

# Living on the Edges of a Border City

The case of Cúcuta and El Rodeo

# Living on the Edges of a Border City

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2. What if Cucuta...?

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1. Borders and Edges

2. What if Cucuta...?

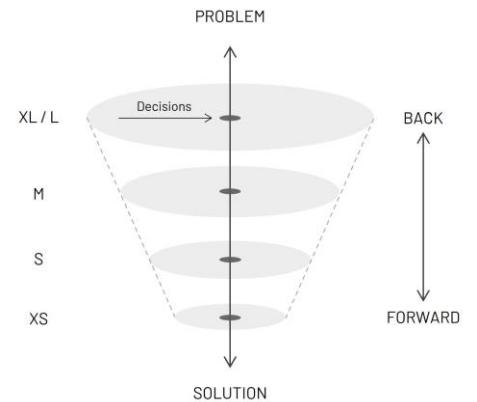
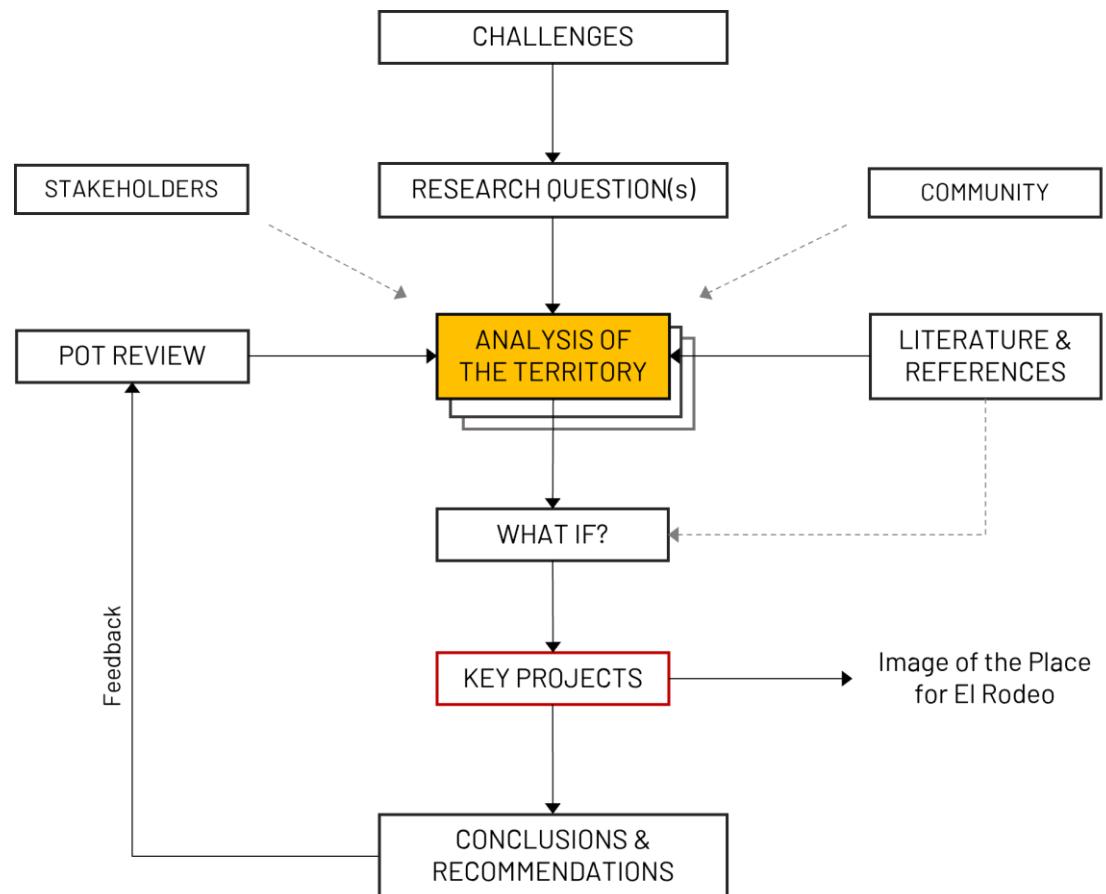
3. Application

Introduction video

## Research Question

How to achieve an inclusive urban development in the edges  
of a border city with rapid social and economic transformations?

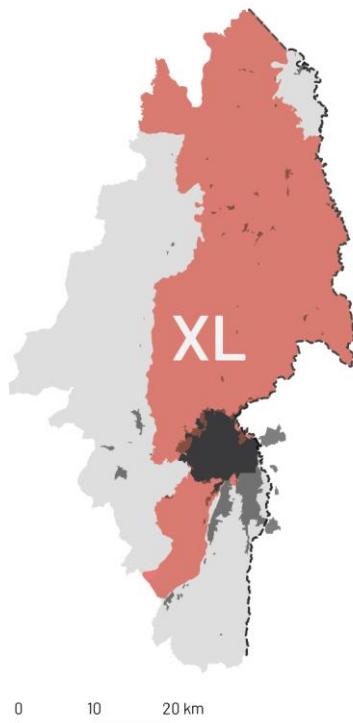
# Methodology



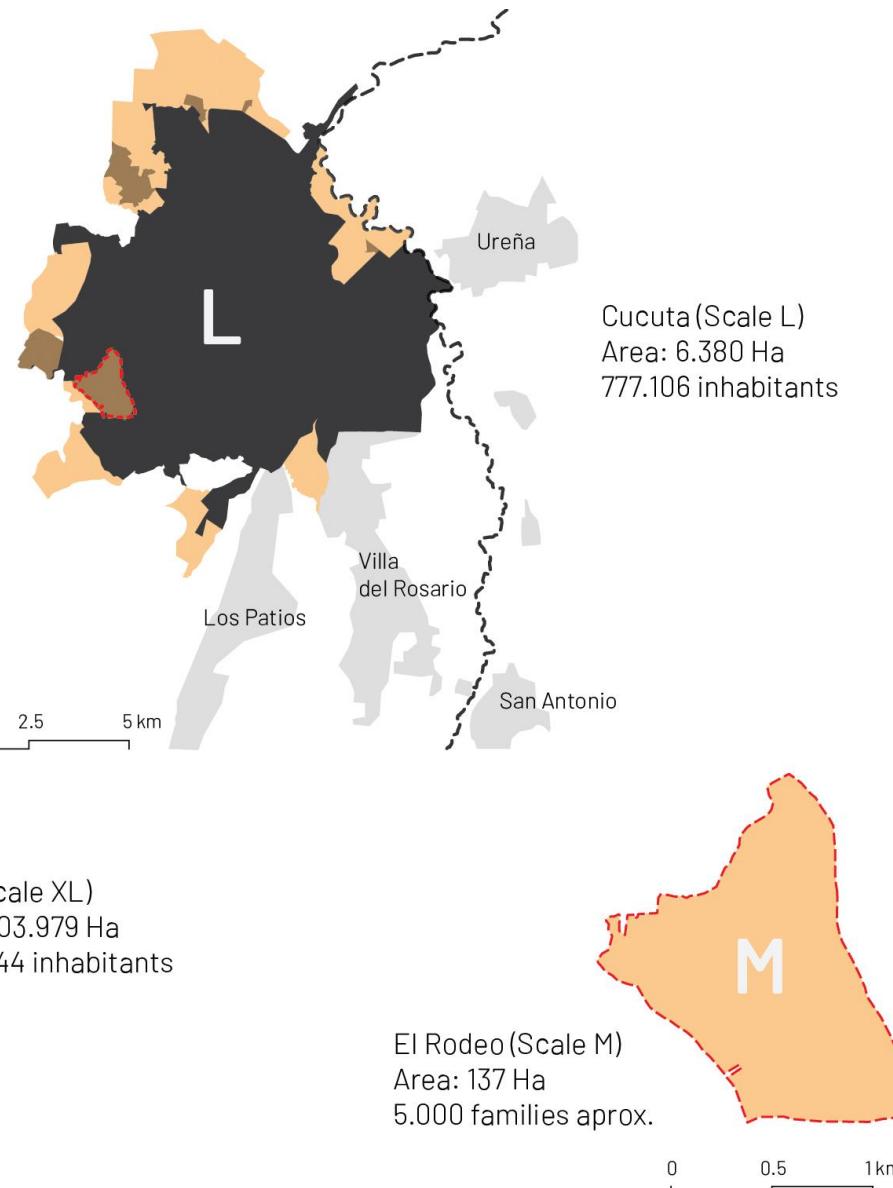
Process of abduction from the problem to the solution, passing through different scales and phases. Based on (Nijhuis, 2020), interpreted by the author.

# Multi-scalar approach

- National Border
- Light grey: Cucuta Metropolitan Area(AMC)
- Red: Municipality of Cucuta
- Black: Cucuta Urban perimeter
- Grey: Other urban areas
- Orange: Expansion areas Cucuta
- Dark Orange: El Rodeo



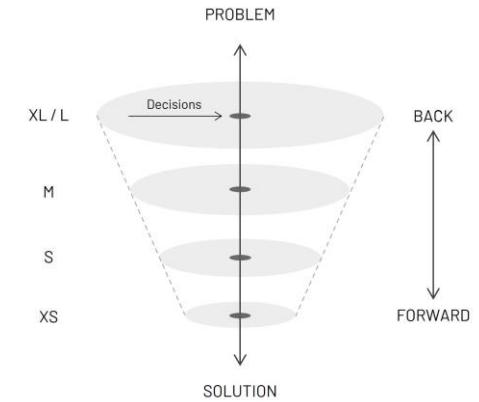
AMC (Scale XL)  
Area: 203.979 Ha  
1.034.044 inhabitants



El Rodeo (Scale M)  
Area: 137 Ha  
5.000 families aprox.



Border and Edges



Process of abduction from the problem to the solution, passing through different scales and phases. Based on (Nijhuis, 2020), interpreted by the author.

## Segregation at different scales

**Border** = National level

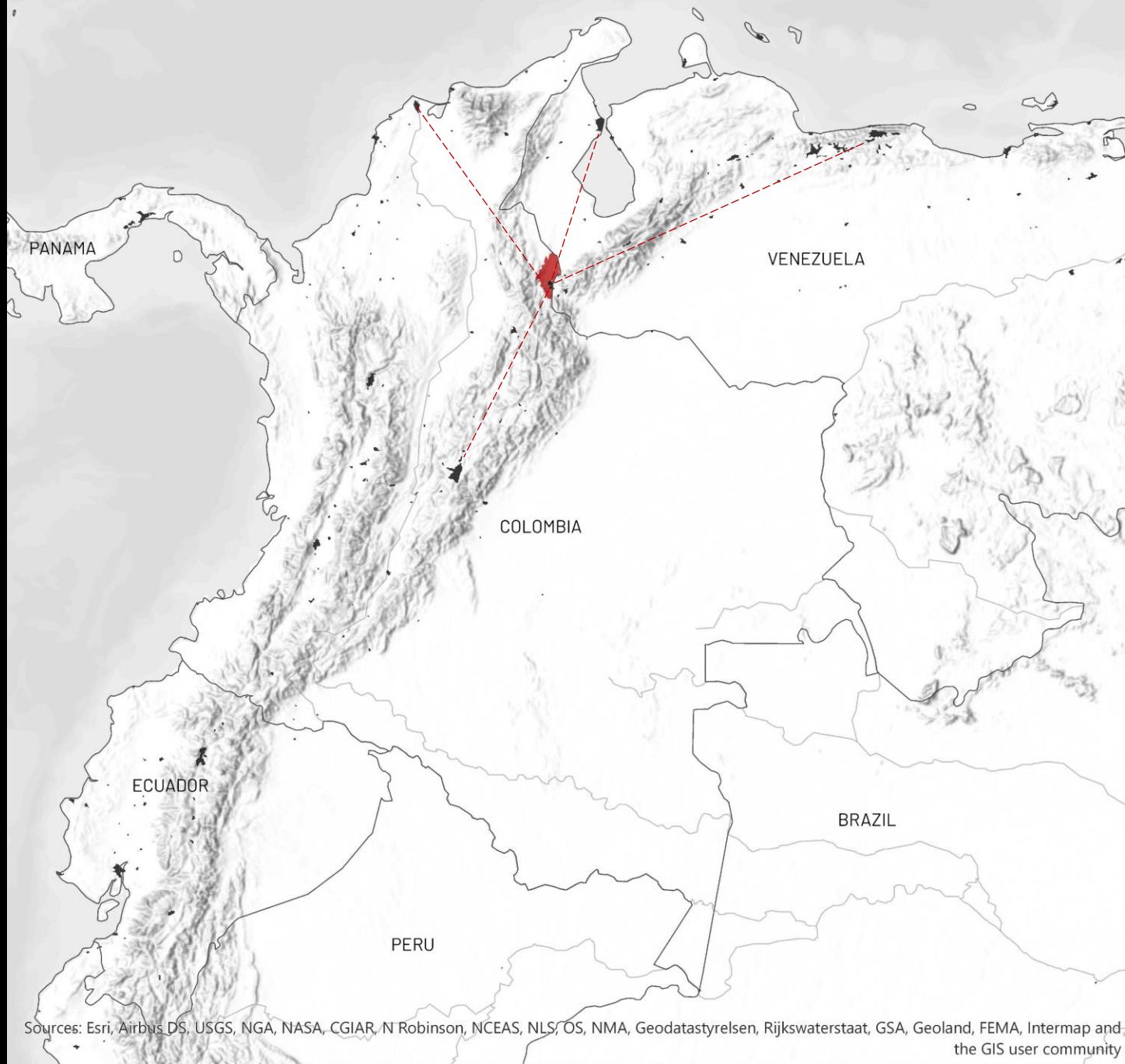
**Edges** = Local level

Border

'And while it is isolated by the topography of the rest of the Republic, the Zulia River that runs to the edge of its lands, puts Cucuta in immediate and very easy communication with Maracaibo [Venezuela].'

*Vicente Herrera, Governor of Norte de Santander, 1858*

Location of Cucuta, Colombia. Source: Esri.



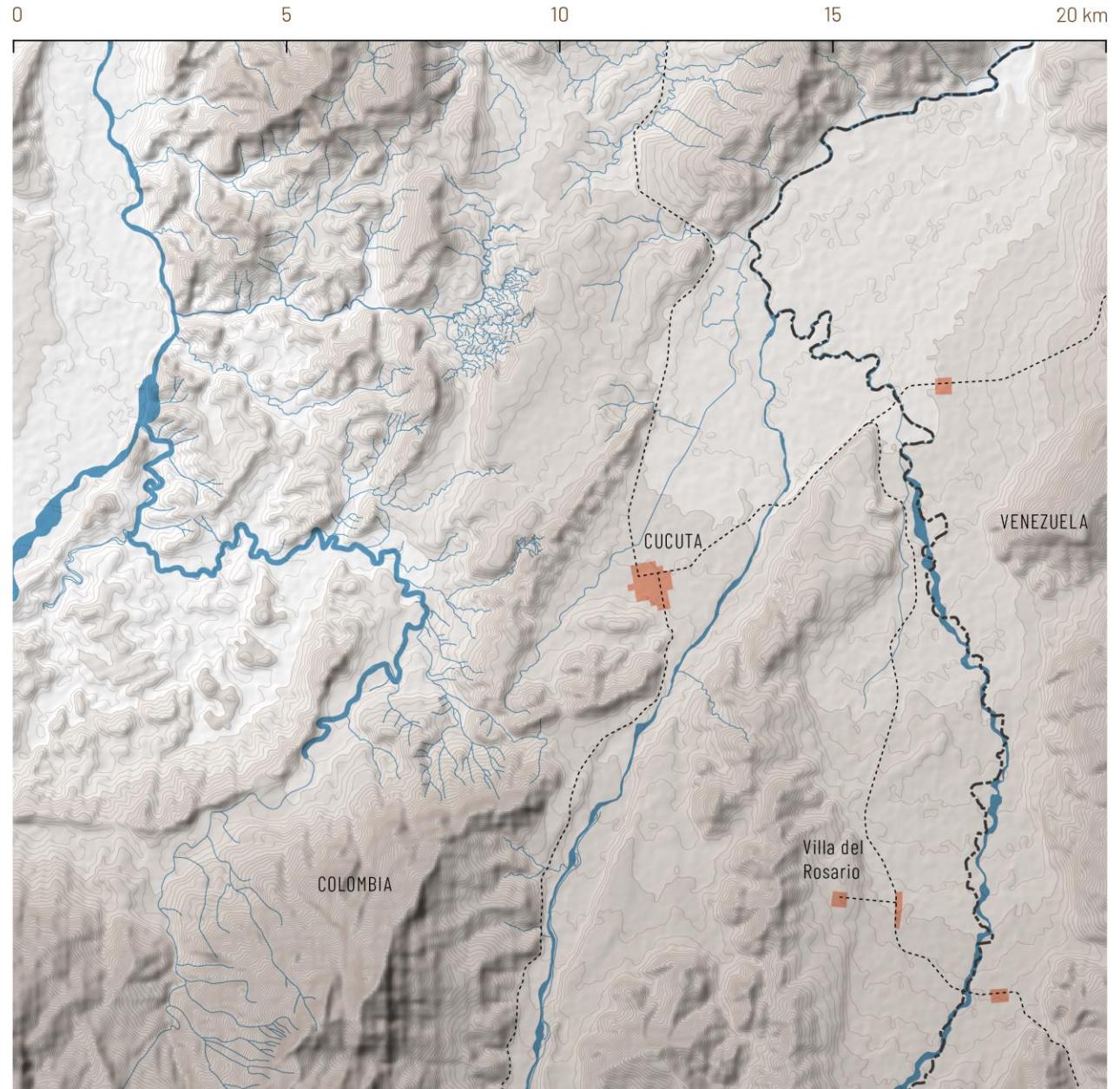
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

# Landscape and Border

Rivers as opportunity and not as a barrier.



Map: The territory of Cucuta by mid XIX century  
Source: Developed by the author with DEM from USGS and layers from POT Cucuta and historic maps Chamber of Commerce Cucuta.



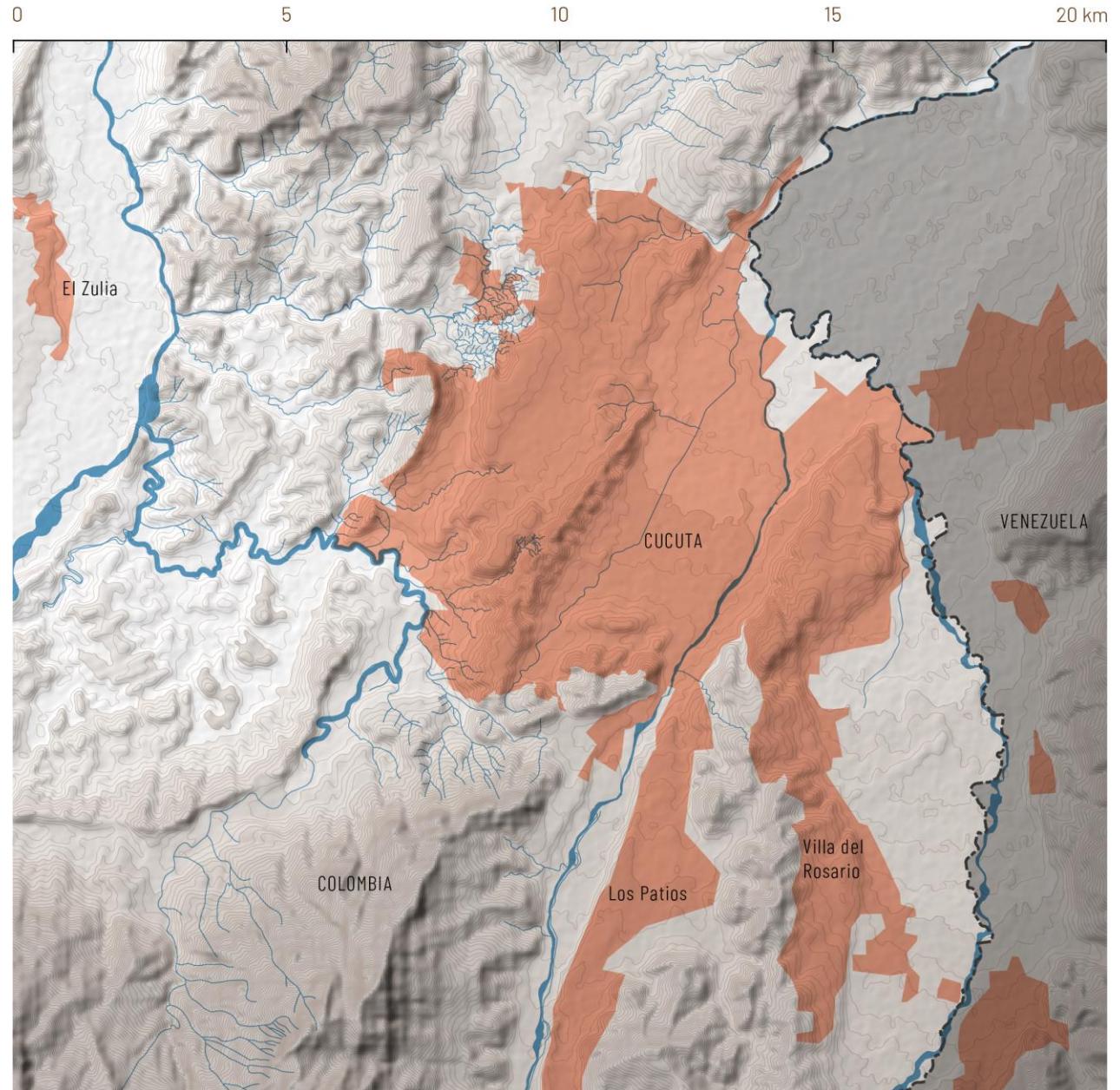
# Border

## Cucuta and the permeability of the border



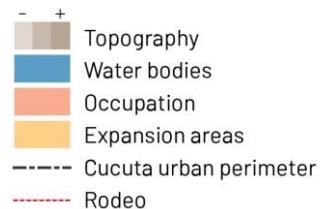
Map: The territory of Cucuta in 2020

Source: Developed by the author with DEM from USGS and layers from POT Cucuta.



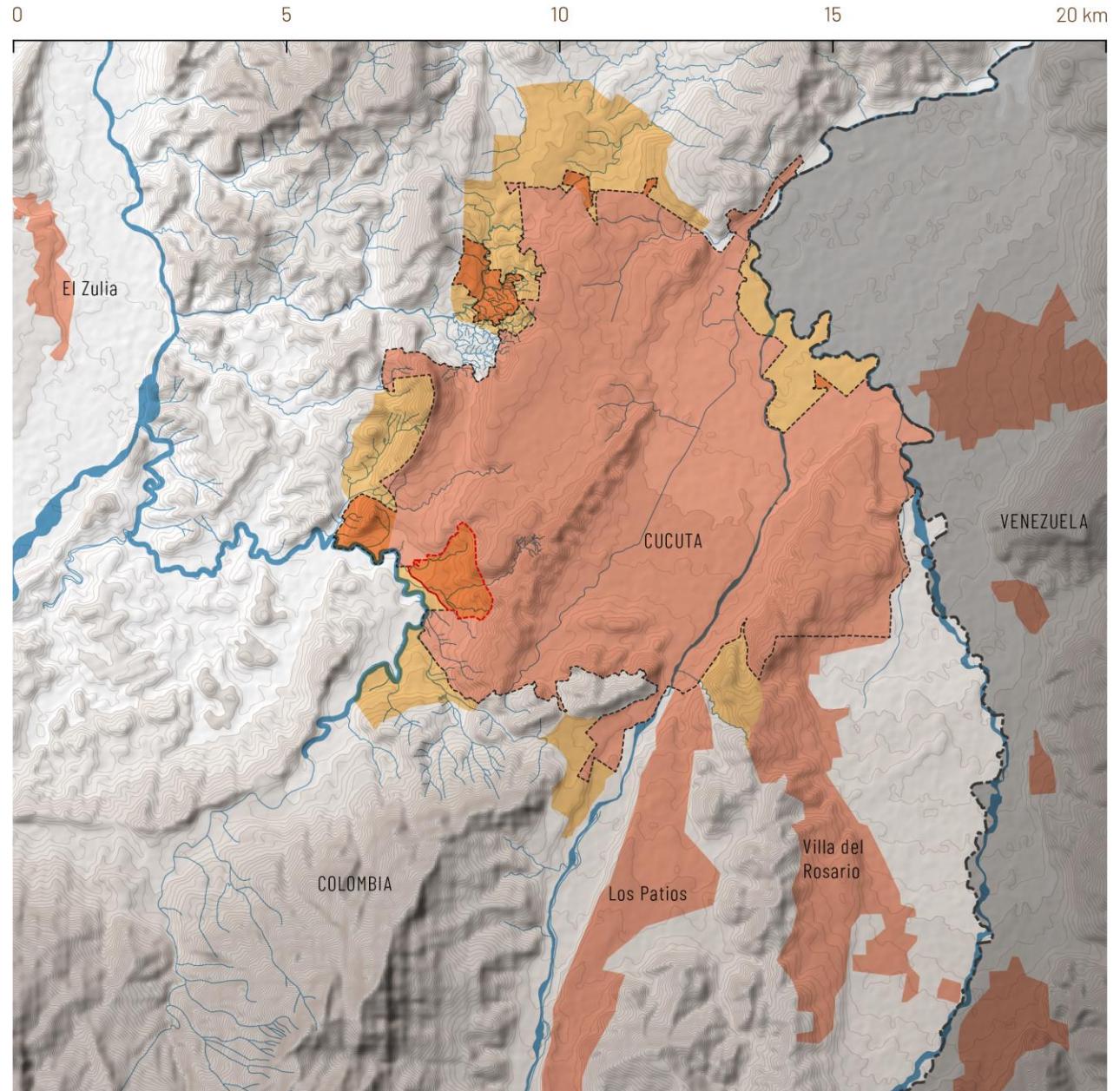
# Edges

- Expansion areas
- Informal settlements

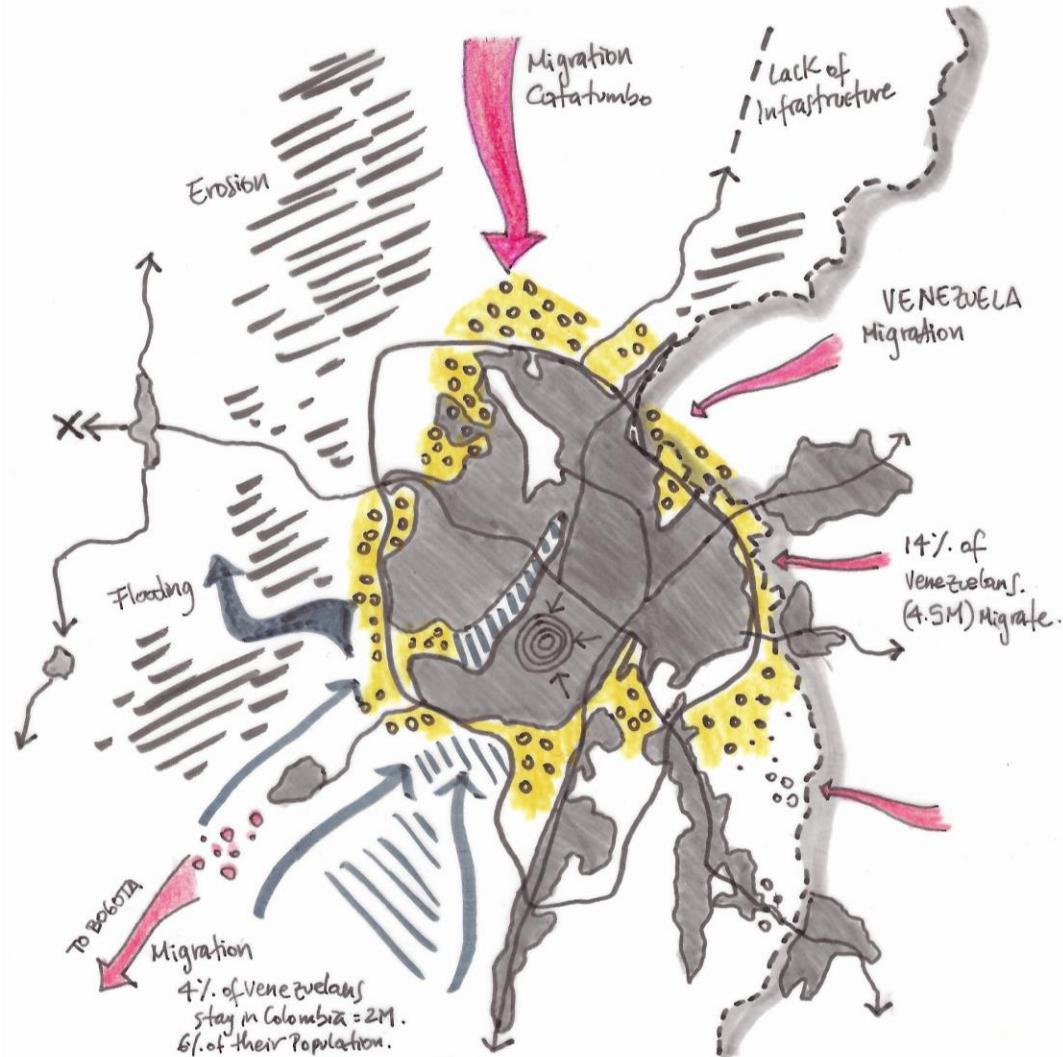


Map: Cucuta and its edges

Source: Developed by the author with DEM from USGS and layers from POT Cucuta.



Border and Edges



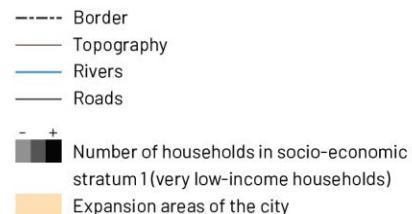
Conclusion map. Developed by the author.

Border and Edges

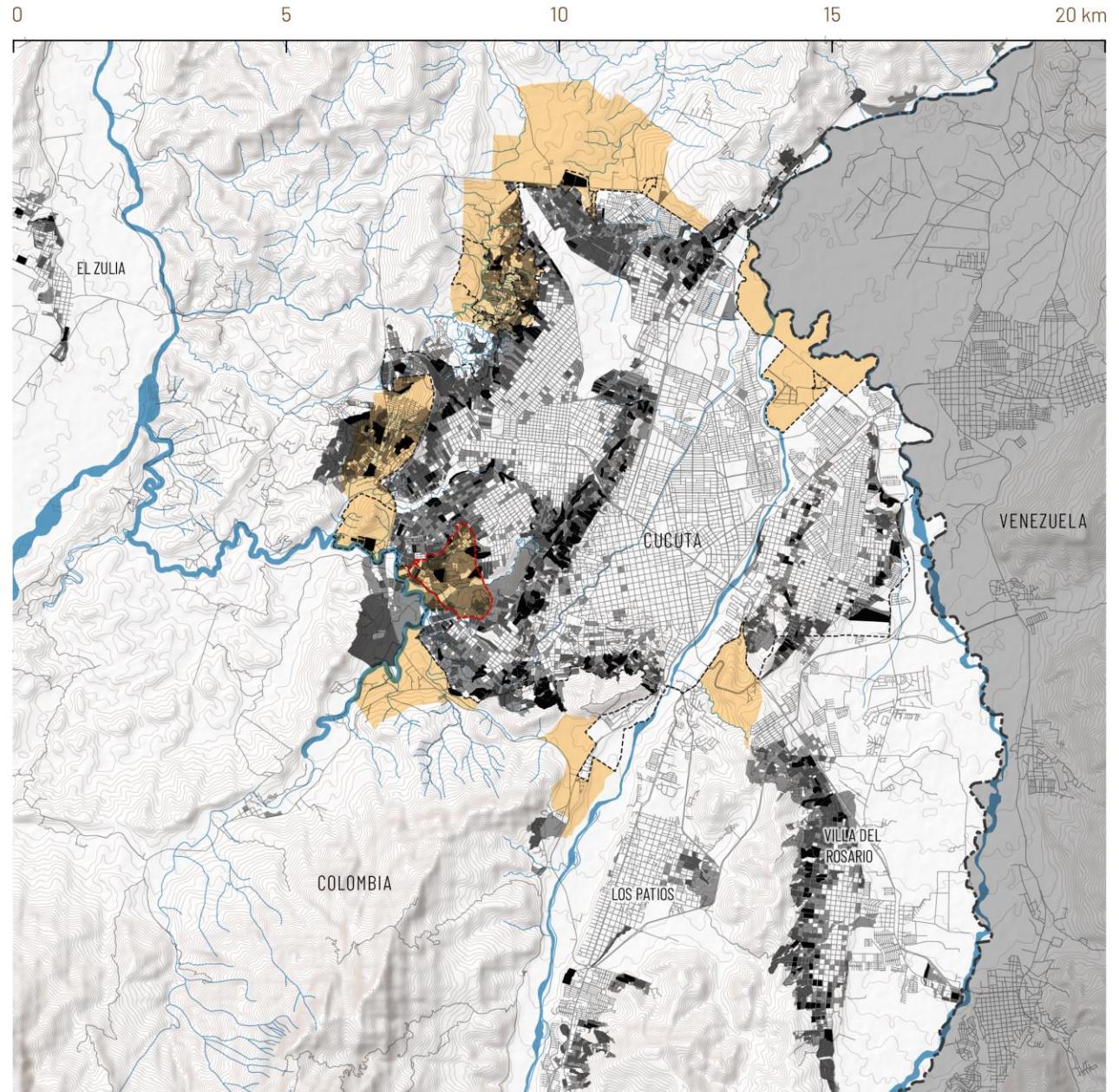
# Edges

Low-income communities are located in:

- Expansion areas
- Steep slopes



Map of low-income households + Edges. Developed by the author.  
Source layers: DANE, OSM, USGS, POT Cucuta , IGAC.

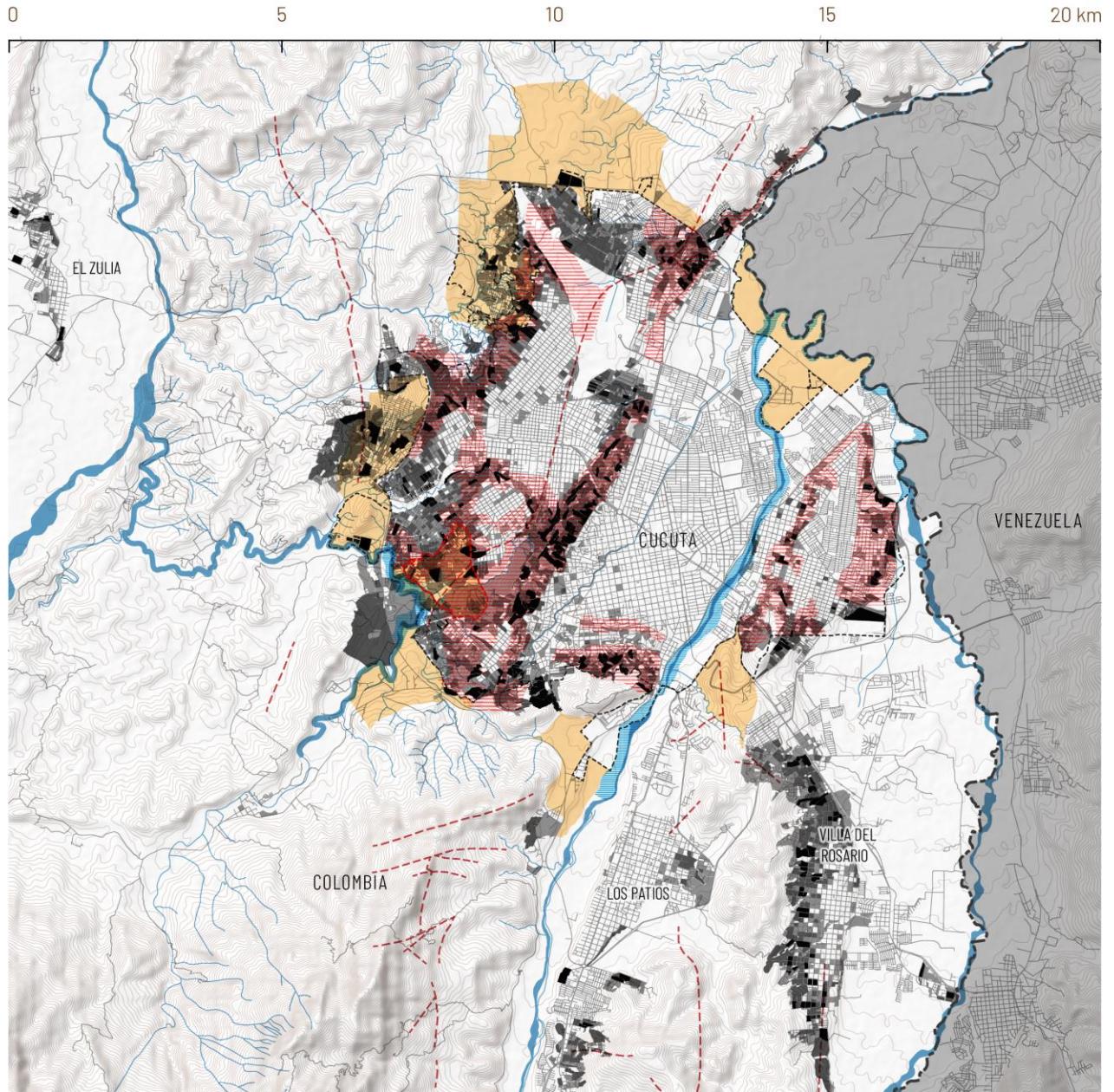


# Occupation of high-risk areas

Correlation between low-income communities and risk

- Border
- Topography
- Rivers
- Roads
- + Number of households in socio-economic stratum 1 (very low-income households)
- Expansion areas of the city
- - Geological Faults
- Landslide risk
- Flood risk

Map of risks and low-income households in Cucuta.  
Developed by the author. Source layers: DANE, OSM, USGS, POT Cucuta , IGAC.



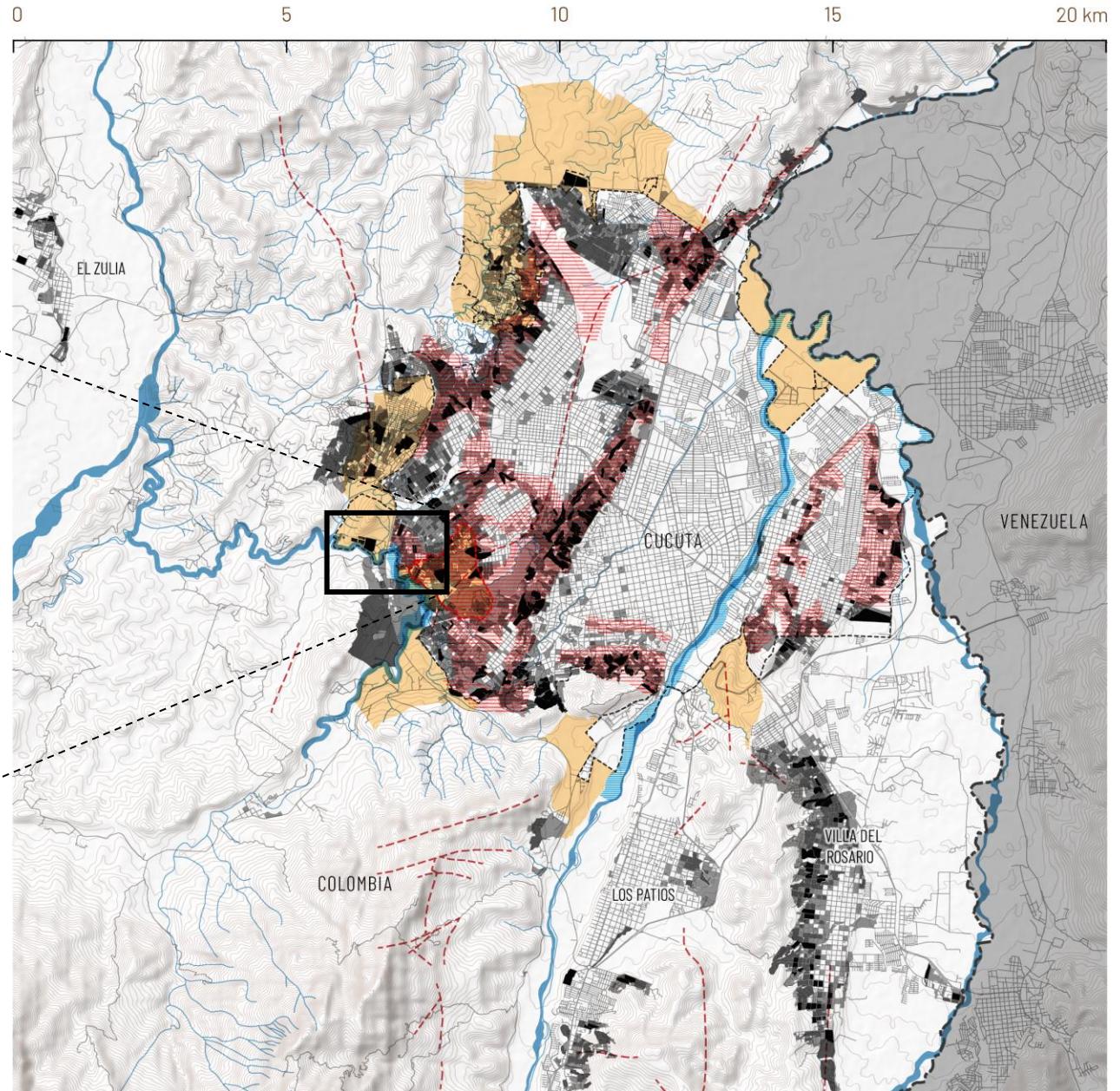
Border and Edges

# Occupation of high-risk areas

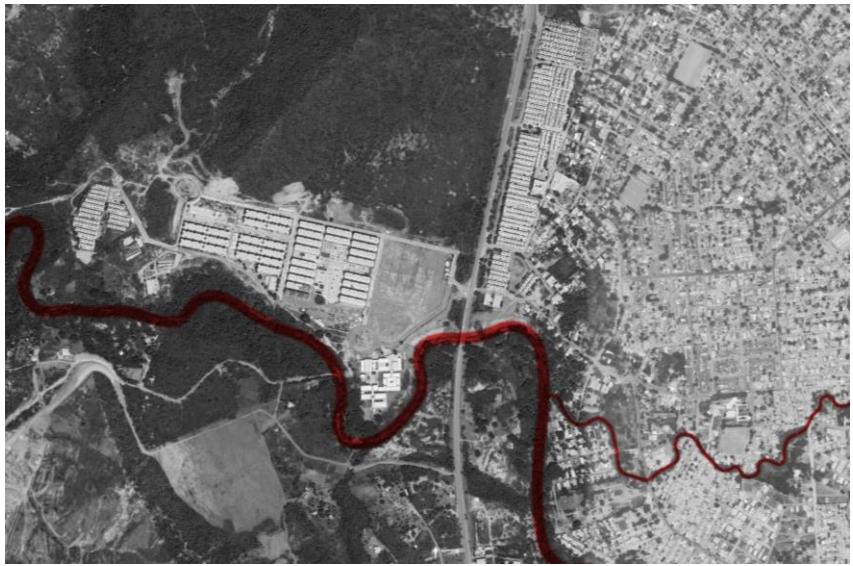


Photo: Google Earth

Map of risks and low-income households in Cucuta.  
Developed by the author. Source layers: DANE, OSM, USGS, POT Cucuta , IGAC.



## Occupation of high-risk areas



Affects FORMAL and INFORMAL dwellings

- + Access to Transport
- + Public services
- + Education
- + Spaces for recreation

Photos: (Left) Google Earth, (right) F. Bernal.

# POT

'The biggest challenge in Cúcuta is planning. There is a POT without a comprehensive nor a structured vision of the city that allows to say: this is the way! This is the future that we dream of.'

Miguel Peñaranda, 2020.

Director of the Metropolitan Area of Cucuta (AMC)



View of Cucuta. Photo: F. Bernal.

# EL RODEO

# Evolution of the territory



2003



2010



2020

Valley = Edge

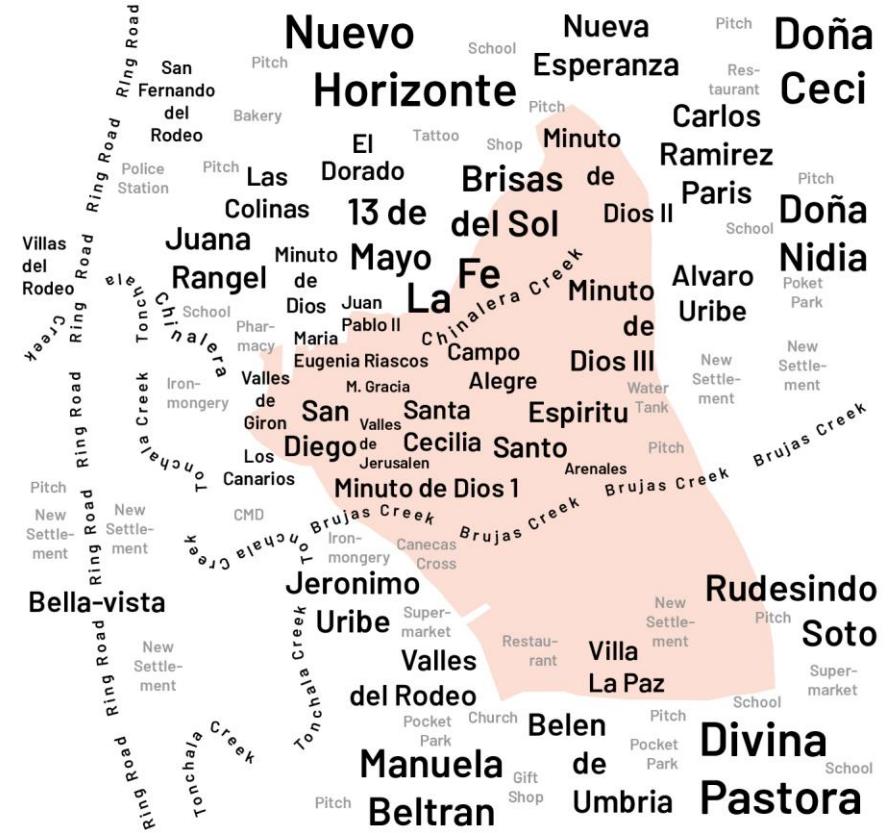


3D model of El Rodeo

# Constellation of communities



## Limits between settlements



## How people call their land



Phase 1



Phase 2



Phase 3

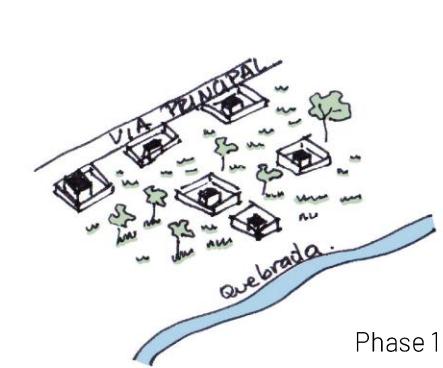


Phase 4

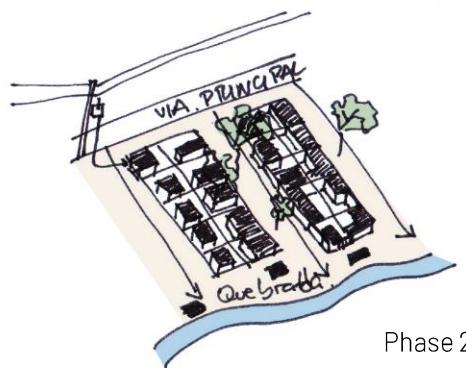
Source: Google street view and F. Bernal.

Border and Edges

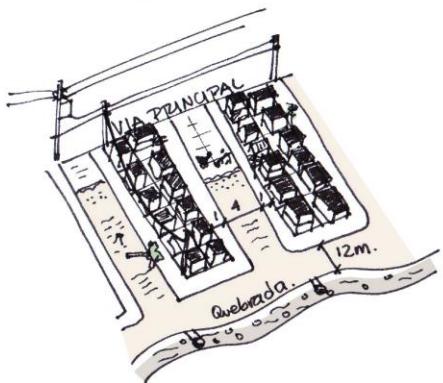
# Phases of development



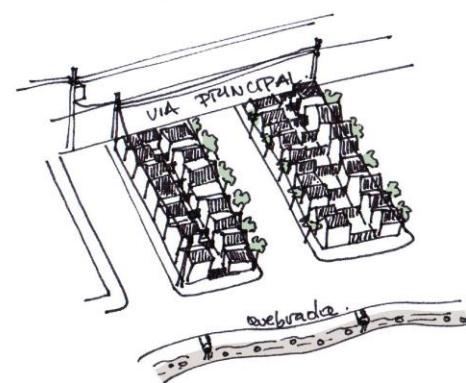
Phase 1



Phase 2

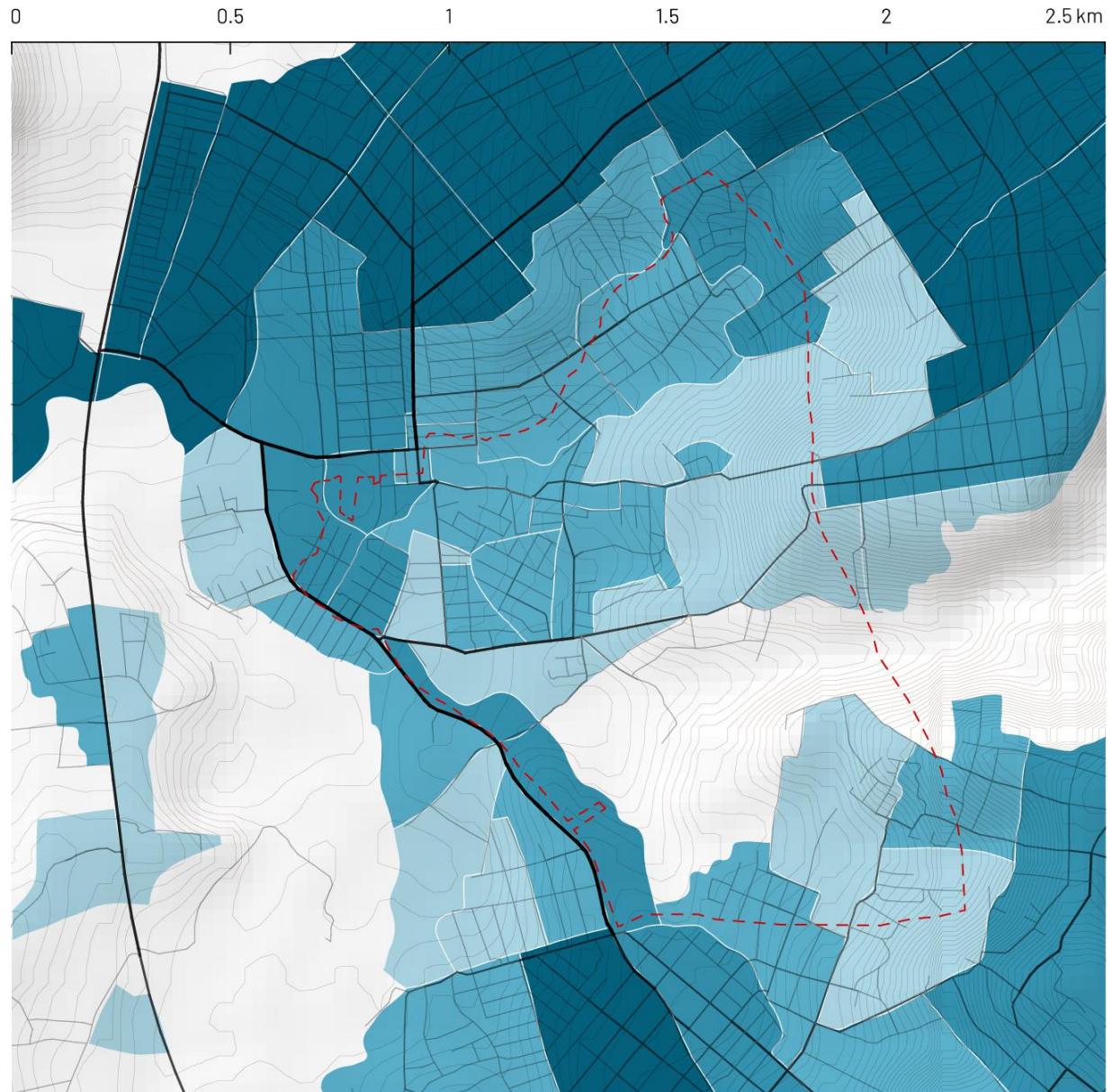


Phase 3



Phase 4

- Phase 1
- Phase 2
- Phase 3
- Phase 4



Border and Edges



**'They told us that there couldn't be Venezuelans in the neighbourhood, because that was detrimental to the legalization process of our settlement'**

*Elizabeth, inhabitant of Los Canarios, El Rodeo, 2020.*





Photo: F. Bernal.

# Workshops



## El Rodeo takeaways

- Low confidence in public institutions
- Environmental risk vs. Legalisation?
- Cooperation with civic organizations
- Many actors in decision-making
- Need of a common identity
- Engage the community in public works



Photo: C. Rodriguez(CMD).

Border and Edges

1. Borders and Edges

2. What if Cucuta...?

3. Application

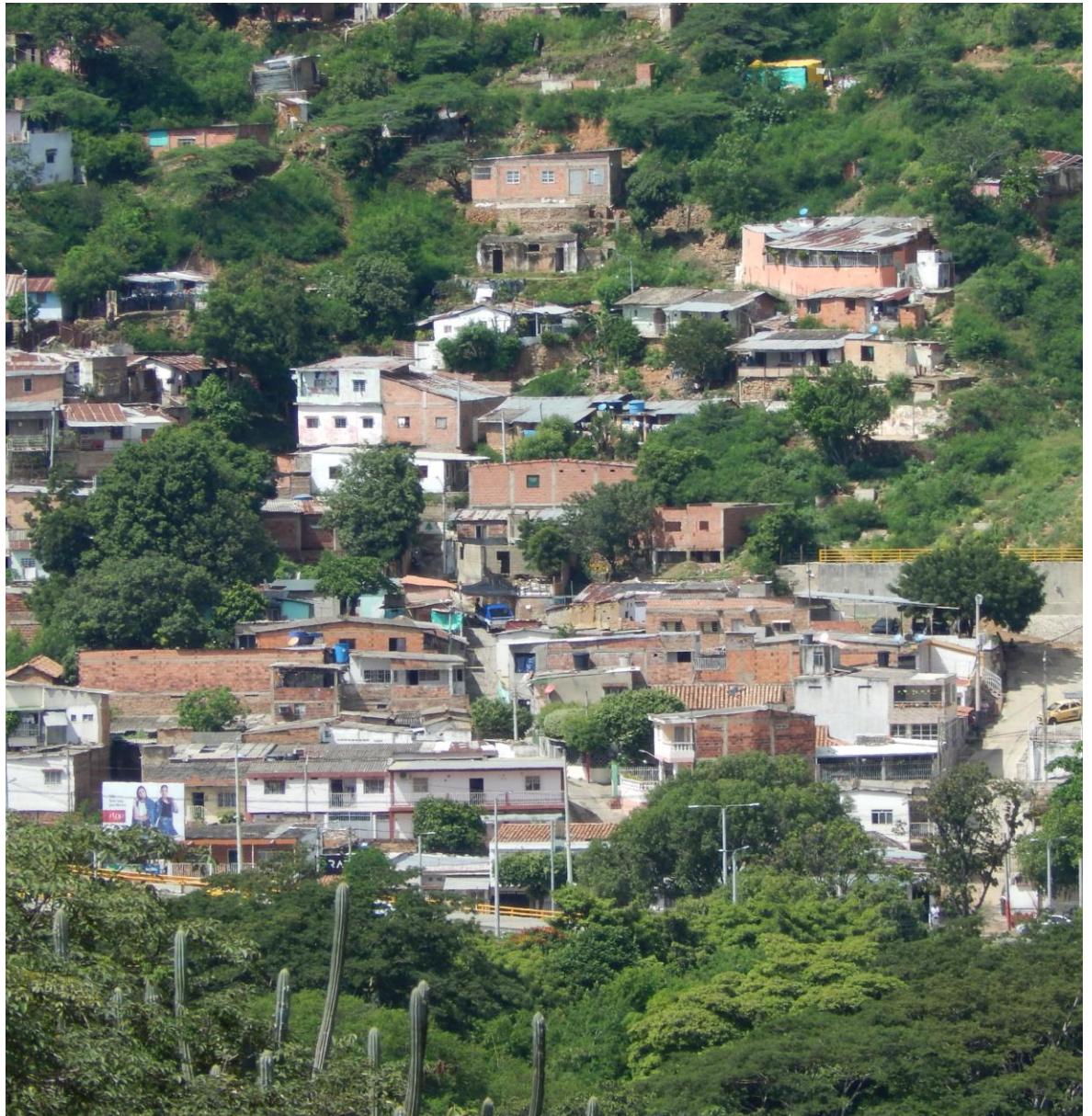
**72% Informal economy**

**22.3% Unemployment**

**+ Migration flows from Catatumbo and Venezuela**

# What if Cucuta rethinks its edges as transitional territories in process of consolidation?

- Safe and spontaneous growth.
- Planning strategies for susceptible landscapes.



# Topics



RISK



ACCESSIBILITY

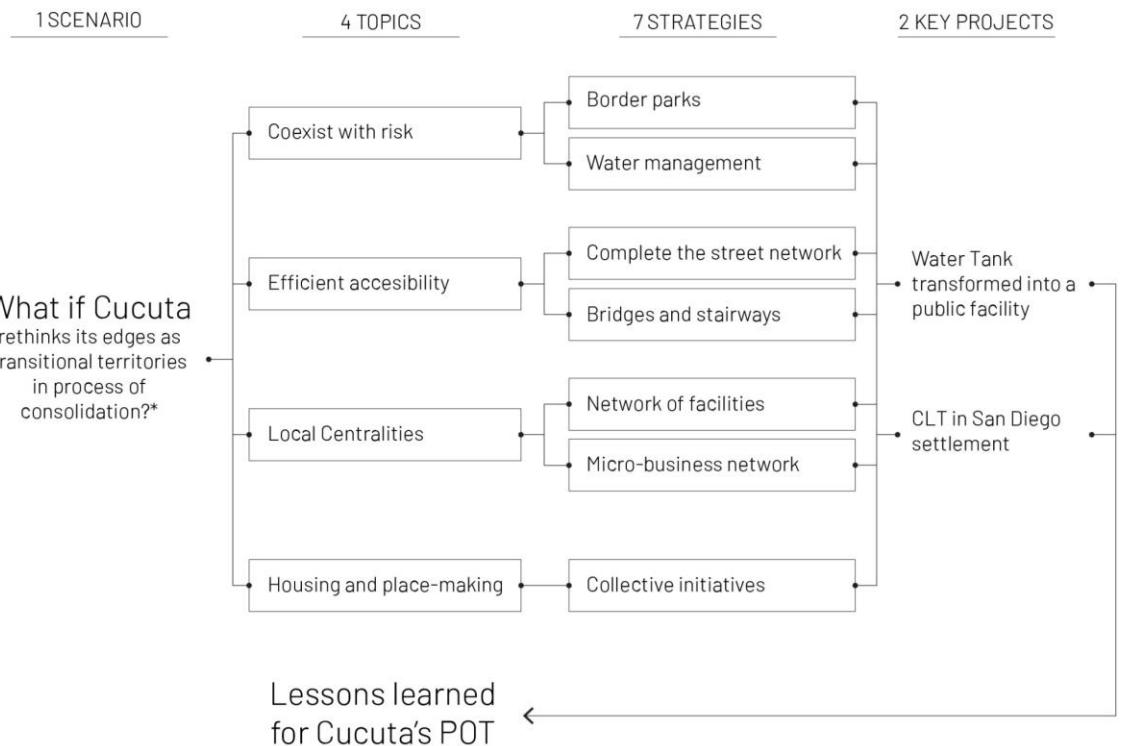
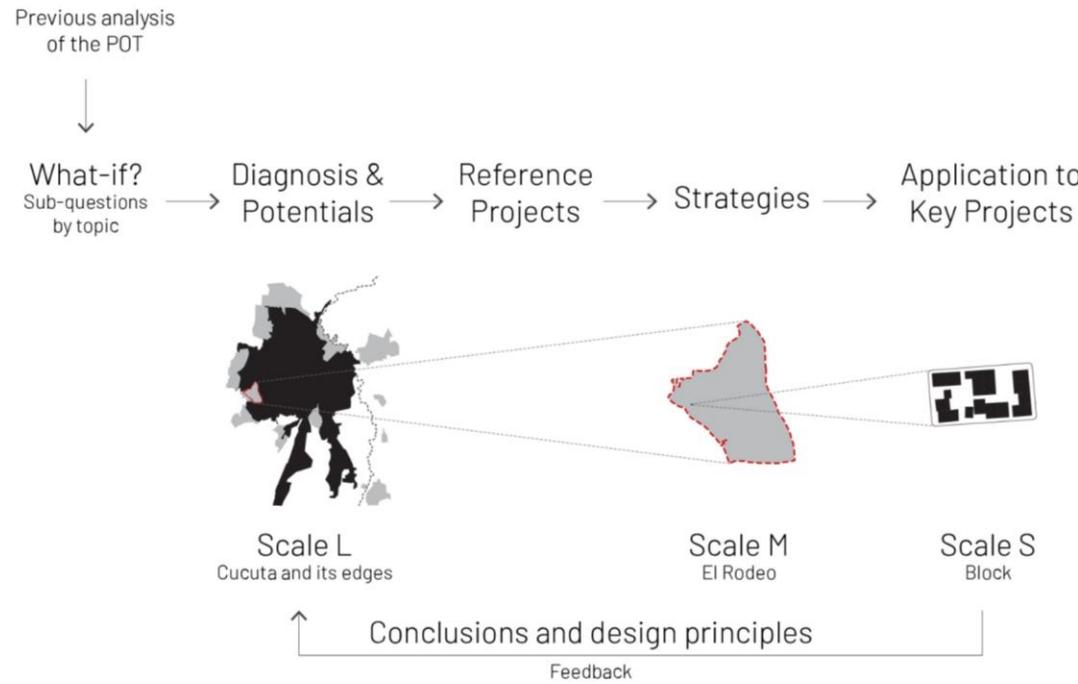


CENTRALITIES



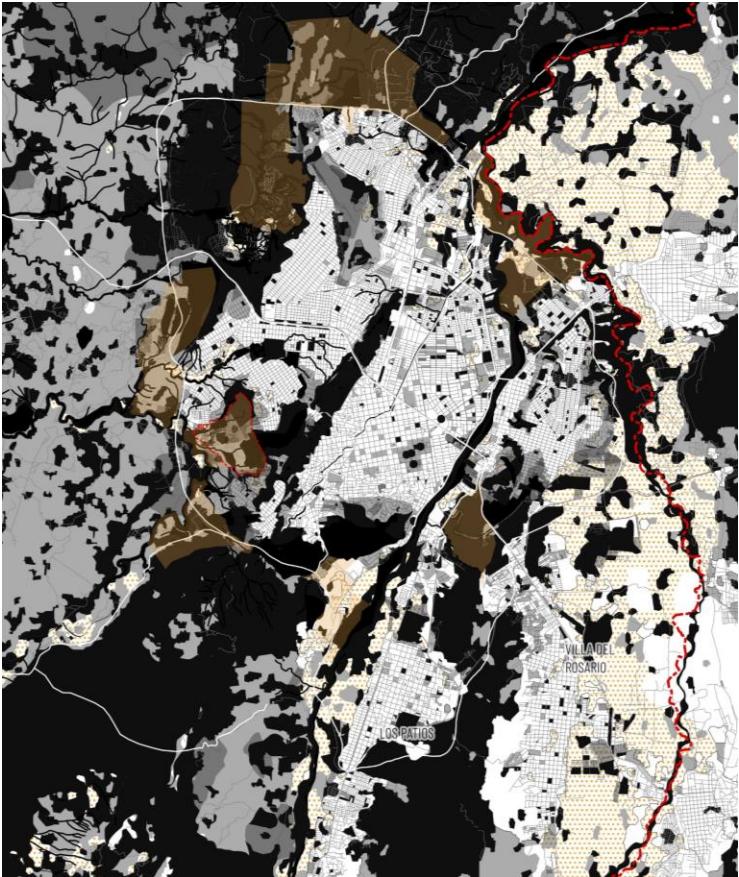
HOUSING

# Research-by-design framework

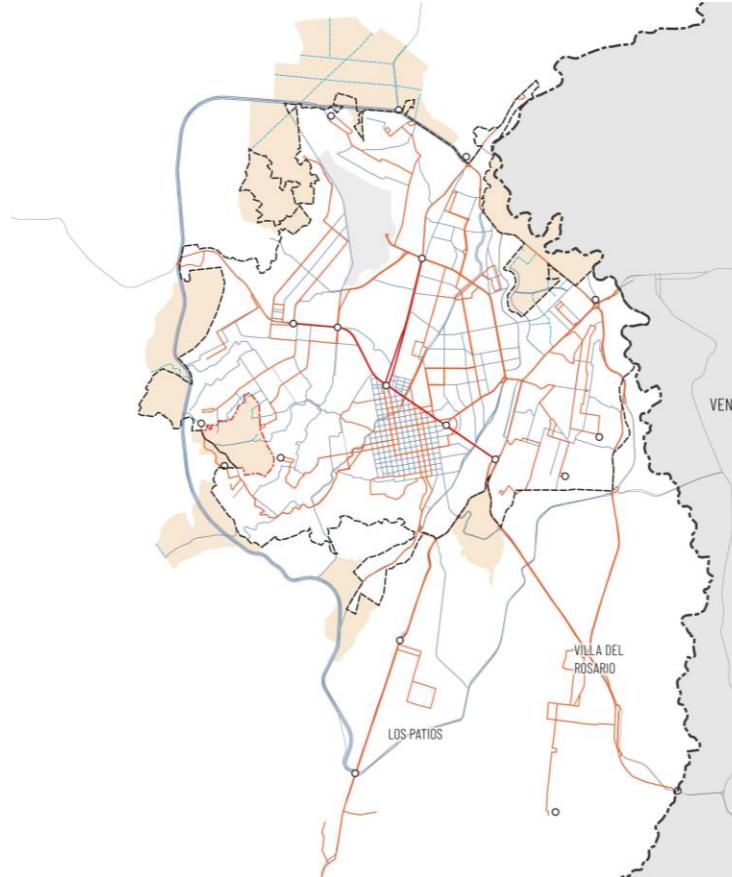


# Diagnosis for scenarios

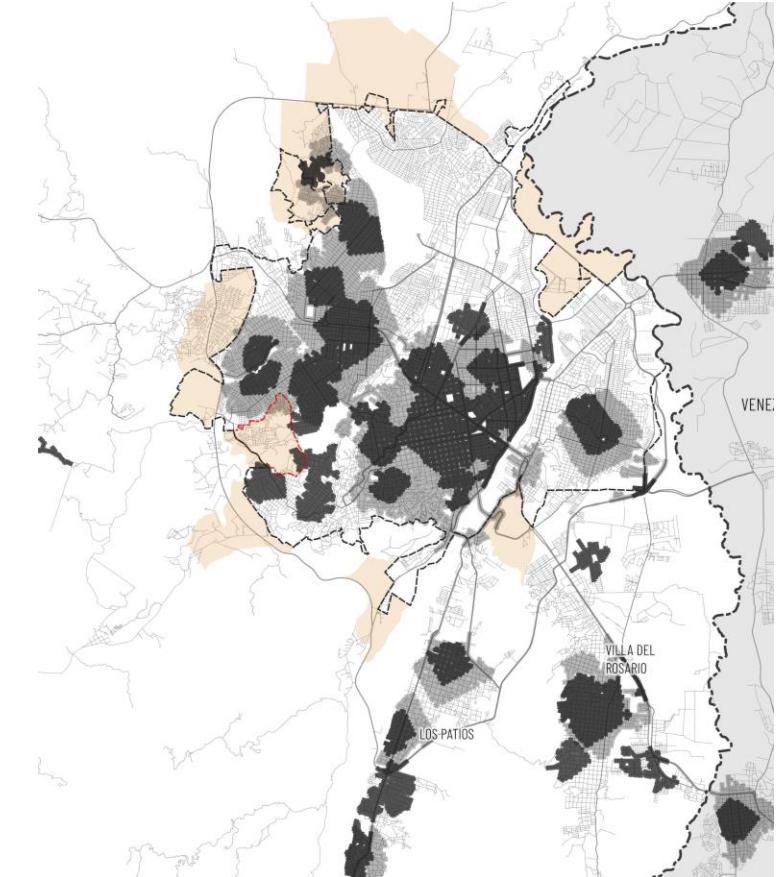
Coexist with risk?



Efficient accessibility?



Network of local centralities?



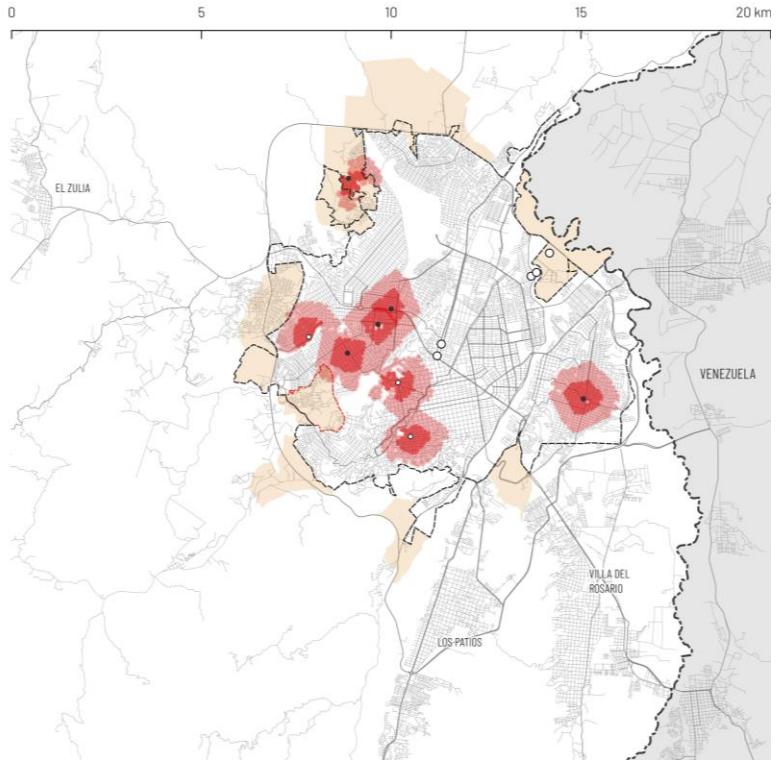
- Preservation / Risk
- Recover / Retrofit
- Agriculture / opportunity
- Urban areas / Densify

- Stations
- BRT
- Transport SITM
- Road Network

- Network Analysis
- Service Area 500m\_Culture & Recreation
- Service Area 1000m\_Culture & Recreation
- Expansion areas 2011 - 2019

# Corazón de Barrio

Heart of Neighbourhood – Reference project from the Municipality



Map developed by the author with information provided by the AMC



What if Cúcuta?

# Collaborative housing initiatives



1. CLT in Puerto Rico. Caño Martin Peña



2. Housing Cooperatives in Uruguay

Sources:

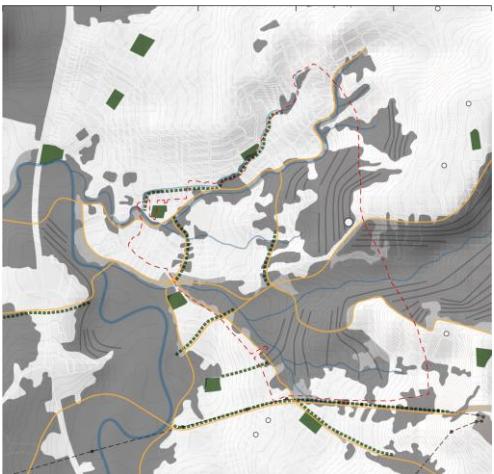
1. The guardian. Photo by Stephanie Maze.
2. World-habitat.org



The Motilon-Bari tribe from Catatumbo region, claiming for the limits of their territory (May 2021).

# Strategies for El Rodeo

RISK



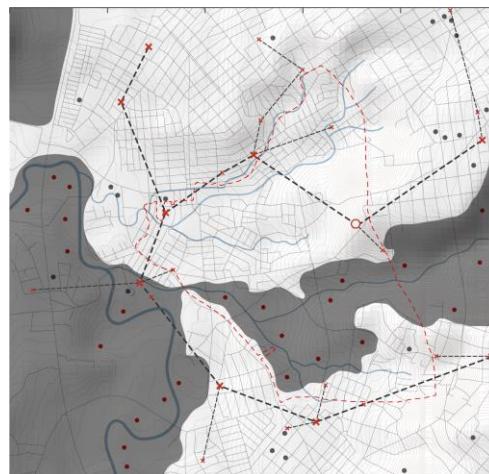
Border Parks

ACCESSIBILITY



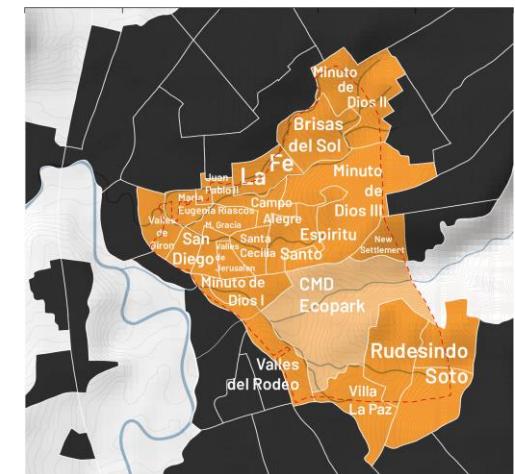
Complete the street network

CENTRALITIES

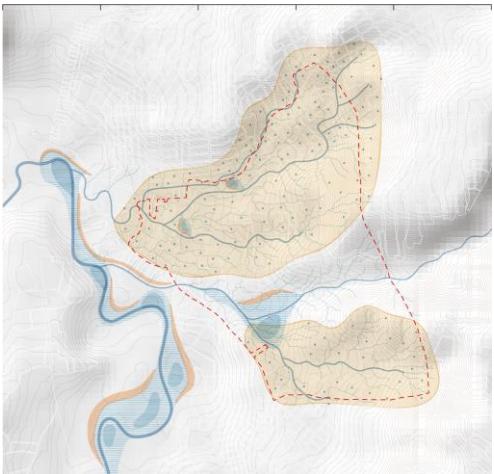


Retrofit existing facilities

HOUSING



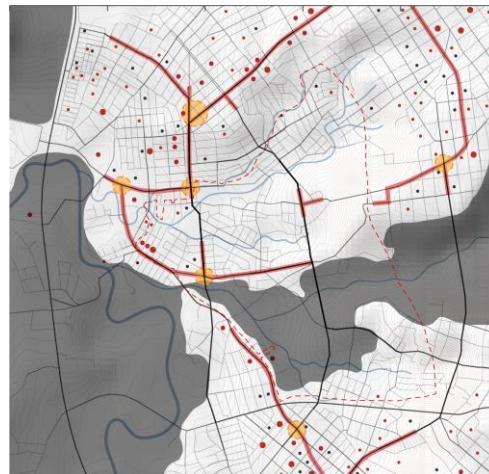
Collective initiatives



Water Management



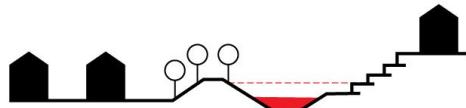
Bridges and stairways



Underpin the micro-business network

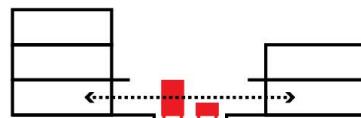
# Strategies for El Rodeo

RISK



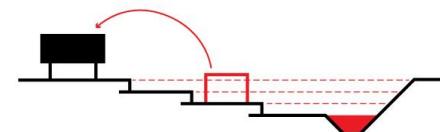
Dikes and terraces

ACCESSIBILITY

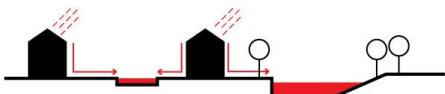


Local and global integration

CENTRALITIES



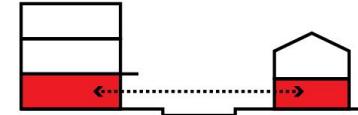
Temporary facilities



SUDs



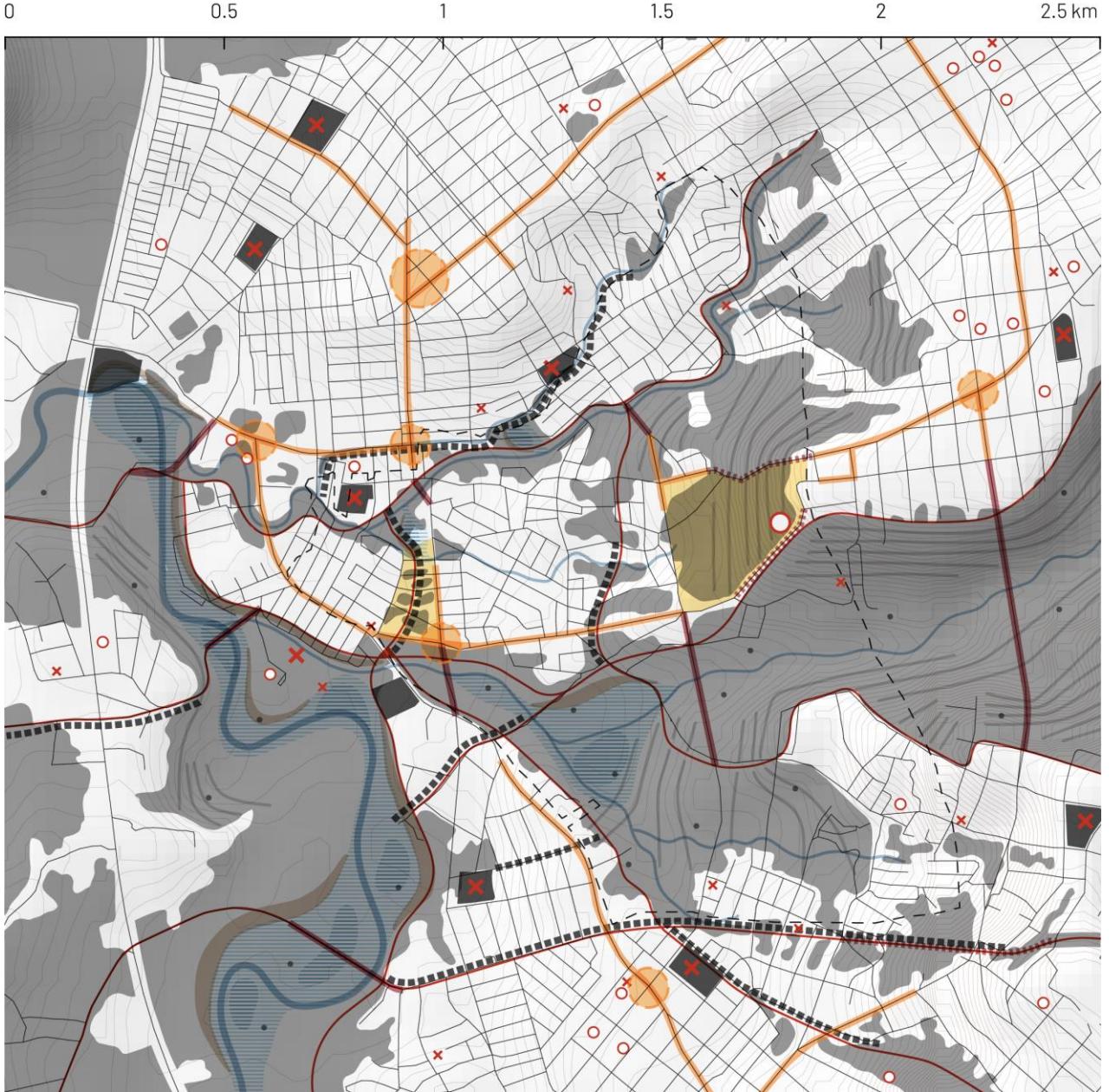
New connections



micro-business network

# Strategies for El Rodeo

- - - El Rodeo
- Street network
- Water bodies
- Flooding areas
- Retention ponds
- Green Areas
- Dikes
- Parks
- Green corridors
- Terraces
  
- Facilities
- Temporary facilities
- ✗ Pitches
- Pedestrian paths
- Bridges
- Stairways
- Linear centralities
- Point centralities
- Key Projects



1. Borders and Edges

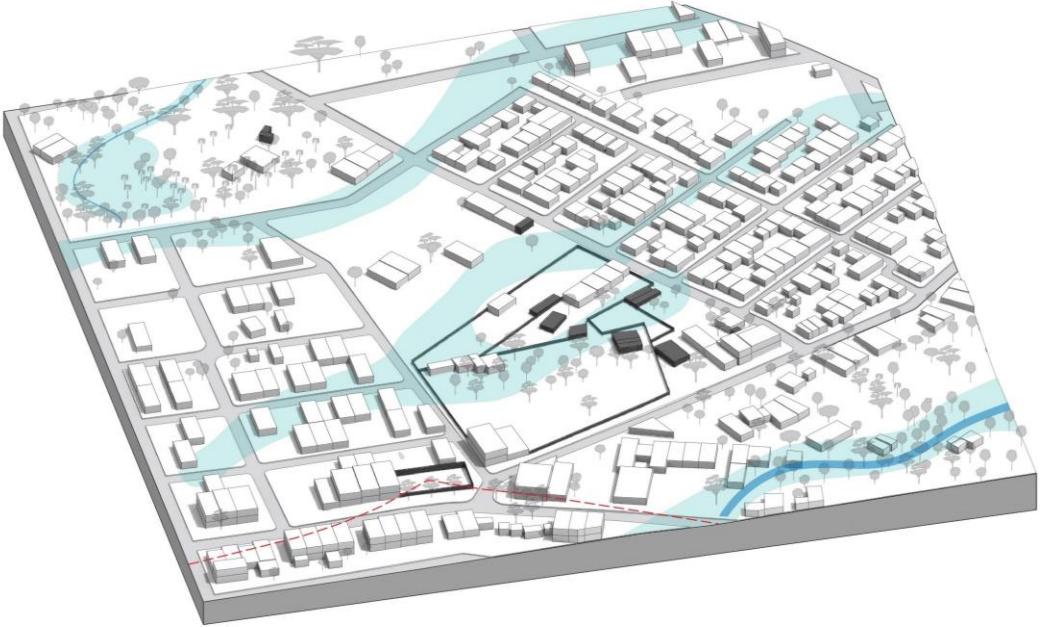
2. What if Cucuta...?

3. Application

# CLT in San Diego Settlement



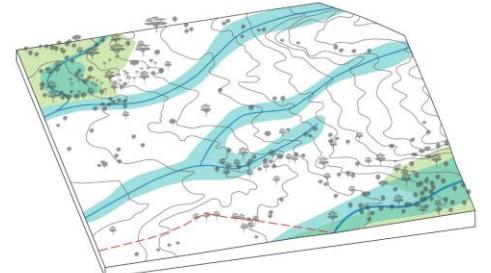
Location



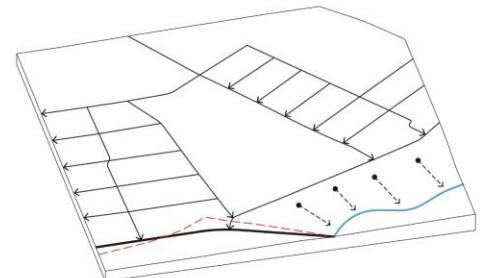
Application

Density of the surrounding blocks:  
75 - 88 dwellings / Hectare

Context	●---> Wastewater discharges
Temporary elements	- - - EI Rodeo limit
Flooding areas	— Water bodies
Green areas	● Trees
Commerce	
Facilities	
Main streets	
Secondary streets	



Landscape

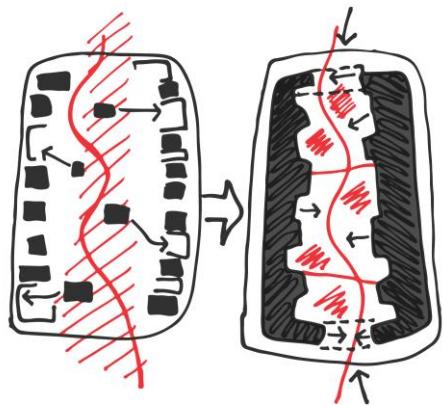


Infrastructure

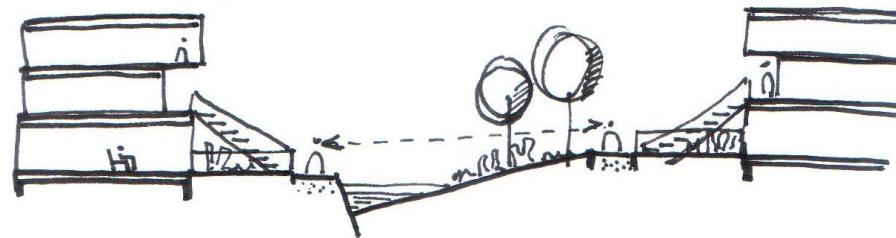


Occupation

# CLT in San Diego Settlement



Densify on the edges of the block



And create a second front at the centre of the block

# CLT in San Diego Settlement

## CLT – Model in Puerto Rico

Collective Land + Private Housing



**Density:** 70 dwellings / Ha

**OSR:** 1.28

**Active edges:** 34%

- Context
- CLT (Puerto Rico)
- CLT (Uruguay)
- Facilities
- Flooding areas

## Housing Coop – Model in Uruguay

Collective Land + Collective Housing



**Density:** 80 dwellings / Ha + retail shops

**OSR:** 0.78

**Active edges:** 42%

## Mixed Model

Collective Land + Mixed tenure of housing

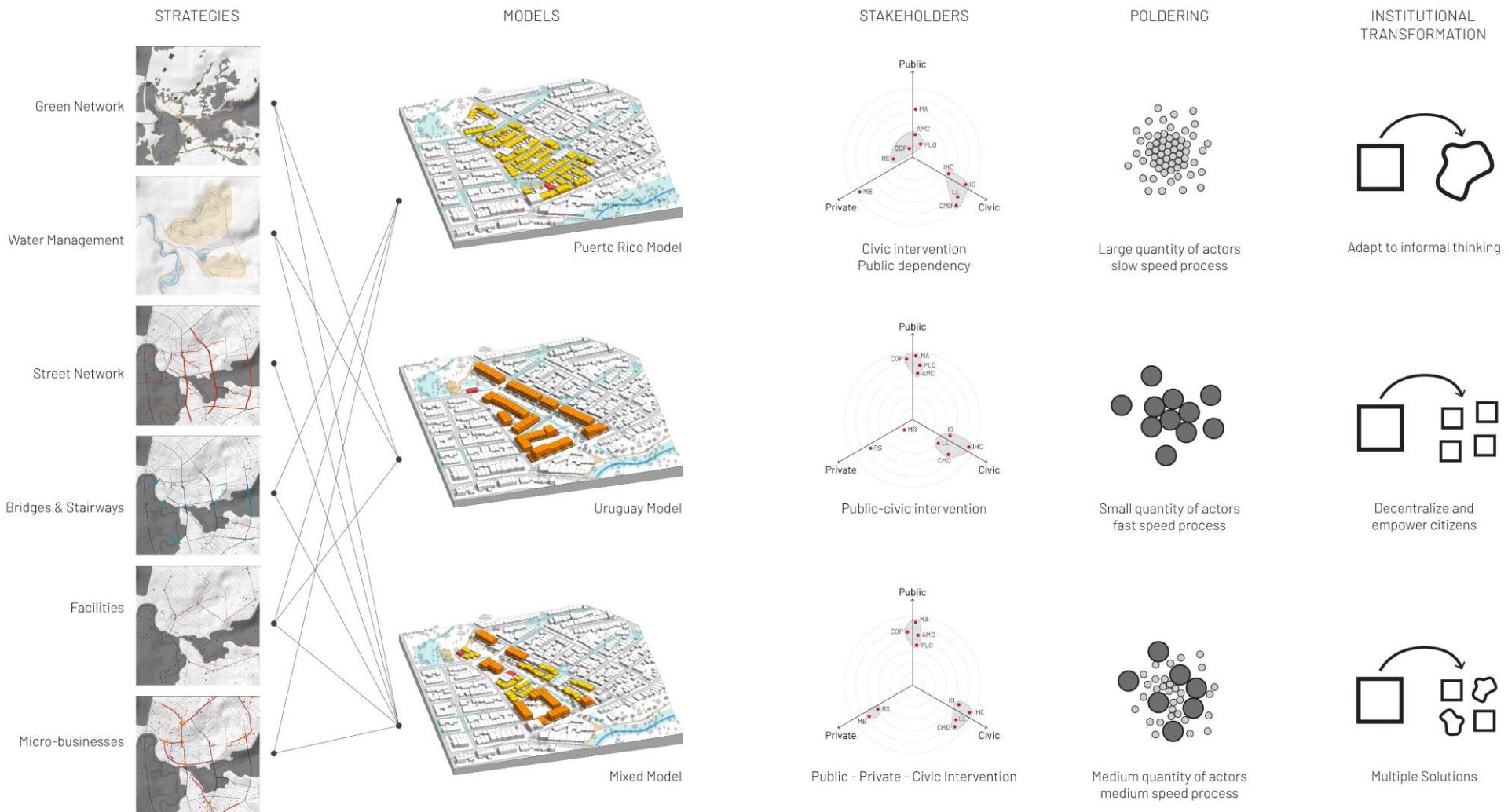


**Density:** 67 dwellings / Ha + retail shops

**OSR:** 0.87

**Active edges:** 40%

# CLT in San Diego Settlement



Acronyms for the governance diagrams: AMC - Metropolitan Area of Cucuta / CMD - Minuto de Dios Corporation / COP - Copronor. Environmental Agency / IHC - International Housing Cooperatives / IO - International Organizations like GIZ and UNHCR / LL - Local Leaders / MA - Mayor of Cucuta / MB - Micro-businesses / PLO - Planning Office of Cucuta / RS - Retail Shops



Perspective of the linear park at San Diego's CLT (Mixed model).



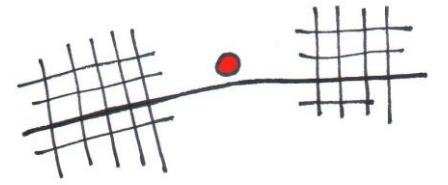
Network of local facilities in El Rodeo + extrapolation of the street network

# From water tank into local facility

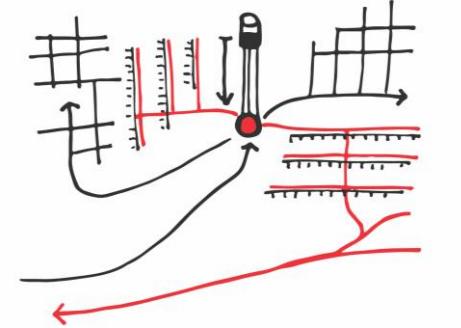
Current situation



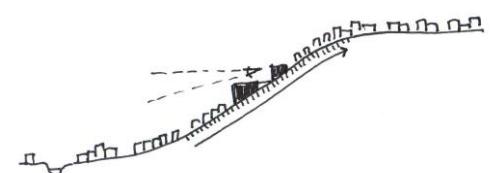
Application



Strategic location



Water management



Visual impact on the landscape

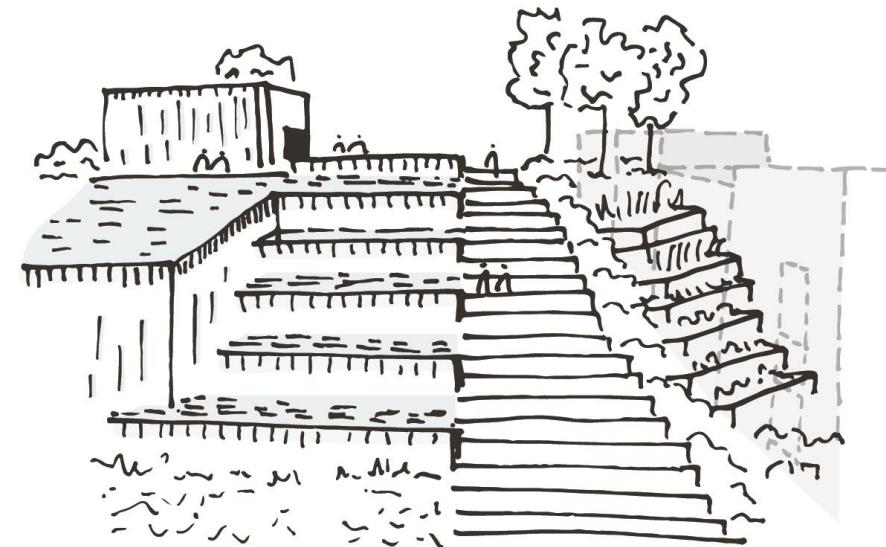
# From water tank into local facility

Concept



Landscaping

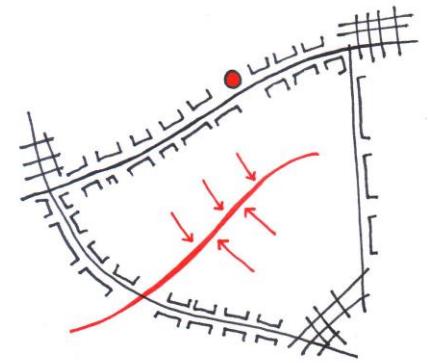
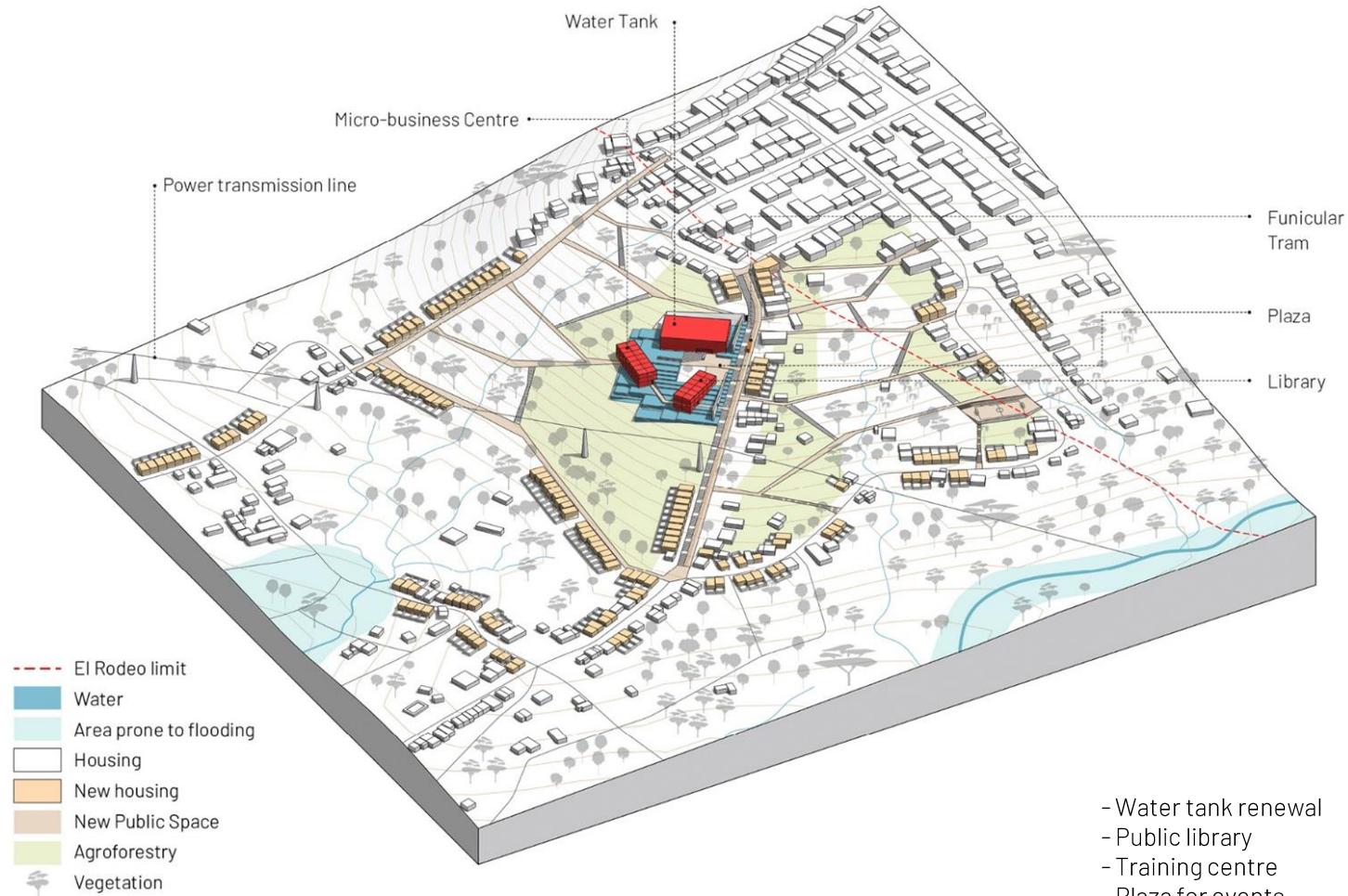
Wild Vegetation  
Agriculture



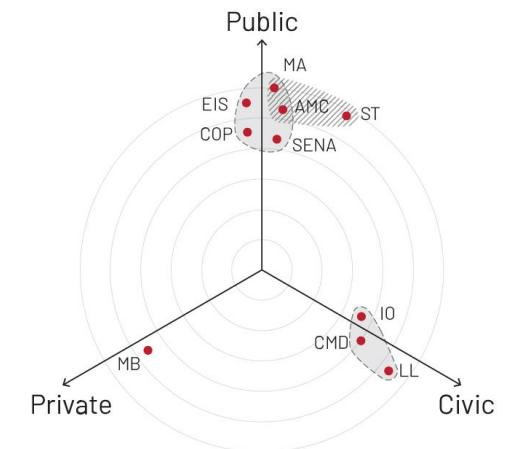
Water Stairway

# From water tank into local facility

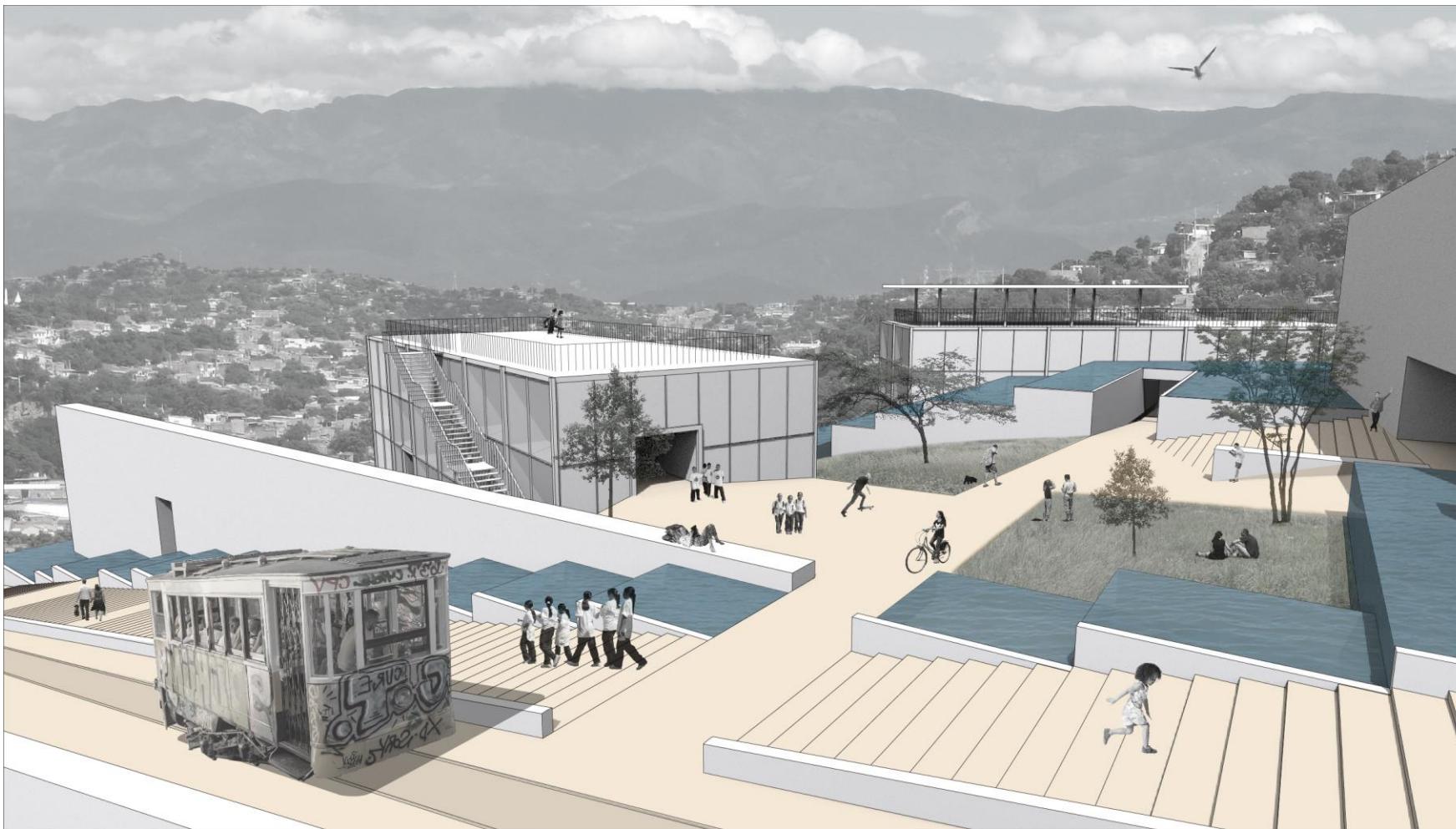
Proposal



Consolidate the back and front



- Funicular tramway
- Water tank
- Stakeholders

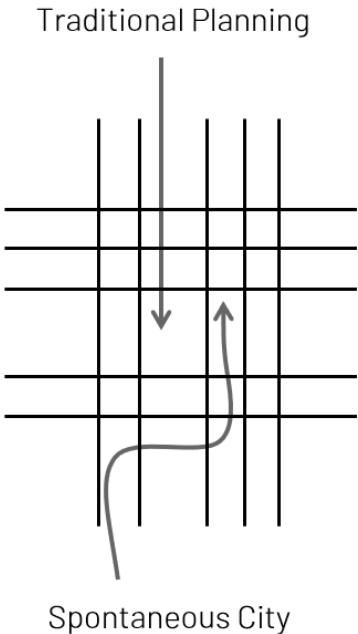


Perspective of the facility proposed for the water tank in El Rodeo

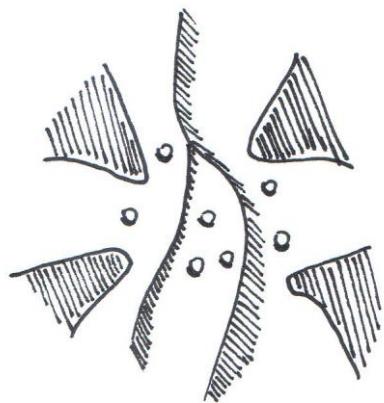
# CONCLUSIONS

# Recommendations for a new planning framework

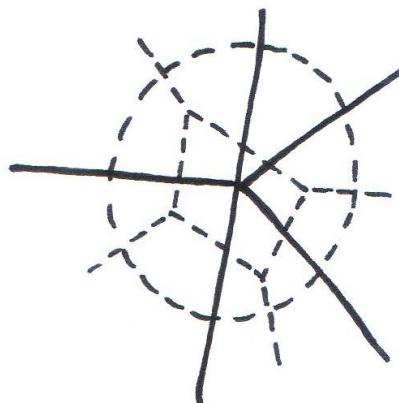
- Implement a Special Plan to consolidate the edges of Cucuta.
- Spatial planning involves more than regulations > Promote 'Do-it-yourself' initiatives.
- Decentralise the POT with local plans for each of Cucuta's districts (10).



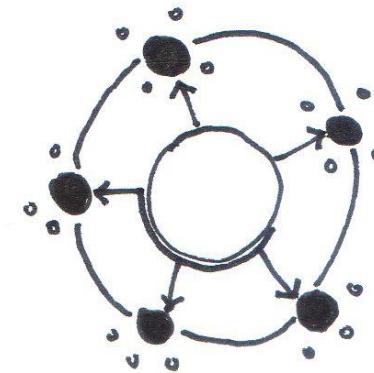
# Feedback to the POT



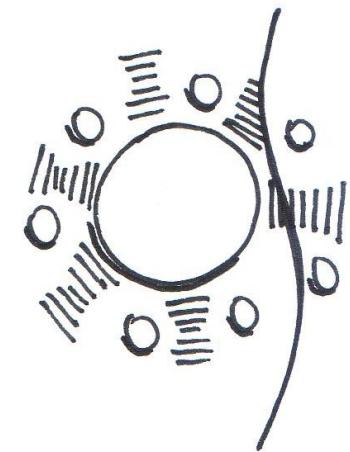
Border parks  
and water reservoirs



Infrastructural links

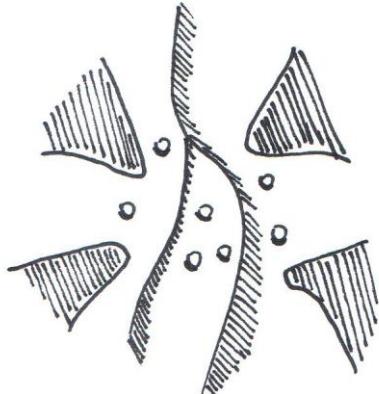


Retrofit local centralities

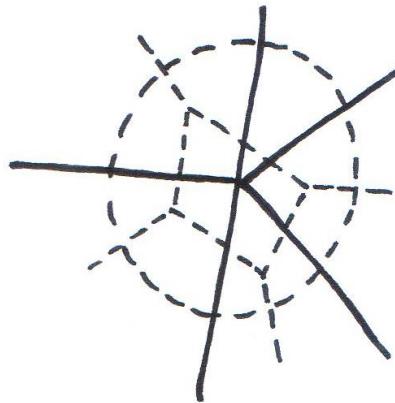


Transitional territories for  
place-making

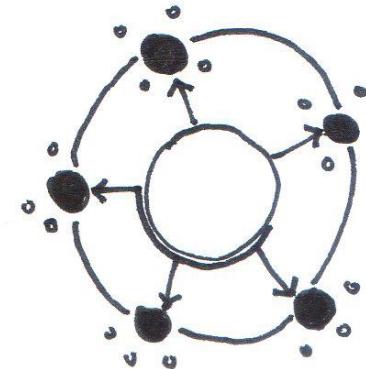
# Feedback to the POT



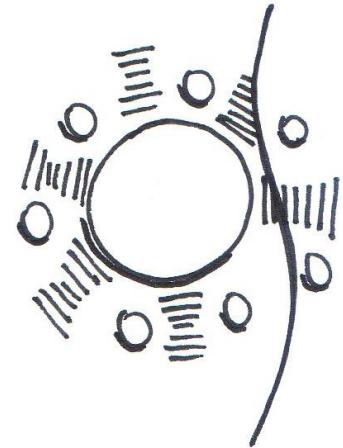
Border parks  
and water reservoirs



Infrastructural links



Retrofit local centralities

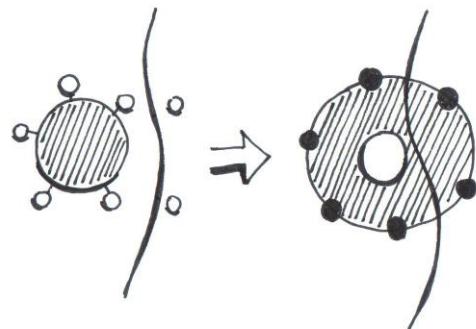


Transitional territories for  
place-making

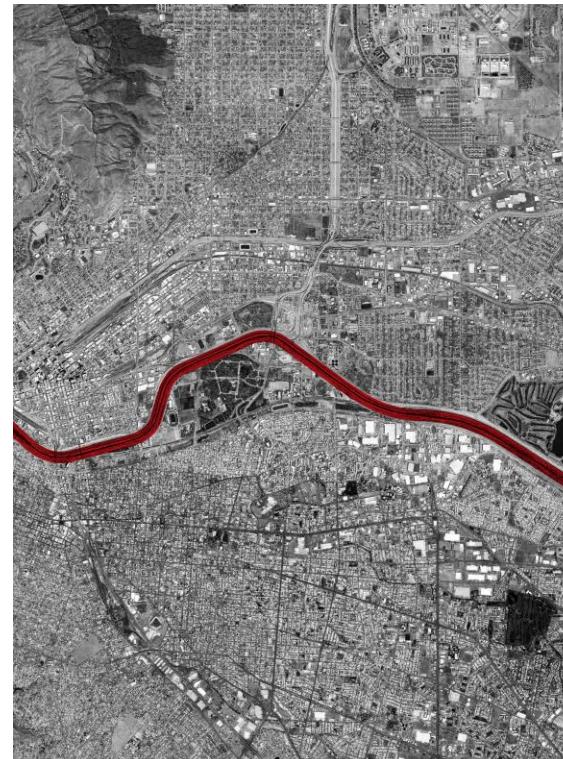
- Landscape strategies can help to avoid illegal occupation, while water reservoirs can mitigate flood risk and water shortages.
- Giving importance to the edges can help to decentralize the city.
- Place-making initiatives becomes essential to create permanence in a transitory city.

# Learnings from other border cities

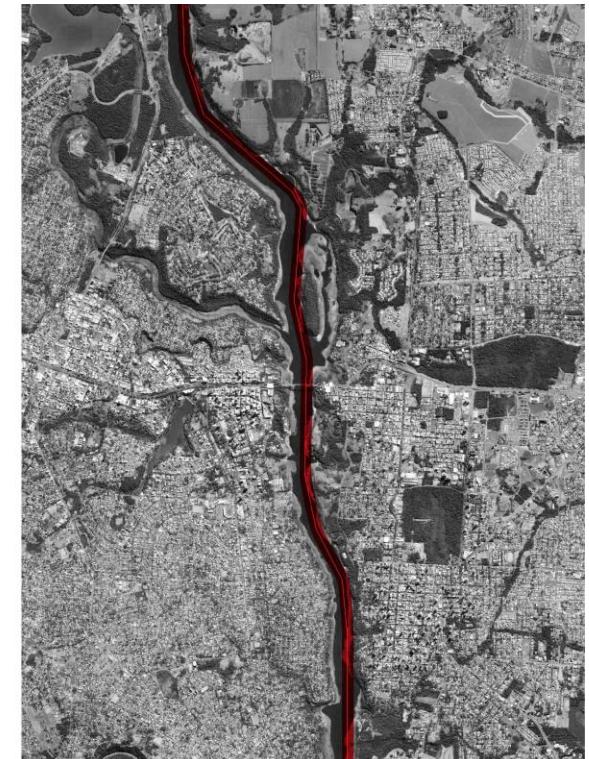
- Cucuta needs to consolidate its small industries to be more resilient to border fluctuations.
- Migratory policies should promote participation in democracy to reduce informal practices.
- New instruments of transboundary planning.
- Inequality is the most latent border, both for citizens and migrants, but this happens in every city.



Ciudad Juarez(MX)- El Paso(US)



Ciudad del Este(PY)- Foz do Iguaçu(BR)



Thank you!



Drawings of the CLT in El Rodeo by the author