

## Manifestation of Future Human (Culture) – Nature Relationship in The Context of Toba Caldera Geopark, Indonesia

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Mentors: Diego Sepulveda Carmona and Denise Piccinini

Delegate BE: Paul Kuitenbrouwer

Presentation Structure:

A. Introduction

B. Problematization and Research Questions

C. The Research

D. Conclusion

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## Motivation



Indonesian  
Culture

How can culture is used as a tool  
to understand the best nature  
management?

Sustainable  
Development

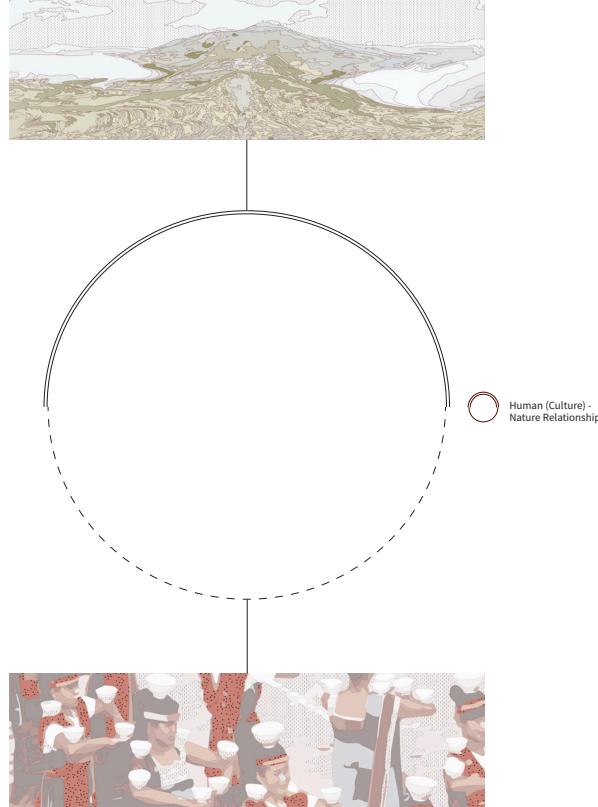
How to understand capacity and  
limit of nature?

?Culture -  
Nature  
Relationship?

How can we understand from  
culture-nature relationship and  
use it as a tool to develop different  
approach for future development.



## The General Concept The Culture - Nature Relationship



Culture is a manifestation of belief, tradition, value, social behaviour, and norms of human societies.

Within the land, there are intangible relationship between culture and nature due to the inhibition of a human society for a long period.

## Relationship in Tourism Area



The evolution of culture and landscape is inevitable (McHarg, 1967). Innumerable movement of tangible and intangible elements are moving throughout the world, influencing one and another with the ground of human evolutionary way of thinking. The urges of fulfilling human's need, improving quality of life and participating in the competition resulting on some adjustments both on the culture and also nature.

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## Indonesia

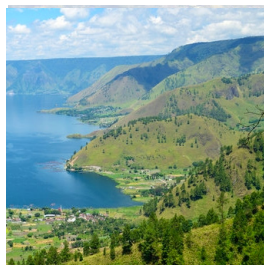
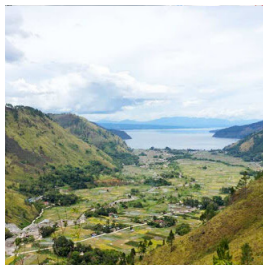


## Indonesia! + North Sumatera Province!

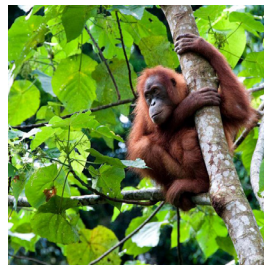


8

## The Toba Caldera Geopark



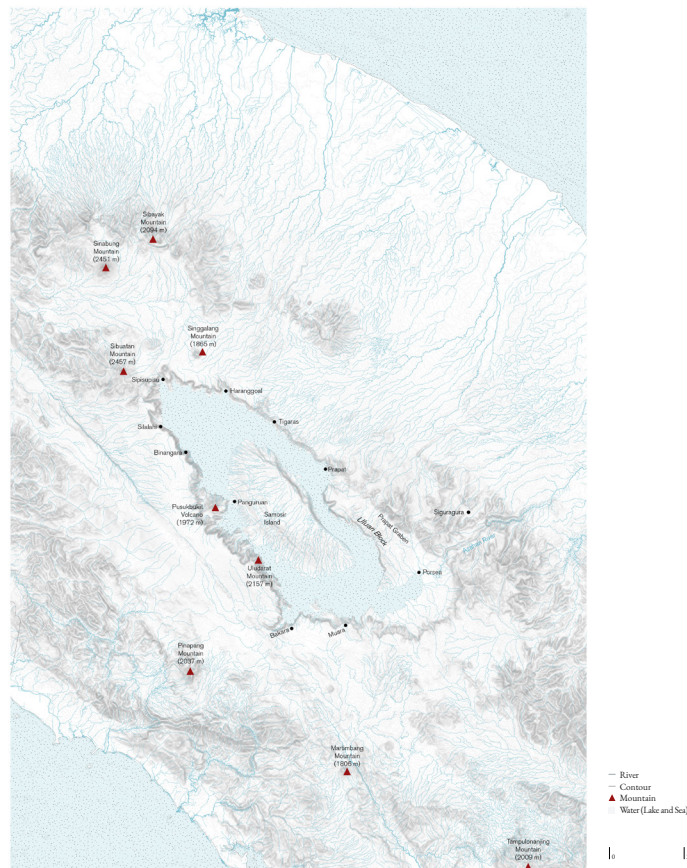
## Geo-diversity



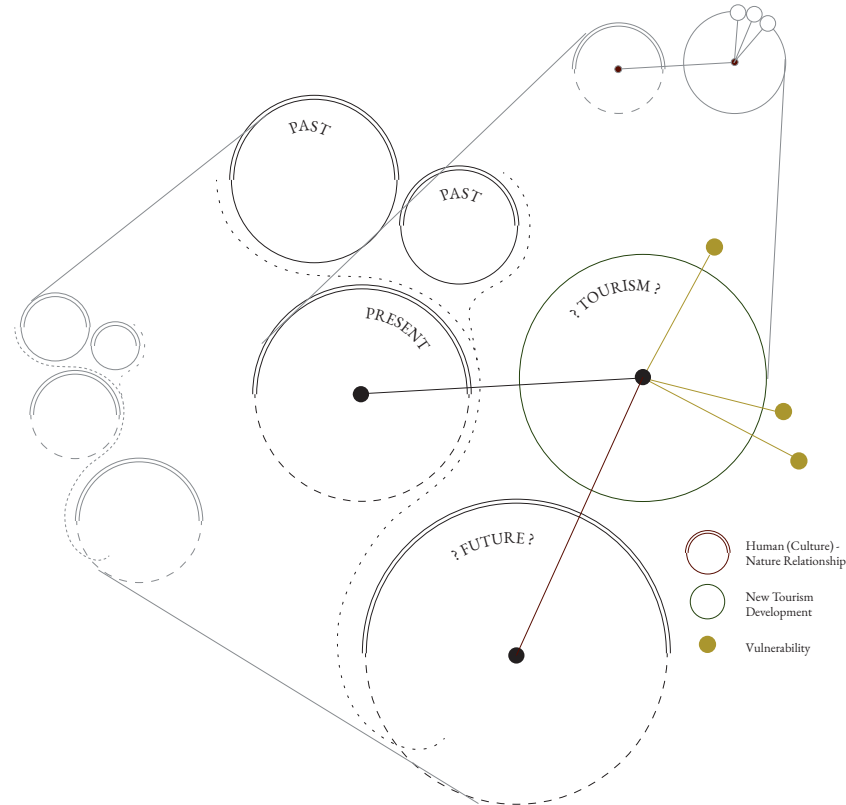
## Bio-diversity



Cultural-diversity



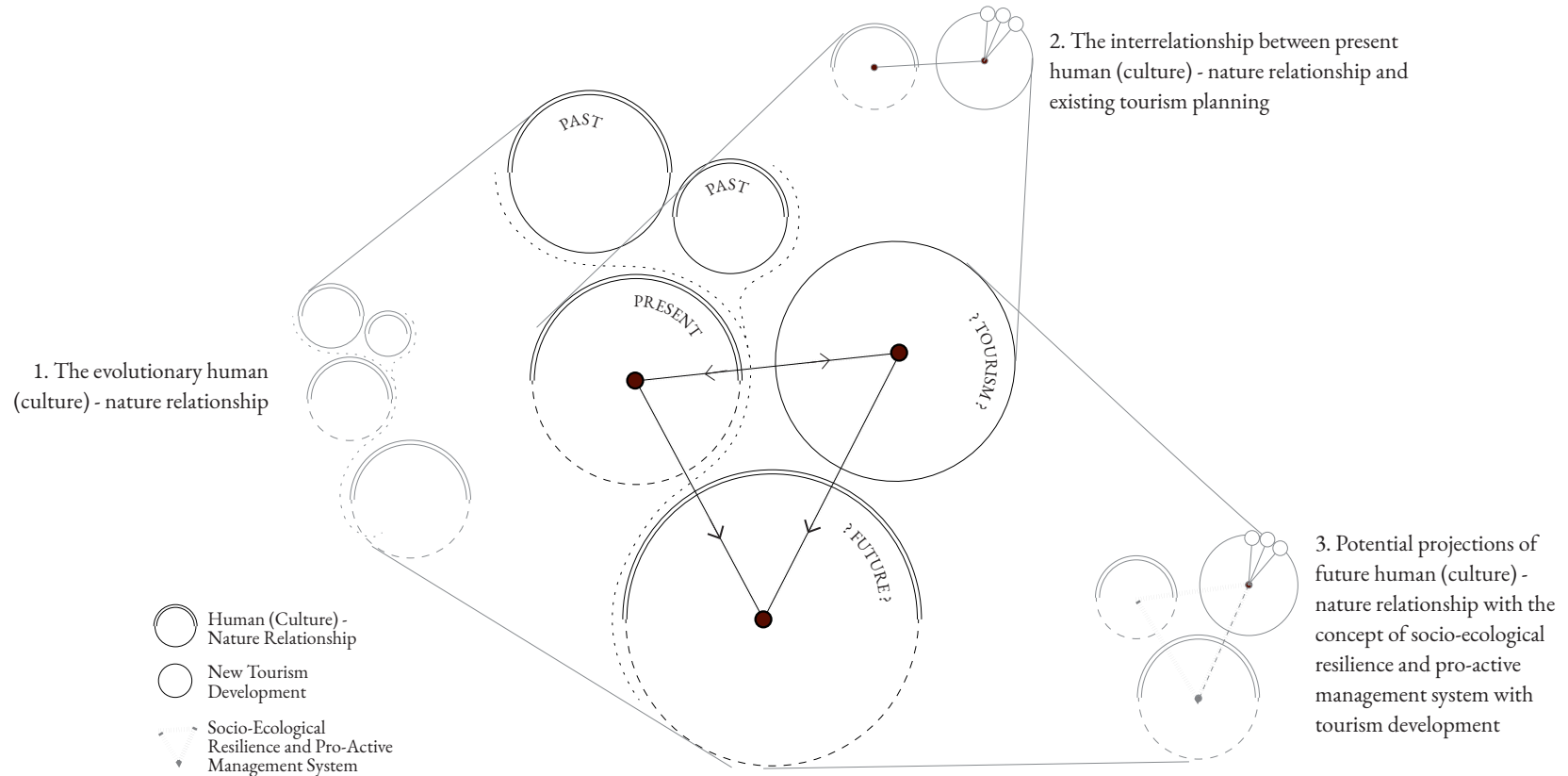
## Problem Fields



Toba Caldera Geopark is one of the five priorities of Indonesia new tourism developments. Together with other tourism areas throughout the country, the development is projected to boost Indonesia's economic growth within the tourism sector. Therefore, an enormous amount of investment is allocated from the government to fasten and upscale the development.

Therefore, it leads to how to generate the robust future H(C)-N relationship within this tourism systematic machine to address potential vulnerabilities both biophysical and socio-culture by harmonizing valuable vernacular adaptation extracted from human(culture)-nature evolutionary?

## Research Aims





# Proposed Research Outputs

## Comprehensive Framework



For Governance  
- Pro-Active Management +  
Socio-Ecological Resilience of  
Toba Caldera Geopark Tourism  
Strategic Framework  
*Scale: Macro to Micro (multi-  
scalar approach)*

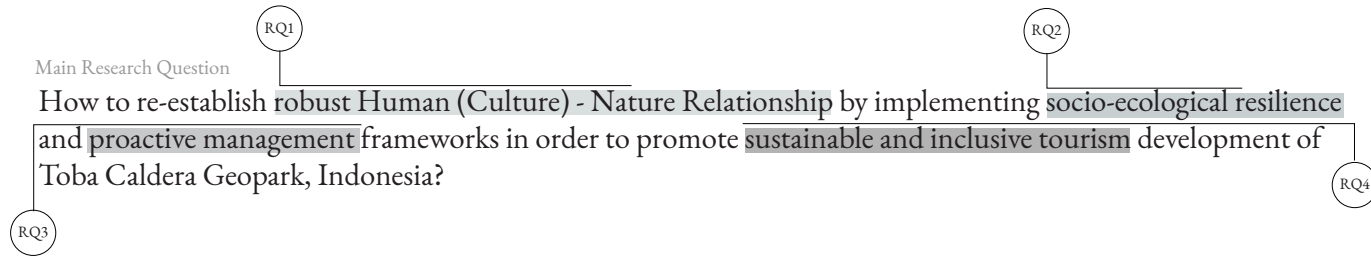


For Community:  
- Guidelines and toolkit for  
promoting socio-ecological  
resilience within tourism  
area from bottom-up  
approach  
*Scale: Micro*

For Environment:  
- Framework for Toba  
Lake Water System  
Resiliency and Forest  
Preservation  
*Scale: Macro to Micro  
(multiscalar approach)*



## Research Questions



### Research Questions

RQ1: Which culture-nature systemic relationship in the context of Toba Caldera Geopark development can contribute both in the present and in towards sustainable future?

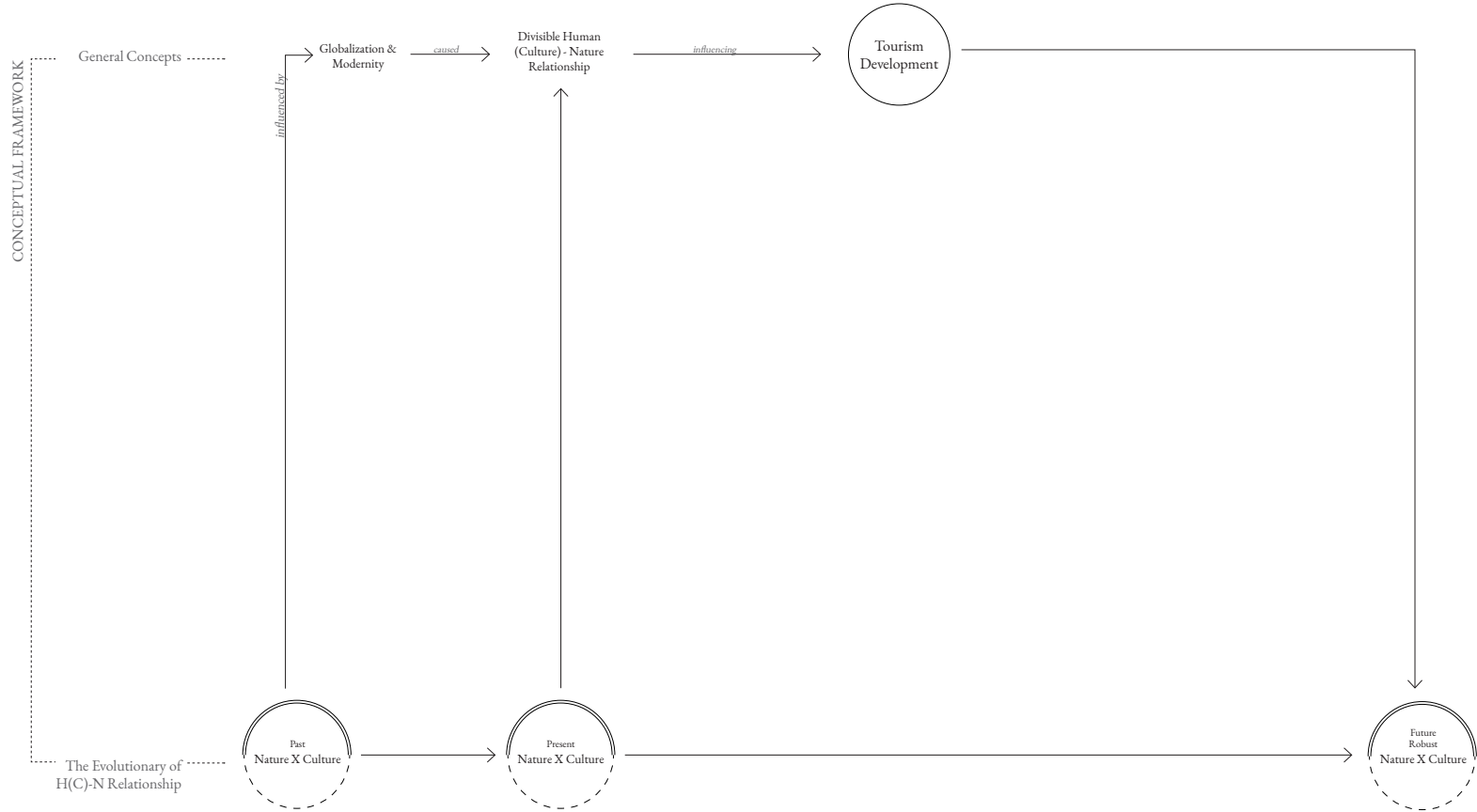
RQ2: What aspects determine socio-ecological resilience in the context of Toba Caldera Geopark Tourism?

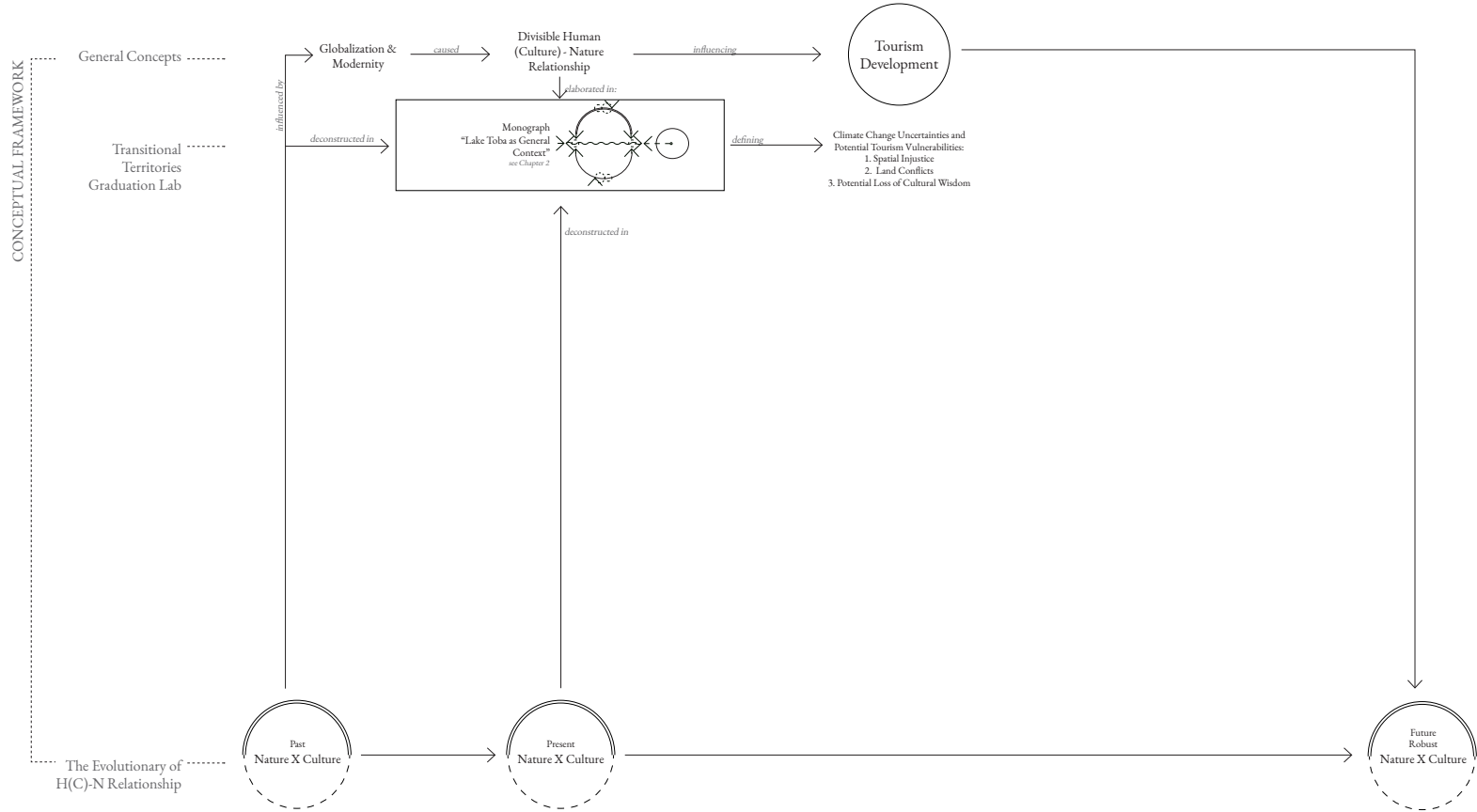
RQ3: How to implement proactive management in the context of Toba Caldera Geopark Tourism in Indonesia?

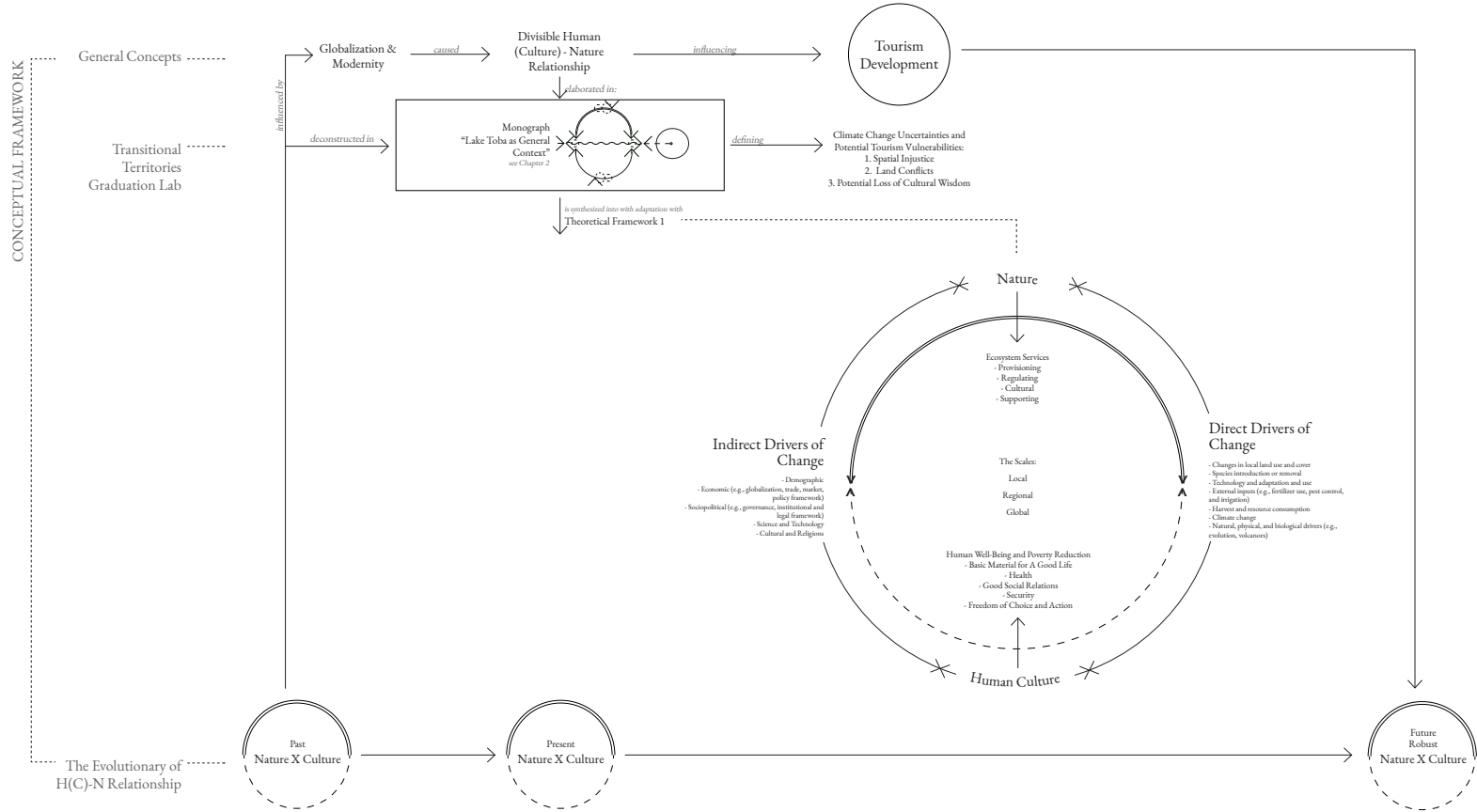
RQ4: To what extend tourism development of Toba Caldera Geopark can be sustainable and inclusive?

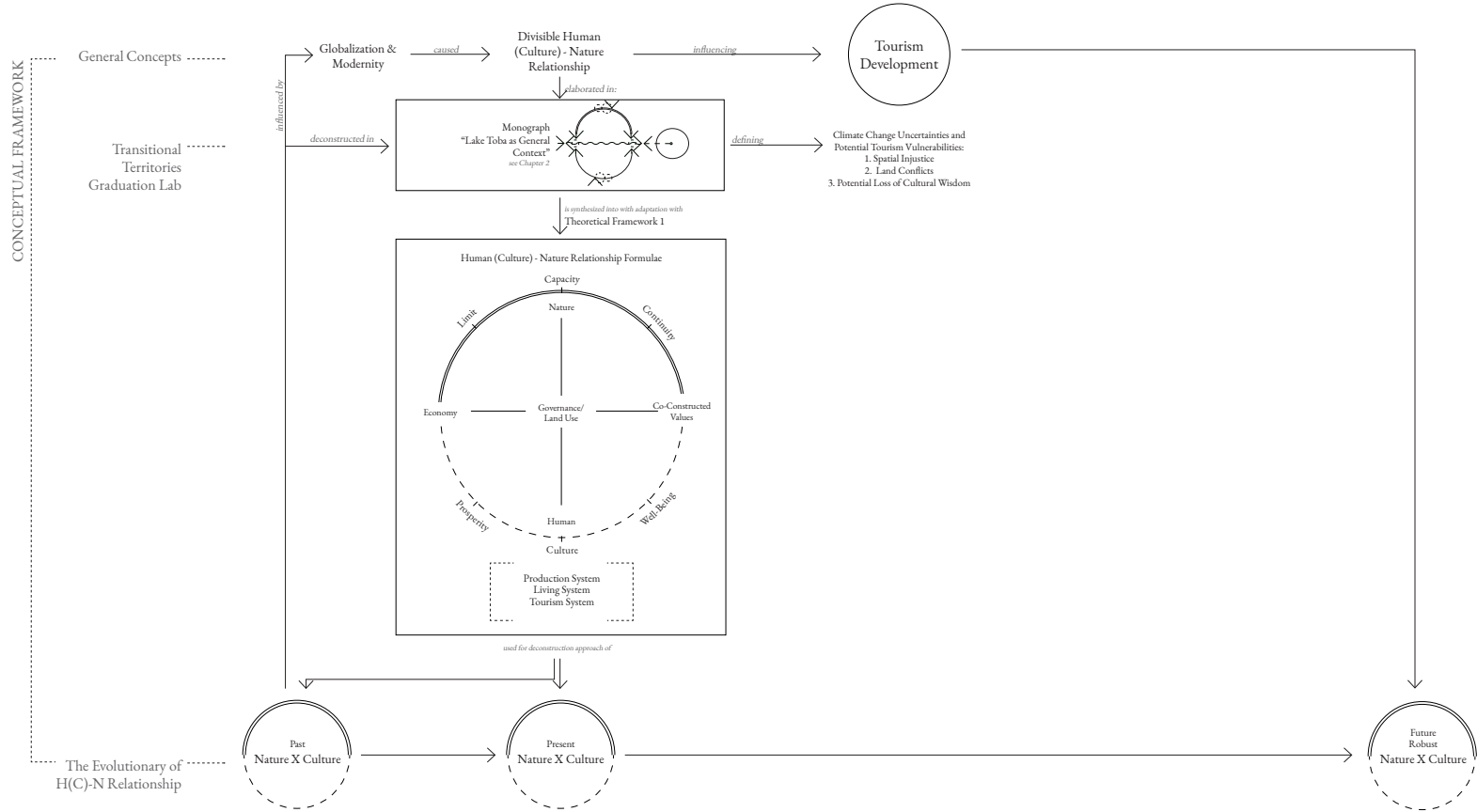
# Conceptual Framework For Research Guidance







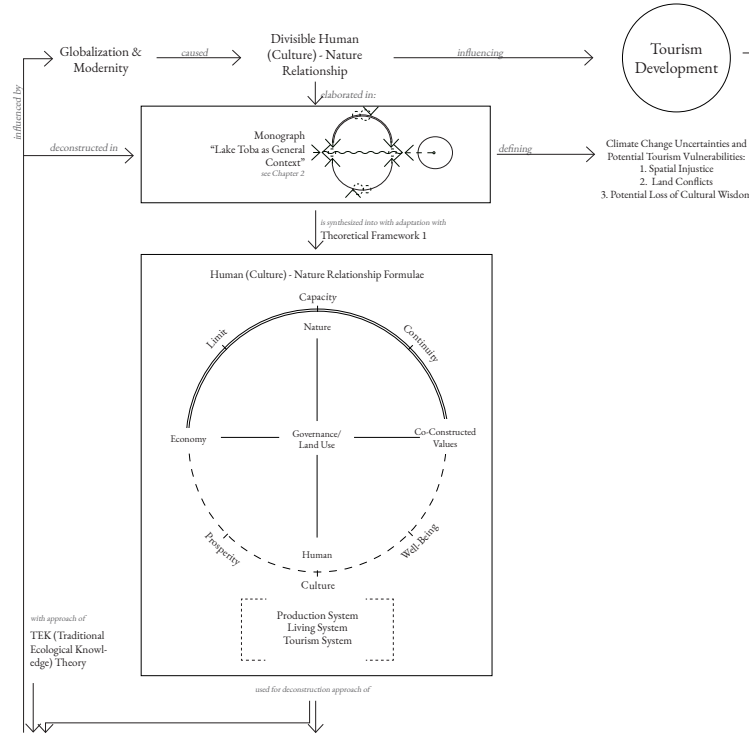




CONCEPTUAL FRAMEWORK

General Concepts .....

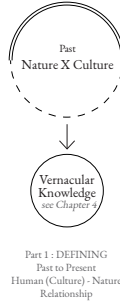
Transitional  
Territories  
Graduation Lab



RESEARCH METHODOLOGY

The Evolutionary of  
H(C)-N Relationship

The Outcomes .....

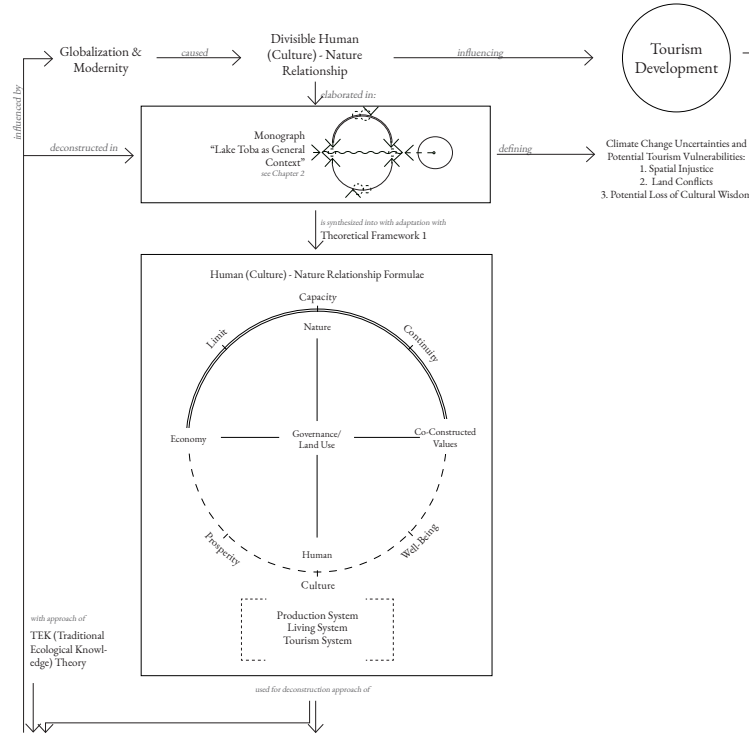




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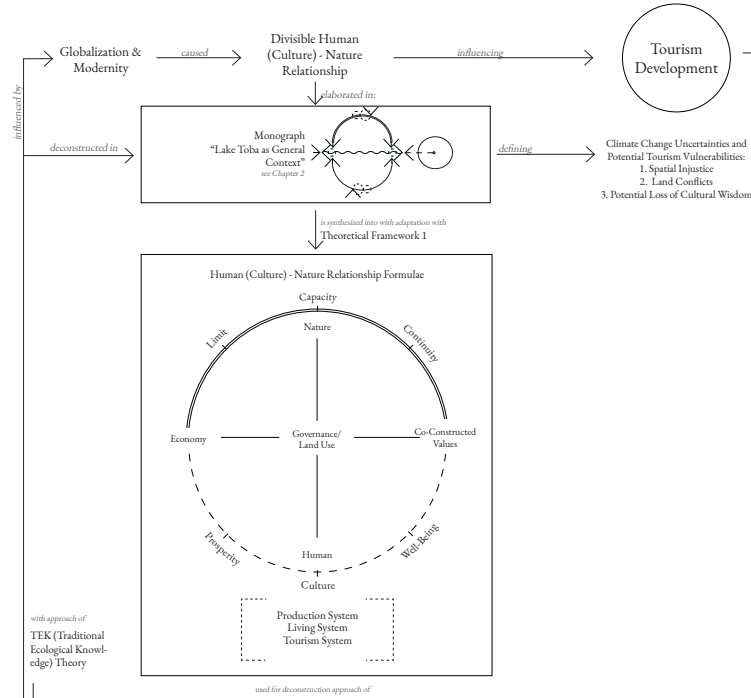
The Outcomes .....



CONCEPTUAL FRAMEWORK

General Concepts .....

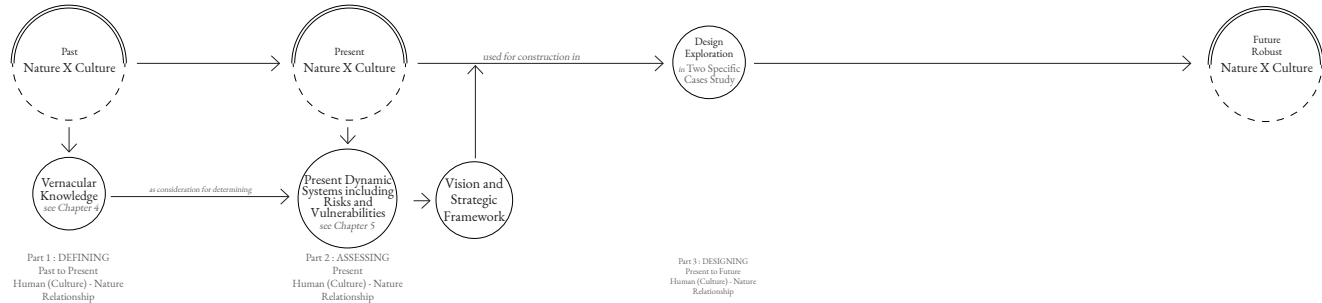
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RESEARCH METHODOLOGY

The Evolutionary of  
H(C)-N Relationship

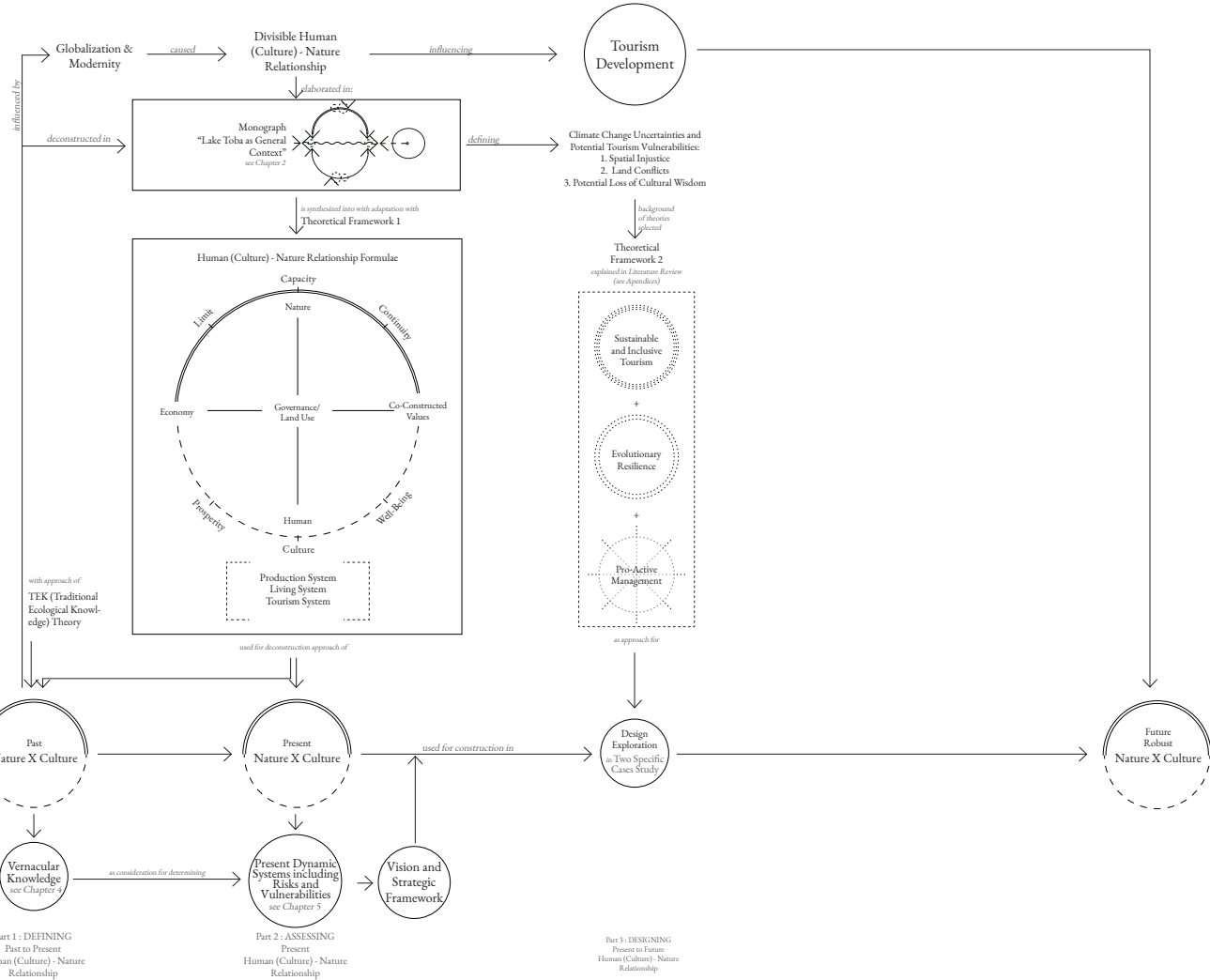
The Outcomes .....



CONCEPTUAL FRAMEWORK

General Concepts .....

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Graduation Lab



CONCEPTUAL FRAMEWORK

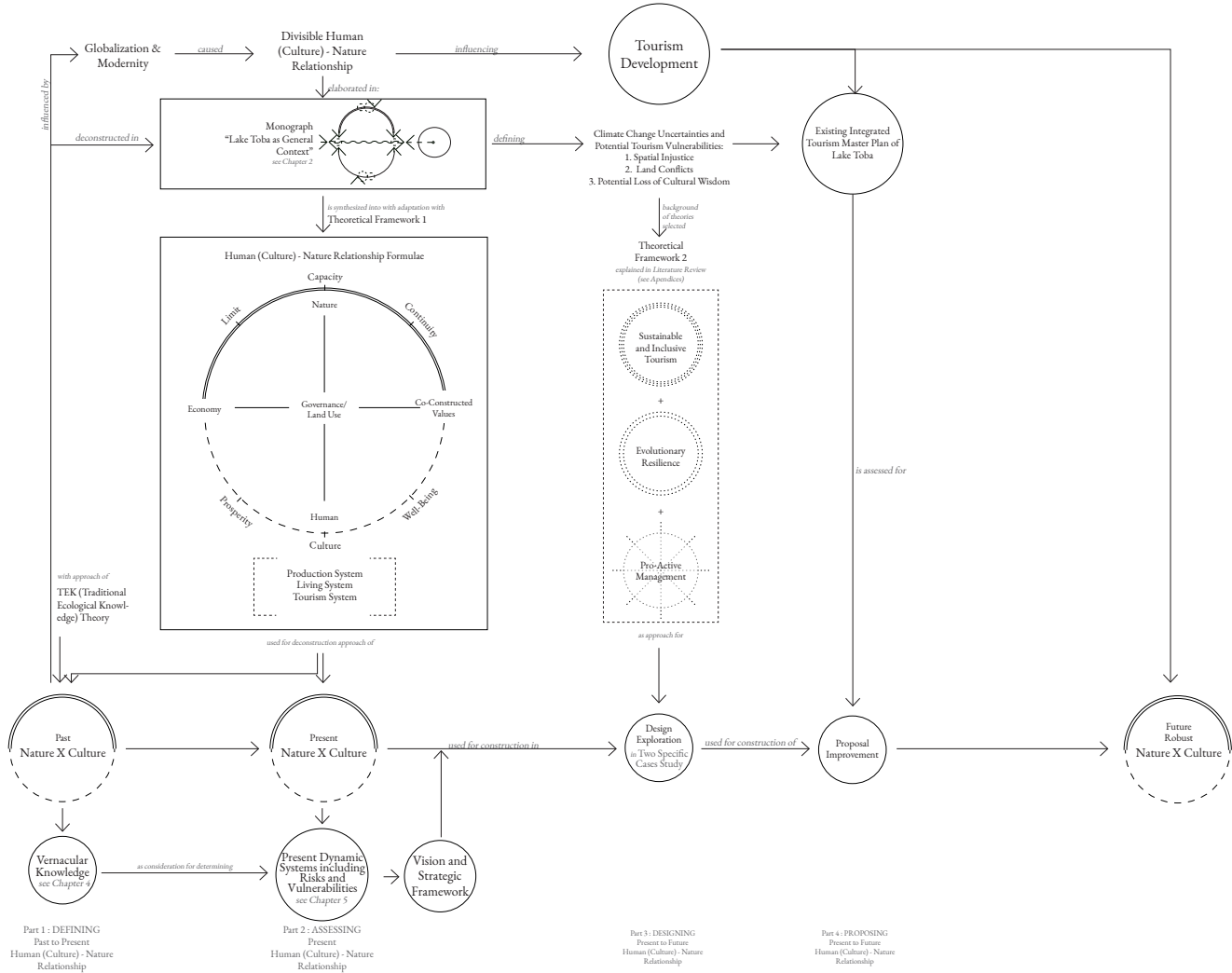
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CONCEPTUAL FRAMEWORK

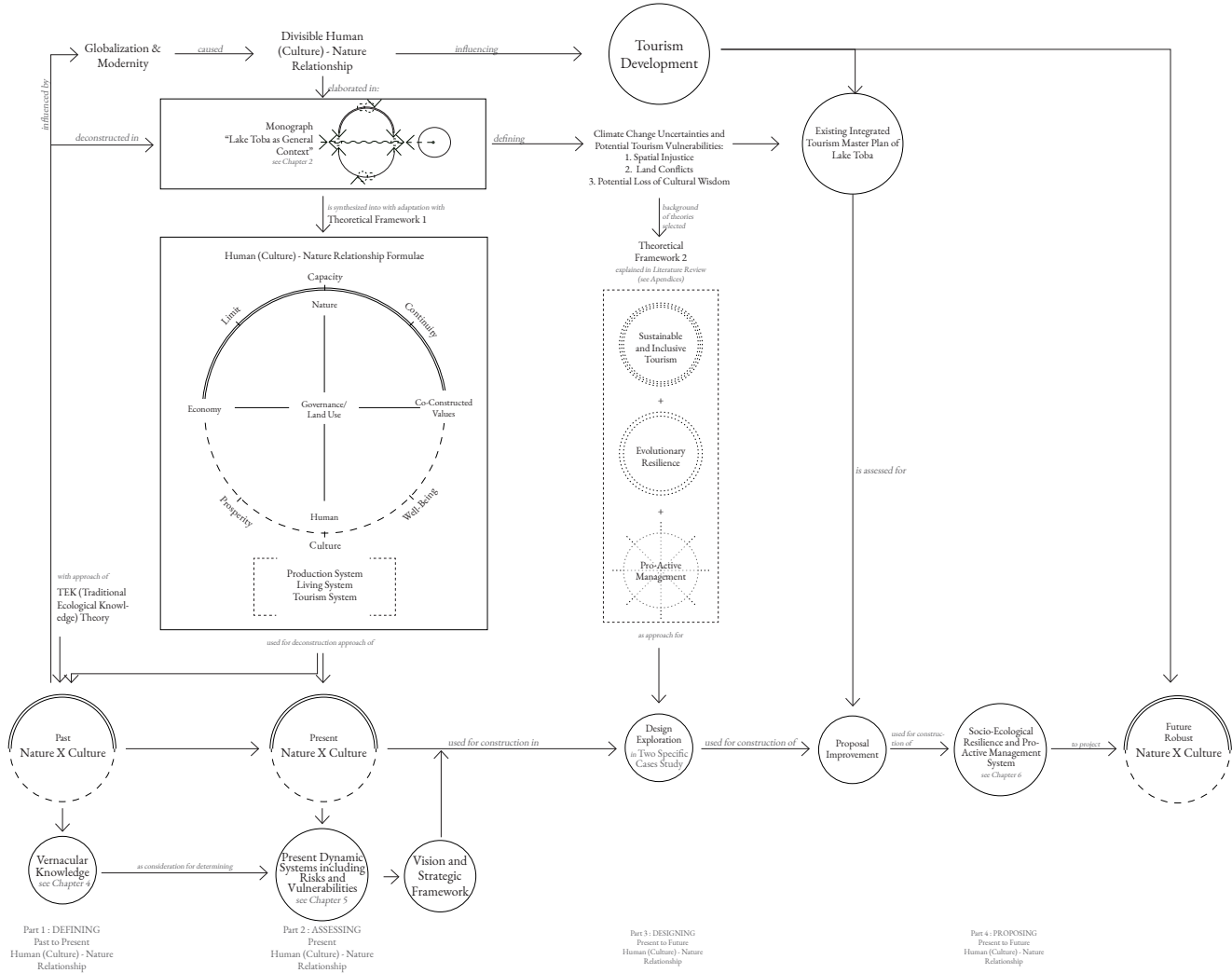
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CONCEPTUAL FRAMEWORK

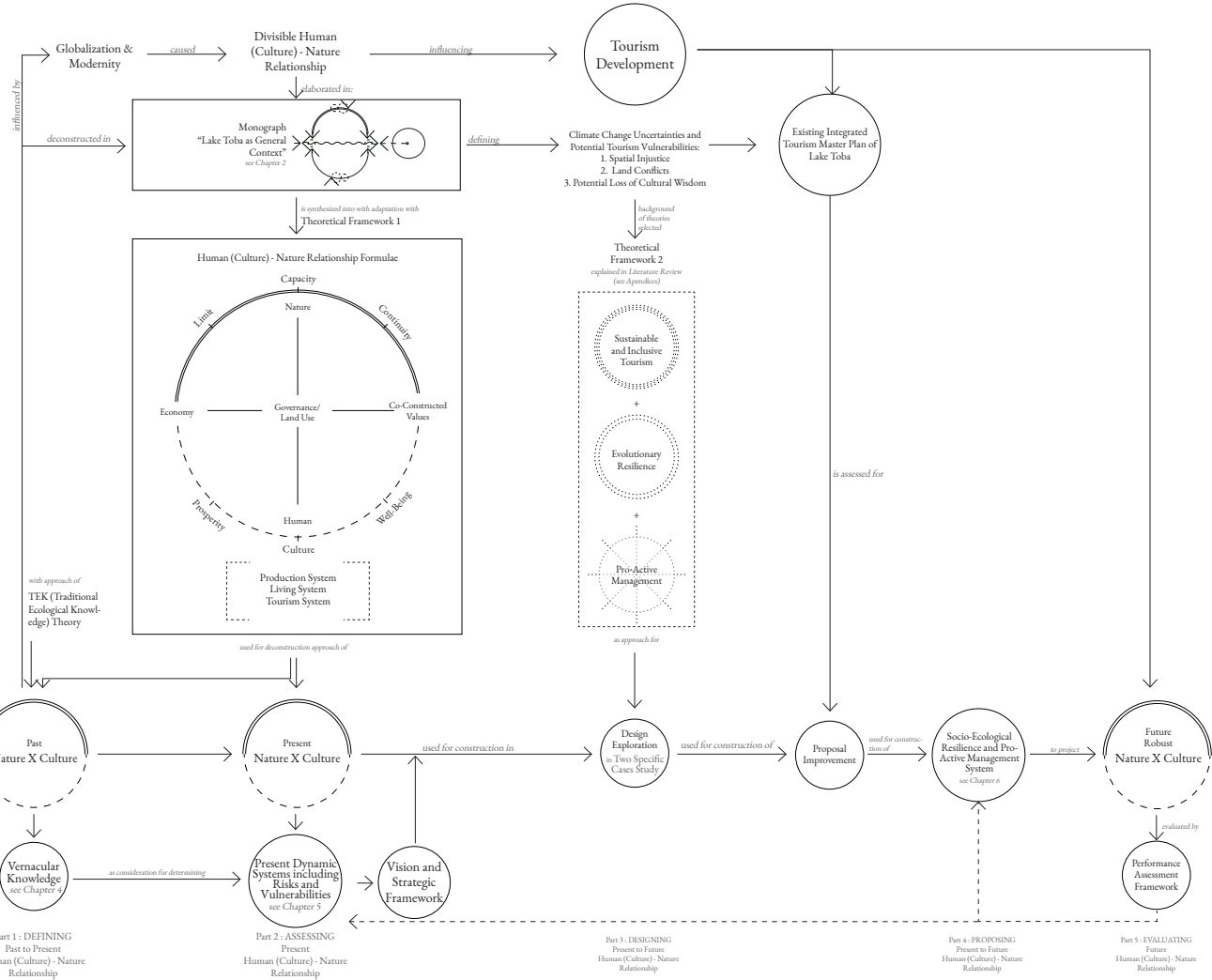
RESEARCH METHODOLOGY

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The Outcomes .....



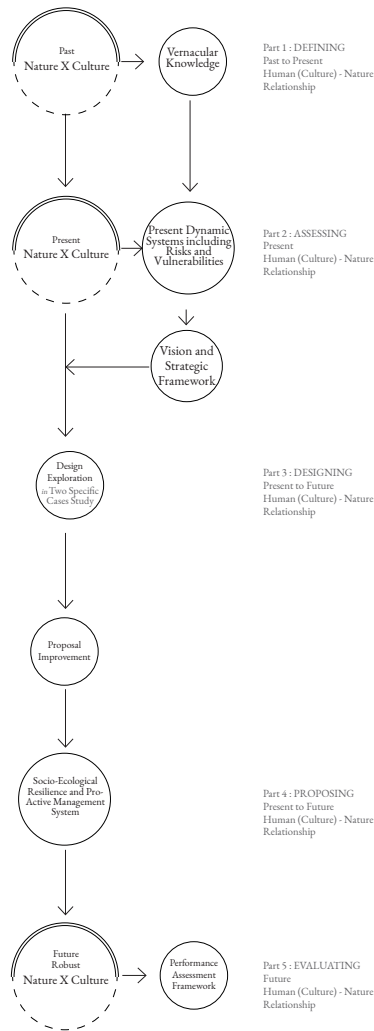
Presentation Structure:

A. Introduction

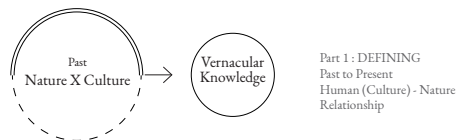
B. Problematization and Research Questions

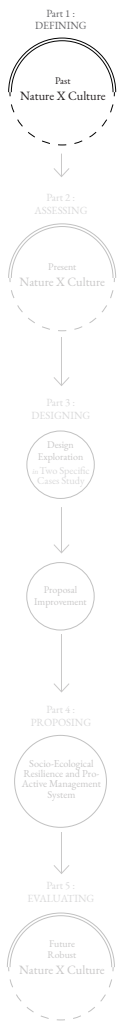
**C. The Research**

D. Conclusion









# 1. Samosir Island as The Project Area

The selection of project area begins with considerations of:

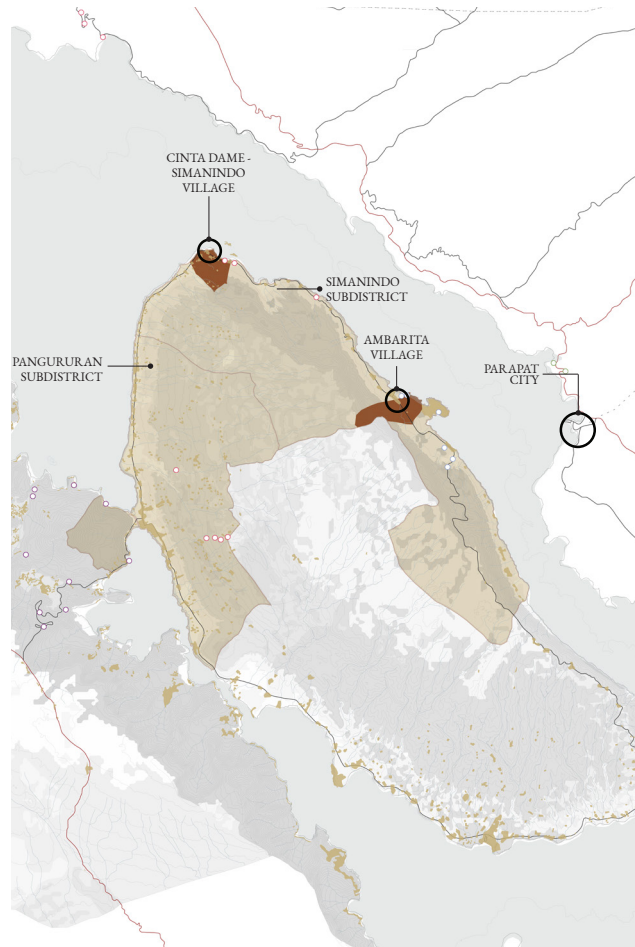
1. The base knowledge of Mount Pusuk Buhit as the origins area of Batak Community;
2. Primary development area determined within Integrated Tourism Master Plan of Lake Toba (east and west area);
3. The area that is not too urbanized to understand the original landscape morphology; and
4. Data accessibility



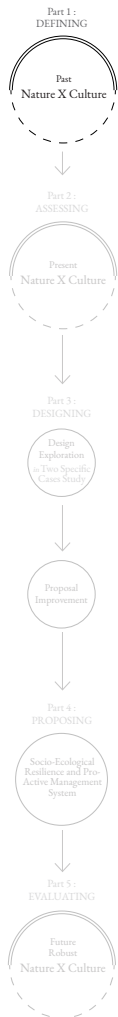
21. Site Selection. Source: Author. Data Source: Badan Informasi Geospasial (<https://tandhuat.idkoning.go.id/>)

- Base Map
- River
  - Contour
  - Main Road
  - Coastline
  - Toll Road
  - Artery Road
  - Local Road
  - Water (Lake)
  - Settlements Area
- Focus Areas
- Regional Focus
  - Village Focus
- Tourism Nodes
- Geo Diversity
  - Culture Diversity
  - Bio Diversity
  - View Point
- Slopes (degree)
- 0-2
  - 2-8
  - 8-15
  - 15-25
  - 25-45
  - >45

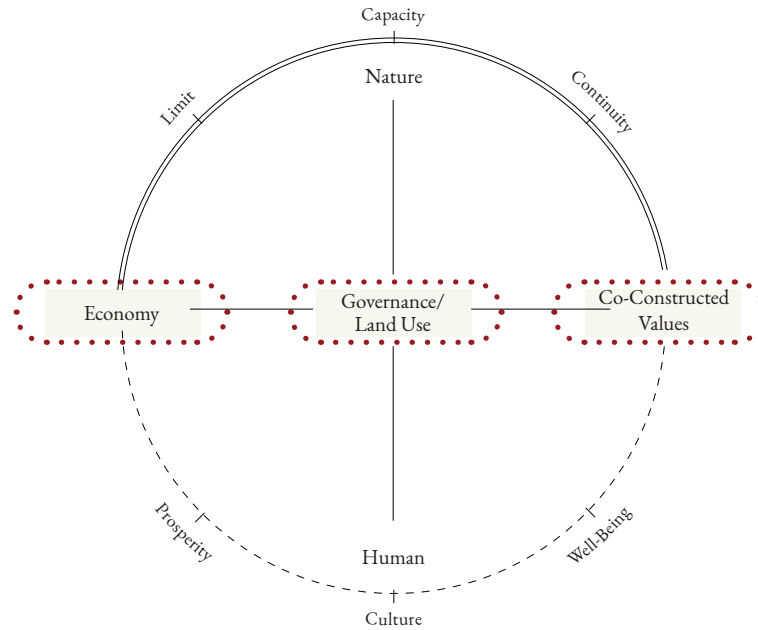
0 5 km



## 2. The Breakdown of Past to Present of Human (Culture) - Nature Relationship in Samosir Island



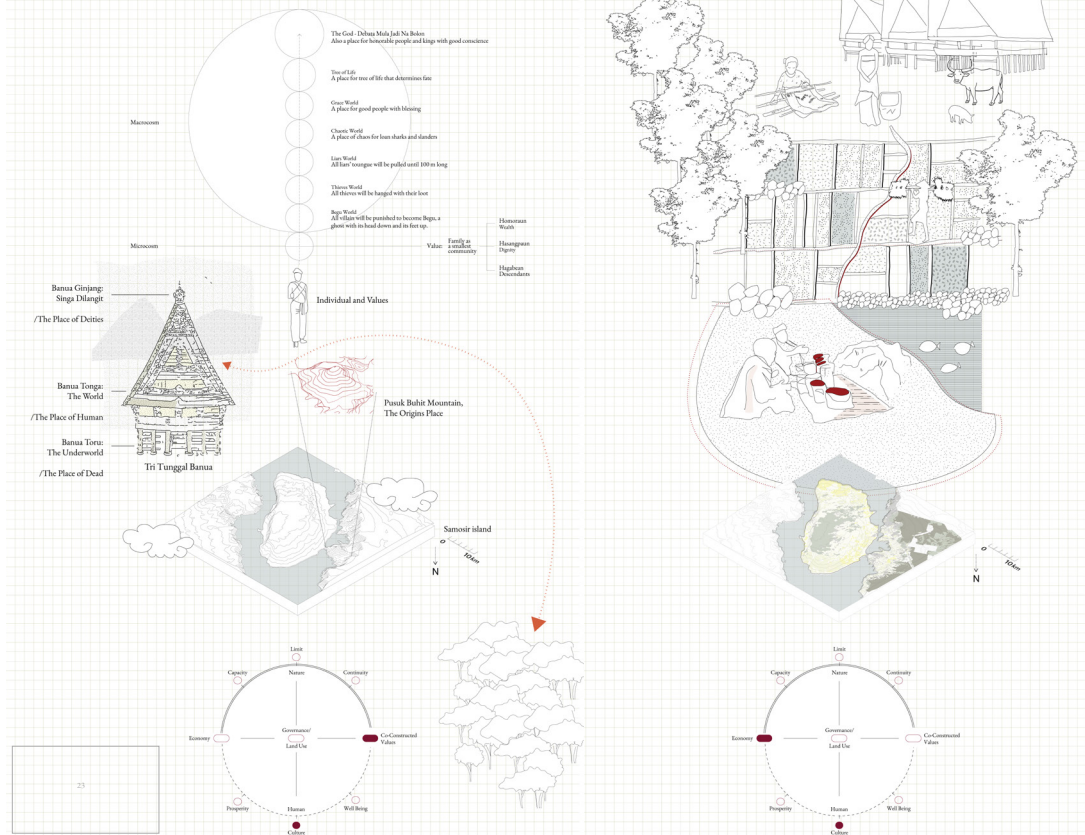
Human (Culture) - Nature Relationship Formulae



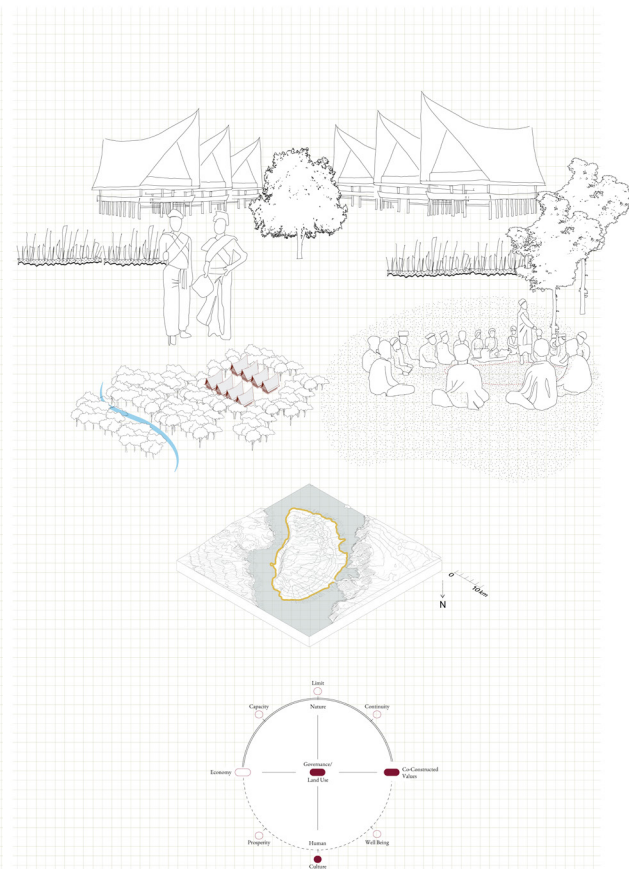
Part 1 :  
DEFININGPart 2 :  
ASSESSINGPart 3 :  
DESIGNINGProposal  
ImprovementPart 4 :  
PROPOSINGPart 5 :  
EVALUATING

## 2. The Breakdown of Past to Present of Human (Culture) - Nature Relationship in Samosir Island

### 2.1. Deconstructing The In-Between Elements

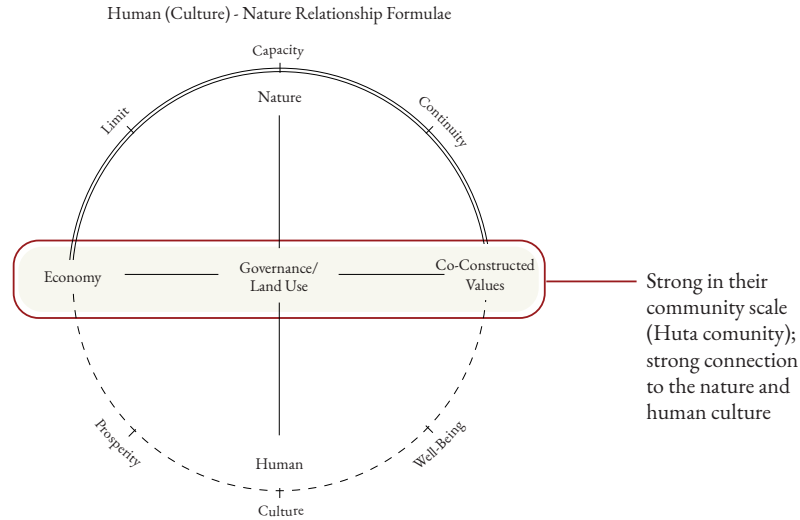
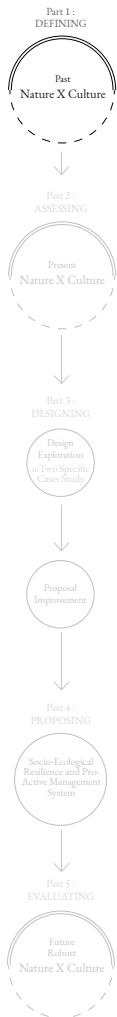


2.1. The Deconstruction of Past(H)C(N).  
Source: Author



## 2. The Breakdown of Past to Present of Human (Culture) - Nature Relationship in Samosir Island

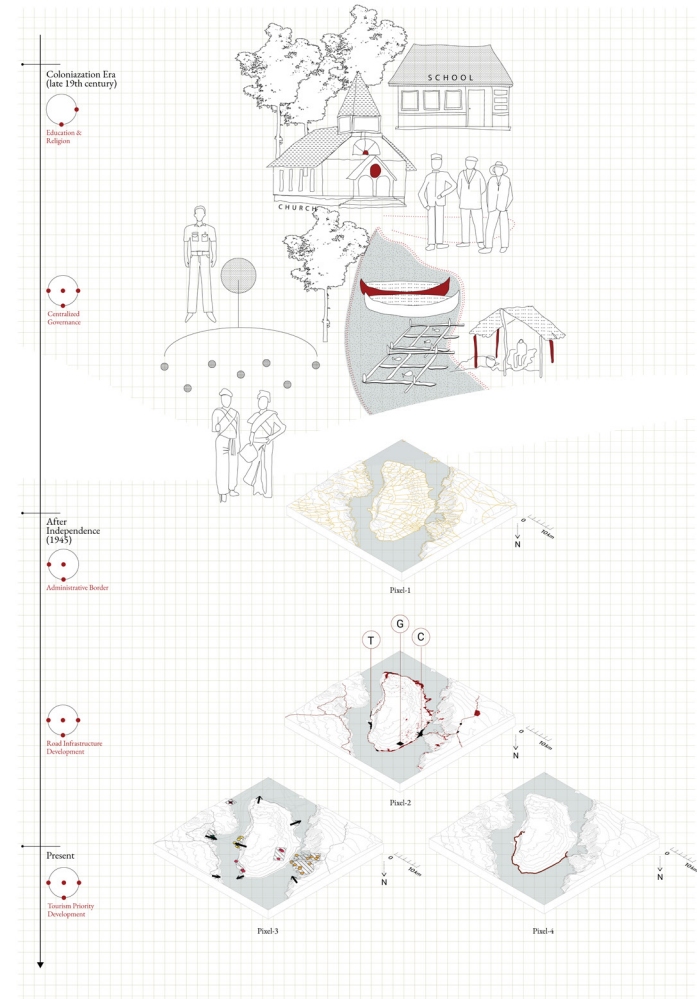
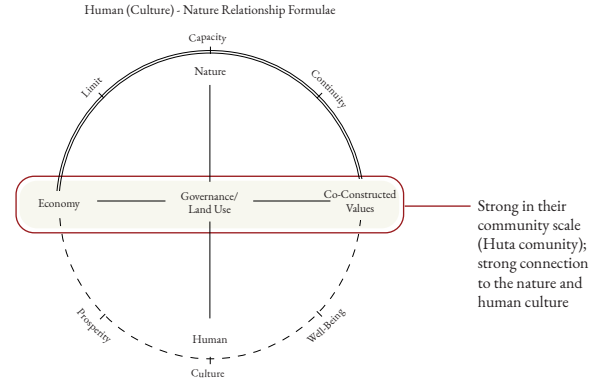
### 2.2. Deconstructing The In-Between Elements



Part 1 :  
DEFININGPart 2 :  
ASSESSINGPart 3 :  
DESIGNINGPart 4 :  
PROPOSINGPart 5 :  
EVALUATING

## 2. The Breakdown of Past to Present of Human (Culture) - Nature Relationship in Samosir Island

### 2.3. Deconstructing The Evolutionary



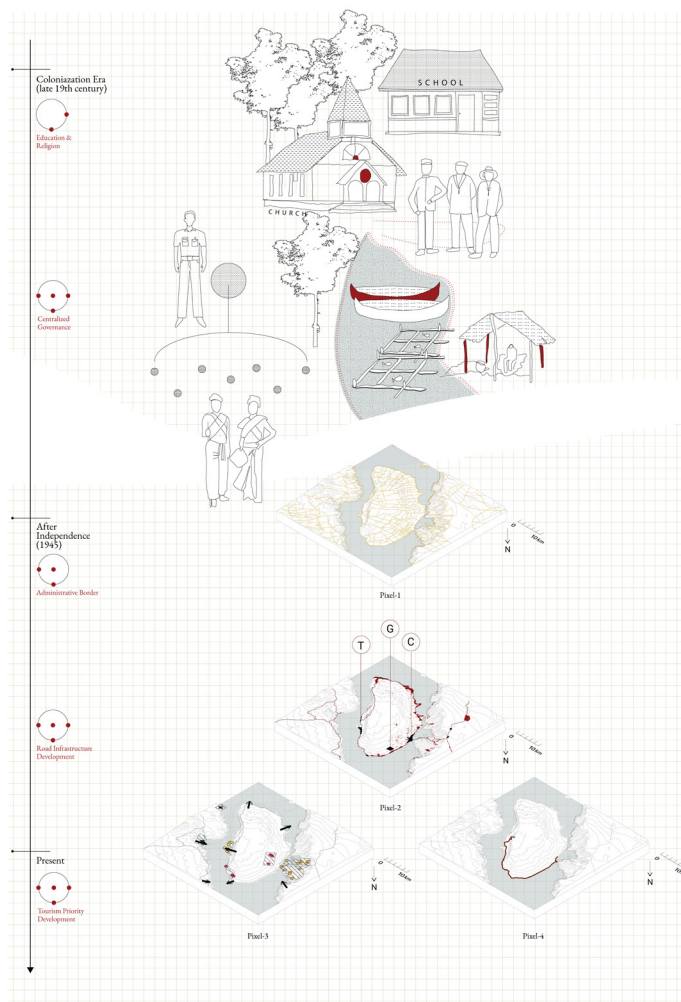
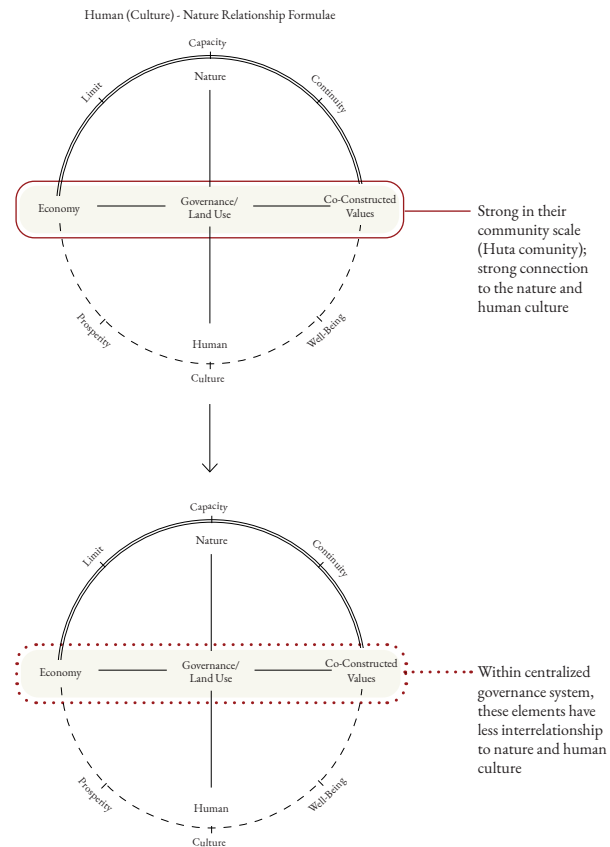
24

25



## 2. The Breakdown of Past to Present of Human (Culture) - Nature Relationship in Samosir Island

### 2.3. Conclusion

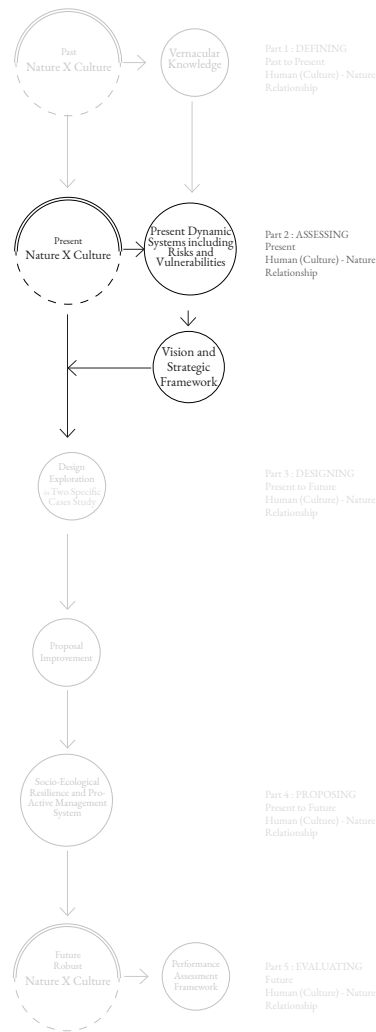


24	25
26	

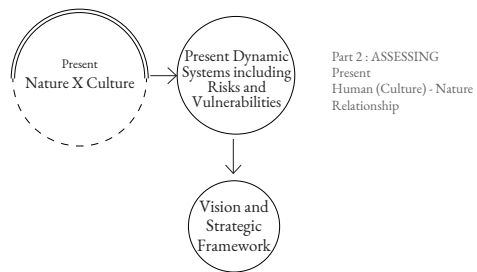
24. Strong In-Between Elements.  
Source: Author

25. The Past Evolution. Source: Author

26. Less Interrelationship to Nature and Human Culture. Source: Author



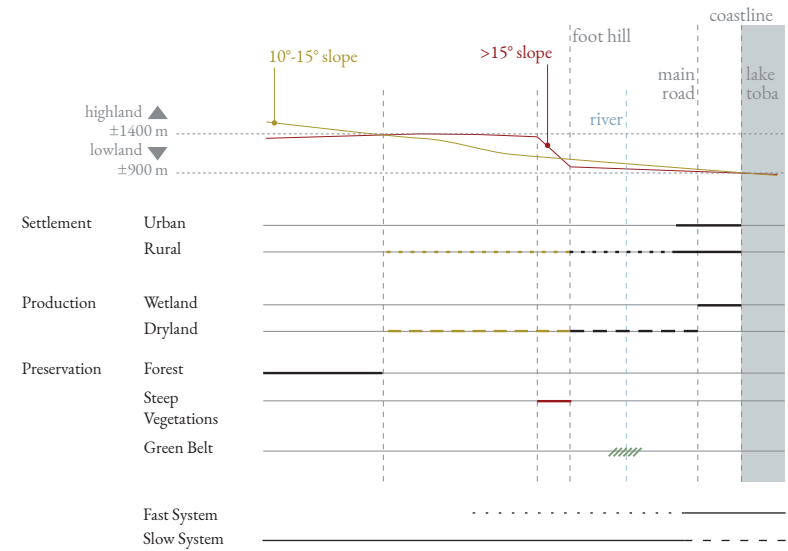




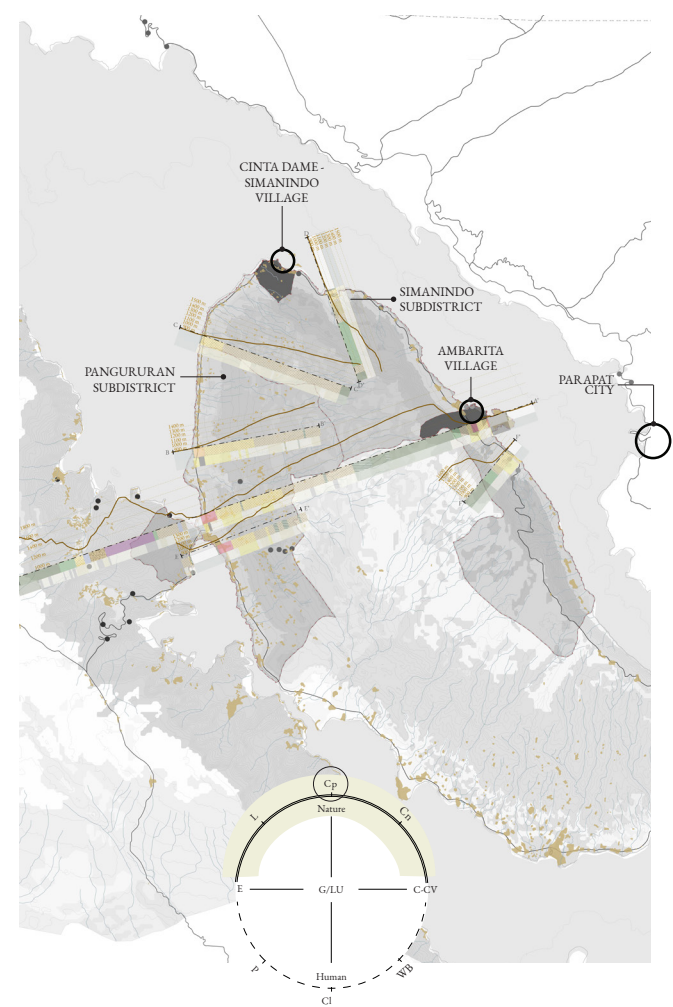


# 1. Deconstructing Biophysical System

## 1.1. Understanding Land Use and Land Cover Pattern



- Base Map**
- River
  - Contour
  - Toll Road
  - Artery Road
  - Local Road
  - Water (Lake)
  - Settlements Area
  - Tourism Nodes
  - Contour Projection
- Slopes (degree)**
- 0-2
  - 2-8
  - 8-15
  - 15-25
  - 25-45
  - >45
- Land Use**
- Registered Protected Forest
  - Protected Forest
  - Urban Forest
  - Agroforestry
  - Green Belt
  - Agropolitan
  - Plantation
  - Agriculture
  - Livestock
  - Tourism Area
  - Cultural Heritage
  - Water Catchment Area
  - Village
  - City
  - Kawasan Air Panas
- Land Cover**
- Primary Dry Forest
  - Secondary Dry Forest
  - Plantation Forest
  - Shrubs
  - Open Land
  - Plantation Field
  - Dryland Agriculture
  - Dryland Agriculture with Shrubs
  - Wetland Agriculture
  - Settlement



27. Land Use Land Cover Analysis  
Summary Source: Author  
28. HIC 2N Formula Focus on Capacity  
Source: Author  
29. Land Use, Land Cover, and  
Topography Map. Source: Author. Data  
Sources: Badan Informasi Geospasial  
(<https://tanah.indonesia.go.id/>)



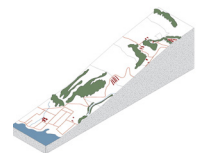
# 1. Deconstructing Biophysical System

## 1.2. Understanding Vernacular Landscape

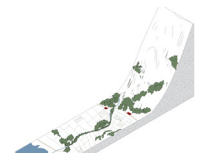
Topography



Type 1



Type 2

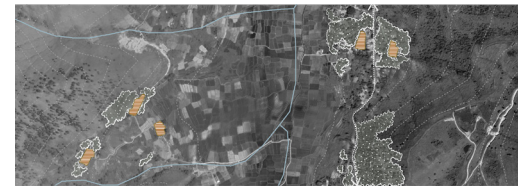


Type 3

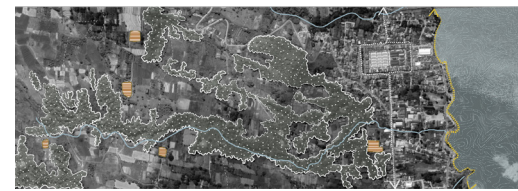


Type 2

Transect Analysis



A. The Sacred Area



B. Trading Area



C. Tourism Culture Area 1

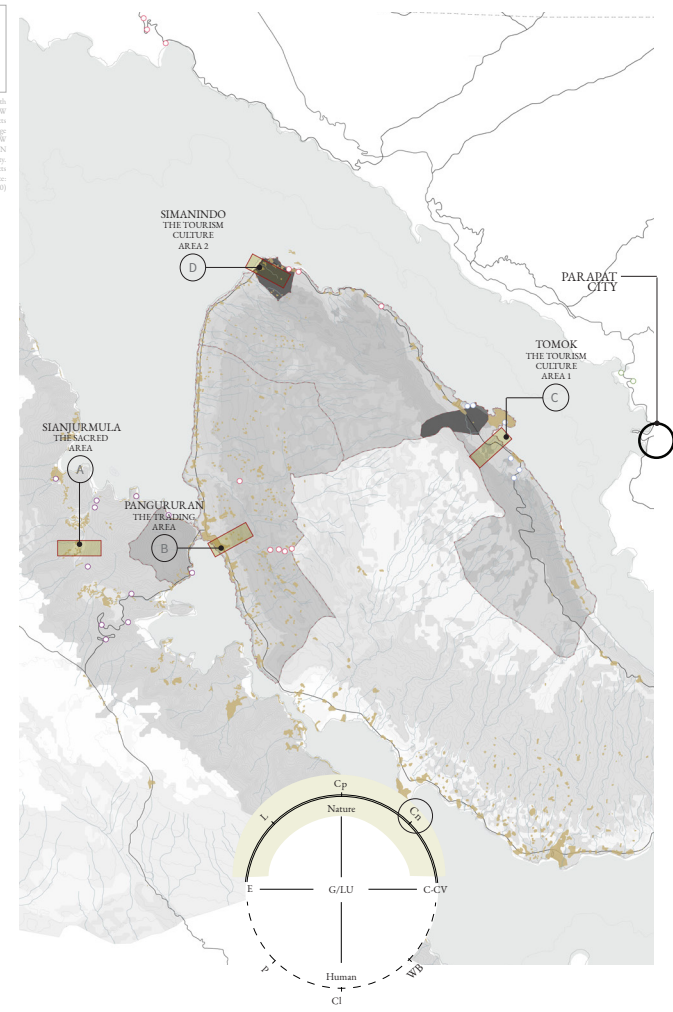


D. Tourism Culture Area 2

50	31	
50	31	32
50	31	
50	31	33

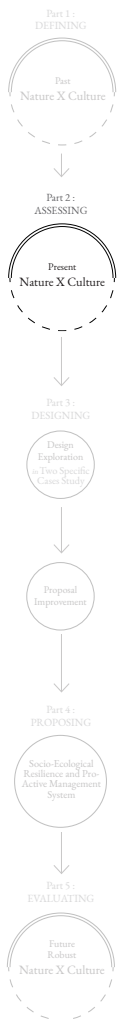
50. Topography Types. Source: Author with image references Google Maps (2020), RTM/Kalimantan Samosir (2020), YL, Simanindo Comparison. Source: Author with image references Google Maps (2020), RTM/Kalimantan Samosir (2020), YL, H/C/N Relationship Formulas Focus on Continuity. Source: Author, 33 Critical Transverse Selections. Source: Author, Data Source: RTM/Kalimantan Samosir (2020)

- Base Map
- River
  - Contour
  - Toll Road
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  - Water (Lake)
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  - View Point
- Slopes (degree)
- 0-2
  - 2-8
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  - 15-25
  - 25-45
  - >45



# 1. Deconstructing Biophysical System

## 1.3. Understanding Hardscape Elements

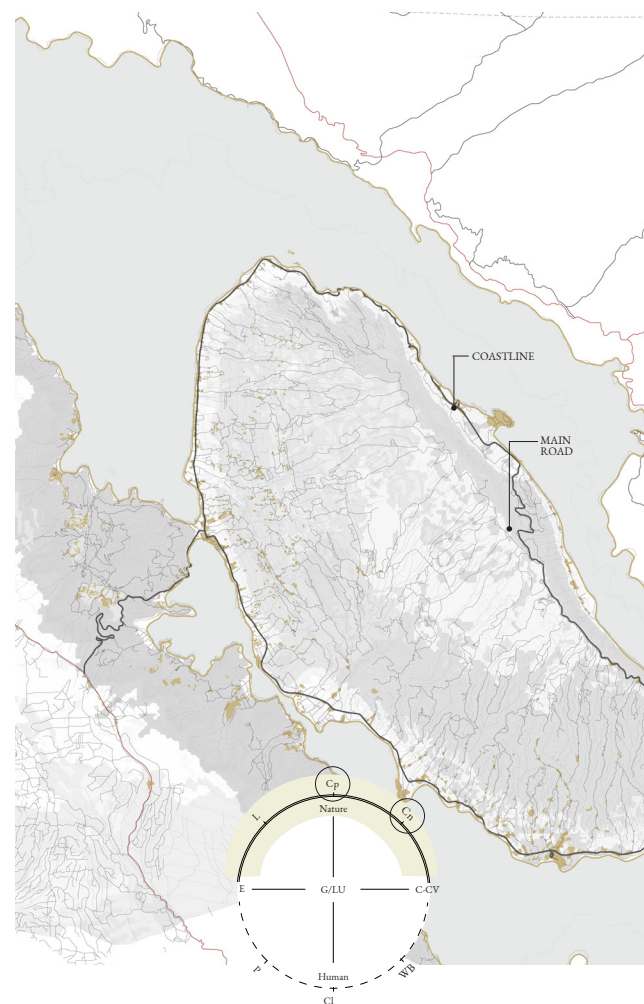


34	35	36	
37			39
38			40

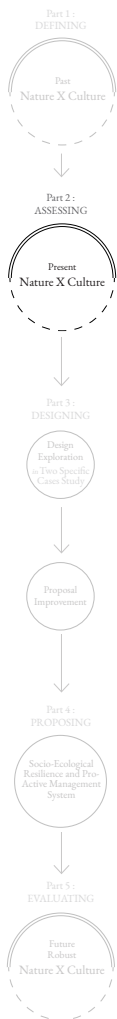
34. Timber Source: Google Maps (2020)  
 35. Traditional Houses: Source: Google Maps (2020)  
 36. Settlements: Source: Google Maps (2020)  
 37. Main Road Elements: Source: Author with image references: Google Maps (2020)  
 38. Coastline Elements: Source: Author with image references: Google Maps (2020)  
 39. Hardscape: Source: Author with image references: Google Maps (2020), RTRW Kabupaten Sumatra (2020) 40. H(C)-N Relationship: Formative Focus on Capacity and Connectivity: Source: Author

- Base Map  
 — River  
 — Contour  
 — Main Road  
 — Coastline  
 — Toll Road  
 — Artery Road  
 — Local Road  
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 ■ Settlements Area
- Slopes (degree)  
 □ 0-2  
 □ 2-8  
 □ 8-15  
 □ 15-25  
 □ 25-45  
 ■ >45

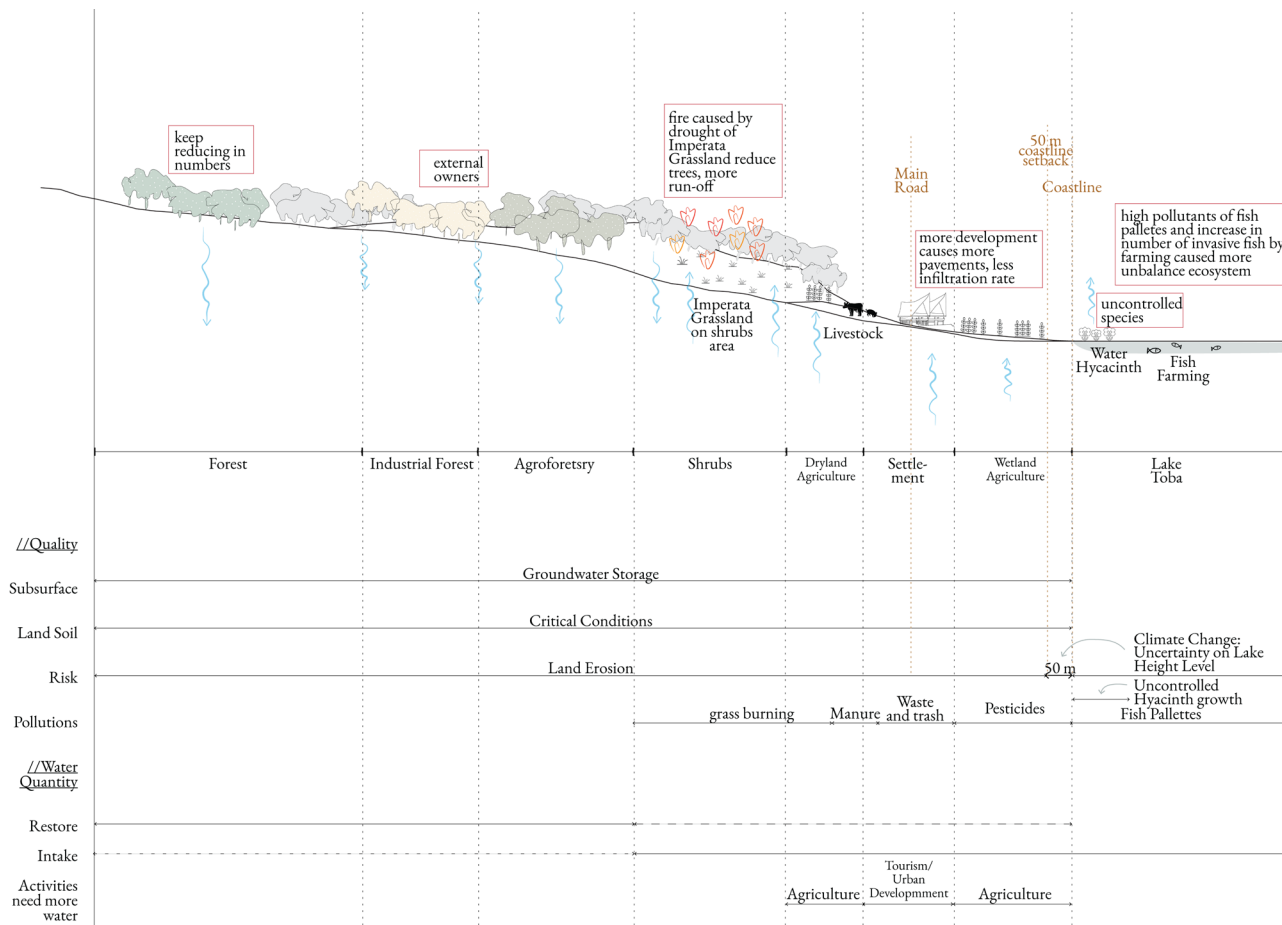
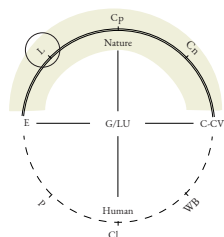
0 1 km N



#### 1.4. Biophysical Risk and Vulnerability



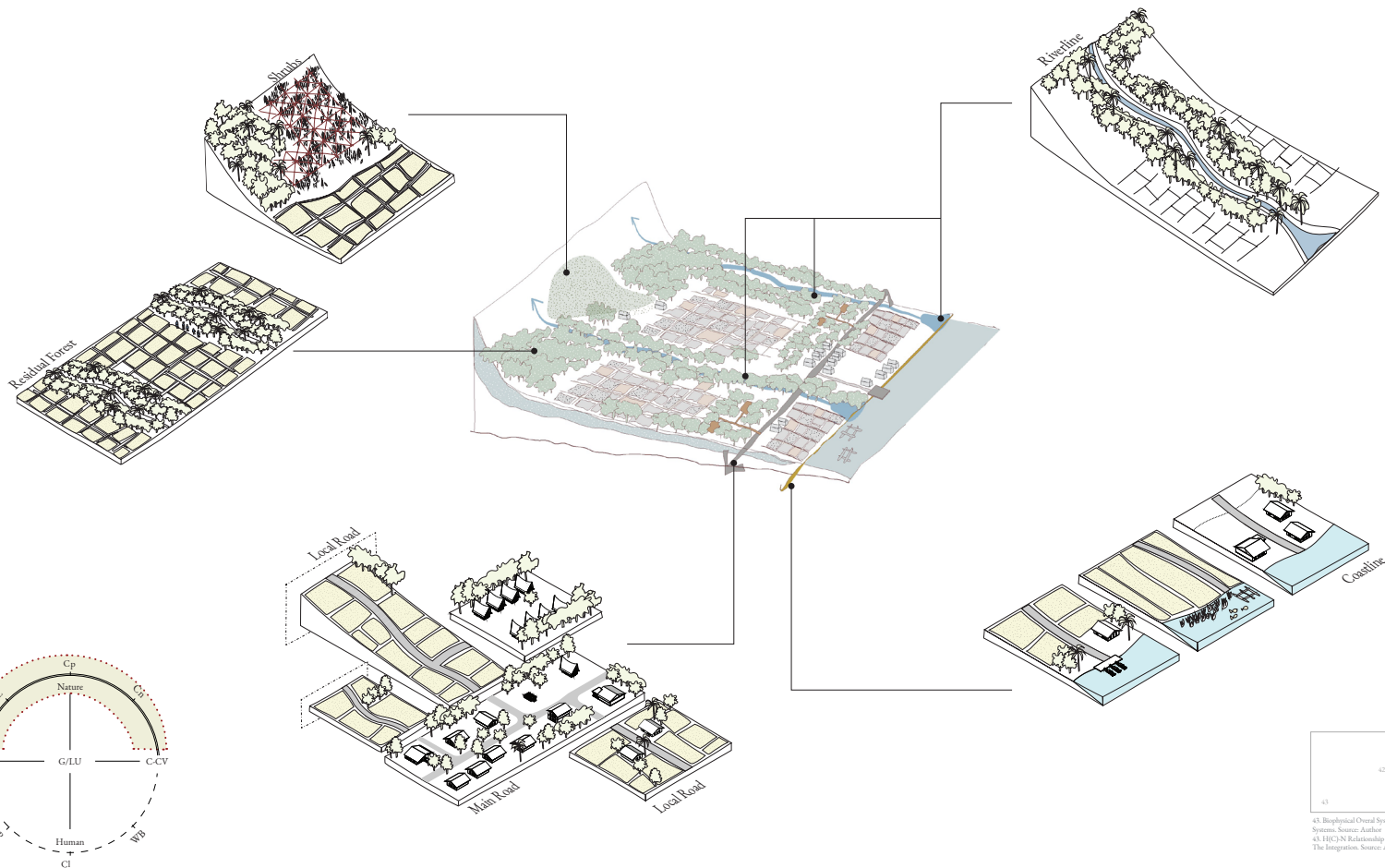
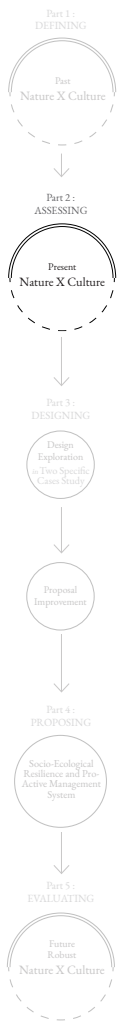
41. H(C)-N Relationship Formulae Focus on Limit. Source: Author  
42. Biophysical Risk and Vulnerability. Source: Author with references from Arjuna (2013), ITMP (2020), Jablonski (1953), Pamićnas (2020), RTRW Kabupaten Sumsel (2020)





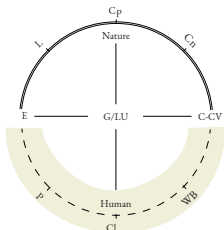
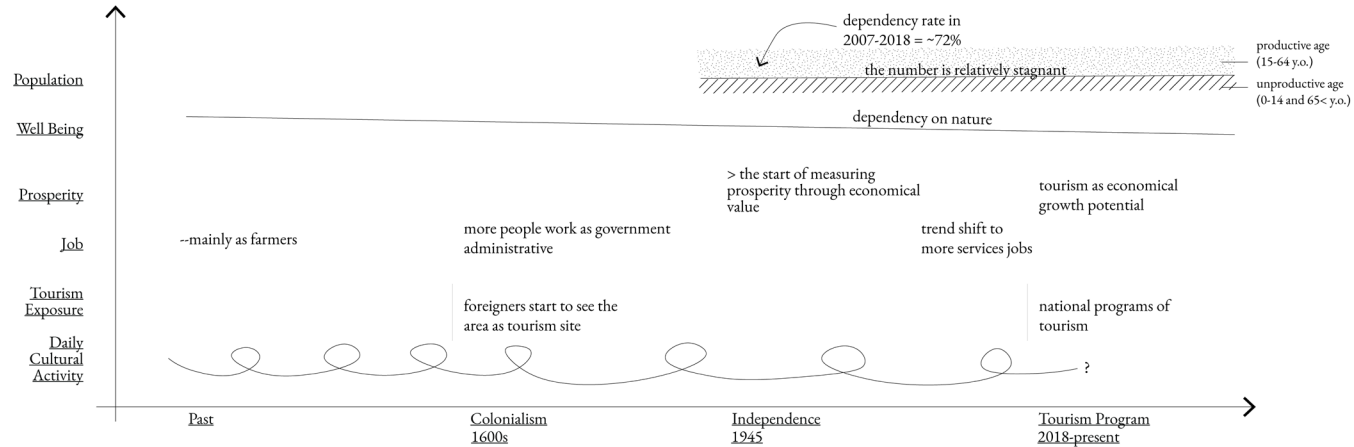
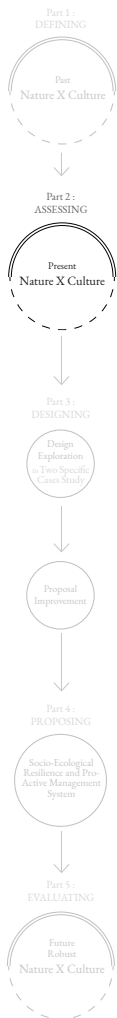
# 1. Deconstructing Biophysical System

## 1.5. Biophysical Integration System



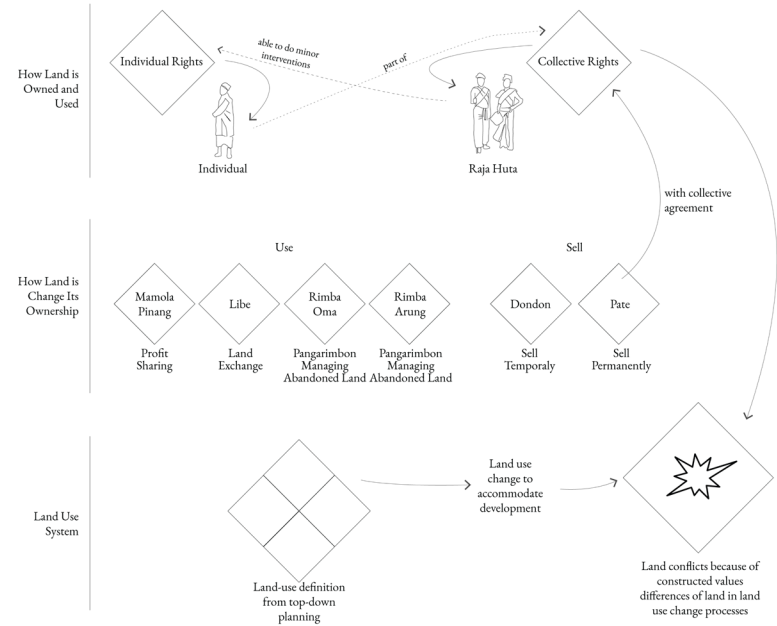
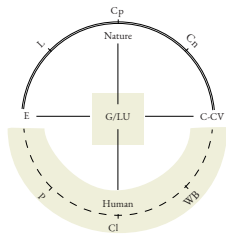
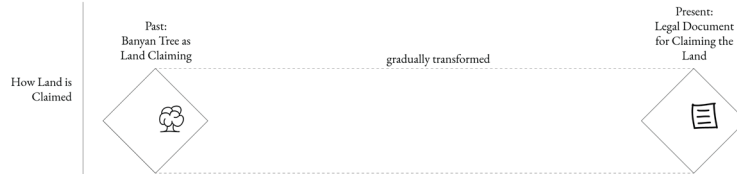
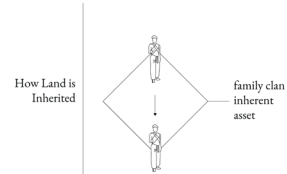
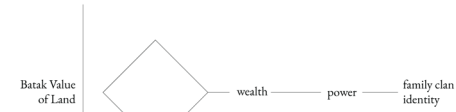
## 2. Deconstructing Socio-Cultural System

### 2.1. Socio-culture System



## 2. Deconstructing Socio-Cultural System

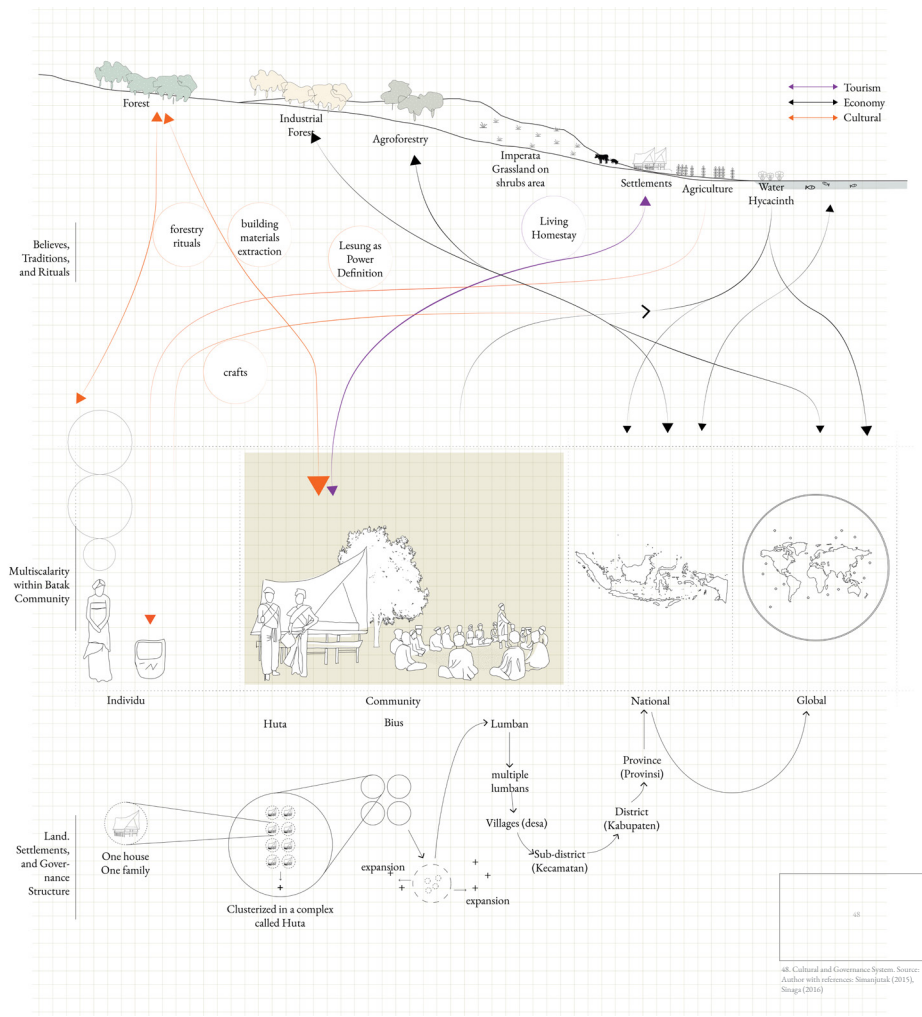
### 2.2. Land Ownership System





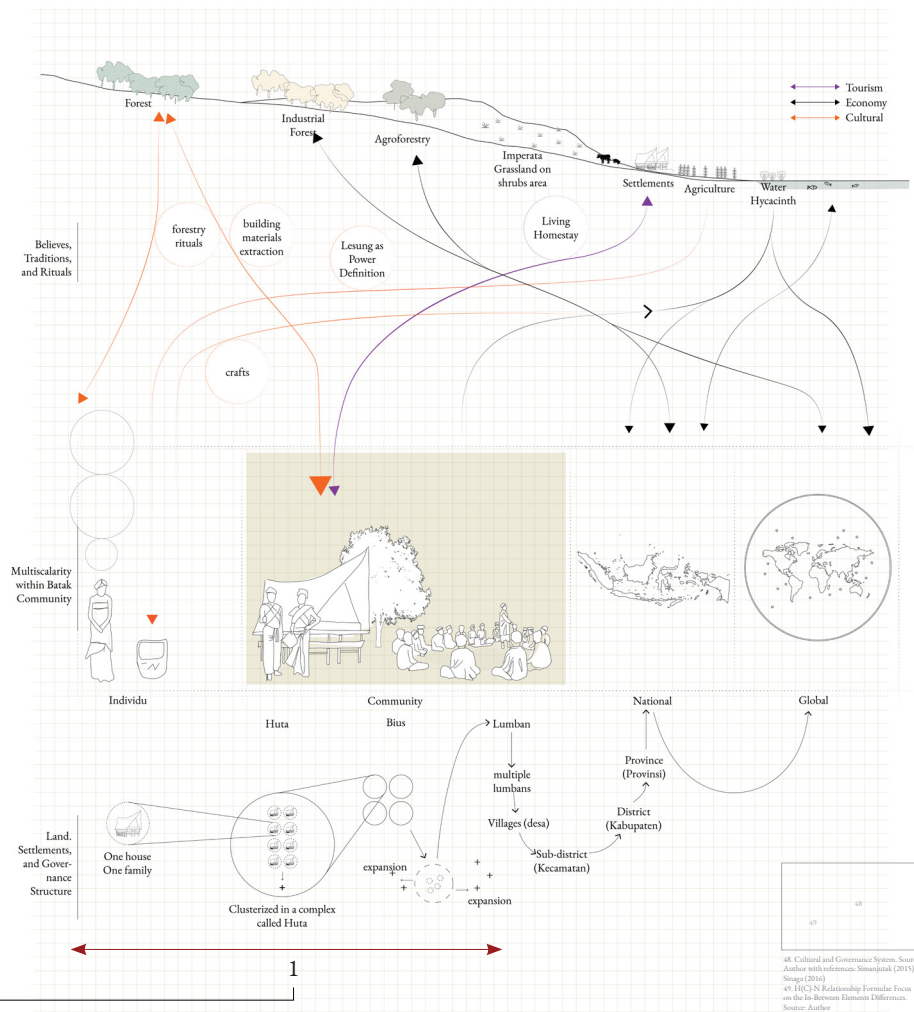
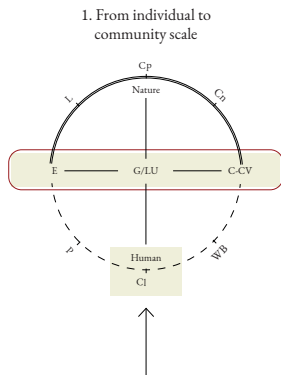
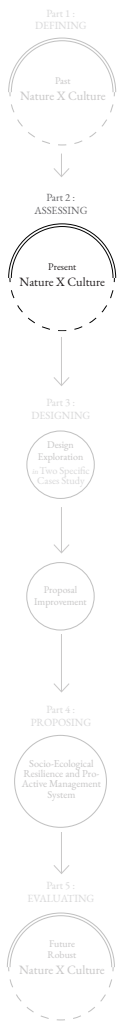
## 2. Deconstructing Socio-Cultural System

### 2.3. Cultural and Governance System



## 2. Deconstructing Socio-Cultural System

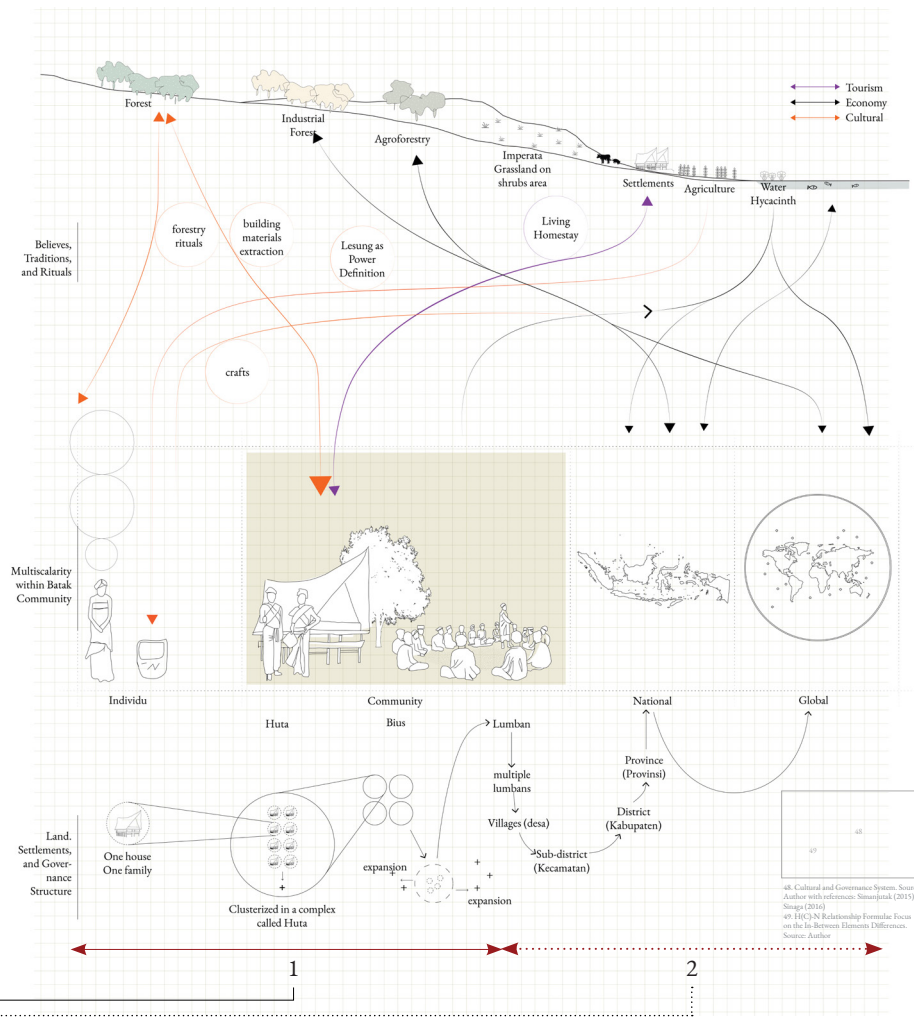
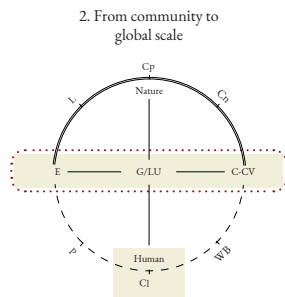
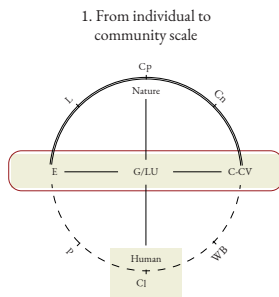
### 2.3. Cultural and Governance System



© Cultural and Governance System. Source: Author with reference: Simanjuntak (2015), Sinaga (2016)  
 with HCU's Relationship Formulate Focus on the In-Between Elements Differences.  
 Source: Author

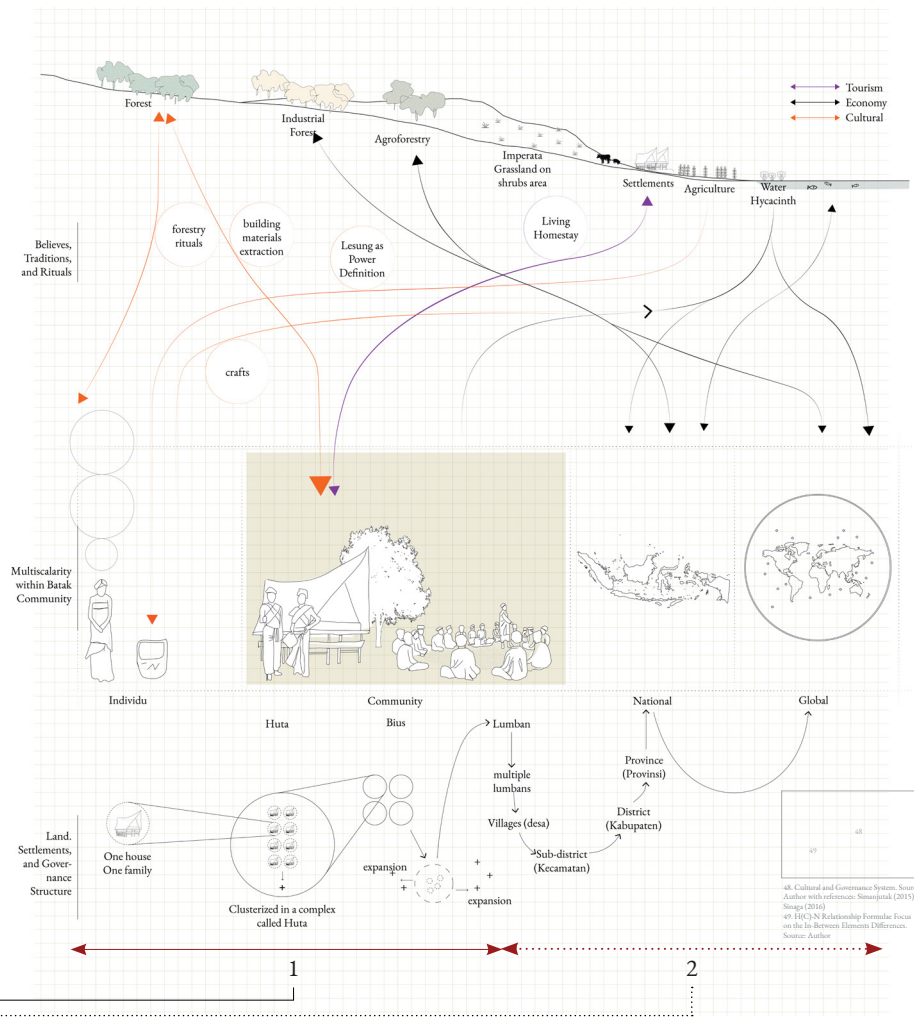
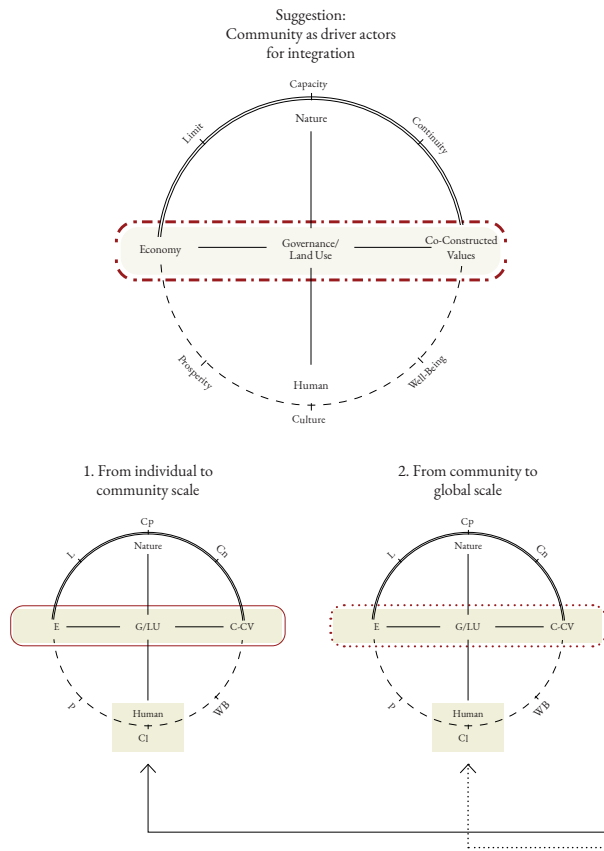
## 2. Deconstructing Socio-Cultural System

### 2.3. Cultural and Governance System

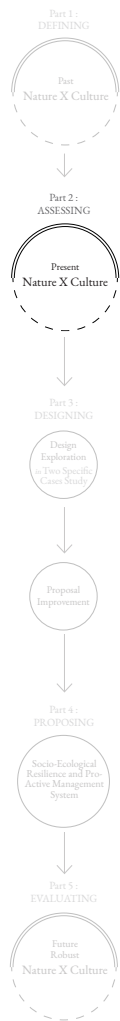


## 2. Deconstructing Socio-Cultural System

### 2.3. Cultural and Governance System



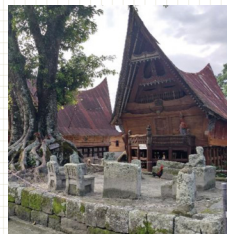
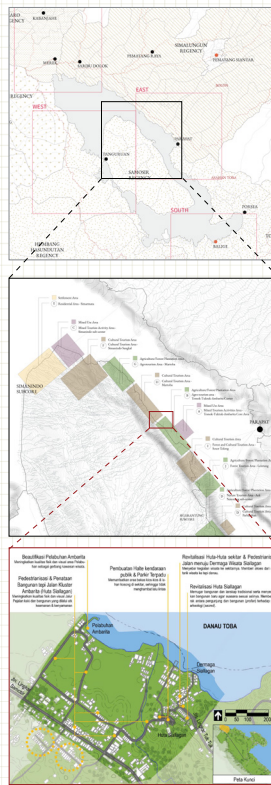
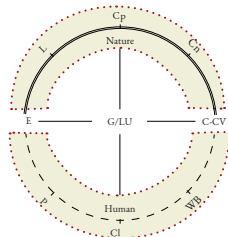
### 3. Critical Assessment on Integrated Tourism Masterplan 2020



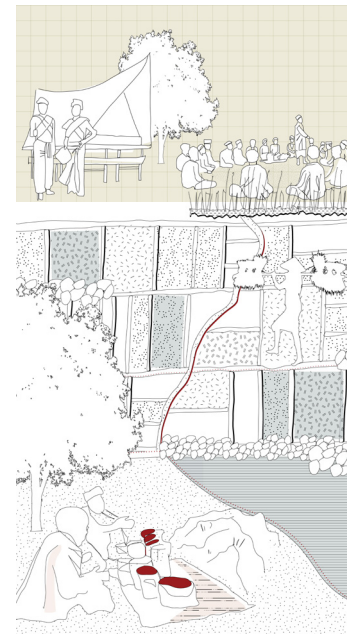
- Biophysical System:**
- The integration with historical traces
  - Adaptive to climate change



50. IEC3-N Relationship Formulas Focus on the Biophysical and Socio-Culture Systems. Source: Author  
51. Biophysical System. Source: Author  
52. Critical Assessment on Tourism Masterplan. Source: Author. Image reference: ITMP 2020  
53. Community Source: Author



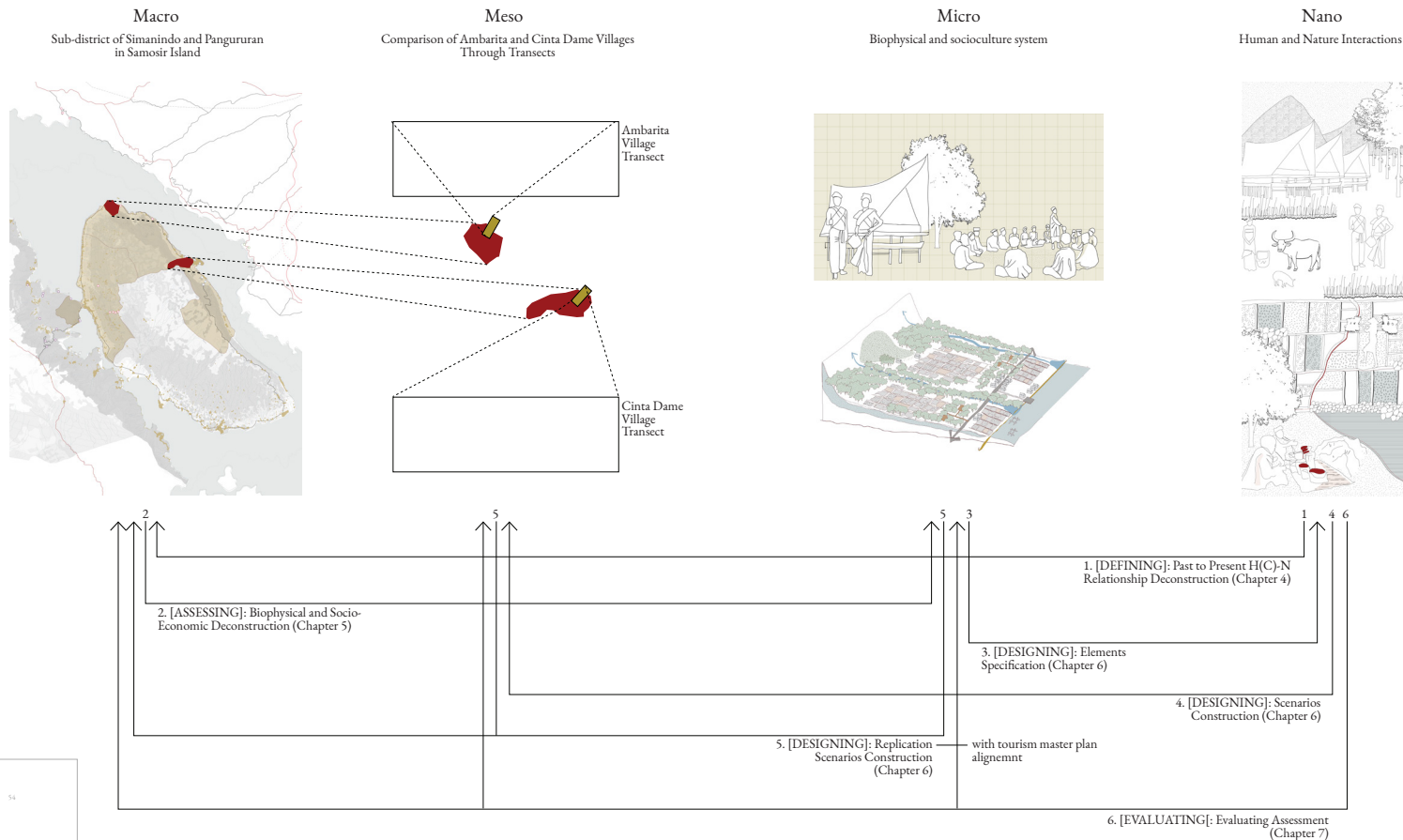
- Socio-Cultural System:**
- Daily activities as cultural identity
  - Participation





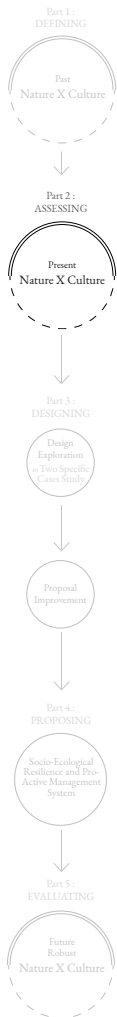
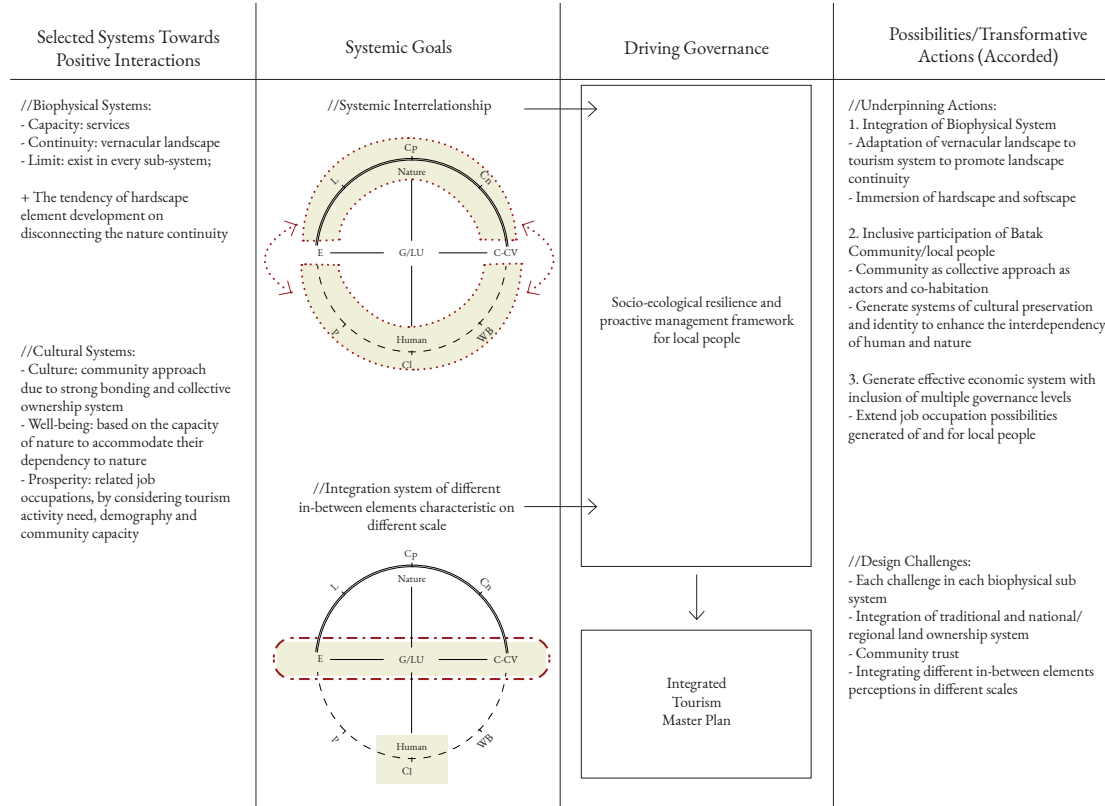
## 4. Multiscale Interrelationship

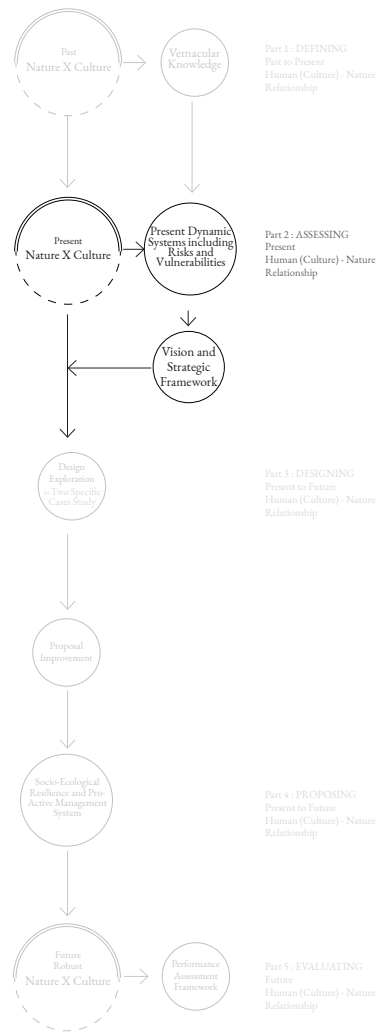
### Local adaptation to the higher dynamic systems



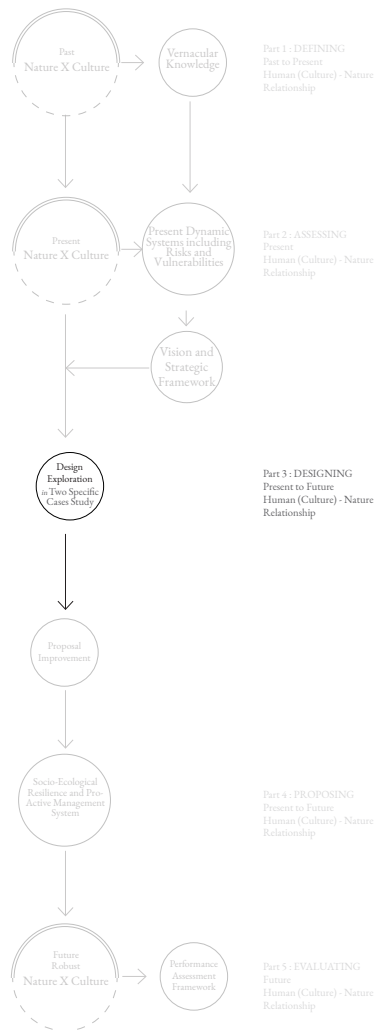
## 5. Conclusion

Vision: To create socio-ecological resilience and proactive management framework for local people in order to promote sustainable and inclusive tourism development in Toba Lake, Indonesia”





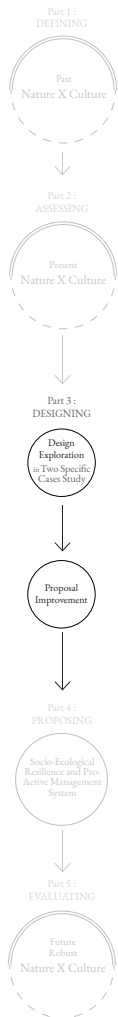






Part 3 : DESIGNING  
Present to Future  
Human (Culture) - Nature  
Relationship

# 1. Design Scheme



**Tourism Master Plan**

**Improvement:**

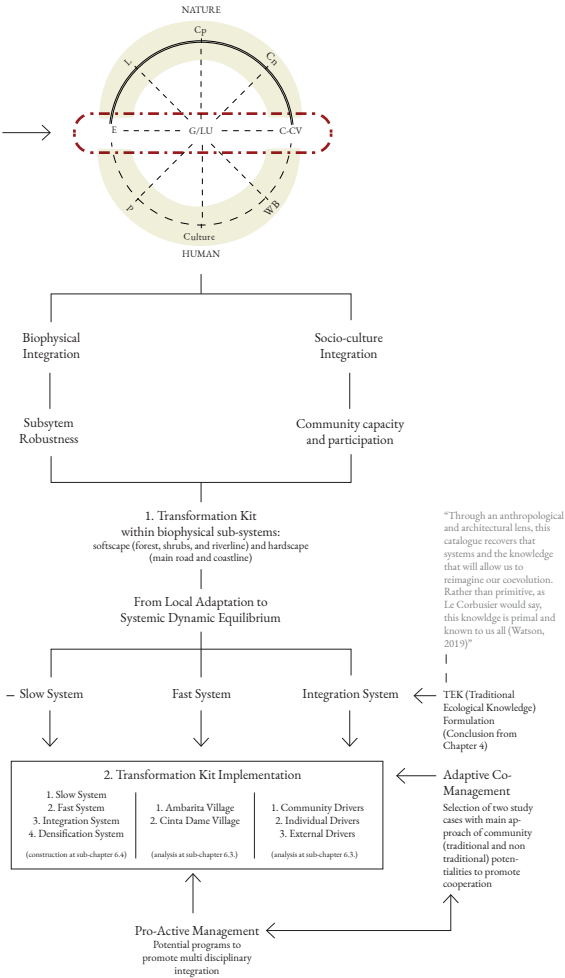
1. Systemic Interrelationship
2. Integration system of different in-between elements behaviour on the multi scales

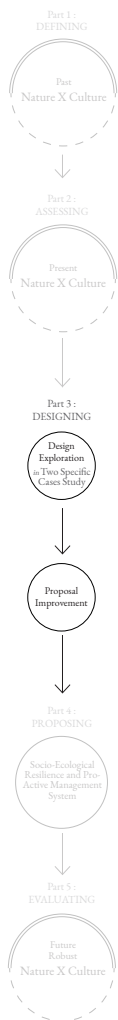
"Resilience... It rejects the existence of a single equilibrium and instead suggest that there are multiple equilibria and that 'instabilities can flip a system into another [...] stability domain (Gunderson, 2000, as cited in Davoudi, 2013)"

**Evolutionary Resilience**

- Persistence
- Innovative
- Flexible
- Preparedness

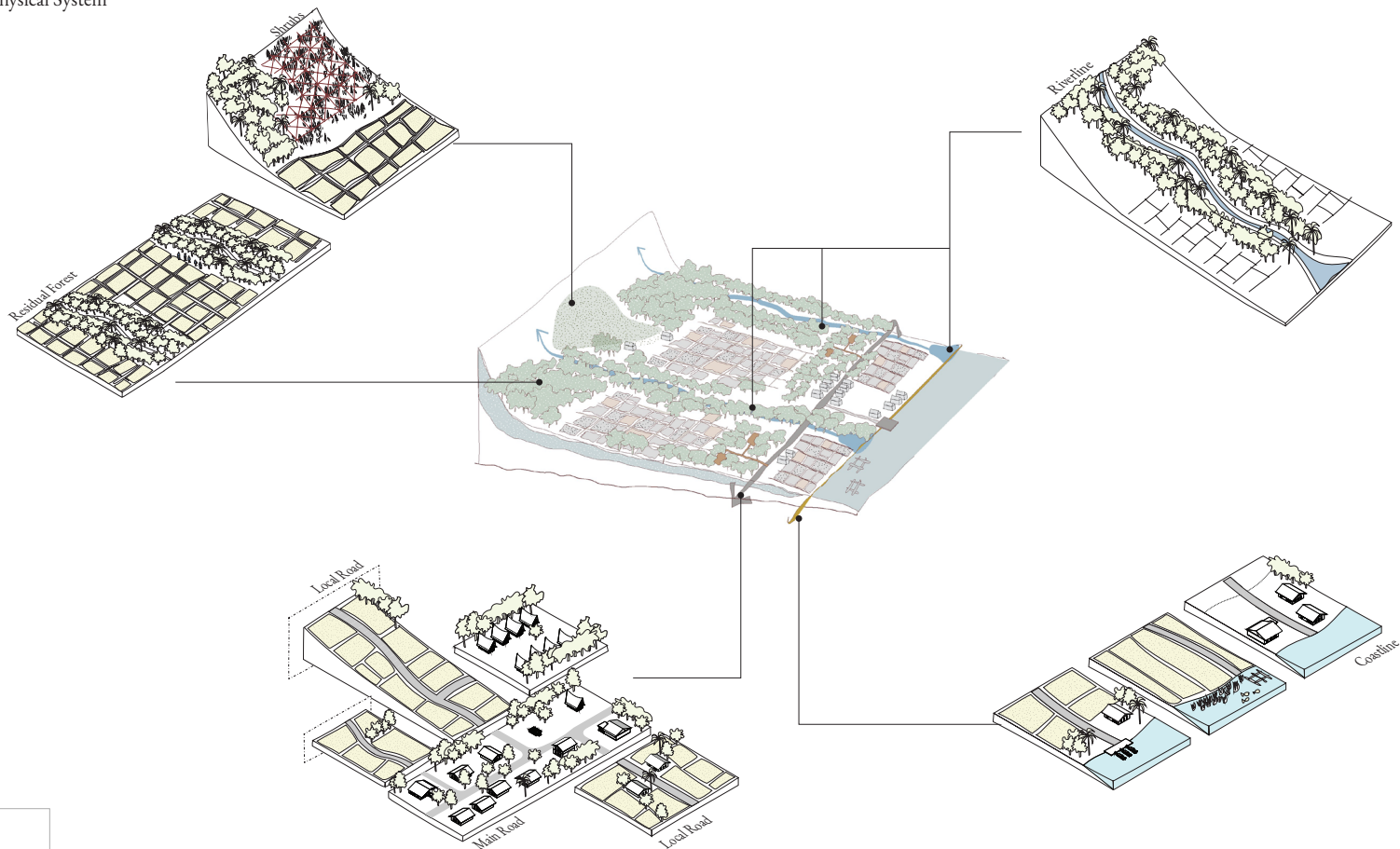
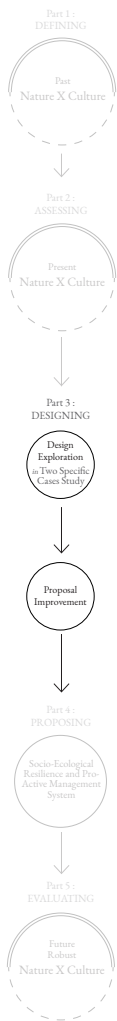
"In complex adaptive systems, there are continual interactions between small and large systems and slow and fast ones (Davoudi, 2013)"

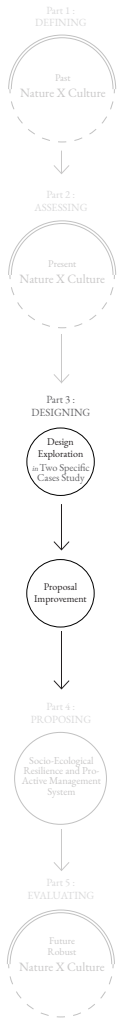




1. Transformation Kit  
within biophysical sub-systems:  
softscape (forest, shrubs, and riverline) and hardscape  
(main road and coastline)

# 1. Transformation Kit within Biophysical System



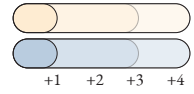


# 1. Transformation Kit How to Use it?

## Socio-Ecological Resilience + Pro Active Management Transformation Kit

Act as references  
– can be adapted and adjusted

softscape/hardscape  
sub-system - name  
scale - type of transformation



transformation impact score on  
nature or human elements  
+(small) / +(medium) / +(large)  
the sequence is based on the scale  
of transformation

potential stakeholder on the  
transformation program

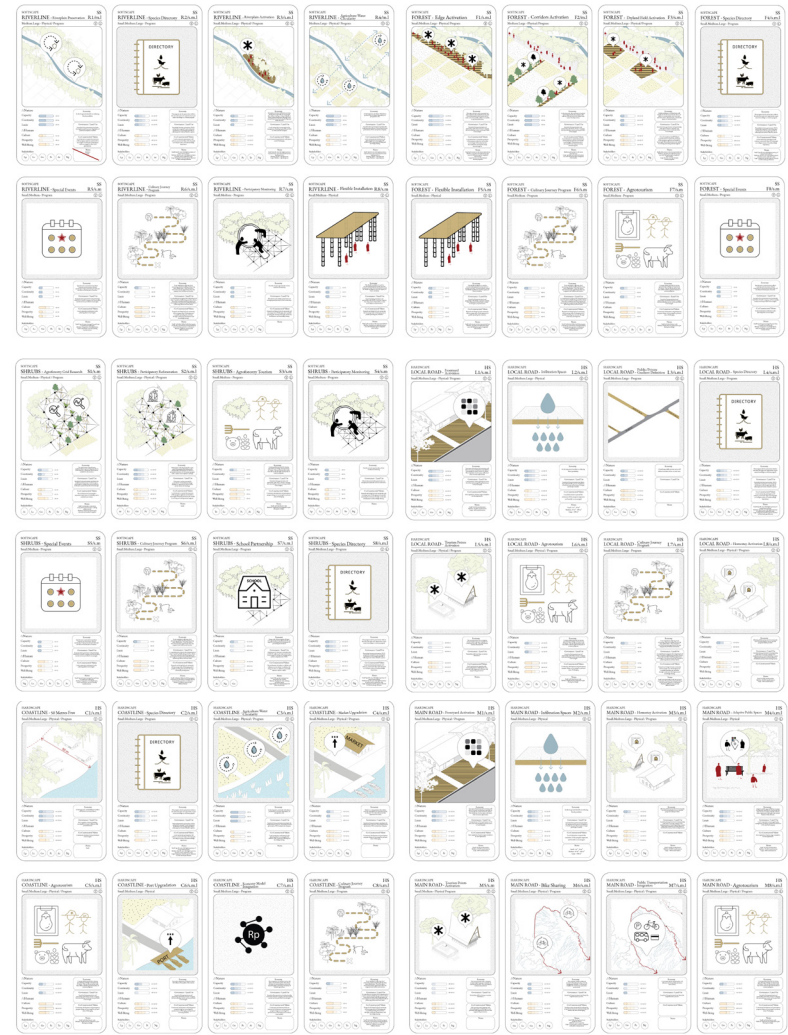
SOFTSCAPE  
FOREST - Edge Activation  
Small/Medium/Large - Physical/Program

SS  
F1/s.m.l

code  
SS: Softscape  
HS: Hardscape  
s: small  
m: medium  
l: large  
T: tourism promotion  
L: landscape promotion

brief explanation of economy,  
governance/land use, co-  
constructed values

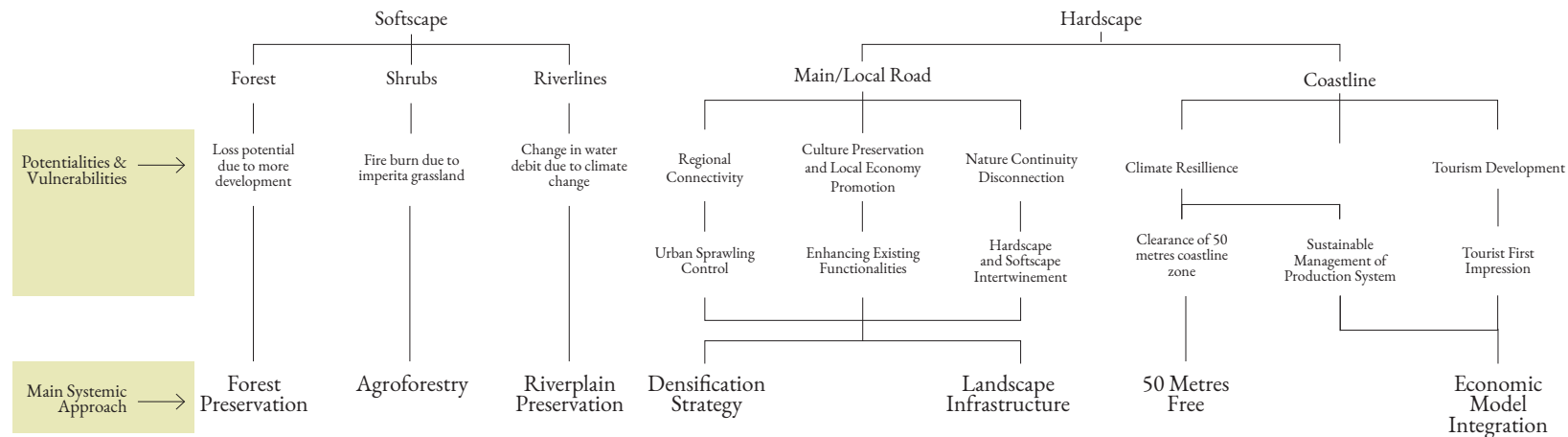
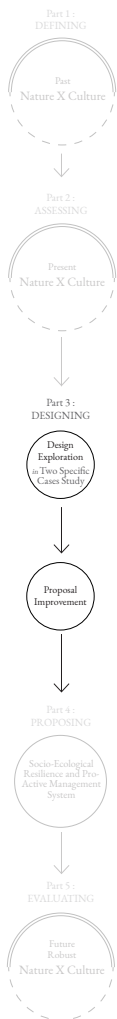
scale explanation



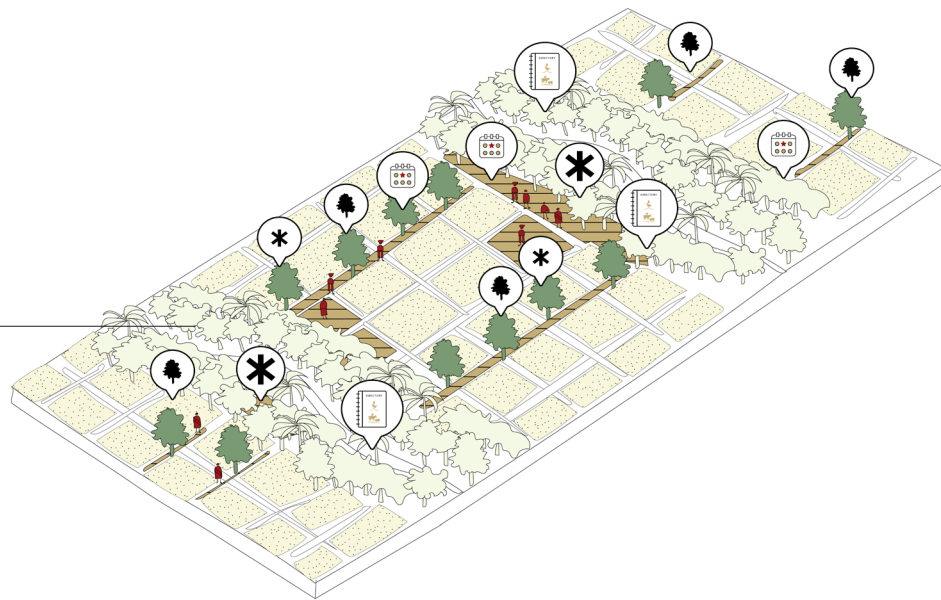
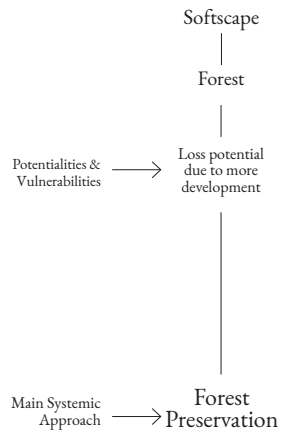
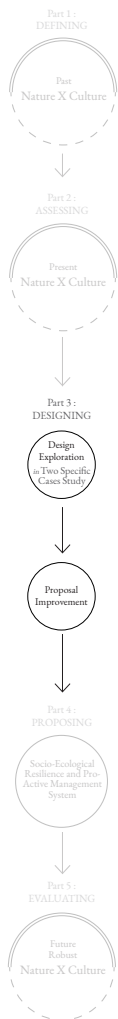
58. Transformation Card Explanation.  
Source: Author  
59. Transformation Cards. Source: Author

# 1. Transformation Kit

## The Construction Process

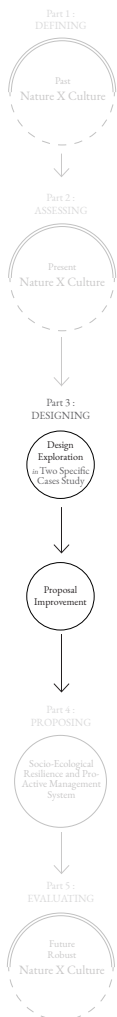


# 1. Transformation Kit Residual Forest Sub-System

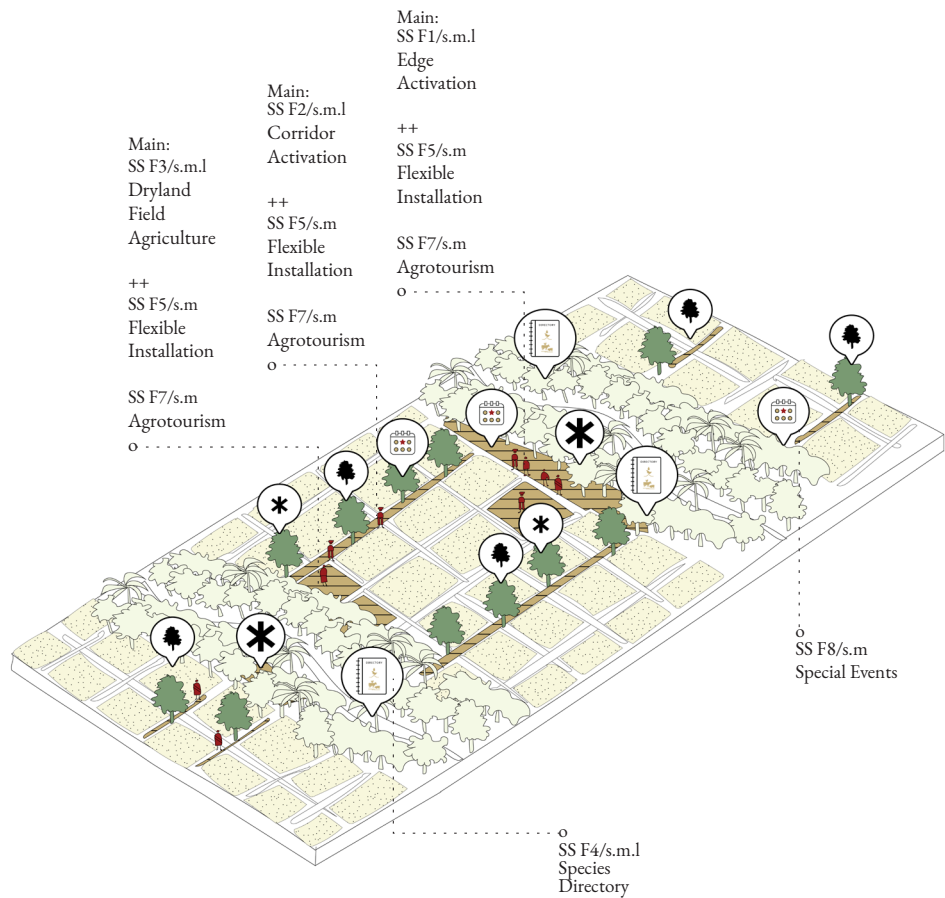
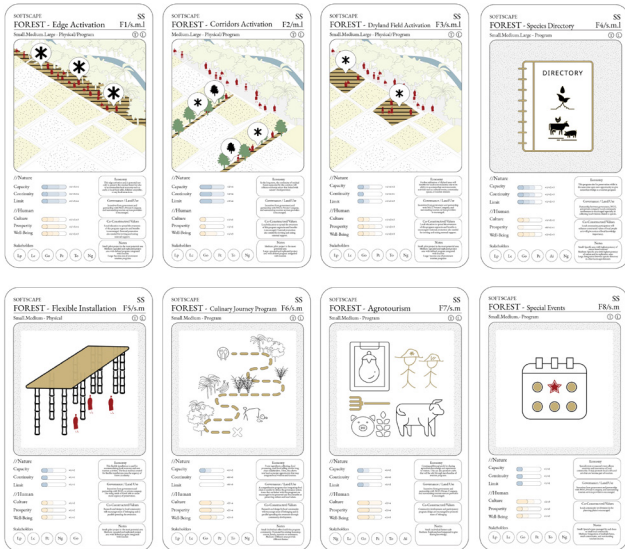




# 1. Transformation Kit Residual Forest Sub-System

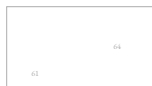
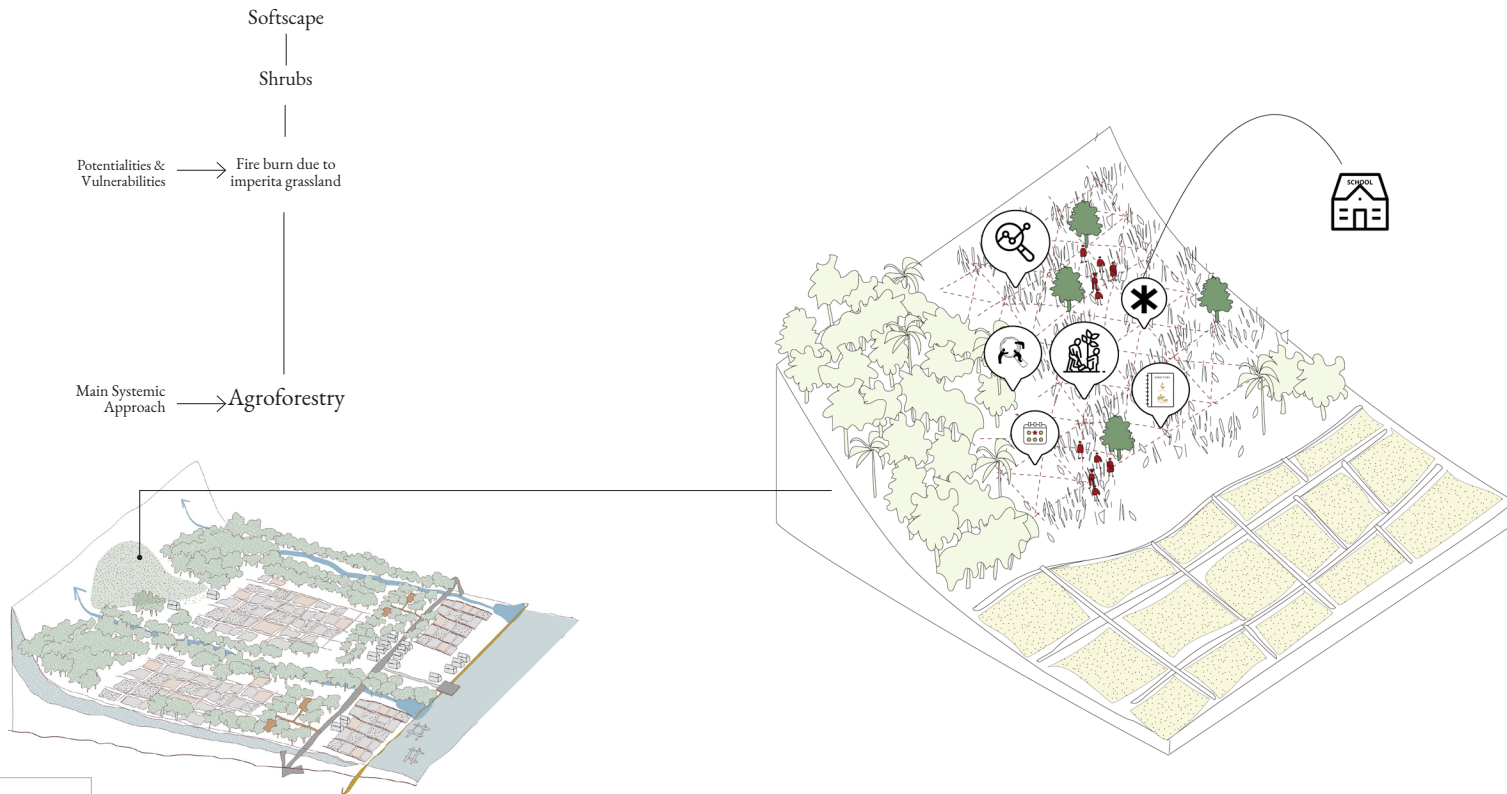
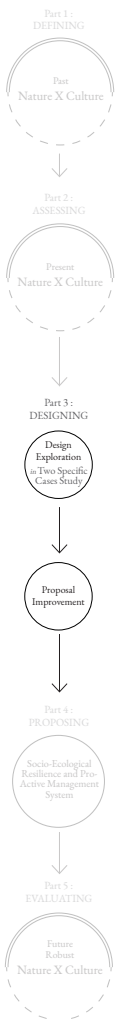


## Potential Transformation Kit

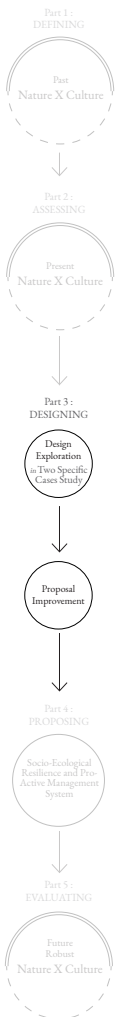


# 1. Transformation Kit

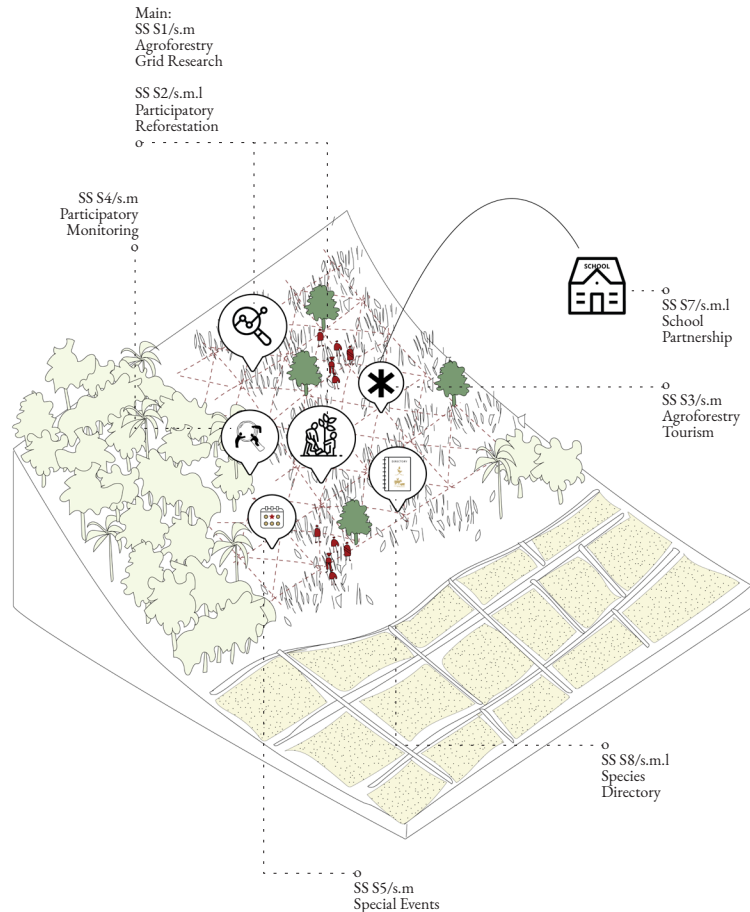
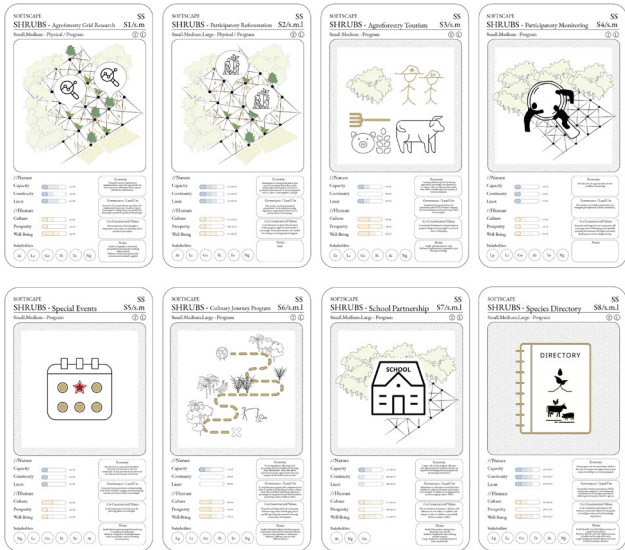
## Shrubs Sub-System



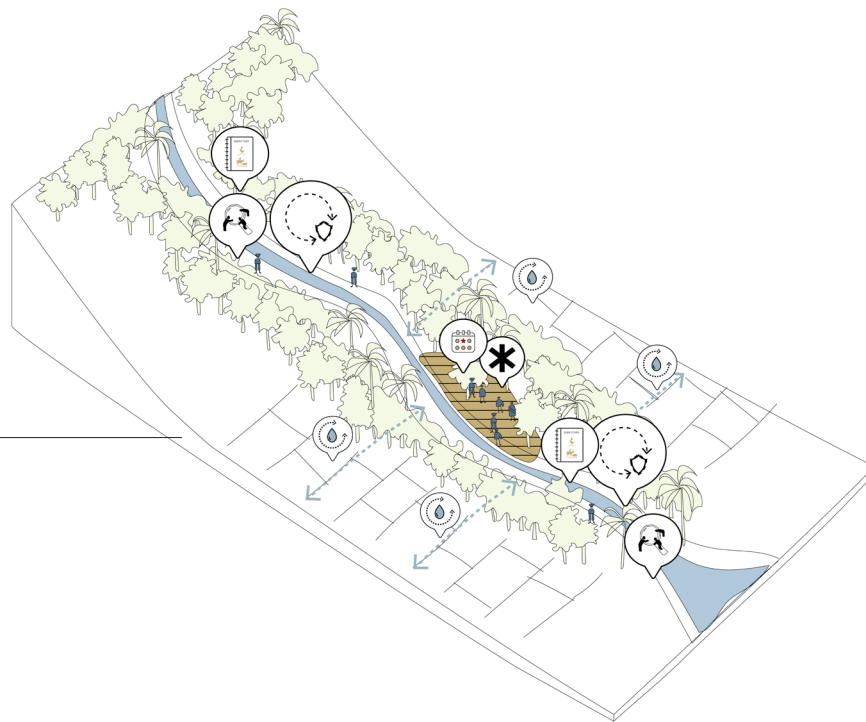
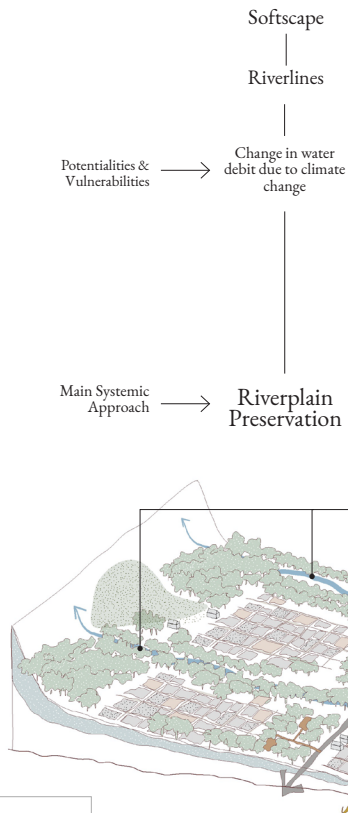
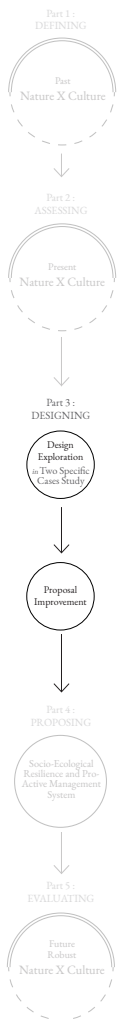
## 1. Transformation Kit

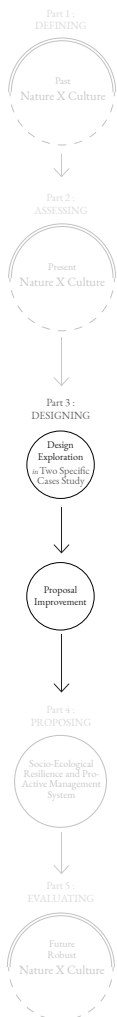


## Potential Transformation Kit



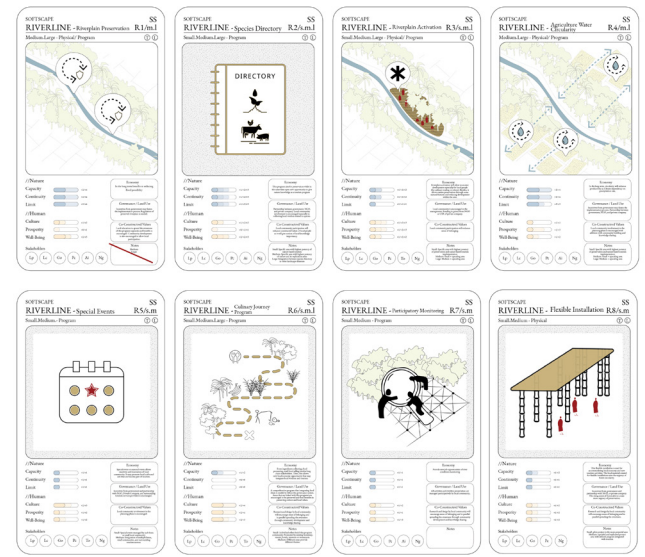
# 1. Transformation Kit Riverline Sub-System





# 1. Transformation Kit Riverline Sub-System

Potential Transformation Kit



Main:  
SS R1/m.l  
Riverline  
Preservation

SS R3/s.m.l  
Riverline  
Activation

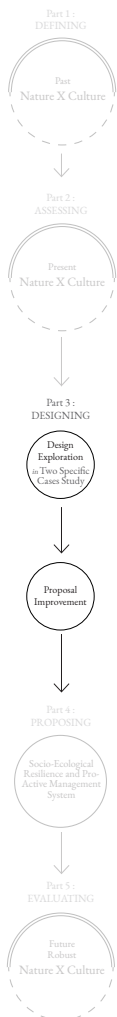
SS R7/s.m  
Participatory  
Monitoring

SS R4/m.l  
Agriculture  
Water  
Circularity

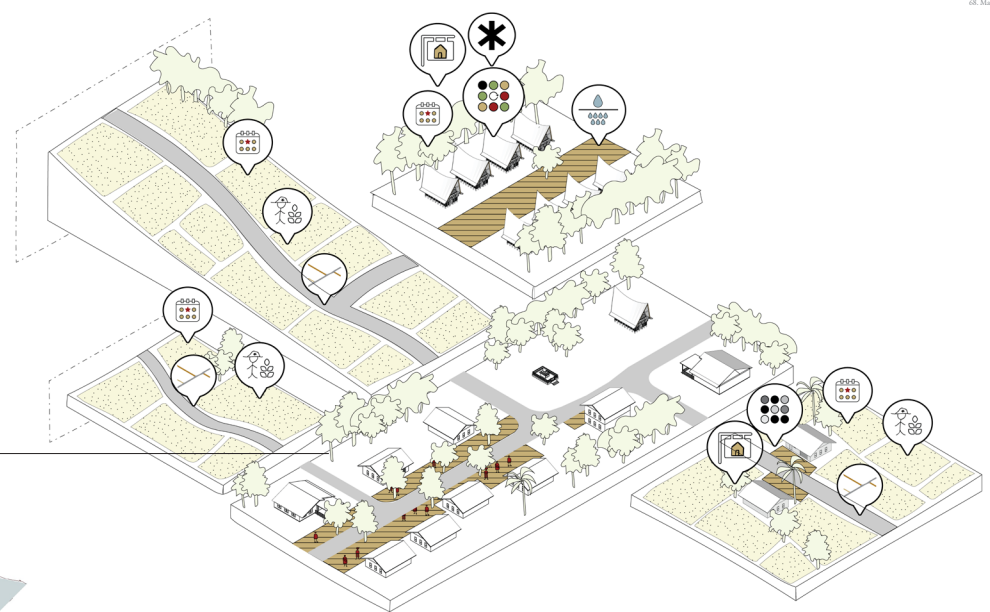
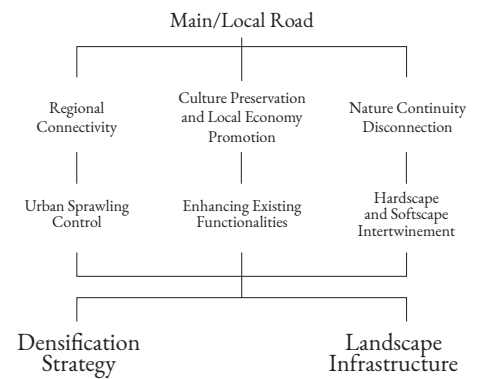
SS R2/s.m.l  
Species  
Directory

SS R5/s.m  
Special Events



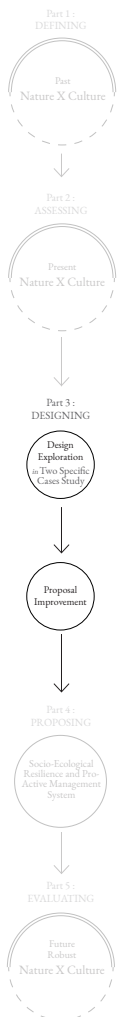


# 1. Transformation Kit Main/Local Road Sub-System



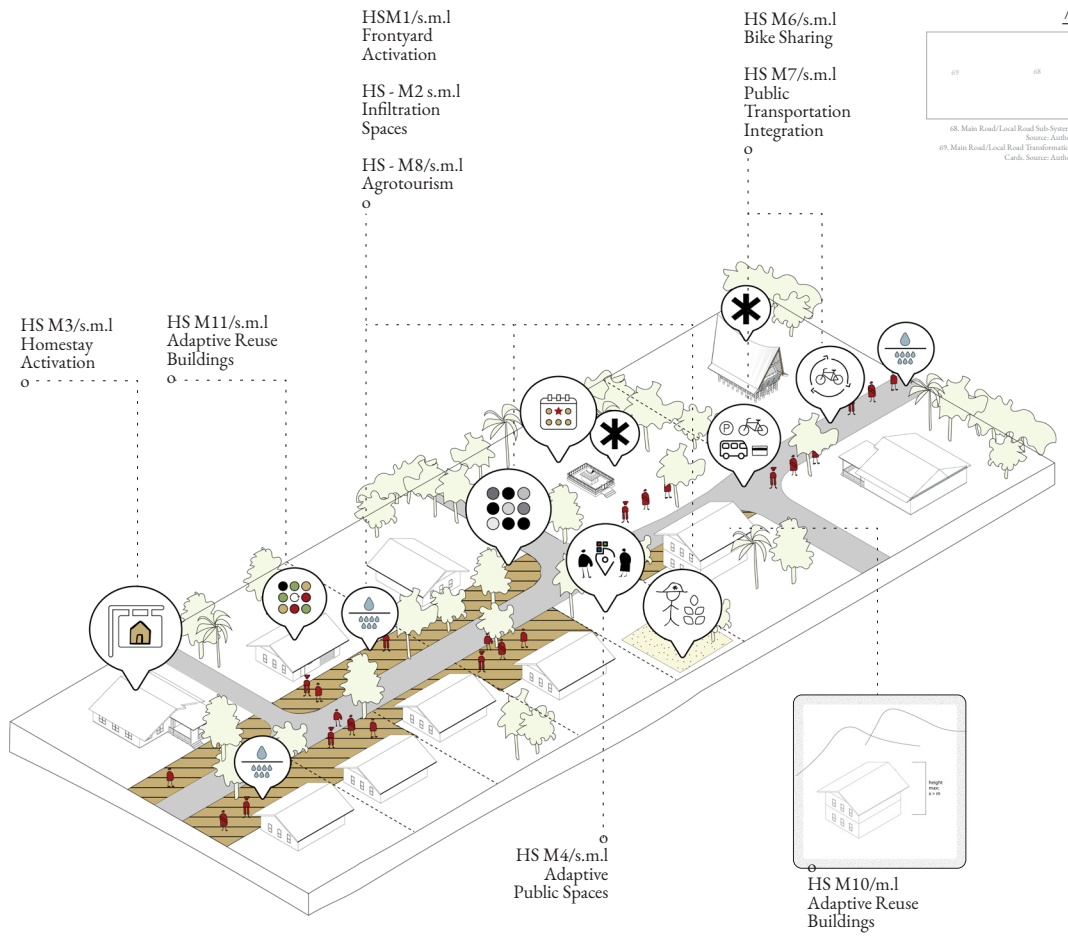
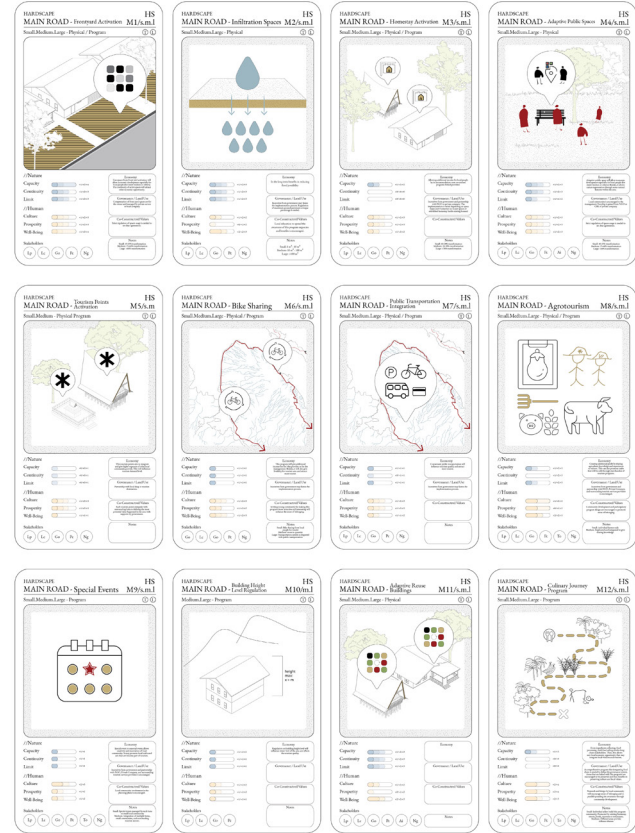
61. Biophysical Overall System. Source: Author  
68. Main Road/Local Road Sub-System. Source: Author

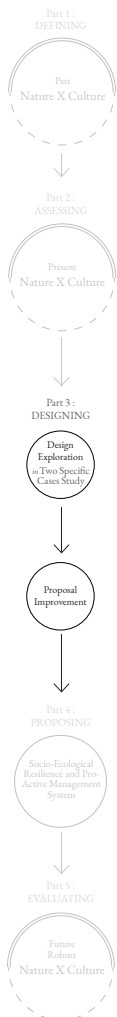




# 1. Transformation Kit Main Road Sub-System

## Potential Transformation Kit





# 1. Transformation Kit

## Local Road Sub-System

### Potential Transformation Kit

**TRANSFORM KIT LOCAL ROAD - Tourism Activation** 1.1/s.m.l

Need Medium-Large Physical Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Infiltration Spaces** 1.2/s.m.l

Need Medium-Large Physical Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Design-Program** 1.3/s.m.l

Need Medium-Large Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Species Directory** 1.4/s.m.l

Need Medium-Large Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Tourism Points Activation** 1.5/s.m.l

Need Medium-Large Physical Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Agrotourism** 1.6/s.m.l

Need Medium-Large Physical Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Software Journey** 1.7/s.m.l

Need Medium-Large Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Homestay Activation** 1.8/s.m.l

Need Medium-Large Physical Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Adaptive Reuse** 1.9/s.m.l

Need Medium-Large Physical Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

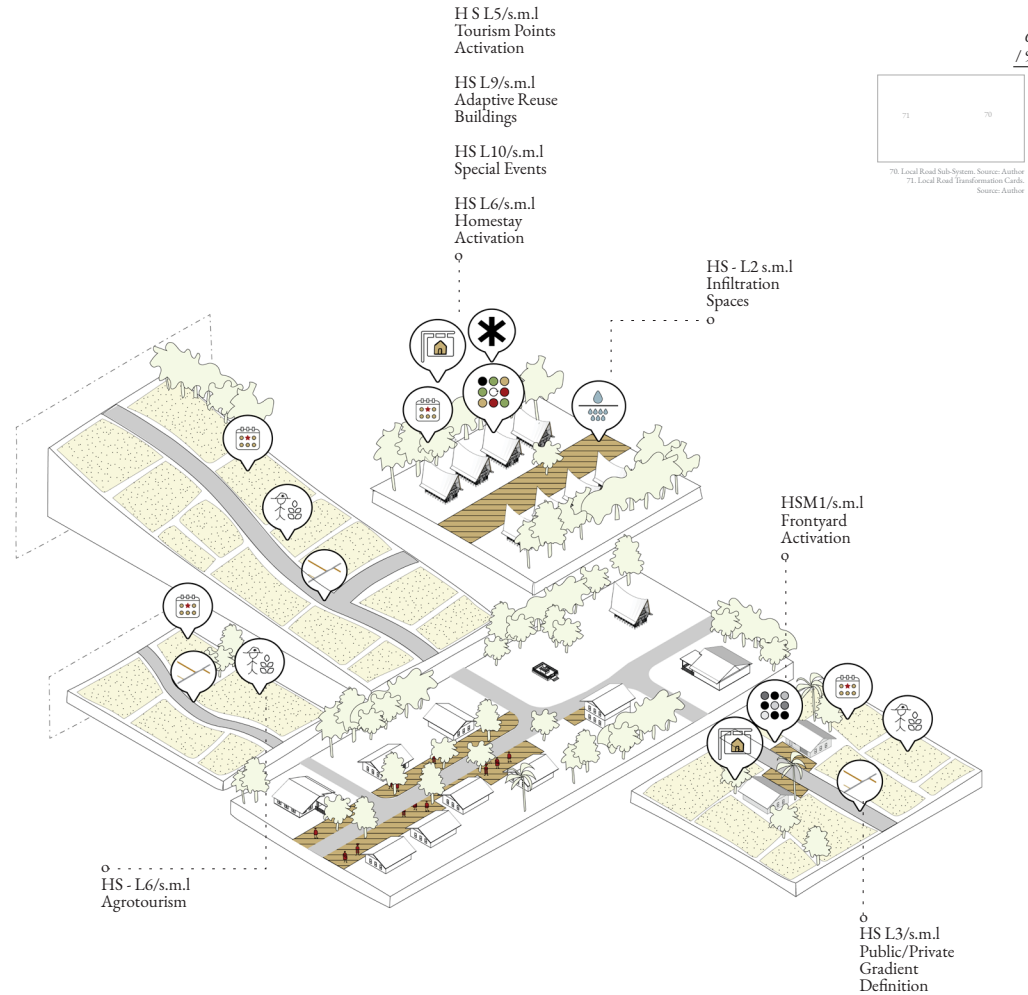
Initiatives: [Icons]

**TRANSFORM KIT LOCAL ROAD - Special Events** 1.10/s.m.l

Need Medium-Large Program

Capacity	Low
Complexity	Low
Scale	Low
Climate	Low
Ecology	Low
Propaganda	Low
Well-being	Low

Initiatives: [Icons]

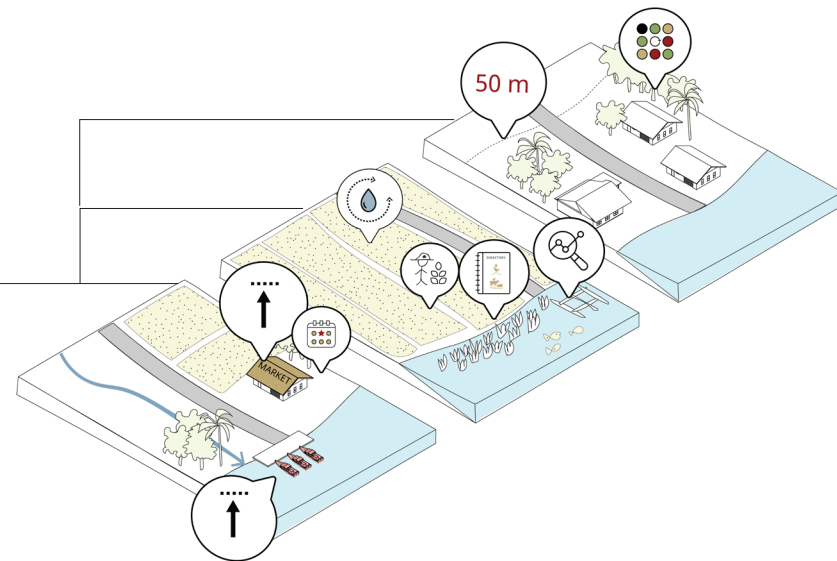
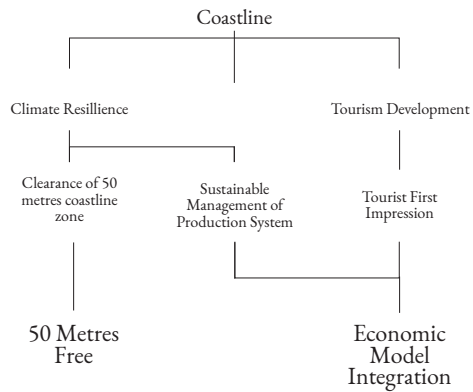
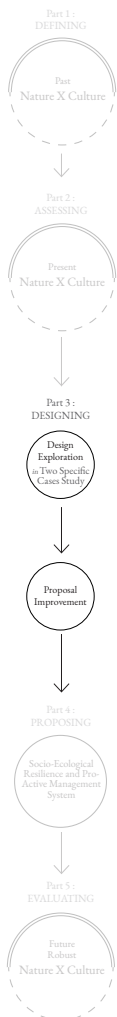






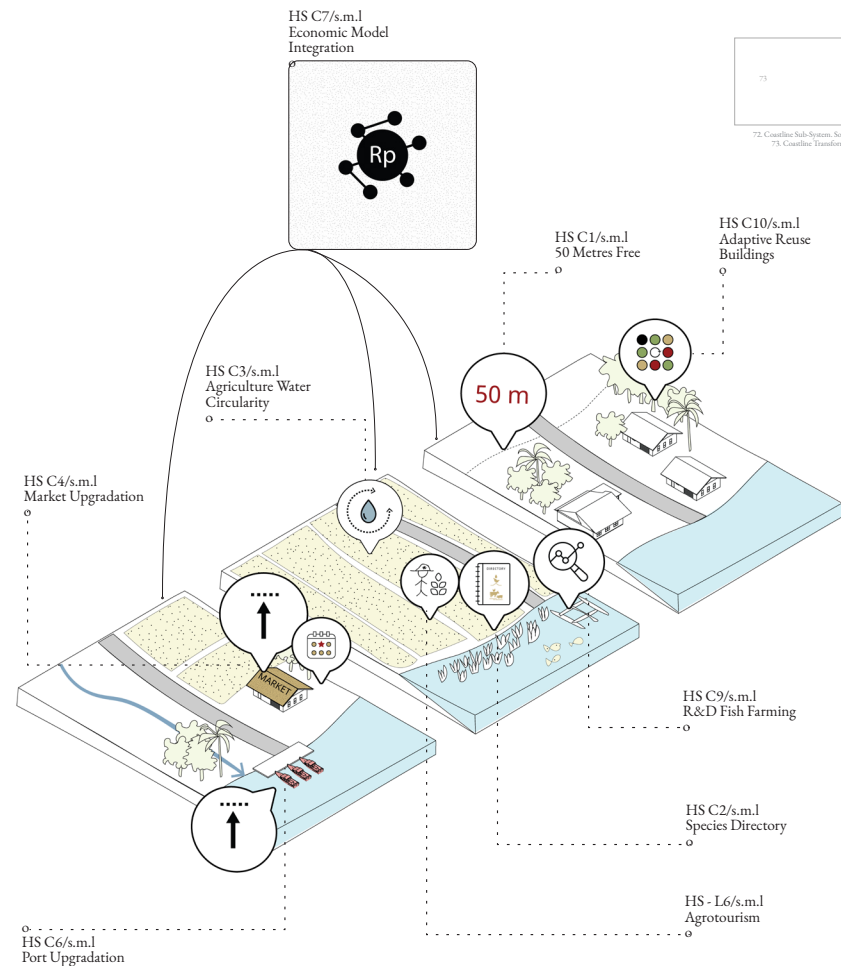
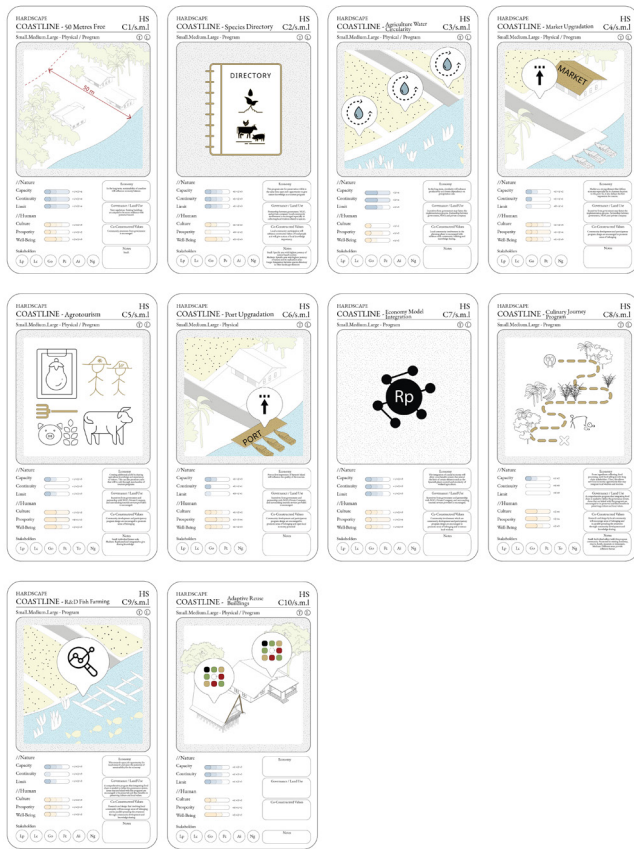
61. Biophysical Overall System. Source: Author  
72. Coastline Sub-System. Source: Author

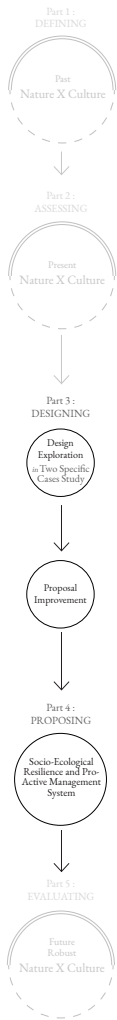
# 1. Transformation Kit Coastline Sub-System



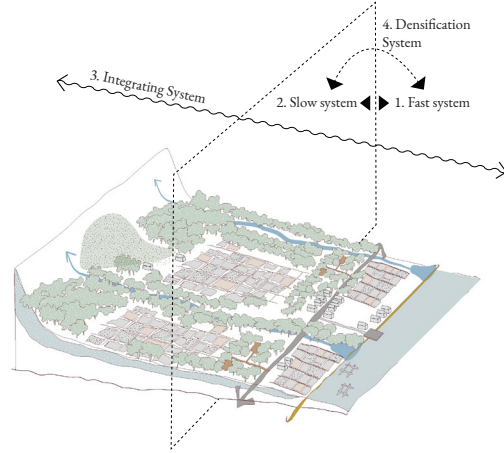
# 1. Transformation Kit Coastline Sub-System

## Potential Transformation Kit





System Characteristic on Site



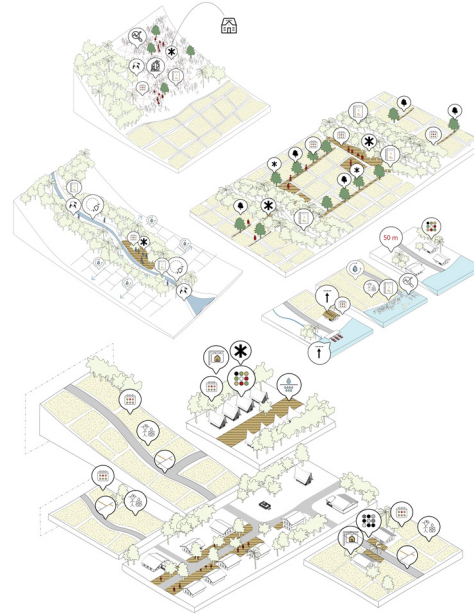
## 2. Transformation Kit Implementation

1. Slow System
  2. Fast System
  3. Integration System
  4. Densification System
- (construction at sub-chapter 6.4)

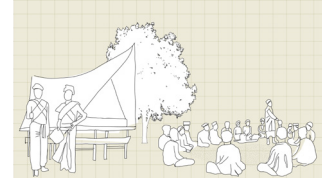
1. Ambarita Village
  2. Cinta Dame Village
- (analysis at sub-chapter 6.3.)

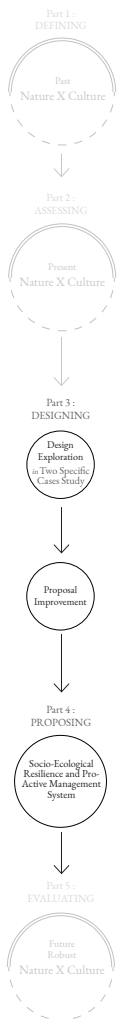
1. Community Drivers
  2. Individual Drivers
  3. External Drivers
- (analysis at sub-chapter 6.3.)

Biophysical Sub-System



Social Drivers



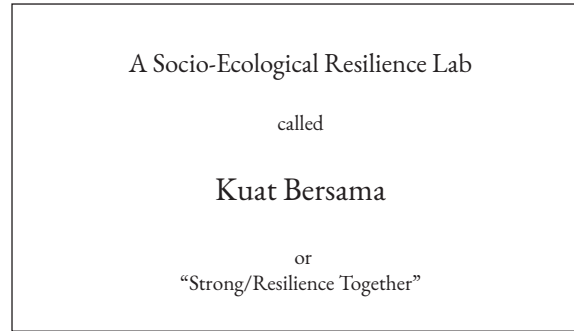
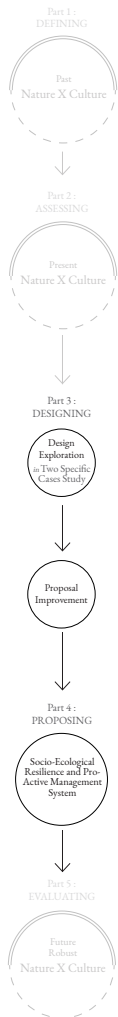


## 2. Design Simulation

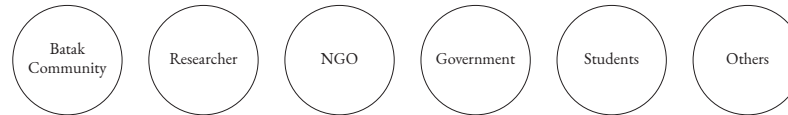
### Mr. Robinson from Lumbantapian

1. He is the main heir of Lumbantapian
2. The condition of his agriculture segment is very depending to rain water.
3. Have had experience on agriculture failed for one year and feel clueless about this
4. In about 20 year ago, irrigation water had been implemented but failed in the maintenance and now is discontinued
5. He really want to do something more, really see tourism can be a good approach
6. But, his village location is close to the competitive Huta that has been revitalized with suport of National Government
7. So, he feels clueless on what should he and his community do

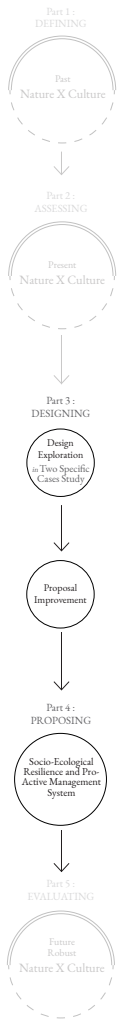
## 2. Design Simulation



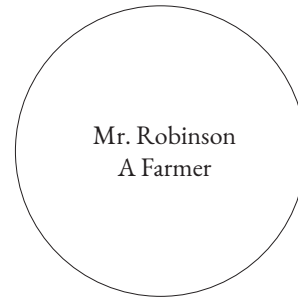
Collaboration with:



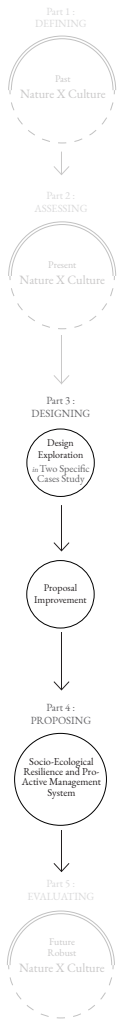
## 2. Design Simulation



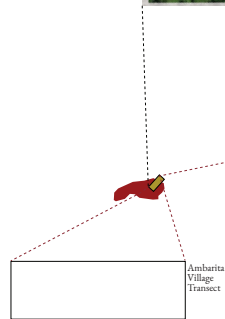
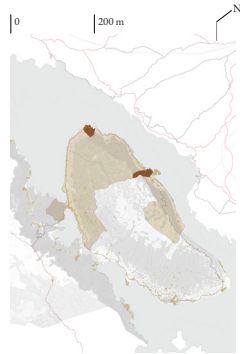
Then, Mr. Robinson goes to the Kuat Bersama together  
with other Lumantapian's representatives



## 2. Design Simulation

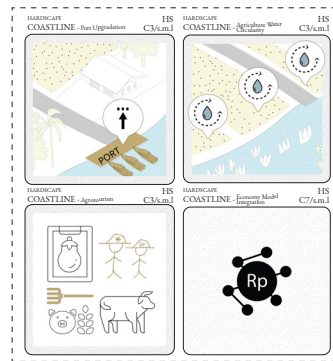
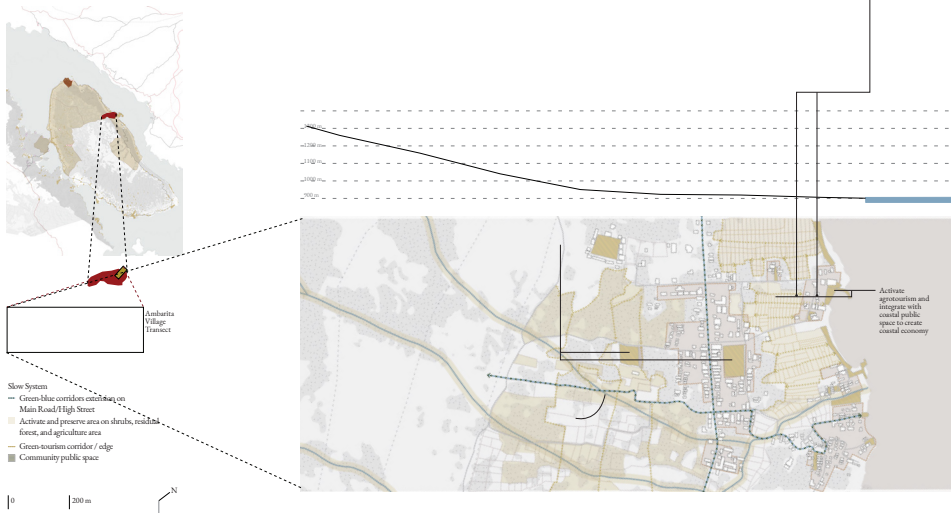
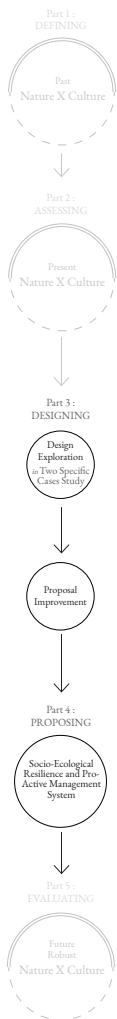


He was asked, “Where is your targetted area that you want to transform?”

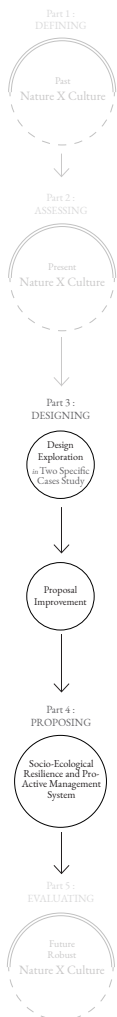


## 2. Design Simulation

His focus is in a **slow system**  
with a **critical node**







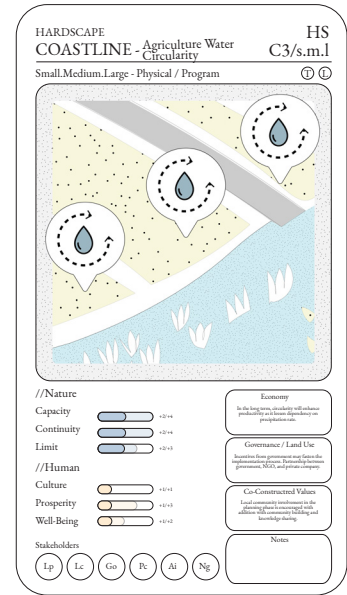
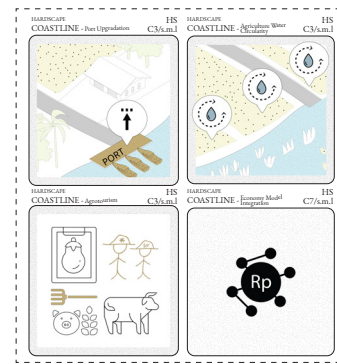
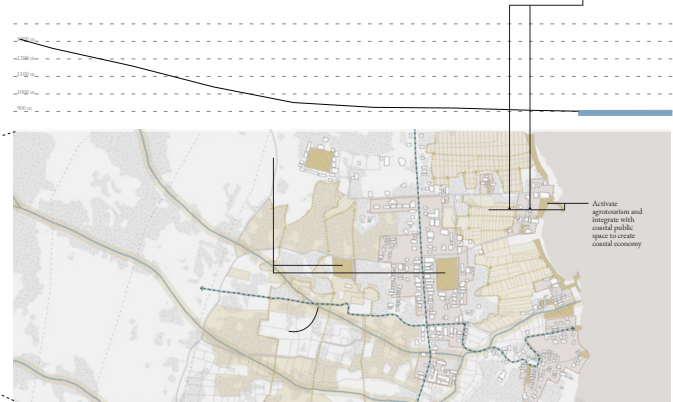
## 2. Design Simulation

And, he plan to focus on the specific transformation kit of **Agriculture Water Circularity**



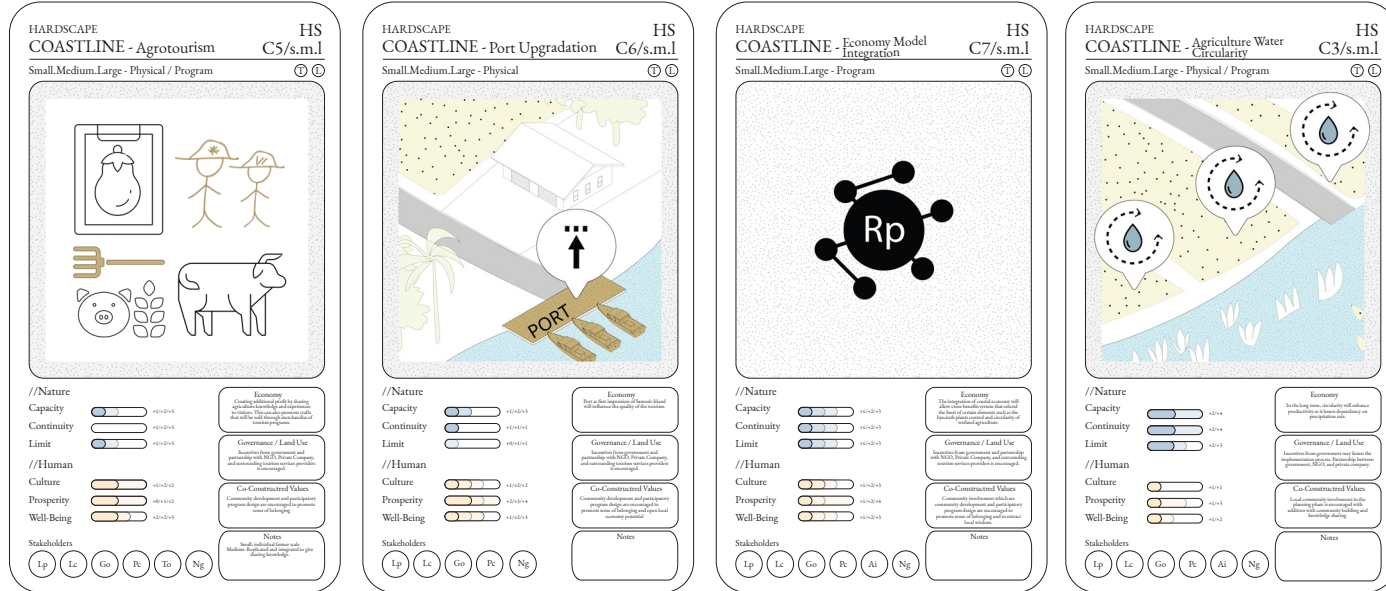
Ambarita Village Tract

- Slow System
- Green-blue corridor on Main Road/High Street
  - Activate and preserve area on shrubs, roads, forest, and agriculture area
  - Green tourism corridor / edge
  - Community public space



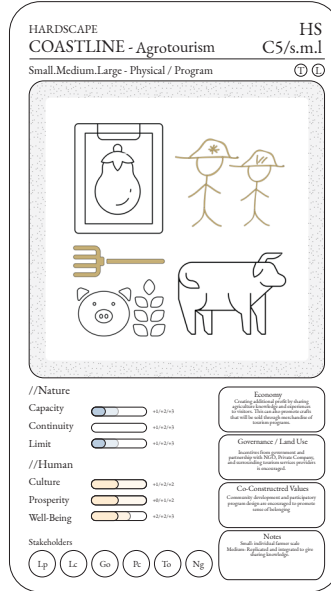
## 2. Design Simulation

To make his goal achieved, he need **a collaboration team** to address interdependency elements at the location by combining multiple kits

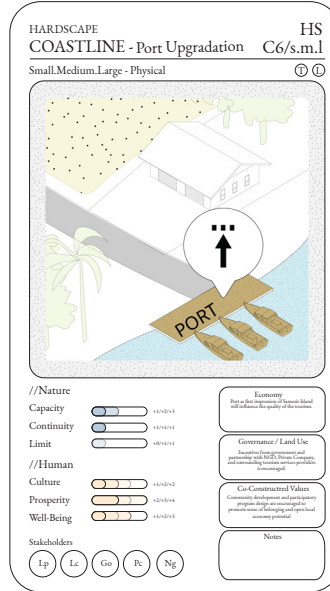


## 2. Design Simulation

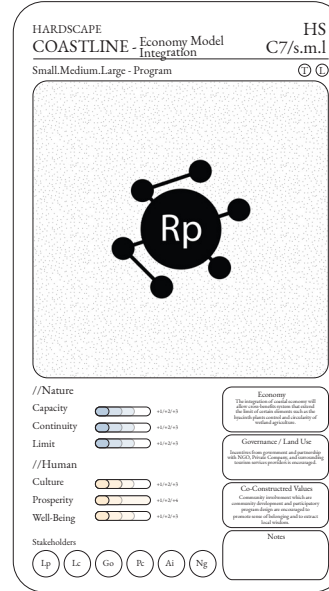
Also, he need to see his project whole scheme with main actions



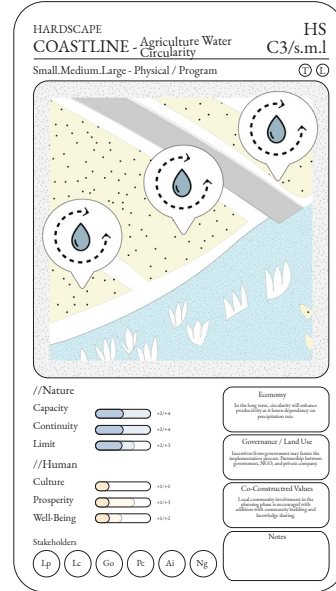
Preparation: 10%  
Team member: 2/8  
Funding: 50%



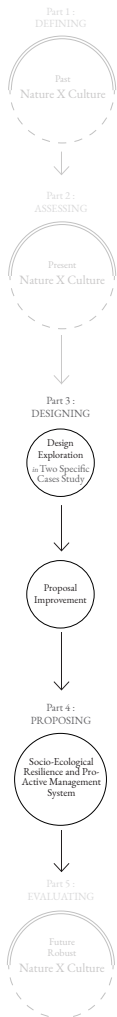
Preparation: 0%  
Team member: 1/4  
Funding: 70%



Preparation: 10%  
Team member: 2/8  
Funding: 70%

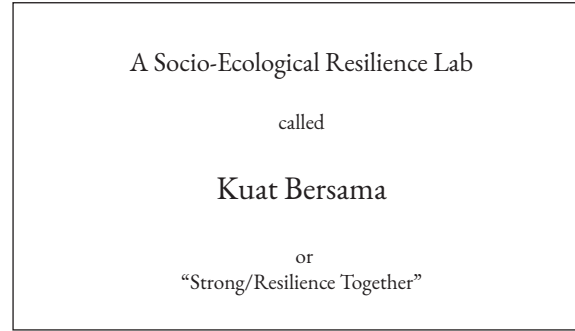


Preparation: 10%  
Team member: 5/8  
Funding: 70%

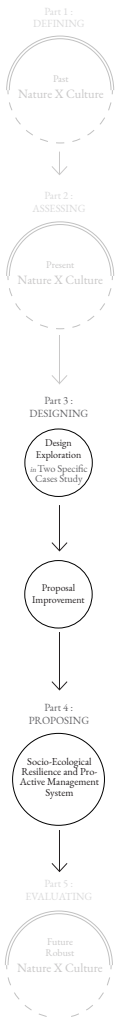
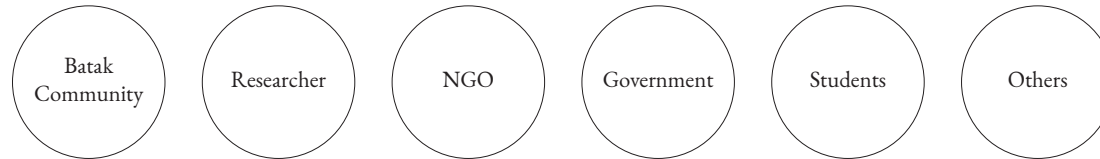


## 2. Design Simulation

With the help of the incubation, Mr. Robinson knows who his team partners. The projects then formulated and implemented collaboratively.



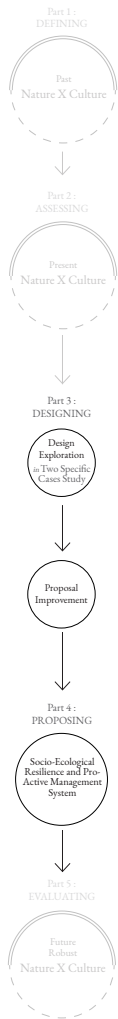
Team



Then, within 3-5 years, due to his team persistence, a new socio-ecological environment built in Mr. Robinson area.



## 2. Design Simulation

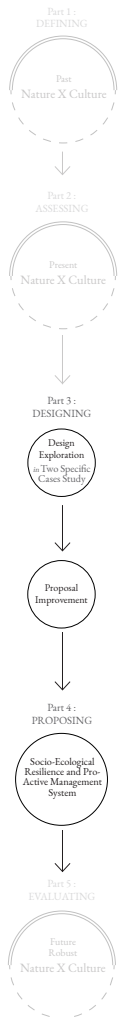


By seeing Mr. Robinson good work. Ms. Robinson and Mr.  
Andre also want to participate

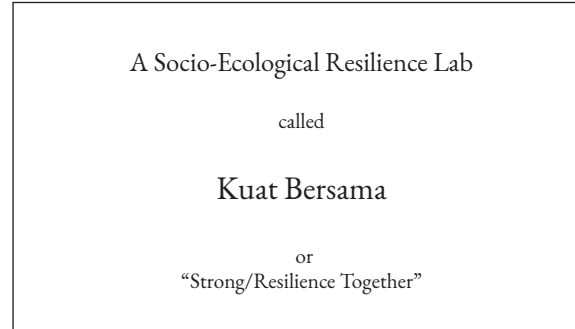
Ms. Robinson  
The head of women  
organization or PKK  
(Pembinaan Kesejahteraan  
Keluarga)

Mr. Andre  
A very active young adult

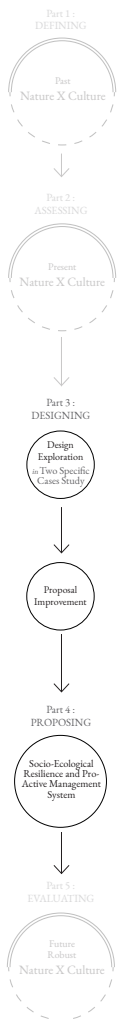
## 2. Design Simulation



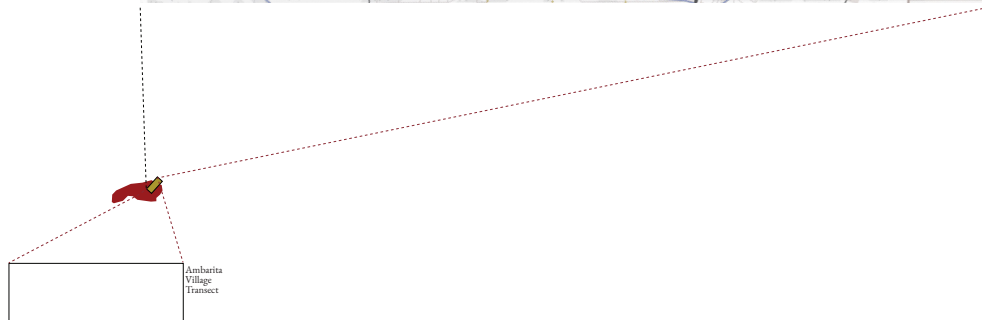
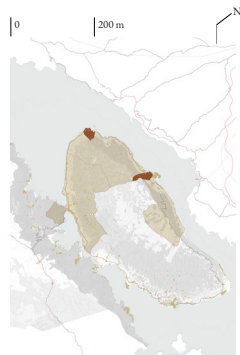
They go to the Incubation with have no preference on the focus area



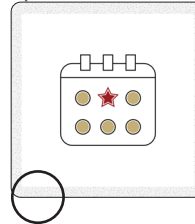
## 2. Design Simulation



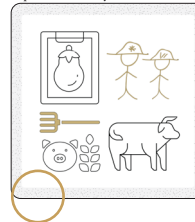
Then, they are suggested to become part of Integrating System



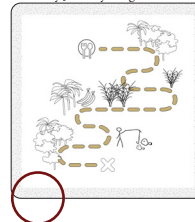
Special Events



Species Directory

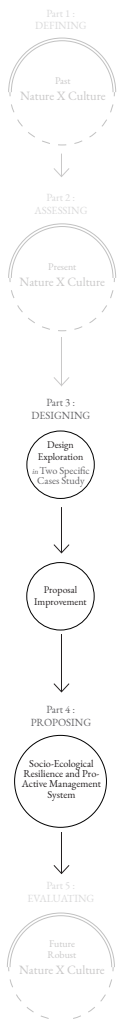


Culinary Journey Program





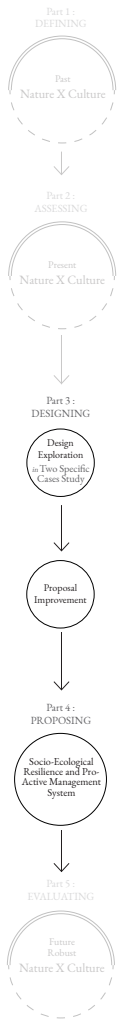
## 2. Design Simulation



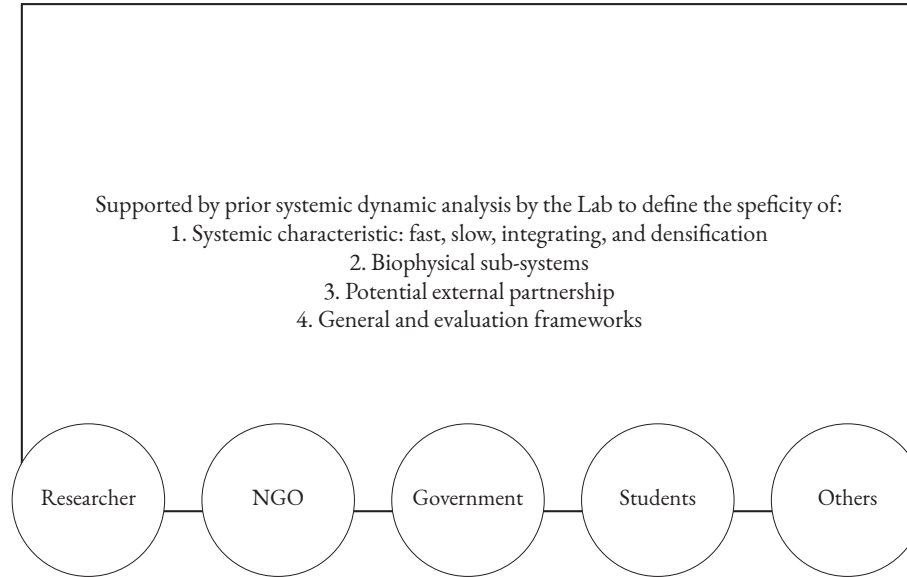
And they now know that they are part of something bigger!

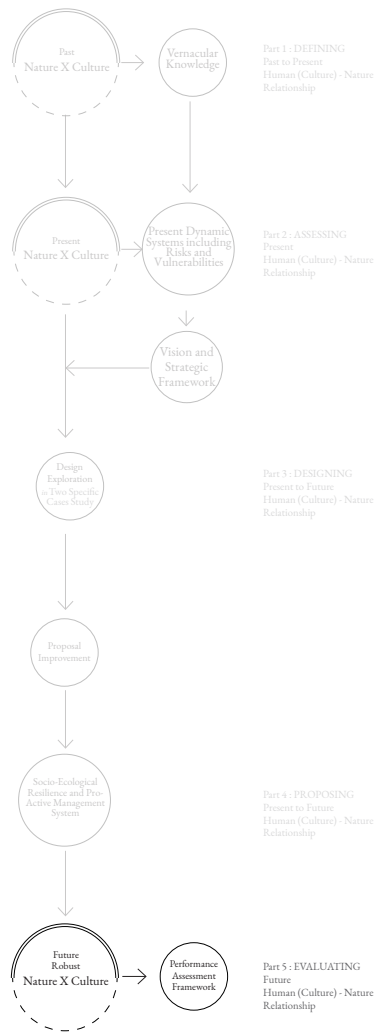


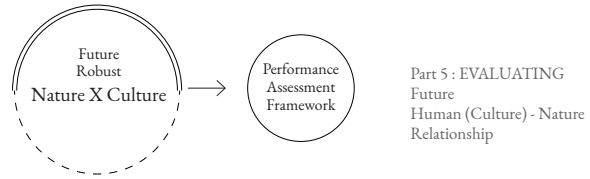
## 2. Design Simulation



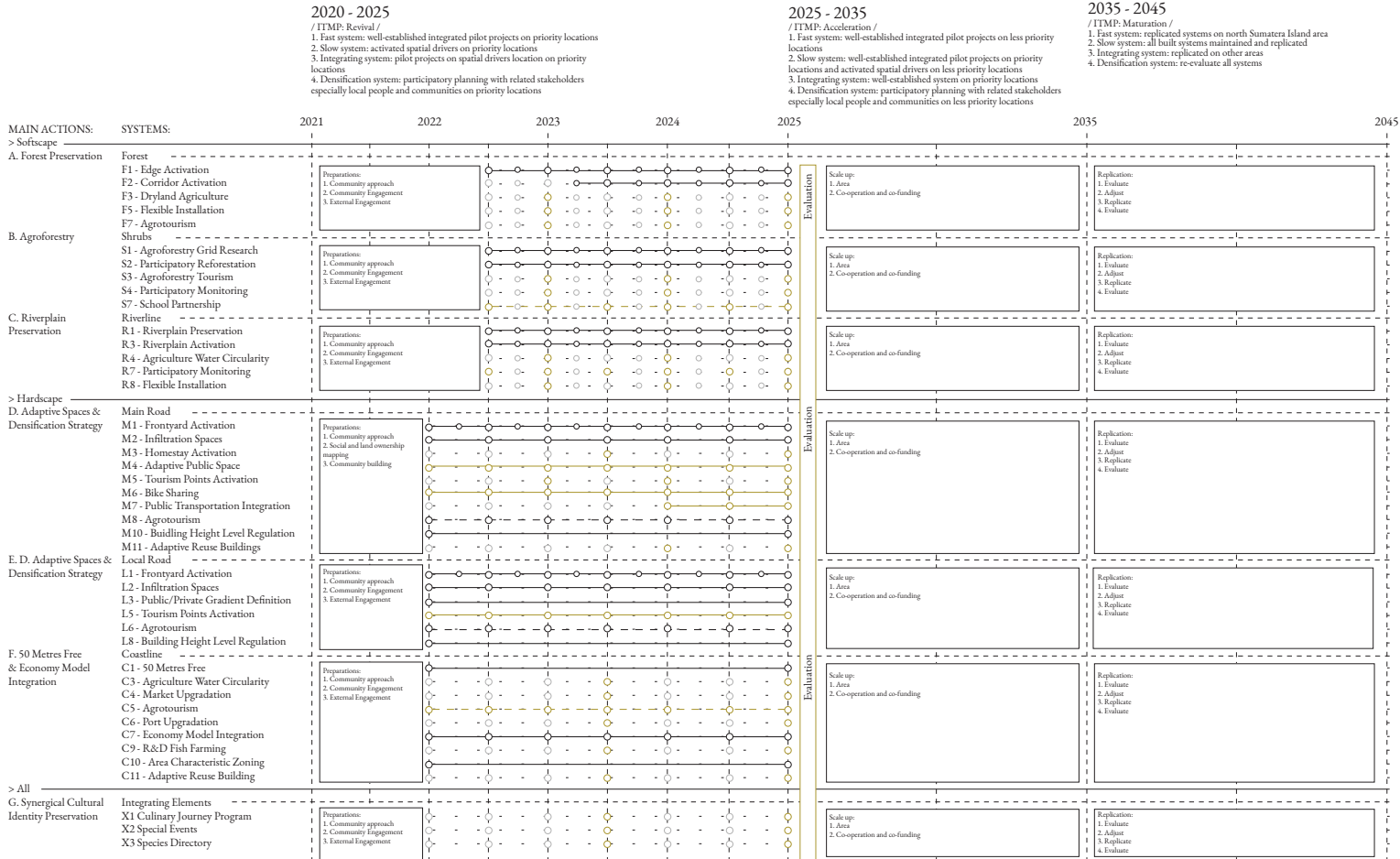
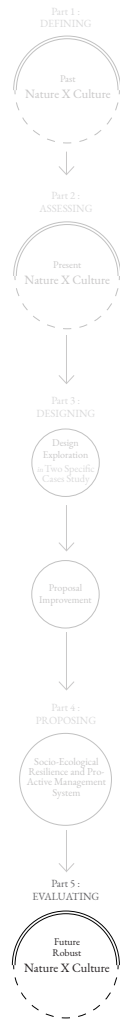
This simulation is from the local perspective







## 4. Phases and Evaluation

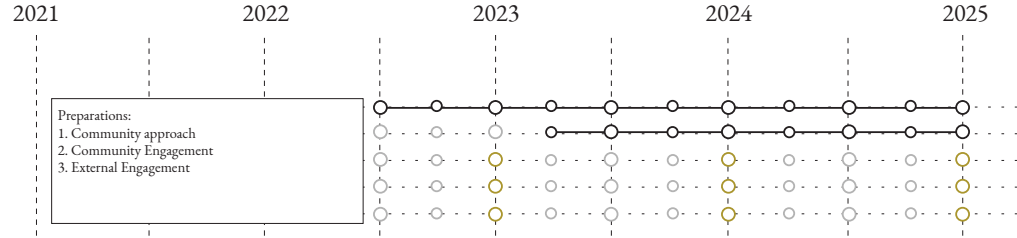


## 4. Phases and Evaluation



### SYSTEMS:

Forest  
F1 - Edge Activation  
F2 - Corridor Activation  
F3 - Dryland Agriculture  
F5 - Flexible Installation  
F7 - Agrotourism

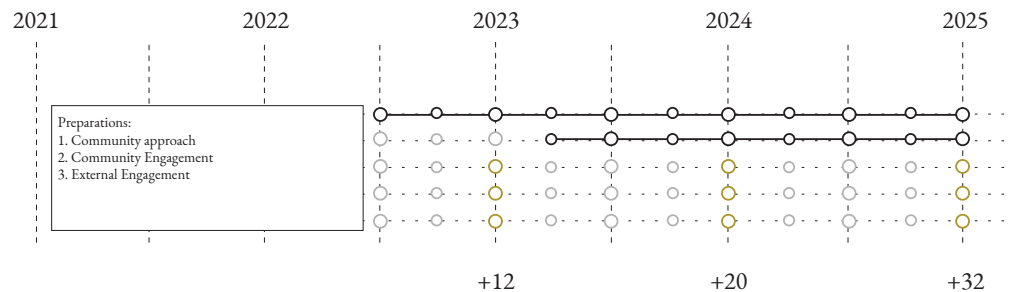


## 4. Phases and Evaluation



### SYSTEMS:

Forest  
F1 - Edge Activation  
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Presentation Structure:

A. Introduction

B. Problematization and Research Questions

C. The Research

**D. Conclusion**



## Conclusion

