

Empowering Urban Sustainability through Commoning: Strategies for Socio-Ecological Stewardship and Environmental Justice

Co-Learning for Action: Nurturing Environmental Justice in Bogotá

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Key messages

- Urban planning must incorporate biodiversity, and local ecological concepts such as *ecobarrio* and *territorio*, while ensuring ecological functions are preserved. Policies should balance human activities with ecological health, integrating local definitions, and promoting conscious co-existence and resilience.
- Urban development must involve inhabitants in policy design, implementation, and evaluation processes, incorporating their perspectives to advance environmental democracy and ensure inclusive decision-making through participatory and inclusive co-production approaches.
- Implement commoning practices such as Community Land Trusts (CLTs) to secure co-management of long-term equitable land access and ownership. Self-sustainable communal model of urban living should be adopted to foster community ownership and collective responsibility as stewards of their *territorio*.

Introduction

Colombia, a “megadiverse” nation, harbours nearly 10% of the Earth’s biodiversity (Convention on Biological Diversity, n.d.). However, Bogotá’s wetlands have significantly reduced from 50,000 hectares in 1950 to just 800 hectares today due to urbanisation (Ramirez et al., 2013; Van Der Hammen et al., 2008). To combat ecological degradation, social organisations like *Somos Uno* have organised participatory initiatives focused on advocating for the right to the city, the right of nature, and alternatives to mainstream development. This policy brief addresses the internal dynamics within the practices captured under the notion of *ecobarrio*, the tensions between conservation and development, and efforts to restore ancestral practices identified during our fieldwork in *ecobarrio* Ciudadela Colsubsidio and El Cortijo, Bogotá. The *ecobarrio* concept aims to strengthen these social processes and establish common goals for collaborative action and funding. It also serves as a model for preserving biodiversity, while fostering community cohesion and empowerment, countering the detrimental impacts of infrastructure projects on local ecosystems. The recommendations in this policy brief are based on participatory science, amalgamating many practices along with scientific research (Deja et al., 2023) that address ideas of equity and inclusion (Pandya, 2012). Our policy recommendations aim to uphold the three pillars of environmental justice: recognising biodiversity and the rights of nature to ensure harmonious co-existence of all living beings, supporting community-driven initiatives and inclusive co-production, and empowering collective stewardship through commoning practices and equitable co-management via CLTs. The concept of commoning, as discussed by Radywyl and Biggs (2013), involves community members collectively managing and stewarding shared resources, which enhances social cohesion, local governance, and environmental sustainability. Similarly, Mishori (2014) emphasises the importance of public ownership and the collective management of resources, which are crucial for long-term preservation and intergenerational justice. This strategy incorporates intersectionality and promotes ecological sustainability, social equity, and sovereignty of the *territorio*.

Glossary

This glossary is interpreted from the insights of community members of ecobarrio Ciudadela Colsubsidio and El Cortijo. These definitions may differ from the official definitions or other stakeholders not associated with the ecobarrio.

Territorio: Territorio extends beyond physical land, encompassing social, cultural, and ecological connections that shape community identity and human-nature interdependence.

Ecobarrio: In Ciudadela Colsubsidio and El Cortijo, the ecobarrio concept integrates wetlands, parks, neighbourhoods, community and private gardens, and individuals into a harmonious ecosystem. The ecobarrio serves as sanctuaries and peaceful alternatives to conventional urban development, embodying communities that cultivate strong bonds with nature and each other. They are vibrant spaces where communal efforts revitalise public areas, promoting both nature conservation and community cohesion.

The definitions of the following terms are derived from their official descriptions.

Main Ecological Structure (MES): The Main Ecological Structure (or Principal Ecological Structure as the communities address it) serves as a territorial planning and management tool recognising the interdependence between social processes and ecosystem services. The Plan de Ordenamiento Territorial (POT) involves activities aimed at greening the city by conserving intact ecosystems, enhancing ecological connectivity, and restoring green areas with extensive participation from various stakeholders (Concejo de Bogotá D.C., 2021).

Environmental justice: Ensures fair treatment for all in environmental decisions, recognises local and indigenous knowledge, promotes equitable access, and encourages inclusive participation (United States Environmental Protection Agency, 2018).

Community Land Trusts (CLTs): CLTs are nonprofit, community-based organisations designed to ensure community stewardship of land. They provide long-term equitable land access and ownership, preventing land commodification, and ensuring it remains dedicated to community use. CLTs support sustainable urban living by fostering community ownership and collective responsibility as stewards of the territorio, promoting social equity and ecological sustainability (Aernouts & Ryckewaert, 2018).

1. Overview

To enhance the social processes in the *ecobarrio*, our fieldwork focused on empowerment and socio-ecological integration. This objective was collaboratively constructed through dialogue with community members. The following problem diagnosis is derived from the research and from an environmental justice perspective.

1.1. Context

Historically, Bogotá was predominantly covered by wetlands, providing crucial ecological services such as flood control, water purification, and wildlife habitats (Fundación Colectivo Somos Uno, 2021a). However, large infrastructure and housing projects have led to significant reduction and fragmentation of these wetlands (Sandoval Rincón, 2013). The image in the cover depicts the current condition of the Tibabuyes wetlands in Bogotá, where the urban structures in the background accentuate the pressure of urbanisation on this formerly vast wetland area.

Although the government has recognised the ecological importance of wetlands and initiated measures like the review and updating of Bogotá's *Plan de Ordenamiento Territorial* (POT) and the establishment of *ecobarrios* to integrate sustainable practices, these efforts have often been insufficient in practice (Concejo de Bogotá D.C., 2021; Alcaldía De Bogotá D.C., 2022). The first *ecobarrio* programme in Bogotá was implemented from 2001 to 2003, however, it is important to note that *ecobarrios* initiatives are not solely government-driven; community proposals in informal settlements, such as those in San Cristobal since 2006, have been crucial.

Environmental injustices persist, particularly in neighbourhoods like Ciudadela Colsubsidio and El Cortijo, where wetland degradation continues despite these initiatives.

1.2. Community Resistance

The social processes in Ciudadela Colsubsidio and El Cortijo arose in 2014 as a community response to

environmental threats and expanded after the deforestation of the Tibaguya Wetland for the PTAR Salitre wastewater treatment plant in 2015. The government's reclassification of the wetland to circumvent legal protections prompted community backlash, leading to processes to reforest and reclaim the *territorio*. The development of Parque Juan Amarillo further threatened the socio-ecological integrity, resulting in prolonged community protests in 2019. Although community resistance failed to stop the development, it strengthened community bonds and heightened awareness about wetland conservation.

Ongoing conflicts include opposition to the construction of the Environmental Corridor over the Tibabuyes Wetland. Despite its intent to connect green areas across the city, residents argue that it disrupts natural habitats and exemplifies ongoing environmental injustices, where government's top-down approach neglects community concerns. (Fundación Colectivo Somos Uno, 2021b). As illustrated in Image 4, the inscription

'*delito ecológico*' (ecological crime) on the pillar vividly expresses the local community's opposition to the construction of the environmental corridor. Similarly, Image 5 features the phrase '*Somos la raíz que rompe el cemento*' which translates as '*We are the roots that break the cement.*' This slogan and the peace symbol on the column emphasise the community's determination to break through barriers to advance profound environmental conservation.

1.3. Internal Dynamics

The circular design of the neighbourhoods simulates a living ecosystem, reflecting modernist principles that emphasise high-density, low-rise housing. This design prioritises green spaces and reduced car access to foster social interaction and community integration, aligning with the garden city concept for sustainable urban living (Télez Vera, 2009).

Despite these initial ideals, today internal tensions persist. Collectives like *Somos Uno* aim to promote environmental sustainability and social cohesion, but political differences and insufficient institutional support tend to hinder these efforts. Divergent views on the development of green public spaces complicate the community's ability to unify around *ecobarrio* initiatives. Residents feel

marginalised in decision-making processes concerning the legalisation of community gardens, with their concerns about the restoration of indigenous practices and connection with nature often ignored.

The experiences of this *ecobarrio* highlight the importance of respecting inhabitants' diverse needs and aspirations of *territorio* and *ecobarrio*. Community engagement and institutional support are essential for advancing environmental justice and sustainable development.

2. Research Approach

Our research focused on empowerment and socio-ecological integration, aiming to review the existing *ecobarrio* concept and establish common objectives among the diverse collectives and individuals involved. The fieldwork employed an ethnographic perspective, utilising the following methods:

2.1. Direct Social Observation

This involved observation of behaviours and interactions of community members in the *ecobarrio* to identify key actors, practices, locations, and community dynamics.

2.2. Participant Observation

This consisted in engaging in regular community activities, such as meetings and local celebrations, to interact with inhabitants through dialogues, gaining insights into the social processes within the *ecobarrio*.

2.3. In-depth interviews

8 interviews were conducted with community members to understand their perspectives and aspirations regarding their *ecobarrio* and *territorio*.

2.4. Circle of Words

Facilitated dialogue with 14 community members in a community garden (as shown in Image 1) which helped collaboratively develop revitalisation and empowerment strategies for social processes, fostering a collective understanding of *ecobarrio* definitions and establishing common goals for the trajectories of the *territorio* and *ecobarrio*. This routine is part of the collectives' effort to revive indigenous practices.

2.5. Transect Walk/ Territorio Tour

Documented the history, indigenous knowledge, and current practices within the *ecobarrio* and the nearby MES, encompassing biodiversity, human-nature connections, and current ecological challenges.

3. Strategy

Our policy recommendations, based on a strategy of Empowering Urban Sustainability through Commoning: Strategies for Socio-Ecological Stewardship and Environmental Justice, are derived from our research findings and designed to uphold three fundamental pillars of environmental justice: recognising biodiversity and the rights of nature, to ensure harmonious co-existence within ecosystems; supporting community-



Image 01

Visit to *Huerta* (community garden) Tochuá, Bogotá 2024, Photo Credit: Kexin Zhang

driven initiatives and enabling the co-production of urban planning policies through inclusive community participation; and empowering co-management and collective stewardship by fostering commoning practices, as illustrated in Image 02. The concept of “commoning”, where community members collectively manage and steward shared resources, has been practised in various urban contexts, especially in *ecobarrio* Ciudadela Colsubsidio and El Cortijo. In the *ecobarrio*, the process of reclaiming urban spaces for community use has demonstrated the potential of commoning to enhance social cohesion, local governance, and environmental sustainability (Radywyl and Biggs, 2013).

Co-producing participatory methods leads to more ethical, equitable, and transparent partnerships, ensuring the empowerment of communities. The resulting approach is instrumental in the co-creation of Community Land Trusts (CLTs) and commoning initiatives for the co-management of land through collective stewardship. By allowing community members to co-manage their *territorio* equitably through CLTs, these commoning practices promote ecological sustainability, social equity, and the sovereignty of the *territorio*, ultimately cultivating a sustainable urban ecosystem. This approach aligns with the values embodied in the Rights of Nature (RoN), advocating for the inherent rights of natural entities to exist, thrive, and regenerate, thus

ensuring a balance between human activities and ecological health (Boyd, 2017). The successful implementation of community-led initiatives in the *ecobarrio* underscores the importance of integrating local knowledge and inclusive participation in urban planning to create more resilient and sustainable urban environments. Additionally, these practices reflect a broader trend towards recognising public ownership and collective rights over shared resources, emphasising the need for long-term preservation and intergenerational justice (Mishori, 2014). Integrating the commons discourse with human rights principles can strengthen claims of public ownership and sustainability, highlighting the significance of resisting enclosure and reclaiming public rights. This paradigm shift is crucial for achieving sustainability, social justice, and preserving resources for future generations at a city level.

Image 02
Reclaiming Territorio: Socio-Ecological Stewardship in Urban Planning.



3.1. Co-exist: Biodiversity in Urban Planning

3.1.1. Findings

The construction of the environmental corridor in Tibabuyes Wetland exemplifies the tension between economic interests and environmental preservation. This project, which involves massive construction and high-impact materials, has been perceived as greenwashing and contradicts genuine environmental preservation. Such top-down approaches and political decisions have marginalised local knowledge, negatively impacting nature and surrounding communities. *Somos Uno*, as a social organisation, emphasises that the development system is characterised by a disconnection between humans, nature, and other living beings, which leads to the current ecological and social crises. Such perspective underscores the need for an ecological ethic that respects the interconnectedness of social and natural systems and addresses inequities in environmental impacts and resource distribution. Therefore, they value learning from Mother Nature’s adaptability and resilience in fostering a deeper environmental consciousness. They promote the

implementation of alternatives to the development paradigm, such as *ecobarrios*. In the case of Ciudadela Colsubsidio and El Cortijo, and considering the *territorio*'s ancestral connection with nature, this can generate new ways of inhabiting cities. As illustrated in Image 03, community members utilise innovative recycling methods, such as using recycled plastic bottles to delineate garden boundaries and employing composting in Huerta Tochua, demonstrating the significance of local knowledge and practices in addressing environmental challenges. These community-based environmental actions not only alleviate the urban waste burden but also represent a synergy of traditional and contemporary methods of co-existing with nature.

Advocating for this holistic approach where nurturing nature and oneself are mutually inclusive, *Somos Uno* believes that healing our relationship with nature will heal the *territorio*. This aligns with the values in the RoN that recognise natural entities, such as rivers, forests, and ecosystems, as rights-bearing subjects. It advocates for the inherent rights of natural entities to exist, thrive, and regenerate, promoting a balance between human activities and ecological health (Boyd, 2017).

Urban areas rely on ecosystem services like air and water purification, climate regulation, and recreational spaces (Baptiste, 2012). Wetlands, for instance, purify water and sustain diverse life forms, yet developments often overlook their importance. Biodiversity, the variability of organisms in the ecosystems, supports these services but is threatened by human

Image 04

Environmental Corridor column describing the project as an environmental crime (*delito ecológico*), Bogotá 2024, Photo Credit: Zhuo Miao



Image 03

Visit to Huerta (community garden) Tochua, Bogotá 2024, Photo Credit: Kexin Zhang.

activities (Guhl, 2012). Effective urban planning can enhance sustainable urban health by integrating biodiversity and improving ecosystem resilience (Sánchez and Madriñán, 2012).

3.1.2. Recommendations

3.1.2.1. Recognition of Local Biodiversity Concepts

Biodiversity policies must integrate local definitions and concepts such as the main ecological structure, *territorio*, and nature, which are integral to Bogotá's social processes and conservation efforts (Maldonado & Moreno, 2012).

3.1.2.2. Inclusive Participation in Policy Design

Active resident participation is crucial in designing, implementing, and evaluating biodiversity policies. Genuine community involvement integrates diverse local perspectives and knowledge, promoting social and environmental justice (Maldonado &

Moreno, 2012). Collaboration with stakeholders is essential to address policy shortcomings and ensure all voices are heard.

3.1.2.3. Support Ecobarrios as Educational Models

Ecobarrios, with gardens, parks, and wetlands, serve as educational models for biodiversity conservation. Policies should support their development and maintenance, fostering community-based education and cohesion (Sánchez and Madriñán, 2012). Residents of Ciudadela Colsubsidio and El Cortijo highlighted their *Ecobarrio* as a living classroom for knowledge exchange with other citizens in developing practices that promote nature and biodiversity conservation.

3.1.2.4. Avoid Harmful Infrastructure Projects

Policies should avoid projects that disrupt main ecological structures, and lead to biodiversity loss. When necessary, eco-friendly techniques like bioconstruction should be used to minimise impact. Infrastructures must be properly maintained, learning from cases like Tibabuyes Wetland, where residents united against harmful development.

3.1.2.5. Allocate Resources to Social Components

Direct proportionally more biodiversity policy funds to social components, training community members in conservation practices and developing

educational activities like ecotourism to raise awareness and encourage active participation in biodiversity protection (Venail, 2012). Fieldwork revealed that residents prefer social investment over unsustainable infrastructure, which harms nature and deteriorates without maintenance.

3.1.2.6. Enhance and Enforce Protective Policies

Enhance and enforce biodiversity protection policies, including MES framework in the POT. A biodiversity action plan drawn with the participation and knowledge of the community ensures sustainable urban growth without compromising critical ecosystems (Venail, 2012).

3.2. Co-produce: Community-led Ecobarrio

3.2.1. Findings

The *Ecobarrio* initiative emerged from a robust social process initiated by the community before government recognition. Locals demonstrated their ability, knowledge, and passion for enacting change and restoring their connection with nature and *territorio*. This is exemplified through their protests to preserve wetlands and the establishment of community gardens. The inclusive nature of the collectives allows people of all ages and genders to participate, fostering a diverse and engaged community.

Given its success, the *ecobarrio* model is a promising framework for other parts of Bogotá as viable alternative for development and sustainable living, empowering similar social processes throughout the city. Community members also advocate for establishing a network of *ecobarrios* to facilitate knowledge exchange and enhance self-organisation among different communities. While the community has demonstrated its capacity for self-organisation, government support could further scale and sustain these co-production efforts, enhancing the long-term impact and sustainability of the *ecobarrio* initiatives.

3.2.2. Recommendations

3.2.2.1. Establish a Knowledge Exchange Platform

A government-supported platform should connect *ecobarrios* across Bogotá, facilitating knowledge exchange. For instance, Ciudadela Colsubsidio and El Cortijo have created catalogues of medicinal plants and local wildlife. Sharing these resources on the platform would support “citizen science” and “living classrooms” designed by residents. This platform would enable communities to share valuable information, fostering collaboration and enhancing collective knowledge and sustainability practices of *ecobarrios*.

3.2.2.2. Empower Community Members

Community members should be empowered to make decisions and improvements in their *territorio* independently. Implementing Procedural Environmental Rights (PERs) (which include the right to access information, participate in decision-making, and seek justice) promotes environmental justice and democratic governance. By enabling individuals and communities to engage in environmental governance, PERs enhance their capacity and authority, leading to better environmental outcomes and greater social sustainability (Gellers & Jeffords, 2018).

3.2.2.3. Inclusive Participation in Decision-Making

Public participation is crucial for democratic societies and effective environmental governance. It enhances civic capabilities, fosters democratic skills, and legitimises political institutions. Participation should be prioritised over administrative or scientific expertise in collective decision-making. The government should ensure that all community members' voices are considered when formulating *ecobarrio* and urban development policies. This inclusive approach empowers individuals and communities to contribute to environmental governance, leading to parity of participation (Gellers & Jeffords, 2018).

3.2.2.4. Consider Disability and Gender Inclusivity

Policies must ensure that all individuals, regardless of gender or age, have the right to equally express their opinions on policies. PERs help ensure that marginalised people can meaningfully participate in environmental decision-making processes, thereby promoting environmental justice (Gellers & Jeffords, 2018). Including the voices of people with disabilities and all genders in the decision-making process is essential to foster an inclusive and just environmental governance framework.

3.3. Co-manage: Leveraging Commoning Practices and Community Land Trusts in Urban Sustainability

3.3.1. Findings

The *ecobarrio* showcases the effectiveness of community-driven approaches in revitalising indigenous practices and promoting a communal model of urban living, crucial for ecological sustainability. Commoning involves inhabitants collaboratively managing (co-manage) and utilising shared resources, pivotal for sustainable urban development. This approach fosters community ownership and collective responsibility through democratic governance, foundational to the commoning philosophy (Foster, 2021). However, several challenges hinder the scalability and sustainability of these initiatives.

Securing consistent funding remains a substantial obstacle, impacting the ability to maintain projects and initiate new ones. These financial constraints are often exacerbated by insufficient institutional support as a stable foundation for these community-driven endeavours. Additionally, the legalisation of these communal spaces often faces bureaucratic hurdles, complicating community efforts to establish formal recognition and protection under local laws. Addressing these issues is essential for the sustainability of current projects and the potential replication of this model in other urban contexts.

3.3.2. Recommendations

3.3.2.1. Formalise CLTs

Develop and implement CLTs to secure long-term land access for community projects. CLTs can serve as legal entities that hold land collectively on behalf of the community, preventing the commodification of land and ensuring it remains dedicated to community use. These trusts include provisions that protect against speculative pressures and stabilise neighbourhoods, keeping them accessible and affordable (Aernouts & Ryckewaert, 2018).

3.3.2.2. Strengthen Legal Frameworks to Support Commoning Practices

Local and national policies should be advocated for recognising and supporting commoning as a legitimate form of urban land use. This involves amending zoning laws and planning regulations to accommodate community gardens, shared spaces, and other commoning initiatives, establishing clear guidelines for the governance of CLTs that adopt inclusive methods in decision-making processes.

3.3.2.3. Ensure Sustainable Funding and Resource Allocation

Partnerships with local government bodies and NGOs should be created to secure funding and technical support for the development and expansion of community-led projects. A funding model that leverages both public and private investments should be developed to create a sustainable financial structure, including grants, low-interest loans, and crowdfunding efforts specifically tailored for social and ecological projects (Mishra, 2015).

3.3.2.4. Community Empowerment and Capacity Building

Workshops and training sessions should be conducted to empower residents with the necessary skills to manage community projects effectively. These should cover sustainable gardening, resource management, legal aspects of land ownership, and financial literacy, fostering a participatory approach to planning and development to ensure that projects genuinely reflect the needs and values of the residents.

3.3.2.5. Integration with the Garden City Concept

Principles of the garden city movement, advocating for self-contained communities surrounded by greenbelts, combining elements of urban and rural life, should be incorporated. This model promotes green spaces that support overall ecosystem services, contributing to the ecological health of the urban environment and citizens' quality of life (Ross & Cabannes, 2014).

3.3.2.6. Monitoring, Evaluation, and Continuous Learning

Monitoring and evaluation framework should be implemented to assess the effectiveness of commoning initiatives and adjust based on empirical evidence and community feedback. Strategies should be adapted to meet evolving community needs and conditions, ensuring the initiatives remain relevant and effective.

4. Conclusion

Ecobarrio Ciudadela Colsubsidio and *El Cortijo* in Bogotá exemplifies the importance of the integration of urban planning, biodiversity conservation, and environmental justice. The research highlights community-driven initiatives' crucial role in preserving local biodiversity and promoting sustainable urban development. By incorporating biodiversity into urban planning, cities like Bogotá can enhance ecosystem resilience, promote environmental stewardship, and improve residents' quality of life. The *ecobarrio* model showcases how environmental justice can empower communities, protect habitats, and build resilient spaces. This approach fosters co-learning and co-production of knowledge, engaging citizens directly in planning, and ensuring their voices and needs shape the development agenda. Additionally, the commoning practices and the principles of public ownership provide a robust framework for empowering communities to manage their resources collectively and sustainably. Maintaining urban biodiversity contributes to inhabitants' physical and mental well-being by providing essential green spaces. As urban areas grow, integrating such concepts into broader urban policy frameworks becomes vital. This supports sustainability and social cohesion, ensuring urban development is equitable and inclusive. The insights from *ecobarrio Ciudadela Colsubsidio* and *El Cortijo* underscore the potential of community-led commoning practices to transform urban environments and promote long-term ecological and social resilience.

Image 05

Environmental Corridor amidst the Tibabuyes Wetlands, Bogotá 2024, Photo Credit: Zhuo Miao



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