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Conceiving intelligent territories from the experience of Asopasquillita: environmental education and agroecology

Concibiendo territorios inteligentes desde la experiencia de Asopasquillita: educación ambiental y agroecología

Concebendo territórios inteligentes a partir da experiência da Asopasquillita: educação ambiental e agroecologia

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Abstract

Introduction: The environmental crisis, socio-environmental conflicts, and territorial injustices present the challenge of building sustainable cities and communities (Sustainable Development Goal 11). Recognizing and strengthening collective peasant action experiences is key to advancing toward smart, sustainable, and just territories. **Objective:** This article analyzes the organizational, pedagogical-environmental, and agroecological capacities of Asopasquillita, to propose strategies to strengthen its territory against urban pressures. **Methodology:** The research adopts the theory of transformation applied to possible territories and the Territorii Method, exploring "real," "lived," and "possible" territorialities within a participatory approach. Techniques such as document review, social mapping, and participatory rural diagnostics were used to identify socio-environmental challenges and opportunities for sustainable development. **Results:** The results show that urban expansion and pressure on natural resources create conflicts that affect the sustainability of the territory. The community perceives the city as a threat, which has motivated Asopasquillita to implement agroecological practices and environmental education to defend its territory. **Conclusions:** The "territorial intelligence" approach proves effective by integrating local and academic knowledge in building sustainable solutions to current socio-environmental crises.

Keywords: peasants, sustainable development, ecological economics, environmental education, community participation.

JEL: I2; Q01**;** Q5; Q34; Q56.

Resumen

Introducción: La crisis ambiental, los conflictos socioambientales y las injusticias territoriales, plantean el reto de construir ciudades y comunidades sostenibles (Objetivo de Desarrollo Sostenible 11). Reconocer y fortalecer las experiencias de acción colectiva campesina es clave para avanzar hacia territorios inteligentes, sustentables y justos. **Objetivo**: Este artículo analiza las capacidades organizativas, pedagógico-ambientales y agroecológicas de Asopasquillita, con el fin de proponer estrategias que fortalezcan su territorio ante las presiones urbanas. **Metodología**: La investigación adopta la teoría de la transformación aplicada a territorios

posibles y el Método Territorii, explorando las territorialidades "reales", "vividas" y "posibles" en un enfoque participativo. Se emplearon técnicas como la revisión documental, la cartografía social y los diagnósticos rurales participativos para identificar desafíos socioambientales y oportunidades de desarrollo sustentable. **Resultados:** Los resultados evidencian que la expansión urbana y la presión sobre los recursos naturales, generan conflictos que afectan la sostenibilidad del territorio. La comunidad percibe a la ciudad como una amenaza, lo que ha motivado a Asopasquillita a implementar prácticas agroecológicas y de educación ambiental para defender su territorio. **Conclusiones:** El enfoque de "inteligencia territorial" demuestra ser eficaz al integrar conocimientos locales y académicos en la construcción de soluciones sustentables frente a las crisis socioambientales actuales**.**

Palabras clave: campesinos; desarrollo sostenible; economía ecológica; educación ambiental; participación comunitaria.

JEL: I2; Q01**;** Q5; Q34; Q56.

Resumo

Introdução: A crise ambiental, os conflitos socioambientais e as injustiças territoriais colocam o desafio da construção de cidades e comunidades sustentáveis (Objetivo de Desenvolvimento Sustentável 11). Reconhecer e fortalecer as experiências de ação coletiva camponesa é fundamental para avançarmos em direção a territórios inteligentes, sustentáveis e justos. **Objetivo**: Este artigo analisa as capacidades organizacionais, pedagógico-ambientais e agroecológicas de Asopasquillita, a fim de propor estratégias que fortaleçam seu território diante das pressões urbanas. **Metodologia**: A pesquisa adota a teoria da transformação aplicada aos territórios possíveis e o Método Territorii, explorando territorialidades “reais”, “vividas” e “possíveis” numa abordagem participativa. Técnicas como revisão documental, cartografia social e diagnósticos rurais participativos foram utilizadas para identificar desafios socioambientais e oportunidades para o desenvolvimento sustentável. **Resultados**: Os resultados mostram que a expansão urbana e a pressão sobre os recursos naturais geram conflitos que afetam a sustentabilidade do território. A comunidade percebe a cidade como uma ameaça, o que motivou Asopasquillita a implementar práticas agroecológicas e de educação ambiental para defender seu território. **Conclusões**: A abordagem de “inteligência territorial” mostra-se eficaz na integração do

conhecimento local e acadêmico na construção de soluções sustentáveis para as atuais crises socioambientais.

Palavras-chave: camponeses; desenvolvimento sustentável; economia ecológica; educação ambiental; participação comunitaria.

JEL: I2; Q01**;** Q5; Q34; Q56.

Introduction

Rural Bogotá faces various territorial conflicts, including inadequate biodiversity protection, sustainable management of natural ecosystems, and disputes over land use and food sovereignty. In the Pasquillita village, one of the rural areas of Ciudad Bolívar, these problems are exacerbated by the urban expansion of Bogotá, quarry exploitation, pollution from the landfill, and intensive agro-industrial practices. These dynamics have caused noise, atmospheric, soil pollution, and damage to water sources, compromising the biodiversity of the páramo and subpáramo (Alcaldía Mayor de Bogotá, 2004; Localidad Ciudad Bolívar, 2019; Martin and Castañeda, 2021; Molano, 2019).

The Pasquillita village is surrounded by environmental units of the region's Estructura Ecológica Principal [Main Ecological Structure] (EEP), which includes the areas: Sierra Morena, Santa Bárbara, Los Andes, Parque Arborizadora Alta, Pasquilla Encenillales, Mochuelo Encenillales, Pantanos Colgantes, Las Mercedes Páramo, Alto Chisacá Páramo, Puente Piedra Páramo, Las Mercedes Páramo, Paso Colorado Basin, Eastern Forest Reserve of Bogotá, Sumapaz Páramo National Natural Park, and the Tunjuelito River Belt (Alcaldía Local de Ciudad Bolívar, 2018).

In this context, the community in the village has seen the city as a "devouring monster" (Orozco, 2004, p. 14), and this situation motivated the creation of a community-based organizational process on September 30, 2002, associated with environmental education and agroecological practices, called the Asociación de Campesinos para el Desarrollo Sostenible de la Vereda de Pasquillita [Peasants' Association for Sustainable Development of the Pasquillita Village] (Asopasquillita).

The village lies in a key buffer zone to protect the Sumapaz Páramo ecosystem, the largest in the world, making the conservation of critical points such as the Cascavita hill and the connectivity of Andean and páramo forests essential (Mayor's Office of Bogotá, 2021). Asopasquillita's commitment is rooted in peasant tradition and agroecological practices, promoting a harmonious integration between humans and their natural environment with two emblematic processes: the Polidoro Environmental Classroom and La Granja.

To support this development vision, the concept of "territorial justice," inspired by Milton Santos' critical theory of space, defines five interconnected dimensions: cognitive, social, environmental, economic, and political. This vision is complemented by the Territorial Intelligence approach developed by Girardot (2009) and the International Network of Territorial Intelligence, which proposes a multidimensional perspective for the sustainable and just development of territories. Intelligent territories, as an analytical concept, invite overcoming economistic approaches and promoting transformation processes that respond to the realities and aspirations of local actors. In this context, the territory is seen as a constant social-natural construction and co-construction (Bozzano, 2018a; Bozzano and Canevari, 2022).

Within this construction, agroecology is a central strategy. According to Altieri (2009), agroecology enables the development of agroecosystems that enhance soil fertility and biodiversity without relying on chemical inputs. This discipline also promotes food sovereignty and strengthens the innovation and adaptation capacity of rural communities, viewing peasants as historical, social, and political subjects. Agroecological educational processes, in this sense, aim to form a collective political subject that mobilizes awareness about inequalities and environmental issues, promoting an alternative learning model to the conventional education system (Rosset et al., 2019).

At the same time, environmental education needs to overcome the Westernized and technocratic view of nature, focusing on a "biocivilization" that promotes respectful coexistence between humans and the environment. This perspective fosters a "dialogue of knowledge" that recovers ancestral practices and knowledge and connects education to local contexts, understanding the environmental crisis as a crisis of modern thought and its values (Boff, 2017; Eschenhagen, 2021; Guevara and Eschenhagen, 2017). Thus, the concept of "environmental question," proposed by Leff (2008), advocates for a profound revision of the ontology and

epistemology with which Western civilization has understood and exploited nature, promoting a shift toward human interactions that recognize interdependence with natural processes.

This theoretical framework, based on social and ecological transformation, allows interpreting and enhancing Asopasquillita's role in building a resilient and sustainable territory, in which the community stands as a guardian of the ecosystem and promoter of practices ensuring territorial justice and sustainability. This vision is part of an emerging research field that articulates critical development studies and social theories of geography, generating knowledge from community praxis and a dialogue of knowledge with the academic and environmental spheres (Escobar, 2016; Murcia et al., 2021; Ouviña, 2015).

Methodology

This project is inspired by the Theory of Transformation regarding Possible Territories, which underpins the work carried out by the Universidad Nacional de La Plata (UNLP) and the Consejo Nacional de Investigaciones Científicas y Técnicas [National Scientific and Technical Research Council] (CONICET Argentina) with the Latin American Scientific Network of "Territorios Posibles, Praxis y Transformación" [Possible Territories, Praxis, and Transformation], called "Integrated Territory Management." It starts by considering that: Theoretical knowledge and systematized empirical observations are basic materials for constructing methodological pathways that contribute to solving both scientific research and concrete intervention projects (political, social, territorial, or others) on which the work will focus (Bozzano, 2018b).

Thus, the Territorii method is used as the foundation for generating the intervention and reflection strategy. This method proposes embarking on processes of theoretical and practical construction by articulating processes, places, and actors, where the theoretical-practical construction is innovative in that it suggests a dialogue with greater horizontality between science and common sense (Bozzano, 2018b).

The Territorii method is based on Territorial Intelligence, which advocates for the sustainability of territories through community processes and an interdisciplinary and multidisciplinary theoretical articulation. From a participatory dimension, the goal is to address

central issues related to the needs, desires, and commitments of the territories. In this way, it seeks to expand the comprehensive dimension of the involved perspectives to take common problems and propose possible solutions (Murcia et al., 2021).

Although the Territorii method outlines a series of techniques for coupling the characterization of territories, created through the convergence of different perspectives, it was assumed that navigating within the general framework of this method's proposal would be possible. Consequently, documentary review was used to determine the vulnerability of the ecosystems in the Pasquillita village and the risks to the quality of life of its inhabitants, due to interventions in the territory, in a description of the "real territory." On the other hand, the memories, perceptions, and feelings of the territory's people were reconstructed through social mapping exercises and collaborative meetings, qualitative strategies that integrate community knowledge horizontally to understand the contingent and dynamic nature of the relationships and positions of social actors in the territory. Based on these two elements, participatory rural diagnostic workshops were organized, through which the transition was made from the "thought territory" to the "dreamed territory" of Asopasquillita.

From this perspective, the construction of sustainable territories requires a dialogical and transformative approach, where scientific knowledge interacts horizontally with local knowledge, integrating the perspectives of actors who inhabit and signify the place. To this end, the Territorii method allows for the theoretical and practical construction of these ever-evolving territories, understanding the territory as a co-creation of nature and society.

This method, applied in the Pasquillita village, facilitates the analysis and construction of territories through three conceptual dimensions: real, lived, and possible territories. Each of these dimensions represents a particular aspect of the territorial experience and projection:

1. **Real Territory:** Refers to the objective dimension of the territory, that is, the observable material, geographic, and environmental characteristics in the space. For this study, the vulnerable ecosystems of the Pasquillita village and the risks impacting the quality of life of its inhabitants were analyzed. Documentary review and field studies were used to characterize the current state of the territory, exploring aspects such as land use, biodiversity, and local infrastructure.

2. **Lived Territory:** This dimension includes the perceptions, memories, and experiences of the inhabitants, capturing how people experience and feel the territory. To collect this data, social mapping exercises and participatory workshops were implemented, where community members shared their stories, concerns, and expectations regarding their territory. These exercises helped understand the community's daily dynamics and how its inhabitants relate to nature.

3. **Possible Territory:** This final aspect refers to the future projection of the territory, where a sustainable territory is envisioned. For this purpose, the method included participatory diagnostic sessions, which allowed the transition from the "thought territory" to the "dreamed territory." In this dimension, the environmental and social priorities of the community were identified to build a shared vision of an intelligent territory, driven by agroecological and educational practices.

Results

Real Territory

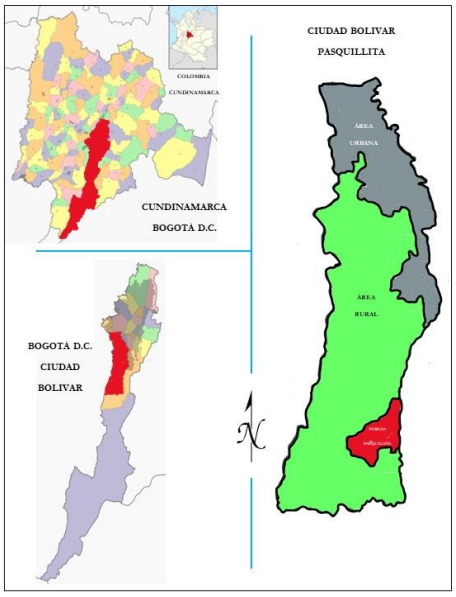
In the late 1940s, a migration flow toward the Pasquillita territory took shape, comprised of migrants fleeing the violence that had spread across the country, particularly impacting the rural population in the departments of Tolima, Boyacá, and Cundinamarca. This rural population gathered as a human nucleus seeking stability and collective protection, established a joint way of life in Pasquillita, mediated by organizational and economic, cultural, environmental, and political relations, with habits and interests that characterize their history as a society (Luna, 2019). They also defined their geographic space, which, to the north and west, borders the Pasquilla rural area; to the east, it borders the Usme locality, separated by the Tunjuelito River; and to the south, it is bordered by the rural areas of Santa Rosa, Santa Bárbara, and Las Mercedes. Figure 1 shows the geographic territorial boundaries of Pasquillita, which, following the definition of territory, its human and environmental conditions, are not strictly limited to the geographic aspect. Typically, multiple relationships are established—whether interactive, dependent, or leadership-based—that transcend the boundaries of political-administrative order. The environment and humans cannot be seen as separate, isolated elements in space, as humans are part of the natural ecosystem as a whole. Thus, there exists a symbiosis in which both positive and negative interactions occur, where

humans affect and are affected by the reciprocal relationships they maintain with the environment. Therefore, the territory of Pasquillita and its landscape, within the context of a geographic space, is the result of a complex construction of two-way relationships between humans and their natural surroundings (Rodríguez & Quintanilla, 2019; Vidal, 2021).

The condition of the natural environments in the area generally reflects the dynamics of social processes, which, in turn, are influenced by political (organizational) and economic (transactional) relationships, under which the human construct of the territory is made (Cruz, 2014). From a political ecology perspective, the emphasis is placed on how political and economic rationalities influence the construction of territories. It is proposed that territories are emerging configurations resulting from the interactions between society and nature, and that natural spaces reflect the socioeconomic and cultural processes that shape them (Leff, 2014). Technically, Pasquillita is located in the Unidad de Planeación Rural [Rural Planning Unit] (UPR) of Tunjuelito and, as such, offers a rural landscape primarily supported by agricultural production. This has led to an undervaluation of the pristine natural resource, not only in its constitutive elements but also in its relationship with the inhabitants of the rural area. In this sense, it is important to remember that the landscape today is linked to the economy, as it can contribute to the territory as a natural heritage unit (Correa, 2022). Thus, from the economic intersection of supply and demand for natural goods, it is necessary to recognize today the different ways in which humans can approach the benefits derived from the supply of natural goods or ecosystem services. These include rationalized processes that are potentially ecologically sustainable in the long term, adaptation processes that incorporate conservation and restoration of the natural environment, or highly extractive or exploitative processes with negative effects and implications for the overall health of the ecosystem, including humans.

Figure 1

Territorial location of Pasquillita



Source: Prepared by the authors using information from the Cartografía del Territorio [Cartography of the Territory] CAR (2023), and the Agustin Codazzi Geographic Institute (2023).

Risks do not necessarily need to be as complex as a volcanic eruption to be considered severe; even the simple act of discarding rubble or abandoning animals creates risks with high impacts on both the environment and human life. It is important to remember that effects are evaluated in terms of severity and magnitude; therefore, a negative event for nature or people does not always have to be on a large scale to significantly impact the environment. In terms of territory, when risks transcend and become a natural impact, they leave marks on the local environment. In other words, in addition to the impact and degradation caused, it results in the loss of the rural landscape, with the aesthetic and productive implications it entails. This aims to draw attention to the variety of negative effects of a risk that turns into a real impact, as shown in Table 1.

Table 1

Description and risk weighting

Risk	Probability (a%)	Impact (b%)	Importance (a)x(b)
Natural Risks: Internal Geodynamics			
Earthquakes	0.2	0.3	0.06
Landslides	0.3	0.3	0.09
Natural Risks: External Geodynamics			
Snow/Ice	0.2	0.1	0.02
Rain	1	0.4	0.4
Flooding	0.2	0.2	0.04
Winds	0.2	0.2	0.04
Temperature	0.1	0.3	0.3
Fires	0.5	0.4	0.2
Droughts	0.8	0.7	0.5
Desertification	0.3	0.5	0.1
Anthropogenic Risks: Chemical			
Explosions	0.1	0.2	0.02
Intoxications	0.2	0.3	0.06
Pollution	0.7	0.7	0.4
Anthropogenic Risks: Physical			
Vibrations	0.1	0.2	0.02
Noise	1	0.2	0.02
Gases	0.4	0.3	0.1
Odors	0.8	0.4	0.3
Grassing	1.0	0.7	0.7
Hazardous Waste (HAZWAS)	0.7	0.4	0.2
Hazardous Materials (HAZMAT)	0.7	0.4	0.2
Anthropogenic Risks: Technological			
Infrastructure	0.8	0.5	0.4

Mechanization	0.5	0.5	0.2
Construction and Demolition Waste (CDW)	0.7	0.4	0.2
Biological Risks			
Pests	0.2	0.4	0.08
Epidemics	0.4	0.5	0.2
Pollution	0.7	0.7	0.4
Crowds	0.2	0.3	0.06
Loose Domestic Animals	0.5	0.5	0.09

Note 1: Only risks feasible in the territory were considered.

Note 2: The adopted vulnerability parameter is that of collective risks.

Source: Prepared by the author with information from the Instituto Distrital de Gestión de Riesgos y Cambio Climático [Institute for Risk Management and Climate Change] (IDIGER, 2019; 2023), Localidad Ciudad Bolívar (2019), Rausand and Haugen (2020), and Saavedra et al. (2015).

The criteria for identifying risks are based on the events that are feasible in the territory, considering its characteristics and local actors. Natural risks can arise from internal geodynamics, such as earthquakes or tremors, which are possible because Colombia is located on the Pacific volcanic belt and is crossed by various major and secondary geological faults. Landslides occur not only due to erosion from water infiltration during the winter periods but also due to gravity-driven erosion linked to denudation processes. For risks from external geodynamics, factors like snow or ice are considered. This is because, recently, two significant and unpredictable snowfalls occurred in the neighboring Sumapaz locality—one in June 2022 and the other in January 2023. This phenomenon had not been observed in the region for the previous 60 years (Cifuentes, 2023).

Anthropogenic chemical risks are associated with explosions, intoxications from agricultural products or other chemicals, and water, air, and soil pollution. These risks are linked to the proximity of quarries and the Doña Juana sanitary landfill (Molano, 2019). From a physical risk perspective, particularly in the built areas, vibrations and environmental noise are more acute, with levels of less than 35 dB in the locality. Additionally, odors from the Sanitary Landfill and hazardous waste (HAZWAS) or hazardous materials (HAZMAT) from construction, industrial processes, and households contribute to these risks. A significant concern in the territory is the

historical and ongoing advancement of grassing (potrerización) due to cattle farming. On the other hand, technological risks are related to the construction of regional infrastructure, mechanization, heavy transport and cargo vehicles, and the improper disposal of construction and demolition waste (CDW).

The most significant risk for Pasquillita is the grassland expansion (0.7) due to the destruction of the páramos and subpáramos, caused by the expansion of agricultural and livestock frontiers. The conversion of natural areas and forests into agricultural plantations or pastures leads to the loss of vegetation that forms habitats for non-gregarious wildlife with scarce individuals present in the territory. Additionally, this expansion accelerates erosion processes and the systematic loss of local water supply, resulting in reduced soil productivity and adverse effects on local agricultural production. Consequently, as vulnerability increases, the conditions for a better quality of life deteriorate. Additionally, the weighting criterion applied in the risk analysis, as shown in Table 2, assumes that both probability and impact vary between (0 and 1), meaning the local importance of the risk ranges between (0 and 1). This is then qualified using a traffic light or colorimetric scale with a range (Z=0.2).

Table 2

Risk evaluation and weighting criteria

Risks	Ranges
Minimum	0 – 0.20
Low	0.21 – 0.40
Moderate	0.41 – 0.60
High	0.61 – 0.80
Extreme	0.81 – 1

Source: Prepared by the authors with data and results from the research.

The fact that Pasquillita is a rural area that forms part of locality 19 of Bogotá is, in some ways, conceived as a potential zone for future urban expansion. This entails the risk of an urban-rural border and the de-ruralization of the territory. The urban-rural border dichotomy implies all types of relationships that flow amidst conflicts of interest, which modify the profile and outlook

of the territories. Here, there are population, economic, environmental, cultural, and political exchanges that adjust to the territorial complexity, but which ultimately get displaced disorderly by the expansion of the urban border due to the weakness and absence of state institutions to define its planning. Thus, the intersection of socio-environmental and economic dynamics, both urban and rural, consolidates a blurred territory where de-ruralization tends to eliminate rural life as a form of existence different from urban life (Allen and Lacabana, 2003). Globalization and urbanization processes in rural areas of Latin America erode rural identities and ways of life, pushing them towards homogenization with the urban environment, often reducing their essential differences in the face of urban dynamics (Kay, 2009). Now, with land tenure and use resulting from human activities, come conflicts or contradictions regarding the natural suitability of the land for a particular territory. According to the Corporación Autónoma Regional de Cundinamarca [Regional Autonomous Corporation of Cundinamarca] (CAR: Res. 1141/2006), these conflicts are classified as: overuse (OU), underuse (UU), and no conflict (NC), each associated with three levels of intensity: light (1), moderate (2), and severe (3). In Table 3, it can be observed that light overuse and severe overuse impact 59.09% of the soils in Pasquillita, followed by moderate overuse with 19.84%.

Table 3

Conflict in land use

Type of Conflict	Symbol	(%)	Area (Has)
No conflict	**NC**	17.24%	101.65
Light overuse	OU1	32.06%	189.03
Moderate overuse	OU2	19.84%	116.98
Severe overuse	OU3	27.03%	159.37
Light underuse	UU1	2.03%	11.96
Moderate underuse	UU2	0.18%	1.06
No information	N	1.62%	9.55
Totals		100%	589.62 Has

Source: Prepared by the author with data/information from Alcaldía Mayor de Bogotá (2021), Hernández et al. (2013), Secretaría Distrital de Ambiente (2010), Secretaría Distrital de Planeación (2021), Unidad Rural de Planificación Agropecuaria [URPA] (2003).

The perspective on land ownership is closely tied to water ownership, as water flows through properties or territories, enabling access for both domestic and productive purposes. While there is a broad institutional framework for water management, which is part of the urban planning system of Bogotá, the Planes de Manejo y Ordenamiento de una Cuenca [Management and Land Use Plans for a Basin] (POMCA), and the Planes de Ordenamiento del Recurso Hídrico del Río Tunjuelito [Hydric Resource Management Plan for the Tunjuelito River] (POHR), they are also linked with the streams that cross Pasquillita's territory and feed into the Tunjuelito River. Additionally, the Planes de Manejo Ambiental del Acuífero [Environmental Management Plans of the Aquifer] (PMAA) are considered, along with the Unidades de Planeamiento Zonal [Zoning Planning Units] (UPZ), Unidades de Planeamiento Rural [Rural Planning Units] (UPR), and the Empresa de Acueducto y Alcantarillado de Bogotá E.S.P. [Bogotá Aqueduct and Sewerage Company] (EAAB), all governed by the guidelines set by the Ministries of Agriculture and Rural Development and Environment and Sustainable Development. However, the aqueduct that serves Pasquillita, built in 1978 with a water intake on the La Lechuza stream and managed by the Asociación de Usuarios del Acueducto de las Veredas Pasquillita y Santa Rosa [Association of Aqueduct Users of the Pasquillita and Santa Rosa Rural Areas] (AACUPASA), suffers from design and operational flaws. As a result, its water supply has a high-risk consumption index (HRCI) of 50%, falling within the range of 35.1% to 80% (Localidad Ciudad Bolívar, 2019). This means the water has high risks for consumption, as it exceeds the established physicochemical and microbiological parameters, promoting the proliferation of harmful microorganisms for human health. Given that the water supply is not fully continuous, some residents must resort to alternative community sources, water rights, cisterns, hoses, pipes from nearby sources, or purchase water from private providers. Additionally, there is no individualized sewage system, so septic tanks and surface disposal of wastewater are used, creating environmental and social risks. In terms of waste management, solid waste collection coverage is low (<40%), and it is carried out without scheduled frequencies, relying on trucks provided by the local government.

On the regulatory front, an opportunity arises from the new provisions in the Plan Nacional de Desarrollo: Colombia, Potencia Mundial de la Vida [National Development Plan: Colombia, World Power of Life], which establishes territorial planning around water as its first priority. It also modifies Article 32 of Law 388 of 1997 (Departamento Nacional de Planeación, 2023),

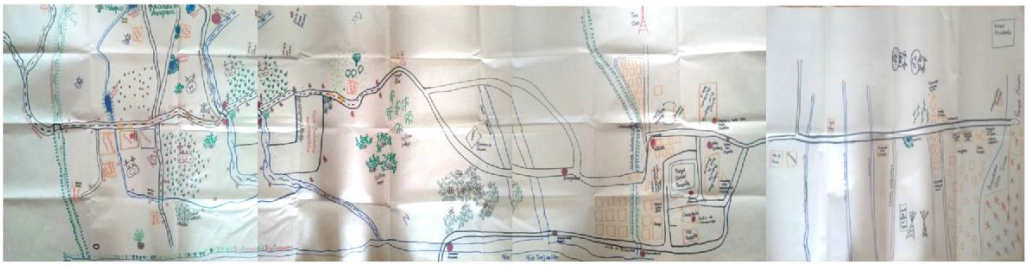
offering a potential for community action regarding land use tensions, the restoration of the Tunjuelo River ecological park, the recovery of the water course, and the establishment of Pasquillita as a zone for the location of rural service hubs (Secretaría Distrital de Planeación, 2021).

Lived Territory

The social cartography exercise, depicted in Figure 2, allowed for the identification and "semaforización" (color-coding) of problems in the Pasquillita territory and in the relationship between rurality and the urbanity that limits it, in environmental, social, cultural, and economic terms.

Figure 2

Cartography



Source: Social cartography developed with members of Asopasquillita (2023).

In this exercise of walking the territory, harvesting memories, and identifying the main socio-environmental conflicts, both the list of problems in Table 4 and the strengthening of the conviction regarding the relevance of environmental education and the agroecological practices of rural tradition, which Asopasquillita has been advocating for over 20 years as strategies of resilience and solutions to the problems of the territory, emerged. Based on interviews and surveys conducted with members of Asopasquillita, the main environmental conflicts, relevant environmental spaces, and the prioritization of ecological areas for contribution were determined.

Table 4

Main socio-environmental conflicts

Pasquillita	Water source contamination - Samaria Creek - Tunjuelito River
	Migration
	Environmental-peasant culture
	Deforestation
	Waste contamination
	Absence of Junta de Acción Comunal [Community Action Board]
	Absence of recreational and sports spaces
Pasquilla	Insecurity
	Sale and consumption of psychoactive substances
	Animal abandonment by external individuals
	Water source pollution
Mochuelos and urban zone boundaries	Environmental and health impacts of the Sanitary Landfill
	Urban expansion due to Territorial Planning, threat to community cohesion
	"Land grabbers" phenomenon

Source: Interviews with members of Asopasquillita (2023).

Regarding the conglomeration of variables and adverse environmental conditions in Pasquillita, Asopasquillita reflects on its capacities and potential and identifies opportunities for action, as recorded in Table 5.

Table 5

Identification of relevant environmental spaces

Environmental Context	**Territorial Issue**	**Opportunity for Asopasquillita**
Climate	Increase in temperature	18.1%
Atmosphere	Presence of odors	45.4%
Water	Deforestation on the banks of the Tunjuelito River	18.1%
	Deforestation of springs	81.8%
	Deforestation of creeks	90.9%
	Invasion of river belts	9.1%
	Reduction of water flow	18.1%
	Droughts	9.1%
	Chemical pollution	72.7%
	Biological pollution	9.1%
Soil	Soil quality deterioration	54.5%
	Chemical pollution	45.4%
	Biological pollution	9.1%
	Overuse	36.3%
Flora	Elimination of forest cover	63.6%
	Páramo Deforestation	81.8%
	Loss of connectivity corridors	54.5%
	Reduction in species diversity	36.3%
	Grassing	9.1%
	Bare pastures	36.3%
Fauna	Reduction in species diversity	27.2%
	Loss of connectivity corridors	27.2%
	Loss of habitats	45.4%
	Deterioration of niches	9.1%
	Isolation	36.3%

Landscape	Fragmentation	9.1%
Infrastructure	Urban expansion zone	0%
	High-risk water supply (HRCI)	0%
	No individualized sewage system	0%
	Low-impact transportation	9.1%
	Poor waste collection	54.5%
Culture	De-ruralization	63.6%
	Widespread acculturation	45.4%
	Environmental indifference	90.9%
	Signs of uprooting	45.4%
	Low citizen participation	63.6%

Source: Interviews with Asopasquillita members (2023) and own calculations.

It becomes evident that, in response to some local environmental issues, the possibilities for planning the activities of Asopasquillita are recognized. Therefore, a weighting mechanism is established to allow for the correct selection of spaces from which contributions can be made to the territory [1]. Consequently, three environmental contexts (culture, flora, and water) and nine environmental problems (highlighted in Table 6) serve as reference points for focusing Asopasquillita's capabilities. These were identified through a scoring system (>50%), which corresponds to medium-high and high, obtained from the consultation with local stakeholders in order to project some type of intervention in the territory.

[1] In this regard, the selection ranges for territorial issues according to collective interest are as follows: From 0% to 30% indicates low interest in contribution; from 31% to 60% indicates medium interest in contribution; and from 61% to 91% indicates high interest in contribution. Similarly, the selection ranges in relation to the environmental context, taking into account the weighted scores gathered on territorial issues according to collective interest, are as follows: From 0% to 20% indicates low interest in opportunities; from 21% to 41% indicates medium interest in opportunities; and from 42% to 62% indicates high interest in opportunities.

Table 6

Prioritization of environmental spaces for contribution

Environmental Context	%	Intervention Issue	%	Range
Culture	61.7%	De-ruralization	63.6%	Medium High
		Environmental Indifference	90.9%	High
		Low Citizen Participation	63.6%	Medium High
Flora	51.7%	Elimination of Forest Cover	63.6%	Medium High
		Páramo Deforestation	81.8%	High
		Loss of Connectivity Corridors	54.5%	Medium High
Water	38.7%	Deforestation of springs	81.8%	High
		Deforestation of creeks	90.9%	High
		Chemical pollution	72.7%	High

Note: Although there were some contexts with scores to be considered, they were disqualified because the collective interest in working on their issues was low.

Source: Created by the author based on interviews with Asopasquillita members (2023).

Now, from a purely environmental perspective, it can be stated that the territory of Pasquillita is considered resilient to the extent that it is capable of overcoming natural disasters or risks (as previously determined), turning the threat into an opportunity (Tables 5 and 6) and empowering citizens (Asopasquillita) towards the conservation of ecosystems at the local level (Foro Abierto de Ciencias de América Latina y el Caribe [CILAC], 2022).

Possible Territory

Asopasquillita dreams of a sustainable and intelligent territory, shaped by the power of love and the wisdom of the land, which embodies the *campesino* tradition and unfolds in its action

of environmental education and promotion of agroecology. The model of the Escuela Sostenible [Sustainable School] they promote at the Institución Educativa Distrital Rural Pasquilla (Pasquillita Sede C) is established as an alternative school based on the principles of democracy, empowerment of rural communities, a culture of sustainability, and academic quality (Orozco et al., 2004, p. 16). They propose a curriculum grounded in the philosophical principle of "everything is interconnected," which deeply aligns with what Eschenhagen (2018) posits as seven requirements for environmental education. In practical terms, the Polidoro Environmental Classroom and La Granja facilitate meaningful learning about recycling solid waste, agroecological production on the farm, and the reforestation of the micro-watersheds in the rural area. Based on this trajectory, within the framework of the envisioned and dreamed territory, Asopasquillita aims to strengthen agroecological processes on the farm, multiply training and/or advisory services on the management and classification of solid waste, and promote campesino identity through cultural and productive activities with the families of Pasquillita, reclaiming the role of food producers.

It is worth noting that beyond the elements that have been analyzed, two opportunities would be worth considering for Asopasquillita in terms of their work and institutional possibilities. The first is to participate in sustainable social tourism, given the plan from the Instituto Distrital de Turismo [District Institute of Tourism], and the second is the possibility of registering as an Entidad Prestadora del Servicio de Extensión Agropecuaria [Entity Providing Agricultural Extension Services] (EPSEA), a program from the Agencia de Desarrollo Rural [Rural Development Agency] (ADR) projected through the departments and municipalities. Consequently, from an environmental standpoint, it is important to remember that a possible territory involves a political commitment to access environmental knowledge for individuals with fewer opportunities to attain it.

In this regard, within the framework of public policies, Asopasquillita proposes a transformation of the environment, the result of minimum agreements among its actors about the real and lived territory, from which (territorial intelligence) an analysis was established in search of future opportunities or a possible territory (Bozzano, 2018b). All of this simultaneously leads Asopasquillita to support its institutional objectives and educational and environmental mission purposes. Thus, the dreamed territory becomes possible through dialogue of knowledge and action,

by taking environmental challenges and reinterpreting them as opportunities for collective action driven by environmental rationality based on the skills of relational thinking, the ability to wonder, creativity, empathy, and compassion.

Conclusions

The socio-environmental conflicts triggered by the voracious relationship between the city and the countryside, which turns the urban periphery into sacrifice zones, require a cultural transformation, the promotion of alternative ways of being, existing, and inhabiting based on relational ontologies that transcend the dichotomous and hierarchical understandings of rural-urban and human-nature. This calls for territorial justice and the creation of intelligent territories. In the case of Pasquillita, the environmental crisis originating from land use and its condition as a potentially urbanizable area for the expansion of the city of Bogotá, the eco-social conflicts present in the quarries and the Doña Juana landfill, and the territorial injustices—including deforestation due to land use and the issue of water tenure—demand innovative responses based on the experiences of the campesino community settled there. It is the community that seeks to forge a common project through the recovery of the wisdom of the land for the configuration of an intelligent territory. Asopasquillita's experience in the Pasquillita village highlights the importance of collective action and local knowledge in the creation of smart and resilient territories. Throughout the study, it became evident that agroecological practices and environmental education developed by the community are fundamental strategies for confronting the pressures of urban expansion and the socio-environmental conflicts typical of peri-urban areas.

The application of th**e** Territorii method allowed for an approach to the territory in its real, lived, and possible dimensions, facilitating the integration of community perceptions with technical analysis of the territory. This methodology, along with the theory of territorial transformation, highlighted the need for a territorial justice approach that promotes an equitable relationship between the environment and the communities that inhabit it. The environmental and social threats facing Pasquillita, such as water source pollution, land overuse, and de-ruralization, require coordinated interventions that combine technical knowledge with the lived experience of the residents. Furthermore, Asopasquillita has successfully consolidated a vision of a possible territory, where sustainability and campesino identity are integrated into an innovative and

transformative educational model. This model includes the creation of spaces like the Polidoro Environmental Classroom and La Granja, which promote meaningful learning and a deep connection with the environment. In this way, the Pasquillita community is presented not only as guardians of the ecosystem but as active promoters of a resilient and sustainable territory.

Referring to Eschenhagen (2021), it is observed that the alliance between academia and the local community through participatory methodology enables the exchange and co-creation of knowledge and strategies for transition, which lay the foundations for a theory of socio-ecological transformation. Creative visions and proposals emerge, evolving from the identification of environmental risks, through the conflicts of use and management, to discover spaces that demand community-driven environmental action. This, in turn, allows for the prospecting of the resilient territory, i.e., collectively constructing the proposal for a possible territory where both the material and spiritual lives of communities and ecosystems can thrive.

Finally, this study emphasizes that public policies and territorial planning plans must recognize and strengthen local initiatives such as Asopasquillita. The inclusion of these efforts in Bogotá's urban and rural strategies will contribute to protecting ecologically important areas, such as páramos and watersheds, and fostering harmonious coexistence between rural inhabitants and the growing urban environment.

Ethical Considerations

This participatory action research was conducted with ethical considerations and a focus on maintaining relationships of trust and reciprocity, ensuring no harm was caused. Informed consent was collectively structured and obtained. Furthermore, this article was reviewed and approved by the community before submission for publication.

Conflict of Interest

All authors made significant contributions to the document and declare that there is no conflict of interest related to this article.

Author Contribution Statement

Gustavo Correa Asmuss: Research, Methodology, Software, Validation, Formal Analysis, Data Curation, Visualization, Writing – Original Draft.

Mariluz Nova Laverde: Conceptualization, Methodology, Resources, Writing – Original Draft, Writing – Review and Editing, Project Administration.

Jaime Alberto Rendón Acevedo: Supervision, Funding Acquisition, Writing – Review and Editing.

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