

landscape acupuncture

thesis project
politecnico di milano
sustainable architecture & landscape design

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POLITECNICO
MILANO 1863

School of Architecture, Urban Planning and
Construction Engineering

Master of Science in Sustainable Architecture
and Landscape Design

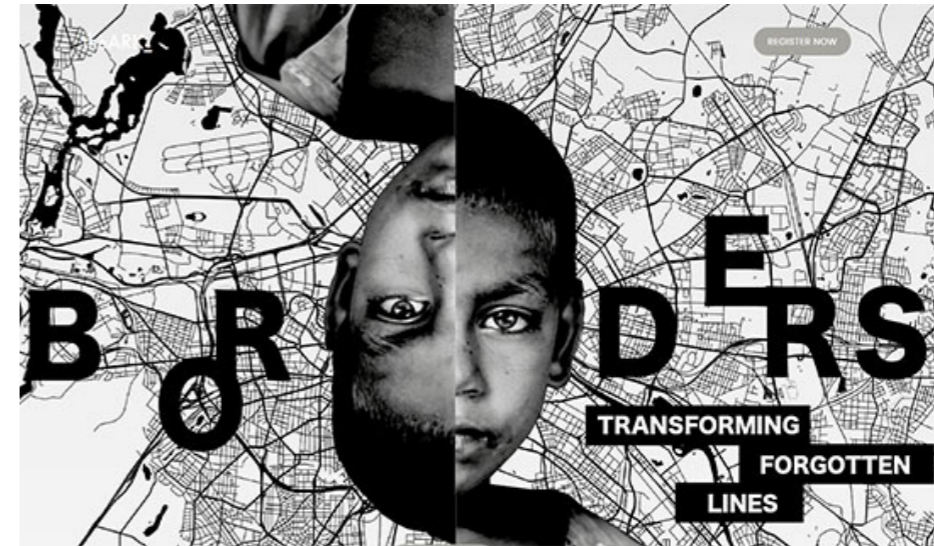
“Landscape Acupuncture”
Thesis booklet

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introduction



Our motivation to tackle borders through a landscape architecture lense, began with the call for application to The Ark's competition "Transforming Forgotten Lines", which challenged competitors to think of a transformed international crossing border were economic growth, cultural exchange and encounter replace stigma, limits and division.

The massive migration of people to Colombia from Venezuela, the country's economical disgrace and political mismanagement, increasing crime rates and its social repercussions, brought up the need of tackling the situation with creative design, social awareness and tactical research as Colombian architects.

The project aims to embrace and potentialize the "informal" and the existing. To transform current situation through art, education and new ways of sustainable production and human flow. The border will no longer mean danger, intimidation, and rejection but cultural encounter, safe crossing and environmental engaging.

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I. context



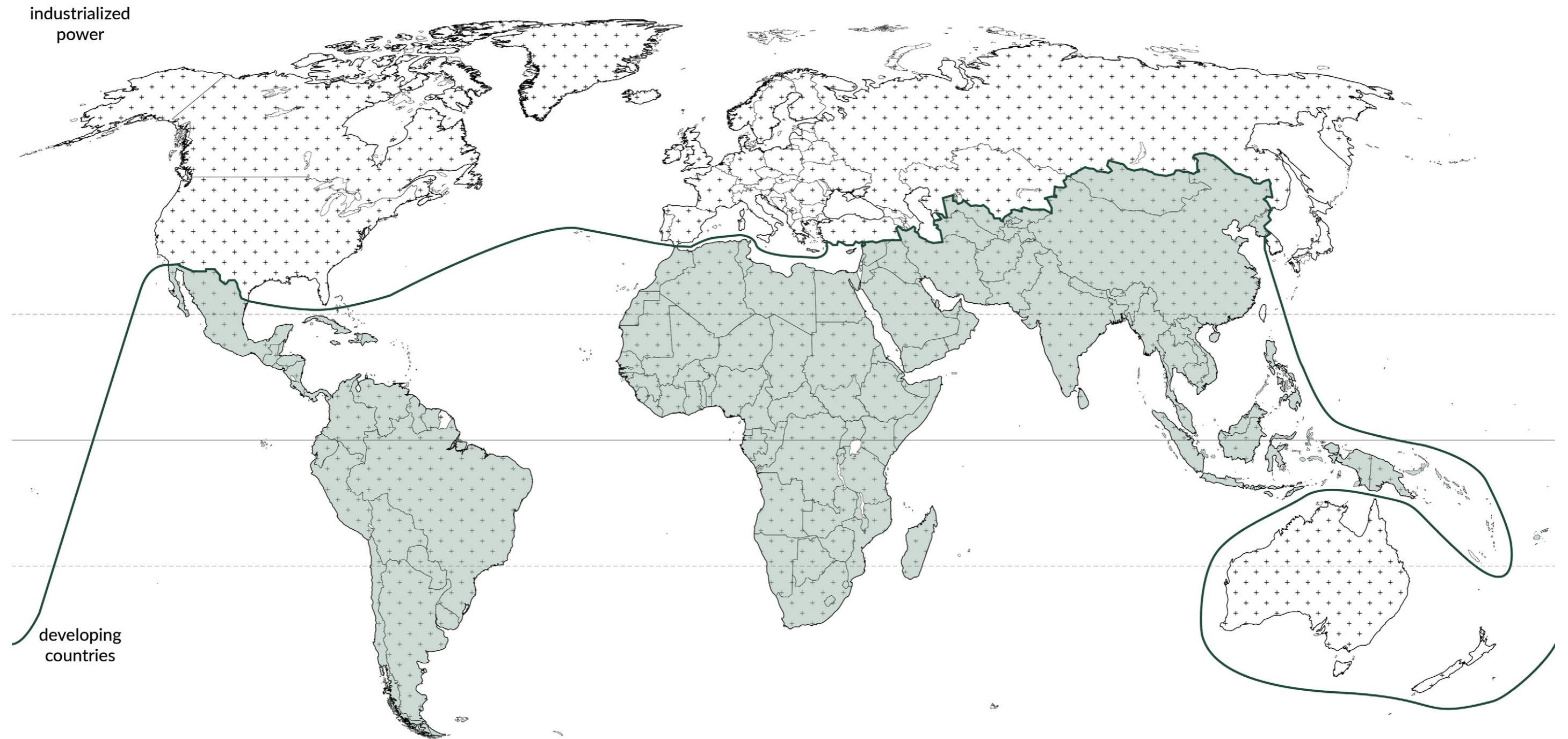
photo by: National Geographic

The historically brotherly nations of Colombia and Venezuela, have always had an active exchange of goods, a common education system and a geographically shared identity.

These features have been affected by the unstable Venezuelan government which lead to 1.5 million people migrating to Colombia from Venezuela since 2013 as the consequence of a

nation-wide economical decay and dictatorial policies resulting in an almost worthless currency and shortage of all kinds of goods. Nevertheless, we acknowledge how migration

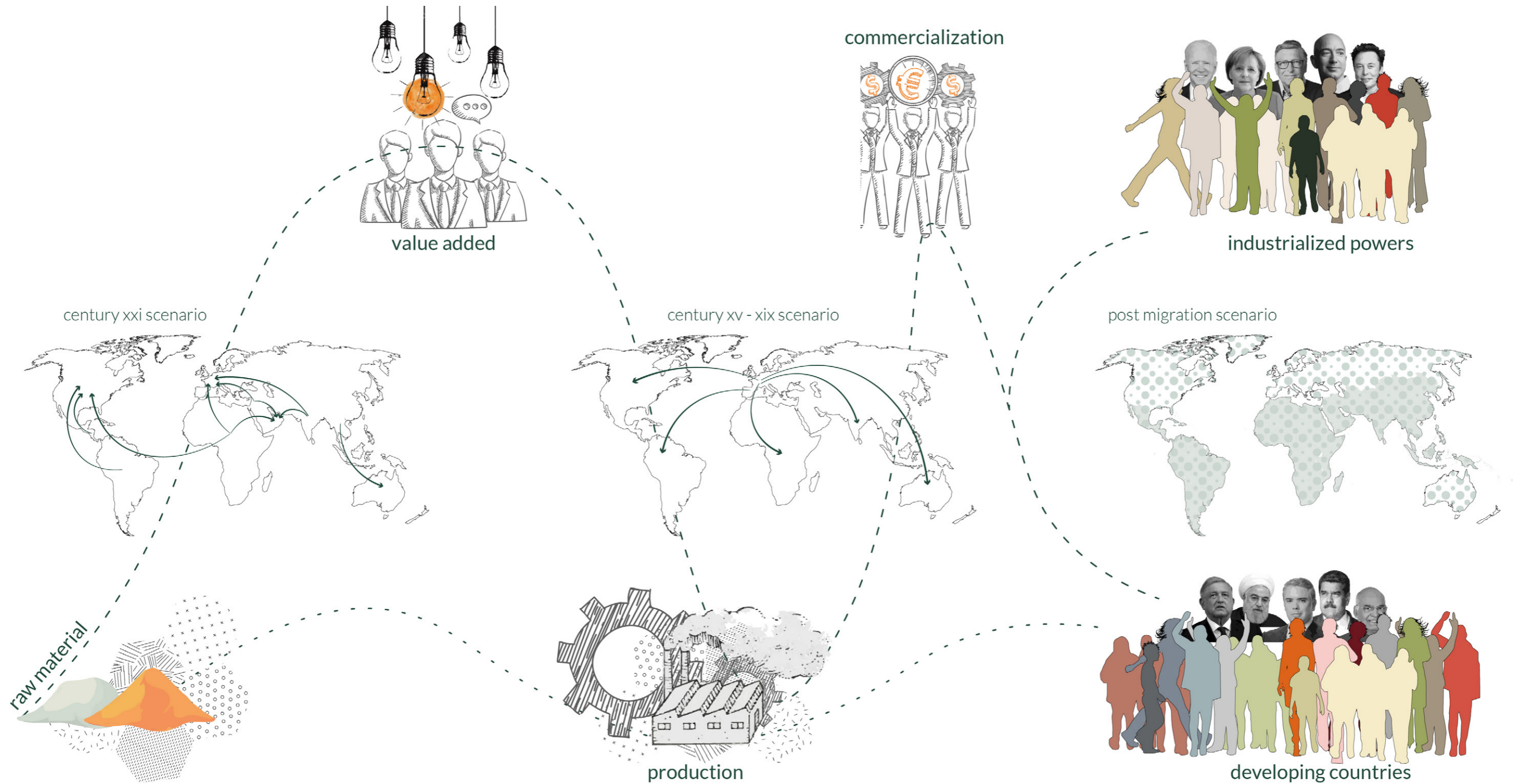
is a common phenomenon and through this introductory chapter, we scope into what it means in a global, continental and local scale considering history and relevant data.



“The term Global South is more than a metaphor for underdevelopment, does reference to an historic and new ways of colonialism, and differential economic and social change through

which large inequalities in living standards, life expectancy and access to resources are maintained”

Nour Dados & Raewyn Connell

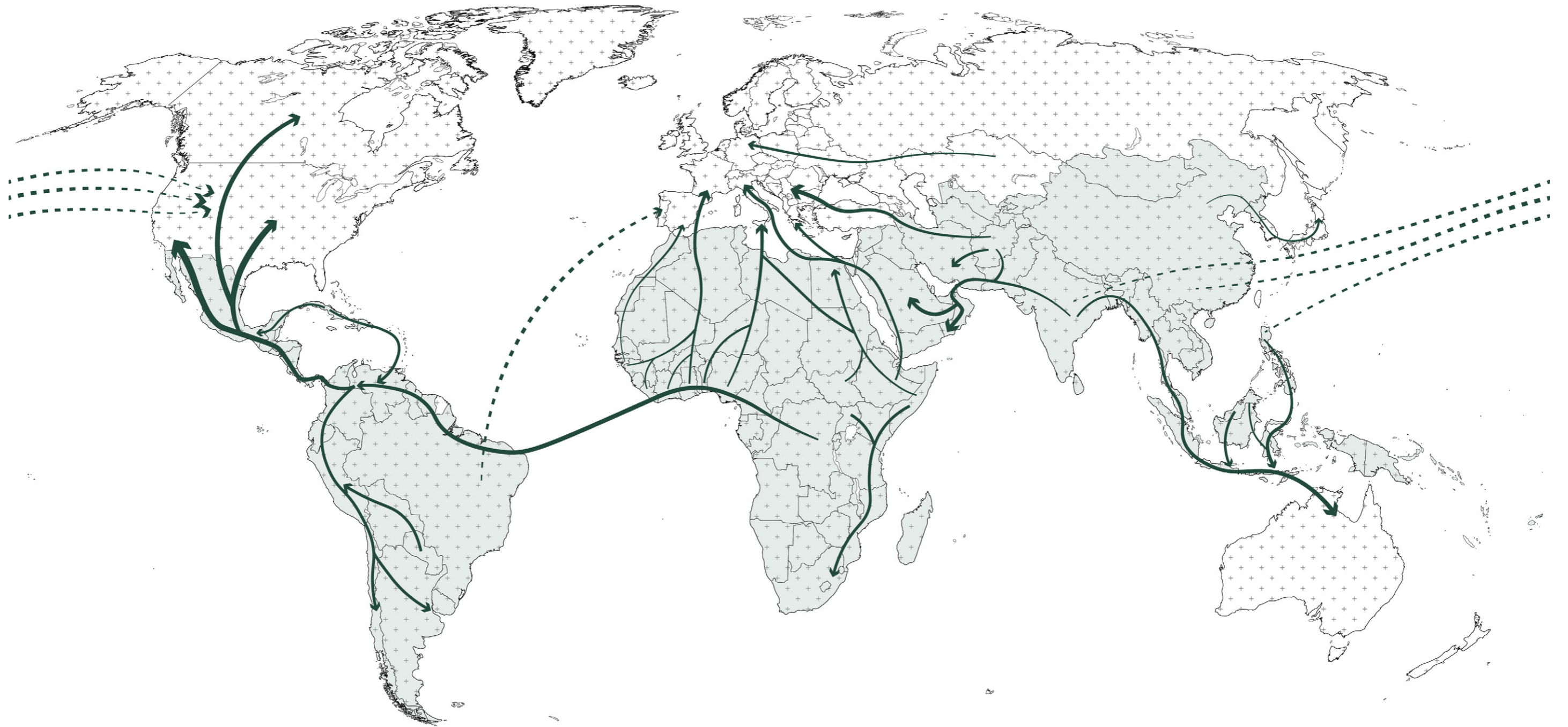


The separation of the world in global north and south is based on the development of geopolitical relations. Both parts have different problematics and interests, which develops in a distinctive

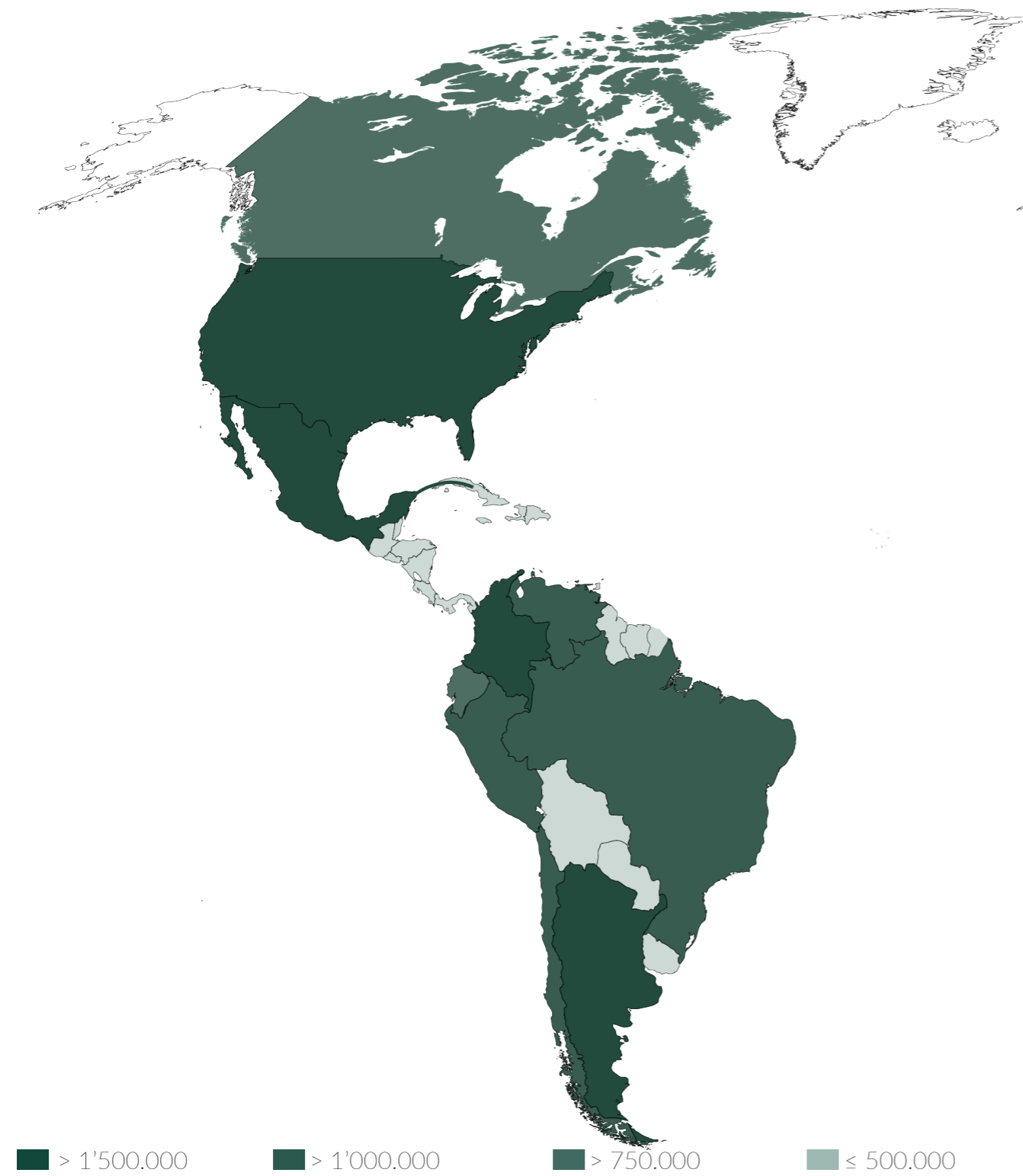
intellectual production with their own questions to solve. The economy of the global south has been historically associated with the exportation, to

satisfy the external necessities instead of the internal. The export of raw materials to then be processed and commercialized with a value added is part of the interaction between both

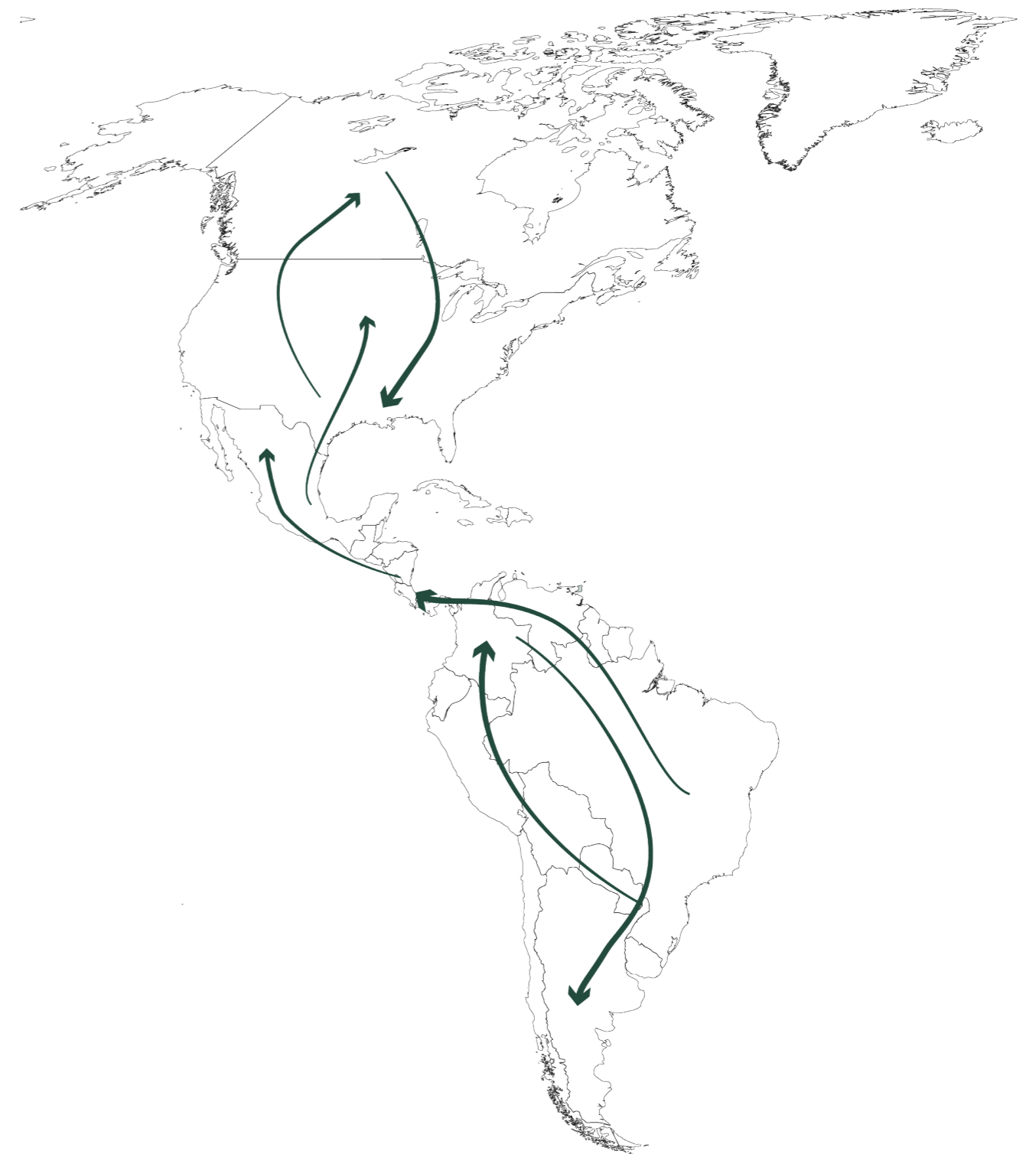
worlds. The migration patterns during the centuries and the actual globalization, breaks this division, production small "global south" inside the north.



Population flows and migrational tendencies map based on IOM's report from 2019.



Estimated number of people migrating in America based on IOM's report from 2019.



Tendency of massive flow of people in America based on IOM's report from 2019.

migration in Colombia - Venezuela countries scale

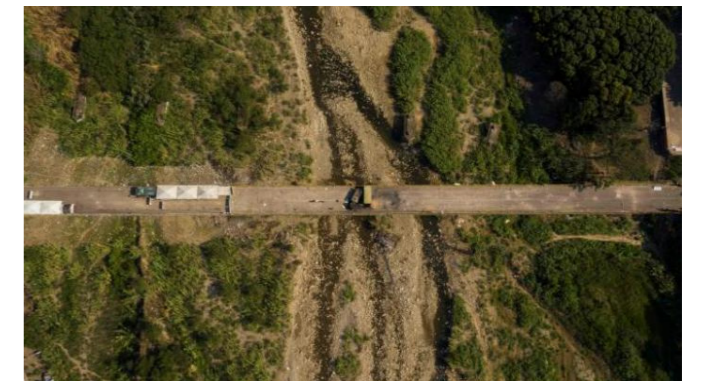


The border of Colombia and Venezuela consists of 2.200 kilometers going through a vast variety of landscapes. From desert on the north, to rainforest in the south.

This illustration shows where are the most dominant flows of migration from Venezuela, indicated with the arrows, and where the main urban settlements are, indicated with crosses.



Maicao crossing



Cucuta crossing

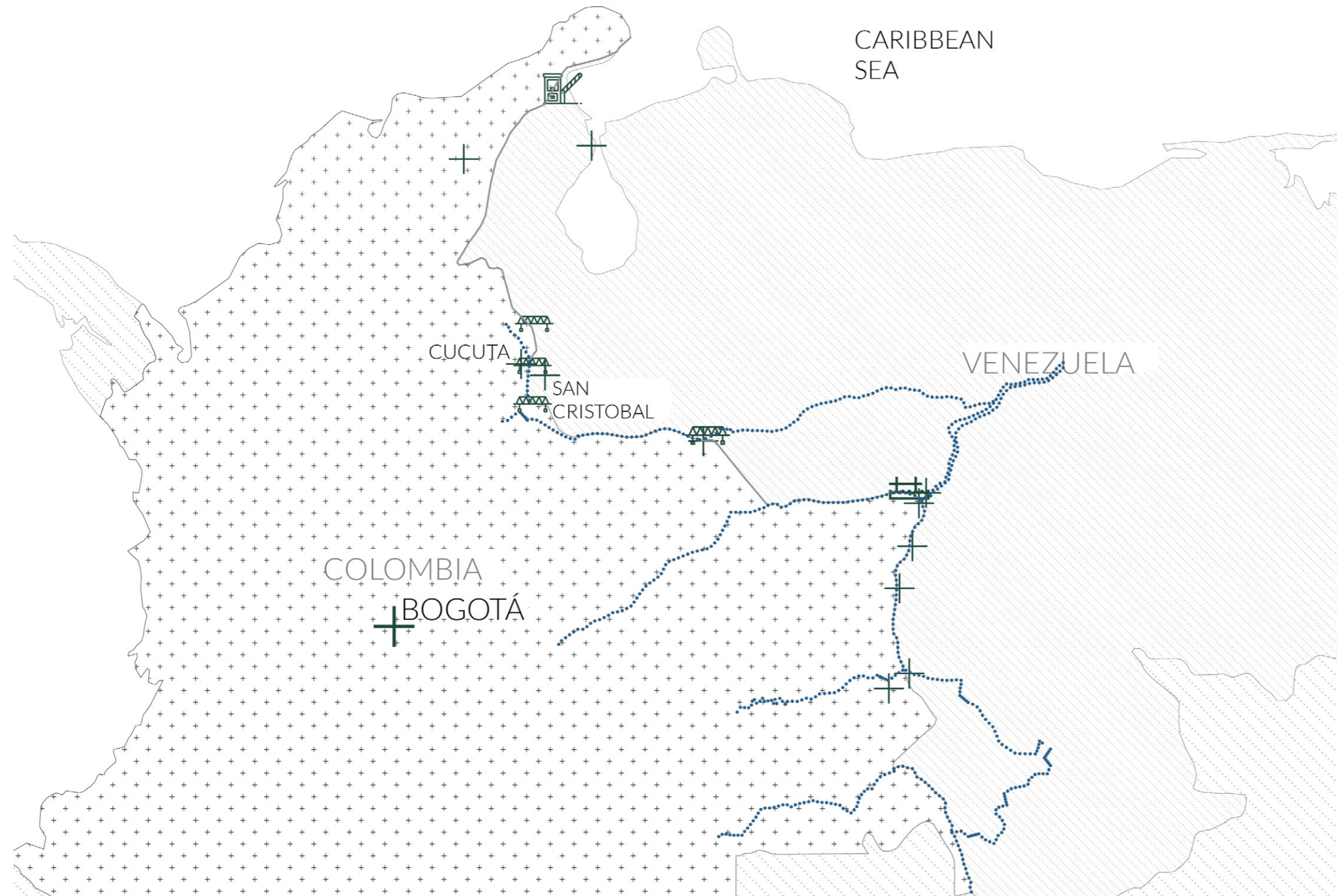





Puerto Carreño crossing

Despite the harsh bioclimatic and geographic conditions, there's "informal" ways of crossing everyday and it of course, fluctuates due to the season. Children in schools, workers and

migrants, are forced to cross daily regardless of the always changing and unstable political atmosphere controlling the "formal" crossings.

migration in Colombia - Venezuela border checkpoints



-  vehicular checkpoint
-  bridge checkpoint
-  river checkpoint

There are 6 official border checkpoints. These points are in constant opening and closing since 2015.



Maicao crossing

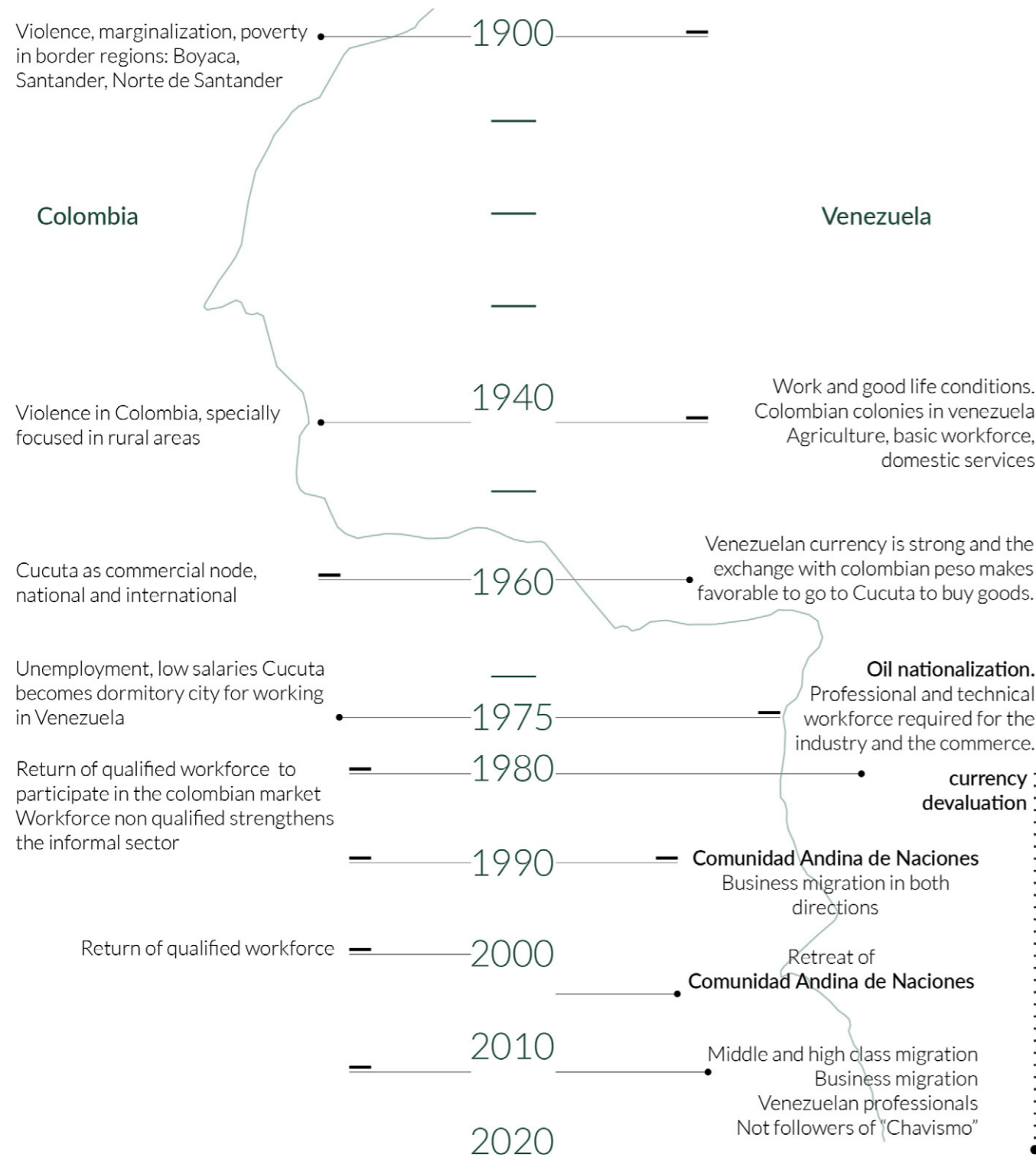


Cucuta crossing

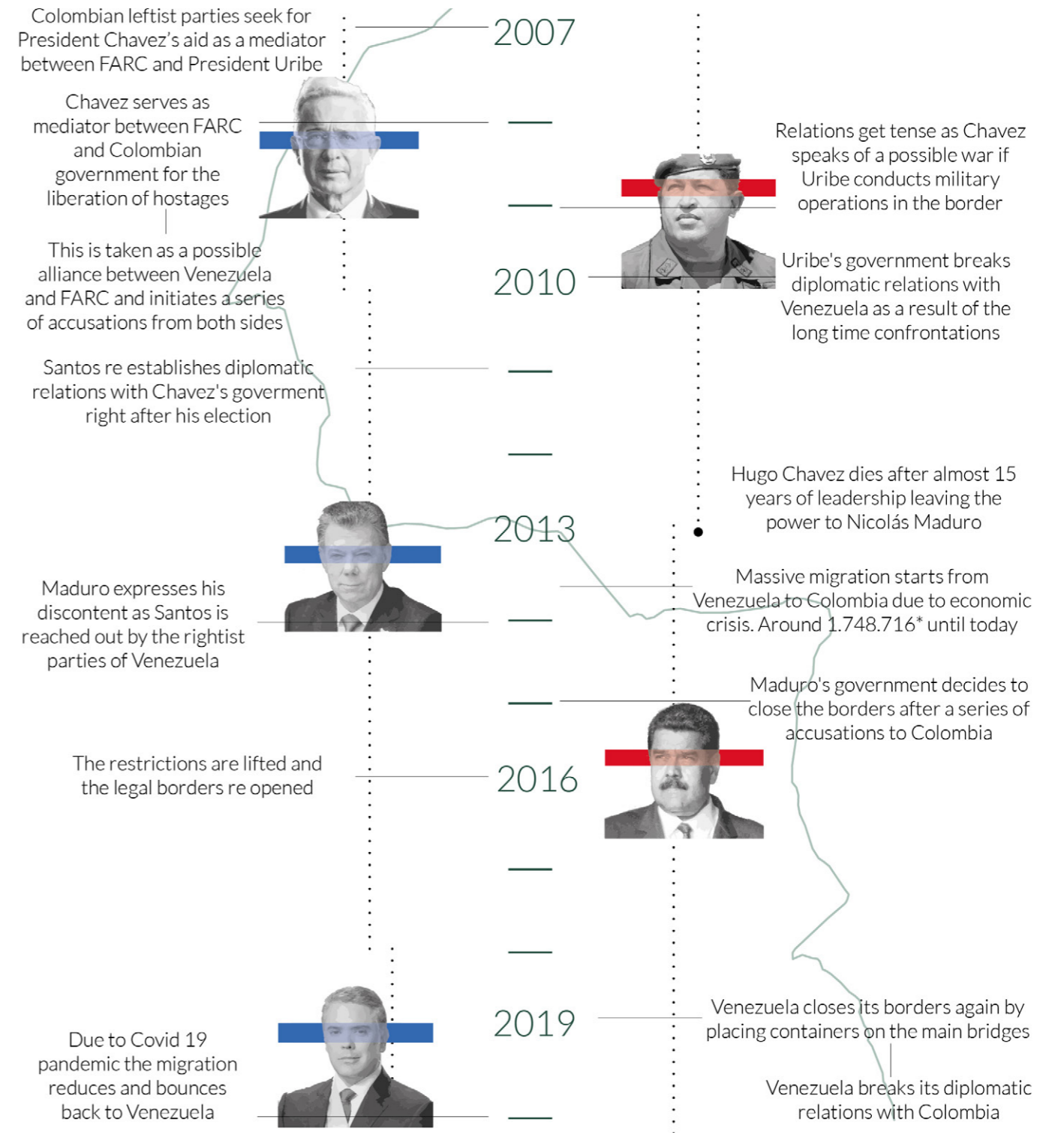


Puerto Carreño crossing

migration in Colombia - Venezuela social and political situation



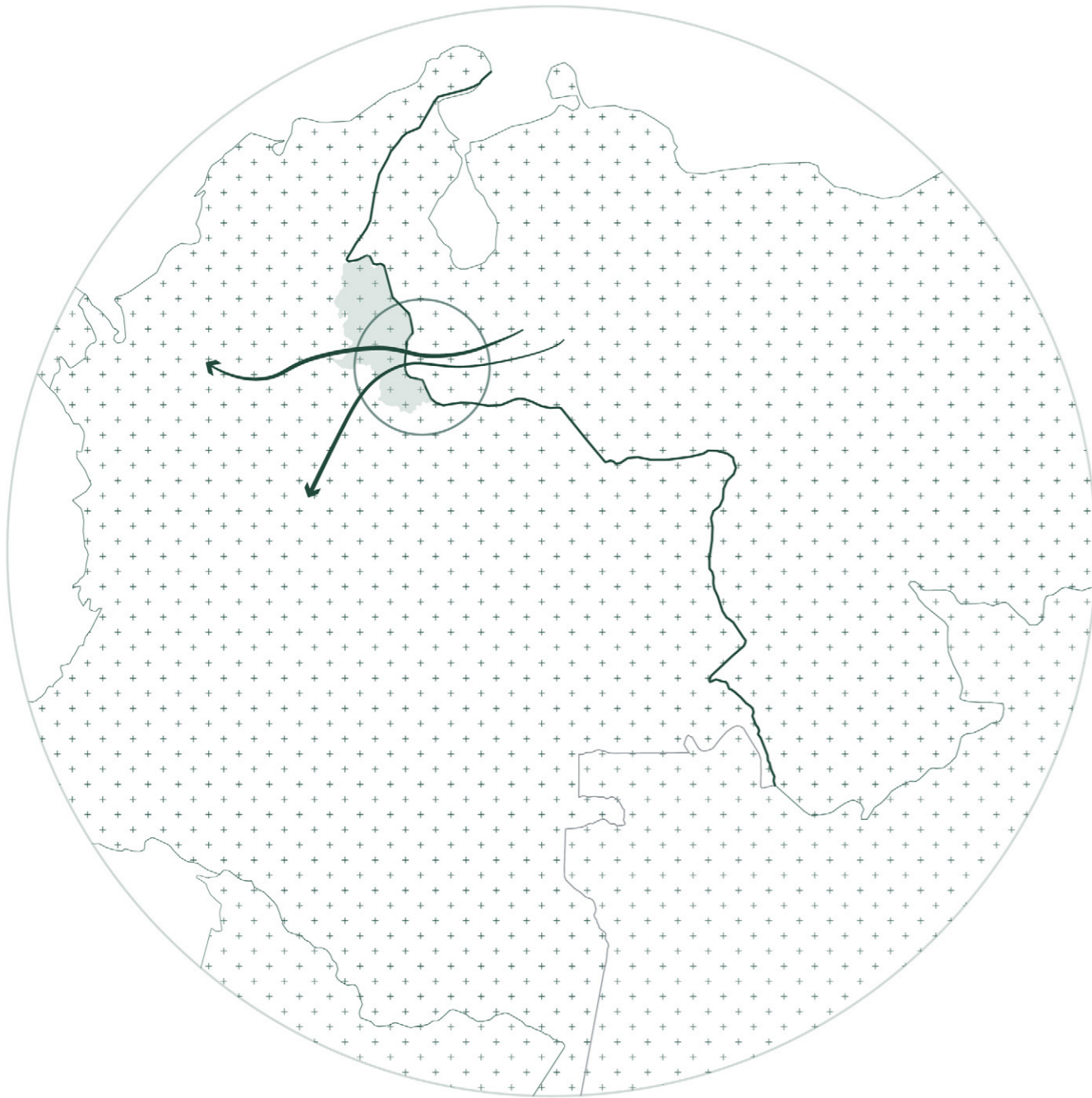
Historical timeline of migration in the border.



Timeline illustrating the political situation between Colombia and Venezuela's government and how it has affected the border's dynamic.

migration in Colombia - Venezuela regional scale

I.4



Catatumbo region

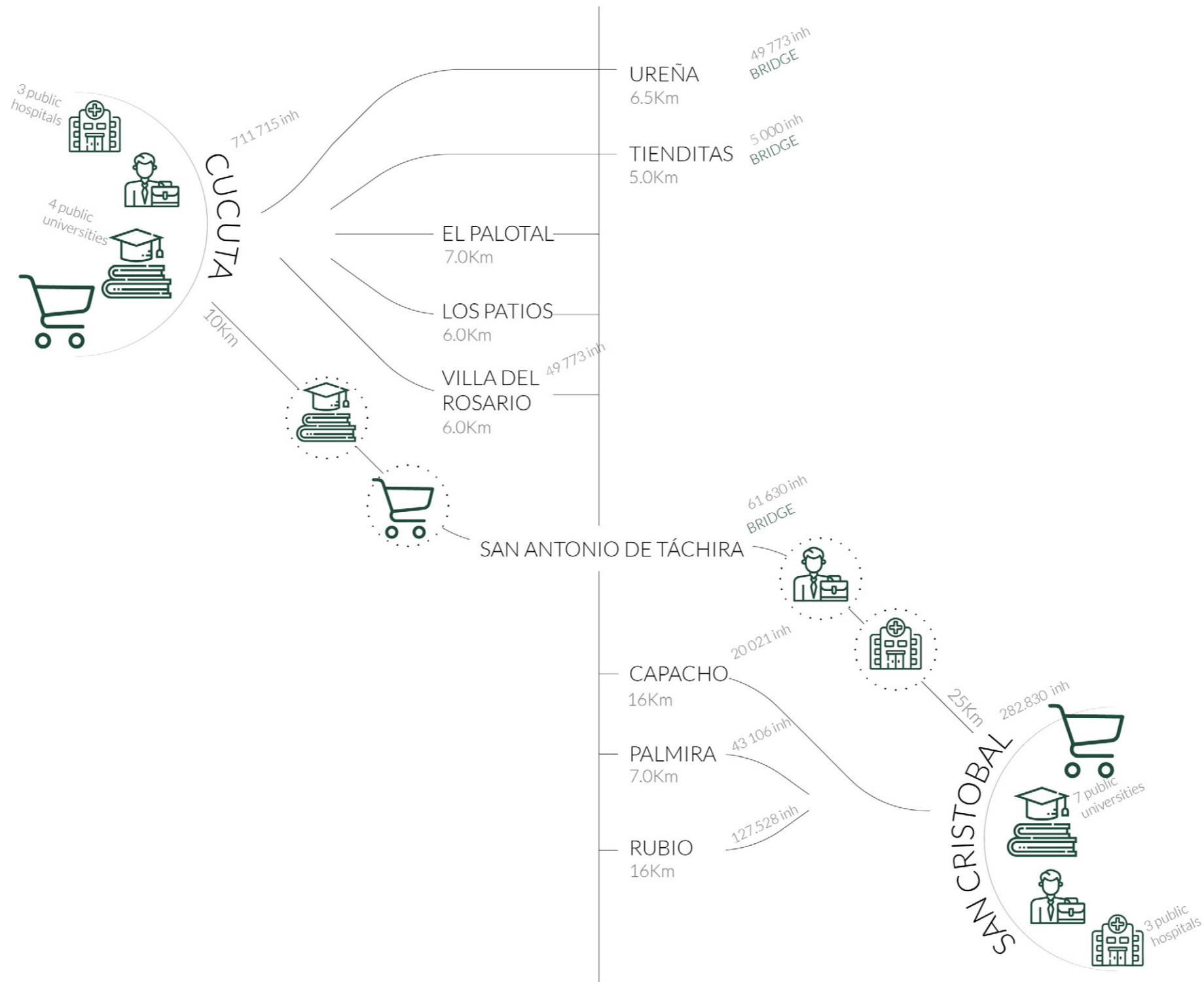


Catatumbo region

The biggest concentration of “illegal” crossings is the Catatumbo region, highlighted in green, where there are no official crossing checkpoints and where the line of the border is forgotten and

erased by a tropical landscape. In spite of how vast it is, illegal groups control the area and often charge people to cross to both sides.

migration in Colombia - Venezuela economical situation



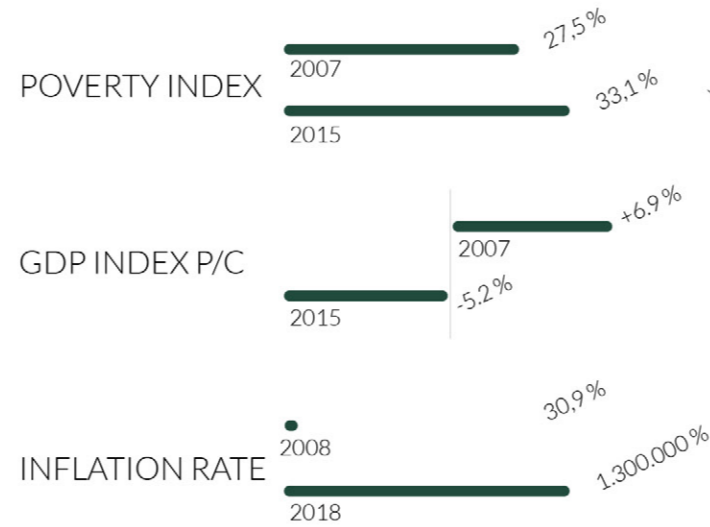
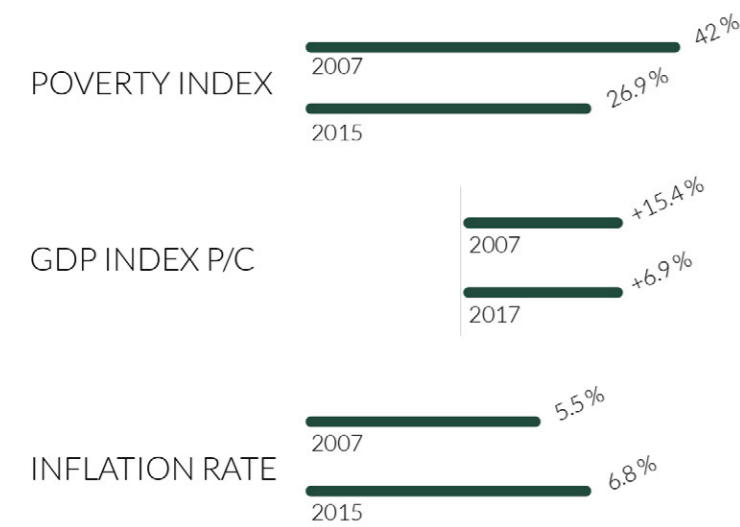
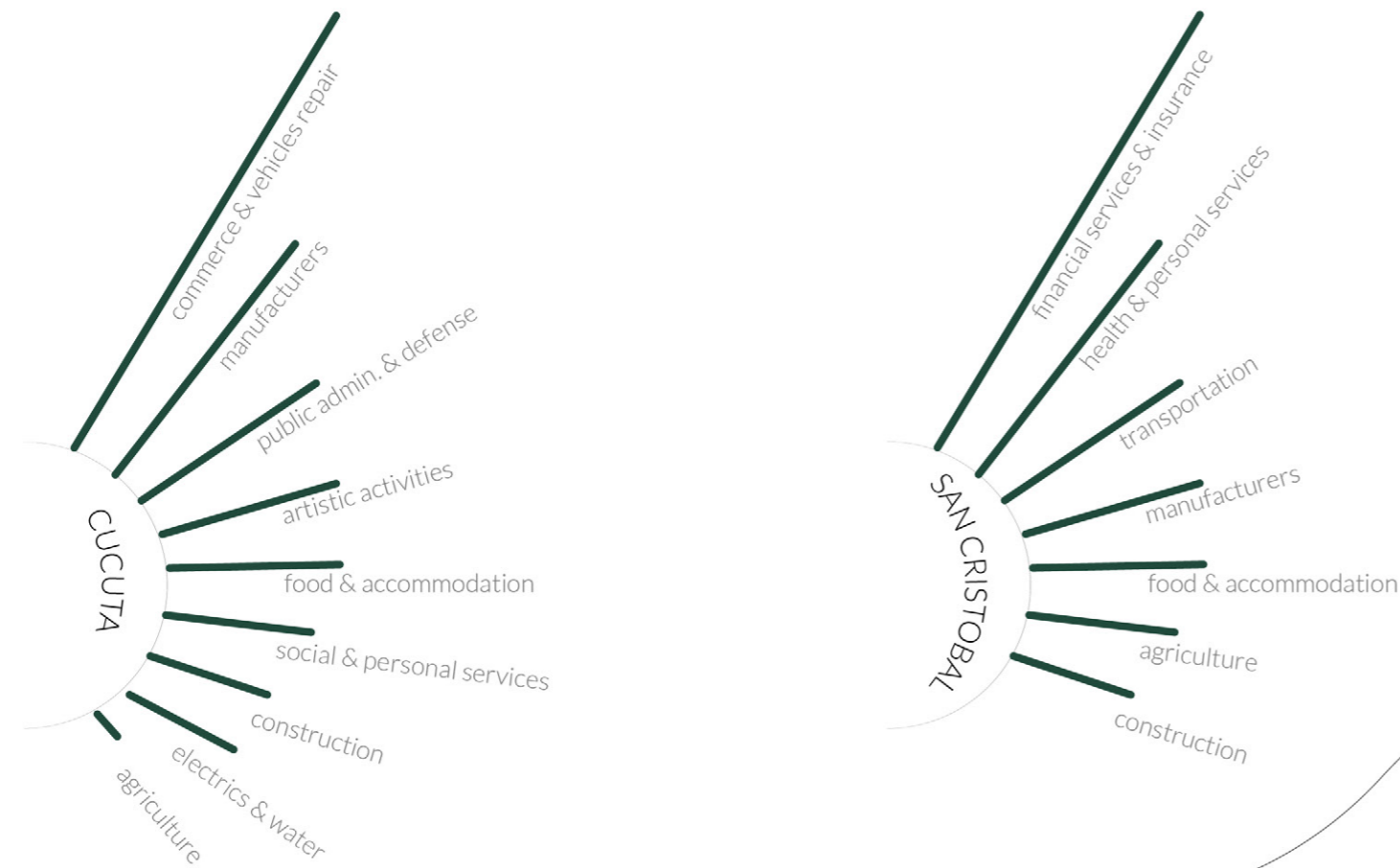
Goods and services have always been exchanged through the border. This graphic illustrates how 3 main urban settlements (Cucuta, San Antonio de Táchira and

San Cristobal) are connected by this flux and how satellite small towns depend on them to supply every day needs. Its important to note that this flux has been

affected by Venezuela's economy and th exchange is not balanced anymore as Colombia has taken a major role as a supplier for the region. On a stable situation, the Colombian city of

Cucuta stands as a node for educational and commercial services whereas San Cristobal was known for its cheaper prices on goods and good medical assistance. **regional**

migration in Colombia - Venezuela financial comparison



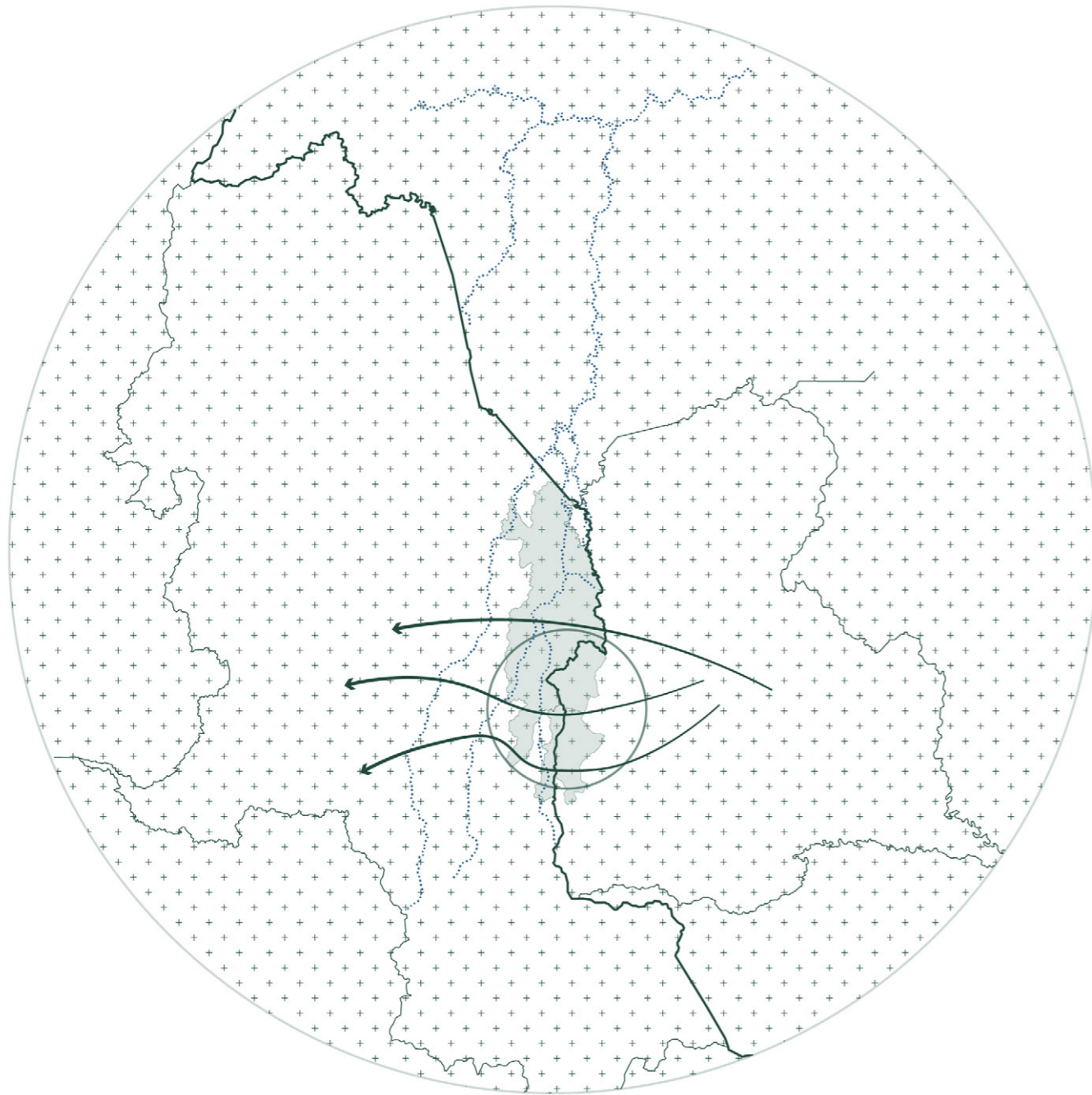
- SIDE EFFECTS
- ON THE DAILY BASIS GROCERIES CONSUMPTION _CHANGES IN DIET
- INCREASE IN THE ORGANISED CRIME RATES
- INCREASE IN CORRUPTION RATES BANNING OF INFORMATION

The economic vocations of San Cristobal and Cucuta have been indeed affected by the crisis.

This comparative graph shows between the cities shows economic indicators like the poverty index, which in a matter of a few years, for Venezuela has reached, more than 90 percent.

Gross domestic product is on negative numbers and inflation is the highest in history. The social implications of the crisis is born upon these facts.

migration in Colombia - Venezuela local scale



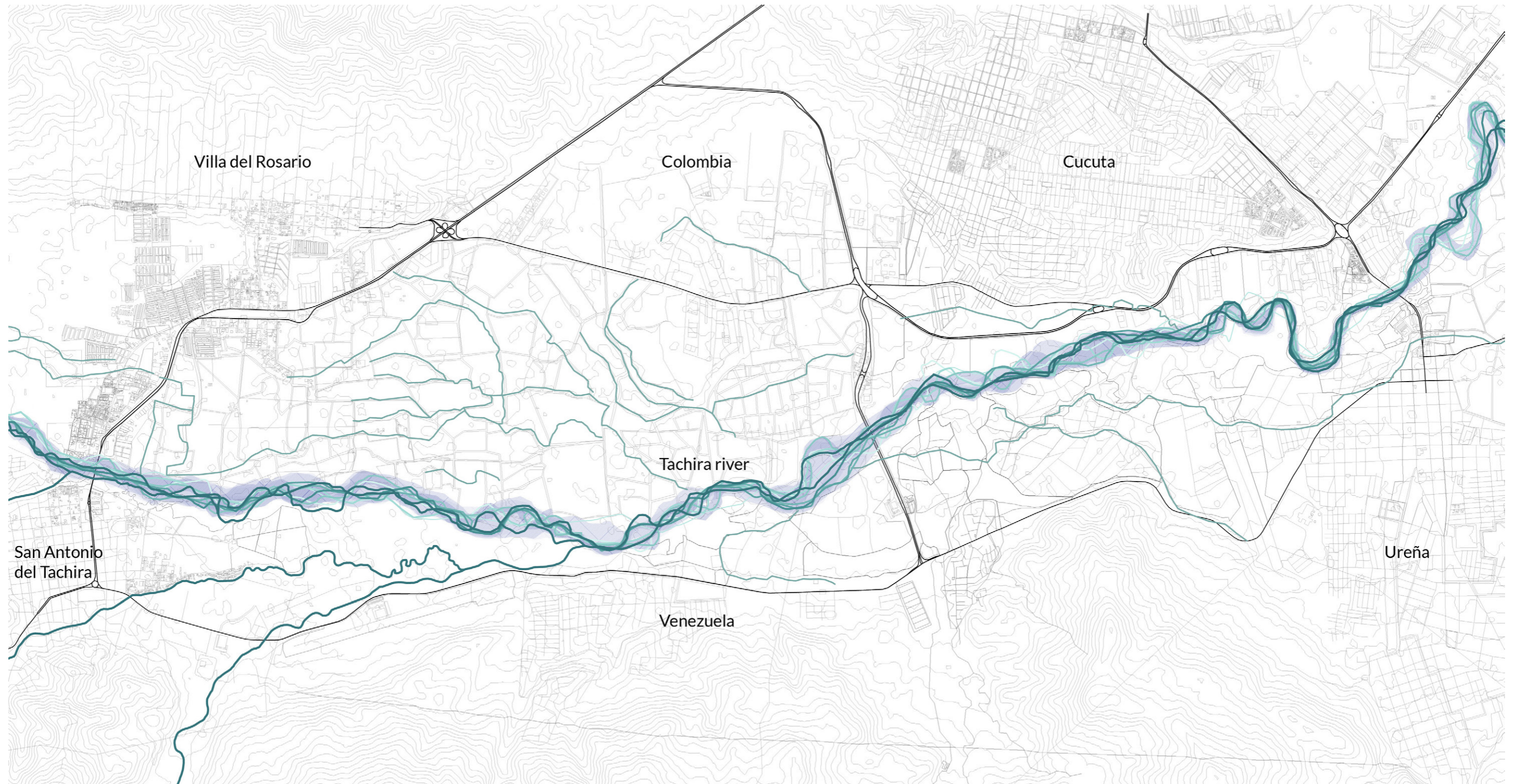
Cucuta bridge and border control



Cucuta bridge and border control

Despite difficulties, most migrants choose to cross from Venezuela to Colombia through Cucuta city. Colombia has designated first aid checkpoints,

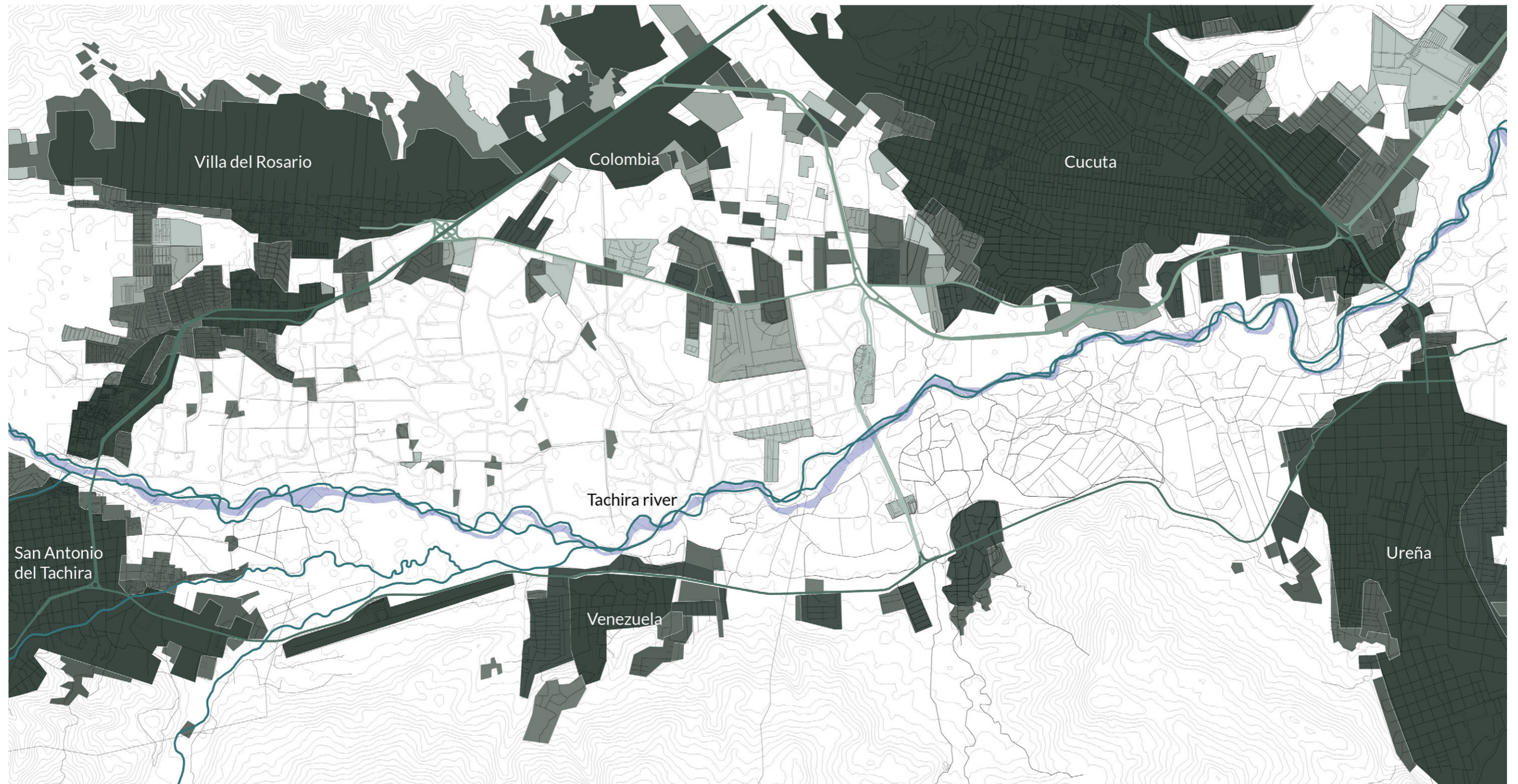
border offices open to undocumented migrants and other facilities to support the migrants. Nevertheless, these actions are not permanent and depend on the flow of people.



The area of study is on the lower basin of River Tachira. The configuration of the topography which is an extended valley with low slopes, allows the river to find different paths and shapes

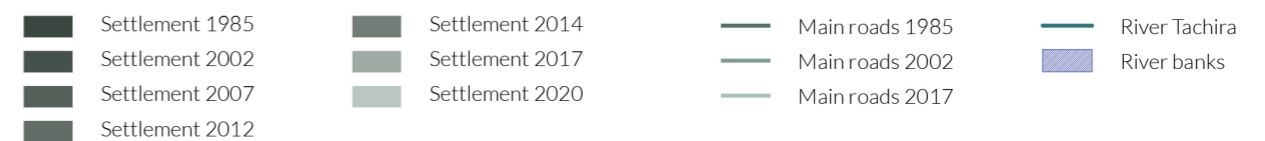
through time. The low difference of levels permits the sudden overflow of the river, affecting the surrounding areas.





Due to the historical exchange of goods and services, the four cities located in the border have increasingly growing patterns which have been more evident in the Colombian side in

recent years. These cities set an international conurbation with the possibility of creating a protected core area that allows the cultural exchange.



stakeholders
migrants profile

nuclear families
30.9 %



extended families
29.8 %



women
48.6 %



men
51.4 %



migrants economic activity once in Colombia

employed women
91.8 % informal
8.2 % formal



employed men
88.6 % informal
11.4 % formal



women hired in
52 % commerce
31 % services



men hired in
43 % commerce
11 % industry - services



76.724 children
0 - 9 years old

61.829 teenagers
10 - 19 years old

18.670 elderlies
50 - 59 years old

46.421 adults
40 - 49 years old

136.711 adults
20 - 29 years old

5.332 elderlies
60 - 69 years old

local



II. state of art

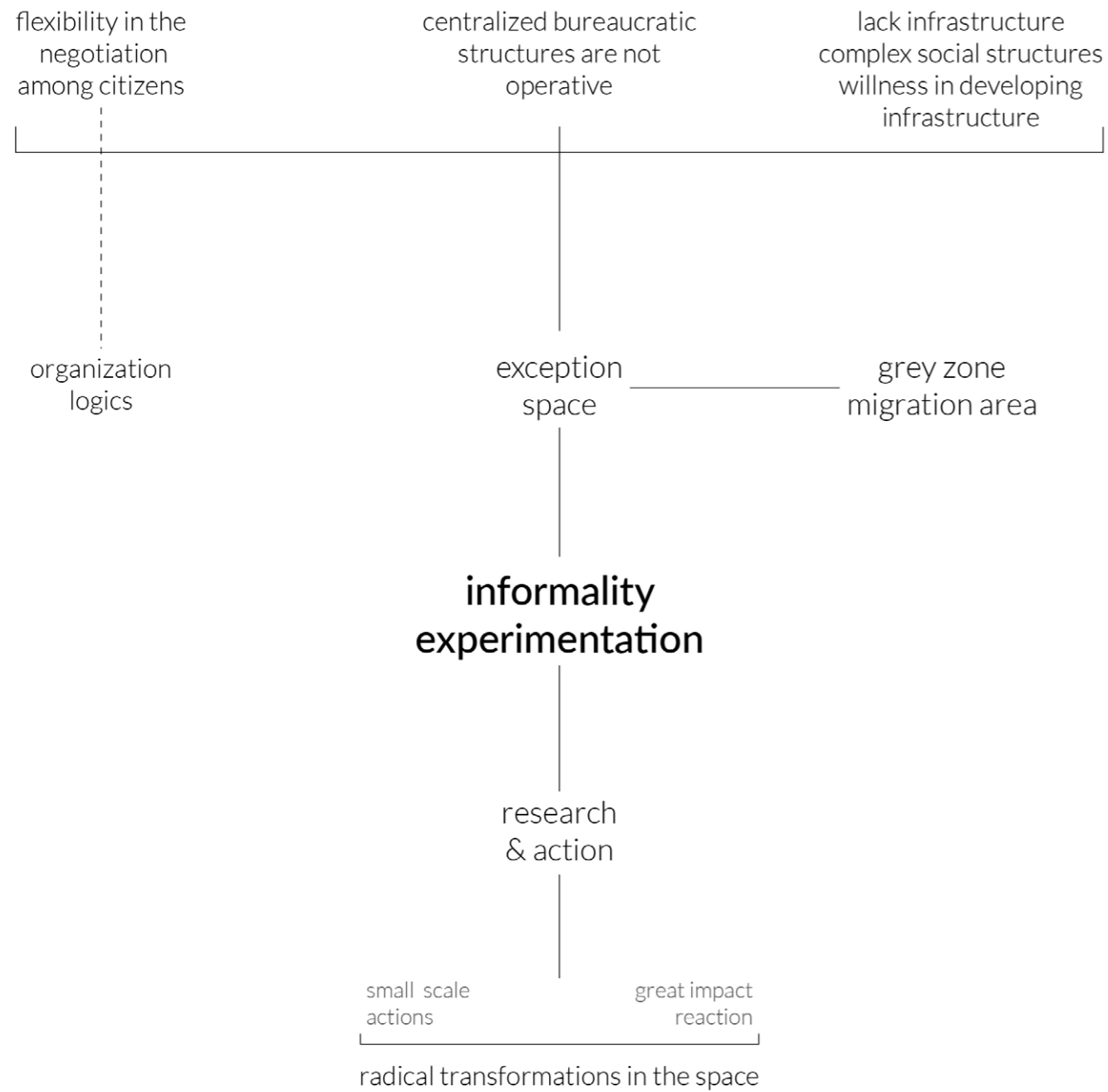


photo by: Concrete tent

This chapter was built by the need to understand and study what's existing, what's being made and which theoretical basis support the idea of designing an open international border.

The state of art references specific topics, case studies and conclusions based on analysis that set the base for a design strategy with a clear logic.

informality and experimentation



flexibility in the negotiation among citizens

organization logics

grey zone migration area

Teddy Cruz. 2005. Manufactured Sites: A Housing Urbanism Made of Waste

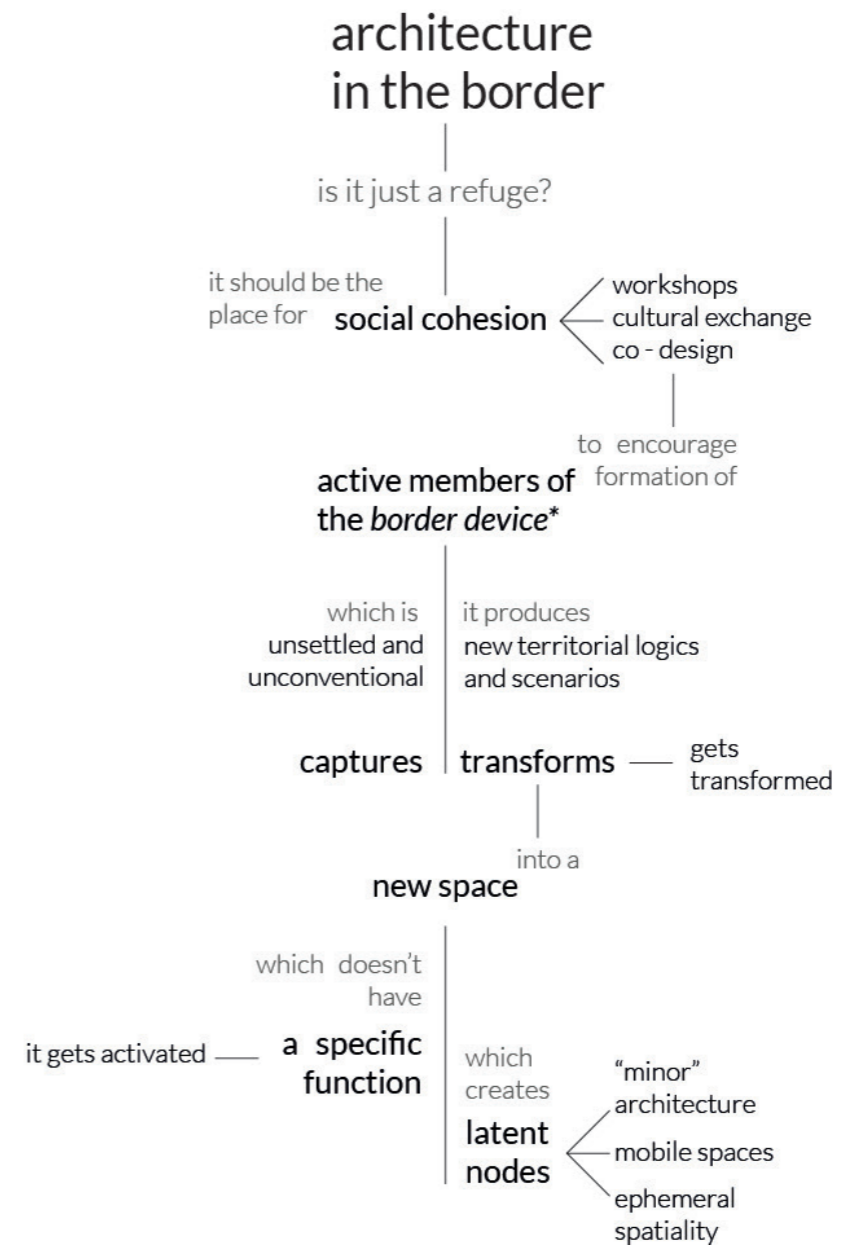
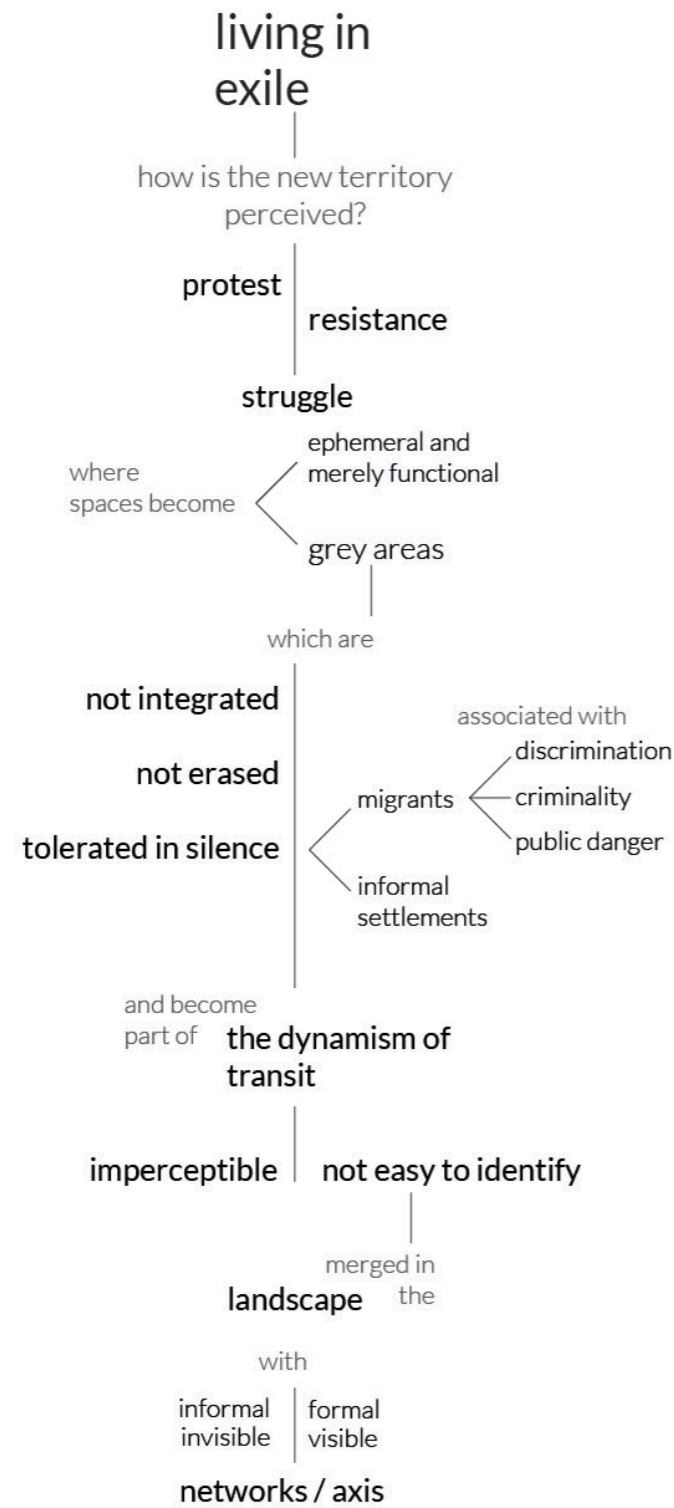
Rael San Fratello. Pink seesaws

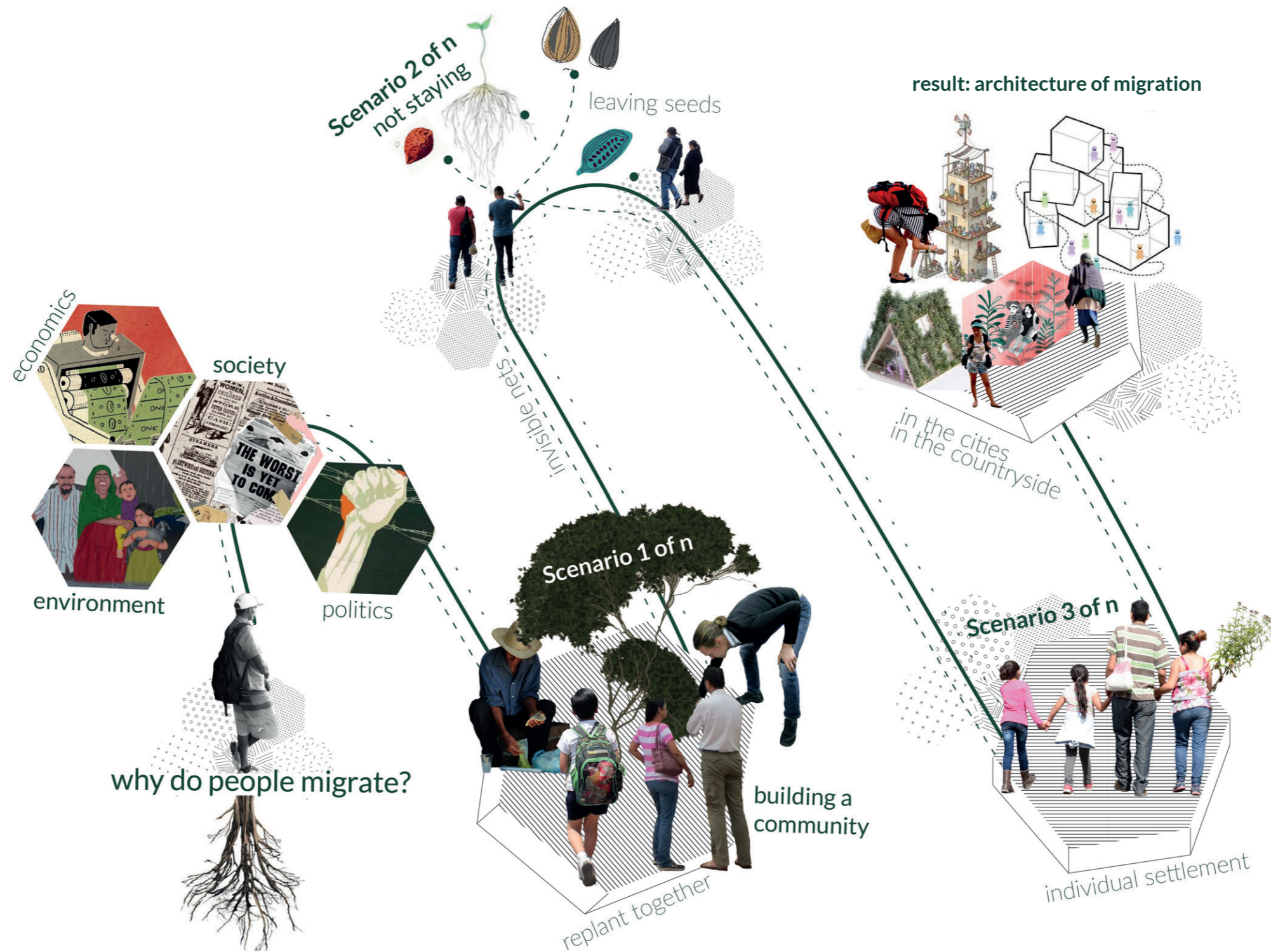
Chaalchaal agency. Centro comunitario movil

radical transformations in the space

Informal experimentation acts through existing possibilities and limitations towards the search for a better present with greater balance and proportionality.

relation between people and landscape in the border



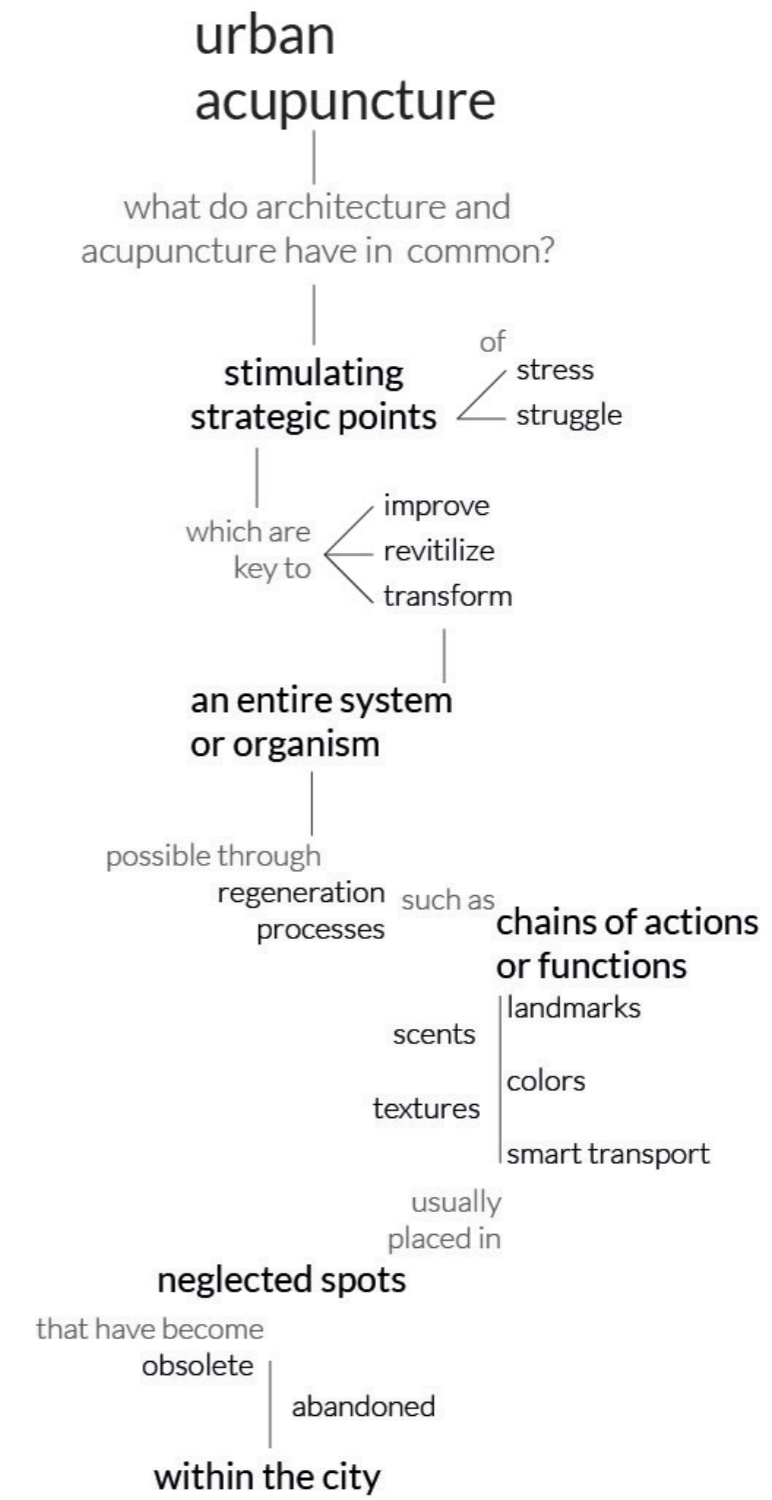
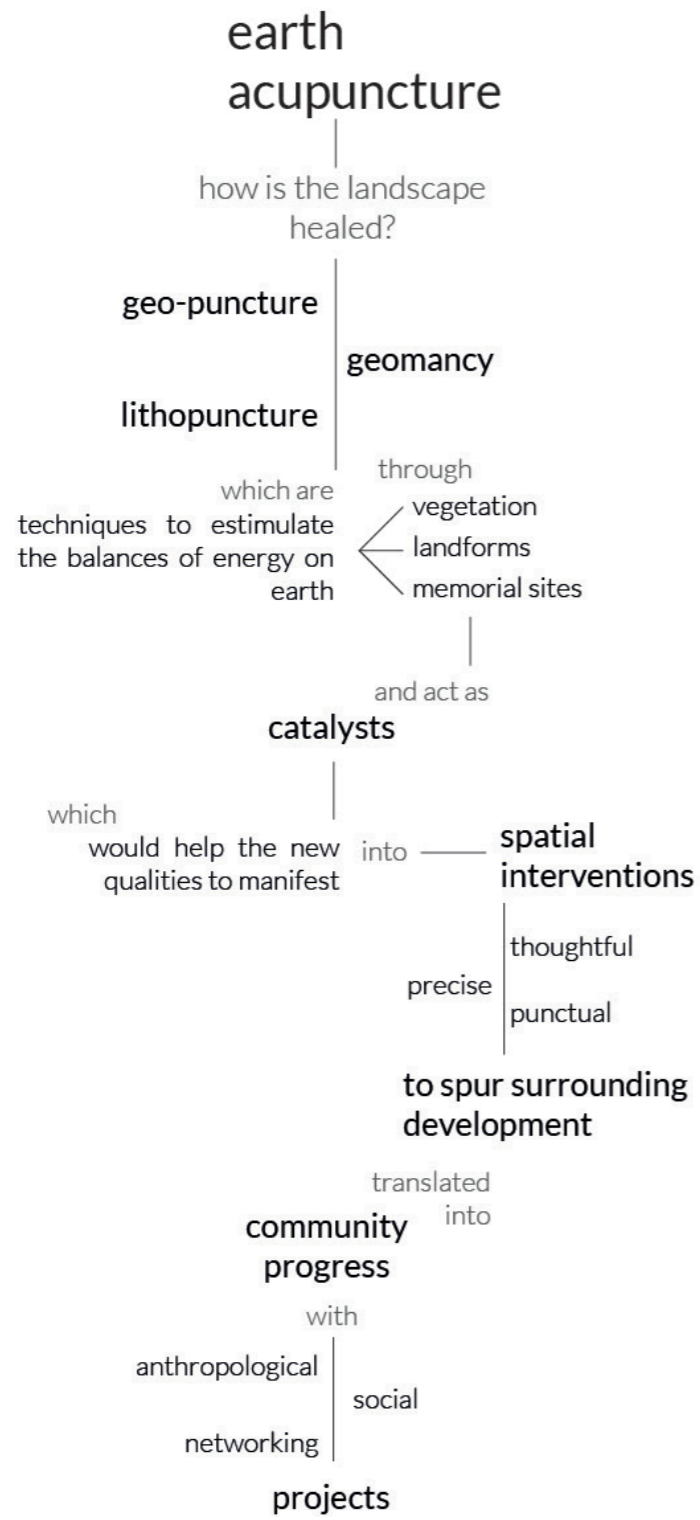


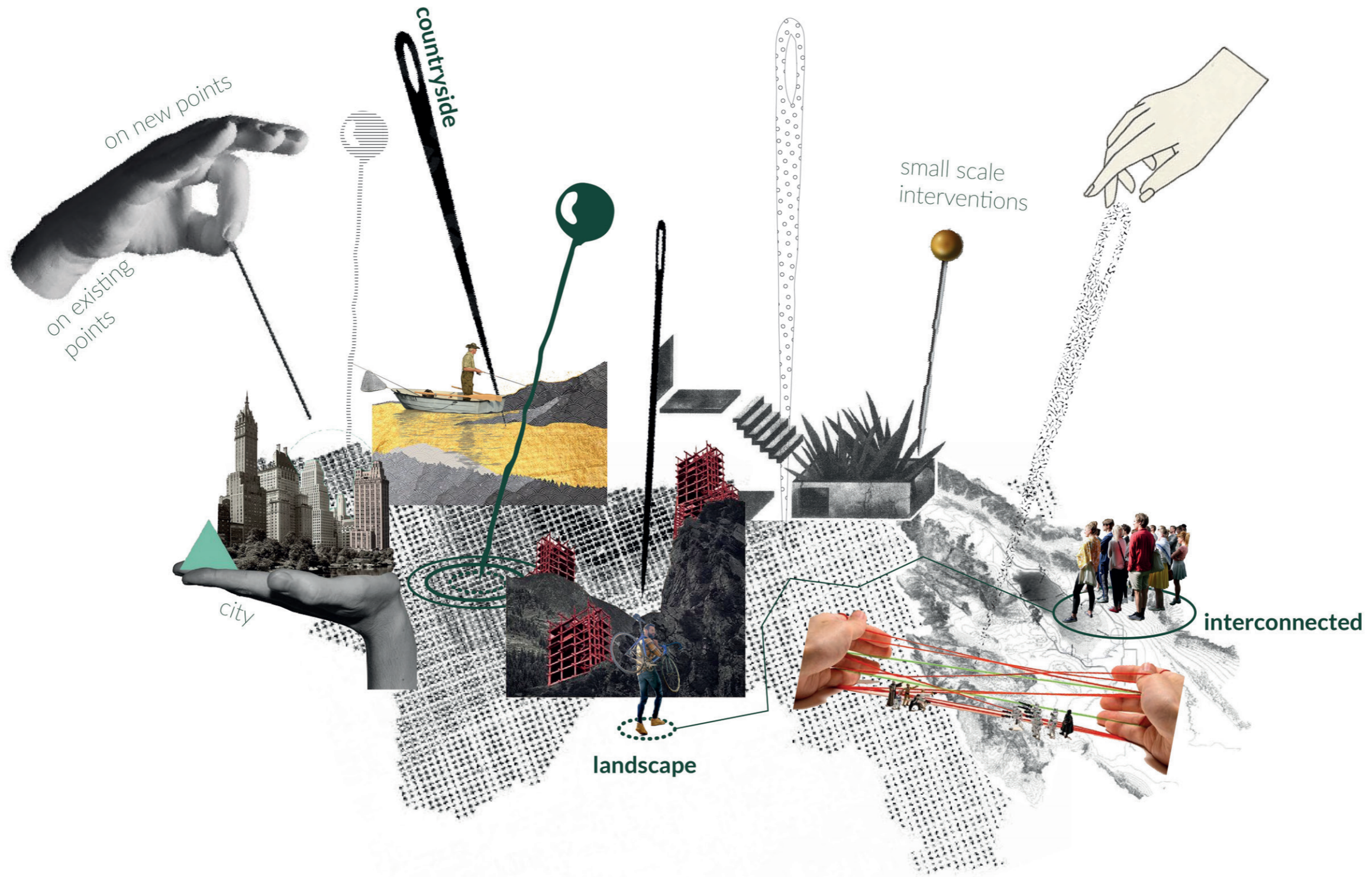
The Gilder Lehrman Institute of American History, states three reasons for people to migrate: a push factor, a pull factor and uneven development in income and standards of living.

As of this, it's possible to understand the reasons and standardize the massive flow of people, but in a deeper sense, these factors have infinite repercussions on the urban and rural landscape.

Replanting the broken roots as a settled community, looking for individual growth in families and unsettled and permanent flows, are some of the scenarios where the architecture of

migration takes place and leaves traces. Undefined, not planned and improvised, are some of its main features.



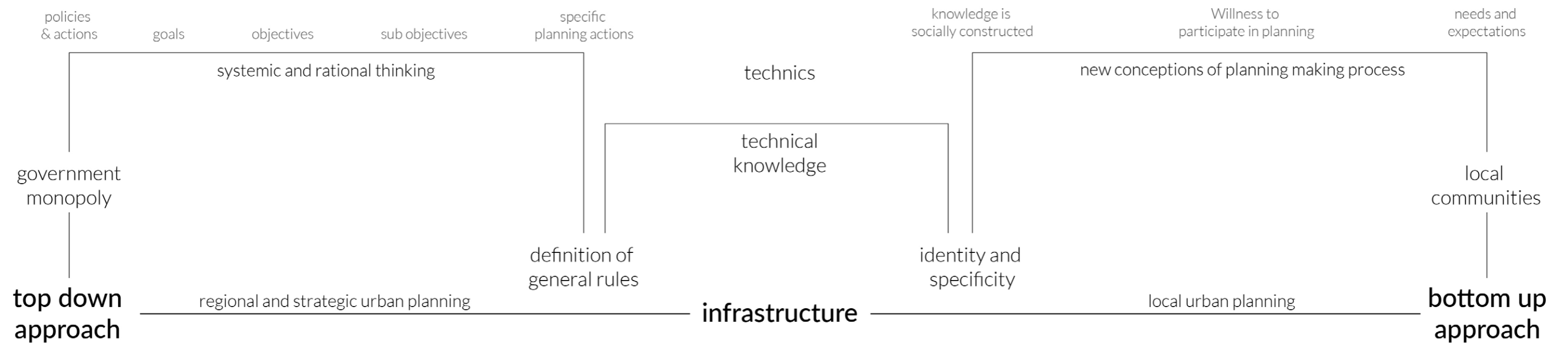


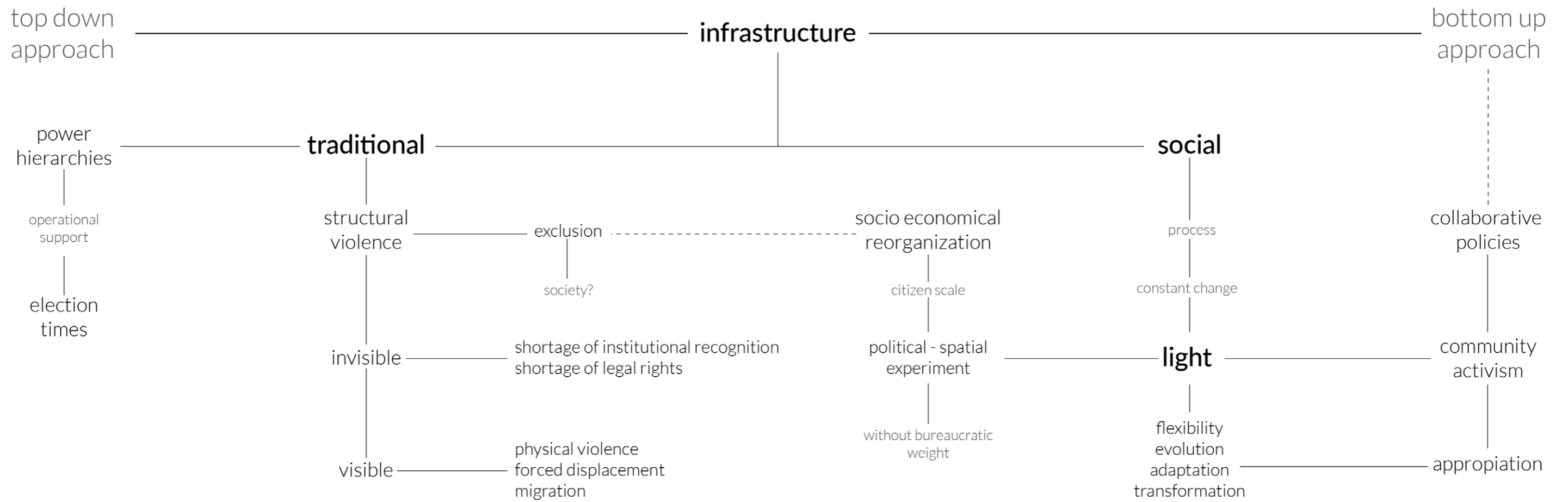
In the words of Jaime Lerner, “Sometimes, a simple focused intervention can create new energy, demonstrating the possibilities of a space in a way that motivates others to engage with their

community”. This mindset puts into perspective not only what a possibility can be but also where opportunity can be boosted. The “**what**” broadens the chance to implement,

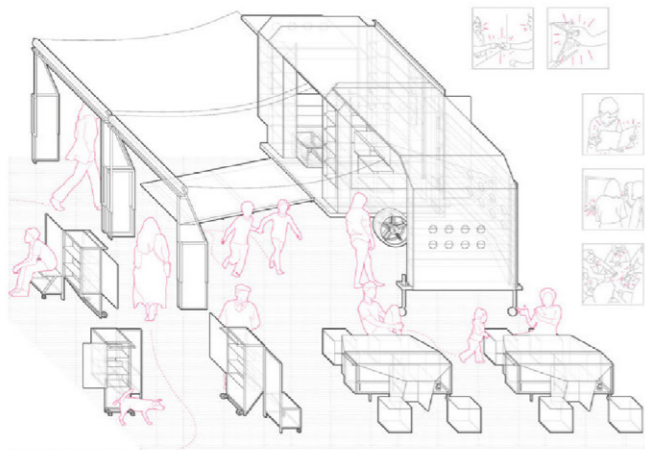
create and nurture new ways of designing and thinking, while the “**where**”, allows to work with what’s already existing, functioning or not and embrace it’s conditions.

These actions are not only to be permanent and tangible. Due to their nature of catalysm, they could also be temporary and intangible relying on seasons, activities and ephemeral connections.





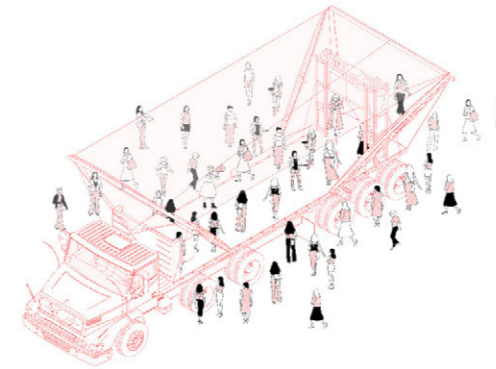
mobility



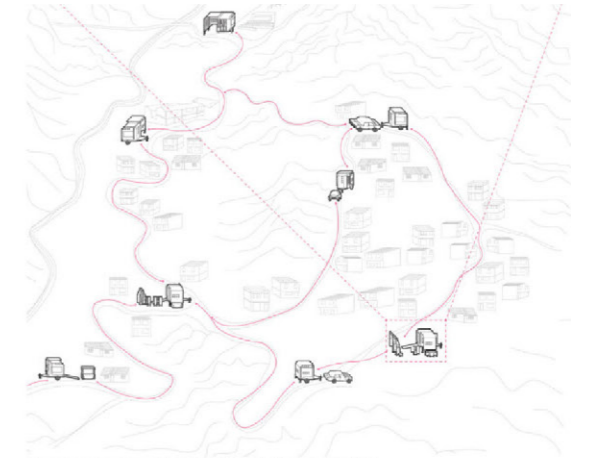
Chaalchaal agency. Centro comunitario movil. 2020



Al borde arquitectos. Knowledge train car. 2012



Al borde arquitectos. Slutty crazy car. 2019



Chaalchaal agency. Centro comunitario movil. 2020

happenings



Al borde arquitectos. Performative experimentation pavilion. 2010



Kéré architecture. Sarbalé Ke. 2019



Raumlabor. Floating university. 2018



Burning man festival.

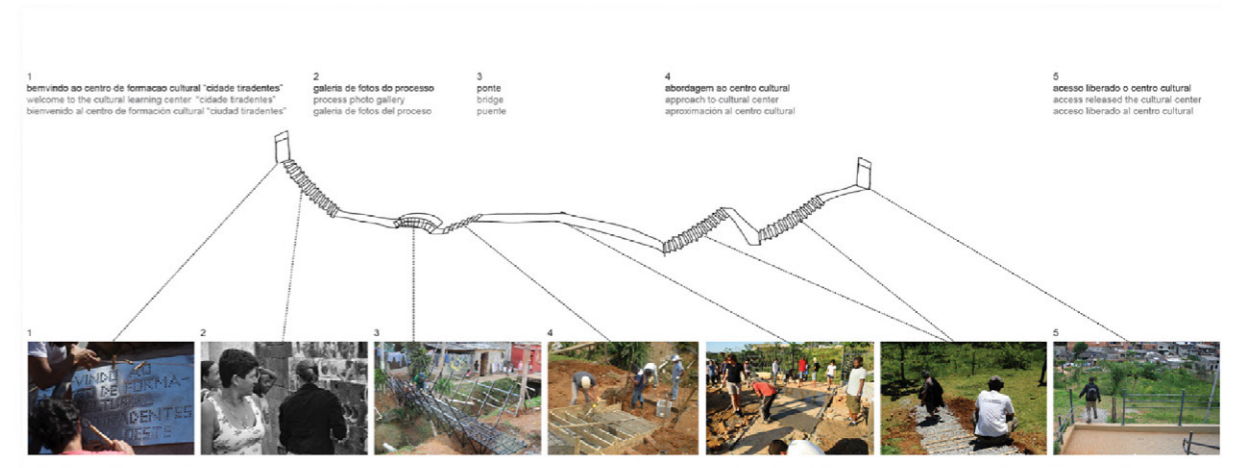
community activism



Chaalchaal agency. Knowledge shelter. 2019



Arquitectura expandida. Casa de la lluvia de ideas. 2012



Al borde arquitectos. 1993. 2013

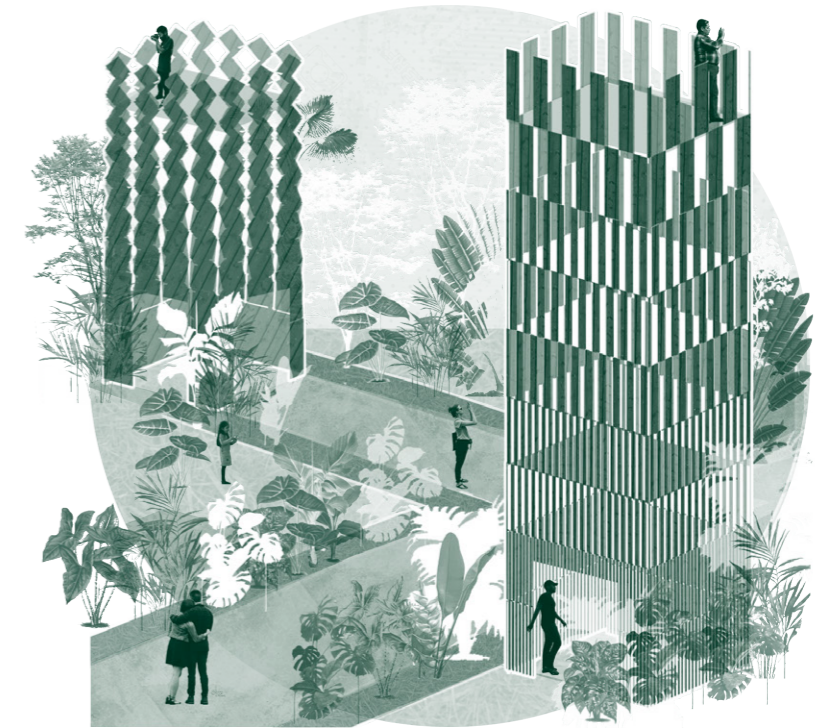
This matrix of references, illustrates a scope of projects in diverse scales associated to the principles of "light infrastructure".

The use of mobile elements within small interventions and the recycling of infrastructures, allow great impact in the street where it is planned and involved.

These events bring with them different temporary and flexible infrastructures that offer solutions for specific needs and give an identity to the context they're placed in.

The organizational capacity of the communities gets challenged when it's time to develop the project by themselves. Resilience and the ability to keep it simple are usually key.

III. project



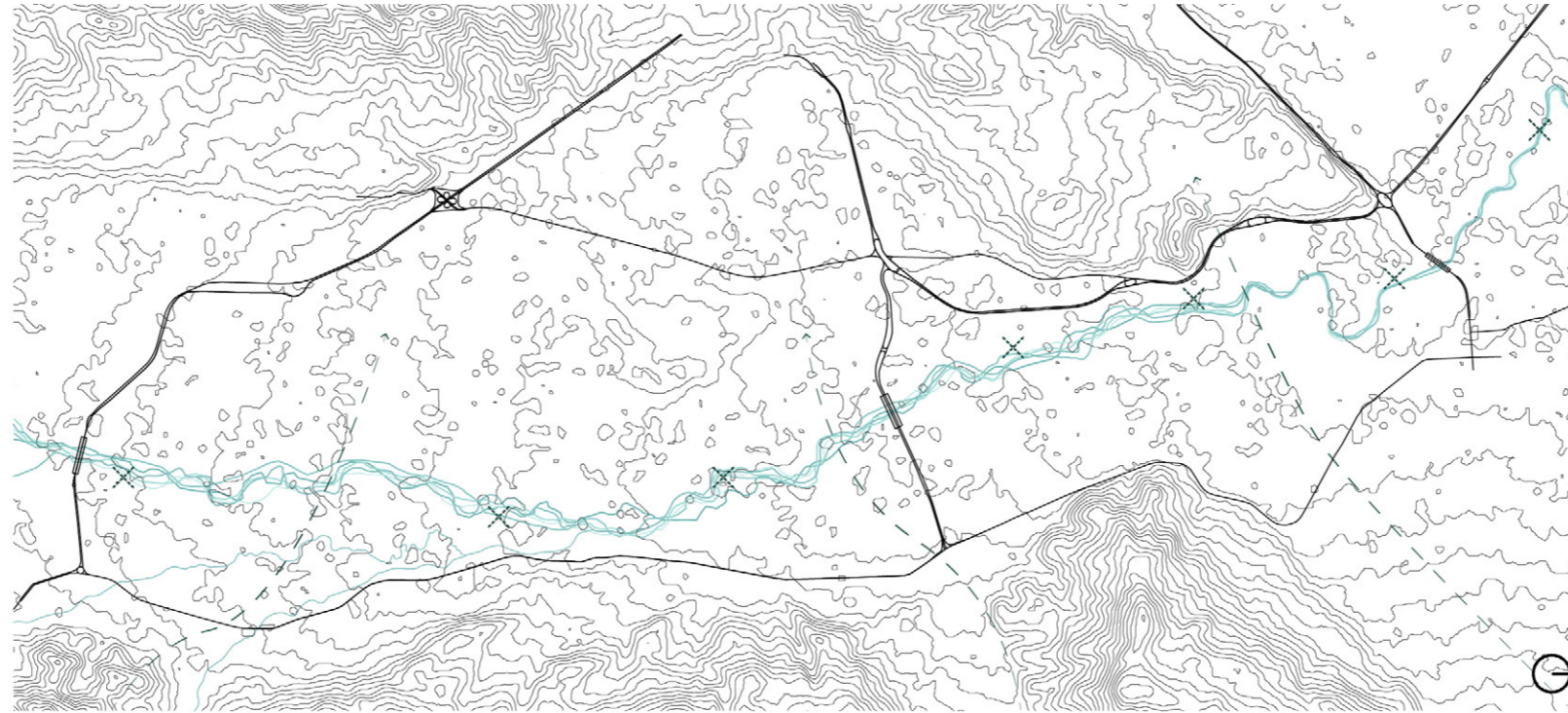
The project is conceived following the logic of a design concept as a first step, then a strategy and finally its development.

The design concept, aims to translate the literature about landscape acupuncture, top down and bottom up strategies and reading of the current context into a goal.

Followed by the strategy, which is based upon the need of a landscape language to execute the goal, including the relations with the context in both countries and the design of the area.

Finally, the development, which is the concrete way where the master plans of the axes illustrate the design possibilities.

the present



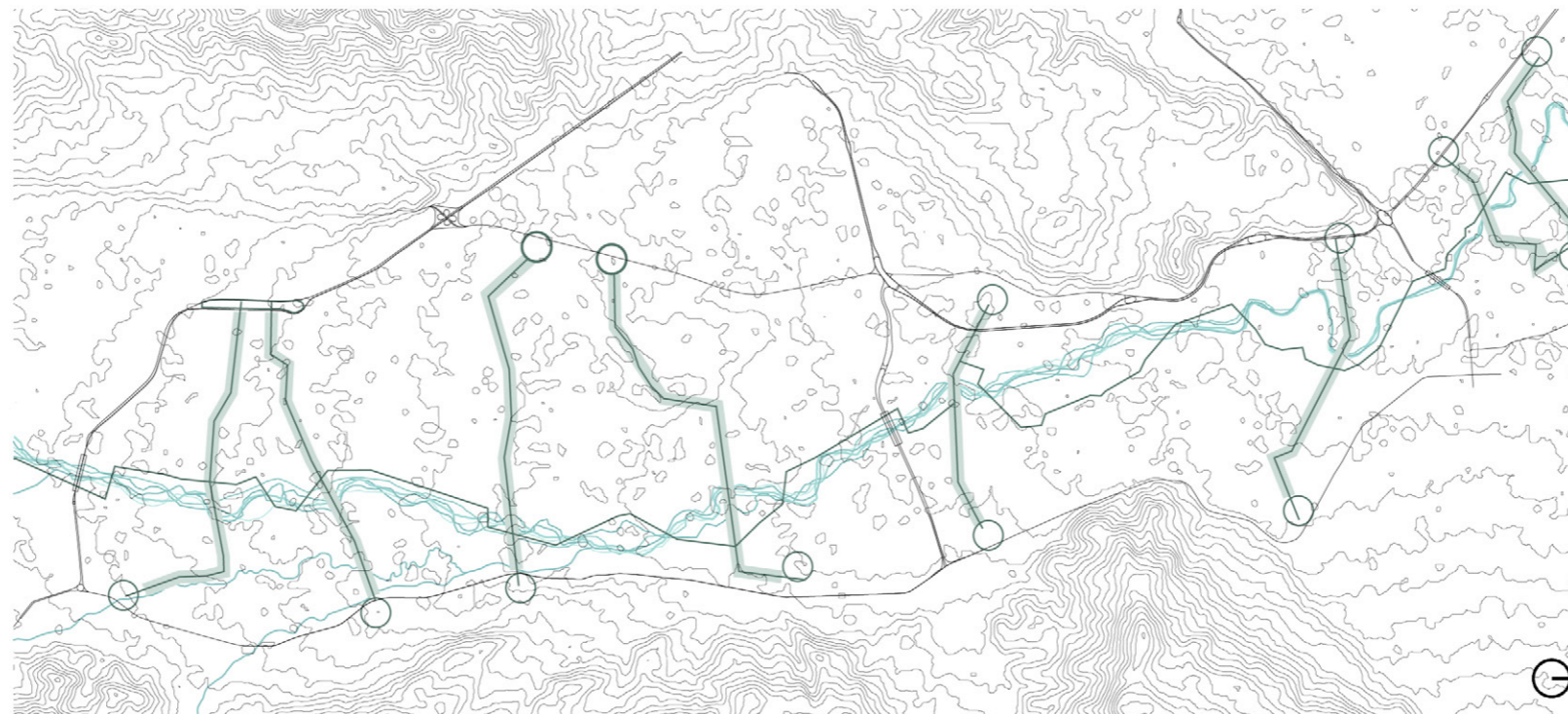
illegal crossing points controlled by criminal groups

used by migrants with no legal documentation

danger or forced recruitment and risk of drowning

--> migration flow
X illegal crossing

the concept



to pin point strategic existing neglected areas and activities

to propose new spots and connect them into an unified system of paths

to dynamize the free flow of people between both nations in 15 KM of intervention



The adapted acupuncture is a strategy to boost the existing key points, by identifying facilities and paths to enhance and potentialize as catalysts to new dynamics.

The nodes are connected by present routes and are adapted to strengthen the relation between them. Each node, has a bufferzone associated with zones of current relevant situations such

as schools, sports centers or even ecologically interesting spots to function as a transition between the existing city and the proposed areas.

- present cultural - commercial - urban nodes
- paths adapted as connections in between nodes
- ▨ bufferzone





The designed acupuncture is a strategy to propose new paths, nodes and facilities to dynamize and encourage the free flow of people, economy and diverse activities.

This strategy is located alongside the course of the river with landscape architecture and sustainable architecture designed spots.

The context is understood as a daily changing landscape of social and spatial situations and the proposal intends to follow that tendency.

- present cultural - commercial - urban nodes
- - - paths adapted as connections in between nodes
- bufferzone



productive

as a booster for

- commerce
- sustainable farming
- small businesses
- daily flow of people

recreational

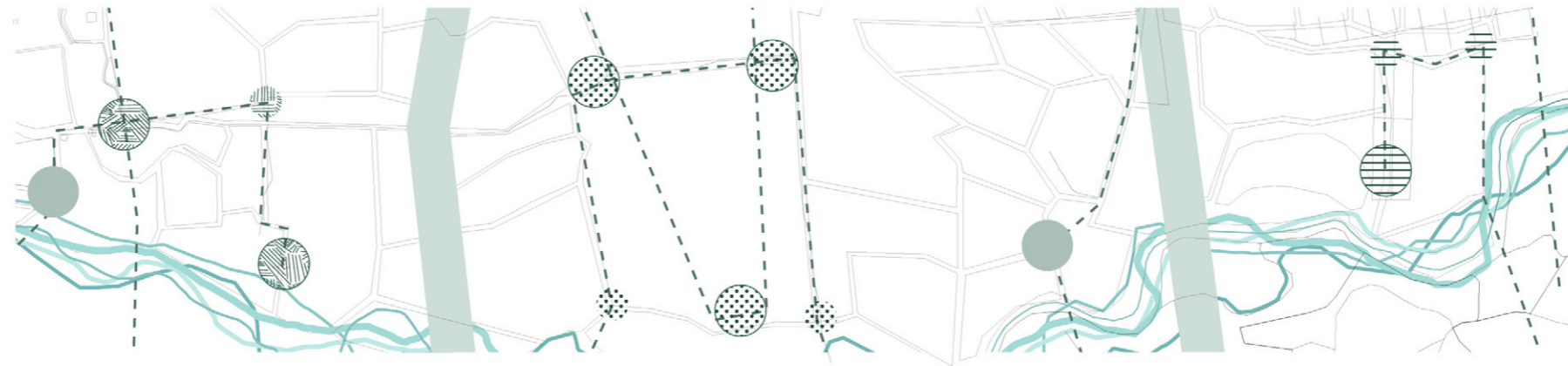
as spots for

- resignification of the river
- encounter of people
- appreciation of landscape
- ludic activities and well being

cultural

as a bridge for

- sports and education
- gastronomy
- art and performances
- binational traditions



permanent



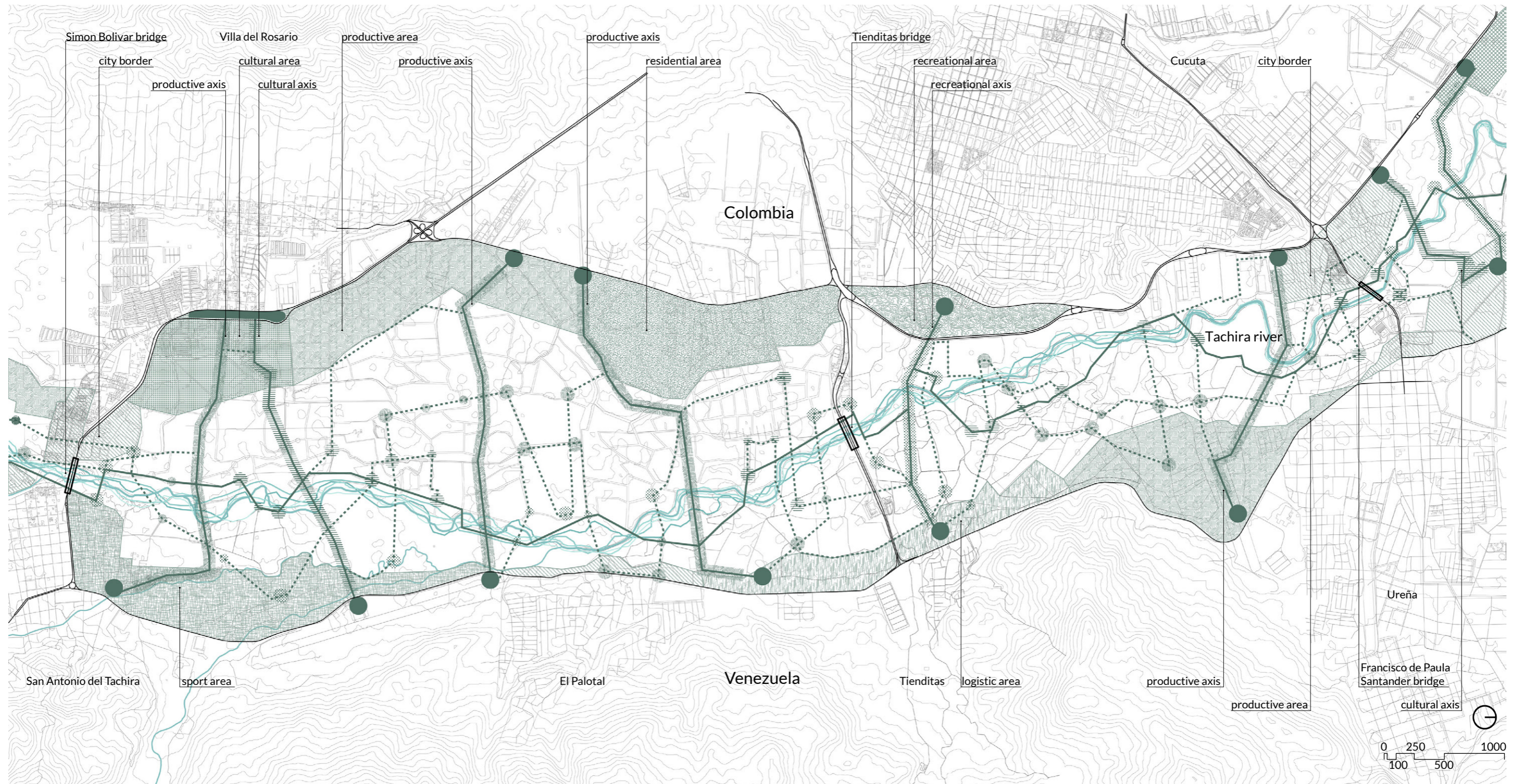
permanent + seasonal



permanent + seasonal

As a result of the Designed and Adapted Acupuncture strategies, 3 main vocations of the context are identified and pursued to be implemented or potentialized.

These components of social nature, are then transformed into spaces, axis and nodes of development with an ephemeral, permanent or even mixed nature.



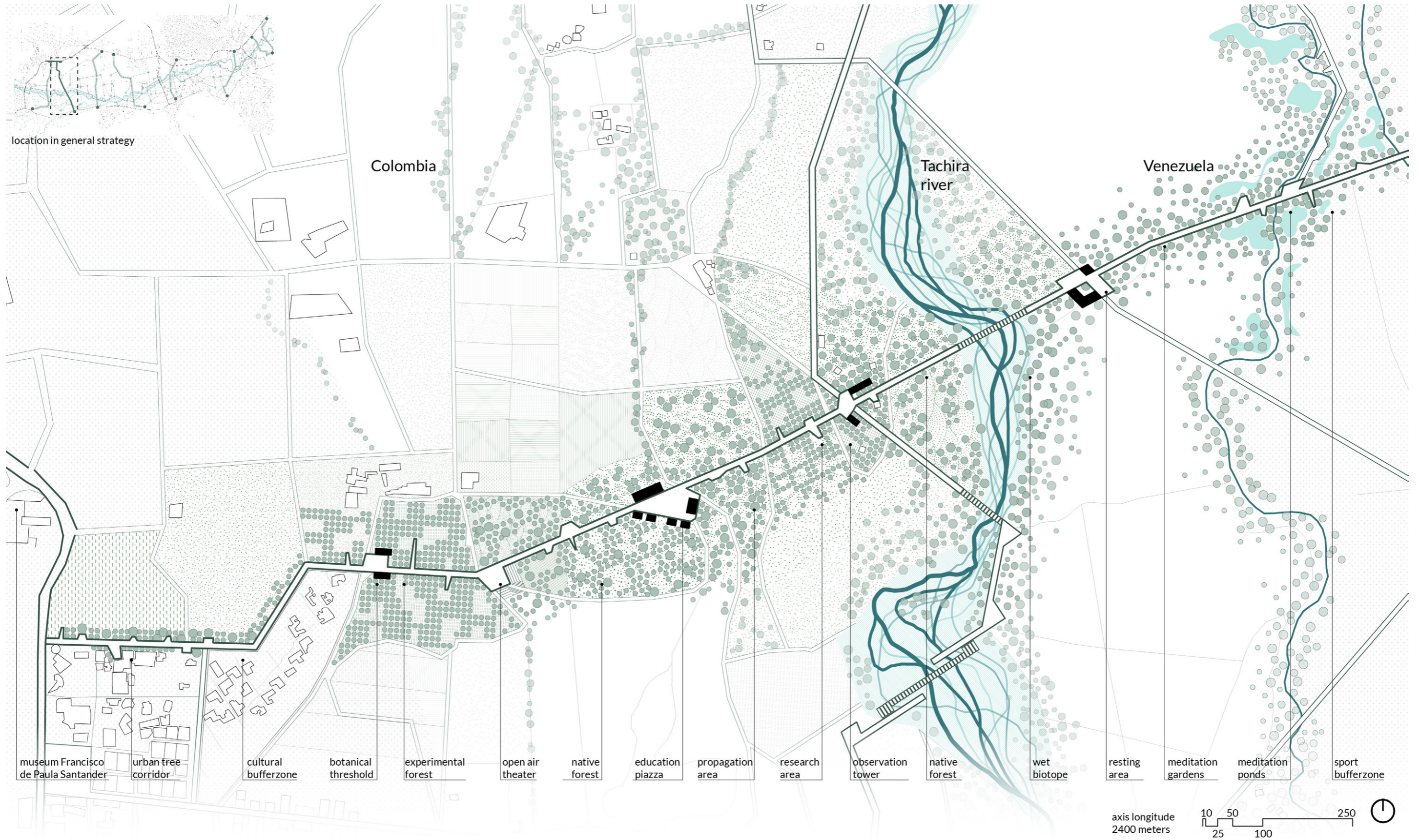
The strategic masterplan is the result of the connection of what is both proposed and adapted from the context through the design of 8 main axis, nodes of acupuncture and acknowledgment

of the surrounding urban growth in both sides of the border. Fifteen kilometers are intervened as an active and safe crossing scene regardless of the use of

the 3 official border checkpoints in this area. River Tachira is proposed as the core of the project with a defined path alongside it and as the basis for a series of diverse connections.

cultural axis - botanical garden
master plan

III.3



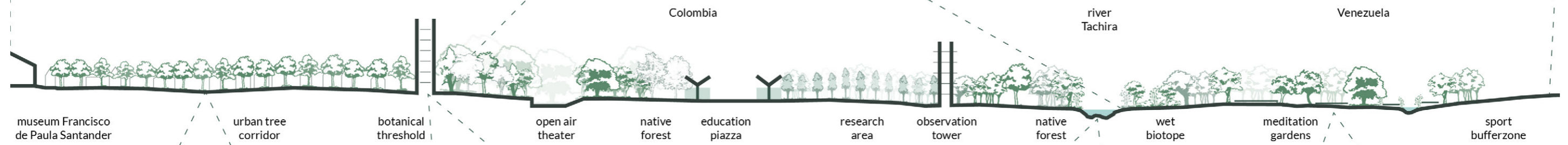
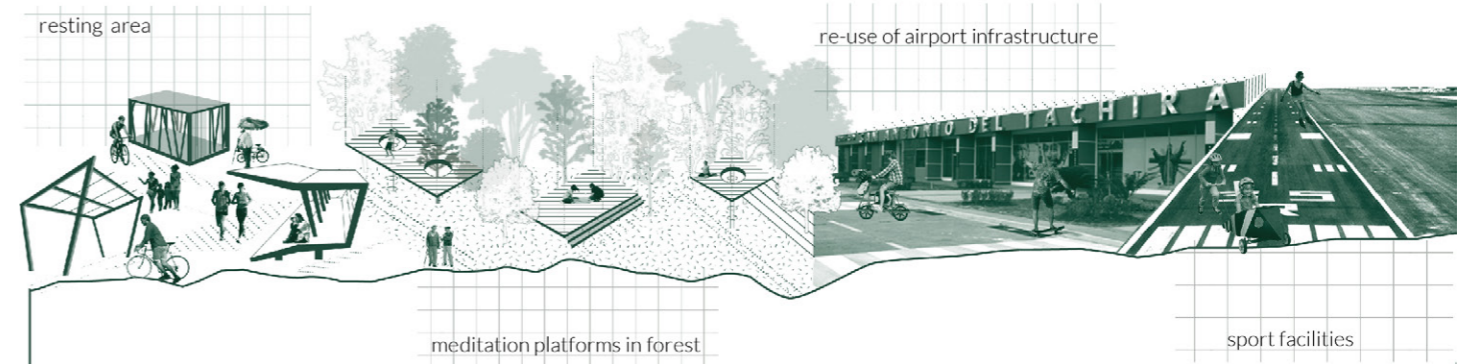
cultural axis - botanical garden transect and specific spaces

adapted acupuncture

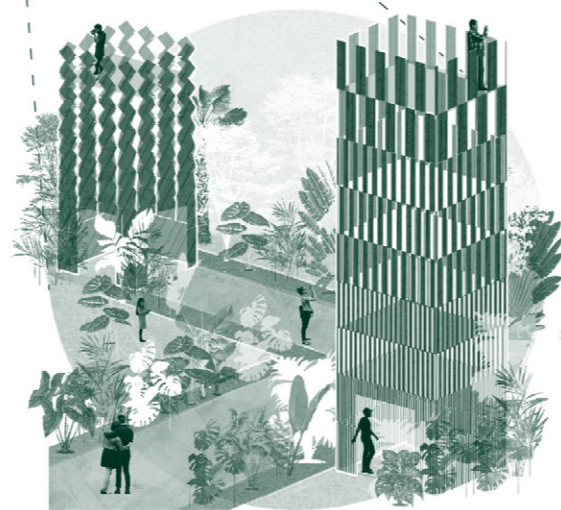
cultural bufferzone and access to the park



sports bufferzone and access to the park



pathway along botanical garden with resting spaces



entrance to the botanical garden



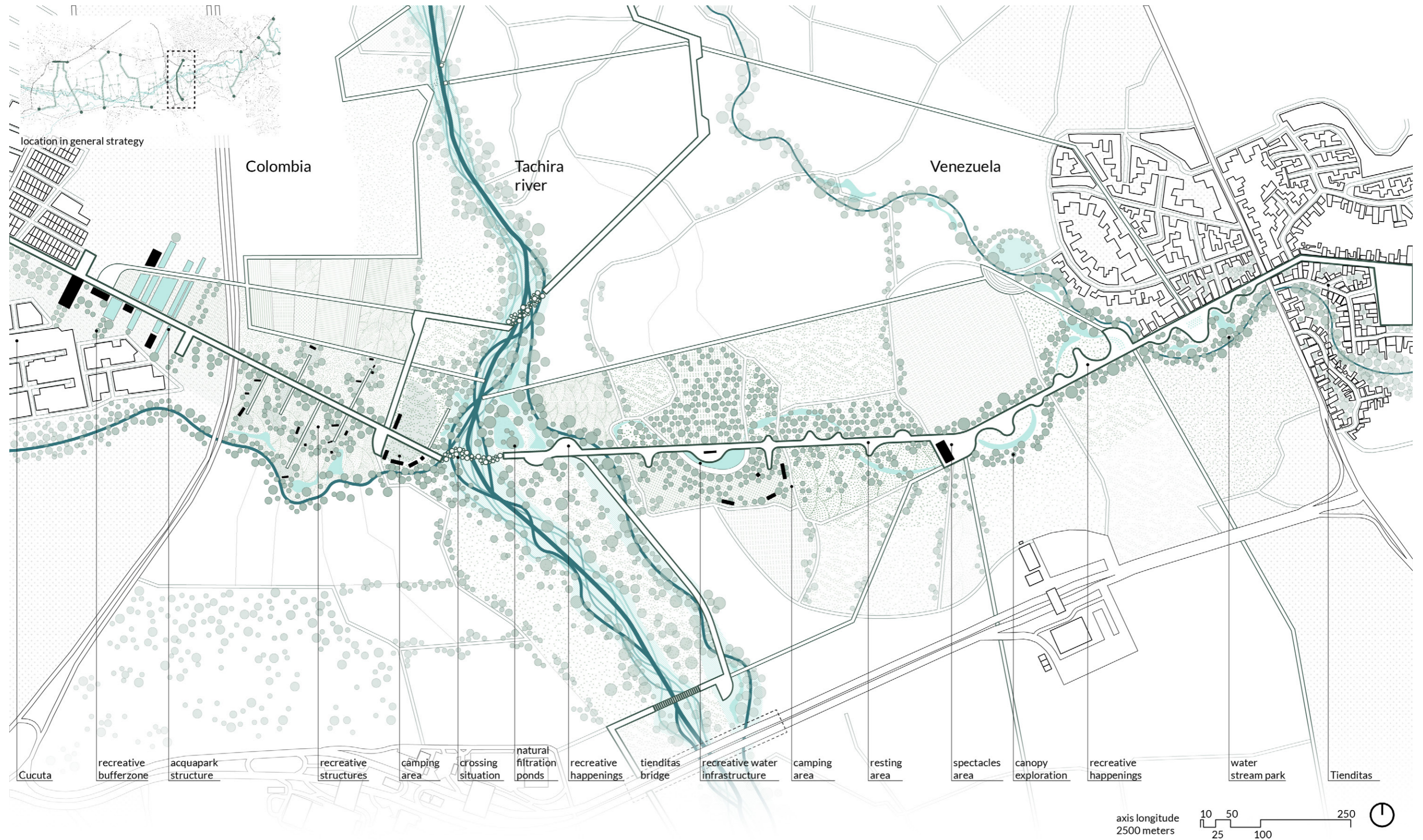
new crossing ways over the Tachira river



meditation ponds in the middle of the garden

designed acupuncture

recreative axis - water park
master plan

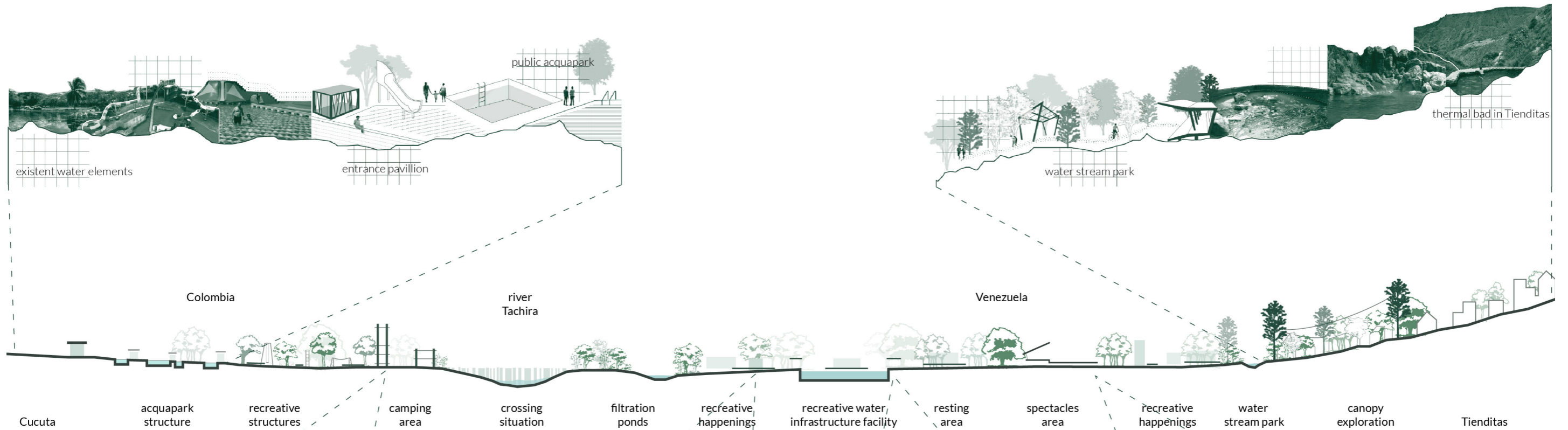


recreative axis - water park transect and specific spaces

adapted acupuncture

recreative bufferzone and access to the recreational axis

tienditas bufferzone and access to the water stream park



modular scaffolding system to allow camping structures
designed acupuncture



movable recreational pavilions

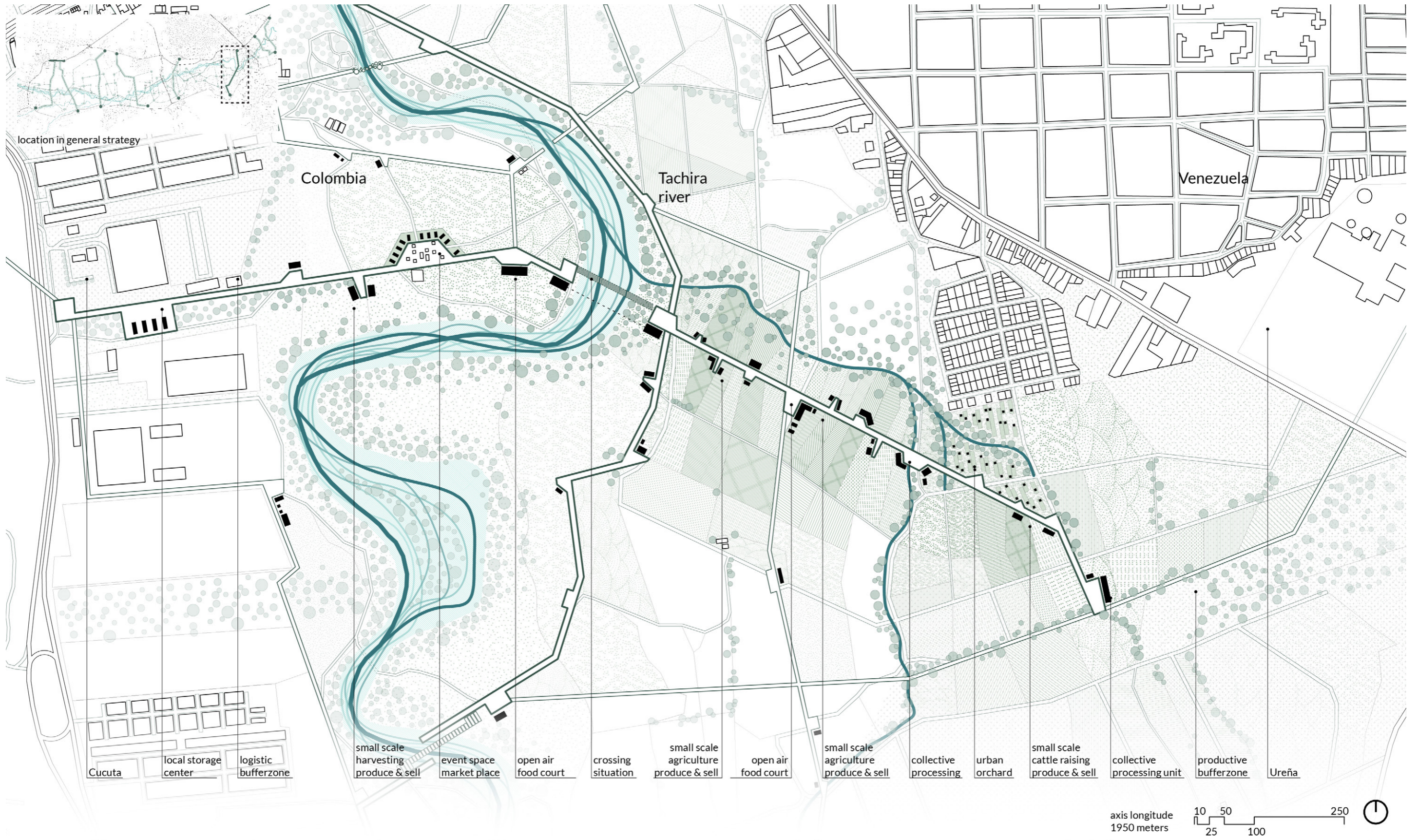


recreational and educational infrastructure around the water



area for spectacles and other happening events

productive axis - agriculture path
master plan

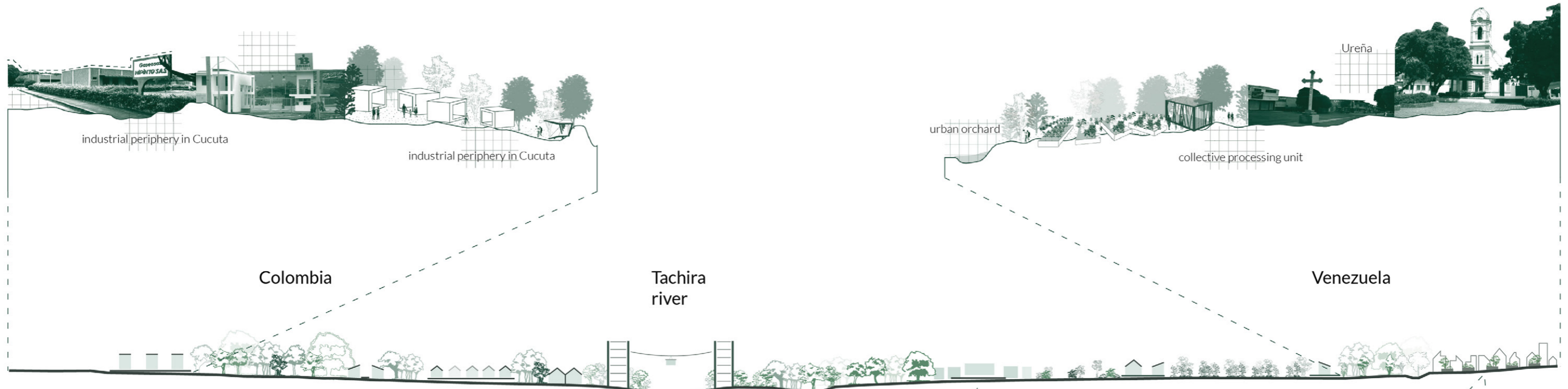


productive axis - agriculture path transect and specific spaces

adapted acupuncture

logistic bufferzone and access to the productive axis

productive bufferzone and urban orchards



Cucuta local storage center small scale harvesting produce & sell event space market place crossing situation small scale agriculture produce & sell open air food court small scale cattle raising produce & sell small scale agriculture produce & sell collective processing unit urban orchard



space for seasonal market and events



small scale farming and seasonal selling



open air food court, seasonal happening



urban orchards associated to community initiatives

designed acupuncture

barefoot crossing



lack of space for pedestrians in the bridges



tree branches crossing

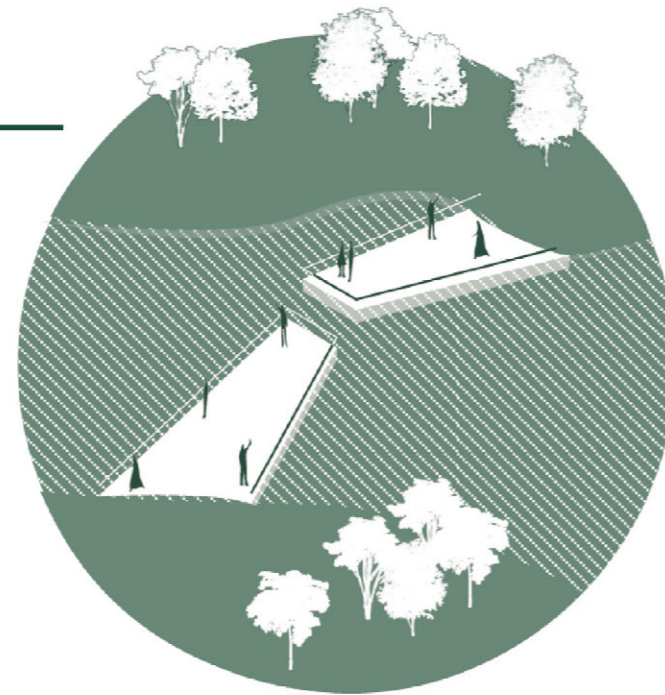


piled up stones



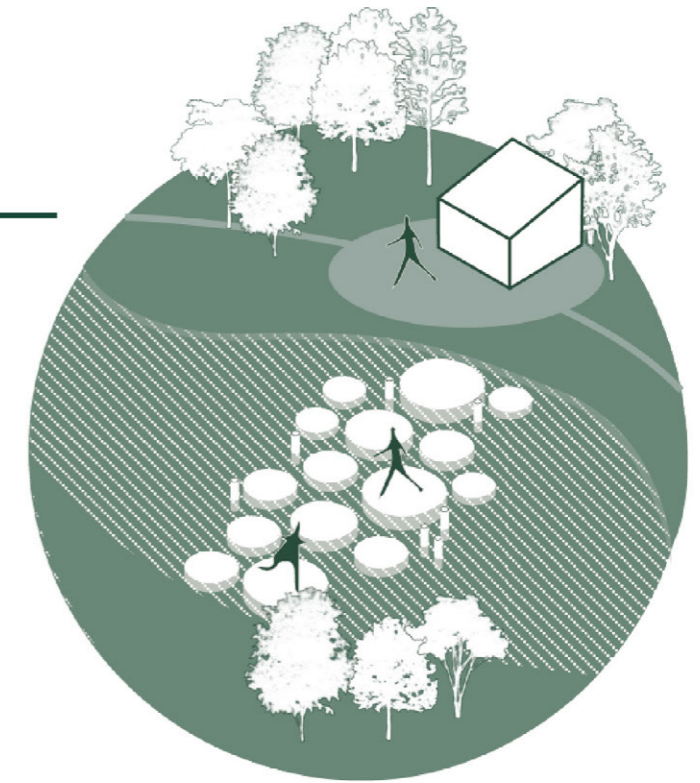
contemplation terraces

connecting the riversides through a visual tension



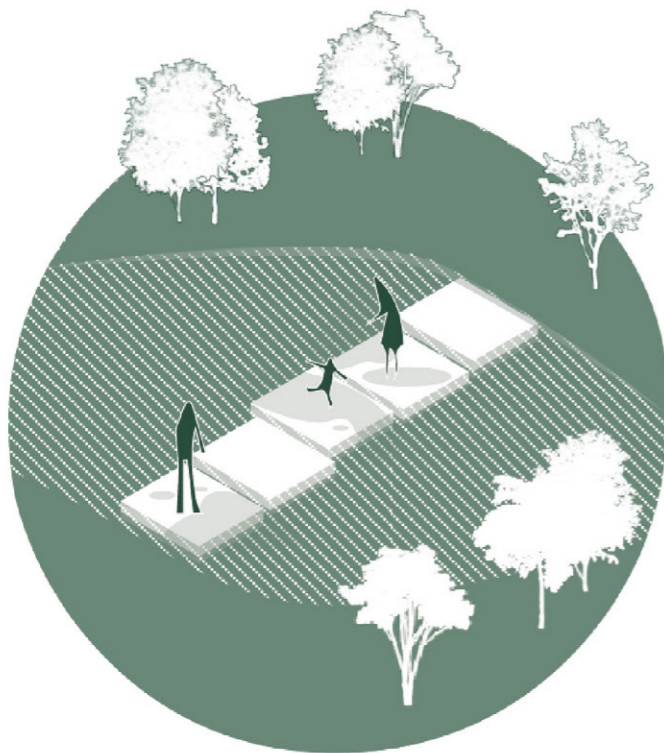
stepping stones

recreating the accumulation of material to cross and letting the river flow naturally



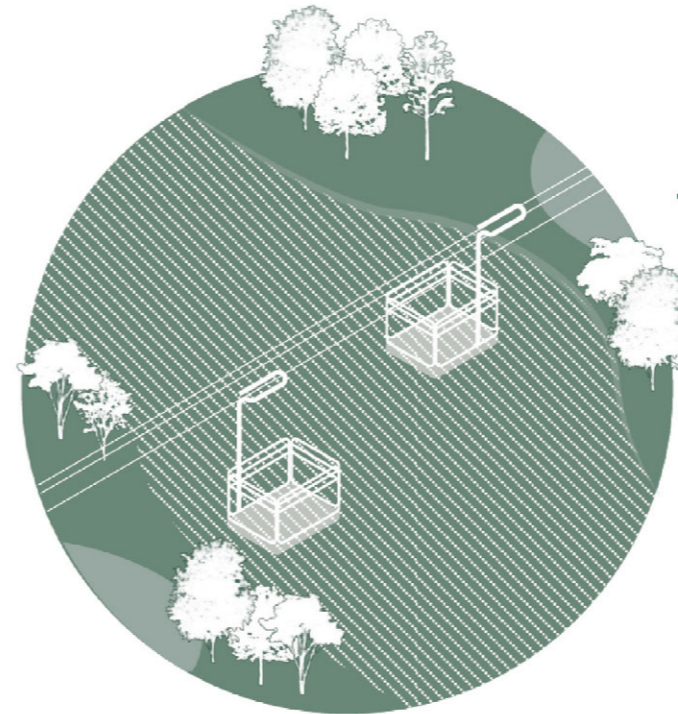
floating platforms

taking in advantage the variable level of the water to make an interactive crossing



aerial cable car

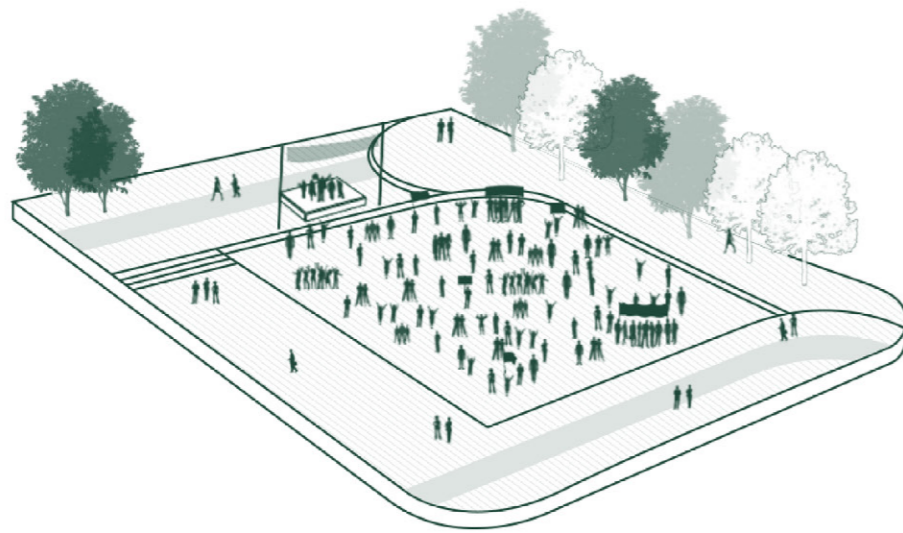
linking productive activities in both sides of the border



Through light infrastructures, seasonal facilities and sustainable materials, the current way migrants cross the border is reinterpreted as friendly new crossing situations.

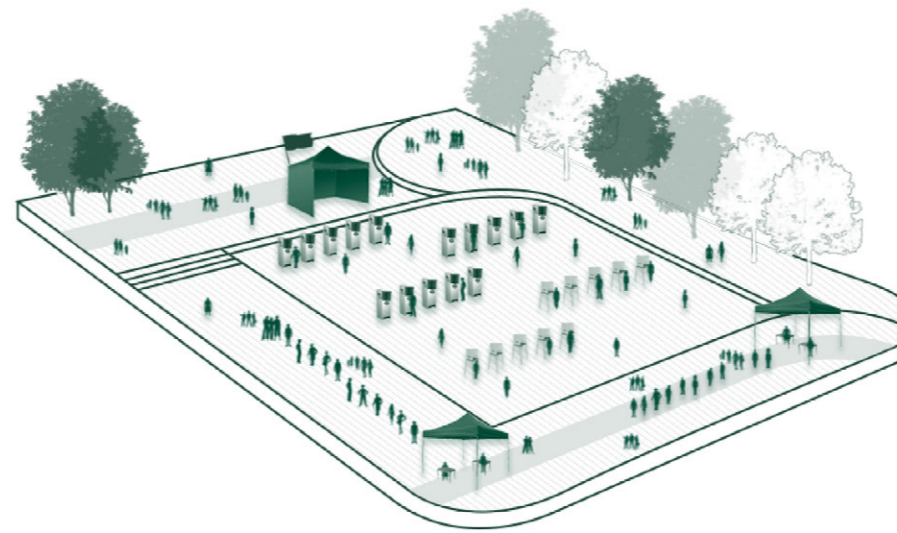
Landscape is enhanced and embraced as the new elements seek to praise it and make it part of a daily basis free flow which involves enjoyment and safety.

public spaces and the opportunity to have different spontaneous and planned activities as response to the current situations



bottom - up situations

- events organized (or not organized) by the inhabitants and social organizations
- demonstrations
- markets
- cultural manifestations
- fairs



top - down situations

- events organized by external stakeholders
- elections
- cultural events
- manifestations
- concerts



emergency situations

- sanitary
- migratory
- natural disaster

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gracias
thank you
grazie

