

IMAGINING CLIMATE JUSTICE AND RESILIENCE _COLOMBIA_ DOUBLE DISPLACEMENT AT THE WATER'S EDGE

SPRING 2023 | MA CLIMATE AND SOCIETY
COLUMBIA UNIVERSITY CLIMATE SCHOOL

A PARTNERSHIP BETWEEN

 COLUMBIA CLIMATE SCHOOL
MA in Climate and Society

COLUMBIA
GSAPP

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CARTAGENA CARTAGENA SANADO LA BAHÍA // HEALING THE BAY

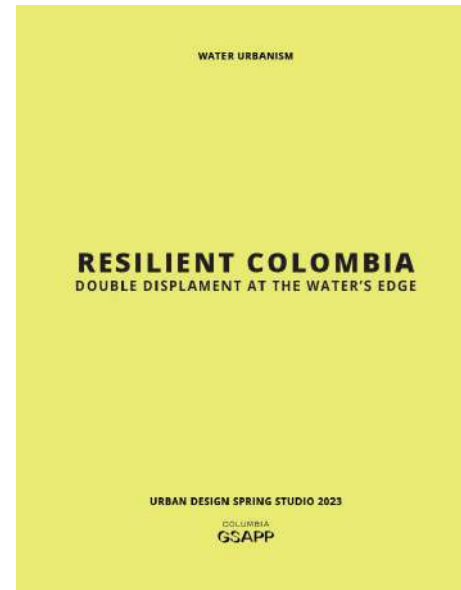
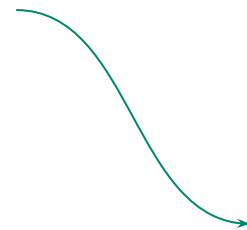
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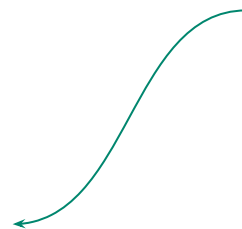
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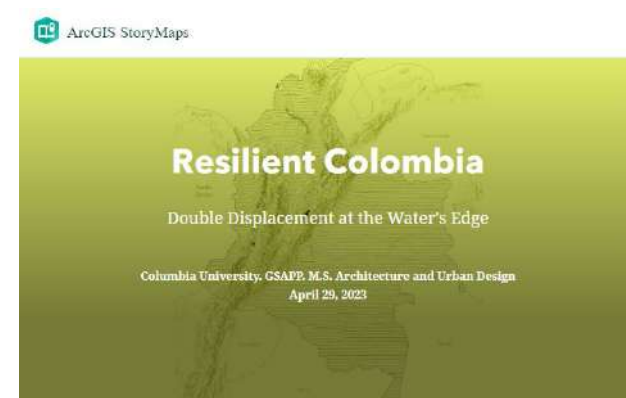
URBAN
DESIGN
BOOK



CLASS
STORYMAP



ArcGIS StoryMaps



USING THIS DOCUMENT

The document is more than a synthesis of student work. It represents the ideas of many and offers a template for action and practice. Here are some examples around which one might take these learnings forward:

- > **Local community partners and policy-makers** in Colombia who are advancing resilience, adaptation, and mitigation policy and design on the ground. This represents a synthesis and interpretation of much of what we heard from them.
- > **Faculty and students in any University** looking for a template for applied, partnered, immersive, interdisciplinary, and impactful coursework.
- > **The next cohort of Urban Design and Climate School students** to deepen research and application themes.
- > **The Climate School and Columbia University** as it looks to practice climate justice learning and outcome-drive education and research.
- > **NGO, private sector, and civil society community** looking for case studies, policy ideas, and **amplification** opportunities for local partners and the next generation of leaders.



IMAGINING CLIMATE JUSTICE AND RESILIENCE **COLOMBIA**

BACKGROUND

TEACHING TEAM AND COLLABORATORS

CONTEXT SETTING | COLOMBIA x CLIMATE x WATER JUSTICE

CLASSROOM AS A VEHICLE FOR CLIMATE ACTION



COURSE BACKGROUND

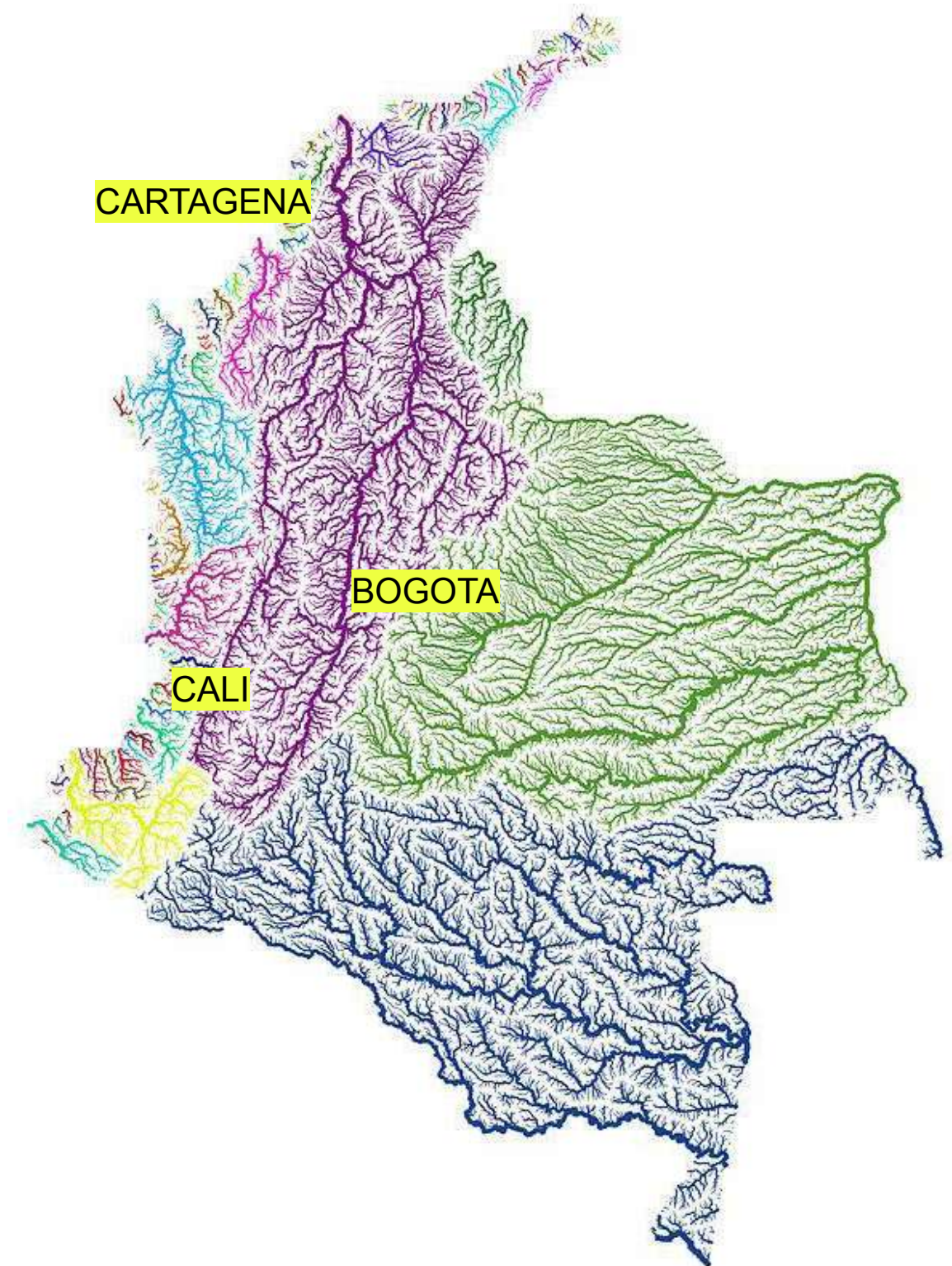
Colombia is poised to be a major voice on the global stage and can help redefine the priorities and approaches to the global climate crisis and notions of adaptation as well as loss and damage. Among the most biodiverse countries on the planet, it is also among the countries with the largest numbers of internally displaced people. What does this mean for climate justice? What processes, policies, and design strategies are needed to deliver a just transition? What lies at the intersections of historic dispossession of homes and land, further compounded by climate impacts and subsequent adaptation actions?

“Imagining Climate Resilience and Justice is an elective course offered in the Columbia Climate School Masters of Climate and Society Program. Taught in a collaborative format with GSAPP’s Water Urbanism Design (UD) Studio, this course explores climate justice and action through a lens of urban planning, design, and policy in support of communities and ecologies on the frontlines.

In Spring 2023, the course examined water, social life, nature-based infrastructure, housing, climate justice, and climate migration with a focus on the broader geography from mountain to coasts and seas of Colombia. During this time, 52 Urban Design and 10 Masters of Climate and Society students and faculty worked together on design and policy visions that address key climate themes emergent in Cali, Bogota, and Cartagena. In March, the cohort traveled to Colombia, exchanging with students and faculty at Uni los Andes and Uni del Valle in Colombia, meeting with municipal and civic leadership, participating in global forums including the “Water as Leverage”, and learning from frontline communities.

Students developed research and synthesized possible design and process-based actions related to the phenomenon of “double displacement.” We explored relocation processes, green-blue infrastructure, eco-tourism, regenerative livelihoods, new housing and urban typologies, coastal design and zoning and regenerative agriculture. In the Colombian context, land tenure, land-use standards, housing typologies, management and resilience concepts are also creating grounds for alternative forms of water driven development patterns. Through collaboration across schools, with local communities, NGO’s, and policy-makers, this course explored the successes and failings of case examples as well as workshopped policies and practices, deepening what we learned from and alongside local actors.

Finally, we explored the role of Columbia University and applied pedagogy. By inquiring into our own role(s) and complex personal, social, and institutional relationships with climate justice, we considered new futures of multidisciplinary, international, and multiscaler learning, partnership, and advocacy. We hope that this supports the Columbia Climate School and others as we collectively and urgently reconsider the role of the classroom in the climate crisis.



TEACHING TEAM

Taught in a collaborative format, this class represents a team-based approach to pedagogy across disciplines, schools, and degree programs at Columbia University.

The Climate School
Masters of Climate and Society



Johanna Lovecchio,
Climate School Lead, Book Editor

Graduate School of Architecture, Planning, and Preservation
Masters of Architecture and Urban Design



Kate Orff, Studio Lead



Maria Palomares



Geeta Mehta



Dilip da Cunha



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Karl Greenfield
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MASTERS OF ARCHITECTURE AND URBAN DESIGN

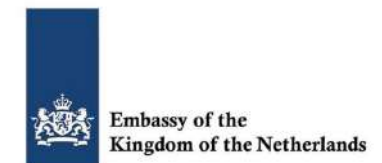
Aashwita Yadav	Naumika Hejib
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COLLABORATORS

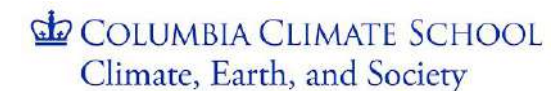
With immense gratitude, we thank the faculty and students of Universidad de los Andes (Bogotá) School of Architecture and Design, and the Universidad del Valle School of Architecture & LIUR. We also extend our appreciation to Juan Esteban Correa Elejalde, Universidad Pontificia Bolivariana. Finally, we are deeply grateful to collaborators at the Mayor's Office of Cartagena, Water as Leverage, and Fundación Grupo Sociale.

A special thank you to the participants during the on-site workshops, lectures and project reviews, guides and translators, and community members for sharing their expertise and experiences with our studio and working with us throughout the semester.

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Andrés Martínez , Universidad de los Andes	Luis Villadiego , Alcaldía Distrital de Cartagena de Indias
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Diana Rodríguez , Biodiversidades – Humboldt	Robert Proos , Water as Leverage, Netherlands Enterprise Agency
Diana Ruiz	Rodrigo Vargas , Uni del Valle
Diego Laserna , Politician - miembro del consejo de Bogotá	Rosalbina Jimenez
Diego Restrepo , Uni del Valle	Sergio Fajardo
Dora Villalobos	Spell Translation
ECOVIDA	Mayor William Dau , Alcaldía Distrital de Cartagena de Indias
Erik Vergel , Uni de Los Andes	Wilson Mendivelso
Fernando Paez , World Resources Institute	
Guillermo Escobar	



Columbia World Projects
COLUMBIA UNIVERSITY



COLOMBIA x CLIMATE x WATER JUSTICE

Johanna Lovecchio

Towards a New Climate Reality

The Colombian landscape is known as the 2nd most biodiverse country in the world and is a diverse mosaic of mangroves, beaches, lagoons, coastal wetlands, rivers, mountain streams. It has sustained human settlements over deep time.

Colombia's landscape is subject to the impacts of climate extremes and variabilities. Temperatures across Colombia are projected to continue rising, with mean monthly temperatures projected to rise by 3.88°C by the end of the century (RCP 8.5). As one result, highland areas, where the majority of the country's population is concentrated, are increasingly subject to landslides and significant flooding due to increased surface runoff from snow melt and extreme rainfall on degraded high elevation forest ecosystems. Further, [glaciers](#) are likely to disappear, further contributing to water shortages in the highlands. Meanwhile, coastal areas, rising seas, and storm surges from hurricanes will lead to localized flooding, erosion, and saline intrusion. Droughts, particularly between January and March, as well as July and September, are expected to lead to water supply shortages, threaten agriculture, and place operations of hydroelectric power projects at risk of failure (World Bank, 2021).

These risks are the result of dependence on fossil fuels and extraction of resources faster than they can be regenerated or renewed. The vulnerabilities and inequalities that these risks expose are rooted in societal, economic, physical design, and political decisions as well as systems of power that have enabled this dependence. **"Imagining Climate Justice and Resilience"** explored these relationships.

Towards Climate Action

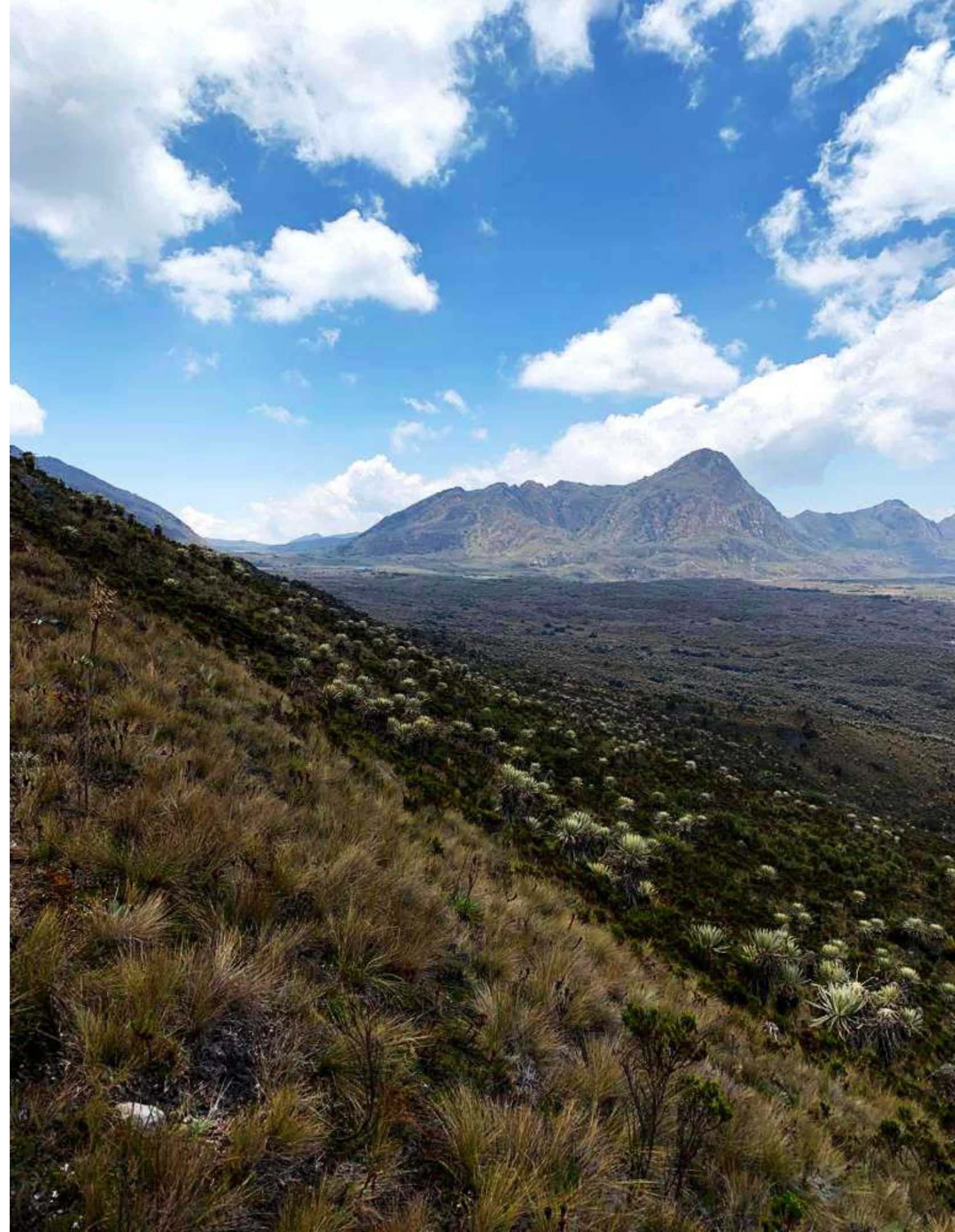
In August, 2022 a new government of Colombia transitioned from grassroots campaign to a historic and national government powered by the [Pacto Historico](#) coalition, the first left-wing government in the country and a step in the fight for [climate justice](#) in Colombia and the world. Colombia has also been amongst the [world's most ambitious](#) in terms of climate commitments with an objective to meet carbon neutrality by 2050 and committed to "immediate withdrawal from the oil and gas industry" at COP27 ([the largest, most fossil-fuel-dependent country to do this](#)). This new government has laid out an ambitious climate and justice agenda — promising to end the destructive model of resource extraction which is driving climate devastation and [build a new relationship with nature](#).

These extractive models and resulting humanitarian and biodiversity crises are not limited to oil and gas, but also linked to legacies of colonization and the [transatlantic slave trade; conflict, violence, and peace-building](#) and human rights abuses; [and the "war on drugs"](#) and militarization. And while these commitments and recognitions come with complex implementation and governance challenges as well as transitional risks to continuity of services and economic opportunities, they also offer a platform to consider how we might re-route an extractive system. Altogether, they weave a complex fabric of interrelated movements and contestations that contextualize new paths.

On the global scale, while [COP 26](#) and [COP27](#) both failing to significantly curb greenhouse gas emissions while global landscapes and marginalized communities are in varying states of collapse, COP27 ended with an [announcement of a historic loss and damage fund](#). This is a step towards reparation of the unequal impacts of climate risk on the countries that are least responsible for its production to support adaptation and resilience. Other efforts, such as the [Bridgetown Initiative](#), are positioning the Caribbean and its coast in leading reform of international development assistance eligibility and access to essential climate finance. Colombia, which produces less than .4% of the world's emissions, requested \$800B yearly in loss and damage. These legal and financial contests are also represented Nationally, such as in recent litigation of 25 children and young people, who sued the State for not guaranteeing their rights to life and the environment in a case they went to the [Supreme Court of Justice of Colombia](#) (Amicus Brief submitted on behalf on [Columbia Climate School's Dr. James Hanson](#)). If capitalized and mobilized, these global efforts could hold accountable polluters and developed nations and reshape the transition in Colombia and the global south more broadly.

Cities and the pressures of urbanization are an entry point to understanding and reshaping these relationships. Cities in Colombia, in particular, have long been sites of major political transition that are wholly reflected in and also shaped by the built environment. In recent years, [Medellin](#) and [Bogota](#) have become leaders in resilience planning. They are also the receivers of people, communities, and families displaced by climate impacts, [conflict](#), and infrastructure.

What does this mean for Colombia? For its vulnerable communities? For its cities and landscapes?



Towards Water Urbanisms

Urban design is a tool that can support and harmonize the living planet's massive critical ecosystems with people and power. Urban growth patterns that have demonized, concretized, privatized, and channeled water and are now grappling with how to "let it in." Water and the urban form are at once at odds and in constructive dialogue depending on how we construct this relationship.

The goal of this collaborative studio was the workshop water sensitive urban design policy in a justice context. We worked across transects inclusive of Amazonian forests and coastal plains, devising scenarios and ideas that address pressures of housing, livelihood, transportation, and social justice.

The collaboration was in large part informed and anchored by our Columbia University colleague Hugo Sarmiento's work with community members in Cali, in particular: [Reframing Climate Justice in Santiago de Cali: Afro-Colombian Resistance to Climate Relocations](#) and "Double Displacement" - rapid development in the Cali context is provoking large investments in levees and flood protection systems, but at the same time these adaptation projects are themselves engines of displacement. We questioned the paradigms of asymmetrical international development; looked for and listened to the efforts of communities reshaping identities related to water, place, and power; and unpacked how exclusion from housing and land markets can create and formalize climate risk.

"Imagining Climate Resilience and Justice: Colombia" explored water, social life, nature-based infrastructure, housing, climate justice, and climate migration from mountain to coasts and seas of Colombia. We explored social and urban infrastructure and scales of impact and questions such as:

- How do we understand the relationships between urban planning, design, and adaptation in the context of hyper-local, national and global imperatives towards climate justice?
- How is risk produced and experienced through spatial exclusion, urban planning and design?
- What does it mean to design for "resilience" critically and understand the confluence of social, political and ecological factors as intertwined? How are international actors importing models of urban resilience and how are these playing out and mobilizing or hurting capital on the ground?
- How does the right to housing and nature intersect with broader ecological imperatives like ecocide, deforestation and the collapse of biodiversity?
- What are the racial dimensions and scales of climate risk?
- What are alternative forms of water driven development patterns?
- What are visions for cities and farms including riverine and coastal restoration, climate mitigation, local jobs, land tenure and agency, prosperity and self-determination, and vernacular housing typologies?

Towards Practicing a Process

In this course, our class worked with our colleagues and partners at Columbia's GSAPP, Colombian University partners and students, community partners, practitioners, NGO's, and policy-makers. Each was invaluable and generous with their time, knowledge, and insight and helped us to pull the classroom and the walls outside the University a step closer together. As colleagues and peers, we explored the successes and failings of case studies globally, workshoped and tested policies and practices to support implementation, and activated a set of design scenarios and policy principles that test a climate just future in Cali, Cartagena, and Bogotá.

Columbia University and our class does not exist outside of or independent from the extractive systems of power that perpetuate climate change and its risks. So, along the way we inquired into our own roles and identities as it relates to the work of climate justice and engagement with impacted communities. And while these may never disentangle fully in our lifetimes, we practiced the process and ethic of multidisciplinary, international, and multiscaler learning, partnership, and activism as a Columbia Climate School community and future collaborators. We entrust our recommendations and learnings to the administration, faculty, and future students as we urgently work together to create a non-extractive and connected community of learning and partnership.

Colombia is a major voice on the global stage and can help redefine the priorities and approaches to the global climate crisis and notions of adaptation. Our class is an offering of partnership and allyship.



Journal

CLIMATE AND THE BUILT ENVIRONMENT

Sumapaz Paramo
El frailejon is a unique species to the paramos

The paramo is continuously moist or even saturated with water due to the daily formation of dew or frost and the water-retaining capabilities (soil similar to peat)

This special place is warming faster than almost anywhere on earth, second to the arctic

Drought and el nino are impacting the water cycle

Plants are burned from the rapid heating and freezing of the earth and atmosphere, causing condensation and searing from the sun.

Bursting with watery life and biomarkers of some of the cleanest air on earth



Georgia and Jaad tasting some local citrus

What remain of these sacred lands and paths laid by indigenous peoples thousands of years ago are increasingly threatened.

We were accompanied by a local farmer and our guide who make sure that tourists like us don't disrespect it.

Ancient highland lagoons are off limits to tourists and open only to locals, hunters, and fishers. Yellow mosses line their edges.



Learning from Dilip da Cunha and the "Invention of Rivers" then from Luisa Brando about the relationships to the Magdalena River, lifeblood of the country.



Bogota river and earthen flood levees ... cuts off the exchange between the wetland and the river at Humedal Jaboque



Soap and other contaminants through a break in the levee

ART AND DANCE IS EVERYWHERE!! A sign of not turning back to nature and community.



Learning from Bogota's Secretariat of Planning about the "conflicts" between wetlands and urbanization at Humedal Jaboque. This area is both an important recreational space and provider of ecosystem services that benefit the community and climate system.

It's right at the city limits where the Bogota River creates an administrative boundary of the city.

We heard a lot about efforts to "CONTROL" the wetland, but also see how the flood infrastructure causes a separation of water that once flowed together.

While part of the wetland is "protected," there is an overall loss of biodiversity that is critical to our climate and health.

Protection from climate risk and biodiversity loss comes with complications in urban spaces - especially for a city that is grappling with how to support and house millions displaced from violence, conflict, and lack of economic opportunity.

This community has unimaginable challenges - displacement from home, overcrowding, lack of infrastructure and services, flooding, and heat are among them.

Bogota's city planners are balancing these contradictions. Climate change exacerbates these risks and compounds the vulnerability of already vulnerable people and ecosystems.



The city itself expresses the relationships between urban life, ecosystems, and community through art, sculpture, architecture, and food.



Hot plug of how important parks are.

Journal

CLIMATE AND THE BUILT ENVIRONMENT



Water as Leverage teams workshop and gather feedback from communities, the private sector, and public.

"The success of this program will depend on its ability to engage community and sustain through political transition" (About Water as Leverage)



Cartagena is Mayor Daví's hometown. But he's got so much Brooklyn in him! We talked about how he continued his activism from NYC and what corruption means for climate impacts.



The Cartagena that most tourists come to see and celebrate

Spanish architecture, plazas, color and vegetation cool hot sidewalks



This wall encompasses Cartagena's core and is a popular tourist attraction



Fan cora

This limestone is everywhere in the city, quarried by Spanish colonizers from ancient coral reef (by slave labor) located in Turbaco. Expressions of colonial extraction still very much present today.



Legacies of colonization and liberation are represented in innumerable ways in the built environment



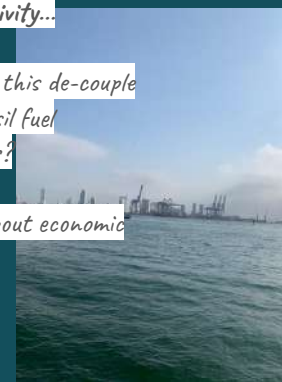
Cartagena is 70% surrounded by water

Sea level rise, erosion, salinization, flooding and heat are hazards

Port Activity...

How can this de-couple from fossil fuel emissions?

What about economic growth?



Boca Grande

SUBSIDENCE

Heavy urban core buildings pushing down (also happening in Can Tho, NYC, Miami, Jakarta)

SEA LEVEL RISE, SURGE, AND EROSION

Water is rising as the buildings push down....



Corrupted real estate industry has a role to play in this story

Journal CLIMATE AND THE BUILT ENVIRONMENT

Cobalt, nitrogen sedimentation
from port and sewage



Hard edges that
are difficult to
maintain and
bifurcate nature
and settlement

Plastics primarily from
tourist core



What will be the impacts of
El Nino on mangrove
survival? What about the
blue carbon these mangroves
are sequestering?

Fishing is not longer a healthy
or sustainable livelihood.

Cienega de la Virgen and its
canals were once rich with blue
carb, shrimp, and mollusks,
which have disappeared.

Don't people have a right to live
healthily off of the land that
they steward?



A lawsuit is out for
the contamination
caused by sewage and
resulting fish die offs



"We also honor the inner
transformations needed to
shift our physical reality."



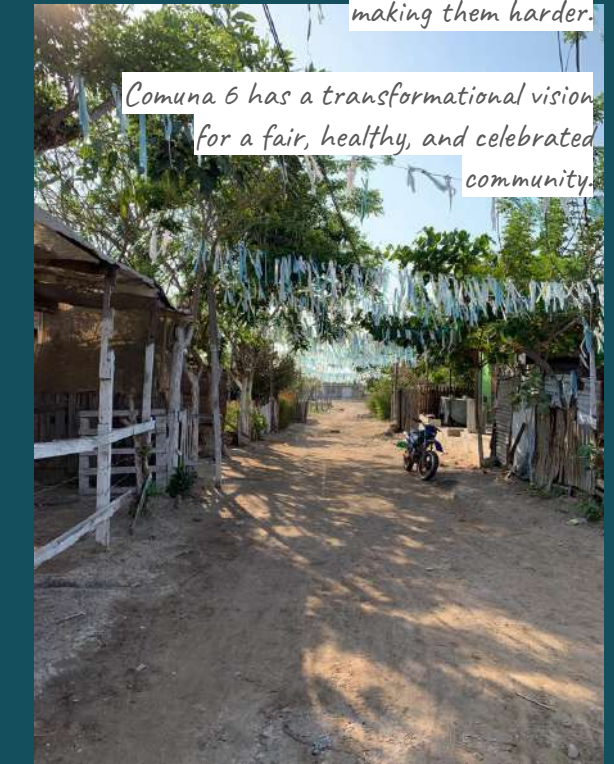
Amphibious transportation
using canals, boats, and
transfer bridges is becoming
reality.

New settlements emerging
through community agreements.
Immigration from Venezuela and
impacts of COVID-19 are a part
of this reality

Mangrove cuttings

Mangroves are critical
habitats, carbon storage,
and flood protection. They
are also sources of wood
for self-built homes in
flood prone areas.

Displaced people must make nearly
impossible choices and climate change is
making them harder.



Comuna 6 has a transformational vision
for a fair, healthy, and celebrated
community.



"Illegal does not
mean illegitimate"

Young people are invested
and learning the shift

36 orgs
320 kids
12 schools
19,000 students

!!!!



THE CLASSROOM AS A VEHICLE FOR CLIMATE ACTION

This class assumes that students are uniquely positioned to support and advance climate action imperatives because they do not represent a firm, policy or funding agenda, or otherwise financialized platform. Through transdisciplinary teaming, research that was responsive from our partners in the field, and exposure to a wide range of perspectives - students synthesized design and policy visions that at once anchored in community needs on the frontlines as well as positioned in the context of global climate action agendas.

COURSE OBJECTIVES

- Workshop the process of policy and design development and implementation, including: visioning and scenario planning, stakeholder engagement, funding and financing, and laws and governance
- Produce policy recommendations for each site and broader context of Colombia in a global context based on theme (tentative, to be determined in studio), for example: Bogotá and Community Planning, Cartagena and Infrastructure
- Exchange with students, academics, and local stakeholders in Colombia and within Columbia

LEARNING OUTCOMES

- Gain an understanding of the intersections between design, planning, policy and climate justice
- Become conversant in climate adaptation policies
- Explore modes of transdisciplinary learning
- Practice workshop session and facilitation skills
- Devise and connect design and policy solutions to local climate challenges

ASSIGNMENTS

1. **Project Briefs:** Purpose, role, research question, implementation question, initiative findings and research plan, engagement strategy
2. **From Risk to Resilience:** Visual Narratives of the Construction of Place-Based Risk
3. **Implementation Case Studies**
4. **Policy and Implementation Memos and Final Presentations**



LEARNING JOURNEY COURSE PROGRESSION

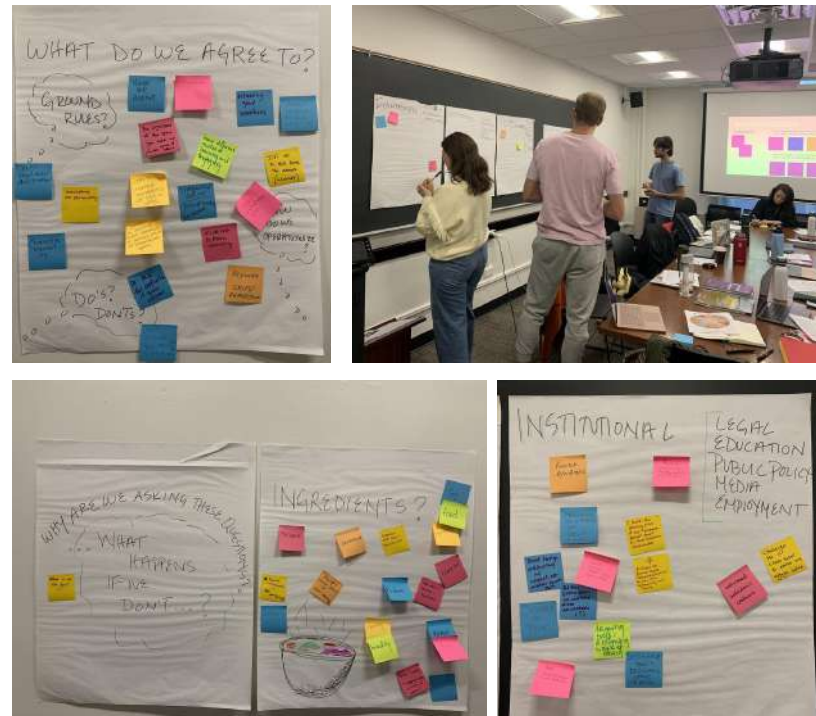
CONSTRUCTING A LIVING ETHIC

WHAT ARE OUR
LEARNING AND
COLLABORATIVE
INTENTIONS?

Week 1 - 5

We began by developing our own class ethic and framing a living set of guidelines in a workshop format that articulated:

- What is plurality and positionality in design and policy work?
- How do we understand our own positionality? What assumptions might we be making?
- What principles or questions do we want to keep in mind as we move through the class?



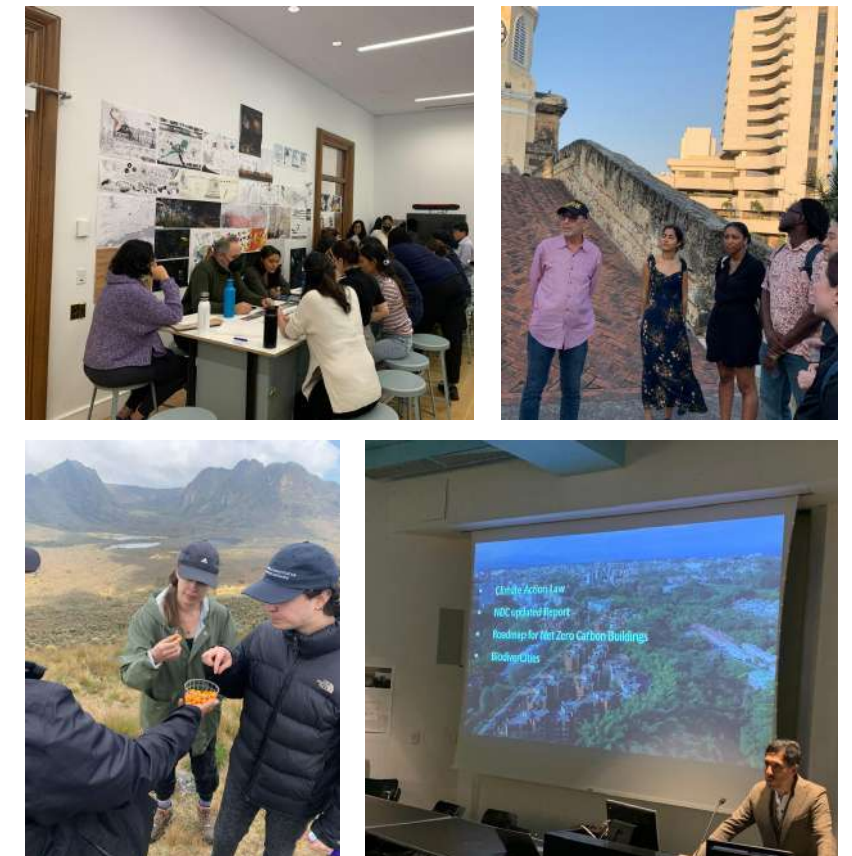
UNDERSTANDING RISK AND RESILIENCE

HOW IS/WAS/WILL
RISK PRODUCED
AND
CONSTRUCTED?

Week 6 - 9

We know that climate change is itself a risk and also that this risk has been socially, politically, and economically constructed. This class aimed to uncover the interconnected and complex relationships between climate change and policy and design decisions that have constructed risk and vulnerability through:

- Friday **speaker series** with designers, planners, scientists, attorneys, policy-makers, historians, funders, and community leaders
- Interdisciplinary research question development and **spatial and policy analysis**
- **Meetings and site visits** with local leaders in the field
- **Student and faculty exchanges**



LEARNING JOURNEY

COURSE PROGRESSION

ITERATING ON AND AMPLIFYING IDEAS

WHAT ARE SEEDS
OF CHANGE THAT
CAN BE
AMPLIFIED?

WHAT ARE
SCENARIOS FOR A
CLIMATE JUST
FUTURE?

Week 9 - 11

A core element of this class was learning from local, national, and global efforts and identifying how they all fit together in a broader collective context. We sought to understand and engage these dynamics in real time through:

- Development of **visual risk narratives**
- Facilitation of a GSAPP+CCS **policy-design workshop**
- **Site visits and student exchanges** with faculty at Uni Andes and Uni del Valle
- **Critique sessions** with faculty and students



*Policy and Design
Implementation
Workshop*

SYNTHESIZING AND ENGAGING A PATH FORWARD

WHAT WOULD IT
TAKE TO
TRANSFORM?

WHO IS
ACCOUNTABLE
AND AT WHAT
SCALE?

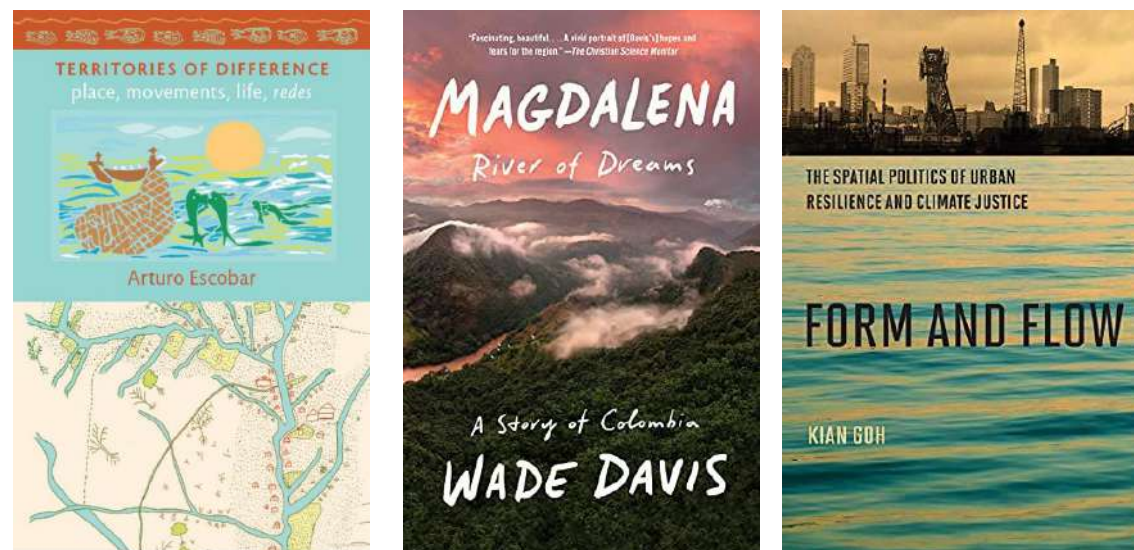
Week 12 - 14

Pulling it all together meant translating much of what we learned and heard into actionable ideas. It also meant presenting and activating these stories, visualizations, and policy directions in real time and with stakeholders who are actively deciding on paths forward. We practice, and will continue to practice beyond this semester in a number of ways:

- **Smaller feedback sessions** with community organizations to sense-check interpretations and propositions
- **Hosting final discussions** with faculty, local stakeholders, and partners for exchange and feedback
- **Synthesis of student work into this publicly available book and set of design resources**
- **Continued discussion with local partners and civil society** around future programmatic engagement through coursework, capacity building, and research that meets the direct needs of the field and frontline communities

KEY TEXTS

HIGHLIGHT



Our syllabus took inspiration from many places. Core readings **laid the foundations of urban resilience and the built environment** as well as practices of inclusive and equitable **design and research methodologies**.

We also explored texts, films, articles, and art that helped us begin to understand the **unique histories, realities, and perspectives of Colombian** scholars, students, practitioners, leaders, and creators. We also challenged them and ourselves in the context of counter narratives and the contradictions they present.

UNIVERSITY + STAKEHOLDER EXCHANGES



Exchanging with students at Uni del Valle in Cali and Uni de los Andes in Bogota. Design, policy, and planning students worked together in teams to research sites, meet with communities and practitioners, and gain valuable insight and feedback from faculty.



In Cartagena, we participated in the 2-day Water as Leverage workshop, where over 100 academics, firms, practitioners, and community stakeholders met to kick-off a 2-year planning process for inclusive water infrastructure project design.



COURSE ETHIC AND COMMUNITY AGREEMENTS

HIGHLIGHT

DEFINING OUR WHY WHAT ARE THE INGREDIENTS?

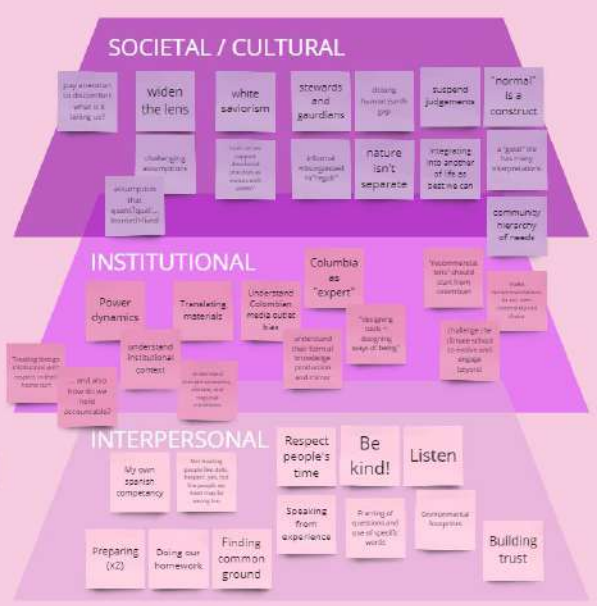


COMMUNITY AGREEMENT HOW WILL WE OPERATIONALIZE?

- Try everything
- Assume good intentions
- Change course if we need to
- It's ok to not have the answers or know something (collectively)
- Integrate our working and hanging out groups
- Honor different modes of learning and engaging
- Be cognizant of the space you take up and make space and air time for others
- Honor our bodies
- Be open to changed perceptions not rigid ideas
- Commit to learning about stakeholders or partners outside of research and work spaces
- Prioritize relationships and trust - get personal (when it feels right!)
- Pay attention to discomfort - what is it telling us?
- Regular moments of critique and reflection

WHAT SYSTEMS AND DILEMMAS MIGHT WE ENCOUNTER? WHAT QUESTIONS DO WE WANT TO KEEP COMING BACK TO?

- Challenging our assumptions about what "normal" or "right" (these are constructs)
- Coming back to community hierarchy of needs
- A "good" life means many things
- Suspending judgements
- Pressure to "solve" and have solutions
- Nature as a separate from humanity
- Informality as "disorganized"
- White saviorism
- Widening of our lenses
- Lived v. learned knowledge
- Learning into discomfort
- Understanding and respecting power dynamics and contexts
- Challenging Columbia as "expert" and evolving the Climate School forward
- "Designing tools = designing ways of being"
- Care around language and framing of "recommendations"
- Understanding and adapting to knowledge production and media bias
- Being aware of and adapting to my own Spanish competencies
- Not treating people like dolls - challenge their assumptions too
- Being prepared and doing our homework
- Finding common ground
- Respecting people's time
- Kindness and listening
- Speaking from our own experience
- Framing questions with intention
- Our environmental footprints and ways we benefits
- Building trust



Our **co-created course ethic** articulated our values, understanding of our **positionalities**, and **community agreement** for how we would comport ourselves as colleagues, as representatives of Columbia, and as invited guests into communities and spaces.

We also **regularly checked-in and made adjustments to the class** as our research questions became clearer, learnings were internalized, and course loads were managed inside and outside of our class.

ADAPTATIONS AND DIGESTIONS

1. 'DESK CRITS' W/ UD SANS FACULTY
2. MIXED RESULTS ON TRANSECT COLUMBIA ON TRIP
3. CLOSER SYNCING BETWEEN UD PCCS → MORE 2 DIRECTIONAL
4. LETS SEE NYC PROJECTS
5. INTIMATE SHARING W/ LOCAL PARTNERS EG FUNDACION SOCIAL, ECOVIDA, CLIMATE PROJECT
6. HOW CAN THIS TRANSLATE INTO SUMMER:
 - CRISTINE?
 - INTERNSHIP?
 - TRAVEL GRANTS?
7. TRIP WAS INTENSE + HARD TO BALANCE w/ MIDTERMS + MISSION

IMPACTFUL MOMENTS

- CARE BLOCKS!!
- VETERANS - INSIDE BEHIND OF PINE TREES: ACCESS V. COMFORT + COMARCO PRESENT
- AWARENESS - INTERNAL PAIN TO BONY + NO INTEREST IN UD COURSEWORK BECAUSE TOOKLEW IN + GROUP
- WAL OUP - SUSTAINABLE + ENVIRONMENTAL PROJECT PATH TO LOCAL RESOURCES + UP
- MEETING THE MAKER
- COMMUNITY TALKING CTS WHAT THEY NEED
- ECOVIDA - DON'T BELIEVE IN PAINOS
- GOING INLAND BEHIND
- DEPT IN MEMORIES, SWEEPED AWAY
- FEELS GREAT W/ COMMUNITY ACTION
- MARRIAGE CIRCUIT
- COLUMBIA W/ GROUP - DEPT FOSTERED, CI DESPITE LANGUAGE - INVESTED + INSIGHTFUL SHIRIN WHAT I E D'S
- BEING BOLD B/C OPERATING W/ 400 DIFF PAGES OF DIS
- COMMUNITY PARTICIPATION
- A LOT OF POPULAR NARRATIVE + THOSE WHO WANT TO UNDERSTAND

SURPRISES OR CHALLENGES

- SENSORY, SITE VISITS SO IMP TO DESIGN + POLICY
- HOW PROGRESSIVE POLICY IS! JOURNEY FROM PARADIS → URBAN TRANSLECT MIXED SCAPES
- EXPERIENCING HOW DIFF EACH SITE IS
- NOTION OF TIME - CARE BLOCKS, CAPITAL CARS MAKING U AS A RESOURCE
- COMMUNICATING W/ OUT LANGUAGE, FELT EX TROUVE
- PARTS TIME FELT IMPERSONAL
- DULUP - WITNESS; WISDOM NEEDED MORE
- STAGNATION IN POLICY MAKING + CORRUPTION ROLE
- MANGROVES, FISHING IN POLLUTED WATER
- DEGRADATION + POLLUTION OF "NATURE"
- WORK OF REPRESENTATION OF COMMUNITY AT WAL
- SO MANY PROJECTS ALREADY HAPPENING
- ENTHUSIASTIC HOSTS
- LIVES + MANS + TECHNOLOGY
- HOLDING MULTIPLE SCAPES + LIFELINES "ETHNIC" W/ TENSION AROUND BASIC NEEDS
- POWER OF SYSTEMS

LEARNING
AND
APPLYING IN
REAL TIME

Patrick Beckley (CS '23) and Josh Nodiff (CS '23) positioning the relationship between water, slavery, climate reparations, and liberation at Water as Leverage Cartagena Kick-Off Meeting

where firms, academia, government, and community stakeholders met to discuss and design water infrastructure implementation in Cartagena.



Caroline Wineburg (MS.AUD '23), Di Le (MS.AUD'23), and Hailey Basiouny (CS '23)

presenting early design and policy research of Cali, Bogota, and Cartagena at the "**Cities Design and Water Innovation Lab**" at the Forum in NYC During **New York Water Week**. The event was attended by global practitioners, academics, policy-makers, international development agencies, and communities.



MEETING MAYOR DAU

HIGHLIGHT

*Discussing the role of democracy, transparency, and honest government in climate resilience and injustice with **Mayor Dau in Cartagena**. We also discussed how one might re-imagine water infrastructure as a vehicle for justice.*

Mayor Dau, a long-time anti-corruption lawyer, sought political asylum as a research scholar at the Columbia Law School's Environmental Law Clinic in the 1990's. He helped us envision a role for the Climate School that supports direct action and climate activists.

*Later in the semester, Mayor Dau, met with the **Dean Andres Jaque of GSAPP** and Columbia faculty as well as participated in the **"Cities Design and Water Innovation Lab"** at the Forum during New York Water Week, where students gathered additional feedback on their projects.*



LEARNING FROM ECOVIDA AND PLAN PARA EL BUEN VIVIR



We had the privilege of meeting with **ECOVIDA and Comune 6**, who are leading efforts in the Fredonia section of Cartagena. With the support of **Fundación Grupo Sociale** they are:

- + Restoring mangroves
- + Growing medicinal herbs
- + Supporting communal housing agreements
- + Reimagining water-based transportation and housing
- + Managing waste produced by tourists
- + Celebrating Afro-Colombia music and dance
- + Supporting women's led craft and entrepreneurship
- + Running "Stewards of the Earth," where young people are trained as stewardship leaders
- + Scaling partnerships with local public schools are also building capacity for environmental and regenerative practices

Six communities have come together to develop a strategic spatial plan and advocate for city-wide policy and programming that will amplify and support the scaling of their work.

Many of the design visions and policy recommendations were inspired by what we heard, saw, learned, and were asked by ECOVIDA and Fundación Grupo Sociale.

Some of the direct challenges that they shared with us and ideas for **how Academia can be a better partner**, include supporting:

- + **Climate projections and decision support on mangrove planting**
- + **Water quality monitoring**
- + **Livelihoods alternatives in light of massive fish die offs**
- + **Design and planning for mangrove nurseries, transportation, and amphibious housing**
- + **Legal, financial, and case study workshops to clarify opportunity to access blue carbon finance**
- + **Feasibility guidance and knowledge sharing on community land trusts**

FIND THEM
ON
INSTAGRAM

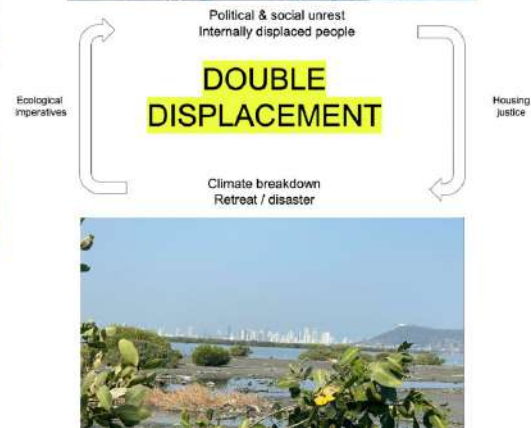


FEEDBACK AND CO-DESIGN SESSIONS

o Vida mangrove reforestation initiative remediate La Ciénega



Palanquero women standing as protest passes in the city



Colorful and maintained settlement housing



¿Cuáles son las brechas que continúan impulsando el riesgo?

Varias brechas están impulsando el riesgo al (1) impedir el desarrollo de nuevas iniciativas, o (2) prevenir la implementación de iniciativas existentes.

- Falta de fondos dirigidos a la construcción de viviendas resilientes al clima.
- Falta de coordinación entre las organizaciones locales / nacionales, así como las diferentes organizaciones locales que hacen cosas similares.
- Transiciones en el poder y/o corrupción que conducen al estancamiento.

Columbia Climate School
April 10, 2023

Meeting Chat

Adriana Chávez to Everyone 10:34 AM
She relives it's important to bring value to communities

Maria Palomares (she/her) | GSAPP to Ev... 10:34 AM
Taxing tourism

Adriana Chávez to Everyone 10:34 AM
For example, this idea of taxing tourism, that could be viable

Our class aimed to **both study climate resilience and themes of justice and accountability as well as practice** how our learning might be of service of the field, local communities and stakeholders, and each other in real time.

Student projects were in many ways responsive to what we heard from the field. This made it even more critical that we had multiple points of feedback and discussion throughout the semester with stakeholders. Two-thirds through the semester, **we checked back in with Ecovida, Comuna 6, and Fundación Grupo Sociale to ensure that we had appropriately captured what we learned in Cartagena, share ideas emergent from Bogota, and gather feedback on what policies and design strategies they would like us to continue to explore and amplify.**

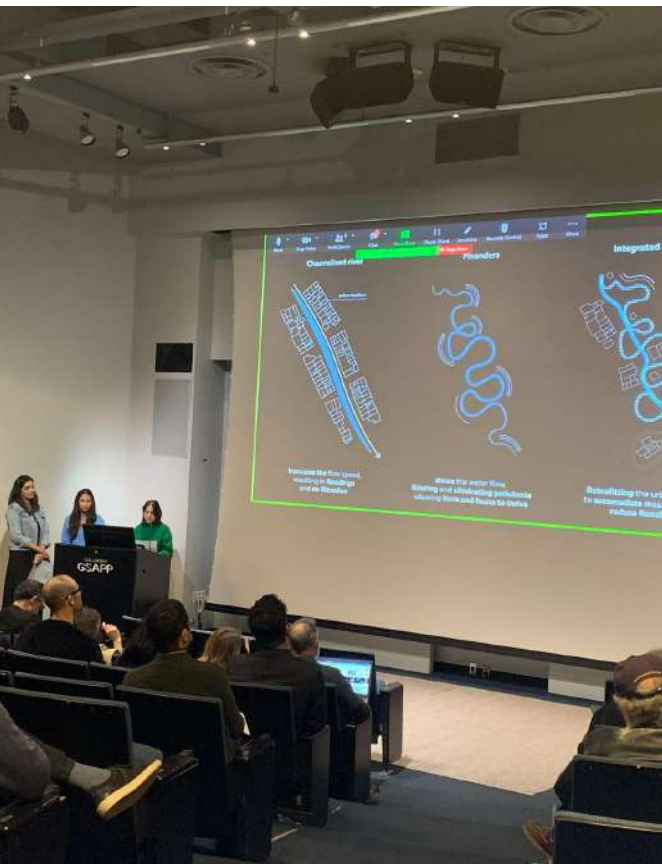
Ensuring that our learnings don't originate from or remain in the walls of the University when the semester ends is an expression of climate action and movement building. It also lays the groundwork for continued partnership and **longer lasting relationships.**

FINAL PRESENTATIONS AND REVIEWS

The end of the semester was synthetic and celebratory. It was both an ending and beginning - **an ending of the semester and project work, the beginning of putting into practice what we learned in the classroom into the world and decisions ahead,** and the beginning of lasting relationships and partnership with our colleagues, peers, and friends in Colombia.

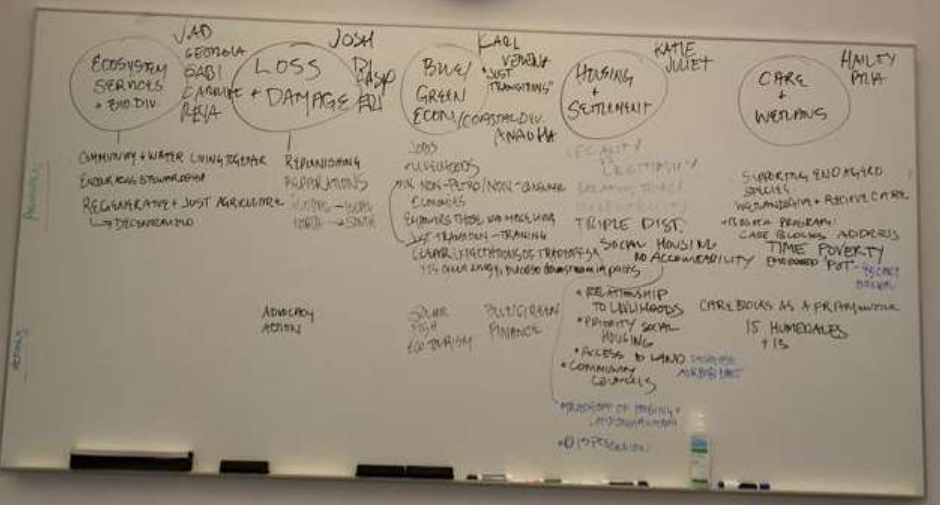
Urban Design students shared their final projects to a panel of guest reviewers of nearly two dozen faculty and alumni and were joined for a full day session by the [Netherlands' Special Envoy for International Water Affairs Envoy, Henk Ovink](#). At this sessions, Climate and Society student's policy work was on display.

Climate School students shared their final projects with local government and community stakeholders, University partners, global NGOs, and Climate School and GSAPP faculty.

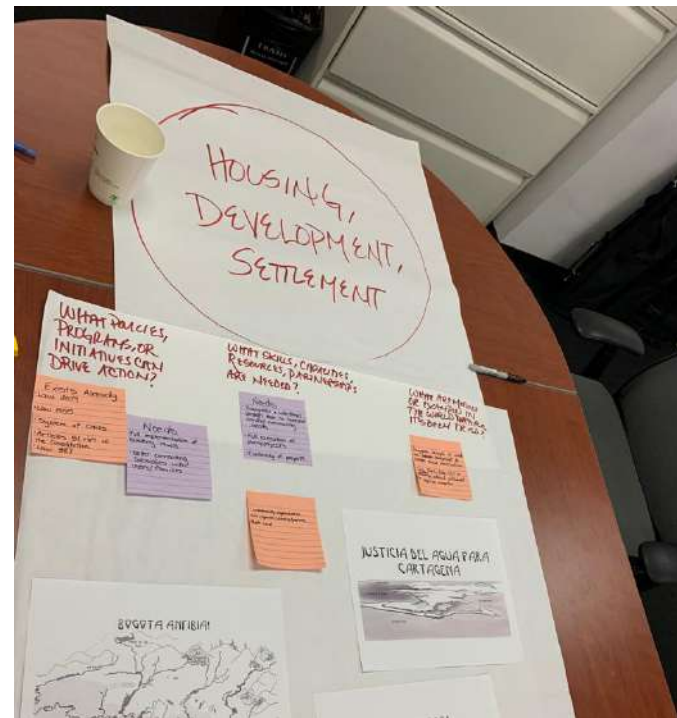


POLICY AND IMPLEMENTATION WORKSHOP

HIGHLIGHT



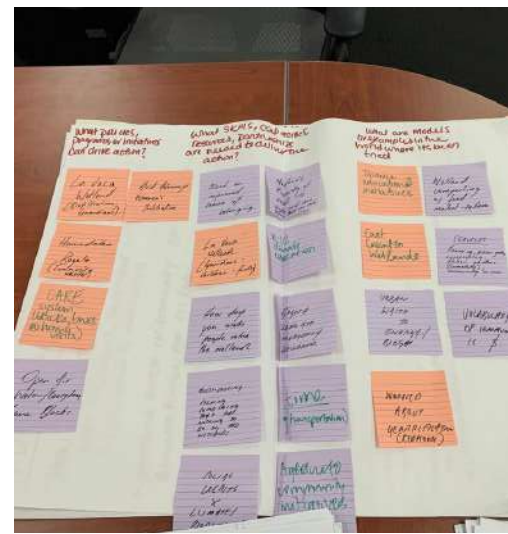
Mid-way through the semester, we gathered together to establish an overarching framework for the body of work emerging across the two classes.



First, we established a common vocabulary - for example, what exactly do we mean by “ecosystem services” or “loss and damage”?

Then, policy and design teams broke out into small groups, with design teams organizing themselves into thematic policy areas that underpinned their projects.

Together they walked away having thought through three core questions related to their theme:



- What policies, programs, or initiatives can drive climate action?
- What skills, capacities, resources, partnership would be needed?
- What are models or examples of where this has been done or attempted?

This workshop proved to be critical in cohering the two classes in content as well as collaborative chemistry.

BOGOTA WORKSHOP

2023
RESILIENCE AND PLANNING
COLUMBIA UNIVERSITY - ARQDIS
 C. FRIKA VARGAS TOVAR, ANISA CAROLINA APARICIO, ANDES MARTINEZ, DANIELA

En 2022, el equipo de investigadores de la Facultad de Arquitectura y Urbanismo de la Universidad de los Andes, en colaboración con el equipo de la Facultad de Ingeniería y Arquitectura de la Universidad de los Andes, realizó un taller de planificación y diseño de resiliencia urbana en Bogotá, Colombia. Este taller se realizó en el marco del proyecto de investigación "Resiliencia Urbana y Planificación" financiado por el Departamento Administrativo de la Investigación y el Desarrollo Científico y Tecnológico de la Universidad de los Andes.

El taller se realizó en un espacio virtual a través de una plataforma de videoconferencia. El taller estuvo dirigido por la profesora Frika Vargas Tovar, investigadora del equipo de la Facultad de Ingeniería y Arquitectura de la Universidad de los Andes, y contó con la participación de los investigadores de la Facultad de Arquitectura y Urbanismo de la Universidad de los Andes, Anisa Carolina Aparicio y Andes Martínez, quienes presentaron los resultados del taller y los planes de trabajo que se desarrollaron durante el taller.

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<https://arqdis.uniandes.edu.co/workshops/resilience-and-planning/>

CARTAGENA WATER AS LEVERAGE WORKSHOP



<https://arqdis.uniandes.edu.co/workshops/resilience-and-planning/>

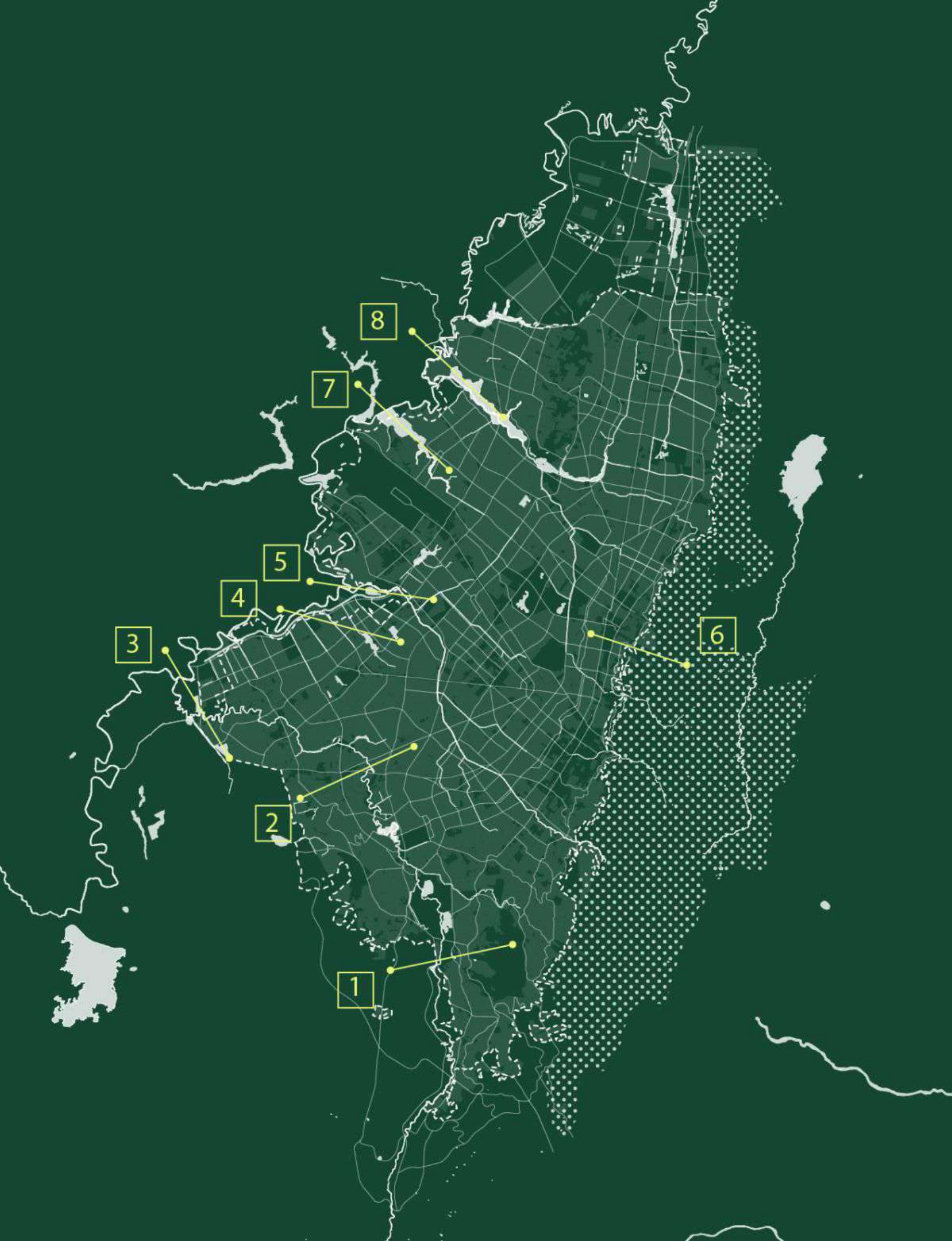
SNAPSHOTS OF DESIGN VISIONS

BOGOTÁ BOGOTÁ ANFIBIA //
REVITALIZING THE TUNJUELO

CALI JUSTICIA DEL AGUA PARA CALI //
BEYOND THE JARILLÓN

CARTAGENA CARTAGENA SANADO LA BAHÍA //
HEALING THE BAY





BOGOTA

Nestled amidst the towering Andes and surrounded by the River Bogotá, lies Bogotá, a city with an unbreakable bond with water. Water is very deep within the identity of the city, its wetlands, smaller rivers, and the paramos all in a constant conversation. Having survived a series of conflicts, displacement, and ecological loss, it remains one of the fastest growing cities with immense biodiversity. A home for over 2000 species of plants and animals, Bogotá is in constant negotiation with its ecosystems.

Bogotá's Sabana is both a biodiversity hotspot and an active, thriving cultural city. Bogotá is rapidly expanding over the Bogotá River's alluvial valley and is pushing up against one of the most pristine and unique ecosystems in the world: the paramos, the city's primary water source, connected to a hydrologic structure that runs from the mountain, to the alluvial plane and the system of wetlands along the Bogotá river. Despite Bogotá's unique landscapes are threatened: 90% of the wetlands have been lost in the last 40 years, rivers have been channelized and forest in the andes have been lost. Disconnection between Bogotá's communities and local ecosystems results in environmental degradation. Extreme pollution and urban development pressures fuel these challenges. Internal displacement and migration compound these challenges. The city also moved away from a water-based approach created by the Muisca culture, to an impermeable surface extremely vulnerable to floods. Bogotá's precarious foothills and sensitive streambeds are filled with much-needed housing, but also exacerbating risk, especially where self-built settlements lack urban services and spatial inequalities. This is only a glimpse of Bogotá's context and challenges.



Bosque Calderón

Quebrada Las Delicias

Juan Amerillo

COMMUNITIES LEAD CONSERVATION

Iboboque

Rio Fucha

RECLAIM THE SABANA

La Vaca

Middle Tunjuelo

Upper Tunjuelo

REVIVE THE TUNJUELO

Lower Tunjuelo

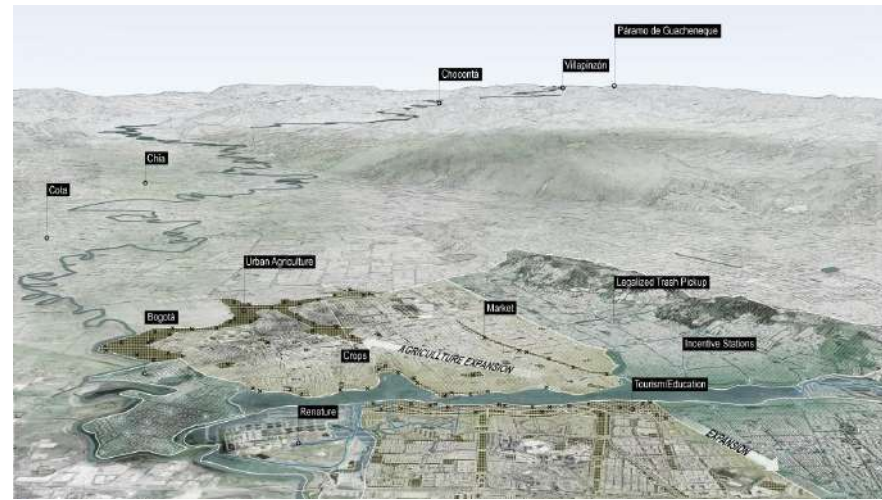
BOGOTÁ ANFIBIA

REVITALIZING THE TUNJUELO

- + **Creating a continuous public realm along the length of the Tunjuelo, the main tributary of the Bogota River**
- + **Addressing a legacy of industrial contamination through remediation and re-naturing**
- + **Connecting built fabric to an expanded river zone**
- + **Centering indigenous history and honoring Muisca cultural sites**

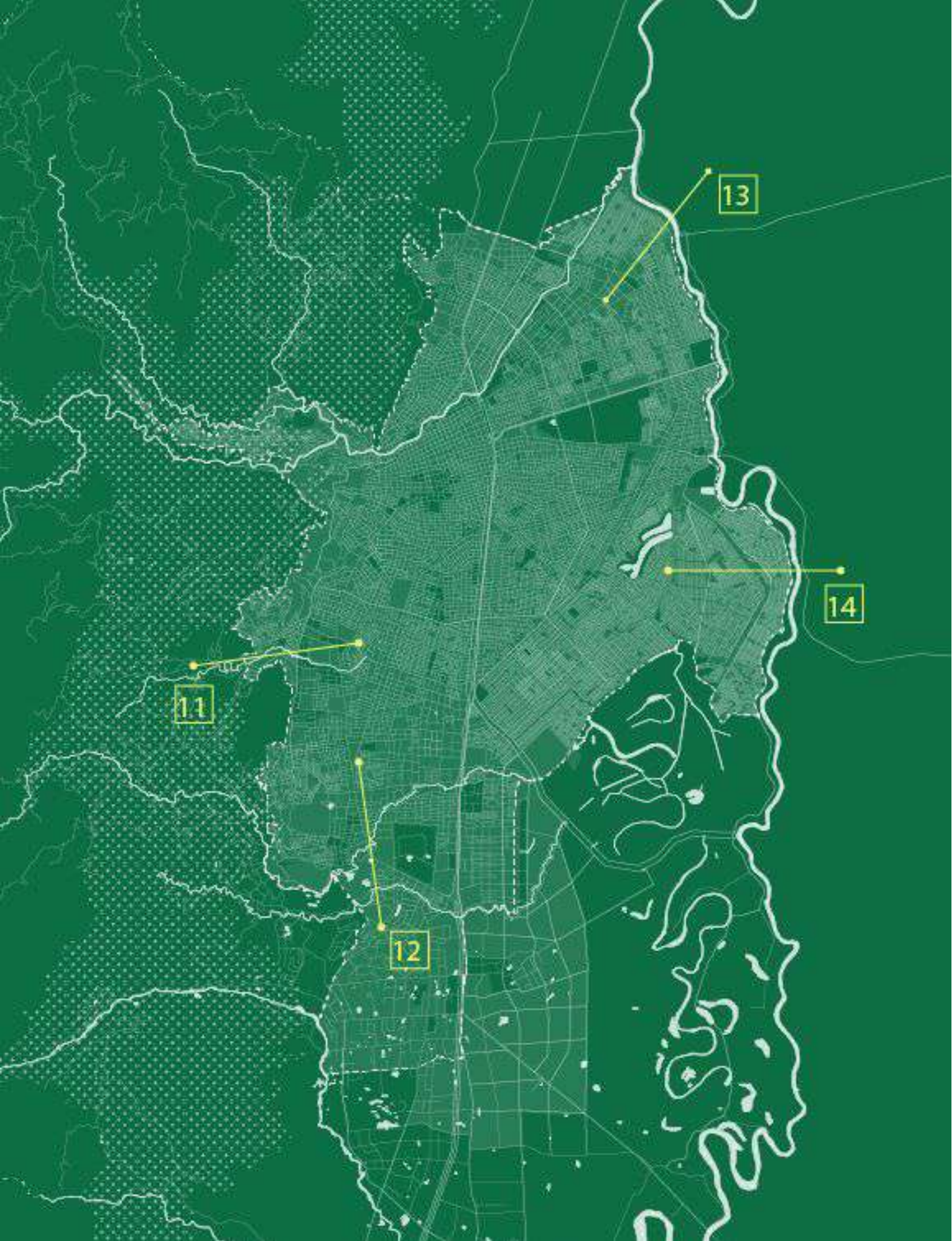


SPATIAL VISIONS SNAPSHOTS



STORY
MAP
WITH
ALL
DESIGN
VISIONS





CALI

Located within the Cauca Valley between the Central and Occidental cordilleras lies the 'city of seven rivers', Santiago de Cali. Established as an agricultural hub for the country and a strategic site for trade and export, Cali's colonial legacy has materialised through spatial segregation and exclusion of vulnerable communities toward the periphery of the city, within the hillside in the west and former wetlands in the east.

Through field research with our local partners on the ground, we saw the diversity of water bodies within Cali and the wide range of hydro social structures that exist there. From rivers to lagoons, we saw the ways in which people have adapted to their environments through what Prof. Sarmiento called "empirical social housing", community led emergency response, and networks of gardens and parks. As the city moves forward with its plans to reconstruct the Jarillon and relocate the thousands of families historically excluded to the city's periphery and classified as "invasions", they have begun forcibly displacing residents without providing adequate housing or guaranteeing a self-reliant way of life. After bearing witness to the stories of struggle and joy in Cali, our collaborative student groups talked through our own experiences, in Cali, New York City, Pune, and the other international places we represent, as climate change impacts us globally. Through our discussions as the next generation of practitioners, we worked through the tensions that arose from our differing perspectives while building connections and searching for a common understanding to challenge the status quo and address the urgency needed for design justice and climate adaptation.



historic city center

cali river

Terrenos de Agua

agriculture industry

Calles de Calenos

Los Campos

cauca river

Cultura del Río

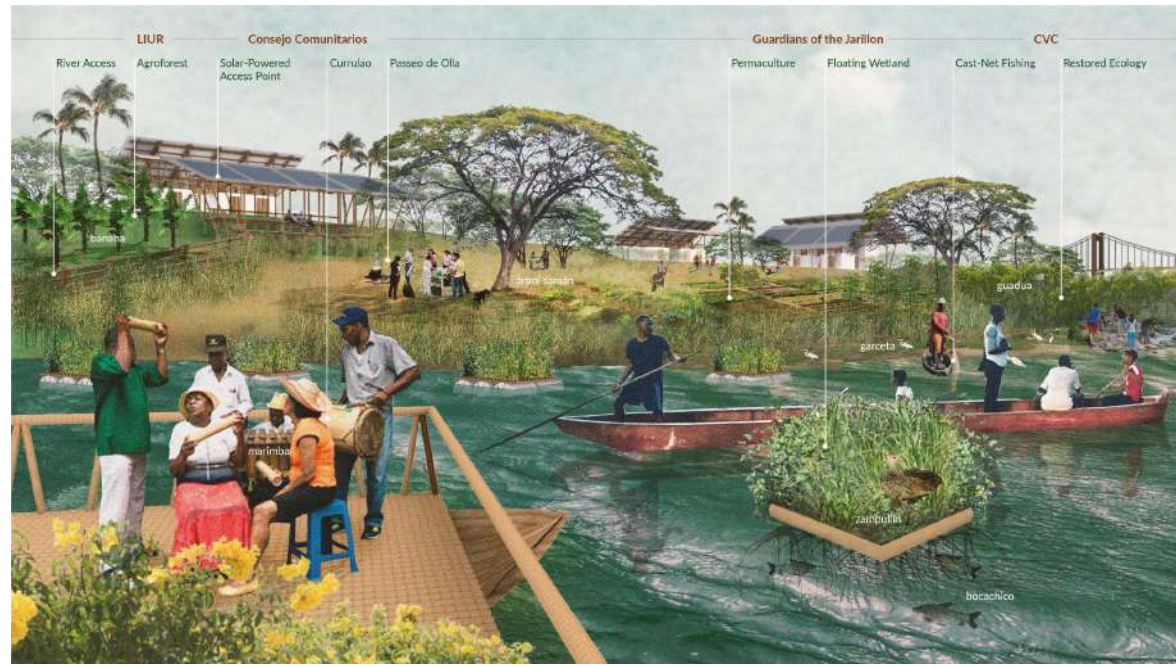
JUSTICIA DEL AGUA
PARA CALI

BEYOND THE JARILLON

- + **Diversifying forms of water holding and capture across a broad geography**
- + **Reducing the socio-environmental pressure on the Jarillon**
- + **Diversifying Cali's urban landscape and economy**
- + **Expanding access to the Cauca River for all**
- + **Centering housing justice in the environmental movement**
- + **Celebrating Cali's joyous dance and food culture**



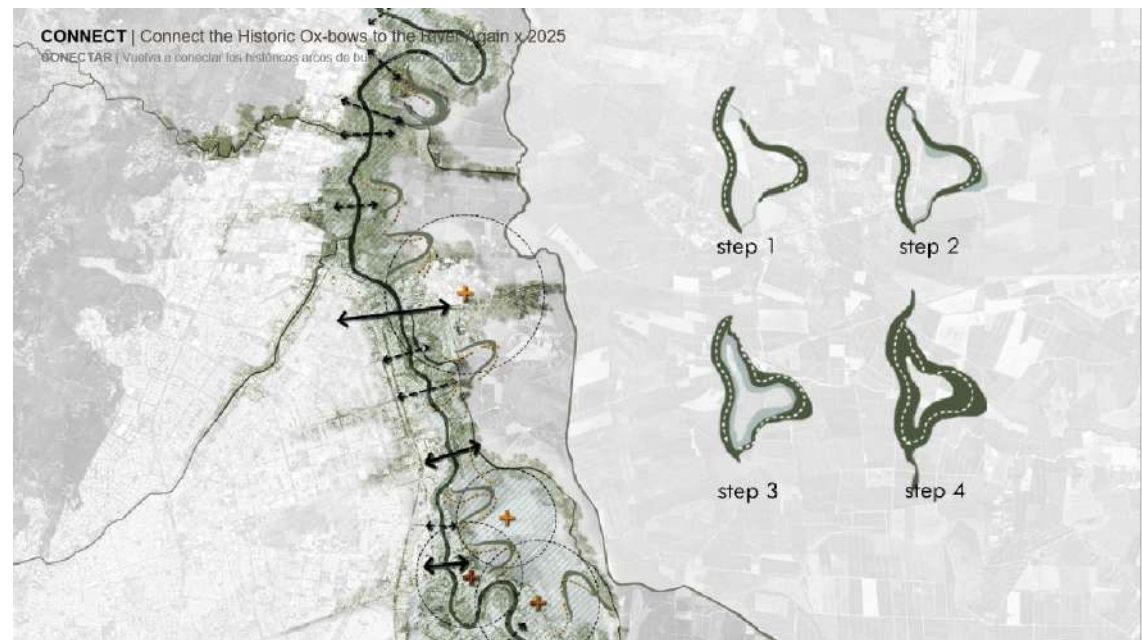
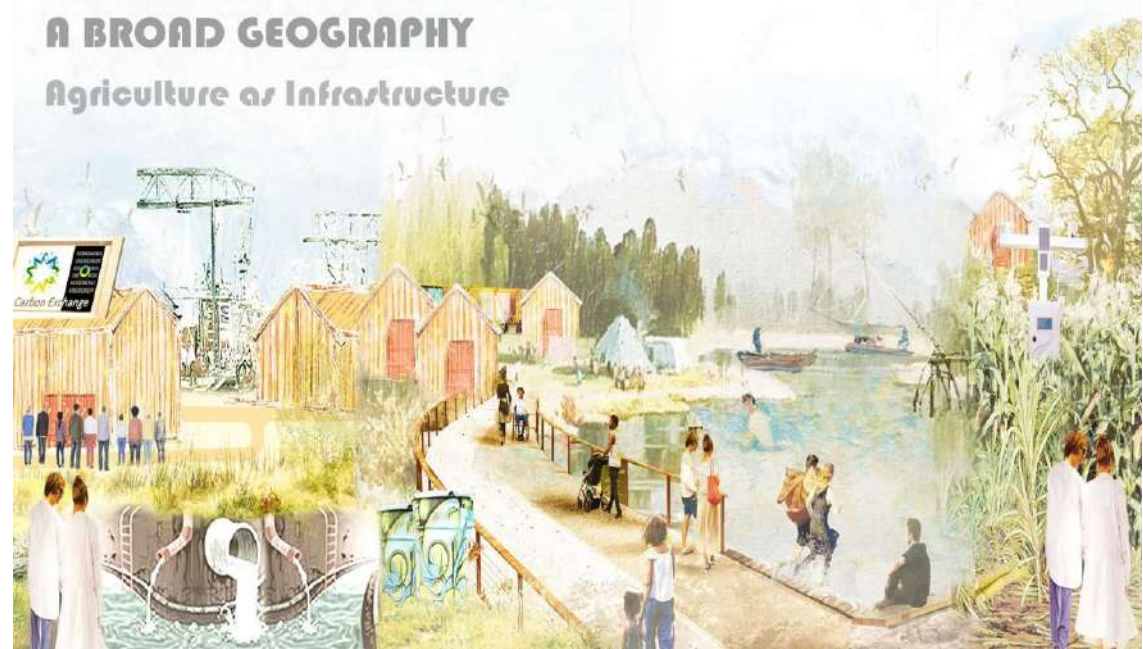
SPATIAL VISIONS SNAPSHOTS



CHANGING GROUNDS SILOE FOOTHILLS

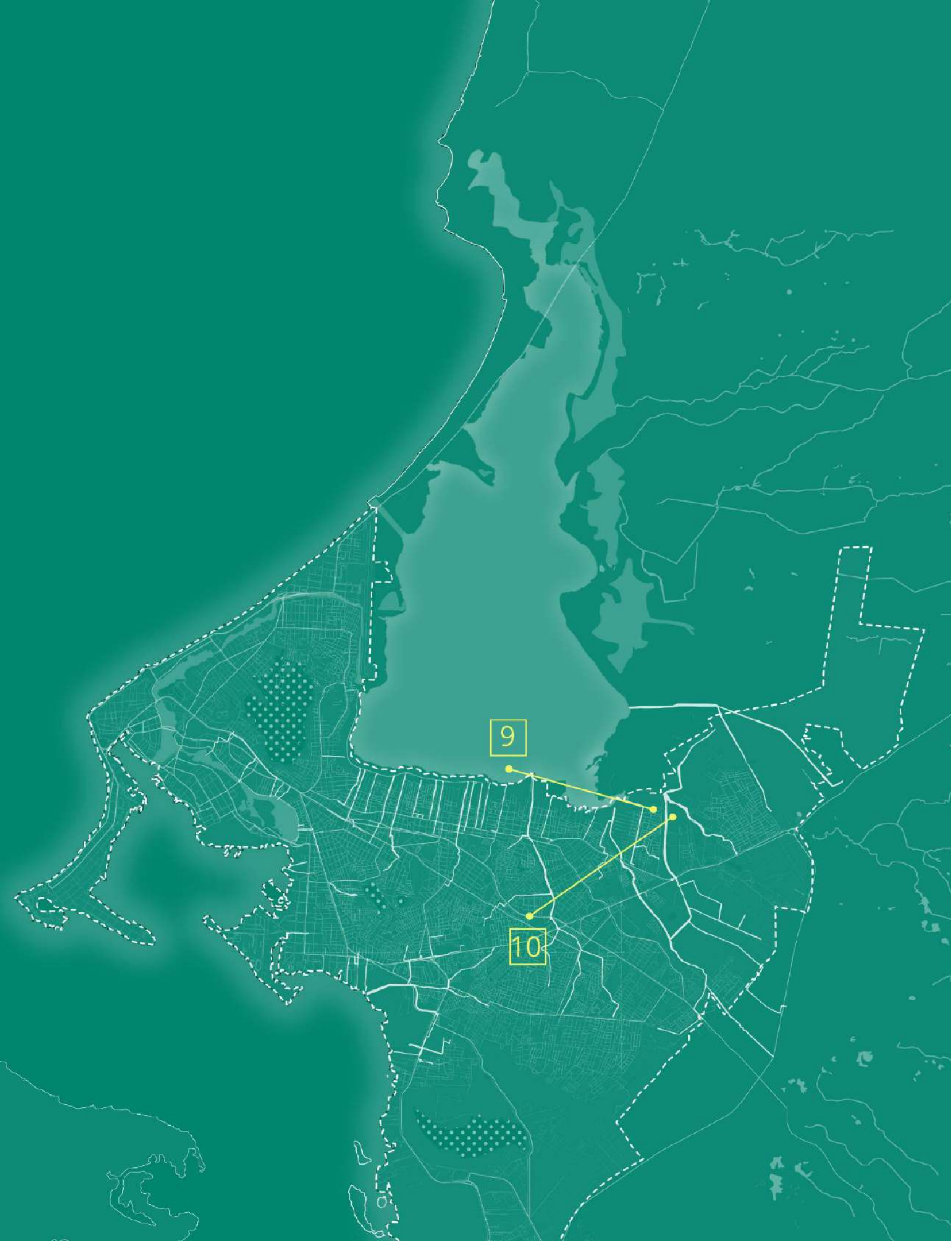


WATER HOLDING ACROSS A BROAD GEOGRAPHY Agriculture as Infrastructure



STORY
MAP
WITH
ALL
DESIGN
VISIONS





CARTAGENA

Situated at the northern coast, Cartagena is a city surrounded by water: the Caribbean Sea, bays, swamps, Ciénega de la Virgen, and a network of canals. Cartagena is a growing tourist mecca within its colonial walled city, while the rest of the city suffers from the impacts of pollution and environmental degradation. It is experiencing an increasing divide between rich and poor, mirrored in the city's urban landscape.

In Cartagena, we walked with local actors and were observant of the city's built disparities. Traversing the ground with Mayor William Dau, we witnessed pollution in water bodies, hardened water edges pushing communities to the peripheries, and the lack of resources in low-income communities. We learned about the frictions of implementing actions when there is constant change in governmental leadership, mistrust from communities, and corruption within the city. Following the city's inner waters, guided by Fundación Social and Ecovida - which are civil, non-profit groups - we learned about risks that intersect with self-built settlement, cycles of displacement, degradation of biodiversity, and climate change. Constructed water risks in Cartagena are layered with political, social, and ecological complexities.

We also recognized that the seeds of change are on the ground when we met with Afro-Colombian women entrepreneurs and heard about education programs that teach children to be guardians of the environment. We planted mangroves as part of ecological restoration and protection efforts. These community actions value nature, promote livelihoods, amplify joy, and ensure that the work to heal Cartagena continues for generations.

CARTAGENA SANADO
LA BAHÍA

HEALING THE BAY

- + **Shifting away from Cartagena's extractive tourist economy to focus on all of Cartagena's citizens and imperiled landscapes**
- + **Centering a broad restorative and innovative housing initiative on the Ciénaga de La Virgen**
- + **Cleaning plastic waste out of Cartagena's canals and integrating waste into a new circular economy as a counterpoint to tourism and petrochemical economy**



**MANGROVES +
BIODIVERSITY**

**COMMUNITY
BENEFIT**

**FISHING +
LIVELIHOOD**

**WATER QUALITY
IMPROVEMENT**

**WASTE
COLLECTION**

Canals

Ciénaga de
la Virgen

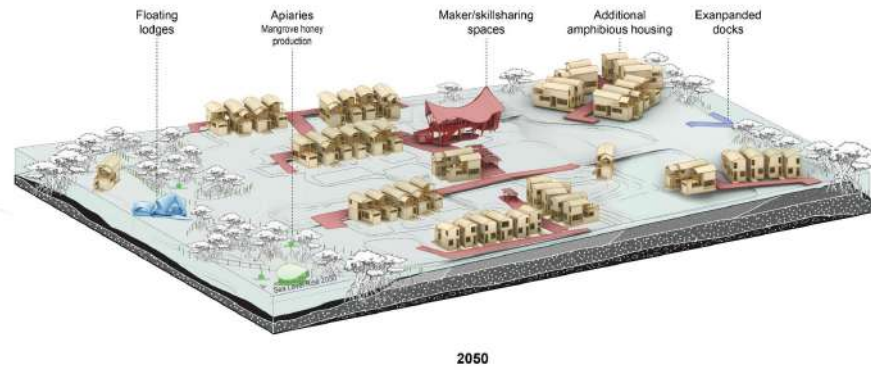
Ciénaga de la Virgen

Airport

Caribbean Sea



SPATIAL VISIONS SNAPSHOTS



STORY
MAP
WITH
ALL
DESIGN
VISIONS



SEEDS OF CHANGE

ENABLING POLICIES // CASE STUDIES

Climate and Society students were asked to listen, learn and synthesize what they heard from local communities, practitioners, and policy makers and translate their learnings into multiple scales of possible action steps.

“Seeds of Change” represent the examples set by local projects, partnerships, and ideas that, while often overlooked in global or national forum, offer a template for impactful climate solutions. How might these ideas be nurtured? What levers might exist at the global, national, and local level to amplify, support, or unlock these ideas?

Students also prepared case examples of similar challenges and opportunities from around the world.



“One of our biggest obstacles is governance. Without it, the ping-pong of responsibility continues as conflict between institutions and we cannot fix the problems.”

Local community member, Cartagena

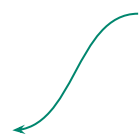
WHAT IF CARTAGENA'S
CURRENT **COASTAL**
MANAGEMENT POLICIES
AND PRACTICES
PRIORITIZED
COMMUNITY-LED
INITIATIVES TO PROMOTE
AN EQUITABLE
DEVELOPMENT OF THE
CITY'S **BLUE ECONOMY?**

SEED OF CHANGE

*Margaux Alfare
Karl Greenfield*



FINAL
PAPER



TOWARD A REGENERATIVE ECONOMY

TOWARD A REGENERATIVE ECONOMY



Colombia has vast natural capital, but faces significant environmental and economic challenges. Half of Colombia's households face food insecurity despite its rich agricultural lands. Recent economic policies--such as reducing dependence on fossil fuel and expanding public purchase of local goods--are helping to build a sustainable and regenerative economy. A regenerative economy is one that creates wealth and well-being while also restoring and enhancing natural systems. Investment in the regenerative economy flows to local efforts where local goods are produced, waste is recycled and landscapes are transformed and protected. Public subsidies to spur the regenerative economy can come from taxes on extractive industries. For example, a tax on AirBnB could help to fund mangrove reforestation and local eco-tourism operators in Cartagena. There are also emerging financial vehicles such as carbon markets and nature bonds, for which local regenerative economy entrepreneurs in Colombia will be well positioned.

PRINCIPLES

- Maintain continuity of any existing blue economy initiatives
- Taxation and distribution of funds to create a sustainable blue economy
- Establish a governance framework, finance alone is inadequate
- Develop a transparent, standardized framework for national blue carbon projects

LOCAL

- Shift away from 20th Century approaches of beach replenishment, which has had negative impacts on the marine and coastal environment
- Implement more restrictive building codes for coastal development to preserve natural habitats and prevent coastal erosion
- Develop localized financial and policy mechanisms that prioritize restoration and conservation efforts
- Increasing connections via public services and public transit to vulnerable communities to promote greater social equity
- Promote non-partisan science-informed coastal management, as it allows decision-makers to make informed choices about resource allocation and environmental rehabilitation

NATIONAL

- Implement an AirBnB tax to generate revenue for local infrastructure projects, such as the development of public transportation, waste management, and conservation projects
- Promote internal carbon credit market trading, where the credits would be assessed by the Colombian government and sold exclusively to Colombian corporations
- Advocate for the development of a Caribbean-wide blue economy strategy, ensuring that sustainable tourism principles are adopted by other nations in the region
- Increase investment in local universities to facilitate scientific analysis of Colombia's path forward regarding carbon and biodiversity

GLOBAL

- Offer no-interest loans for blue economy projects, some of which may be converted into grants
- Strengthen the capabilities of civil society and local governments to guide the rule-making of Article 6.4 of the Paris Agreement, which deals with international carbon markets, appears critical
- Increase efforts for the adoption of a ban on deep-sea mining, which could have significant negative consequences on marine ecosystems



Vida Manglar | Colombia

Sources: *Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International*

BACKGROUND

Cispatá Bay is home to a vast 11,000-hectare mangrove forest, which has been under increasing pressure from agricultural land expansion, unsustainable tourism infrastructure, logging, and climate change. When degraded or destroyed, mangroves release the carbon they have stored back into the atmosphere, ultimately increasing greenhouse gases emissions. Studies have shown that mangroves can store up to ten times more carbon per acre than terrestrial forests, making their conservation crucial to combat the climate crisis. The goal of the project is to create blue carbon credits - verifiable emissions reductions tied to carbon stored in marine ecosystems - to fully measure and monetize the carbon that mangroves sequester in their soil. The resulting revenues are to be invested in Cispatá Bay's conservation management plan.

LOCAL PARTICIPATION

Historically, conservation projects have often neglected to take into account the local knowledge, social and economic circumstances, as well as gender dynamics from local communities. The Vida Manglar project has greatly benefited from the support and participation of local communities. It is expected that 92% of the revenues generated by carbon credits will be allocated towards protecting the mangroves and supporting the livelihoods of 12,000 people living in the area.

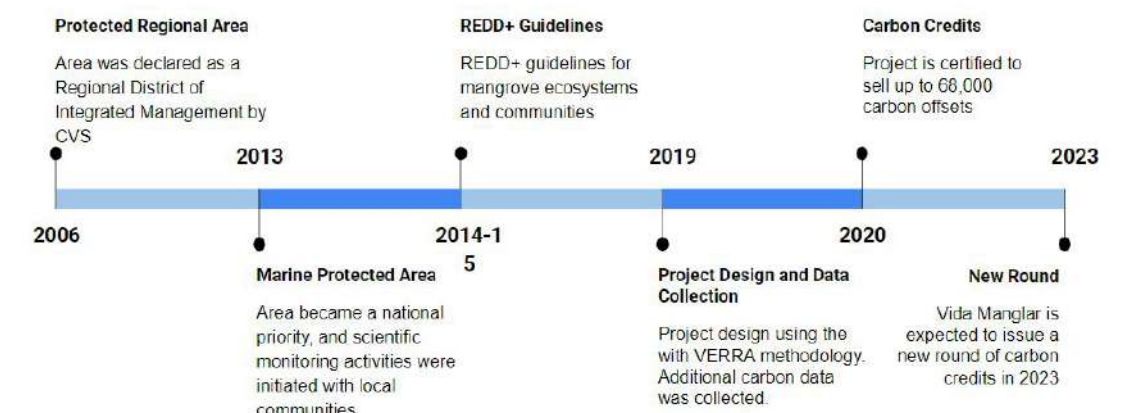
The project aims to use the carbon value generated through the conservation and restoration of the Cispatá mangroves to contribute to a long-term financing strategy for the region. The project will ultimately support sustainable livelihoods for the people depending on these ecosystems by strengthening community projects (community ecotourism, meliponiculture, community gardens), improving fishing practices in the region and protecting local wildlife.



Local fishermen in Cispatá Bay. © Apple



Local communities in Cispatá Bay. © Daniel Uribe





Vida Manglar | Colombia

Sources: Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International

GOVERNANCE AND MANAGEMENT

The project is the result of a successful collaboration between:

The Colombian Government, including Colombia's Marine and Coastal Research Institute (INVEMAR), the national environmental authorities Coporación Autónoma Regional del Valle del Sinú (CVS) and Corporación Autónoma Regional de Sucre (CARSUCRE).

Local communities, including the local NGO Fundación Omacha as well as associations of fishermen and mangrove workers. The private sector, including the companies Apple and Verra. Conservation was a leading NGO in the implementation of the project.

SKILLS AND CAPACITIES

Financial resources: The key enabler of the project was funding. However, the exact breakdown is not publicly available.

Data collection and analysis: With the help of Apple, scientists created a system to determine the level of carbon sequestered within the soil amongst mangrove root systems. The data was then analyzed by the national research institute INVEMAR.

Standards and protocols: The sale of blue carbon credits required compliance with established standards and protocols for carbon accounting. The Vida Manglar project obtained certification from Verra, a leading carbon offset standard and certification body, using the Verified Carbon Standard and the Climate, Community & Biodiversity Standards.



Cispatá native and Independent Mangrove Association community representative Ignacia De La Rosa Pérez. © Apple



Luis Roberto Canchila Avila, president of a mangrove association. © Apple



Sediment core extraction and soil sample from the Cispatá Bay mangroves. © Apple



Vida Manglar | Colombia

Sources: *Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International*

CRITIQUE

Carbon offsets have been criticized by many scholars and environmentalists. Some of these critiques include:

Greenwashing: Carbon offsets allow companies to invest in offsets but doesn't not prevent them to continue emitting CO2. Offsets can be used to prevent real climate action.

Accounting: There are issues with accurately calculating CO2 emissions reductions. The quality of the carbon offset also depends on the type of project and the verification process used.

Timescales: To effectively reduce emissions, carbon taken out of the atmosphere must remain out, yet there is no guarantee that the carbon captured through mangrove (re)forestation will not be released back into the atmosphere (e.g. after an extreme weather event). "For carbon to be permanently removed by planting trees, forests would have to remain in place for thousands of year" (Hausfather, 2022).

Autonomy: Another issue that has been raised by the social psychologist Gisela Ruiseco. She argues that local communities have lost their autonomy due to foreign experts intervention and leadership. This submission to market forces perpetuates colonial power dynamics through the "continued appropriation of non-western richness".

PROJECT TODAY

The project is expected to remove an estimated 1 million tons of carbon dioxide from the atmosphere in its 30 years lifetime.

Currently, 350 families have agreed to conservation agreements that offer incentives and training to promote sustainable economic activities.

So far, this project has sold 20,000 offsets at an average price of \$15 each, which is a relatively high price compared to other offset markets. The offsets have been sold to companies such as Apple, Disney, and Patagonia.

The project has earned approximately \$300,000 from the sales, with 40% going to audits and administration and the remaining \$180,000 going to Vida Manglar, which includes Conservation International and other local organizations.



© Conservation International



Mangrove trees. © Apple

"The project is clearly commodifying elements which belonged before to a frowned-upon subsistence economy. It could be that, in the long run, we have to do here with [...] a 'protectionist, authoritarian and violently repressive practice of conservation'. -Gisela Ruiseco

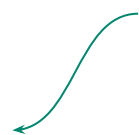
WHAT IF HOUSING AND
FUNDING PRIORITIES
CENTERED CLIMATE RISK
AND VULNERABILITY?

SEED OF CHANGE

*Juliet Tochterman
Katie Zack*

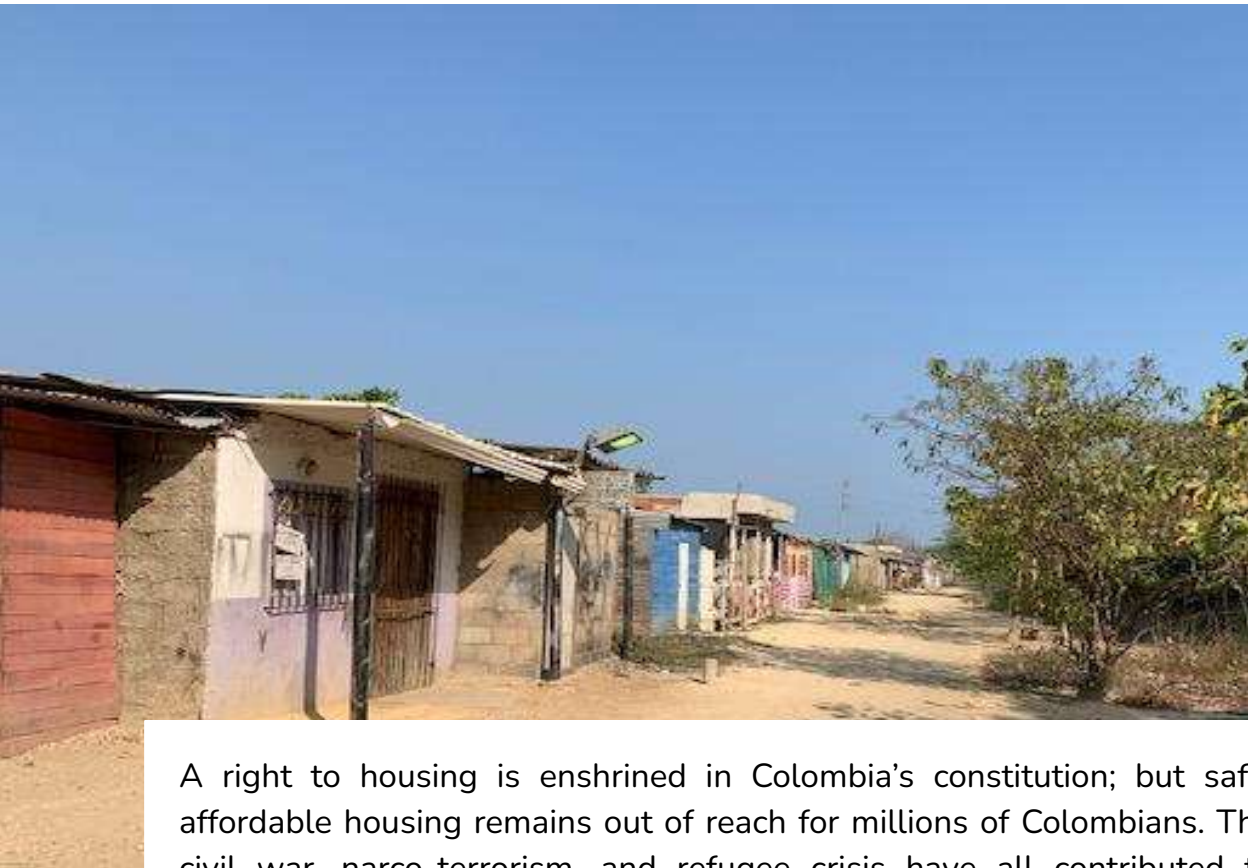


FINAL
PAPER



TOWARD HOUSING JUSTICE

TOWARD HOUSING JUSTICE



A right to housing is enshrined in Colombia's constitution; but safe, affordable housing remains out of reach for millions of Colombians. The civil war, narco-terrorism, and refugee crisis have all contributed to widespread housing insecurity. When people who have been displaced by war or other trauma settle on land, they often find themselves facing a new set of perils, such as flooding, landslides, and political marginalization. National laws have protected the rights of Afro-Colombians and Indigenous peoples to ancestral lands and community self-determination. Many people in government and civil society in Colombia are working to help these communities build resilience and political power to have a voice in their future. Local governments are also working to provide more housing opportunities especially for those most in need. This has been done directly through social housing and through zoning and incentives for equitable growth. There are many lessons from the experimentation in social housing in Colombia, but a few that rise to the top are a need to ensure transparency and accountability in the development of social housing, raising standards for construction to future climate conditions, and building capacity in local governments to enforce regulations and build lasting partnerships with communities facing housing insecurity.

PRINCIPLES

- Standardize and legitimize land rights of displaced people in the context of their social and climate risk
- Support empirical housing as an interactive process that enables local vernacular and non-homogenized housing
- Redefine housing 'invasions' as communal solidarity
- Acknowledge the historical legacy of colonialism and past/current systems of corruption
- Assure any new housing is built to a standard that takes into account long-term climate projections

LOCAL

- Local building and zoning codes account for climate projections and social vulnerability
- Implement design toolkit for local housing vernacular that housing and climate adaptation projects can adopt as a standard of practice and reflect local culture
- Support water-based housing options, especially along waterways as well as local and sustainable procurement of building materials
- Invest in on-the-ground work already being done by local NGOs and community groups and support local housing non-profits in climate adaptation planning
- Local housing advocacy as a key element of climate resilience planning such as Comuna 6's "Plan para buen vivir"

NATIONAL

- Funds to fully implement already existing laws/policies that address housing and economic inequalities
- Reform Colombia's Law 70 and/or the Colombian Housing and Habitat Law by including Community Land Trusts as a legal mechanism for obtaining land rights/titles
- Technical and financial assistance to local municipalities in order to incorporate socio-spatial planning of sustainable and equitable, climate adapted housing
- City governed account for anti-corruption activities and honest government standards
- National scale land tenure assessment to understand and bring transparency to land holding across the county

GLOBAL

- Transparency and protection of anti-corruption activists working on exposing illegal and corrupt real estate transactions
- Ratification of International Covenant on Economic, Social and Cultural Rights
- Communication between national and local actors and programs



ENLACE | CAÑO MARTÍN PEÑA

Sources: *Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International*

BACKGROUND

El Caño Martín Peña (CMP) is a navigable body of water in the San Juan Bay Estuary that connects San Juan Bay to the San Jose Lagoon (MIT). During the 1930s, as the Puerto Rican economy industrialized, a large wave of poor rural farmers settled informally on its swampy channel, in what is now known as the “Special Planning District” (SPD). Today, more than twenty thousand residents live in the SPD. The eight communities (G-8) surrounding El Caño occupy a central location in the heart of San Juan and thus are vulnerable to displacement and gentrification (MIT). Furthermore, deterioration of El Caño has occurred due to informal occupation and government inaction in providing proper sewer and stormwater systems (MIT). The channel remains clogged with debris, sediment, and waste to this day (MIT).

In 2004, El Caño residents unified around two main goals - (1) dredging of the channel and (2) establishing a long term climate action plan - to create the first Community Land Trust (CLT) in Latin America (MIT).

Community land trusts (CLT) are legal frameworks for collective land tenure wherein land its associated resources are owned and managed by the occupying community (Veronesi et al., 2022). Under a CLT, land is communal and held in trust by a non-profit with local governance. Households individually own their structures/improvements to the land, but since housing costs do not include the price of the land, housing is more affordable (Veronesi et al., 2022). The CLT also involves a democratic process for developing the land including for instance infrastructure meant to build climate resilience.

CLIMATE RISK AND HOUSING

Insecure land tenure is linked to greater exposure to the risks and consequences of climate change (Carcellar et al. 2011). Communities lacking recognized land titles tend to be exposed to greater climate risks since they are often located in regions prone to landslides, flooding, drought, etc. (Veronesi et al., 2022). Additionally, people without land titles may not gain access to response and recovery funds from the government (Mitchell and McEvoy, 2019). CMP is specifically flood-prone and thus vulnerable to sea level rise, as well as flooding induced by natural disasters.



Source: Veronesi (2022); Special Planning District is in yellow. Note the strategic location of the District in San Juan.



ENLACE | CAÑO MARTÍN PEÑA

Sources: *Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International*

INVOLVEMENT

Several actors were involved in the creation of the CLT in El Caño. The three main actors were: (1) G-8, (2) Corporación del Proyecto ENLACE del Caño Martín Peña (ENLACE), and (3) “El Fideicomiso de la Tierra Caño Martín Peña” or the CLT. G-8 refers to the eight communities surrounding the channel that have occupied this land for about a century. ENLACE is a public entity created in 2004 by Law 489 to implement the Comprehensive Development and Land Use Plan (CMP District Plan). Finally, the CLT is technically a private, non-profit organization created to manage the land and prevent residents from being priced out, but it also refers more generally to the model for collective land ownership (MIT).

STAKEHOLDER ENGAGEMENT

Stakeholder engagement was integral to the CLT’s formation and remains a keystone to its success. Stakeholders were deeply involved in getting Law 489 passed and in ensuring it remained intact during the 2009 government intervention (Veronesi et al., 2022). Additionally, community members crafted the CMP District Plan during over 700 participatory planning activities that occurred in the two years prior to its creation (MIT). The CLT itself is also a collective as its community members collectively own ~200 acres of land (Veronesi et al., 2022). Residents possess decisional power over what happens to the land and can ensure the CMP District Plan is implemented as originally conceived (Veronesi et al., 2022). For example, the CMP District Plan requires the relocation of ~1,000 families in order to dredge the canal and create new green infrastructure, but this process has been participatory and allowed residents to create their own housing options and decide among them (MIT).

SUPPORTING POLICIES

The CLT was (and continues to be) authorized by law. Law 489 ordered the SPD to be transferred to ENLACE, which then transferred the land to the CLT. According to Law 489, all homes inside the CLT without previous land titles became eligible for surface rights deeds, a common Latin America legal tool that grants the right to occupy and use a piece of land (Veronesi et al., 2022). However, as a legal framework, the SPD is also subject to legal change. In 2009, the Puerto Rican government amended Law 489 in an attempt to evict the G-8 from the land. The CLT filed a claim in the US District Court for the District of Puerto Rico and community members and their allies fought to get the land returned.



Source; G-8; a community event sponsored by G-8 in February 2023.



ENLACE; recent stakeholder engagement event in 2023.



ENLACE | CAÑO MARTÍN PEÑA

Sources: *Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International*

IMPLEMENTATION

All of these actors engaged in a community “planning-action-reflection process” when creating the CLT and in its subsequent implementation (Veronesi et al., 2022). Residents and volunteer lawyers gathered existing legal tools to draft Law 489 - the law that established the CLT (Veronesi et al., 2022). Residents were also involved in designing the CLM District plan, a plan that prescribed future infrastructure in the CLT, which was then adopted by the Puerto Rico Planning Board (Veronesi et al., 2022). In turn, ENLACE was tasked with implementing and financing the plan using government resources.

EL CAÑO TODAY

Hundreds of families have already relocated in preparation for the CMP District Plan (MIT). However, in contrast to other instances of relocation, residents are involved in organizing their relocation. As such, the CLT has accomplished resilience measures (e.g. relocation) that are often difficult to achieve with top-down policy approaches. This success suggests a pathway forward for achieving climate resilience via promoting property rights and community/climate resilience in other informal settlements, like the La Ciénaga de La Virgen in Colombia. Furthermore, this approach can garner international support (and even funds), as indicated by the international traction of the CMP CLT (NBC News).

REFLECTIONS

A major takeaway from the Caño Martín Peña CLT case study is that it has built climate resilience in addition to general community resilience. The CLT yielded resilience to these challenges by (1) garnering social capital that garners greater territorial stewardship, (2) creating a collective that is better able to respond and “bounce back” from climate disaster, and (3) yielding, political power, advocacy, and financial support for ‘fair recovery’ (recuperación justa). The CLT is able to advocate for resources, like finances for the development of green infrastructure, that perhaps it would not be able to without the force of a collective (MIT).



Source: ENLACE; Congress recently authorized \$150 million for dredging the El Caño canal.



Source: ENLACE; current construction project.



JAGA MISSION AND ODISHA LIVABLE HABITAT MISSION | ODISHA, INDIA

Sources: Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International

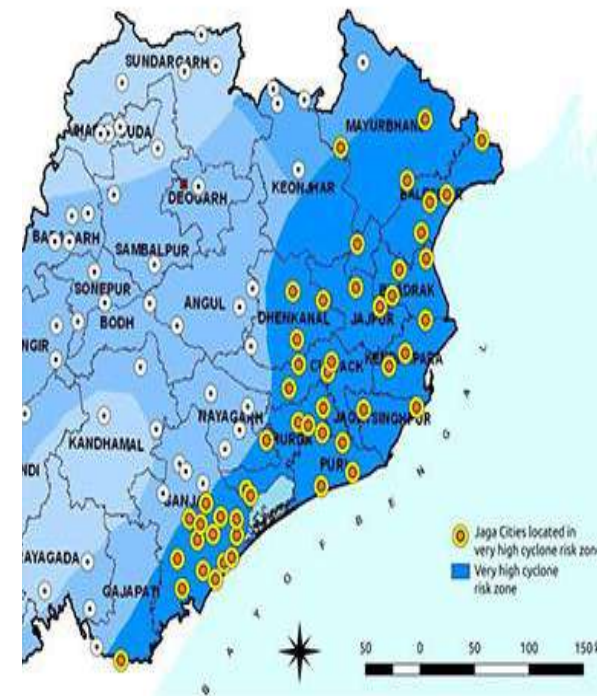
BACKGROUND

In an attempt to eradicate slums in India that are the most vulnerable to climate risks, the Jaga Mission and the Odisha Liveable Habitat Mission have partnered to create an “innovative statewide land titling and slum-upgrading programme which aims to drastically improve living conditions and promote social equality for the urban poor” (Jaga Mission – Odisha Liveable Habitat Mission, 2023). It allows for universal coverage of all slums within the state, accounting for a variety of climate hazards.

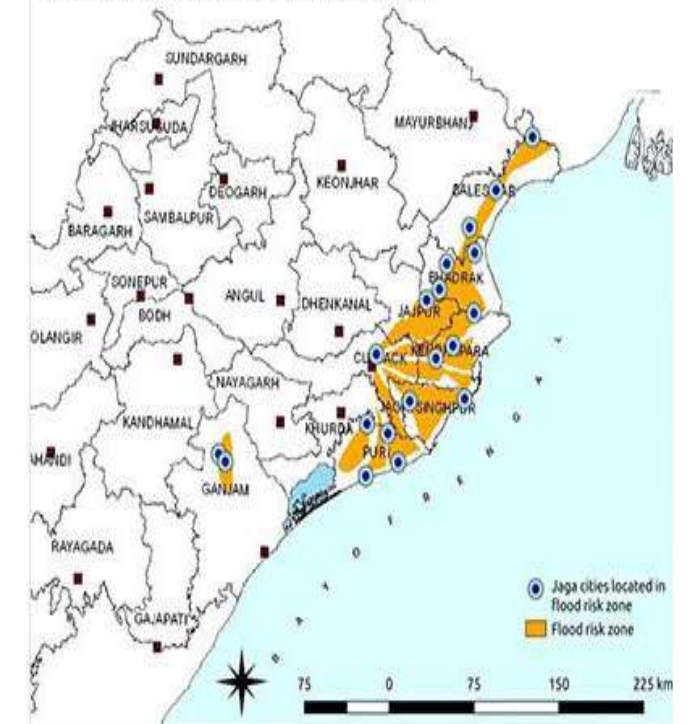
The Jaga Mission has adapted since its start to now focus simultaneously on: land titling, infrastructure upgrading, and community mobilization.

“JAGA Mission enables fiscal decentralization, transparency, and accountability of funds”
-Panigrahi, 2022

JAGA CITIES LOCATED IN VERY HIGH CYCLONE RISK ZONE



JAGA CITIES LOCATED IN FLOOD RISK ZONE



Maps Source: [International Institute for Environment and Development](https://www.iied.org/)



Picture Source: [The Tata Trusts Magazine](https://www.tatamagazine.com/)



Picture Source: UrbanUpdate

CASE STUDY

JAGA MISSION AND ODISHA LIVABLE HABITAT MISSION | ODISHA, INDIA

*Sources: Fundacion Omacha, INVEMAR,
CVS, CARSUCRE, Conservation
International*

PROJECT DESIGN

Since 2017: 1.6 million urban poor have been granted land rights, 550 slums have been upgraded with basic infrastructure and public services, eight settlements became officially slum-free through these upgrades, and there are currently 2,225 slums in various stages of the upgrading process.

Each project upgrades slums through the following interventions: piped water supply, storm water drainage, individual toilets, electricity, street lighting, street paving, creation of open spaces with groundwater recharge structures, children's play areas, and micro-activity centres.

Between September 2020 and May 2022, 585 slums in 30 cities were upgraded. During this period, completed improvements to household and public services included:

- Piped water and electricity connections to 51,610 households
- Installation of 11,859 household toilets and 65 public toilets
- More than 150 km of street paving
- More than 12 km of drains
- Construction of 281 community centers
- Installation of 5,619 LED streetlights

FUNDING

The annual budget for the project is \$65,000,000 USD. Funding for the project mostly comes from the Odisha state budget along with special funds that have been set aside to be dedicated to slum upgrading and creating equitable, liveable habitats. These special funds are reserved through central and state governments.

GOVERNANCE AND MANAGEMENT

The slum dwellers' associations confirm the completion of all slum upgrade projects, which are then verified by a city-led committee. When all the slums in a city are classified as upgraded, it is then declared slum-free. SDAs have to provide written confirmation that all proposed interventions were completed, ultimately granting them the power to finalize projects.



Image. UrbanNet



JAGA MISSION AND ODISHA LIVABLE HABITAT MISSION | ODISHA, INDIA

Sources: Fundacion Omacha, INVEMAR, CVS, CARSUCRE, Conservation International

ENABLERS

- Land Rights to Slum Dwellers Act of 2017
- Entitles slum dwellers to land rights as well as housing, basic resources & services, and improved social & economic infrastructure
- Amendments to the Odisha Municipal Corporation Act of 2003
- Allocates 25% of a city's budget for slum upgradation and new infrastructure in slum areas
- Creation of a Standard Operating Procedure for the Jaga Mission and it's projects
- Allows for projects to be scaled and replicated

SKILLS AND CAPACITIES

Slums are first mapped and residents are granted land rights that are inheritable and mortgageable but not transferable. Slum dwellers' associations (SDAs) are formed within each mapped slum, focusing on inclusive representation and involvement.

The SDAs oversee all housing and infrastructure upgrades/improvements. Slum dwellers' associations also partner with public authorities to manage and maintain settlement upgrades.

"...slum-dwellers were no longer encroachers but upraised with the recognition to become city makers who bring in their unique skills into the city's functioning" -Panigrahi, 2022

ENGAGEMENT

Community engagement/participation is often weak or lacking within these types of projects/programs. Women, those living with disabilities, and transgender individuals are most marginalized and excluded from participatory processes.

The Jaga Mission has created slum dwellers' associations, or SDAs, to promote the inclusion of these marginalized communities. The SDAs allow for the needs of these groups to be heard and accounted for in all slum upgrading projects/strategies. Each association also has direct access to project funds through a dedicated bank account, promoting inclusion and trust in the project.

Through the Jaga Mission, more than 100,000 people have participated in slum upgrading projects. Over 40,000 community leaders have also been able to engage with city officials on urban planning issues, advocating for their communities.



Picture Source: [Esri Blog, "How One Million People in India's Odisha Slums Gain Land Rights"](#)

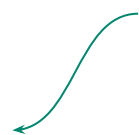
WHAT IF **LOSS AND DAMAGE** ACCOUNTED FOR THE **CLIMATIC AND CULTURAL ELEMENTS** THAT HAVE HAVE BEEN SUBJECTED TO LEGACIES OF **ECOCIDE, ENSLAVEMENT, AND COLONIALISM?**

SEED OF CHANGE

*Josh Nodiff
Patrick Beckley*

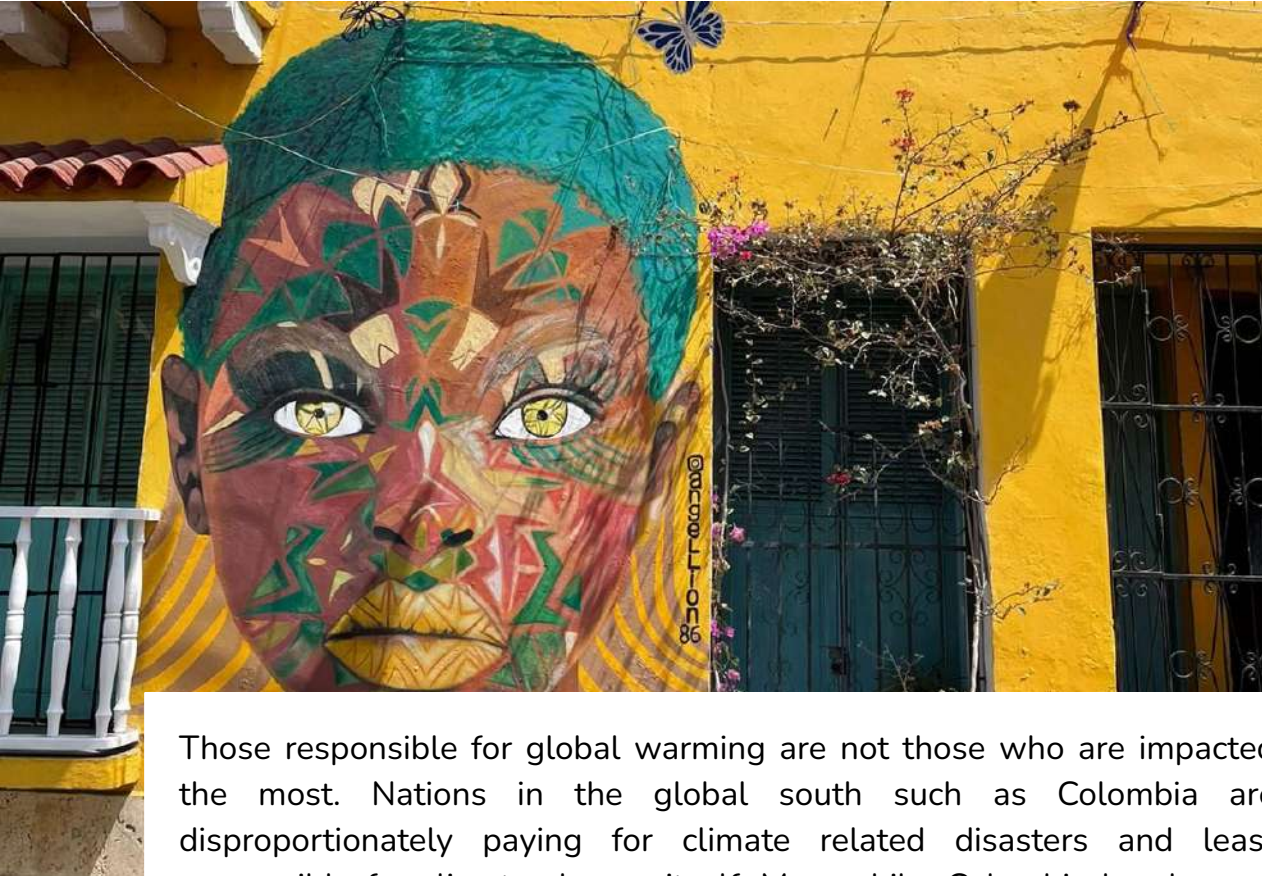


FINAL
PAPER



TOWARD A JOYFUL AND JUST TRANSITION

TOWARD A JOYFUL AND JUST TRANSITION



Those responsible for global warming are not those who are impacted the most. Nations in the global south such as Colombia are disproportionately paying for climate related disasters and least responsible for climate change itself. Meanwhile, Colombia has been a major coal and crude oil exporter globally. And while the country has made commitments towards a “just transition” beyond coal and towards domestic production and non-corporate driven land uses, high levels of inequality, informality in the labor sector, and lower regulatory, institutional, and financial capacities contribute to challenging enabling environments to realize these ambitions while maintaining continuity of critical services. A just transition is one in which polluters, especially those in the global north, commit to funding for adaptation and the energy transition. At COP27 in Egypt, a Loss and Damage fund was committed to aspirationally support this idea. Colombia has requested \$800B yearly in losses and damages from this fund. Moreover, there is growing dialogue around the transformation of the global financial system through international arbitration and cancellation of neocolonial debts as well as decarbonization of key industries that drive impact in Colombia, such as the tourism industry. In the studio we explored how reparations for losses and damages can be anchored in a celebration of culture, community, and a regenerative economy.

PRINCIPLES

- Uproots the legacies of ecocide, enslavement, and colonialism that uphold the climate crisis
- Reinvests funding toward climate solutions that center the leadership, voices, and visions of Afro-Colombian communities
- Institutionalized democratic mechanisms for community engagement and participatory planning, design, research, and governance
- Reimagines coastal restoration as integrated within the sociocultural, economic, ecological, political, and architectural fabric of urban life
- Celebrates joy, resilience, community, and culture with regenerative economies of care

LOCAL

- Create a Public-Private solution for 3rd party digital chain of custody system to track growing trees and display mangrove growth status to support reforestation using public capacity and private innovation and capital
- Improve Anti-Discrimination Law 2011, which levies prison sentences for acts of discrimination on the basis of ethnicity, race, gender, sexual orientation or nationality by aligning with aspects of USA Crown Act - “Creating a Respectful and Open World for Natural Hair”
- Establish county advisory groups for participatory governance on: Providing safe and affordable housing, jobs, entrepreneurial pathways, Providing access to essential services such as healthcare, education, and transportation; Creating a sense of community and belonging; Creating public spaces that are designed to be welcoming. The advisory group would: Strengthening the tie between educational policy and guidelines with the overarching National Development Plans and National Decennial Education Plans. The Ministry of Education should co-develop and enforce regional and local policies that align with national policy

NATIONAL

- Establish a federal loss and damage agency that redistributes funding to regional resilience programs devised by Afro-Colombian county advisory groups and create a Afro-Colombian/Indigenous community credit union
- Develop Extended Producer Responsibility (EPR) mechanism funded by tourism/commodities trade to support underserved communities. Generated funds can go to community efforts
- Reform Law 1931, management of climate change to support reforestation and ecosystem services
- Create guidelines for the management of climate change applicable to both, public and private entities.
- Establish a national mechanism for receiving payments for ecosystem services and quantify the value of these services in relation to its "highest and best use."
- Develop a financial vehicle that assures those payments go directly to the communities stewarding them.
- Reform Colombian Economic Growth Law, 2019 — “exempt income” for so-called “Orange Economy” activities (income from the development of technological value-added industries and creative activities, for a term of seven years, provided that some requirements are met)
- Reform Law 1448 - 2011: Victims and Land Restitution Law - return illegally held land to its rightful owners. Eliminate hierarchy of victims in which eligibility for reparation depends on the date when the abuses were carried out. Include Afro-Colombian lands in national protected areas
- Resolution 181 - 2013: Designed to prevent land grabbing in the future. It helps new landowners properly obtain titles and registration documents to ensure that land cannot be illegally taken or abused

GLOBAL

- Establish an international compensation commission to receive claims from Global South countries and equitably disburse climate reparations funded by Global North countries, such as the Barbados climate mitigation trust
- Amend the Rome Statute to codify “ecocide” as an international crime, litigate against multinational corporations found liable for ecocide, and recoup money won as compensation for loss and damage, such as Chiquita
- Cancel all neocolonial debts and ensure that reparations are disbursed as grants and not loans; Transform the global financial system by uprooting regimes of neoliberalism and neocolonialism upheld by IMF and World Bank
- Pursue a Global Green New Deal involving the just transition away from fossil fuels, including the decarbonization of the cruise and mineral extraction industries

- Develop practices aligned with the “International Decade for People of African Descent, 2015-2024”. UN platform celebrating contributions made by people of African descent, tasked with stopping discrimination and promoting inclusion
- Transparency and protection of anti-corruption activists working on exposing illegal and corrupt real estate transactions
- Ratification of International Covenant on Economic, Social and Cultural Rights
- Communication between national and local actors and programs





JUSTICE 40 INITIATIVE | USA

Justice 40 Initiative - BHA

BACKGROUND

The U.S. Federal Government declared that 40% of the overall benefits of certain federal investments in climate resilience (i.e. public transit, renewable energy, sustainable affordable housing, wastewater infrastructure, green job training, etc) must flow directly to frontline communities of color.

KEY ENABLERS

Support from Executive Order 14008 in 2021.

SKILLS AND CAPACITIES

Accelerator program created by the Solutions Project to support frontline communities in applying for federal funds, including philanthropic capacity building grants, workshops, grant writing trainings, and partnership opportunities, supported by five foundations.

GOVERNANCE

15+ federal agencies are involved in the execution of their own Justice40 programs, each with their own budget and amount of funding allocated. Overseen by the White House.

ENGAGEMENT

All Justice40 covered programs are required to engage in stakeholder consultation and ensure that community stakeholders are meaningfully involved in determining program benefits and provide input on all program decisions.



Image: The Justice40



Image. Steve Sanchez/Pacific Press/LightRocket via Getty Images. This group aims to address the biggest blind spot for government funding. The Justice40 Accelerator is making it easier for overburdened communities to access funding.



COMMUNITY LEADERSHIP AND PROTECTION ACT | NEW YORK

New York State

BACKGROUND

Justice40 is inspired and predated by the CLCPA, the boldest state-level climate legislation in the United States. The act will reduce emissions to 40% below 1990 levels by 2030 and then to 85% below 1990 levels by 2050. The remaining 15% of emissions will be offset to reach net-zero emissions.

KEY ENABLERS

NY Renews, a coalition of 350+ grassroots orgs.

SKILLS AND CAPACITIES

The plan, passed in 2019, will direct at least 35% of the program's benefits to historically disadvantaged communities based on "public health, environmental hazards, and socioeconomic factors," determined by working groups.

GOVERNANCE

New York State program is overseen by the Climate Action Council — comprising 22 people including representatives from state agencies and people appointed by the legislature and the governor — and advised by a Climate Justice Working Group and Just Transition Working Group.

NEXT STEPS

Pass the Climate, Jobs, & Justice Package to create a pool of money to fund the CLCPA, accelerate the just transition, and make wealthy polluters pay reparations for the loss and damage they have caused.

Climate Leadership and Community Protection Act (CLCPA) – Overview

- Carbon neutral economy, mandating at least an 85% reduction in emissions below 1990 levels**
- 40% reduction in emissions by 2030**
- 100% zero-carbon electricity by 2040**
- 70% renewable electricity by 2030**
- 9,000 MW of offshore wind by 2035**
- 6,000 MW of distributed solar by 2025**
- 3,000 MW of energy storage by 2030**
- 185 TBtu on-site energy savings by 2025**
- Commitments to climate justice and just transition**

Image: climate.ny.gov



Image: [Pathway to a People's Economy](https://www.pathwaytoapeoplesconomy.com)



HOLOCAUST REPARATIONS GLOBAL

BACKGROUND

Climate reparations could be modeled after reparations disbursed to Holocaust survivors. From 1945 to 2018, the German government paid approximately \$86.8 billion in restitution and compensation to survivors. Germany has also returned 16,000 looted assets to survivors over the last 20 years.

ENABLERS

U.S., international community, and civil society as well as international political will.

SKILLS AND CAPACITIES

The Uncompensated Survivors Today Act of 2017 requires the U.S. State Department to report to congress on steps that 47 countries have taken to compensate Holocaust survivors. In 2022, Germany announced they'd pay \$1.2 billion, including emergency aid for Holocaust survivors in Ukraine and, for the first time, remembrance education.

GOVERNANCE

The International Commission on Holocaust Era Insurance Claims was established by the National Association of Insurance Commissioners in August 1998 to identify and pay individual Holocaust era insurance claims. It stopped in 2004.

ENGAGEMENT

In NYC, the Holocaust Claims Processing Office liaises between claimants and international compensation orgs.



Image: TIME



LOSS AND DAMAGE DECLARATION | BARBADOS

BACKGROUND

Barbados has proposed the world's first loss and damage compensation mechanism for climate reparations. Known as the Bridgetown Agenda, the mechanism accounts for the climate crisis, the cost of living crisis resulting from the war in Ukraine, and a national debt crisis from the Covid pandemic.

KEY ENABLERS

COP 27, Ministry of Foreign Affairs and Trade

SKILLS AND CAPACITIES

The first step is to immediately provide liquidity to stop the debt crisis in its tracks. The second step is to expand multilateral lending to governments by \$1 trillion. The third step is to fund reconstruction after a climate disaster through multilateral mechanisms financed by the private sector.

GOVERNANCE

The Ministry of Foreign Affairs and Trade is calling on the IMF to establish a climate mitigation trust that would prompt the release of \$650 billion through special drawing rights, matched by \$2 trillion in private investment.

ENGAGEMENT

Referred to as a "Marshall Plan," the Bridgetown Agenda is a loan-based proposal that, while bold, neglects the pleas of Global South requests for grant-based reparations.



Image: CBS



Prime Minister of Barbados Mia Mottley at COP27 in Egypt, November 7, 2022, asking, 'When will leaders lead?' Photo by UCL Institute for Innovation and Public Purpose on Flickr (CC BY-NC 2.0).



STOP ECOCIDE INTERNATIONAL

BACKGROUND

To generate revenue for reparations, a loss and damage fund can be financed by money recouped by litigating against multinational companies found liable for ecocide. There is a movement to codify “ecocide” as an international crime.

SKILLS AND CAPACITIES

Amend the Rome Statute to codify the crime of “ecocide,” so that multinational corporations can be tried at the International Criminal Court in The Hague. Currently, the only four international crimes include genocide, crimes against humanity, war crimes, and crimes of aggression.

GOVERNANCE

The Rome Statute of the International Criminal Court would govern, under international law, enforced by the UN.

ENGAGEMENT

A range of NGOs have been engaged in an effort organized by Stop Ecocide International. Countless countries have proposed amending the Rome Statute, however there is still a long way to go.

Notably, the United States does not recognize the existence of international law or the criminal court.

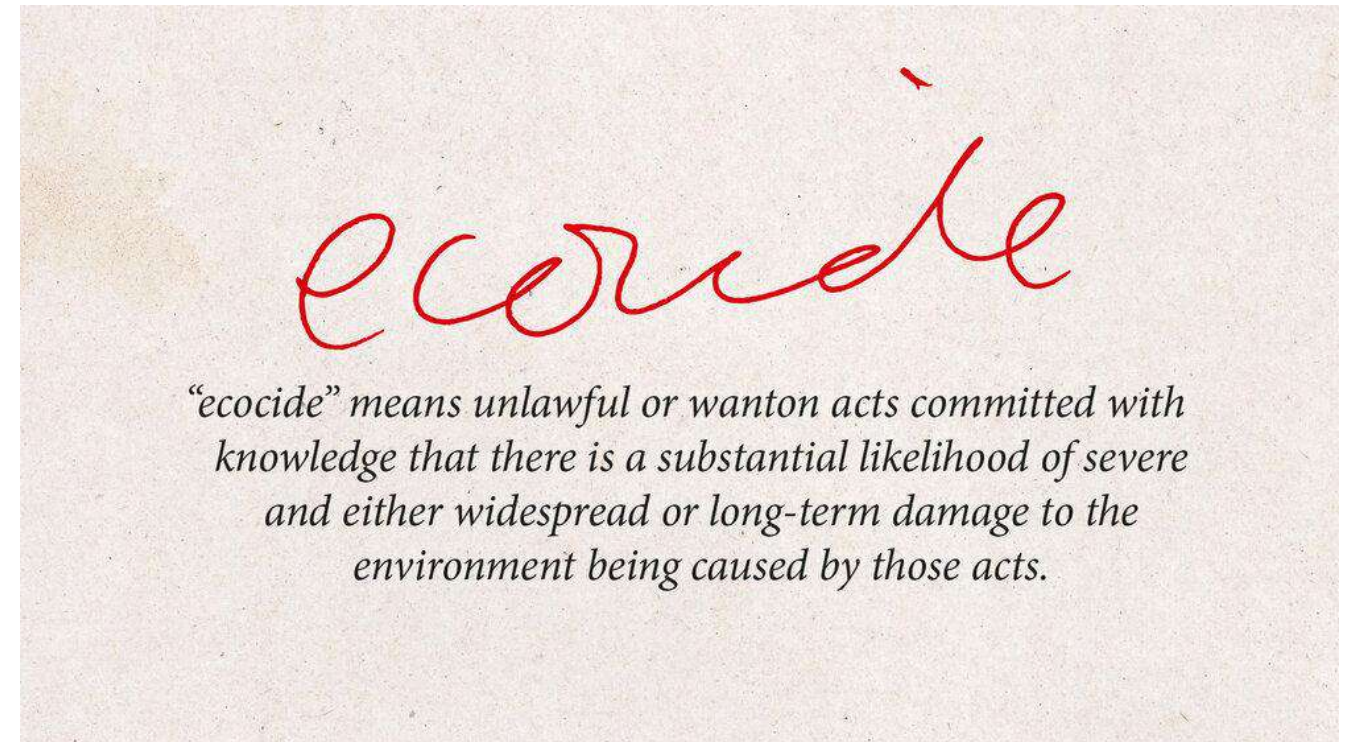


Image: Stop Ecocide International



The Benefits, Challenges, and Limitations of Criminalizing Ecocide
March 30, 2022. Rachel Killean

CASE STUDY

US CROWN ACT

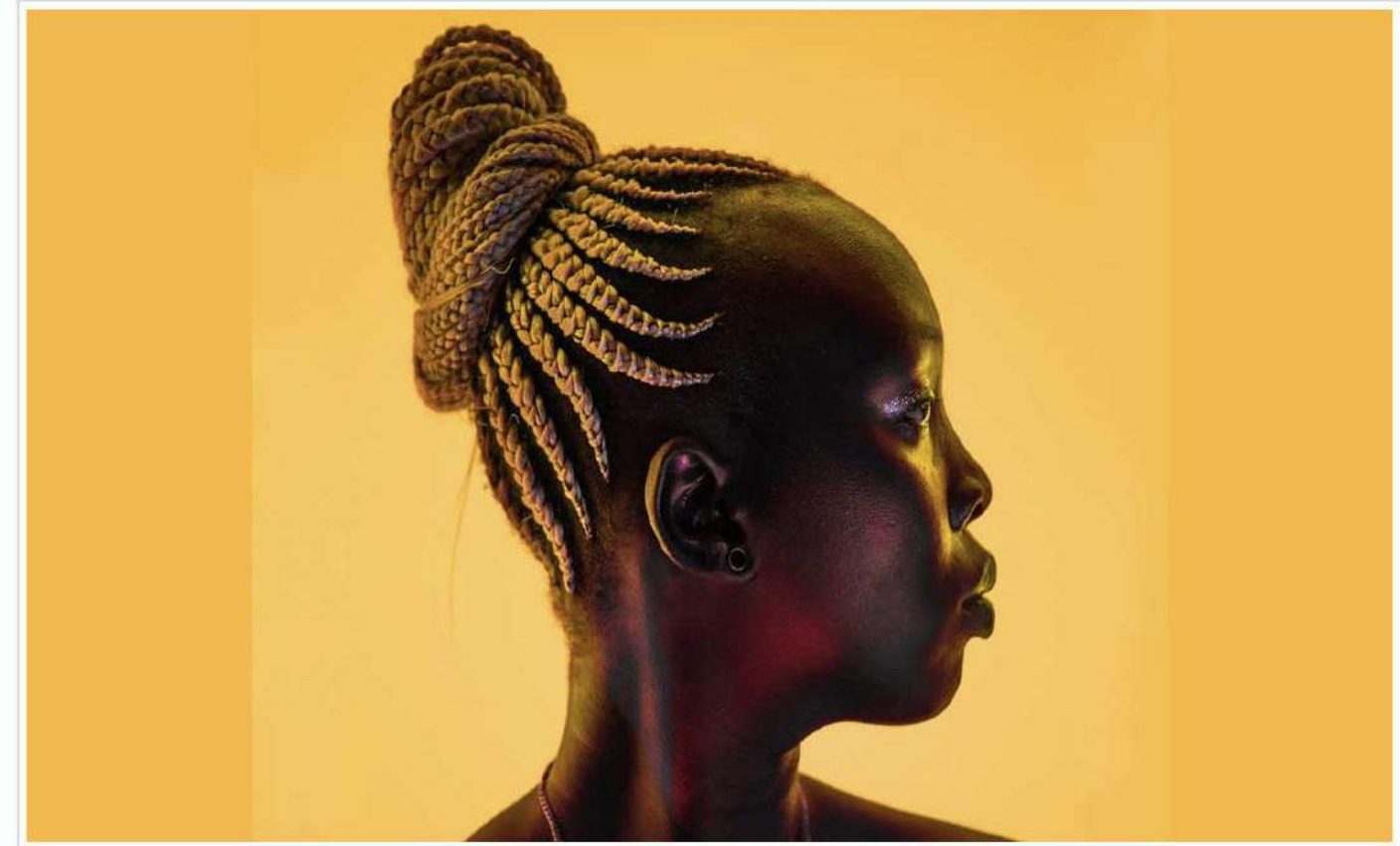
BACKGROUND

Colombia has a history where African hairstyles was used as a tool for liberation. Women used to encrypt messages and maps into hairstyles like cornrows to aid escape into remote areas. However, racial discrimination against curly hairstyles has created physical and psychic trauma in a number of settings like the workplace, schools, and public spaces. The CROWN Act responds to the risks and challenges faced by individuals with natural hair textures and styles.

Colombia has a diverse population where in some cases kinky hair is celebrated and in others discriminated against. Eurocentric beauty standards have been pushed within Afro-Colombia communities and enforced by the workplace and other institutions

KEY ENABLERS

- Legal framework that prohibits discrimination
- Enforcement mechanism to prosecute cases
- Collaboration and cultural sensitivity



UPDATED 30 NOVEMBER, 2022 - 00:55 CECILIA BOGAARD

African Slaves Used Braids to Communicate Escape Routes in Colombia

<https://www.ancient-origins.net/weird-facts/braids-0017595>



US CROWN ACT

FUNDING

The law would require enforcement by the government against racial discrimination. Afro-Colombian population is 3 million today. Advocacy organizations may need funding to prosecute cases and raise awareness about the law.

Advocacy organizations could use funding to raise awareness, educate, and ensure there are restitutions for:

1. **Workplace discrimination** - help protect people from discrimination in the workplace.
2. **Educational discrimination** - help protect students from discrimination in schools and educational institutions.
3. **Criminalization** - prevent the criminalization of natural hair and protective styles.

SKILLS AND CAPACITIES

Legal expertise: Drafting the legislation based on current Colombia laws that helps enable a structure.

Policy development: Creating the guidelines necessary to implement something similar to the CROWN Act.

Enforcement: Investigating and prosecuting cases of discrimination based on hair textures and styles.

Cultural Sensitivity and Education: Awareness is needed to ensure that the law is implemented in a way that is respectful



<https://soundsandcolours.com/articles/colombia/colombiafrica-village-champions-palenques-in-credible-legacy-lives-45532/>

Black Colombian army major breaks ranks by wearing natural hair

Chaverra confessed she had previously used creams with 'obviously harmful chemicals' to straighten her hair in order to 'comply with the regulations.'



<https://www.citizen.co.za/news/news-world/black-colombia-army-major-natural-hair/>

REFLECTING ON THE COCA PLANT IN COLOMBIA

How might climate reparations account for generational spiritual and psychic trauma?

Let us return to the context of Colombia with the newfound knowledge gleaned from the examples within our case study.

Coca is a plant that is sacred to the indigenous people of the Andes. It is revered for its medicinal properties and plays an important role in indigenous spiritual and communal traditions.

As the substrate for cocaine, it is heavily policed, criminalized, and historically targeted by the CIA, DEA, and other federal agencies of the United States in inflicting state violence, death, and destruction in Colombia and across the U.S. border.

In an era of ecocide, the coca plant is also subjected to unsustainable growing conditions as a result of the climate crisis.

Loss and damage should consider how the agroecological, criminal justice, cultural, spiritual, and medicinal elements of coca converge with climate reparations.

Which brings us to our final lingering question...

How might climate reparations account for generational spiritual and psychic trauma?



Image: Al Jazeera

“What is more poisonous for humanity, cocaine, coal, or oil? To destroy the coca plant, they throw poisons such as glyphosate that drips into our waters, they arrest their cultivators and then imprison them. The culprit of drug addiction is not the rainforest; it is the irrationality of the world’s power.” - President Petro, UNGA 2022

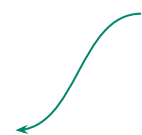
WHAT IF **CARE, WELLBEING,**
AND MENTAL HEALTH WERE
LEGITIMATELY VALUED AS
ECOSYSTEM SERVICES
PROVIDED COLOMBIA'S
CRITICAL ECOSYSTEMS?

SEED OF CHANGE

*Jaad Banhallam
Pria Mahadevan*



FINAL
PAPER



TOWARD CARE AS AN ECOSYSTEM SERVICE

TOWARD CARE AS AN ECOSYSTEM SERVICE



Currently wetlands and other critical ecosystems are not fully valued for the services they provide - water filtration, flood mitigation, biodiversity. They also provide stewardship opportunity and bridging the gap between people and their relationship with nature. For a long time, women's work and care has not been valued, but there is a revolution around this and Bogota is leading the way - reimagining how care can be a service that's provided by the wetland itself, and that caregivers are key agents of change in this system.

Meanwhile, housing and ecosystem services and conservation are at times in conflict with one another when marginalized and displaced people settle in wetlands and other sensitive areas, such as coastal mangroves. Through scaling of care systems, one might imagine that there could be strong local governance and decision making around payments for ecosystem services that might be used for any number of community-based services or infrastructure needs to support these communities or offer structures and resources to move out of harm's way.

PRINCIPLES

- Reform the local political system to decrease high turnover
- Leverage the value of ecosystems through a framework of care – which has already been used to support and elevate certain marginalized actors in society.
- Empower caregivers to lead local environmental stewardship
- Train and fund women to create local networks of environmental guardianship that allow for rehabilitation and growth of target populations (men, at-risk youth, formerly incarcerated, etc)

LOCAL

Funding and expanding Mujeres que reverdecen through payments for ecosystem services within a care framework, creating pathways for more at-risk members of society to engage with nature as a means towards both rehabilitation and enhanced ecosystem services.

The initiative begins at the local Bogotá level, where the care blocks are already part of the recently implemented territorial master plan. The critical ecosystems of Bogotá, such as the wetlands, are sites for piloting. The program can then be expanded nationally, to include other fragile yet crucial ecosystems (i.e., mangrove, rainforest, páramos).

NATIONAL

Use scaled-up local initiatives like Mujeres que reverdecen to strengthen local biodiversity, and leverage the flexible nature of Colombia's PES laws/guidelines to pursue private partnerships and/or direct private funding towards new and existing PES schemes.

Within the existing national legal structures, the PES law (Law No. 870, 2017) would be a logical first step to set up the framework for care-based PES. To ensure success, a compatibility assessment around this law and its application to mental health/wellbeing/care would need to be performed.

GLOBAL

An emphasis on bottom-up, community-led approaches to environmental care and biodiversity protection is missing on a global scale. To address this, a portion of the incoming Loss and Damage fund and/or other sources should be directed towards supporting payments for ecosystem services in biodiversity hotspots.

At an international level, financiers for PES could include: the Green Climate Fund and future Loss & Damage allocations. Private sector donations and commitments to net-zero would also be applicable for scaling payments.



COMMUNITY-LED ECOSYSTEM CARE | ODISHA, INDIA

BACKGROUND

This project exemplifies a local-based struggle to combat formal government-based ecosystem services and conservation initiatives.

Located off India's east coast, the state of Odisha is a largely rural and indigenous region. 40% of the state is classified as state-owned forest area and is considered India's least developed state. For the past 40 years, local communities around Odisha have been protecting state-owned lands without any formal tenure rights of external incentives. These community initiatives emerged during the 70s and 80s in response to rapid forest degradation. Through emphasizing conservation as "caregiving," villagers created rules to restrict outsider's access to forests, restrained their own use of it, and placed penalties for breaking rules. This has been quite successful and has resulted in the rejuvenation of rivers, improved soil fertility, and increased forest coverage.



PARTNERSHIP LOG

JFM covers more than 22 million ha, which is about a third of the forestland in India. About 25 million people are involved in it as part of 104,729 committees across more than 100,000 villages



International Forestry Review, 19(4):495-511 (2017). <https://doi.org/10.1505/146554817822272321>



COMMUNITY-LED ECOSYSTEM CARE | ODISHA, INDIA

ENABLERS

“Studies have attributed the emergence of these community-forestry initiatives to 1) the presence of traditional community institutions and to villagers' experience of managing other commons, 2) the state's failing authority over forests, 3) local culture, 4) the weak presence of formal, local self-governance institutions, and 5) the regenerative capacity of predominantly Sal forests in the area”

The Indian Forest Dept. ignored the existence of these initiatives until the 90s. They were then encouraged to be absorbed into Joint Forest Management (JFM) initiatives. Odisha's community forestry groups have been opposed to the JFM framework because it curtails local authority. JFM's techno-managerial approach to forestry also contradicts the indigenous conservation care methods of Odisha. JFM sees forests as a crop stock of ecosystem services, while Odishans see forests as a living entity wherein the affective socio-nature relations are the valued stock. This led to the the creation of local forest protection federations in Odisha.

FUNDING

Since this is an ongoing grassroots initiative, there is no funding involved.

Villagers explicitly reject PES due to unwanted government involvement.

ENGAGEMENT

Central to engagement are the tenets of “gift giving” and “care”. Odishans believe that nature and its various ecosystems serve as gifts to humans and animals. In Odishan songs and narratives, people describe forests as a friend, mother, or son, emphasizing the need to care for this living being. They question the very notion of “protecting” the environment. Instead, they try to make the environment their home. Sharing of resources in the form of gifts is also an important engagement strategy, due to the abundant resources present thanks to these local initiatives. Forest-conserving villages get the support of neighboring villages and ensure adherence to rules in reciprocity of their “gifts” of access to forest resources and improved ecological services to them. Through these gifts, villages gain recognition and come to be valued by their neighbors.



A thengapalli in action! (The Better India, 2021)

CASE
STUDY

COMMUNITY-LED ECOSYSTEM CARE | ODISHA, INDIA

GOVERNANCE AND MANAGEMENT

Community groups have banded together to form community forestry federations, along with a state level federation called Orissa Jungle Match (OJM). Within these groups, protecting forests was done through a framework for care. Duties are organized through a communal labor arrangement (thengapalli), in which a wooden baton (thenga) is passed from house to house signaling each household's turn (palli) to patrol. While on patrol (palli), the palia stops to pick berries, collect dead wood, remove weeds, and assess whether trees have been cut. Since villagers have no formal rights over these forests, they invoke a “moral authority”: doing “good” through conservation was seen as a life-giving activity that resonates with Hinu philosophy, which maintains that the claims of the one who gives life are stronger than the one who tries to take it away.

SKILLS AND CAPACITIES

In villagers' minds, their grassroots, bottom-up conservation initiatives result in increased success when compared to government initiatives. Care for the forest ecosystem is passed from household to household in an organic, yet structured way. Villagers often campaigned against loans and government interference, viewing them as countering their own work. Most notably, express trauma from federal conservation projects that bring in paid outsiders to “watch the forest,” undermining community roles and autonomy.



The lush forests of Odisha (The Wire, 2017)



Odisha women patrolling the forest, IANS 2021



YO PROTEJO, AGUA PARA TODOS | CUNDINAMARCA, COLOMBIA

BACKGROUND

Cundinamarca is both home to the world’s largest páramo ecosystem (Sumapaz) while also facing heavy historical deforestation, with further threats from single potato-crop farming, cattle ranching, and urbanization. But what threatens the páramo threatens the water supply of millions in Bogotá and beyond. Two years before Colombia passed formal guidelines for designing publicly-funded PES programs, Cundinamarca launched its own PES program with the goal of strategically preserving land and promoting conservation by locals.

FUNDING

~1% of Cundinamarca’s government budget, or approximately USD\$885,000 when it began in 2015, as established by Ley 99 de 1993 (Art 111)

This project is the first sub-regional publicly-funded PES scheme in Colombia

KEY ENABLERS

In the absence of formalized PES guidelines prior to 2017, Yo Protejo Agua Para Todos (YPAT) relied upon a number of previous national policies, most notably (a) the national Constitución Política de 1991, which establishes the duty of the state to protect environmental diversity and conserve areas of special ecological importance, and (b) Ley 99 de 1993, which highlights the need to provide special management for areas of ecosystemic importance. This law has since been modified in numerous ways, most notably via Artículo 111 (2011), which highlights the importance of areas related to water conservation and supply, and required departments to allocate no less than 1% of their income to either acquire these important lands or finance PES schemes



Image Credit: Foro Nacional Ambiental

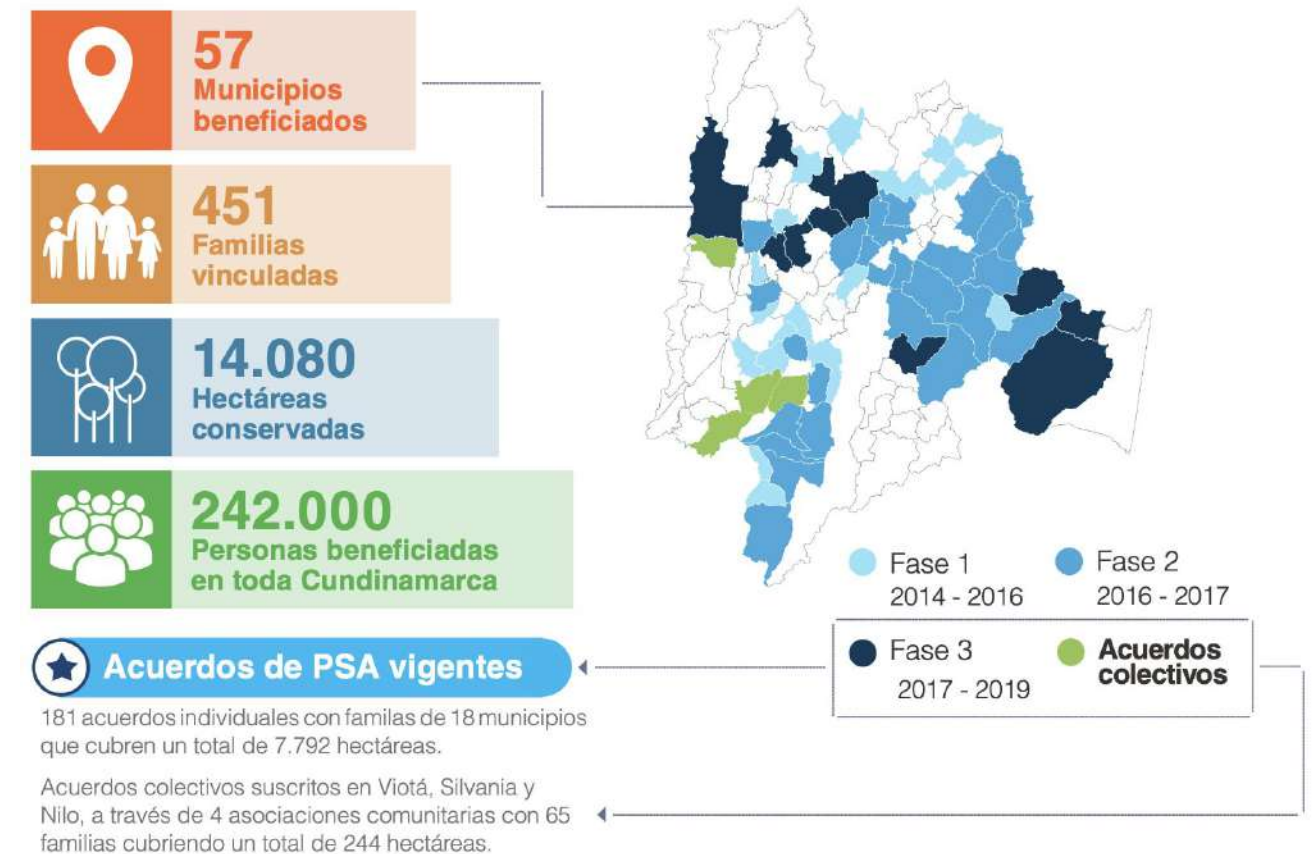


Image Credit: Patrimonio Natural



YO PROTEJO, AGUA PARA TODOS | CUNDINAMARCA, COLOMBIA

SKILLS AND CAPACITIES

The skills and capacities of the agency actors and stakeholder involvement evolved across the three phases of YPAT, but there was a consistent need for field technicians to visit and monitor compliance, budget allocation and planning, and establishing a payment differentiation framework¹ in the last version of the scheme. As the program evolved, landowners were also required to conduct additional biodiversity and conservation promoting activities like fencing off water or planting living fences.



Local communities in Cispatá Bay. © Daniel Uribe

GOVERNANCE AND MANAGEMENT

YPAT has undergone three phases to-date, with different modes of governance and key actors. The first was operated by a subsidiary of the local chamber of commerce. Direct cash payments were offered to compliant landowners, in part due to (1) ease of implementation, since in-kind payments would have required outsourcing purchases, and (2) potential for building trust among landowners who did not previously have faith in the government. Payments were contingent on the participants using their land as agreed upon, and was monitored by field technicians 2-3 times in the 18-month contract period. The second phase was operated by the nonprofit Patrimonio Natural with the support of two local environmental authorities, and shifted from exclusively cash payments to a mix of cash and in-kind payments, prioritizing certain areas of ecological/water conservation over others. In both these phases, informal landowners were excluded from participation. Finally, the third phase included informal landowners, reprioritized eligible areas and a shift in payment structures based on land use, plot size, and socioeconomic conditions of the landowner.

ENGAGEMENT

Participation in earlier phases of YPAT requires a formal land certificate, which excludes informal dwellers – about 48% of Cundinamarca. In addition, the re-targeting of YPAT priority areas across phases resulted in participants shifting in and out of the program across time.



Image Credit: YPAT Youtube; El agua de mi finca para el bienestar de Cundinamarca

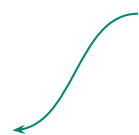
HOW CAN WE MOVE FROM
TOP-DOWN WATER
PROJECTS TO **GROUND-UP**
WATER STEWARDSHIP?

SEED OF CHANGE

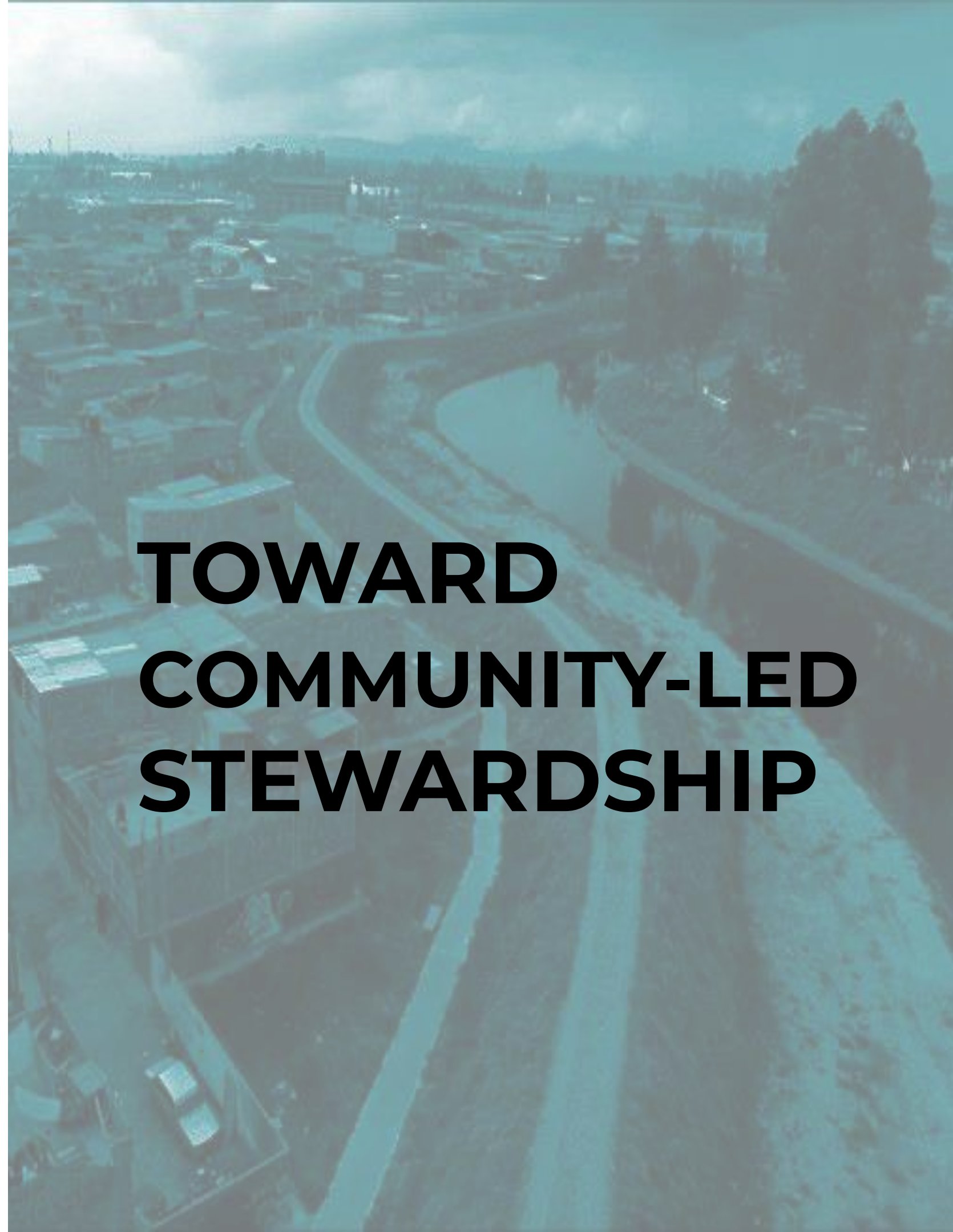
*Hailey Basiouny
Georgia Monaghan*



FINAL
PAPER



TOWARD COMMUNITY-LED STEWARDSHIP



TOWARD COMMUNITY LED STEWARDSHIP



Climate, social, economic, and cultural risks are deeply intertwined, particularly as it relates to urban wetlands in Bogotá. Wetlands are critical to climate resiliency, hotspots of biodiversity, carbon sequestration, water filtration. Those most vulnerable to climate change also possess deep commitment to responsibilities of caring for the wetlands. Meanwhile, communities are double or triple-displaced from violence, conflict, infrastructure, or other risks with little to no choice but to live in crowded informal settlements around these wetlands at increased climate risk. Without resources, including funding and time, they are essentially expected to protect the wetlands they may be entirely new to understanding and valuing. Climate justice in Bogotá depends upon community leadership and co-stewardship of its urban wetlands and is path towards sustainable projects and governance that assure the environment and people coexist and grow.

While many policies and projects at global, national/regional, and local scales are wholly or partly dedicated to the restoration and protection of wetlands, policy gaps stem from (1) funding that flows to well-established international institutions, not least because of corruption that remains a challenge across scales of government within Colombia, and (2) existing socioeconomic, cultural, and structural barriers that reduce the abilities for local Bogotáns (and Colombians more broadly) to ensure wetlands are protected, healthy, and able to flourish as flood management solutions.

PRINCIPLES

- Trust-building, particularly with local Indigenous communities who should only be asked to share knowledge if their needs are heard
- Deep and long-term relationships over connection and accessibility, for both communities and nature.
- Multi-stakeholder processes as well as sustained engagement at every stage even when not everyone will be satisfied with every decision
- Foster nature, community and belonging - if 'Bogotá belongs to everyone, it belongs to nobody'
- Ensure value is measured holistically, accounts for community perspectives of what 'value' means and includes typically unaccounted-for values (care, time and nature)
- Embed accountability mechanisms to counteract corruption, mismanagement and maladaptation; pursue accountability through reparations to hold institutions accountable for past and current harms

Inspired by New Zealand's Waikato River Clean Up Fund, Bogotá's Care Block system and a number of other community-led climate frameworks, we propose Bogotá develop a Bogotá Care Fund (WRA, 2021). The objective of the Fund is to be a vehicle which connects top-down actors with bottom-up initiatives by directing international and national climate finance and resources to local government and community-led care (social and ecological) initiatives. The Care Fund itself acts as a vehicle to pool international finance and resources (such as from WRI, the World Bank and UN) with government and private finances, and direct these finances towards a range of 'Care' programs, including the existing Care Block system, community-led ecosystem restoration and conservation projects, research, public access or education projects. The rationale behind this approach is that it will provide much needed funding and resources to existing care systems, Care Blocks and Guardians of the Wetlands, but it will also transform traditional hierarchical structures into relationships of collaboration, co-production and cross-pollination through its community-led Governance Framework.



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175

CASE
STUDY

WAIKATO RIVER CLEAN UP | NEW ZEALAND

*Waikato-Tainui iwi, Waikato River
Authority*

BACKGROUND

The Waikato River Clean is an exemplary case study for how co-governing and management schemes between government and iwi (tribes) can enhance community agency and support wetland restoration. As to the institutional context of the Clean Up, this project was supported by the 2010 settlement between Waikato-Tainui iwi, which led to the establishment of the Waikato River Authority. The mandate of this authority was to jointly govern the management and restoration of the Waikato River (New Zealand's longest river).

The goal of the project was to improve the health of the Waikato River, which has been subject to pollution and environmental degradation due to agricultural runoff and urban development. The project supports a range of regenerative practices, including the restoration of wetlands, the planting of native vegetation and the implementation of best practice land and water management. Since 2011, this has included over 260 ecological or cultural restoration, research, public access or education projects, and projects have been led by a range of stakeholders, including private individuals, landowners, agencies, charitable trusts, tribes, schools, research agencies, universities and Industry. Some projects include implementing sediment traps, nutrient filters, native fish spawning, re-vegetation and invasive species controls.

The main risks of the project has been balancing conflicting interests and priorities among different stakeholders, and ensuring the sustainability of long-term funding. Further, climate change, natural disasters (such as earthquakes) and economic pressures (e.g. inflation) create ongoing challenges.



Planting trees along the Waitangi River Source: New Zealand Herald (2019)



WAIKATO RIVER CLEAN UP | NEW ZEALAND

*Waikato-Tainui iwi, Waikato River
Authority*

KEY ENABLERS

Waikato-Tainui Settlement: A settlement between the Crown and Waikato-Tainui iwi recognising the Treaty of Waitangi, providing an formal apology for historical wrongdoings and return of land at the value of \$170 million.

Resource Management Act 1991: Governs the management of natural and physical resources in New Zealand, requires resource consent or water permits for activities that may have an adverse effect on the environment or will have an impact on water systems.

Ramsar Convention: The site has been recognised by the Ramsar Convention on Wetlands, which is an international treaty which recognises sites of particular biodiversity importance.

National Policy Statement for Freshwater Management: Set out the government's expectations for freshwater management in New Zealand, requiring regional councils to develop and implement consistent freshwater management plans.

Waikato Regional Plan: Regulatory document which sets out the rules and policies related to natural resources, such as water, and includes provisions for managing discharges to waterways, managing water takes, and setting water quality targets.



New Zealand launches plan to revive the health of lakes and rivers Source: The Conversation 2019

***Ko au te awa, ko te awa ko au
I am the river, and the river is me***



WAIKATO RIVER CLEAN UP | NEW ZEALAND

Waikato-Tainui iwi, Waikato River Authority

FUNDING

To finance the River Cleanup, the Waikato River Clean-Up Fund was established in 2012, and is managed by the Waikato River Authority. The Waikato River Clean-Up Fund is primarily funded through a combination of government contributions and a levy on water take from the Waikato River catchment.

The New Zealand government contributed an initial \$210 million to establish the fund, and ongoing contributions are made through the Ministry for the Environment and other government agencies. A levy also tops up the fund which is raised from industrial, commercial, and agricultural water users.

The revenue generated from the Fund is used to fund projects which are aimed at improving the health of the river. As of 2021, the fund had allocated over \$100 million towards these projects.

The following skills and capacities enabled the project to achieve its goals:

Interdisciplinary expertise: Requires a broad range of expertise (environmental science, hydrology, economics, traditional ecological knowledge, legal) and for this expertise to be brought together synergistically.

Stakeholder engagement: Clear communication between government, iwi, private sector and other stakeholders.

Data collection & analysis: Water quality, biodiversity and ecological, and economic assessments were essential to baseline the project.

Quality assurance & monitoring: Required for ongoing reporting and improvement.

Understanding of relevant laws & regulations: The project sits within a complex web of national, regional and local laws and regulations, which requires legal expertise.

SKILLS AND CAPACITIES

ENGAGEMENT

This project is iwi-led, which means that community engagement has been at the heart of the project's design, development and implementation. Traditionally, Māori communities have not been part of resource decision making, despite having a historical claim to and long-history connecting them with Country. In recent years, however, New Zealand has pioneered First Nations settlements and iwi-led conservation projects.

For the Waikato-Tainui iwi, the Waikato River holds a cultural significance. The Waikato-Tainui define the Waikato River as including its “waters, banks and beds (and all minerals under them), its steams, waterways, tributaries, lakes, aquatic fisheries, vegetation and floodplains as well as its metaphysical being.”

GOVERNANCE AND MANAGEMENT

The Waikato River Clean-Up Fund is governed by a joint committee comprising representatives from the Crown, iwi (Māori tribes), and the Waikato Regional Council.

Joint Committee: Sets the strategic direction of the Fund, comprising of the Crown, iwi and Waikato Regional Council.

Secretariat: Responsible for the day-to-day operations of the Fund and the implementation of the Joint Committee's vision.

Technical Advisory Group: A group of experts (across ecology, hydrology, engineering and economics) providing expert technical advice.

Project Steering Group: Established for each project and responsible for overseeing the implementation of the projects, including project planning, design, and delivery.

Stakeholder Advisory Group: Provides stakeholder engagement and communication and is made up of iwi, communities and other relevant stakeholders.



MIKOKO PAMOJA | KENYA

Wildlife Conservation Society and Kenya Marine and Fisheries Research Institute

BACKGROUND

Blue Carbon offers many co-benefits. For example, the protection and restoration of mangroves further benefits the world through carbon sequestration, increasing biodiversity, coastal protection, flood mitigation, fish tock, and water quality.

This project, has been developed internationally through a broad coalition including:

- The Pew Charitable Trusts
- The Wildlife Conservation Society
- Plan Vivo
- The Kenya Marine and Fisheries Research Institute

It aims for minimum 70% PES (Payment for Ecosystem Services) for communities; Requires 40% female participation; 5614 mangrove seedlings planted to date; funds sanitation and education projects

GOVERNANCE

- Community leads day to day decision making (operational)
- The Steering Committee makes strategic decisions around budgeting, contracts, and fundraising.
- It is composed of key stakeholders such as: Kenya's Marine and Fisheries Research Institute, International Union for Conservation of Nature (IUCN), Community members, and technical experts (researchers, consultants).



UN Sustainable Development Goals - <https://www.planvivo.org/mikoko-pamoja#SDG4>



<https://www.planvivo.org/mikoko-pamoja#SDG4>



MIKOKO PAMOJA | KENYA

Wildlife Conservation Society and Kenya Marine and Fisheries Research Institute

FUNDING

Locally the project is managed by The Mikoko Pamoja Community Organization (community representatives), and The Mikoko Pamoja Steering Group (local technical support) with carbon accreditation and sales managed by a Scottish charity: The Association for Coastal Ecosystem Services with verification by Plan Vivo.

Seed funding for restoration projects was paid for by the EU via its Mangroves for the Future program with the goal of providing alternative livelihoods to communities, removing pressures which force them to exploit mangroves for fuel and lumber.

Ongoing conservation and restoration projects are paid for by the sale of carbon credits on the voluntary carbon credit marketplace.

MONITORING

- **Ecological monitoring:** On the ground measurements of biodiversity, water quality, tree growth
- **Carbon monitoring:** through remote sensing, modeling, ground based surveys
- **Community engagement:** Frequent meetings between project team and community members
- **Financial monitoring:** Funds raised through carbon credits are tracked by project team, regular audits on transparency

ENGAGEMENT AND CHALLENGES

Engagement and Trust: The community has not been uniform in its support. There is significant pushback over inadequate representation. Certain privileged members of the community have benefitted much more than others via positions on operational and strategic committees.

Capacity to Implement: Kenya Forest Service (KFS) has not built adequate capacity, maintaining most implementation power itself, creating a conflict between centralized & decentralized governance

Transparency: Community has criticized the lack of transparency (Only 2 audits 5 years apart). Community has not seen benefits correlated to the success of the carbon credits sales, and there is a push for more investment in healthcare and education.

Biodiversity: Non native mangrove species were used. The impact on biodiversity is being studied.



https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.planvivo.org%2Fmikoko-pamoja&psig=AOvVaw0FyiWqS6ChL1UCp_QJeMWe&ust=1681576627449000&source=images&cd=vfe&ved=0CB AQiRxaFwoTCijlsJ7nqf4CFQAAAAAdAAAAABAE

FEEDBACK AND DISCUSSION

REFLECTIONS FROM
STAKEHOLDERS AND
FACULTY





Geeta Mehta
Columbia GSAPP

“The service that Columbia University can do is create methods for calculating and developing number-based ideas that have the potential to move forward.

So long as we come from a sense of humility and have an understanding of the historic relationships, inequalities, and asymmetries that go into this [work], there is a lot that we can do.

... once a certain level of humility and understanding is developed, then there is actually great value that we can bring to the **service of the ideas that local people are generating.**

For example, the idea of reparations actually comes from the people who refuse the global transactions that keep them in debt since enough damage has been done in terms of climate justice and so on.”

“We hope that your projects will be developed in Colombia as our community is open to its implementation to achieve our shared dreams. We hope to see you soon in Cartagena!”



Maristella Madero
Fundación Grupo Sociale

“In the approach to policy, terms like tourism, fisheries, climate change, housing, and ecosystems are used categorically.

I find it particularly challenging in [institutions] like Columbia to separate these ideas and to individuate them. For instance, in India, many people cannot separate themselves from the ecosystem.

So, when we then talk about ecosystem services, it sounds quite anthropocentric and so out of *their* world. [Indians] don't see an ecosystem separate from themselves, so how can we talk about services in such a manner?

... In the categorization of the local, regional, national, and global, you are part of the global. That is what brings you to [Columbia]. You are part of the global, Columbia University is part of the global.

It is always the global that is speaking for the local and it's never the local that is speaking for the global. So, how do you actually address that you, yourself, are part of the global?

I can extend this to say that you are part of the “colonizer” as well. That being so, you set yourself up for a contradiction when you categorize in this manner and you undermine your position. This is a classic problem of the orientalist who speaks for the native, who turns the native, and who desires to turn native.

There is a challenge here that [we] need to get beyond. How do you prevent your work from undermining your own case?

Congratulations to you all. Nice depth of thought!”



Dilip da Cunha
Columbia GSAPP



Luis Villadiego
Secretaría de
Infraestructura,
Alcaldía Distrital
de Cartagena de
Indias

“Although we are facing challenges with the development of several different projects that we are working on, we would love to bring all of your ideas under development and apply such concepts to the different areas of our work. Thank you!”

“Academics from the global north often go to the global south to identify problems without realizing that there are a lot of lessons that can be learned [from such countries].

For example, Colombia has great policies that the United States can learn from.

Some of the implementation issues that we’re seeing are the result of a lack of US funding and other mechanisms. We cannot forget the interconnectedness of the injustices that exist on a broader level and how that reflects in the challenges of the communities that we interact with.

[Implementation] needs to be strengthened so that institutions with deep colonial legacies, and those of us with privileged academic positions can recognize and address that in local communities.

Lots of hard work here and it definitely shined through. Awesome to hear from the community!”



Dr. Isatis M.
Cintrón-Rodríguez
Columbia
University, Citizens
Climate
International



Diego Restrepo
Conservation
International

“Congratulations everyone for their amazing presentations!”

“... so happy to see this kind of collaboration and hope for many more in the future between GSAPP and the Climate School!”



Noah Chasin
Institute for the
Study of Human
Rights, GSAPP

“I think it is very interesting to see the policy approach towards the case studies.

(i) Some groups included the community land trust instrument as part of their policy recommendations, I think there is plenty of experience with this policy tool in the US. However, I’m afraid that its application in Colombia would be very complex.

There are some explorations conducted by the Lincoln Institute regarding the potential of CLT in Brazil for informal settlements, but the conclusion is that they need to be linked to current planning tools. In the case of Colombia, this could be “partial plans,” but this requires further examination.

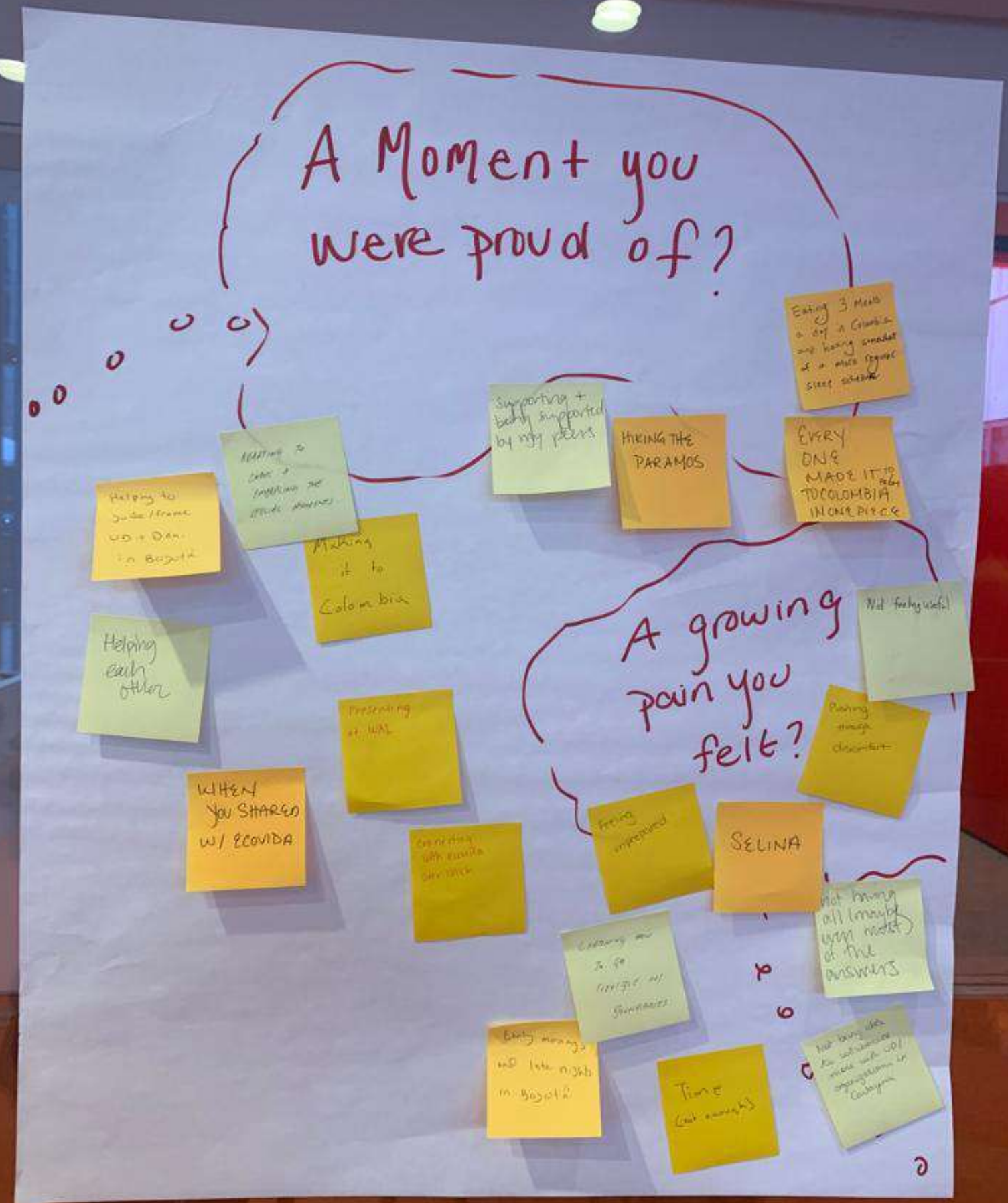
ii) Some groups suggest a mix of top-down responses with bottom-up initiatives. I think it would be interesting to define a policy framework that could include different channels that could promote the junction of these two type of responses, beyond the funding issue.”



Erik Vergel
Uni de los Andes

STUDENT REFLECTIONS

END OF SEMESTER THOUGHTS



A CLIMATE REALITY SHAPED BY THE BUILT ENVIRONMENT

Patrick Beckley

I enjoyed the experiential and cross-disciplinary nature of this class. As an engineer with professional experience, I appreciate the opportunity to put theory into practice. Going to Colombia also served my interest in traveling. Cartagena was the largest slave port of the Spanish colonization projects in the Americas and was numbered to bring 1.1 million Africans into enslavement. Seeing the different sides of Cartagena and how the community was responding to climate challenges made me think of my hometown in Sierra Leone. Freetown, Sierra Leone is also a beautiful coastal city with a global impact facing climate challenges. I was most impacted by learning about the history of Colombia and how it was home to the first “free town” of the Americas, San Basilio De Palenque. Such places are beacons of self-determination, liberty, and resilience from communities surrounded by some of the worst atrocities of our global past. Awareness of Palenque automatically made the connection to the land stronger because I am aware of the significance of liberated towns' ability to preserve culture and identity. A challenging moment was the language barrier, although I found other ways to connect and communicate.

Seeing the mangrove stewardship happening with organizations like Eco Vida was very inspiring. The organization clearly embodied the quote, “Plant trees under whose shade you do not plan to sit,” even considering the pressures on the community. I also enjoyed learning with the Urban Design Studio students and professors. Design students helped us understand how much of our reality is shaped by the built environment. Anchoring the “Double Displacement” class gave me the flexibility to consider various possibilities and impacts on people and the environment. Future classes will have much information to digest and should be open. Everyone has something they can contribute to ensure a more balanced and just society for all.



SENSE CHECKING WITH COMMUNITY

Georgia Monaghan



For me, the most impactful experience in the class was our time in Bogotá. I loved the site visits and want to integrate this kind of working style into my practice. Being on the ground, being able to use all five senses and talk to community members provided so much color to our class readings and lectures. There were many challenging moments, compounded by grueling, fast-changing schedules, early mornings, and difficult to coordinate group work. Team work, resilience and finding the special moments amongst the challenges all helped in overcoming these challenges.

I feel like my perspective was shifted by a number of different people, conversations, ways of thinking and actions. From the design students, I learnt how to look at the world through a design lens and think about how spaces are used by people, as well as our own place in Bogotá (even the Uni Andes students felt that they were tourists in their own city). From the lecturers, such as Dilip, I learnt how to reconceive lines and rivers, seeing the 'wetness' of the water cycle instead. From the Bogotá communities, I learnt about true hospitality and how change can be instigated from the ground up.

Like everyone else in Bogotá, the Care Block system really resonated with me. It showed me how Colombia and other Global South countries can be a site of international excellence, where there is a lot that the United States and other countries can learn from. It also really articulated how public policy can fuel systems change and combat the deficiencies of a capitalist society. For example, accounting for and valuing 'care' and other intangible assets is such an innovative way of elevating the role of women and helping their families. Further, I really appreciated how communities were involved in the decision making process regarding what resources they wanted in their Care Block.

The wetlands and our experience talking to the 'Women Who Care' was also eye-opening and evidenced how much environmental expertise is held by the community on the ground. Dora, our guide in the La Vaca wetland, was teaching us about the local biodiversity, changing climate, and was speaking in terms of ecosystem services. She had so much intuition and knowledge and knew exactly how her place should be run.

All of these learnings really informed Hailey and my bottoms-up philosophy, as it was evident that, when empowered, communities often know what is best for them. I would recommend that other students at Columbia always consider their own place in the bottoms-up and top-down paradigm and sense-check regularly to ensure that you are going back to community voices.

FINDING MEANING THROUGH CHALLENGE

Hailey Basiouny

Reflecting on the semester, there is much that stands out as impactful - some of those moments were undeniably challenging at times too. The travel within Colombia itself was of course deeply meaningful. To experience a place in the flesh as opposed to learning from afar offers far more visceral opportunities, many impossible via a screen. While the time there was brief, meeting a relatively diverse group of Bogotans enabled me to gather a more dimensional understanding of the dynamics at play and thus a more critical lens of the possibilities for inclusive and sustainable policies. Fundamentally too, fieldwork is humbling, eye-opening, and challenges modes of being and learning entrenched in Western culture and academia. Like all human beings, I hold biases and assumptions that must be unlearned, and sometimes unlearned again, and different worldviews shape the recommendations a practitioner such as myself might make with the best of intentions. I carry with me the generosity of spirit with which many of our lecturers and guides shared their homes, their pride of place intermingled with their hopes of making it better. Despite my ongoing commitment to uplifting the voices of underserved communities, I found myself uncomfortably taking on the boundaries of fieldwork, and more broadly, untangling my empathy and desire to help from any kind of saviorism or hierarchical work.

Our tour guide for the paramos is one of many people that, in sharing their story and views, broadened my perspective of the pace of change. While I don't think it was the first time I heard the expression, "change moves at the speed of trust," it certainly gave it a more nuanced meaning. For one thing, we had a lot of time to chat over the course of the expedition, but more than that, the simple intimacy of a small group in the outdoors shifts what is possible for conversation even amongst strangers. He shared how his love of nature, and realization of it being in jeopardy, led him to give tours in his free time outside of his work in finance and accounting. We commiserated about the difficulties of finding impactful work.

Noticing that it was rare to give tours to Colombians, he expressed his concerns that people appreciated what was in danger of being lost. Even still, he was appreciative of the opportunity to teach and guide others in the unique ecosystem of the paramos. It was heartening to share his knowledge, and a reminder of the significance of relatively small acts. Humbly I still can use that reminder, as I often experience the urgency and hugeness of climate change as a call to do more, and quickly.

The parallel nuances of policy research and design work revealed again and again this idea of a web, a network. I see more than ever before the power of context, of the local, and of how useful it is to visually map out the scales and seeds of action in order to uncover relationships. By understanding climate justice and resilience-building to be about relationships, you can move with greater respect, inclusivity, and authenticity. This understanding is particularly crucial for remembering the earlier-mentioned perspective shift around change moving at the speed of trust.

Risk is constructed by systemic and structural factors far beyond the physicality of the built environment, or of climate change. Policies have the power to shape just how an environment is built, and thus determine a community's vulnerability, or resilience to bounce back when disasters strike. Without the grounding and context setting done leading up to and during the trip to Bogota, the final recommendations might possibly have been very different. Only through the senses and expertise of those with lived experience can you even hope to create a final project, whether policy or design, that can be accepted and sustained by those you are aiming to help.

Education is certainly a crucial element of truly transformative climate justice and action; it is a seed for change, but only if there is ever present attention to inclusivity, growth, and out-of-the box thinking. The fact that Columbia University maintains the status quo in seen and less unseen ways related to the inaccessibility of affording the school, of different styles of learning, of innovative and community-oriented "real" projects...this is not only a missed opportunity but a failure on the part of an institution that claims to be a globally-minded leader. Students and educators, with the power of their voices to the ability they possess, must continue to push the university to be a part of the solution in more than just polished words.



The Possibility of a Little (Conversation)

THEORY TO PRACTICE THROUGH IMMERSIVE LEARNING

Josh Nodiff



This class was unequivocally the highlight of my grad school experience. This class enabled me to put theory into practice and build upon all the material that I had absorbed across each of my previous courses. My classmates and I were fortunate to learn from a diverse range of experts — community organizers, urban designers, water scholars, the Dutch government, the Colombian government, and the mayor of Cartagena himself. Our immersive learning experience does not end upon graduation, and I am eager to remain connected with this work as I deepen my growth as a learner and practitioner of climate justice.

This class presented students with an unparalleled opportunity to engage with frontline communities beyond the walls of the university. As a collaborative experiment between the Climate School and GSAPP, students from the two schools participated in an interdisciplinary exchange of knowledge, cultivating relationships that will become indispensable toward imagining regenerative futures. Together, students co-produced a toolkit of climate solutions spanning policy and design with a transformative vision for the future. The class itself served as the first of many pathways for students to become involved with the critical work of climate justice on local and international scales.

The Columbia Climate School has a moral responsibility to fulfill the fourth purpose of the university and must build upon the foundations established by this course. The Climate School must develop formal mechanisms to leverage the intellectual capital of the university and respond to the specific needs identified by communities on the frontlines of the climate crisis. Rather than searching for problems to solve abroad, Columbia University must listen carefully to communities who are already organizing themselves, and offer its full range of services — legal support, data literacy, scientific research, policy expertise, and so forth. Students and faculty must remain actively involved in such efforts beyond the classroom, engaging with communities through site visits, cultivating relationships grounded in mutual trust, and holding the university accountable to its moral obligations.

TOWARD EMPATHY

Katie Zack

Learning about climate justice and seeing the need for it first-hand are two very different things. In a classroom setting, we learned that policy enforcement, reparations, and participatory processes/engagement are needed to move toward climate justice. But outside of the classroom, as we were welcomed into communities and homes, it became much more evident what is actually needed to move toward climate justice, and that is empathy.

I would like to suggest that a lack of empathy is what got us here in the first place. As humans, we tend to lack empathy for nature and the resources that we exploit and overconsume. We also tend to lack empathy for one another, forgetting that humans are the only species capable of even feeling such a thing at all. Empathy is not always intuitive, and it is often a conscious choice that we need to make. Those who have the most power, whether financially or politically, tend to be the ones who are actively NOT making that conscious choice. This stark realization was one of the most powerful lessons that I learned over the course of the semester. So much of our time before going to Colombia was spent intentionally thinking about the ways we could bring compassion and understanding with us on our trip. We made the conscious choice to bring empathy into all of the rooms we were invited into, and we felt empathy given back to us in every conversation we had, meal we shared, or educational excursion we were invited to be a part of. However, corrupt systems heavily rooted in injustice still lack that same empathy that we were lucky enough to experience. I sometimes worry how we will fix this...

Having said that, spending the semester with some of the most empathetic and intentionally kind people I have ever met has given me hope. To Juliet, Hailey, Pria, Margaux, Georgia, Josh, Jaad, Karl, Patrick, and Johanna: you create spaces for empathy in all that you do and it does not go unnoticed. To think that there are other little groups like ours having the kinds of conversations that we did also gives me hope. In a world that seems to systemically lack the empathy that is needed to create change, I have seen it presented in a multitude of ways throughout the semester and during our time in Colombia. Holding onto that, and amplifying it in any way that I can, is how we fix this. Moving toward empathy will need to be a collective, conscious choice, but it can also start with one person. And then another. And another.



LEARNING THE HOW

Margaux Alfare



Two young Guardians of the Earth



"Mangroves are a source of life - let's take care of them"

Before coming to Columbia University, I knew I wanted to work in policy, although I wasn't really sure what that meant. While at the Climate School, I had the opportunity to speak with practitioners and ask them questions about their work to understand how to do climate policy. That's why I was so excited to participate in the Imagining Climate Resilience and Justice: Colombia course. It was an opportunity to engage in transdisciplinary climate policy work, collaborating with designers, practitioners, community leaders, and policymakers. Now that the semester is over, I can confidently say that climate policy and adaptation work is a messy, complex process, especially when trying to incorporate principles of climate justice. We may know a lot about how the climate system works, why climate change is happening, and we may have a lot of solutions at hand, but implementing them is a whole other story. There are structural limitations that can hinder progress: lack of political will, lack of funding, lack of resources. This made me question the efficacy of our efforts and whether we could ever truly address the climate crisis.

However, as I witnessed the work of Ecovida and Fundación Grupo Social in Cartagena during the field trip, I couldn't help but feel hopeful. Because despite challenging circumstances, they get work done. As of today, they are partnering with 12 schools reaching about 19,000 students, and 320 kids have been certified "Guardians of the Earth." One of the key initiatives resulting from this project is the organization of monthly cleanups in the Ciénaga to remove solid waste brought by the water from the city center. The two organizations are also educating communities about the importance of the Ciénaga and its ecosystem services through mangrove reforestation. These mangroves are vital components of the ecosystem, as they provide protection from storm surges, purify the water from pollutants, decrease salinity, and serve as a breeding ground for fish. The marsh's shorelines are slowly being restored, one mangrove tree at a time.

Throughout this class, we explored important climate concepts, one of which was resilience. Resilience is more than just fixing what's broken — it's about creating strong and lasting systems that can withstand the effects of disasters, while also promoting fairness, justice, and social well-being. I vividly recall asking myself, "What does that look like in practice?". Well, I believe I have the answer now. The success of these initiatives is a testament to the resilience and perseverance of these local communities to ensure a healthier environment. Their collaboration is an inspiring example of collective effort in action, and fills me with a sense of optimism. Just picture for one moment all the other projects underway elsewhere - whether in Cartagena, New York City or elsewhere - where communities mobilize to make their cities, neighborhoods and lives better. I'm still not entirely sure **how** to do climate policy, mainly because there is no right way to do it. All I know is that I need to do it. Because tackling climate change is an "all hands on deck" situation, and the more people we have on board, the better our chances of success.

ENVISIONING PATHS FOR CLIMATE JUSTICE IS HARD. GOOD TEAMMATES MAKE IT BETTER.

Pria Mahadevan

When I first registered for this course, I did not know what to expect. All I knew for certain was that we would be working with urban design students, we were on a field visit to Colombia at the end of February, and that I would get to explore how policy, public space, and justice intersected.

All of these things happened. However, none of them came together the way I expected. The urban design studio moves at a rapid pace and uses a lexicon I was unfamiliar with before the course began; the whirlwind field visit ended with pulling myself up out of fresh cow manure on a hiking trip gone wrong; I still don't have any of the answers on how to develop policy in a way that honors both public space and climate justice risks.

To put it simply, this course challenged me beyond what I thought possible – even for a graduate course at Columbia in a program that's challenged me every day. There were points I genuinely had no idea how to do what I wanted for our project, let alone how to do it ethically given my positionality as a member of the global north. As a former journalist, I'm used to staring down a blank page and finding ways to fill it by pulling together different threads of research, interviews, and questions. But I'd never done it quite like this.

At the end of it all there's one thing I do know: there's no way to do any of this work well without surrounding yourself with a group of motivated, supportive colleagues. It's what got me through the tough points in my career, and it's what pulled me through this course.

I would not have gotten through this semester without my peers, especially my project partner Jaad and my other Bogotá teammates, Hailey and Georgia. The four of us navigated ambiguity in our roles as foreigners in the field, the mess created by stolen cell phone, hunts for coffee and food at odd hours, shifting priorities and timelines... and, through it all, found ways to support each other in a way that uplifted and honored each of our immediate and long-term needs. Whenever I felt lost or needed another set of eyes and ears on my work, I knew I could call any one of them and they'd be ready to lend their thoughts.

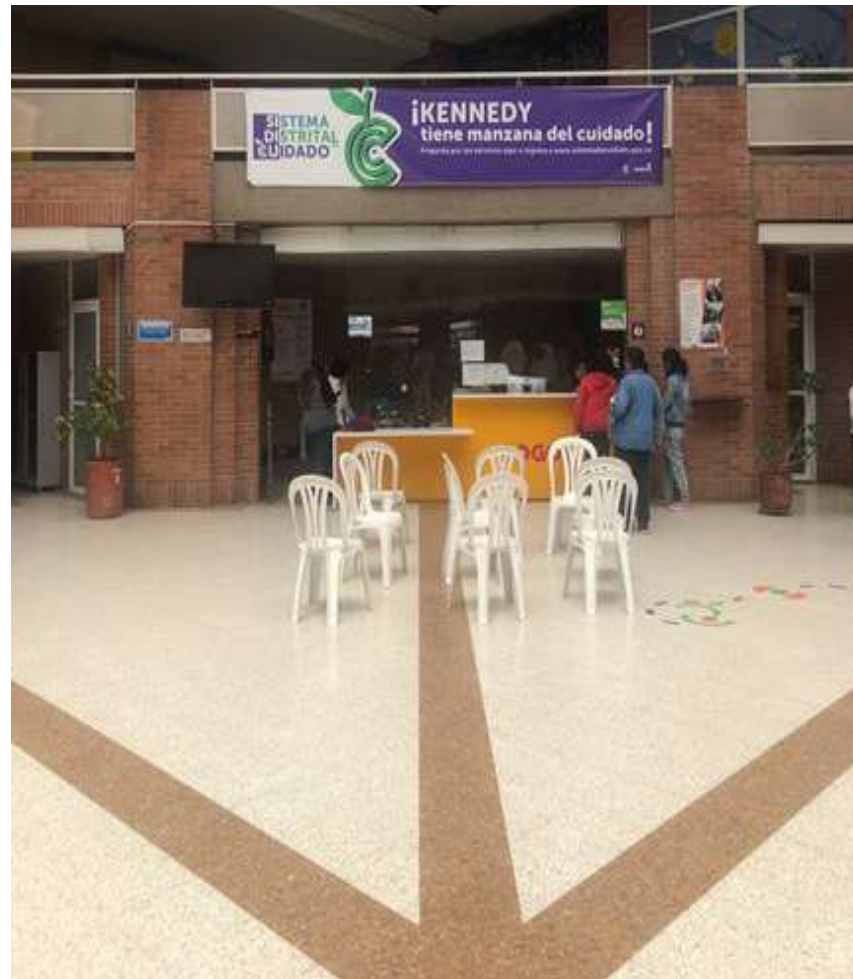
I've come out of this course with a deeper appreciation of the fact that there are no easy answers to navigating our way out of the disproportionate burdens the climate crisis has placed upon the global south. (If these answers existed, we'd have implemented them already.) Rather, we have to be ready to take a deep break, stare at a blank page, and use our collective brainpower to bring ideas together.

We won't solve this overnight. But we simply *can't* solve it without the help of each other. The course gave me the chance to work closely with four brilliant people who I know will go on to make big changes in their corner of the world. I can't wait to work with them.



COLLABORATING ACROSS DESIGN AND POLICY

Jaad Benhallam



Inside the Care Center in the Kennedy neighborhood.



A view of one of Bogotá's paramos. The paramos played an important role in how we framed the relationship between "care" and ecosystems in our final project.

This course was unlike any that I've taken before. Not only have I never collaborated with design students or even been exposed to the discipline, but I also never had such a practice-oriented and hands-on class. In most of my other courses this semester, we often had to research countries we never visited. While this is expected, since we, unfortunately, cannot go on international field trips in every class, visiting Colombia made me realize how surface-level the subsequent research can be. For example, for one of my courses, I did a research project on rice farmers in Java. I can do as much research on the island as I want, but without physically going and seeing the people, how can I truly get a sense of the place and its people?

This was what made *Imagining Climate Justice and Resilience: Colombia* so special. Our class had the privilege of traveling to Colombia, getting to see the places we had been studying and having the opportunity to speak to locals, academics, and practitioners. This provided a rich basis for us to then continue to develop our research when we returned to New York. The experience was invaluable and quite frankly, has made it difficult for me to now conduct research on places I have not been to – I've gotten spoiled!

The most inspiring portion of the trip has been learning about the Care Blocks. Seeing a government initiative that people are happy with and can be deemed a success is a truly rare thing. Visiting some Care Centers and hearing from the women who deeply rely on this system was the basis for why my colleague and I decided to continue developing this idea of "care" and ecosystems for our research project. Without this hands-on experience, we would have never reached the conclusions we did, nor would we have ever made such deep connections between how essential the natural world is in caring for our economy, governance, health, and, well-being.

FROM OBSERVATION TO CO-CREATION

Juliet Tochterman

This class was incredibly impactful. Throughout the Climate & Society program, we learned so much about “stakeholder engagement” and “co-collaboration,” but it was a completely different experience to do these things in practice. In this class, we engaged with local community members via multiple avenues to address the topic of “double displacement.” On one hand, we engaged with academics in Colombia via a series of lectures throughout the semester. These lectures felt very similar to lectures we would receive at Columbia but were powerful in that they provided context on the priorities of Colombia’s academic community.

On the other hand, the most powerful – and perhaps most challenging – moment of engagement occurred during our trip to Colombia. Our class traveled to Bogota and then a group of us, including myself, traveled to Cartagena for the second half of the week. Instead of being observers of Colombian knowledge, our role shifted to participating in its construction. We became stakeholders, as participants in the Water as Leverage Workshop held by the Dutch government. During one part of the workshop, we were labeled as members of “academia” who were meant to join discussions with members of sectors. We also presented our research topics and initial findings before the Dutch government and Colombian community members. At times, we struggled with our role, specifically in the context of Colombia’s colonial history, as we attempted to navigate between “imagining” and “suggesting” mechanisms for climate resilience.

After the trip, I felt incredibly inspired by what I saw in Colombia. I was inspired by the community leaders already building climate resilience despite the barriers imposed by corruption and extractive tourism. Community leaders like Maristella Madero are incredibly knowledgeable about issues of climate change, and even how to confront them, but are often just in need of resources to implement their visions. A key moment for me was after the trip during a video call with Maristella, the non-profit Ecovida, and a small group of students. During this call, we presented our research and then got to hear directly from Maristella and the non-profit about their feedback and what they needed. This interaction, although simple, was incredibly fruitful and felt much more authentic than hypothesizing about community needs.

The path forward from here is to continue this type of engagement, with Ecovida and other Colombian non-profits. I hope to continue correspondence with the people we met in Colombia and to continue to center community needs in any future climate work I do.



Community art in an informal settlement along the Ciénega de la Virgen.



Day two of the Water as Leverage Workshop.

FROM FRUSTRATED TO FORWARD

Karl Greenfield



Looking back so much has changed, one of the benefits and downsides of this program is its length. I will only begin to fully grasp what I learned this semester once I am out of the crazy race it has been. This class had an ambitious, undetermined goal. For that reason I do not know if we achieved what we should have. I do know it was great to learn from so many different people and it was a real introduction to how things get done in certain international development projects. I appreciated how the course changed based on new information we encountered and I really thought everyone's perspective was invaluable.

We tolerated a lot of ambiguity regarding the work we were doing and what was expected of us; it was often frustrating but we all persevered and produced interesting final projects; there is a lot of work to still be done but I know we are asking the right questions. Being there and attending New York Water Week I learned the challenges of effectively engaging stakeholders, and realized that so often this engagement is in name only- it serves as a legitimizing vehicle for other interests.

As a political scientist I was initially frustrated by the extent of what I did not know regarding enabling local conditions; following my intense year here of taking solely oceanography here at Columbia I was frustrated that I did not know more about local environmental conditions. Both were addressed during the Water as Leverage conference in Cartagena. I met marine biologists and community leaders who patiently explained everything they could in the time constraint, and in a hyperlocal manner. This reinforced my desire to work internationally on equitable development projects. It really is the best way to learn because people are so happy to teach you. This course blended my background in political science with my current interest in oceanography and resulted in me finding a calling in the coastal blue carbon sector. I am endlessly grateful for this.

REFLECTIONS ON FOURTH PURPOSE RECOMMENDATIONS TO THE CLIMATE SCHOOL

Students in *Imagining Climate Justice and Resilience - Colombia* (Sp '23), ended their semester an introspective inquiry of ourselves and our institution. By inquiring into our complex personal, social, and institutional relationships with climate justice, we considered futures of multidisciplinary, international, and multiscaler learning, partnership, and advocacy.

We hope that these recommendations support the Columbia Climate School as we collectively and urgently extend the classroom in service of the climate crisis.



CLIMATE SCHOOL PRINCIPLES PRACTICES

SUPPORT RESEARCH, PLANNING, IMPLEMENTATION

- Supporting planning and execution of a coastal blue economy in Cartagena through knowledge sharing and capacity-building
- Integrate the role as students to develop, in close collaboration with partnering organizations and stakeholders on the ground, a forecasting and geospatial data program to generate climate services tailored to local organizations' needs

ENABLE LONGER TERM PARTNERSHIPS AND RELATIONSHIPS

- Longer partnership through potential internships or capstone projects to ensure continuity of projects led by local organizations such as Ecovida and Fundación Grupo Social
- Maintain long-term partnerships with on-the-ground NGOs and community groups within Colombia/Cartagena
- Continue to expand upon this work in the next iteration of this class,, potentially offering more detail on how agencies can scale and support this work.
- Create a pipeline for both the students and local stakeholders involved to keep these conversations going is key.

ACTION-CENTERED COURSEWORK AND PEDAGOGY

- Courses like Imagining Climate Resilience & Justice
- Support pedagogy that builds year after year to ensure that these important projects are not forgotten.
- Offer an extension of Water Urbanism Studio in Colombia, multi-year engagements, or bi-laterally, where Colombian students conduct a similar course here, where our own water projects could benefit and compensate from Colombian expertise. It is also an opportunity to decolonize pedagogy and curriculum.

SUPPORT NETWORKS AND LEARNING ON BOTH ENDS

- Build the capacity on both ends to offer internships, capstones, or other opportunities where students can continue to collaborate with the organizations under study will have long lasting impacts.
- Make linkages to internships/jobs through Columbia World Projects or the Climate School that focus on monitoring and evaluation partnerships, projects, and climate services
- Offer networking and collaboration opportunities for these groups by connecting them with participating stakeholders/actors within Columbia's network

CLIMATE SCHOOL INITIATIVES ACTIONS

LAUNCH A “REGENERATIVE FUTURES INITIATIVE”

Launch a “Regenerative Futures Initiative” to transform research into climate action toward collective liberation with a praxis that emphasizes human rights and climate justice

- Elevate the voices, visions, demands, and dreams of frontline communities through responsible and non-extractive storytelling that enables communities to speak for themselves and engage in radical imagination
- Uplift transformative climate solutions across all scales (small and large) that have been advanced by frontline communities themselves
- Build relationships with communities through mutual trust, accountability, engagement, site visits, and continuity with sustained long-term commitment
- Equip communities with the intellectual capital, facilities, climatological data, science and policy research, legal support, media capacity, technology, scientific literacy, and other resources necessary to organize themselves
- Develop bold theories of change for climate action among various focus areas (i.e. mobility and migration, energy democracy, ecocide, decolonization, food sovereignty, labor, etc)
- Measure social impact by raising public awareness through strategic communications and media campaigns
- Invest in long-term partnerships and outcome driven programs

LAUNCH A CENTER FOR CLIMATE JUSTICE

Develop a Center for Climate Justice within the Climate School to leverage the university’s intellectual capital for measurable social impact and community engagement (across local, national, regional, and international scales)

INTEGRATE CENTERS ACROSS EXISTING HUBS

Integrate Centers doing applied research into a hub for university outreach efforts in order to eliminate redundancies and silos — including Columbia World Projects, Earth Institute, Sabin Center, Human Rights Institute, Center for Resilient Cities and Landscapes, and Center for Contemporary Critical Thought

PUBLICLY COMMIT TO THE JEMEZ PRINCIPLES OF ENVIRONMENTAL JUSTICE

- Not a think-tank, but a do-tank — in alignment with Columbia University’s fourth purpose
- Ensure that frontline communities have access to research facilities and resources that they have been historically excluded from
- Pro bono, no strings attached, to respond to the needs identified by a community — rather than a project commissioned by an external third-party state or corporate investor
- Intra-university partners (within Columbia)
- Inter-university partners (among other universities)
- Frontline community organizations
- International and domestic climate justice coalitions
- Network of citywide climate action initiatives
- Cultural institutions and research partners
- Explore the role of Columbia’s colonial legacy and repatriate any material elements of culture in the university’s possession back to communities through intentional initiatives and public workshops

