Territories of Mediation:
Shared Existances
in the Brazilian Amazon

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Delta Urbanism Research Group
TU Delft

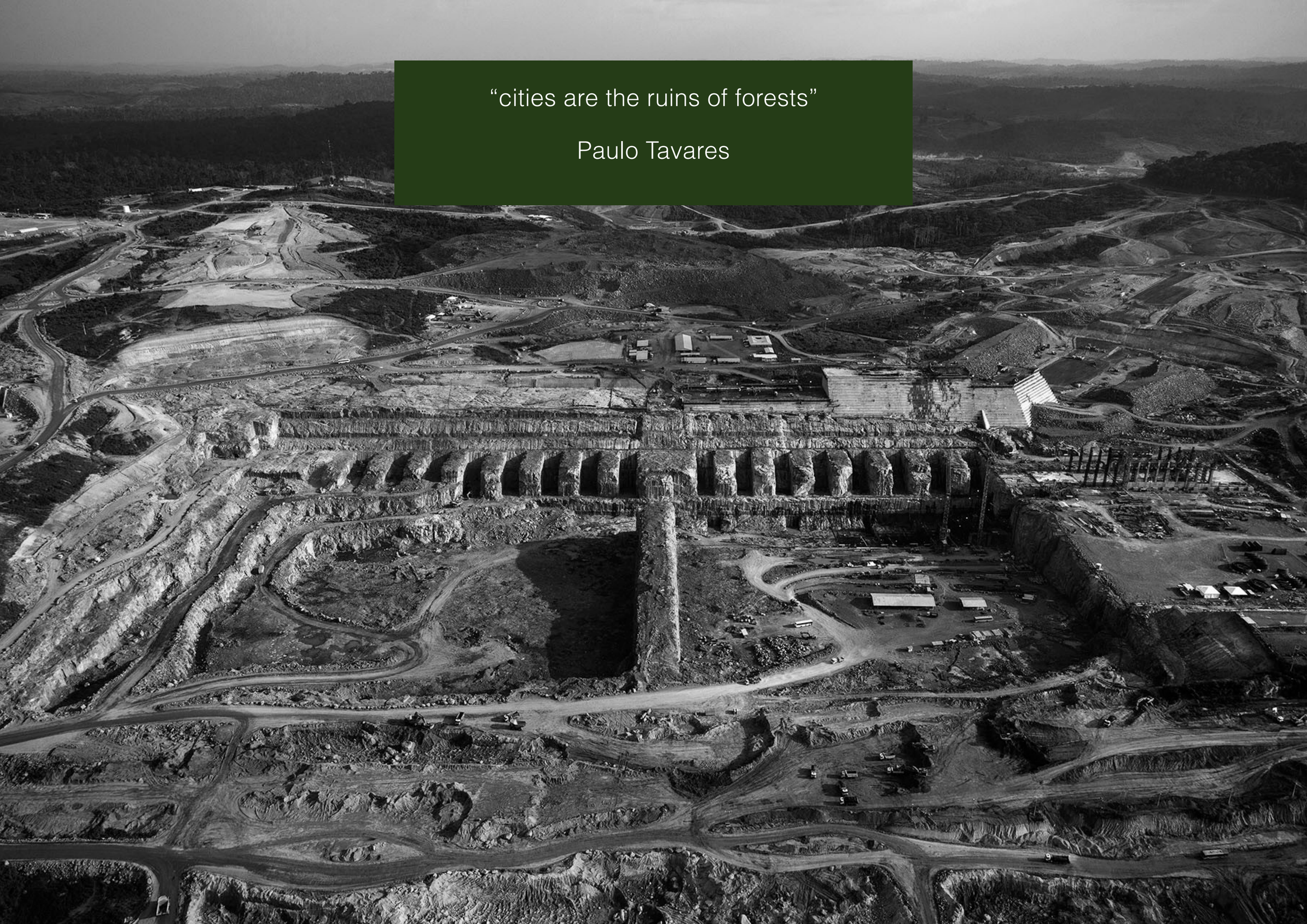
1. Personal Motivation
2. Problem
3. Research
4. Design
5. Conclusions
6. A New Way Through

Ecology

Infrastructure

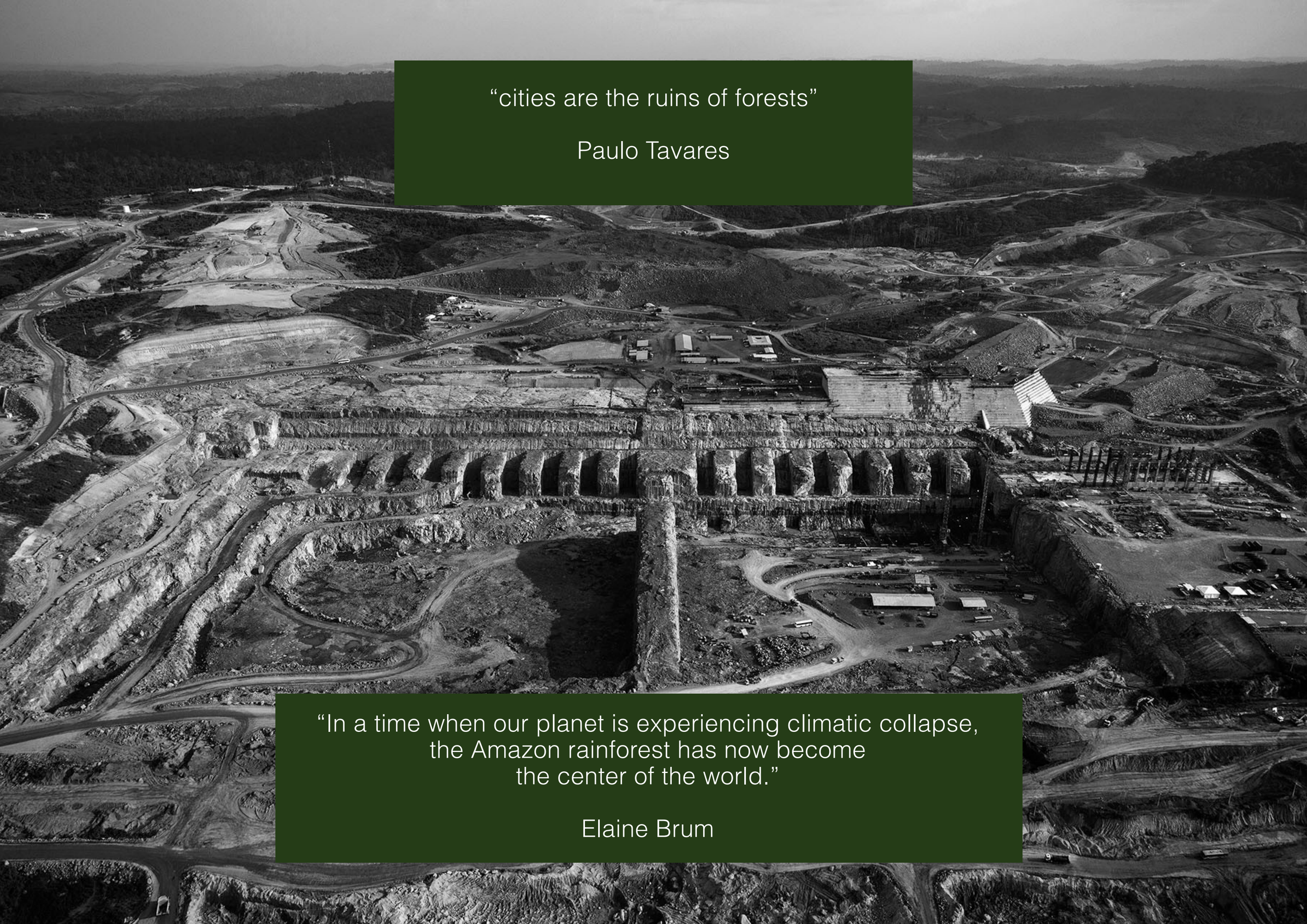
Urbanization

Society



“cities are the ruins of forests”

Paulo Tavares



“cities are the ruins of forests”

Paulo Tavares

“In a time when our planet is experiencing climatic collapse,
the Amazon rainforest has now become
the center of the world.”

Elaine Brum

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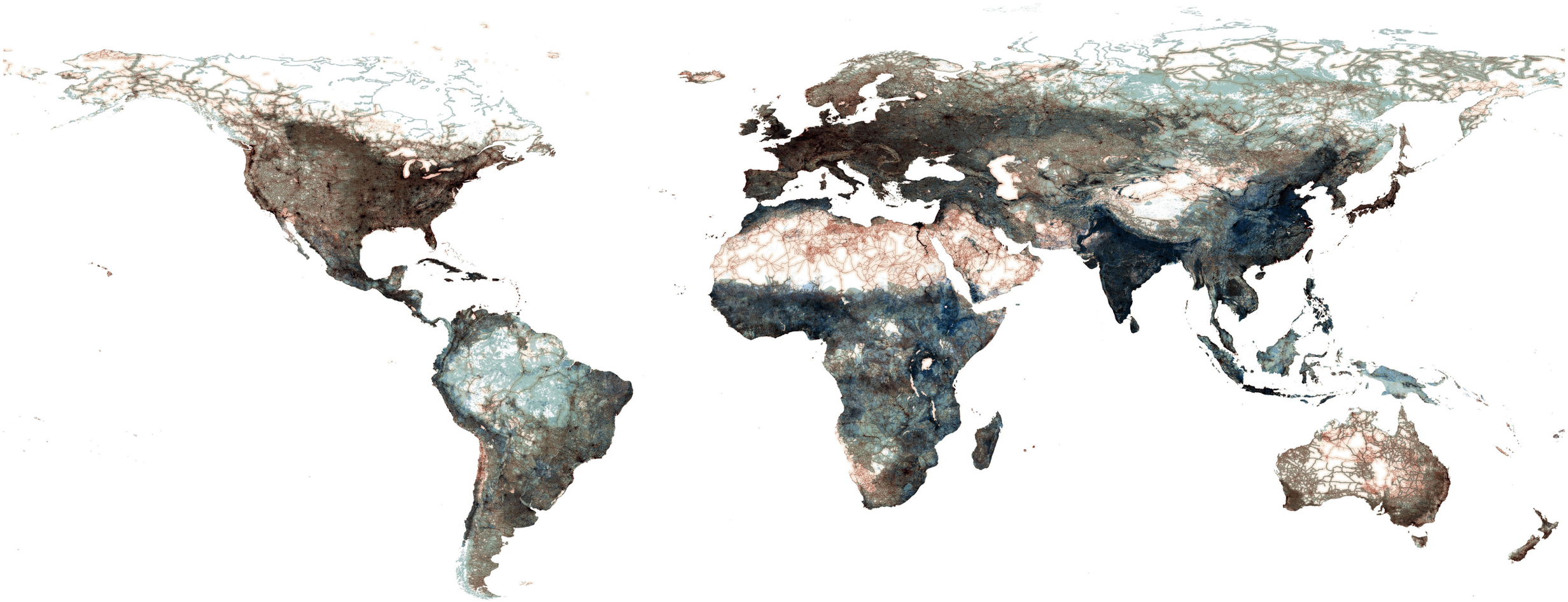
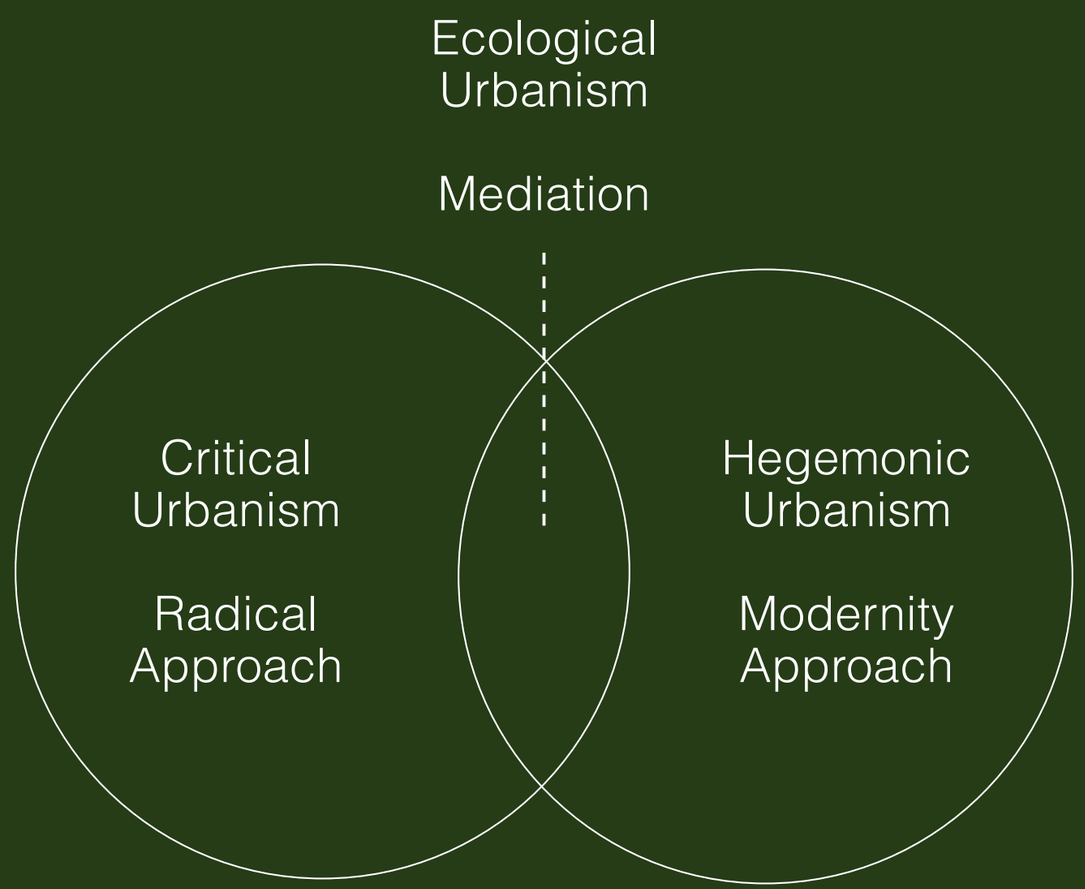
Planetary Urbanization (Brenner & Schmid, 2012)

“Whoms planet?”



Cosmoplitics (Stengers, 2010)

“Inhabiting the pluriverse”


Ecological
Urbanism
Mediation
Critical
Urbanism
Radical
Approach
Hegemonic
Urbanism
Modernity
Approach

How to mediate
the territorial occupation
and impact
of hydropower infrastructure
on Critical Zones
and Indigenous existances?

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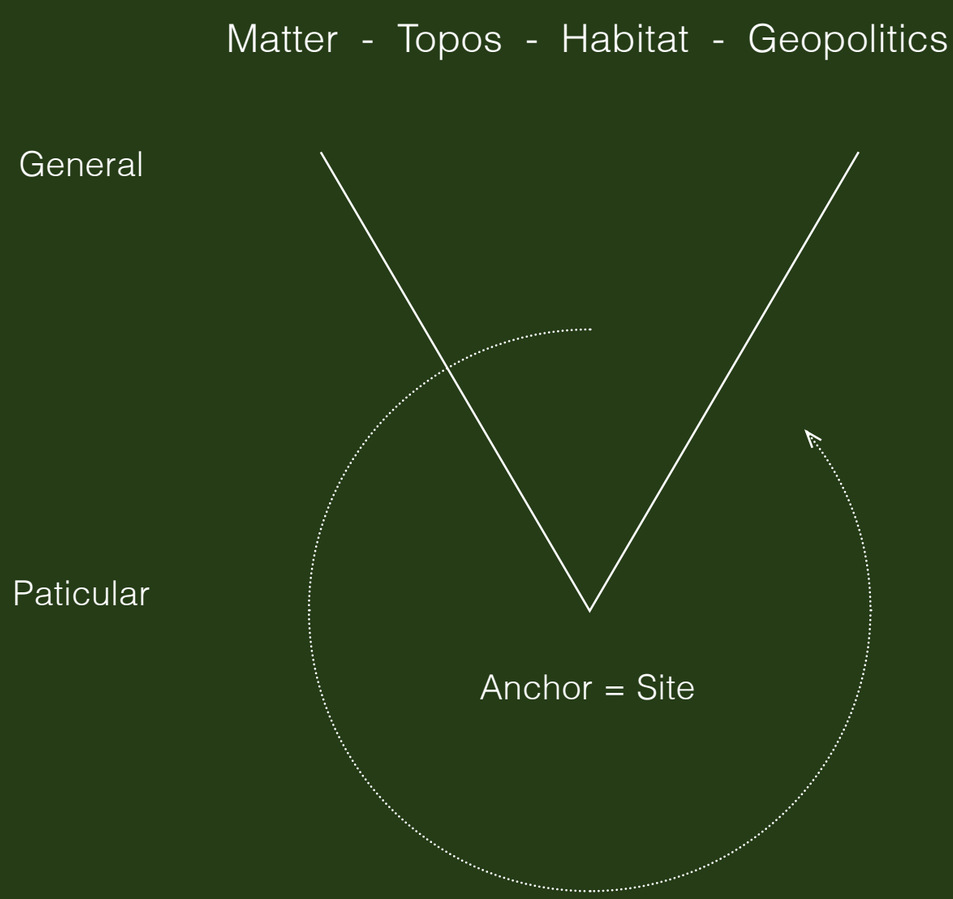
3. Research

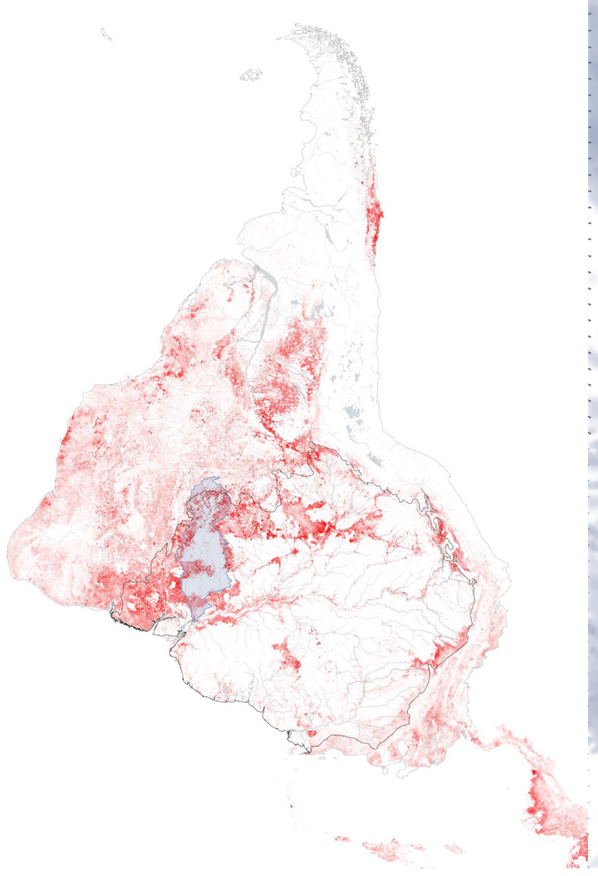
Lines of Inquiry

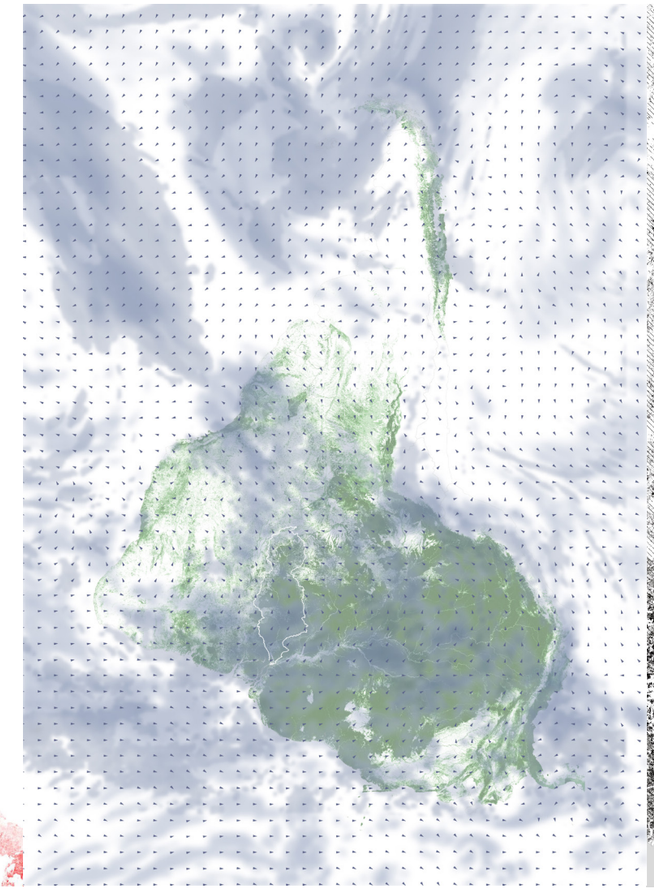
3. Research

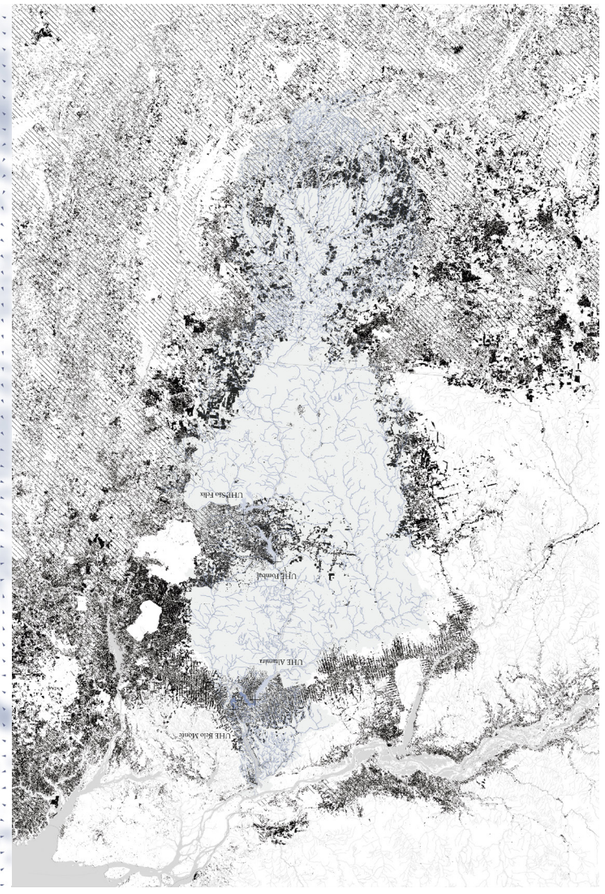
Lines of Inquiry

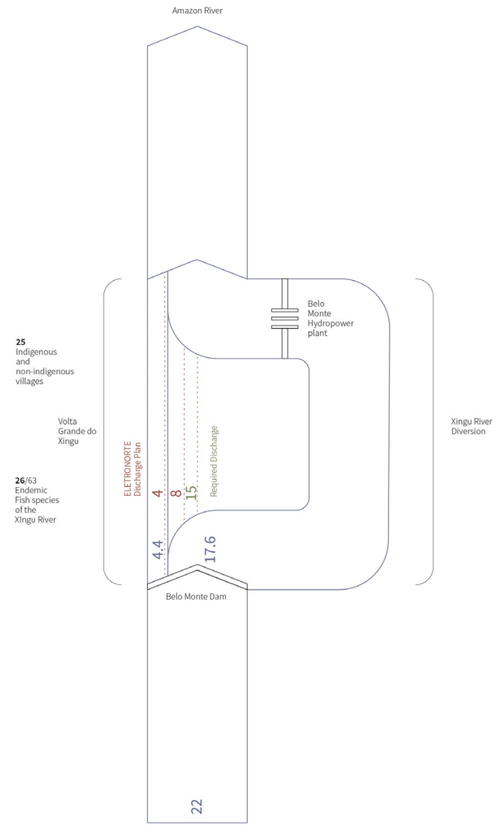


Matter = Climate



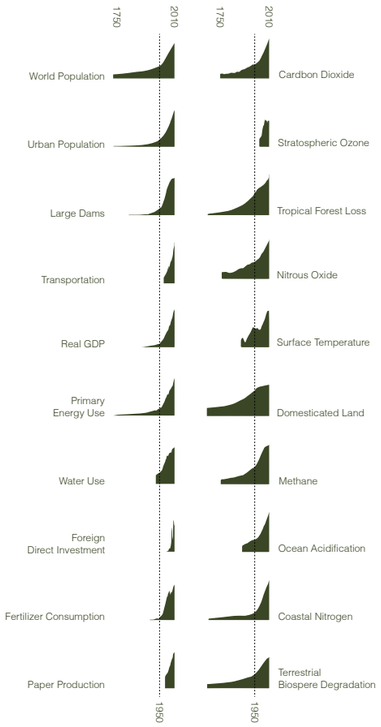


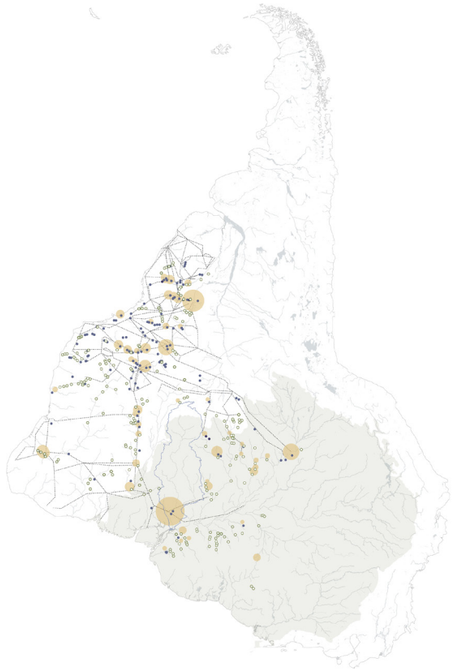


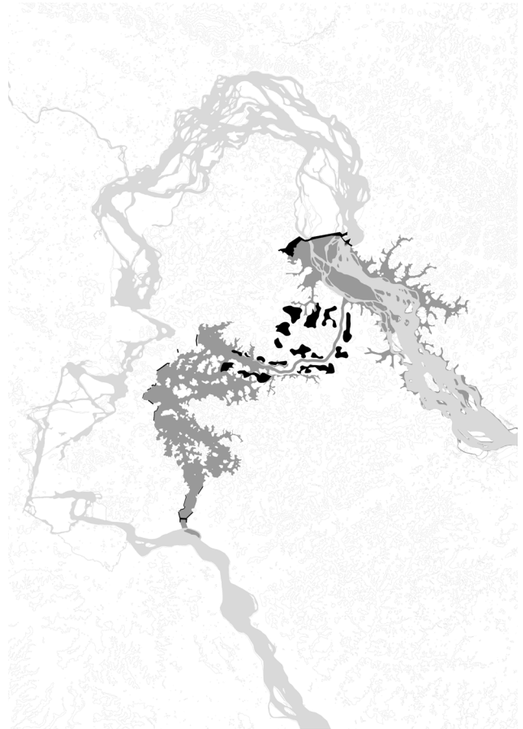


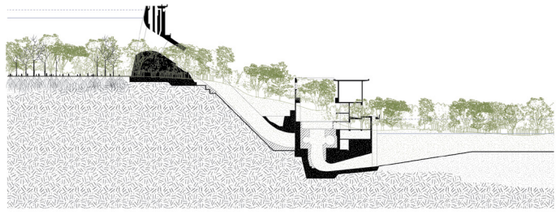
S

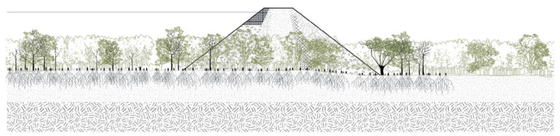
Topos = Development

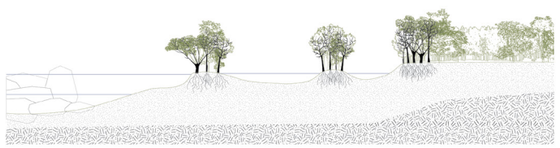


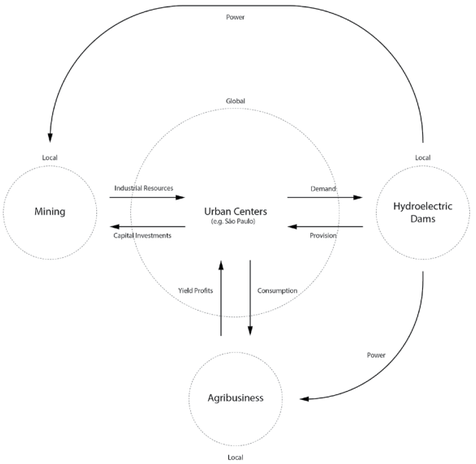












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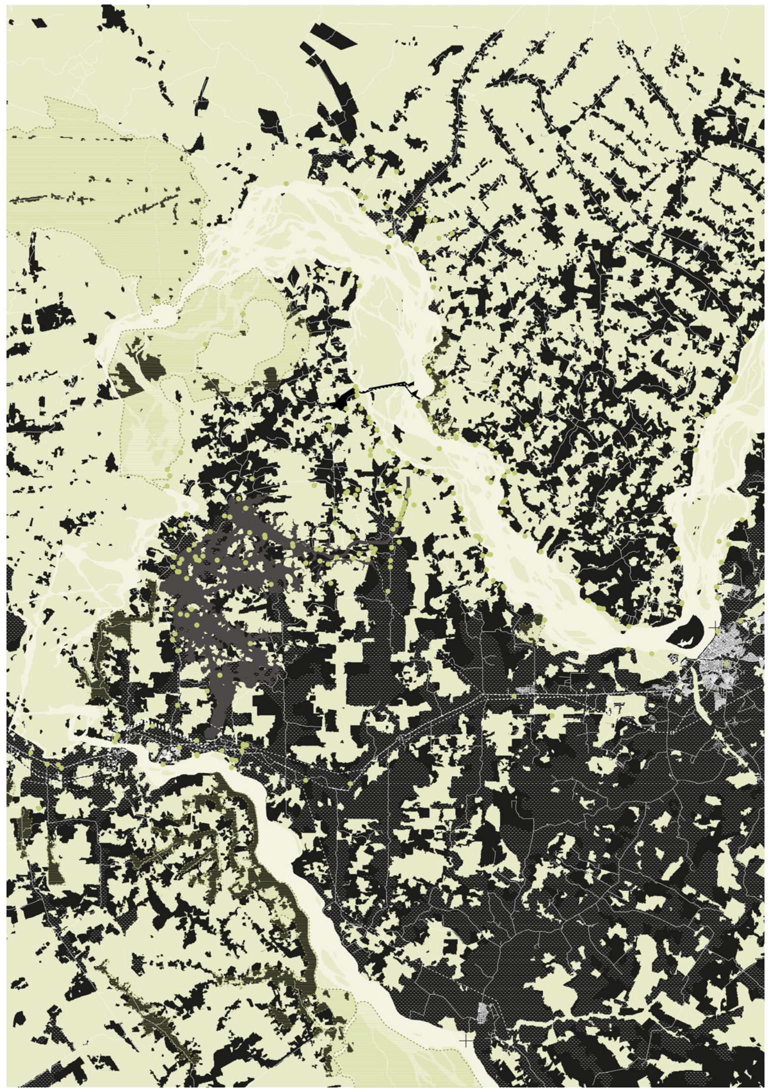
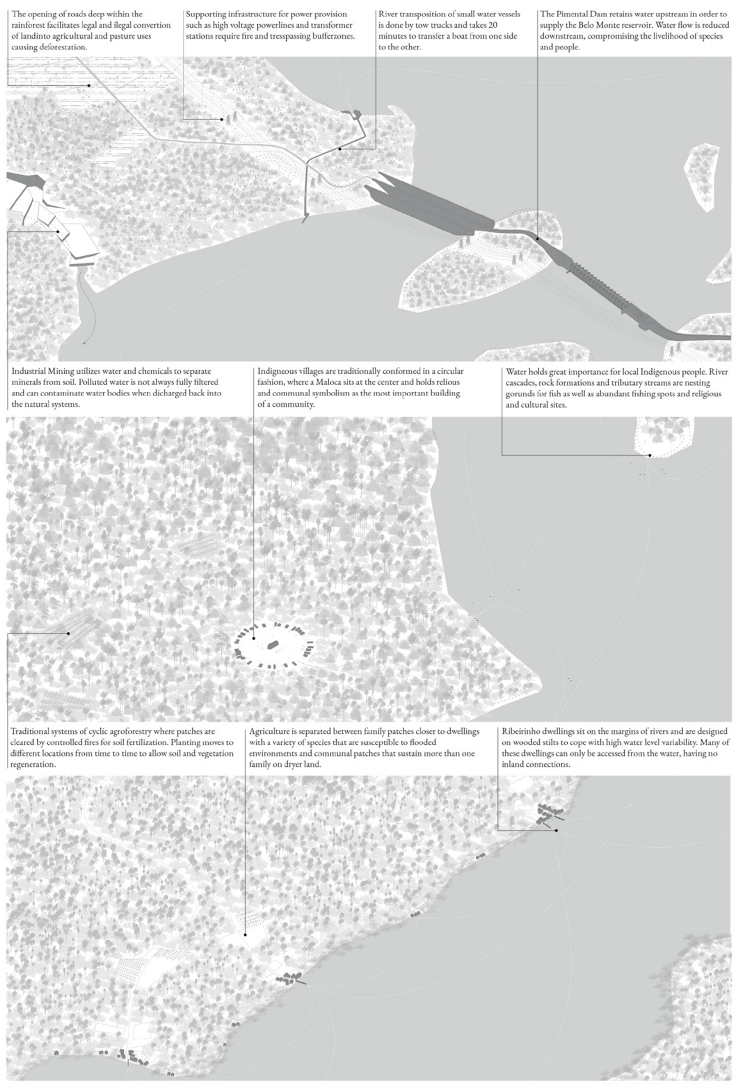
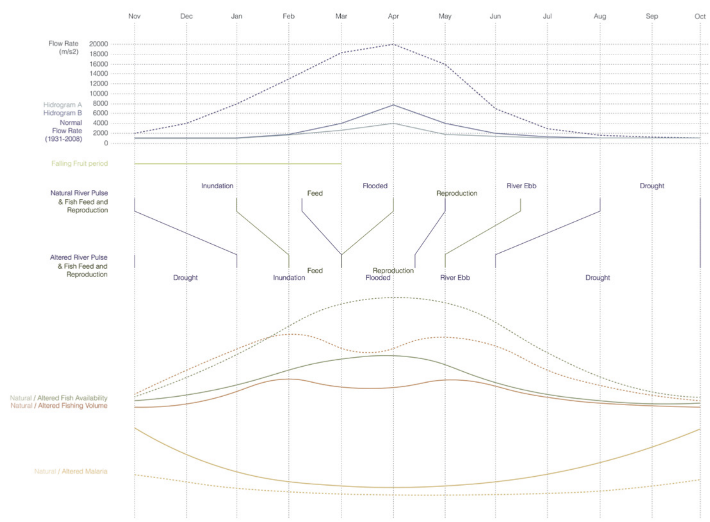
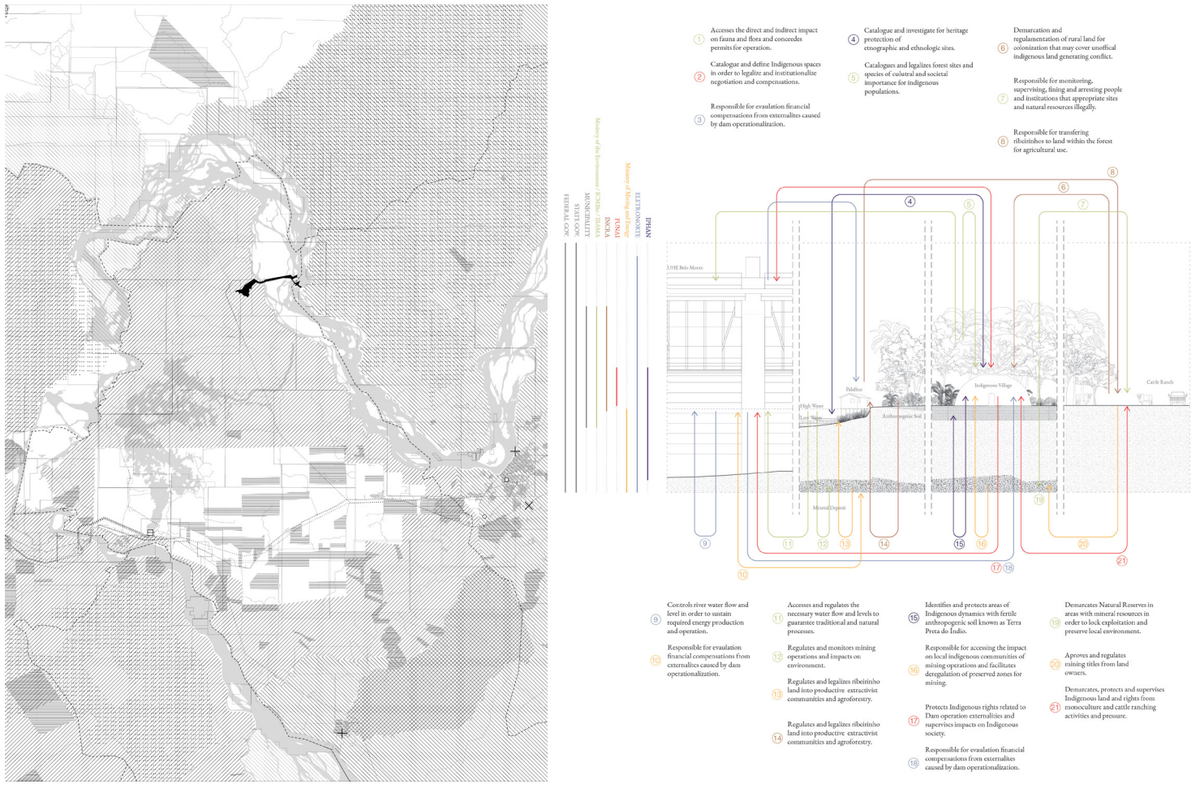
Habitat = Existances





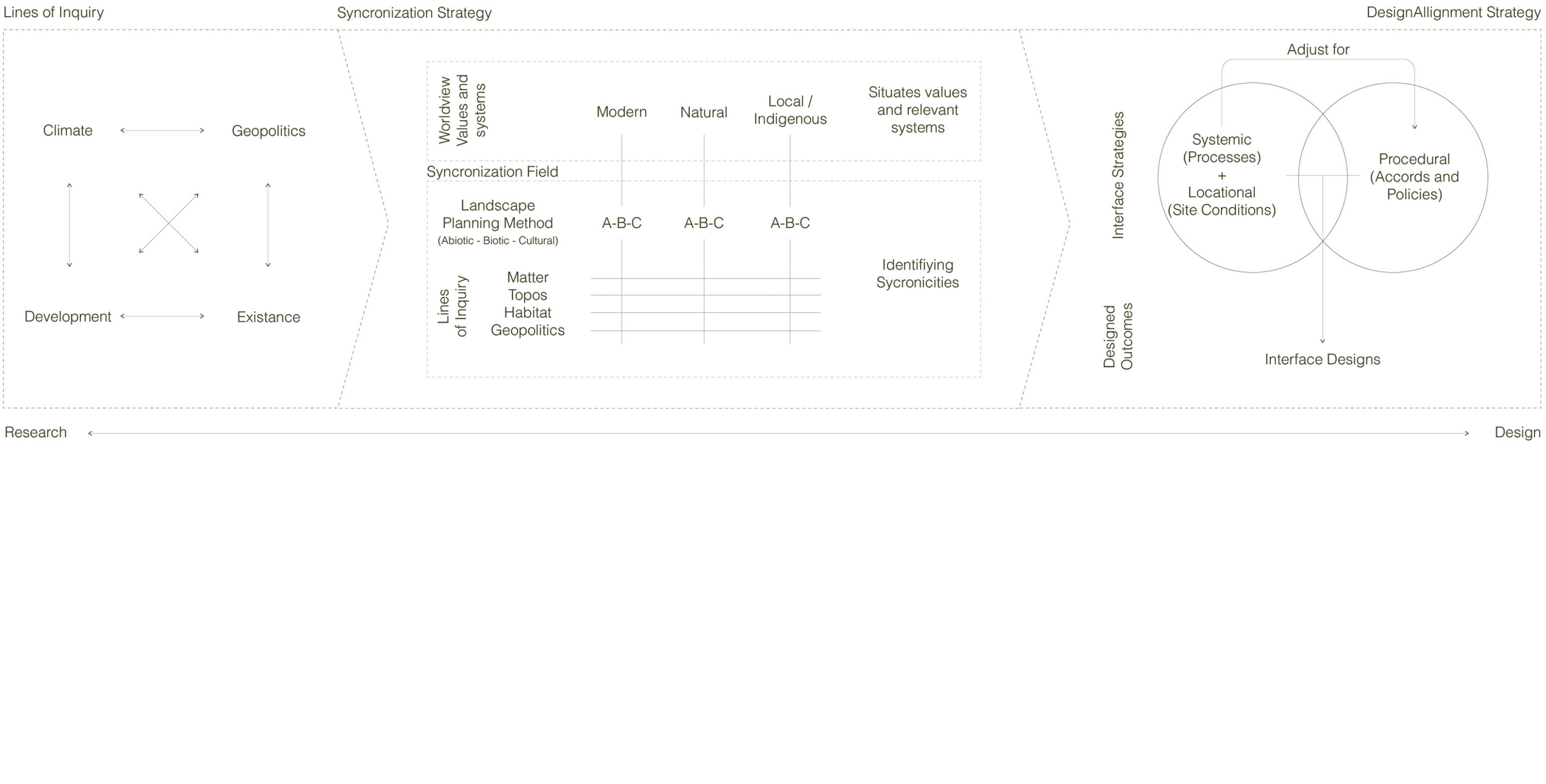


Geopolitics



3. Research

Research and Design Approach



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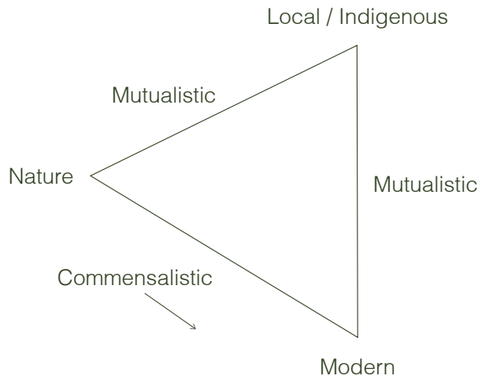
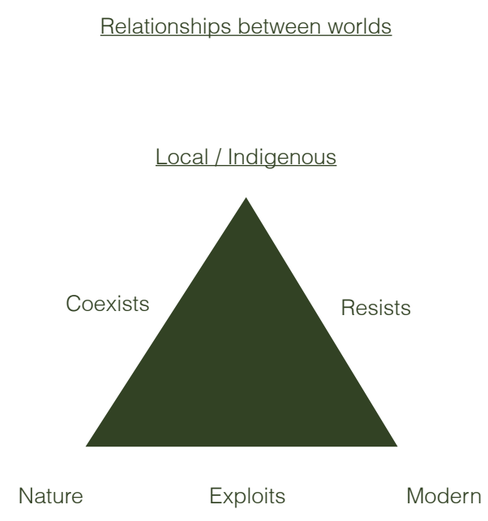
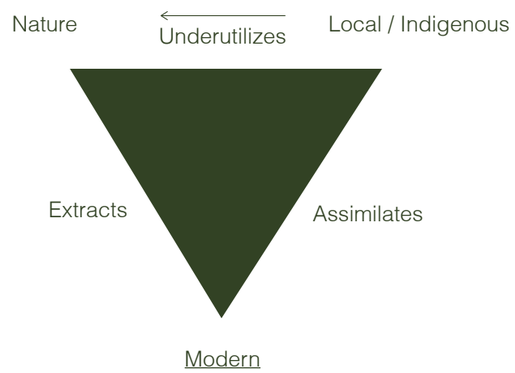
4. Design

Values







Lines of Inquiry

Matter
Topos
Habitat
Geopolitics

Values

Modern
Matter as resource
Manipulate Soil and Ground
Operationalized land
Structuring claims

Natural
Matter as space
Shaped by time
Consequence of suitable conditions
Providing the support for environment enhancement

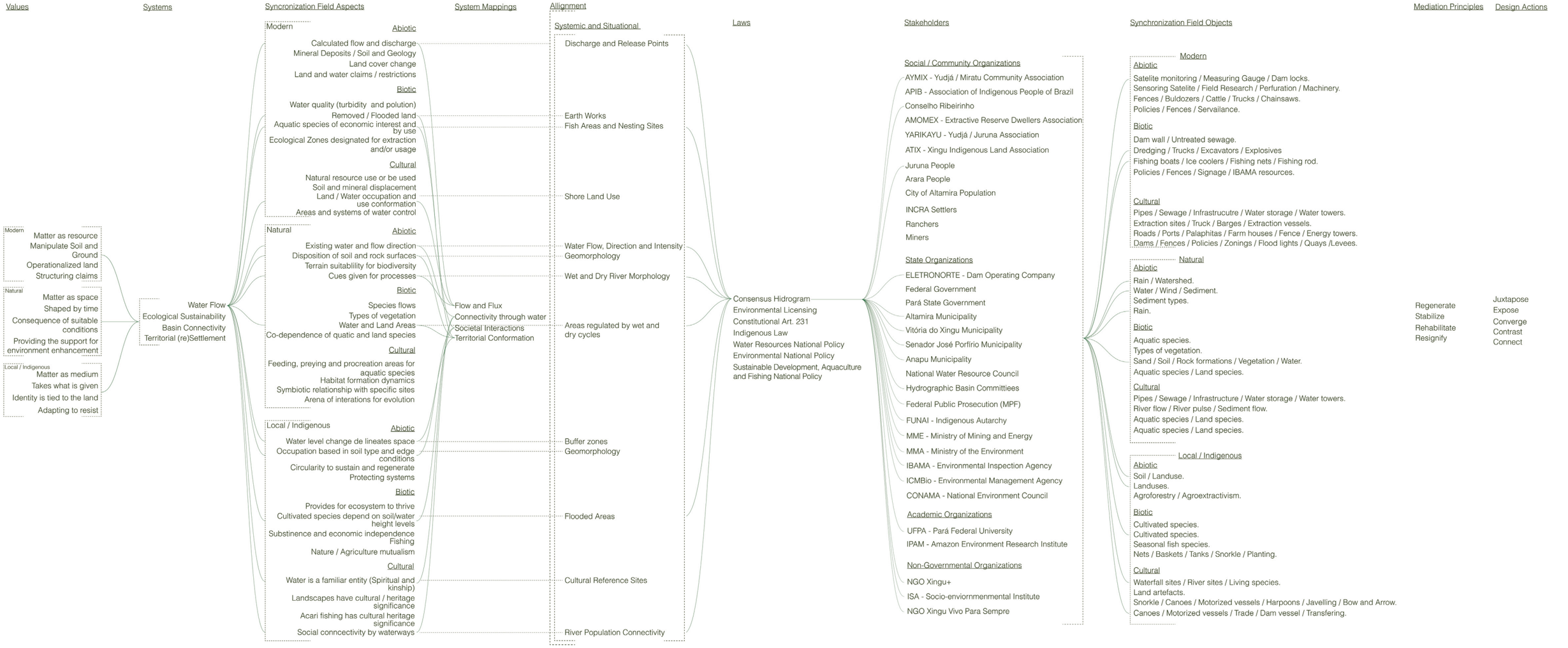
Local / Indigenous
Matter as medium
Takes what is given
Identity is tied to the land
Adapting to resist

4. Design Synchronization Field

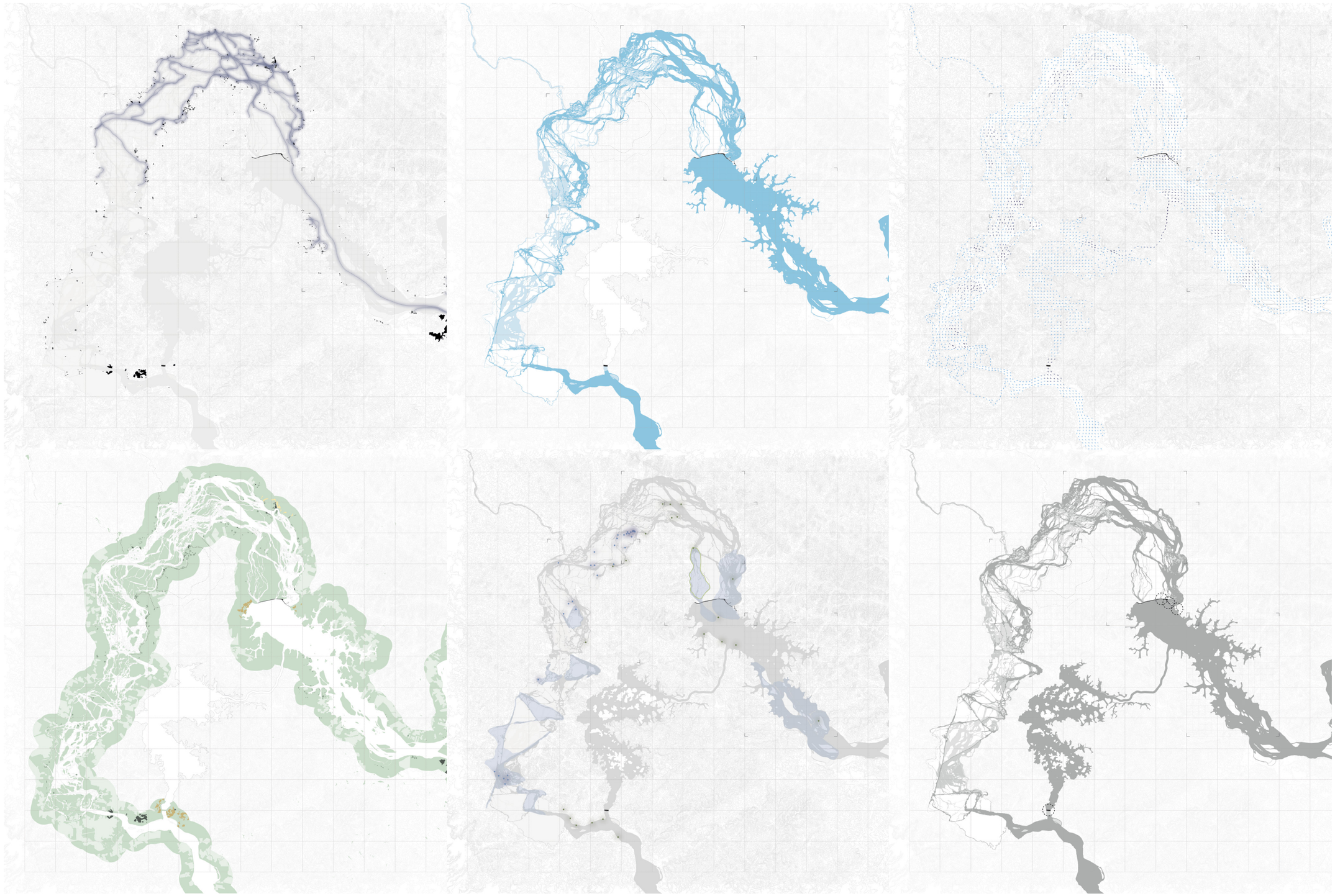
		Worldviews											
Dynamics		Modern				Natural				Local / Indigenous			
Lines of Inquiry		Values	Abiotic	Biotic	Cultural	Values	Abiotic	Biotic	Cultural	Values	Abiotic	Biotic	Cultural
MATTER	Earth Water Air	Resource	Calculated flow and discharge	Water quality fish Survival (turbidity and polution)	Natural resource use or be used	Space	Existing water and flow direction	Species flows	Feeding, preying and procreation areas for aquatic species	Medium	Water level change de lineates space	Provides for ecosystem to thrive	Water is a familiar entity (Spiritual and kinship)
TOPOS	Terraform Erasure Translations Flux	Manipulate Soil and Ground	Mineral Deposits / Soil and Geology	Removed / Flooded land	Soil and mineral displacement	Shaped by time	Disposition of soil and rock surfaces	Types of vegetation	Habitat formation dynamics	Takes what is given	Occupation based on soil type and edge conditions	Cultivated species depend on soil/water height levels	Landscapes have cultural / heritage significance
HABITAT	Mutualism Competition Diversity Entropy	Operationalized land	Land cover change	Aquatic species of economic interest and by use	Land / Water occupation and use conformation	Consequence of suitable conditions	Terrain suitablility for biodiversity	Water and Land Areas	Symbiotic relationship with specific sites	Identity is tied to the land	Circularity to sustain and regenerate	Substinence and economic independence Fishing	Acari fishing has cultural heritage significance
GEOPOLITICS	Climate Change Ethics Ownership Displacement	Structuring claims	Land and water claims / restrictions	Ecological Preservation zones Areas designated for extraction and usage	Areas and systems of water control	Providing the support for environment enhancement	Cues given for processes	Co-dependence of quatic and land species	Arena of interations for evolution	Adapting to resist	Protecting systems	Nature / Agriculture mutualism	Social conncectivity by waterways

Elements / Artefacts		Modern				Natural				Local / Indigenous			
Lines of Inquiry		Values	Abiotic	Biotic	Cultural	Values	Abiotic	Biotic	Cultural	Values	Abiotic	Biotic	Cultural
MATTER	Earth Water Air	Resource	Satelite monitoring. Measuring Gauge. Dam locks.	Dam wall. Untreated sewage.	Pipes. Sewage Infrastrucutre. Water storage. Water towers.	Space	Rain. Watershed.	Aquatic species.	Pipes. Sewage Infrastrucutre. Water storage. Water towers.	Medium	Soil. Landuse.	Cultivated species.	Waterfall sites. River sites. Living species.
TOPOS	Terraform Erasure Translations Flux	Manipulate Soil and Ground	Sensoring Satelite. Field Research. Perfuration machinery.	Dredging. Trucks. Excavators. Explosions.	Extraction sites. Truck. Barges. Extraction vessels.	Shaped by time	Water. Wind. Sediment.	Types of vegetation.	River flow. River pulse. Sediment flow.	Only takes what is given	Landuses.	Cultivated species.	Land artefacts.
HABITAT	Mutualism Competition Diversity Entropy	Operationalized land	Fences. Buldozers. Cattle. Trucks. Chainsaws.	Fishing boats. Ice coolers. Fishing nets. Fishing rod.	Roads. Ports. Palaphitas. Farm houses. Fence. Energy towers.	Consequence of suitable conditions	Sediment types.	Sand. Soil. Rock formations. Vegetation. Water.	Aquatic species. Land species.	Identity is tied to the river	Agroforestry. Agroextractivism.	Seasonal fish species.	Snorkle. Canoes. Motorized vessels. Harpoons. Javelling. Bow and Arrow.
GEOPOLITICS	Climate Change Ethics Ownership Displacement	Structuring claims	Policies. Fences. Servailance.	Policies. Fences. Signage. IBAMA resources.	Dams. Fences. Policies. Zonings. Flood lights. Quays. Levees.	Providing the support for environment enhancement	Rain.	Aquatic species. Land species.	Aquatic species. Land species.	Adapting to resist		Nets. Baskets. Tanks. Snorkle. Planting.	Canoes. Motorized vessels. Trade. Dam vessel. Transfering.

4. Design
Synchronization Field



4. Design
System Mappings



S

4. Design

Territorial Directives

Rehabilitating water flow to provide nesting areas and rehabilitate natural ecology.

Enhancement of local connctivity.

Directing water flow will allow for traditional sites to florish

Given the close relationship to the river and species and ecology knowledge, indigenous populations are valueable stakeholders to manage and montior water quality and ecosystems.

4. Design

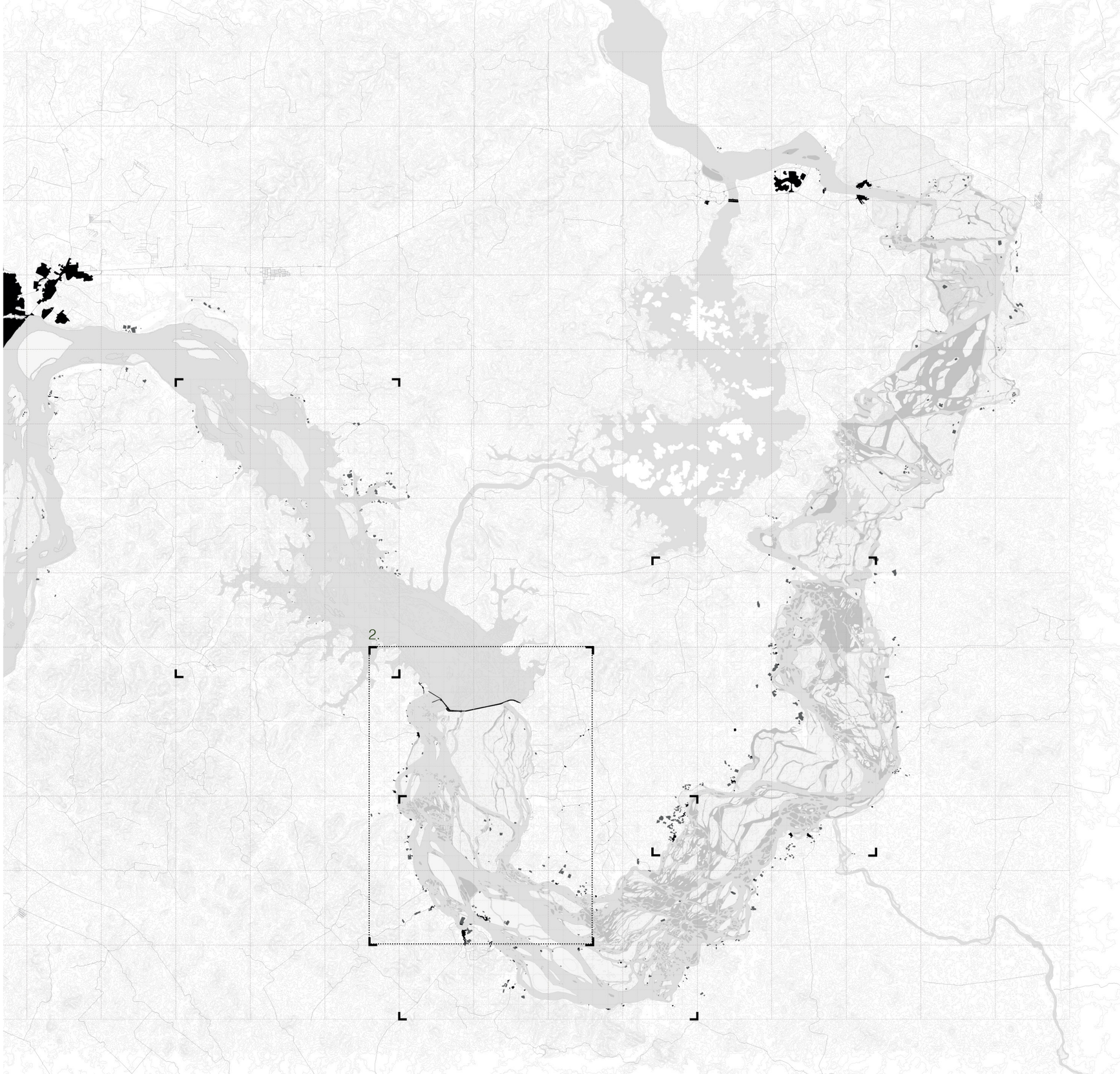
Strategic Interfaces

1. Re-settlement arrangement

2. Re-naturalization landscape

3. Re-connection pathways

4. Re-engagement with cultural sites



4. Design

Strategic Interfaces

4.4.1. Dam Intervention

Mediation: Rehabilitate and Regenerate

Design Actions:

Water flow management & redirectioning.

New Natural Fishway and waterflow control.

4.4.2. Reduced Water Shore Intervention

Mediation: Resignify

Design Actions:

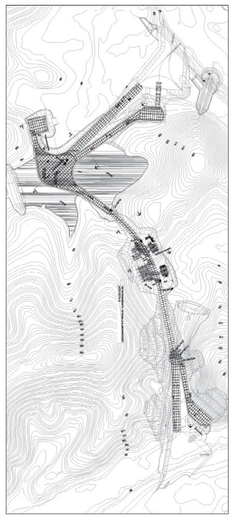
Re-connection of isolated shore populations.

4. Design

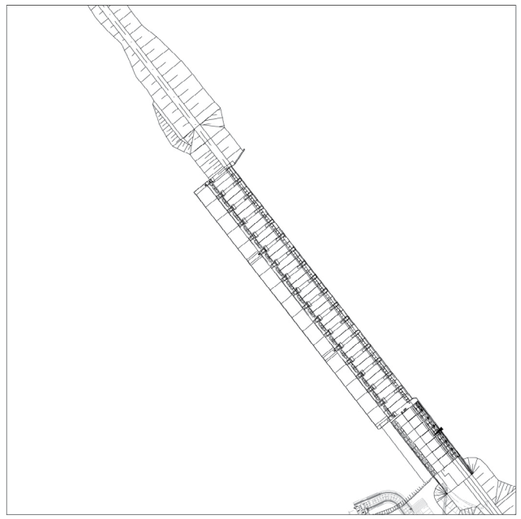
Strategic Interface:
Dam Intervention

Water Vessel

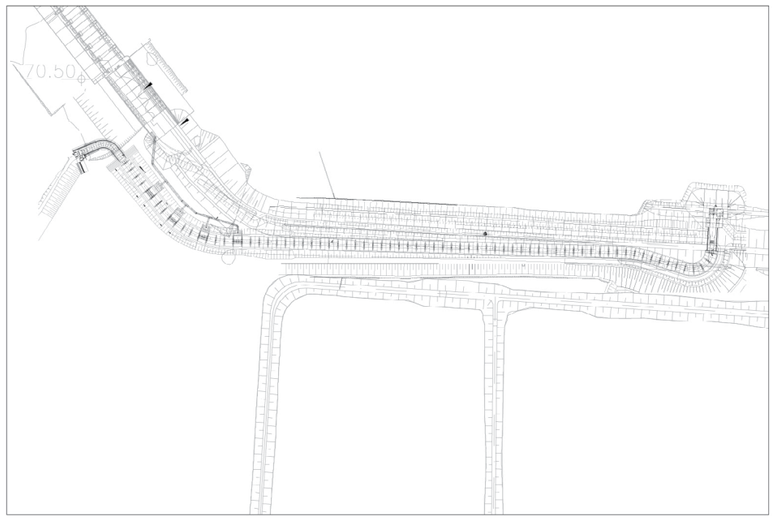
Transpositon Infrastructure

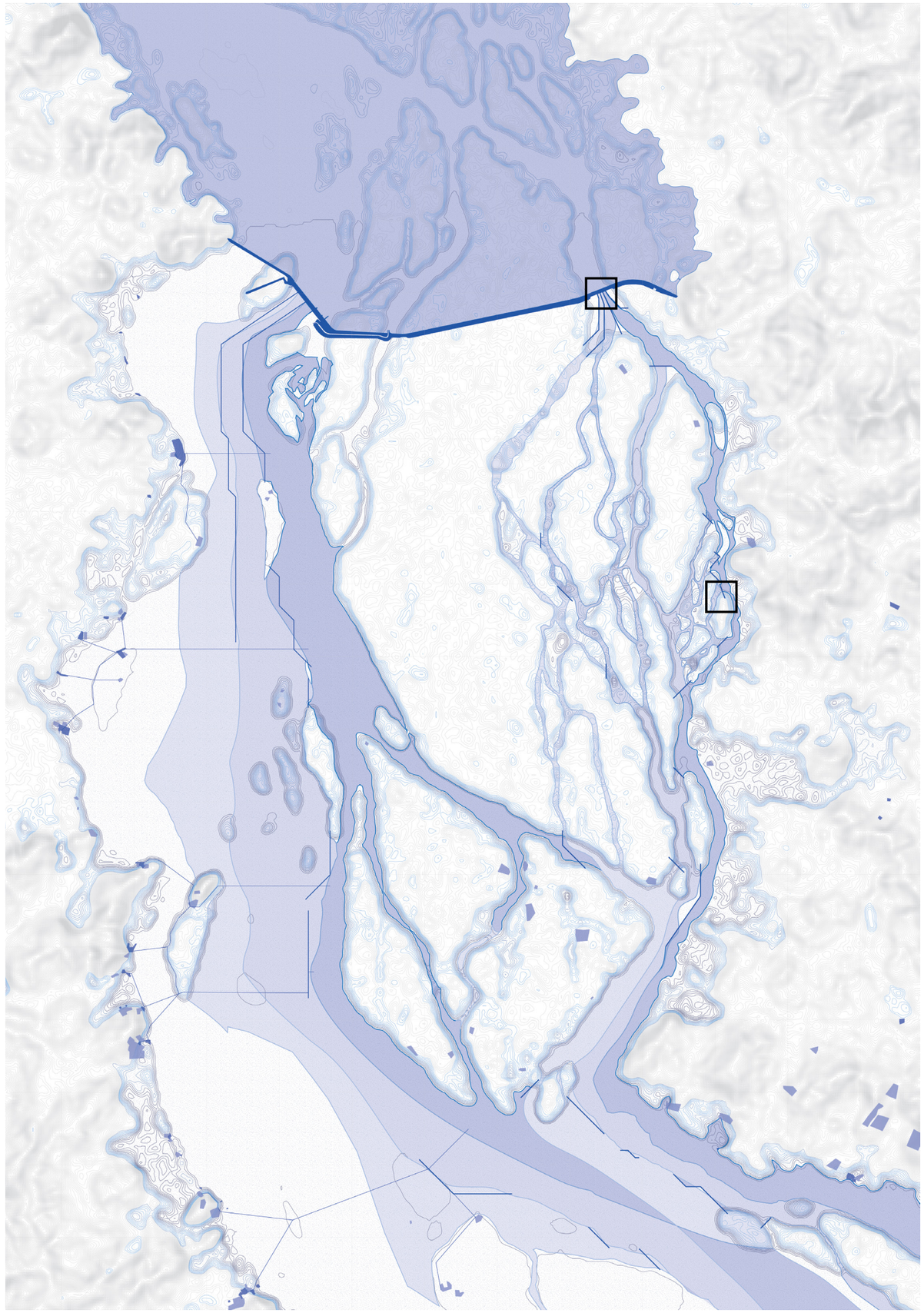


Pimental Dam Water Locks



Fish Transposition System





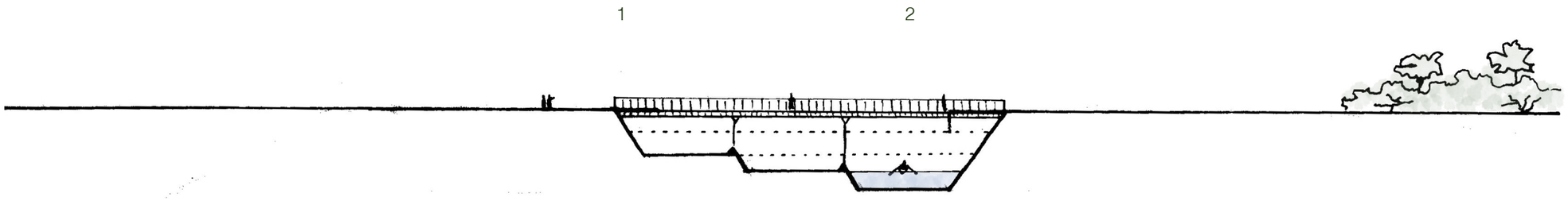
Interventions
Settlements
Low Water Flow
Intermediate Water Flow
High Water Flow

S

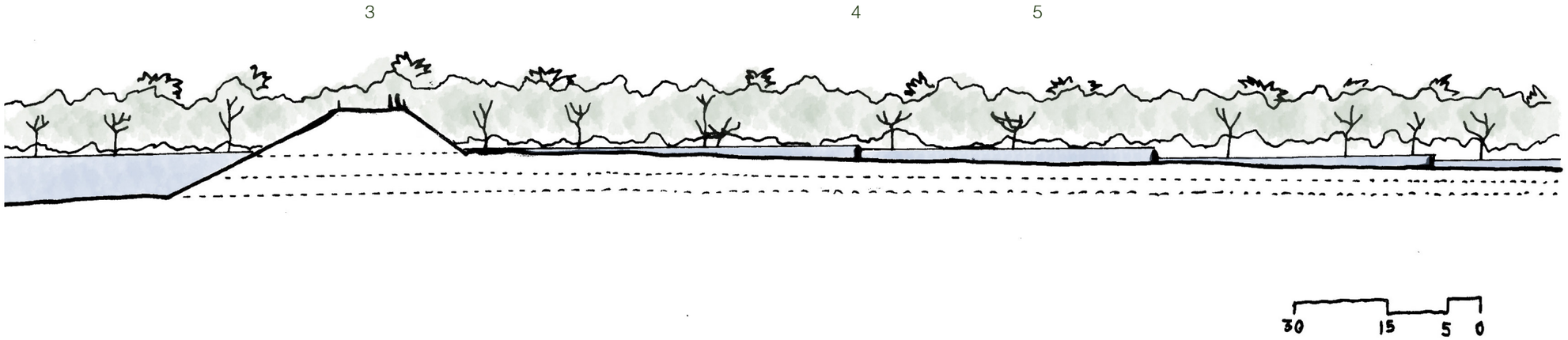
4. Design

Strategic Interface:
Dam Intervention

Longitudinal Dam Section



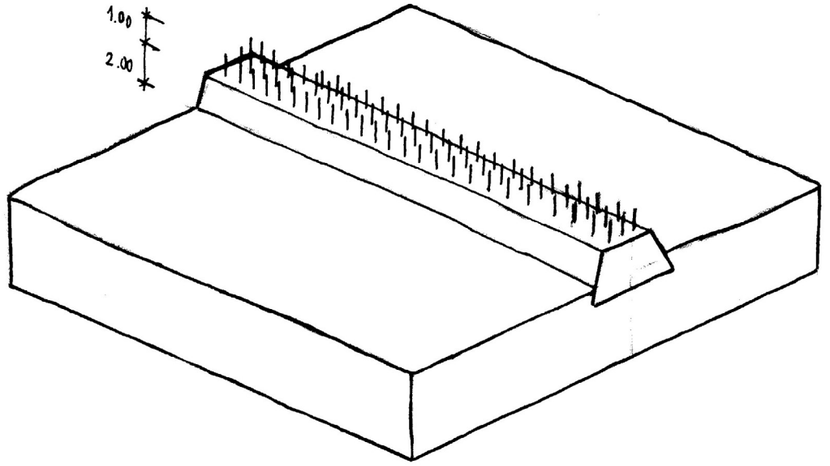
Transverse Dam Section



1. Footbridge
2. Dike step canals
3. Dike
4. retention walls
5. Pool plateaus

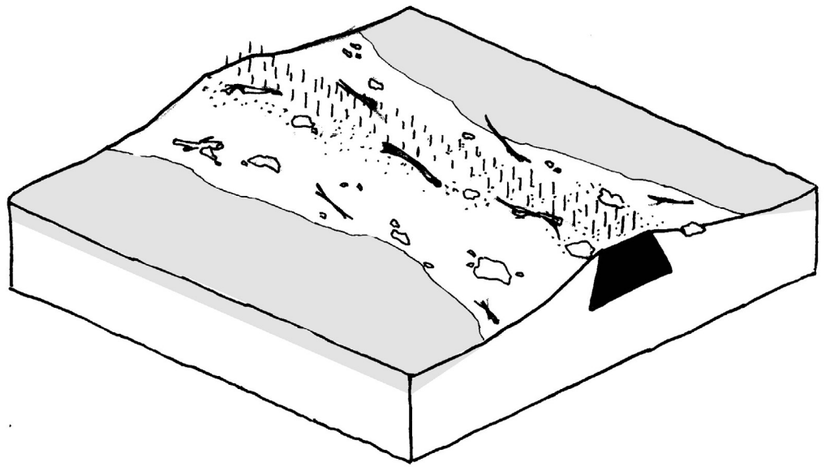
4. Design

Strategic Interface: Dam Intervention



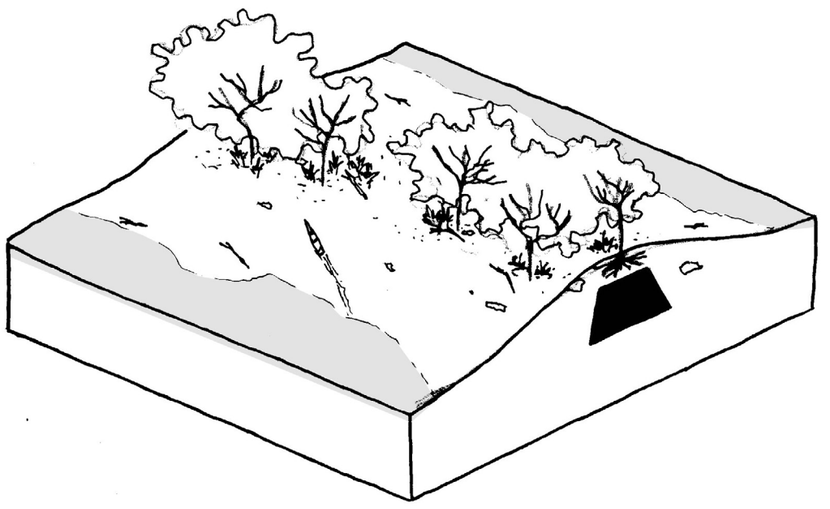
Phase 1

Dike implementation



Phase 2

Sediment Capture



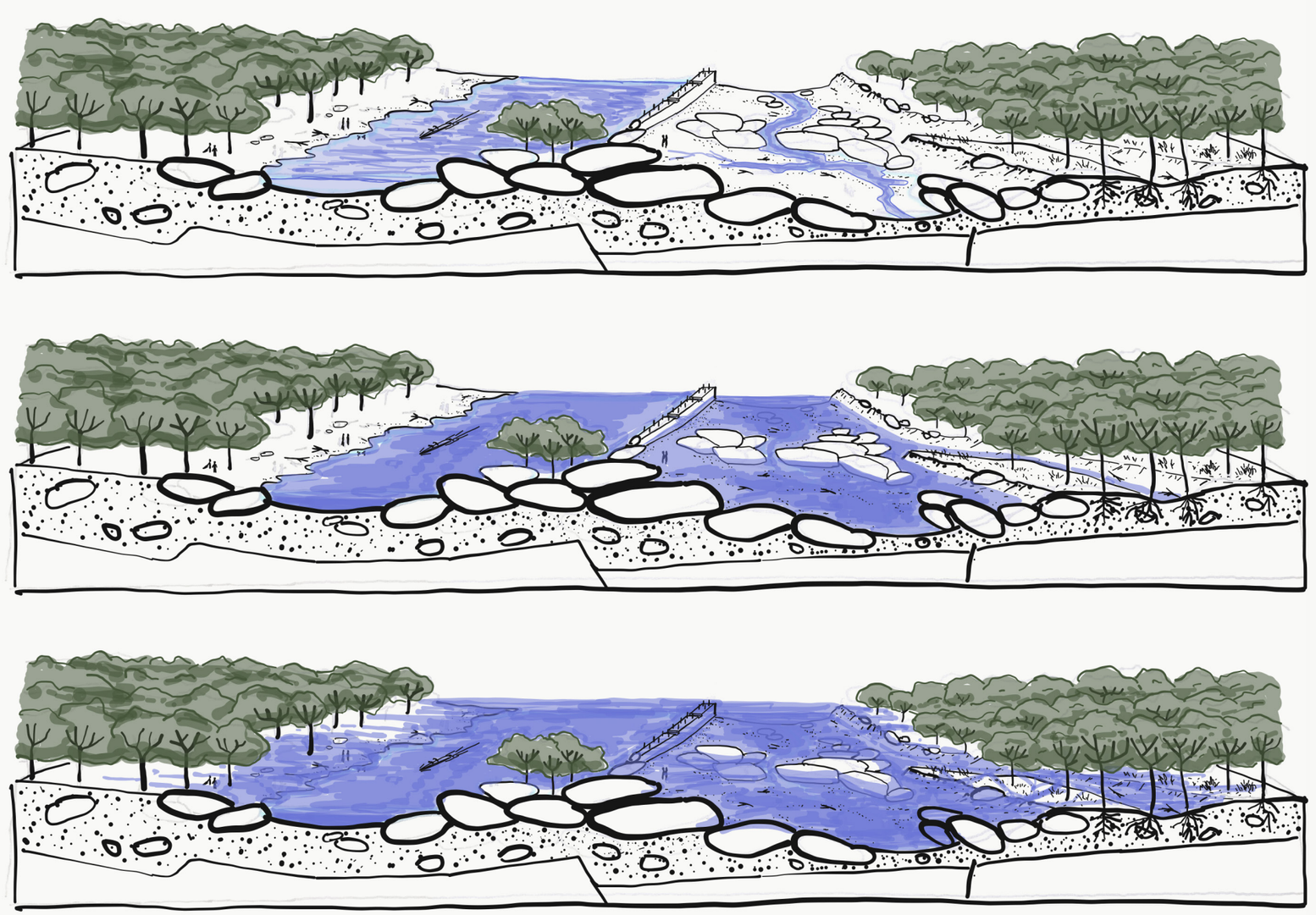
Phase 3

Naturalization

4. Design Outcome

Strategic Interface:
Dam Intervention

Low River Level - Dry season

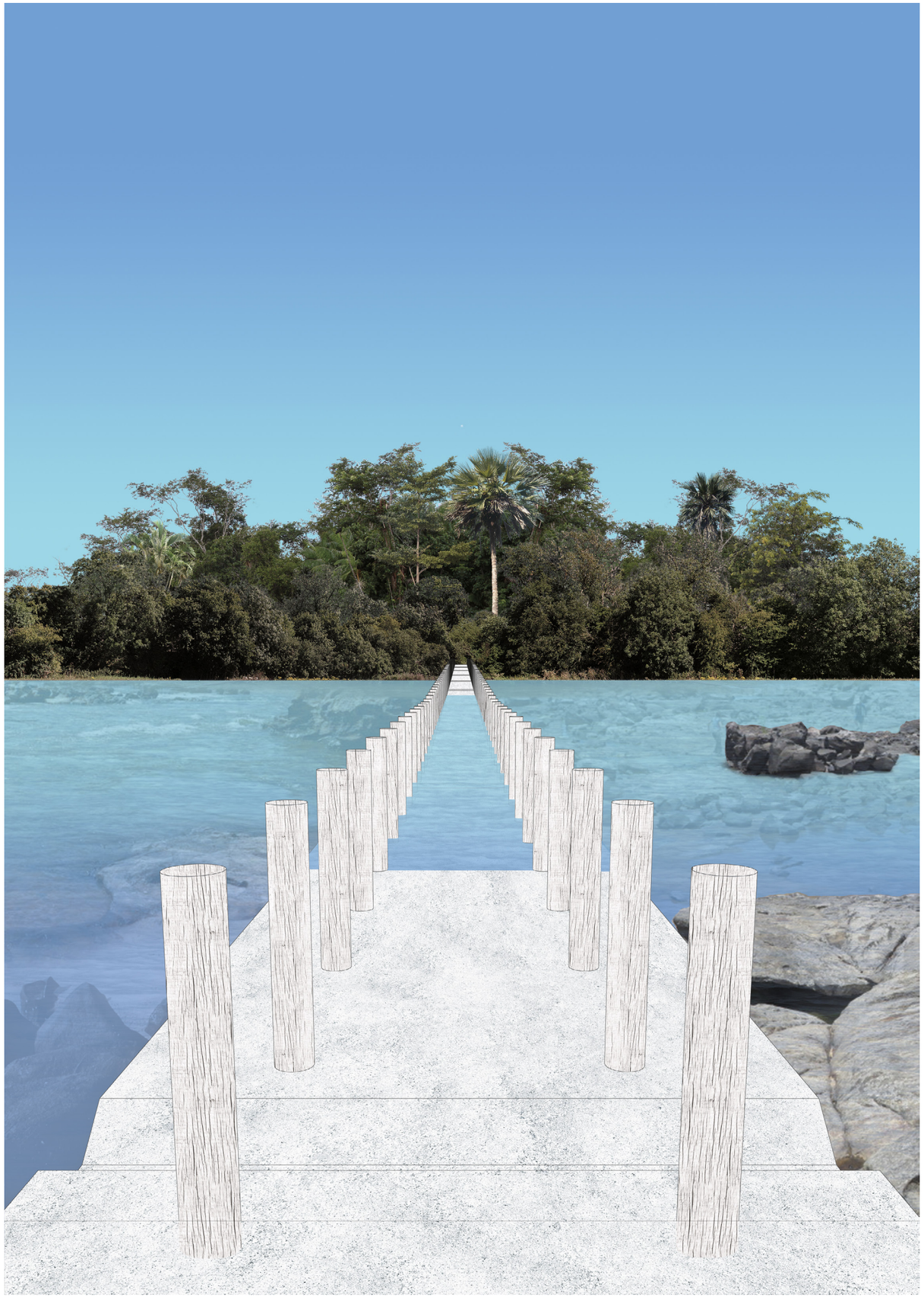


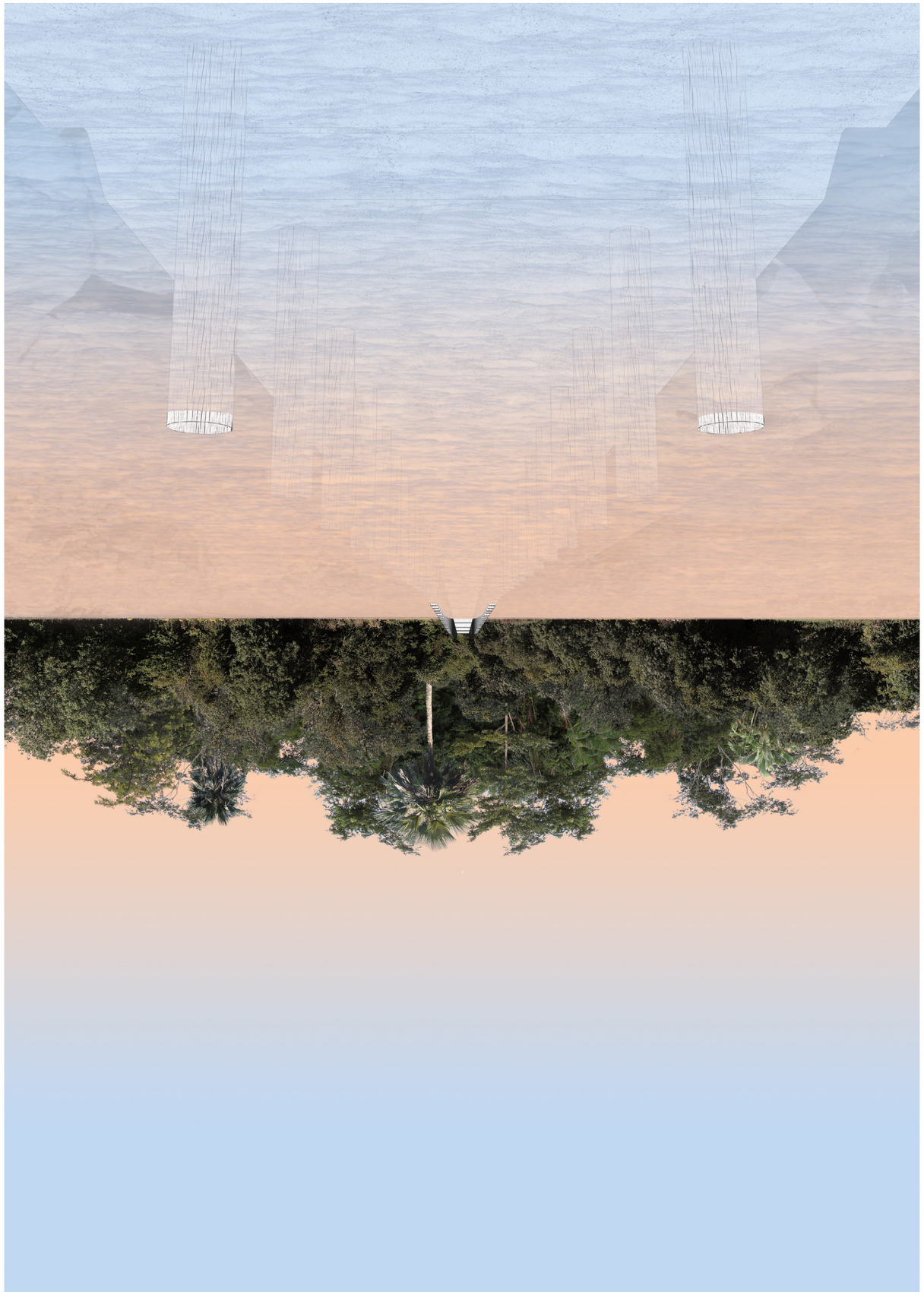
High River Level - Wet season

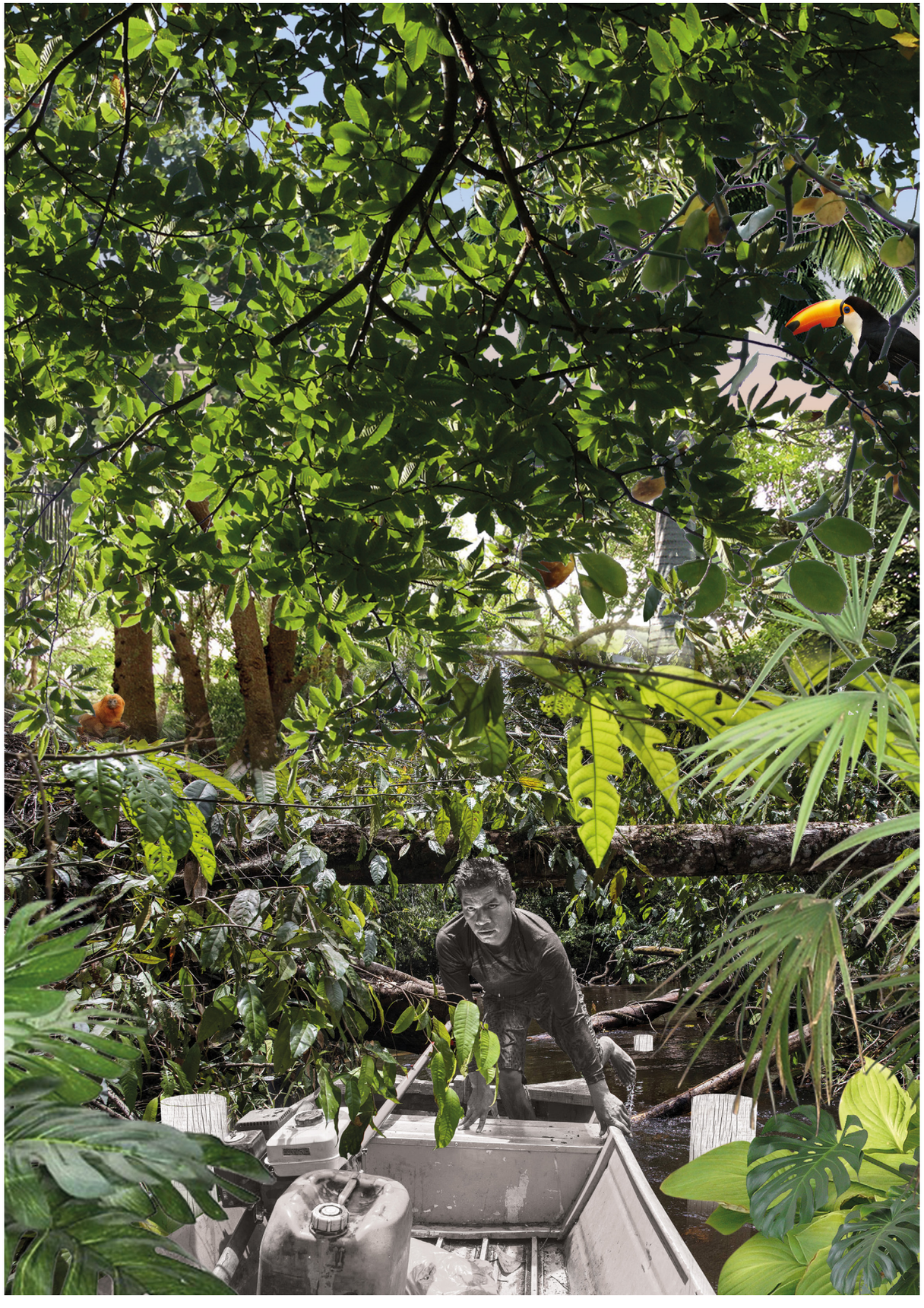
Dikes are implemented by ELETRONORTE for their Mediation Compliance

Co-managed by Basin Committee, Local Community Associations and ELETRONORTE

Flooding areas are monitored by Basin Committee local members to ensure that ecology is sustained







4. Design Outcome

Strategic Interfaces

4.4.1. Dam Intervention

Rehabilitate and Regenerate

Water flow management & redirectioning.
New Natural Fishway and waterflow control.

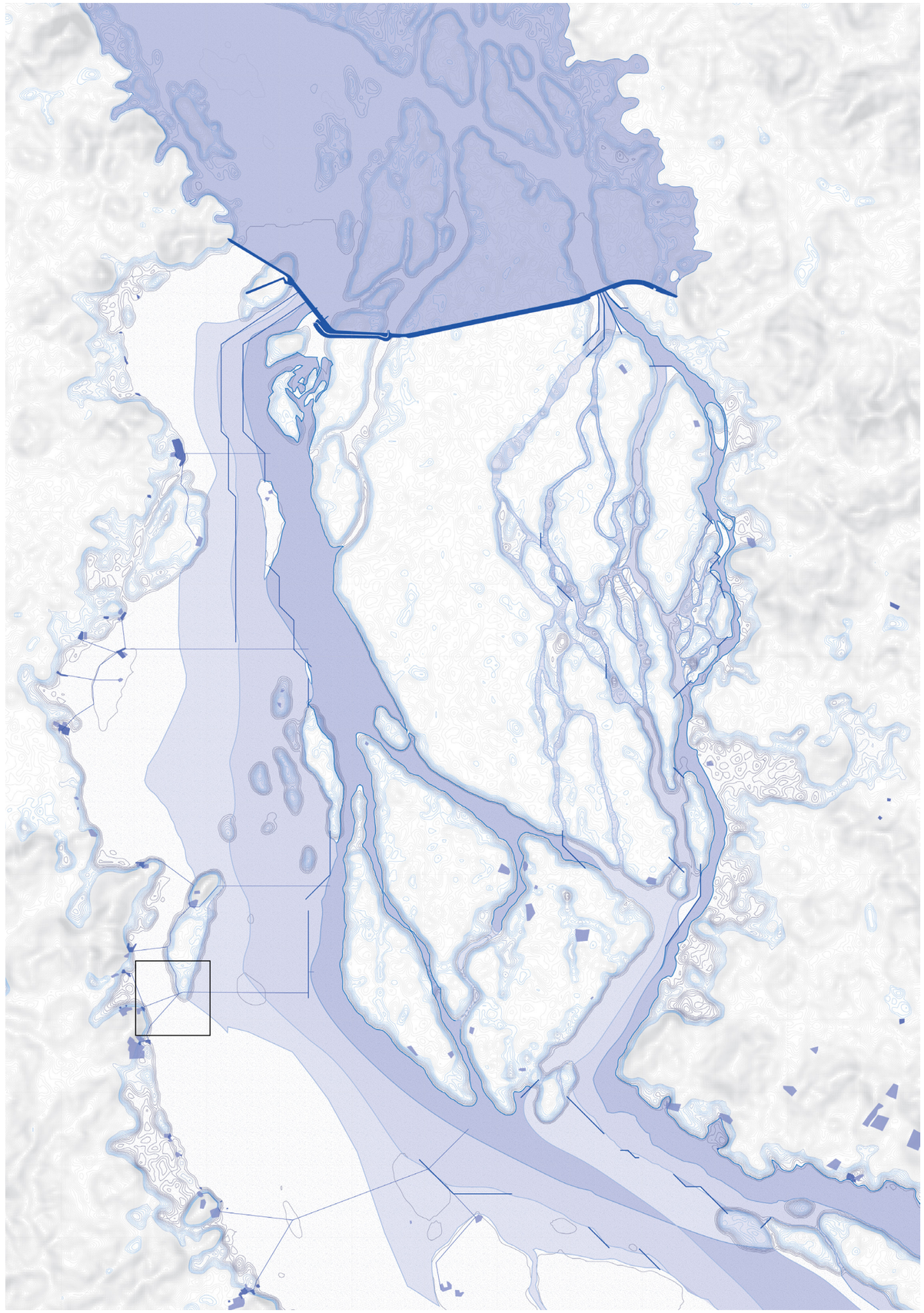
4.4.2. Reduced Water Shore Intervention

Resignify

Re-connection of isolated shore populations.

4. Design Outcome

Reduced Water Shore Intervention

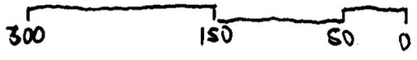


Interventions
Settlements
Low Water Flow
Intermediate Water Flow
High Water Flow

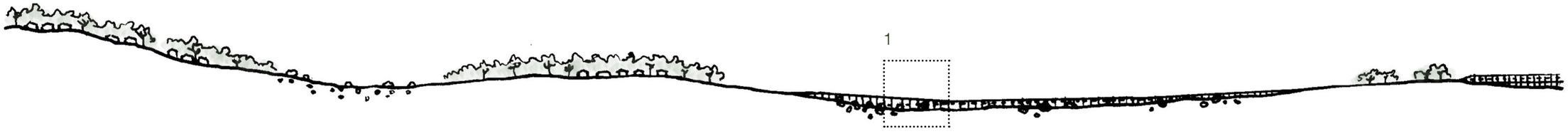
S

4. Design
Reduced Water Shore Intervention

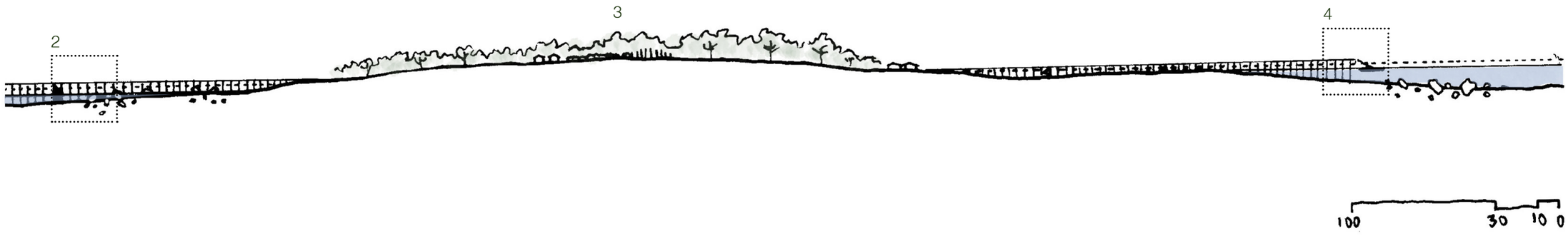
Downstream River Section



a. permenent dry river shore



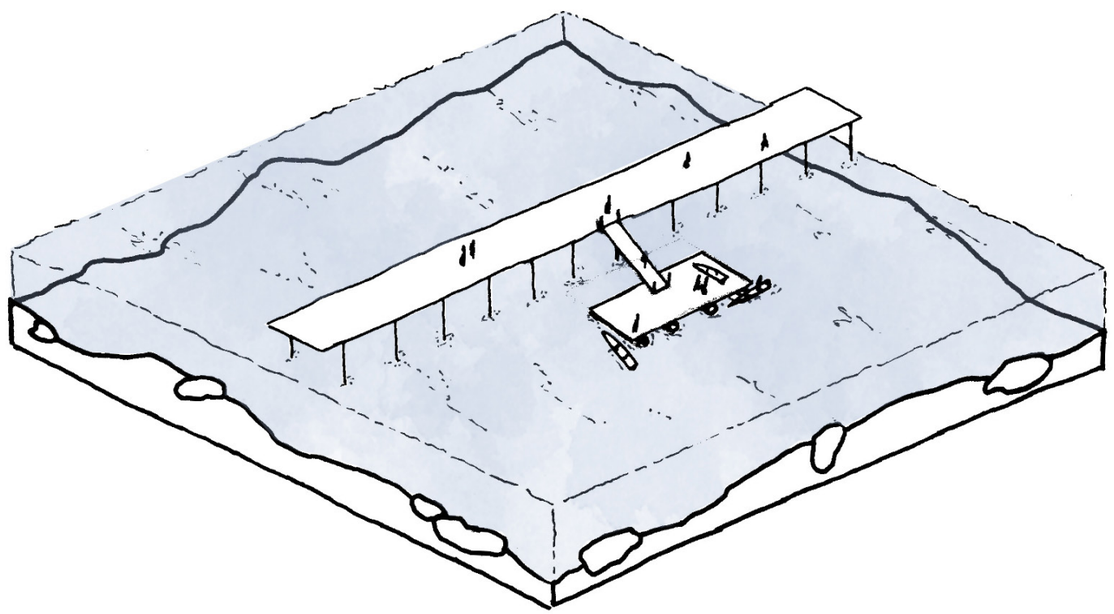
b. Island connection and river approach



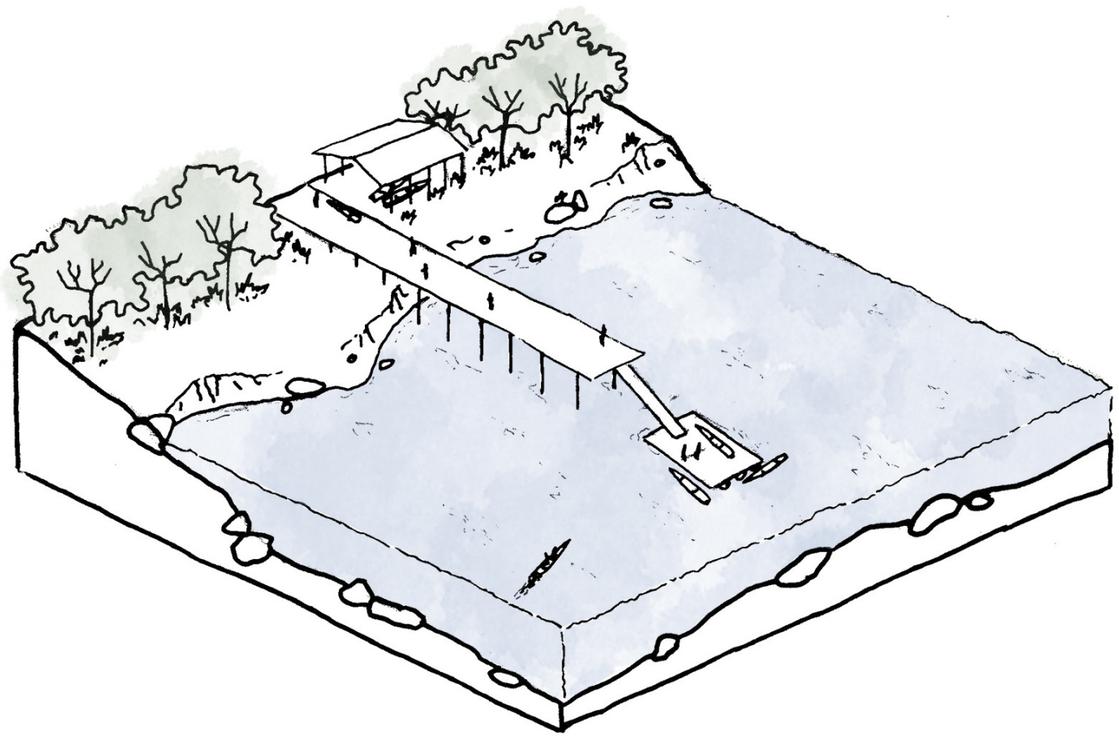
1. River bed access stairs
2. Intermediate Pier
3. Permaculture and Roça
4. Permenent Pier

4. Design Outcome
Reduced Water Shore Intervention

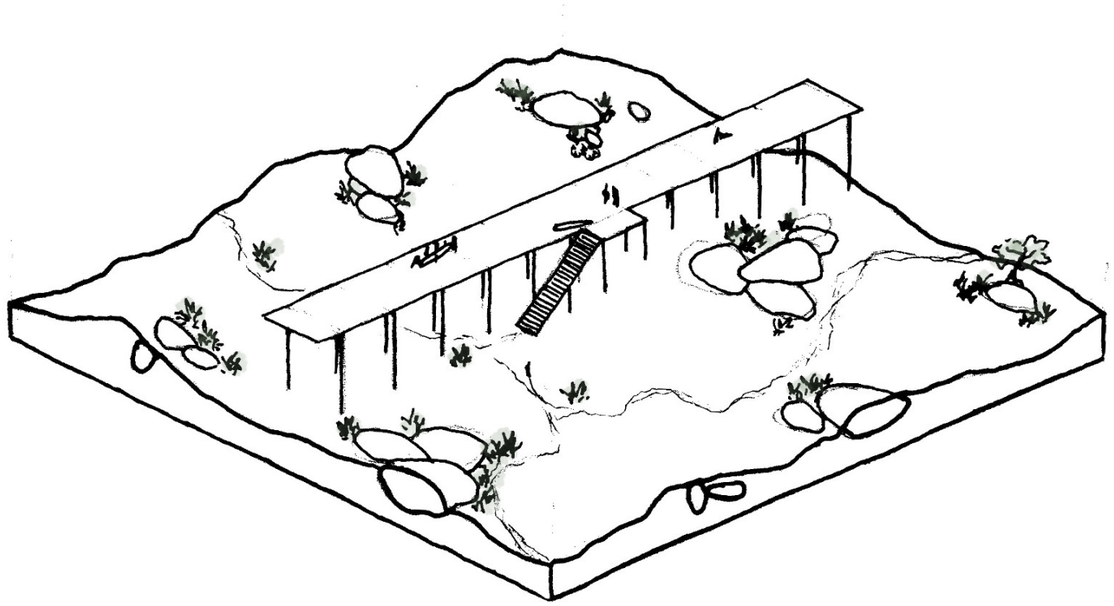
2. Intermediate pier



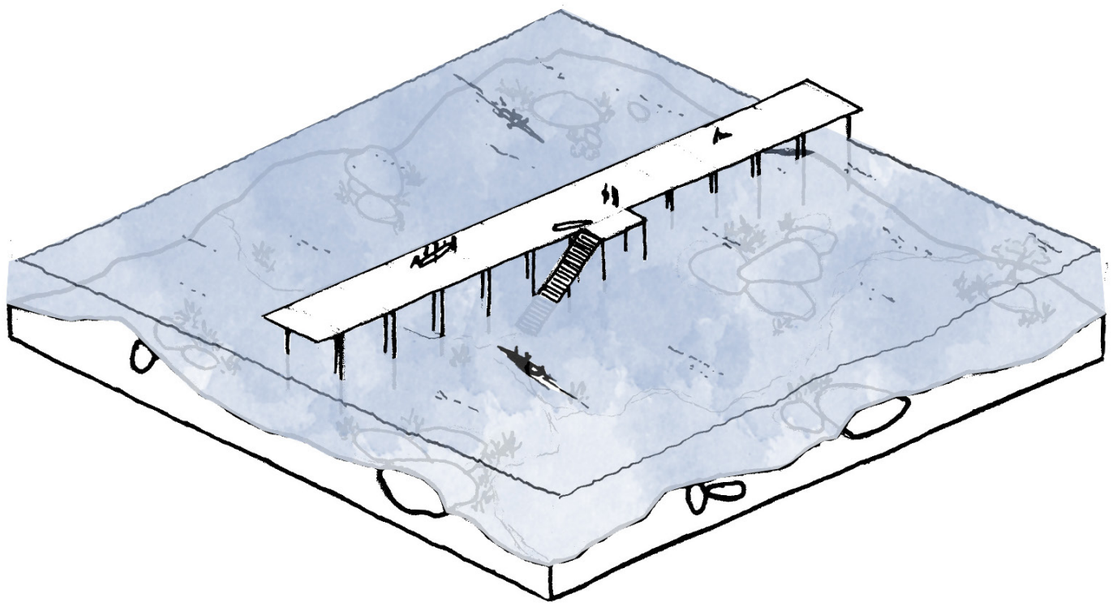
4. Permenent pier



1. River bed access stairs - Dry season

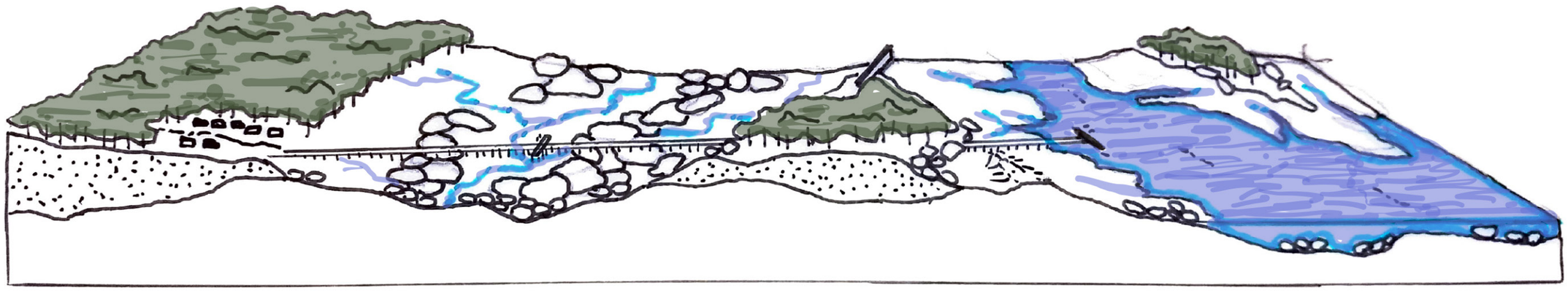


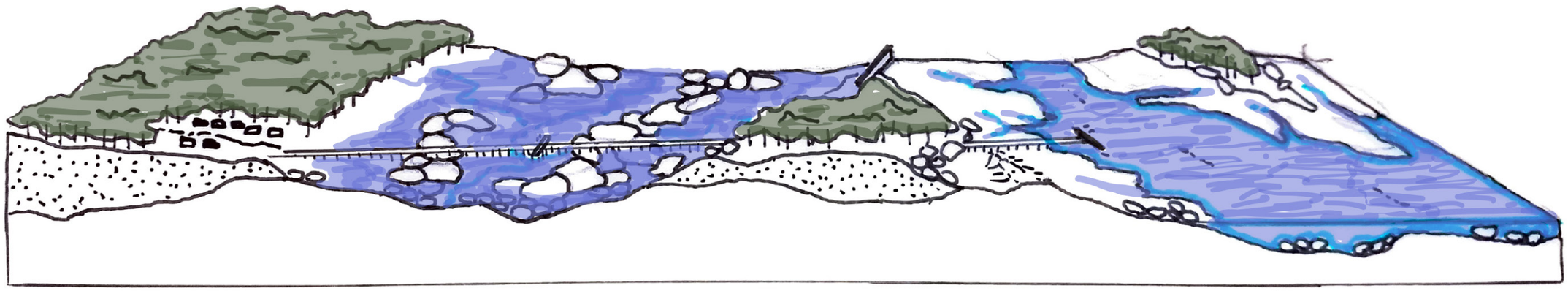
1. River bed access stairs - Wet season



4. Design
Reduced Water Shore Intervention

Dry season

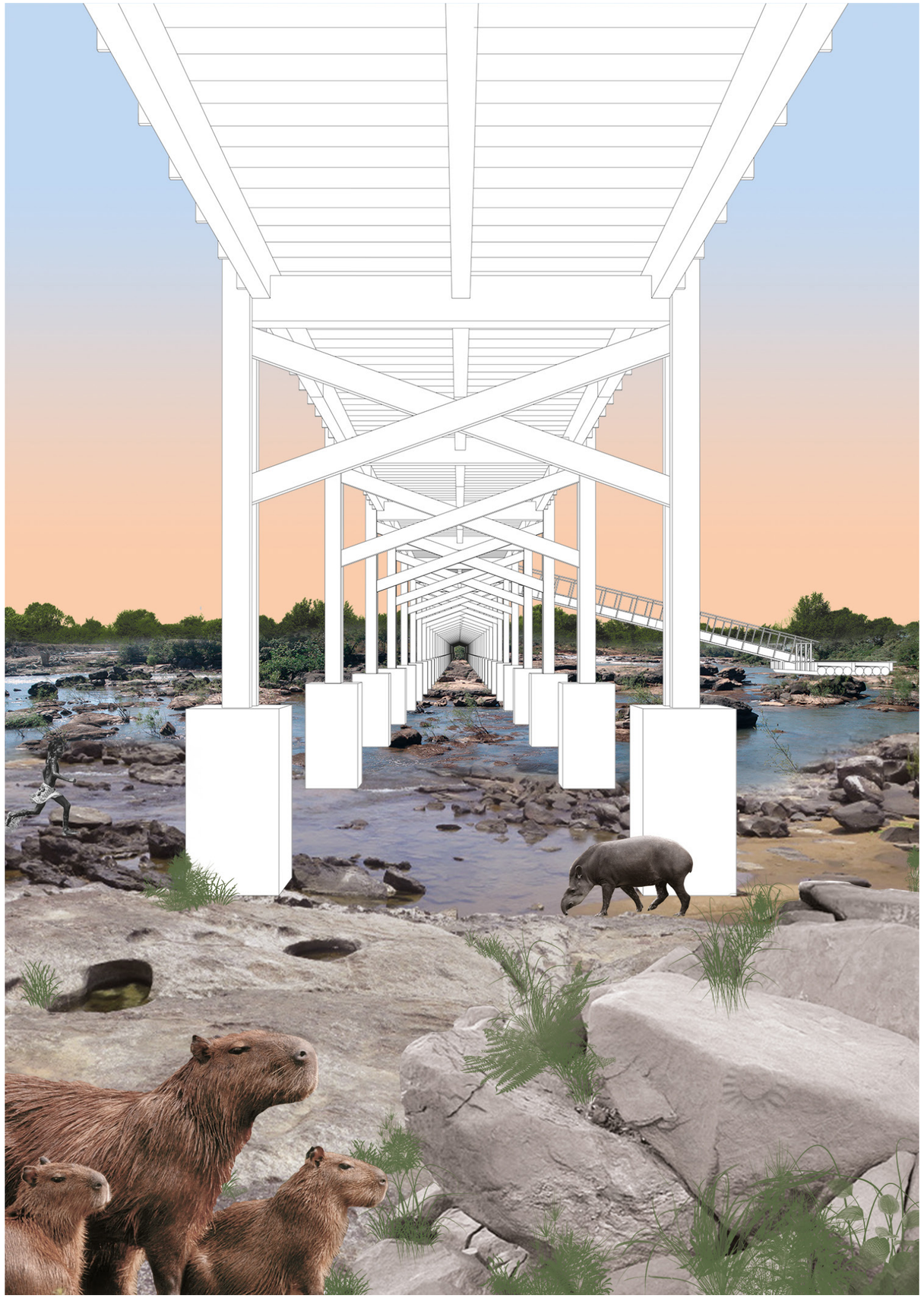




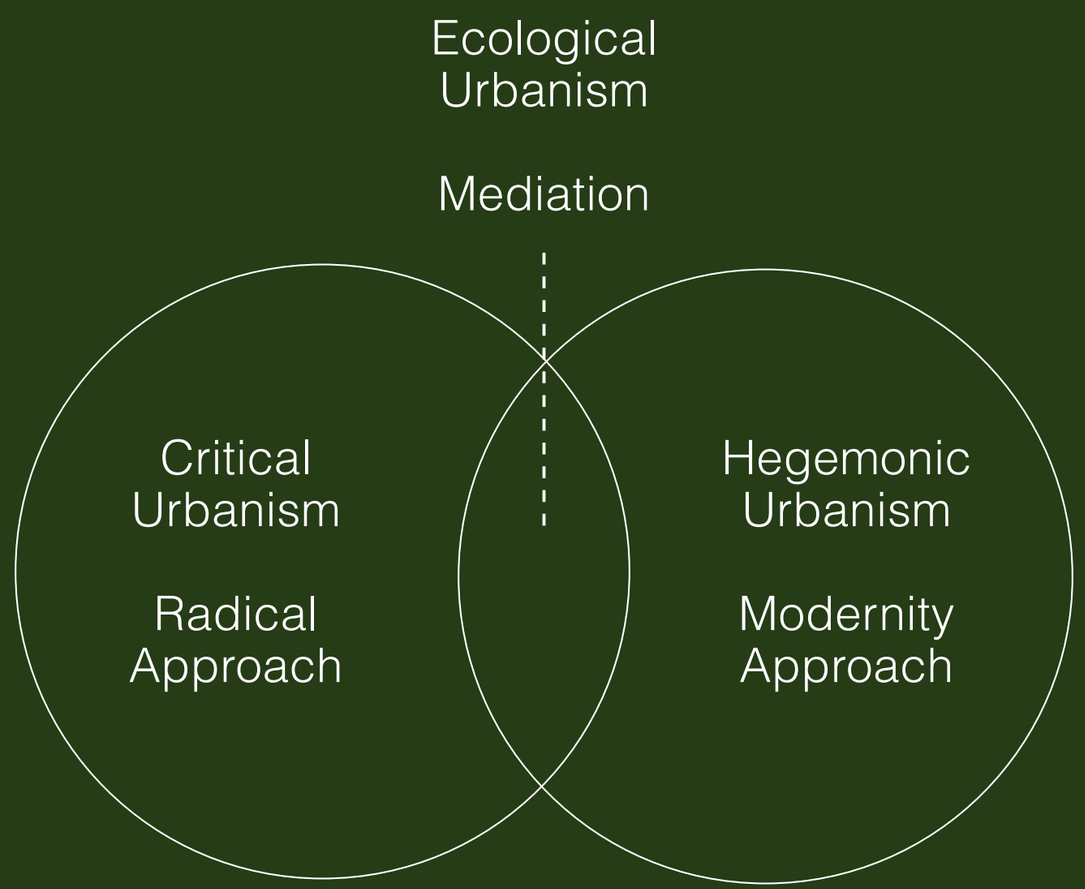
Wet season

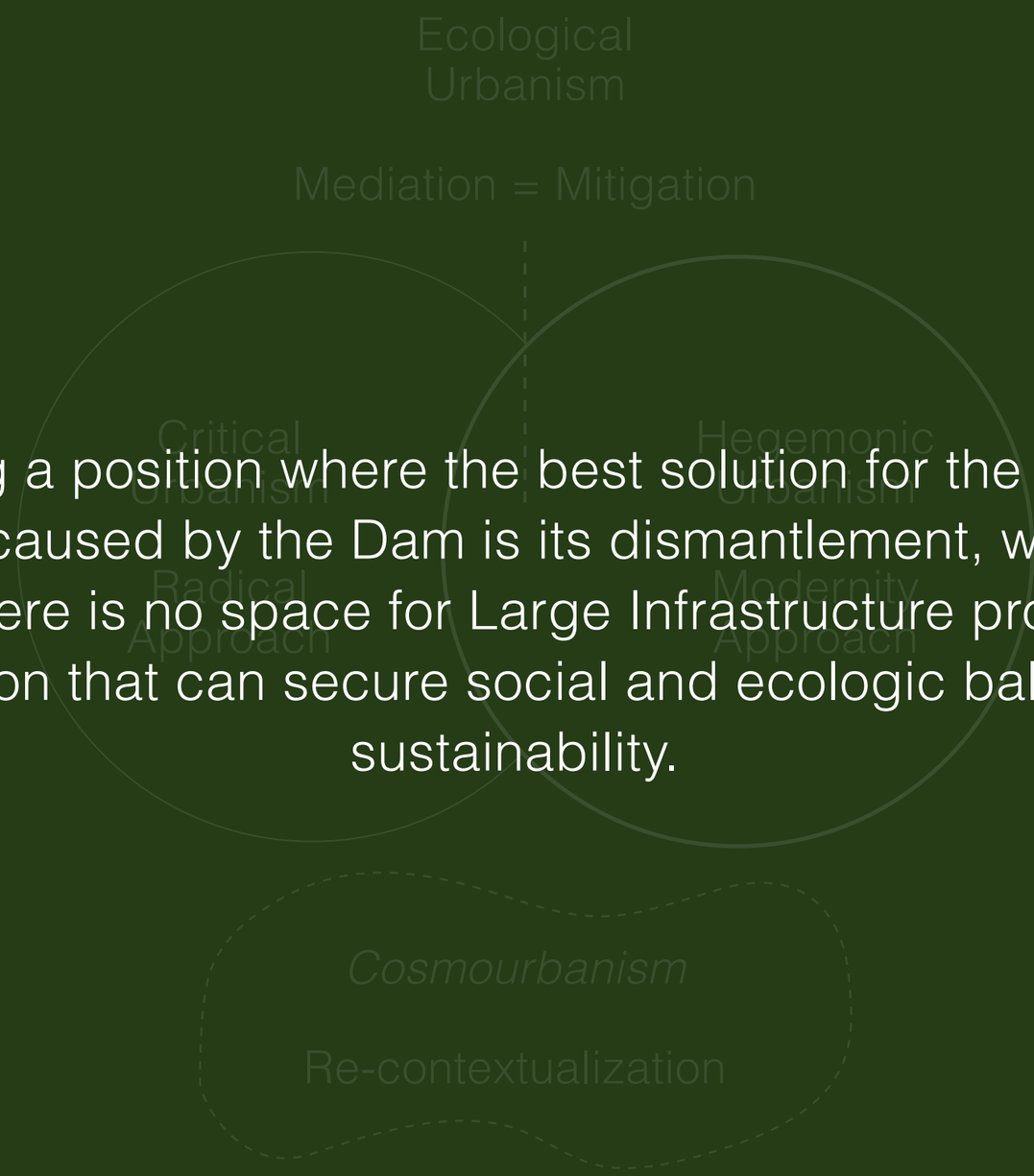
Pathways are implemented by ELETRONORTE for their Mediation Compliance

Co-managed by Basin Committee, Local Community Associations and ELETRONORTE




TRANSPORTE

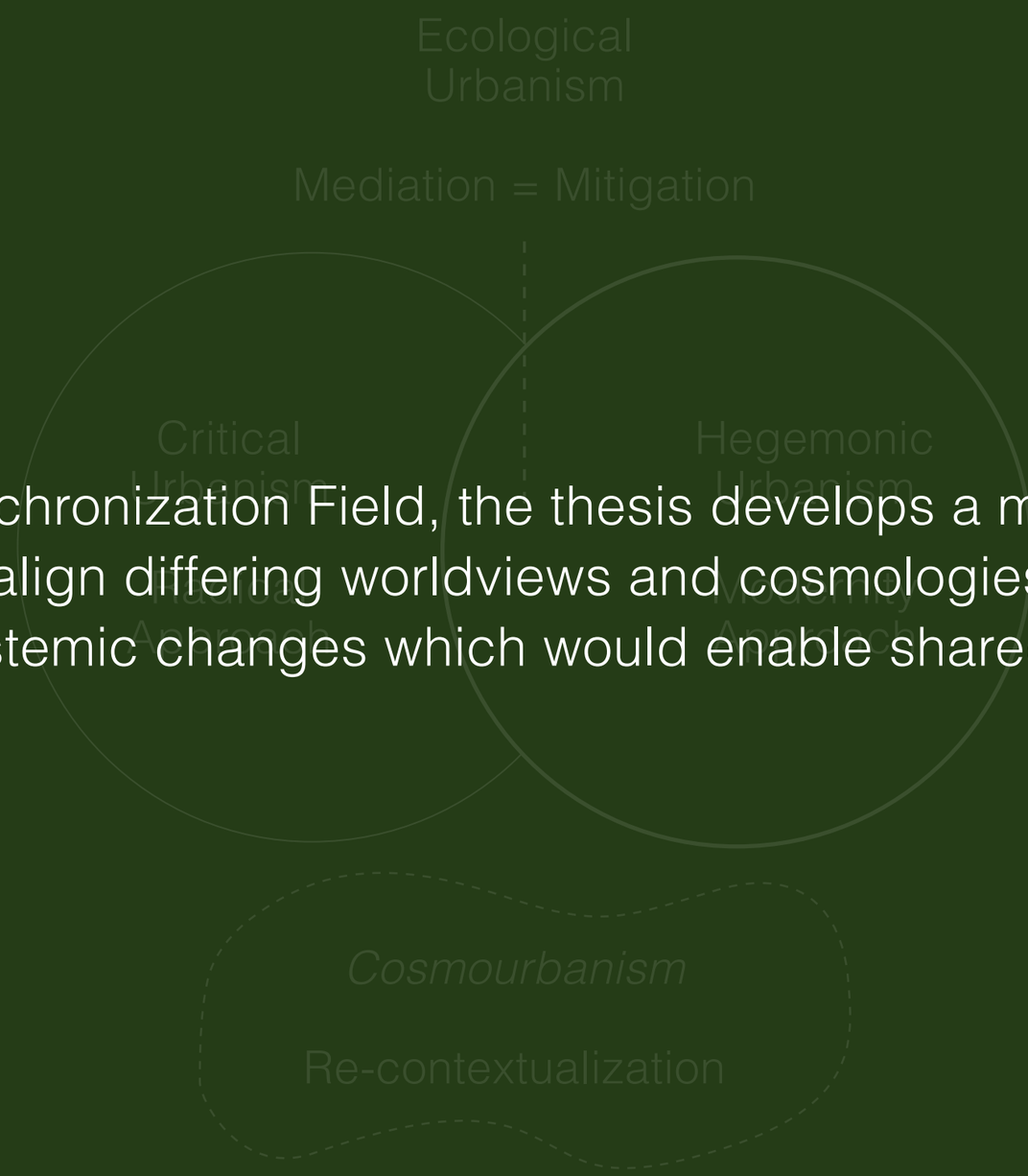

Ecological
Urbanism
Mediation
Critical
Urbanism
Radical
Approach
Hegemonic
Urbanism
Modernity
Approach



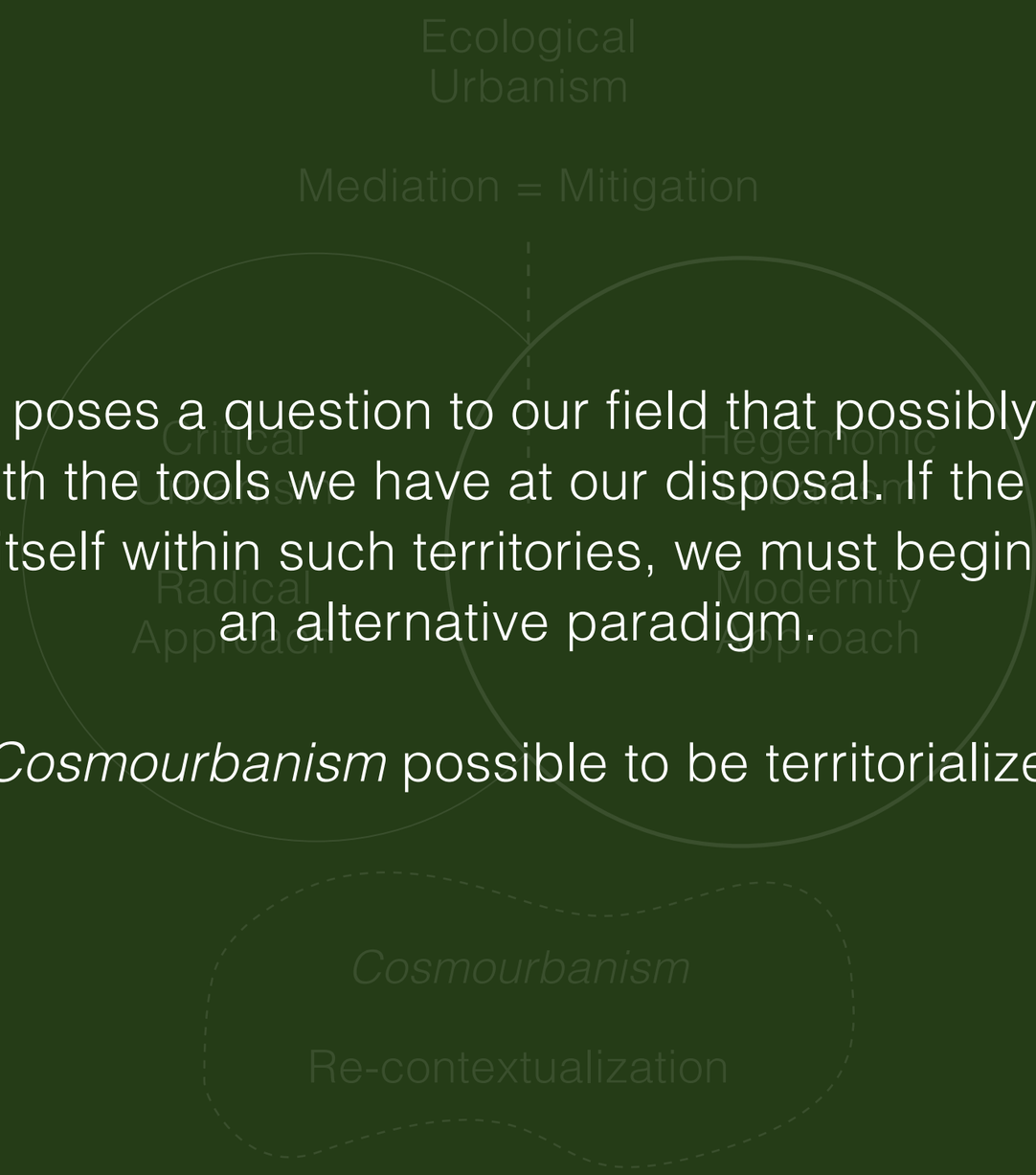
Assuming a position where the best solution for the identified problems caused by the Dam is its dismantlement, we can now state that there is no space for Large Infrastructure projects within the Amazon that can secure social and ecologic balance and sustainability.

From an Ecological Urbanism position, the designs proposed by this project are unable to address the complexity in such landscapes, caused by the existence of the dam.

Solutionist design approaches acting on such conflicting territories not only risk falling short of truly addressing the main problem but may also be a precedent for the construction of more large infrastructure projects in the region.

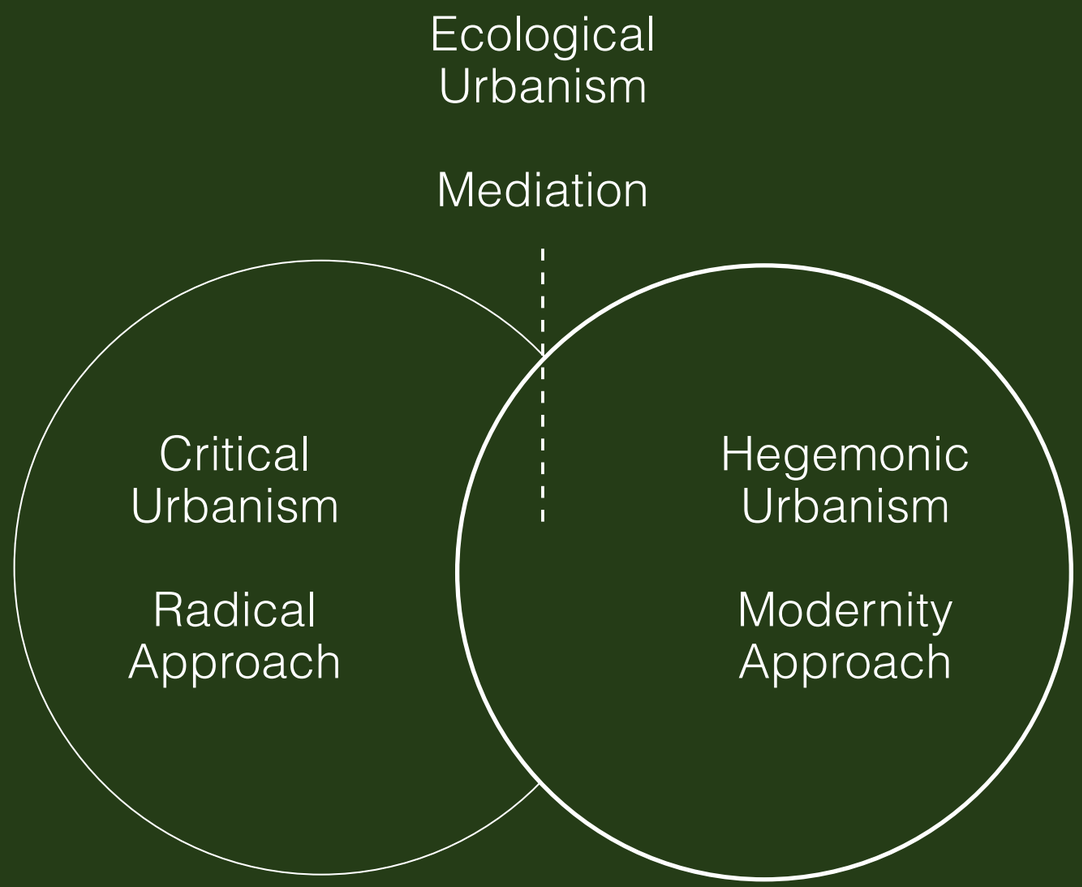


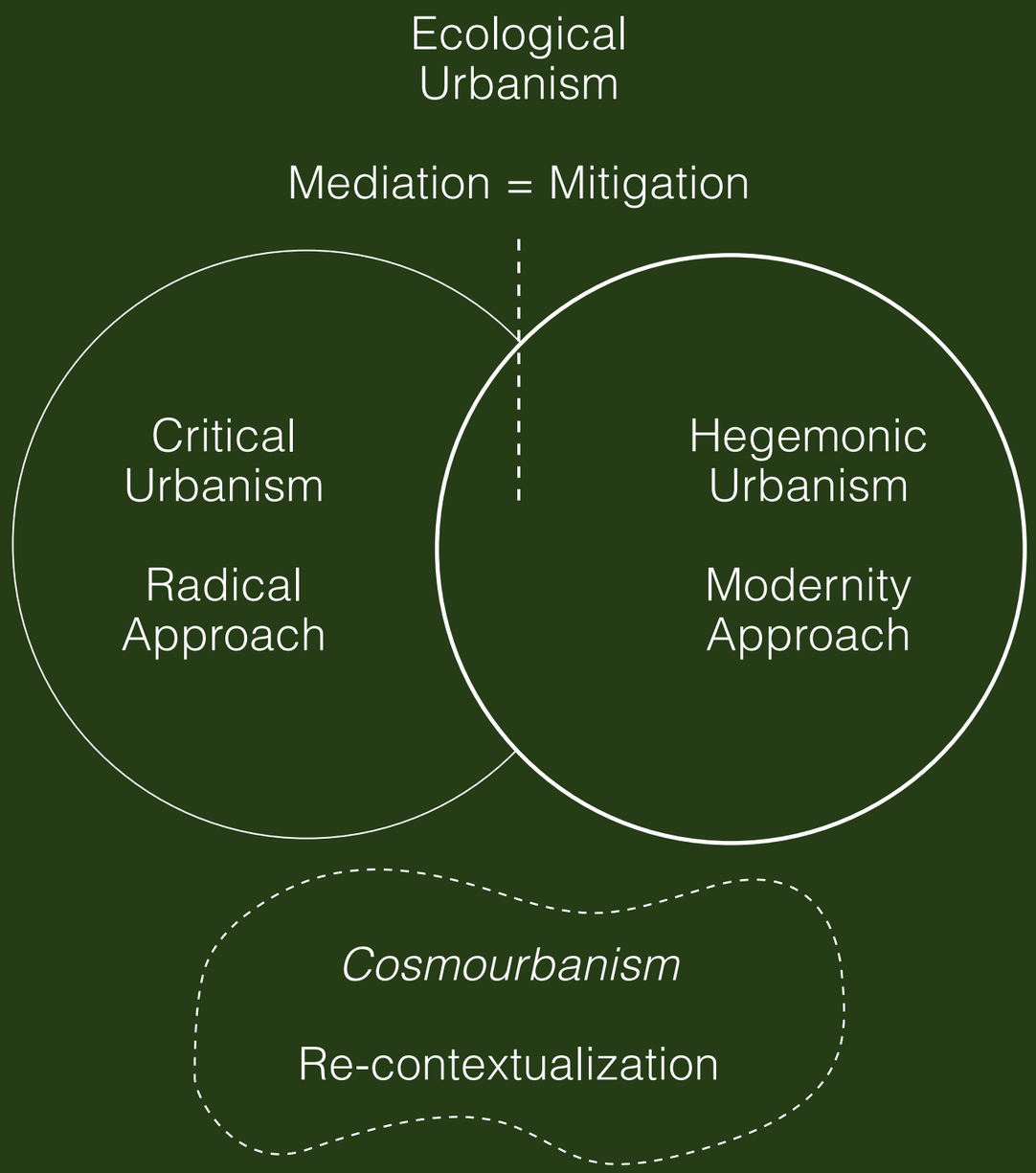
With the Synchronization Field, the thesis develops a method which attempts to align differing worldviews and cosmologies, in order to propose systemic changes which would enable shared existence.



This thesis poses a question to our field that possibly cannot be answered with the tools we have at our disposal. If the field intends to position itself within such territories, we must begin to propose an alternative paradigm.

Is *Cosmourbanism* possible to be territorialized?


Ecological
Urbanism
Mediation
Critical
Urbanism
Radical
Approach
Hegemonic
Urbanism
Modernity
Approach


Ecological
Urbanism
Mediation = Mitigation
Critical
Urbanism
Radical
Approach
Hegemonic
Urbanism
Modernity
Approach
Cosmourbanism
Re-contextualization

1. Personal Motivation
2. Problem
3. Research
4. Design
5. Conclusions
6. A Way Through

A way through
for action

Engagement

“How can I help?”

Critical Practice

“Is this helpful?”

Scalar Accountability

“Where can I better help?”

Thank you

Brenner, N. & Schmid, C. (2012). Planetary Urbanization. In M. Gandy (Eds.), Urban Constellations (pp. 10-13). Berlin: Jovis.
Brenner, N., & Katsikis, N. (2020). Operational landscapes: hinterlands of the Capitalocene. Architectural Design, 90(1), 22-31.
Recubenis Sanchis, I. (2020). Restoring Systemic Proximities: Towards the Re-territorialization of the Dutch Rivierenland. TU Delft.
Stengers, I. (2010). Cosmopolitics (Vol. 1). Minneapolis: University of Minnesota Press.

Images:
Lado de Almeida, Elkaim, ISA, Movimento Xingu Livre, Lilo Clareto, Evaristo Sá, Sebastião Salgado

Map References:
Open Street Maps, IBGE, INPE, Ministério da Agricultura, NASA, UNASUR - IIRSA