2.3.1.2 “Calidad y Control del Medio Ambiente”**, which sets the goal of formulating and implementing a strategy of incentivizing clean technologies and good practices for fixed and mobile emitters. This goal will be realized through coordination between the municipality and the corresponding environmental authority, the business sector, academics, and the general population. The provision allocates \$100.000 in 2020 and \$50.000 in 2021, 2022, and 2023. Additionally, **2.2.3.2.1 “Gobernanza del Agua, Nuestra Agua Nuestra Vida”** aiming to promote reforestation and water supply conservation is allocated to receive \$5.380.000 in 2020, \$18.979.000 in 2021, \$21.186.000 in 2022, and \$11.881.000 in 2023. **2.2.3.2.2 “Crecimiento Verde, Ciudad Biodiversa,”** sets two goals: comprehensive management of trees and green spaces to recover and rehabilitate ecosystem connectivity corridors to strengthen the urban ecological structure (eastern hills and western escarpment); and implement a pilot program for the management of urban gardens. The funds allocated for these goals are \$200.000 in 2022 and 2023. **2.2.3.2.3 “Manejo Integral de Residuos, Impacto Positivo en la Calidad de Vida,** sets funds for three years to implement their comprehensive waste management strategy that aims to increase composting and recycling.

In addition, provisión **2.2.3.3.1 “Conocimiento del riesgo y Adaptación al Cambio Climático”**, dedicated \$100,542 in 2021, \$127,951 in 2022, and \$480,541 in 2023 to implement its “El Plan Municipal de Gestión de



Figure 1: Waste, recycling, and compost receptacles inside a community center in an informal settlement in Bucaramanga

Source: Authors, 2022

Riesgo y su Adaptación al Cambio Climático y la Política Pública de Gestión de Riesgo y Adaptación al Cambio Climático.” It consists of conducting nine studies in high risk áreas, installing five early warning systems, and adding additional innovation for risk management.

2.2.3.3.2, “Reducción, mitigación del riesgo y adaptación al cambio climático”, funds an improved emergency response system. Its five objectives include a protocol for air quality emergencies; preparedness for 30 social instances of the Municipal Risk Management System; action places in six disaster risk zones; municipal inventory of local human settlements in areas of high risk that are not conducive to mitigation. Finally, to maintain 100% attention on families in natural and anthropic disasters. The funds to achieve these goals are allocated as follows: \$570,000 for 2020, \$255,000 for 2021, \$190,000 for 2022, and \$874,000 for 2023.

Provision 2.2.3.3.3 “Manejo del Riesgo y Adaptación al Cambio Climático”, is aimed at preparedness for emergencies and disasters occurring in the municipality by four firefighting

⁶⁷ 2.2.3.1.1. Planificación y Educación Ambiental, Plan de Desarrollo Municipal 2020-2023 "Bucaramanga, Una Ciudad de Oportunidades"

stations and strengthening the operating capacity of firefighters. The funds are allocated as \$2,692,985 in 2020, \$295,000 in 2021, \$480,000 in 2022, and \$1,150,000 in 2023.

Finally, provision **2.4.3.1.2 “Mejoramiento y Mantenimiento de Parques y Zonas Verdes”**, within the strategic plan earmarked funds, increasing annually, dedicated to maintaining all parks and green spaces along with any equipment therein. The provision allocates \$5,000,000 in 2020, \$5,200,000 in 2021, \$5,300,000 in 2022, and \$5,400,000 in 2023. The Municipal Development Plan for 2020-2023 has earmarked many resources to urban planning and climate change.

While there are a plethora of funded plans for climate change action in urban planning, there are no provisions that mobilize investment capital or allow local governments to receive public credits guaranteed by the national government. We recommend Bucaramanga add provisions that allow the municipality to borrow money from the national government at no interest to be used for climate change goals. This would allow the city to guarantee funding in event of a tax revenue shortfall. The national government could provide a bond to the city as a stop-gap measure which the municipal government can repay in the following years. To provide additional funding for a bond program, the national government can provide bonds for private businesses to update their operations with a sustainability focus. Bonds issued to private firms can be given at a low interest rate. This will help local businesses “green” their operations while providing additional revenue for the government.

There are, however, provisions to create frameworks for public private partnerships. **Project 6 in PEMOT** called “Empresa Metropolitana de Gestión Urbana

Metropolitana”, is dedicated to establishing public-private partnerships in order to build 13,000 homes annually. The parties working on this project are metropolitan areas including the municipal areas of Girón, Piedecuesta, Floridablanca y Bucaramanga, the “Empresa Nacional de Vivienda”, along with public and private financing⁶⁸.

Bucaramanga, and the region of Santander, has fostered an environment of public private partnerships over the past two decades through the Bucaramanga Chamber of Commerce and its work with the Regional Competitiveness Commission (RCC, or Santander Competitivo).

In addition, their metropolitan economic development strategy reinforced public private partnerships by taking stakeholders’ input into consideration, which in turn ensured buy-in from key institutional actors, according to an 2015 analysis by the World Bank⁶⁹. This proactive planning by the government and continued aid from the Chamber of Commerce and industry associations greatly contributed to the success of the private sector in this region. In turn, the economic outcomes, such as economic diversity and increased productivity and prosperity, strengthen public services for the region. For example, the region of Santander strategically used proceeds from oil royalties to bolster their education, public health and poverty reduction programs. Moving forward, Bucaramanga and the region of Santander should utilize the existing partnership environment of National incentives and entrepreneurial assistance programs to encourage investment in greener

⁶⁸ Plan Estratégico Metropolitano de Ordenamiento Territorial (PEMOT), Proyecto 6 “Empresa Metropolitana de Gestión Urbana Metropolitana” p 82-83

⁶⁹ Cech, Alexandra etc. “Appendices to Six Case Studies of Economically Successful Cities, *Competitive Cities for Jobs and Growth*, <https://documents1.worldbank.org/curated/en/769741468185642990/pdf/101714-REPLACEMENT.pdf>

technologies, and infrastructure to increase resilience in natural disasters.

5.2 Incentives for Mitigation and Adaptation in Urban Planning

Local laws and regulations in Bucaramanga create non-economic incentives to support climate change mitigation and adaptation in urban planning. However, the municipality lacks thorough provisions that create economic incentives to support both climate change mitigation and adaptation efforts.

The **Plan Estratégico Metropolitano de Ordenamiento Territorial (PEMOT)** sets out to create incentives to generate and consume alternative, renewable energy sources and discourage the use of fossil fuels. However, the goal does not specify if this incentive is economic or non-economic. Project 5 implies that Bucaramanga is using financial incentives such as fees to incentivize decongestion and unnecessary traffic to support climate change mitigation in urban planning, as mentioned in Section 4 of this report. Goals 7.6 and 7.7 of the PEMOT plan, as well as Project 2 ‘Integración Tarifaria’ more clearly create non-economic incentives for climate change mitigation. The plan sets goals to provide infrastructure for nonmotorized transportation, such as walking and cycling, and aims to promote alternative energy. In alignment with this goal, Project 2 streamlines the public transit payment system into one universal card for all modes. Bucaramanga is also working to add new technologies to reduce greenhouse gas emissions.

In regards to incentives for climate change adaptation, there is no mention of local economic incentives in any laws or regulations.

The **Plan Estratégico Metropolitano de Ordenamiento Territorial (PEMOT)** does

include a goal, 7.3 ‘La Estrategía Gestión del Cambio Climático y Calidad Ambiental,’ to improve climate change management strategies and environmental management. One way the municipality has implemented management improvement is through an improved land registration system that has a separate zoning classification for land with substantial flood risk, a zoning amendment established by **Resolution No. 578 and No. 585 from 2018**⁷⁰. Classifying land as flood risk can limit or prevent new development in areas of risk of natural disaster, it can also help notify current owners and tenants to take additional precautions during certain rain events and prepare for flooding.

5.3 Incentives that promote unsustainable urban land uses

There are no recent changes to existing legislation or regulations examined for this report that incentivize unsustainable land uses. However, the lack of accountability and incomplete implementation of policies and regulations that set out to establish more sustainable land practices allows unsustainable practices to continue. For example, PEMOT discusses the benefits of restricting vehicle mobility to promote nonmotorized transportation and reduce greenhouse gas emissions. Restricting vehicle use to reduce emissions would only be effective if implemented across multiple municipalities, as acknowledged in the plan⁷¹. Cross-jurisdictional implementation is a worthy undertaking of Bucaramanga officials to see this through. However, the plan does not discuss any incentives or funding to do so. Thus, unsustainable land use patterns permitting continued vehicle use will continue at the regional level.

⁷⁰ Plan Estratégico Metropolitano de Ordenamiento Territorial _ PEMOT p65

⁷¹ Plan Estratégico Metropolitano de Ordenamiento Territorial _ PEMOT p67

There is no mention of non-economic incentives for unsustainable urban land use in recent legislative changes. Instead, the PEMOT promotes advancing sustainable land use. 7.9.1 mentions increasing technical assistance for rural areas to zone and preserve arable land as part of the “Distrito Rural Integral” plan. (70) Conserving arable land is an important sustainable land practice to adequately support urban populations with nearby food sources. Additionally, Proyecto 1 “Red Conectada de Parques Metropolitanos” aims to connect the green spaces for more equitable distribution and access to green spaces. In addition, Bucaramanga’s Municipal Development Plan, “**Plan de Desarrollo Municipal 2020-2023 ‘Bucaramanga, Una Ciudad de Oportunidades’**”, sets a provision to formulate and implement a program of socioeconomically-conscious alternatives for sustainable development for the province of Soto Norte within the framework of socio-environmental co-responsibility⁷². Both examples promote sustainable land conservation and healthy living opportunities.

5.4 Recommendations

It is clear that Bucaramanga no longer incentivizes unsustainable land use practices. However, effective climate change mitigation and adaptation efforts in urban planning should include more economic and non-economic incentives in order for residents, private entities, and other regional partners to adopt more sustainable practices as standard practice. Some standard practices to focus on include residents and workforce dependency on personal vehicles – incentives to use public options or increased use of non motorized transit to limit combustion vehicle use could be useful. For private

developers and entities, incentives to use more sustainable building materials and contribute to mixed use development or safe non motorized transit spaces would be helpful to complement Bucaramanga’s city and regional efforts. Incentives are needed and effective in changing past land use, transportation, and development practices.

While there are a plethora of funded plans for climate change action in urban planning, there are not any provisions that enable the mobilization of investment capital nor allow local governments to receive a public credit guaranteed by the national government. We recommend Bucaramanga add provisions that allow for the municipality to borrow money from the national government at a 0% interest rate, to be used for the sustainability goals herein to provide assured funding in case the taxes on a given year that are supposed to fund these programs don’t prove sufficient. This could be done through a bond system where the national government provides a bond to the municipal government as a stop-gap on an off year and the municipal government can pay it back over the course of a couple of years. To provide additional national funding for this bond program, the national government can provide bonds for private businesses to update their operations with a sustainability focus, and the bonds to private firms can be given at a low interest rate. This will help local businesses “green” their operations while providing additional revenue for the government.

⁷² 2.2.3.2.1 “Gobernanza del Agua, Nuestra Agua Nuestra Vida”, Plan de Desarrollo Municipal 2020-2023 ‘Bucaramanga, Una Ciudad de Oportunidades

APPENDIX A: Planning Governance and Institutional Arrangements — Referenced Legislation and Policies

Name of Legislation (English and Spanish)	Level of Government	Year
The Political Constitution of Colombia, Article 1, The Fundamental Principles (<i>Constitución Política de la República de Colombia, Artículo 1, De los principios fundamentales,</i>)	National	1991 (rev. 2015)
Law 388 of 1997, Urban Development Law, Ley del Desarrollo Territorial	National	1997
Law 152 of 1994, Organic Law of Development Plan, Ley Orgánica del Plan de Desarrollo	National	1994
<i>Law 1454 of 2011 (Ley 1454 de 2011), the Organic Law of Territorial Planning</i>	National	2011
Law 99 of 1993 (<i>Ley 99 de 1993</i>), the General Environmental Law,	National	1993
The Political Constitution of Colombia, Article 79, Protection of the Environment (<i>Constitución Política de la República de Colombia, Artículo 79, De los derechos colectivos y del ambiente</i>)	National	1991 (rev. 2015)
Law 134 of 1994 (<i>Ley 134 de 1994</i>)	National	1994

Law 1757 of 2015 (<i>Ley 1757 de 2015</i>)	National	2015
<i>Decree 78 of 2008 (Decreto 078 de 2008)</i>	El Alcalde de Bucaramanga	2008
Decree 5 of 2022 (Decreto 005 de 2022)	El Alcalde de Bucaramanga	2022
Decree No. 0144 of 2016 (Decreto 0144 de 2016)	El Alcalde de Bucaramanga	2022
Decree 82 of 2020 (Decreto 82 de 2020)	El Alcalde de Bucaramanga	2020
Law 1625 of 2013 (<i>Ley 1625 de 2013</i>)	National	2013
Agreement 031 of 2018, Establishment of internal regulations of the Municipal Council of Bucaramanga, (<i>Acuerdo 031 de 2018 “Por medio del cual se establece el reglamento interno del concejo Municipal de Bucaramanga”</i>)	Concejo Municipal De Bucaramanga Bucaramanga City Council	2018
Name of Policy (English and Spanish)	Level of Government	Year
Bucaramanga’s Socio-Economic Development Plan, 2020-2023, “Bucaramanga, a City of Opportunities” (<i>Plan de Desarrollo Municipal 2020-2023, “Bucaramanga, Ciudad de Oportunidades”</i>)	Alcaldía de de Bucaramanga	2020-2023

Appendix B: Urban and Territorial Planning — Referenced Legislation and Policies

Name of Legislation (English and Spanish)	Level of government	Year
Law 152 of 1994, Organic Law of Development Plan, <i>Ley Orgánica del Plan de Desarrollo</i>	National	1994
Decree 078 of 2008, compiles the revisions of the Plan de Ordenamiento Territorial del Municipio de Bucaramanga”	Municipal	2008
Decreto 090 de 2018, Parcial Plan, Estructuración zonal para el área denominada 'norte Suratá”	Municipal	2018
Name of Policy (English and Spanish)	Level of Government	Year
Bucaramanga’s Socio-Economic Development Plan, 2020-2023 Bucaramanga, a City of Opportunities	Municipal	2020
Municipal Development Plan 2020-2023 (Agreement N. 13 of June 10, 2020)	Municipal	2020
Updates on the Plan Maestro Metropolitano de Movilidad (PMMM) 2022-2037 (Master Metropolitan Plan of Mobility).	Metropolitan	2022

APPENDIX C: Urban Planning and Design for Adaptation — Referenced Legislation and Policies

Name of Legislation (English and Spanish)	Level of Government	Year
Decree 2811 of 1974, <i>Código de Recursos Naturales</i> (Natural Resources Code)	National	1974
Law 99 of 1993, <i>Ley General Ambiental</i> (General Environmental Law)	National	1993
Decree-Law 2150 of 1995, <i>Reforma de la Administración Pública</i> (Public Administration Reform)	National	1995
Law 388 of 1997, <i>Ley de Desarrollo Territorial</i> (Law of Developing Territories)	National	1997
Law 810 of 2003, <i>Sanciones Urbanísticas</i> (Urban Sanctions)	National	2003
Law 1001 of 2005, <i>Instituto Nacional de Vivienda de Interés Social y Reforma</i> , (National Institute of Social Interest Housing and Reform)	National	2005
Decree 330 of 2007, <i>Audiencias Públicas Ambientales</i> (Environmental Public Hearings)	National	2007

Law 1523 of 2012, <i>Gestión del Riesgo de Desastres</i> (Disaster Risk Management)	National	2012
Decree 1807 of 2014, <i>Gestión del Riesgo</i> (Risk Management)	National	2014
Decree 1077 of 2015, <i>Sector Vivienda, Ciudad y Territorio</i> (Sector of Housing, City and Territory)	National	2015
Decreto No. 233 of 2015, <i>Curaduría Social Cero</i>	Alcade Municipal	2015
Agreement No. 048 of 2015, <i>Política Pública de Legalización de Asentamientos Humanos</i> (Public Policy for the Legalization of Human Settlements)	Concejo Municipal	2015
Law 1796 of 2016, <i>Superintendencia de Notariado y Registro</i> , (Superintendency of Notaries and Registry)	National	2016
Decree 308 of 2016, <i>Plan Nacional de Gestión de Riesgo de Desastres</i> (National Disaster Risk Management Plan)	National	2016
Decree No. 0144 of 2016, <i>La Mesa Territorial</i> (The Territorial Table)	Alcalde Municipal	2016
Law 1848 of 2017, <i>Normas de las Edificaciones de los Asentamientos Humanos Urbanos</i> (Standards for Buildings in Urban Human Settlements)	National	2017
Decree No. 1203 of 2017, <i>Proceso de Licencias Urbanísticas</i> (Urban Licencing Processes)	National	2017

Decree No. 0153 of 2017, <i>Calamidad Pública</i> (Public Calamity)	Alcalde Municipal	2017
Decreto No. 0175 de 2017, Curaduría Cero	Alcade Municipal	2017
Decree No. 0090 of 2018, <i>Estructuración Zonal Norte Suratá</i> (North Surata Zonal Structuring)	Alcalde Municipal	2018
Law 1955 of 2019, <i>Pacto por Colombia, Pacto por la Equidad</i> (Pact for Colombia, Pact for Equity)	National	2019
Decree No. 0137 of 2019, <i>Comité de Vigilancia Parque El Carrasco</i> (El Carrasco Park Surveillance Committee)	Alcalde Municipal	2019
Resolution No. 0297 of 2019, <i>Política y Administración del Riesgo</i> (Risk Policy and Management)	Alcalde Municipal	2019
Law 2044 of 2020, <i>Normas para el Saneamiento de Asientos Informales</i> (Sanitation Standards for Informal Settlements)	National	2020
Decree No. 0082 of 2020, <i>Medidas De Prevención Control De Contaminación</i> (Pollution Control Prevention Measures)	Alcalde Municipal	2020
Decree No.0015 of 2020, <i>Derogación del Decreto No. 0144 de 2016</i> (Repeal of Decree No. 0144 of 2016)	Alcalde Municipal	2021

Resolution No. 0338 of 2021, <i>Procedente y Proceso de la Legalización de Asentamiento La Fortuna</i> (Origin and Process of the Legalization of Settlement La Fortuna)	Alcalde Municipal	2021
Decree No. 0005 of 2022, <i>Actualización PGIRS</i> (PGIRS Update)	Alcalde Municipal	2022
Resolution No. 0013 of 2022, <i>Modificación de Planos del Asentamiento Guayacanes</i> (Modification of Guayacanes Settlement Plans)	Alcalde Municipal	2022
Resolution No. 0014 of 2022, <i>Modificación de Planos del Asentamiento Punta Paraíso</i> (Modification of Punta Paraíso Settlement Plans)	Alcalde Municipal	2022
Resolution No. 0015 of 2022, <i>Modificación de Planos del Asentamiento María Paz</i> (Modification of María Paz Settlement Plans)	Alcalde Municipal	2022
Resolution No. 0016 of 2022, <i>Modificación de Planos del Asentamiento Brisas del Paraíso</i> (Modification of Brisas del Paraíso Settlement Plans)	Alcalde Municipal	2022
Name of Policy (English and Spanish)	Level of Government	Year
National Plan for Adaptation to Climate Change, (<i>Plan Nacional de Adaptación al cambio climático, PNACC</i>)	National	2016

Municipal Development Plan 2016-2019: Government of the Citizens (<i>Plan de Desarrollo 2016-2019: Gobierno de las Ciudadanas y Ciudadanos</i>)	Municipal	2016
National Policy on Climate Change (<i>Política Nacional del Cambio Climático</i>)	National	2017
Municipal Disaster Risk Management Plan (<i>Plan Municipal de Gestión del Riesgo de Desastres, PMGRD</i>)	Municipal	2019
Comprehensive Metropolitan Development Plan (<i>Plan Integral de Desarrollo Metropolitano, PIDM</i>)	Municipal	2020
Bucaramanga, City of Opportunities 2020-2023 (<i>Bucaramanga, Ciudad de Oportunidades 2020-2023</i>)	Municipal (City Council)	2020

APPENDIX D: Urban Planning and Design for Mitigation — Referenced Legislation and Policies

Name of Legislation (English and Spanish)	Level of government	Year
Plan de Ordenamiento Territorial Territorial Organizing Plan	Regional	2013 - 2027

<p>Plan de Desarrollo Municipal 2020 - 2023 – “Bucaramanga, Una Ciudad de Oportunidades”</p> <p>Municipal Development Plan 2020 - 2023 – “Bucaramanga, a City of Opportunities”</p>	Local	2020 - 2023
<p>Programa de Gobierno - Bucaramanga: Una Ciudad de Oportunidades Para Todos</p> <p>Program of Government - Bucaramanga: A City of Opportunity for All</p>	Local	2020 - 2023
<p>Plan Maestro De Movilidad - 2010 – 2030</p> <p>Master Mobility Plan - 2010 – 2030</p>	Regional	2010 – 2030
Name of Policy (English and Spanish)	Level of Government	Year
<p>Ley 388 de 1997 - <i>Por la cual se modifica la Ley 9ª de 1989, y la Ley 3ª de 1991 y se dictan otras disposiciones.</i> (By which Law 9 of 1989 and Law 3 of 1991 are modified and others are issued provisions.)</p>	National	1997
<p>Decreto 0061 de 2021 - <i>Por el cual se prórroga la situación de calamidad pública, declarada mediante Decreto No. 398 de 2020,</i> (By which the situation of public calamity is extended, declared by Decree No. 398 of 2020)</p>	Local	2021

<p>Decreto 0082 de 2020 - <i>Sobre Medidas de Prevención y Mitigación Temporal para el Control de la Contaminación, Atmosférica en el Municipio de Bucaramanga, (On Temporary Prevention and Mitigation Measures for the Control of Atmospheric Pollution in the Municipality of Bucaramanga)</i></p>	Local	2020
<p>Decreto 0398 2020 - <i>“Por el Cual se Declara la Situación de Calamidad Pública en Siete Microzonificadas del Municipio de Bucaramanga - Santander”, (By Which the Situation of Public Calamity is Declared in Sevel Micro-Zoned Areas of the Municipality of Bucaramanga.)</i></p>	Local	2020
<p>Decreto 137 2021 - <i>"Por Medio Del Cual se Crea el Comité de Operación, Control y Vigilancia del "Parque Contemplativo el Carrasco" y se Dictan Otras Disposiciones". (Through which the Operation, Control, and Surveillance Committee of the Carrasco Contemplative part is Created and other Provisions are Enacted)</i></p>	Local	2019
<p>Resolución 0325 de 2019 - <i>Por Medio del Cual se Adopta el Plan de Contingencia en Cumplimiento de Auto Que Declara Medida Cautelar con Respecto a las Obras de Ciclo-Infraestructura (Through which the Contingency Plan is Adopted in Compliance with the Order that Decrees a Precautionary Measure Regarding the Cycling Infrastructure)</i></p>	Local	2019
<p>Decreto 0153 de 2017 - <i>Por Cual se Prorroga la Declaración de Existencia de Situación de Riesgo de Calamidad Pública que Lugar al Estado de Emergencia Sanitaria y Ambiental en el municipio de Bucaramanga (By Which the Declaration of the Existence of a Public Emergency is extended, which gives rise to the State of Sanitary and Environmental Emergency in the Municipality of Bucaramanga, and other Provisions are Adopted)</i></p>	Local	2017
<p>Decreto 3600 de 2007 - <i>Por el cual se reglamentan las disposiciones de las Leyes 99 de 1993 y 388 de 1997 relativas a las determinantes de ordenamiento del suelo rural y al</i></p>	National	2007

desarrollo de actuaciones urbanísticas de parcelación y edificación en este tipo de suelo y se adoptan otras disposiciones. (which regulates the provisions of Laws 99 of 1993 and 388 of 1997 relating to the determinants of ordering of the rural land and the development of urban actions for subdivision and building on this type of land and other provisions are adopted.)

APPENDIX E: Economic and Non-Economic Instruments for Climate Friendly Urban Planning — Referenced Legislation and Policy

Name of Legislation (English and Spanish)	Level of Government	Year
Law 14 of 1983 (Ley 14 de 1983)	National	1983
Law 1625 of 2013 (Ley 1625 de 2013)	National	2013
Resolucion No. 578 and No. 585 of 2018 (Resolucion No. 578 y 585 de 2018)	Municipal	2018
Acuerdo 13	Municipal	2020
Name of Policy (English and Spanish)	Level of Government	Year
Bucaramanga’s Socio-Economic Development Plan, 2020-2023, “Bucaramanga, a City of Opportunities” (<i>Plan de Desarrollo Municipal 2020-2023, “Bucaramanga, Una Ciudad de Oportunidades”</i>)	Municipal	2020-2023

Metropolitan Strategic Plan for Territorial Planning _ PEMOT (Estratégico Metropolitano de Ordenamiento Territorial (PEMOT))	Municipal and County	2021
<u>Appendices to Six Case Studies of Economically Successful Cities</u> , World Bank	N/A	2015