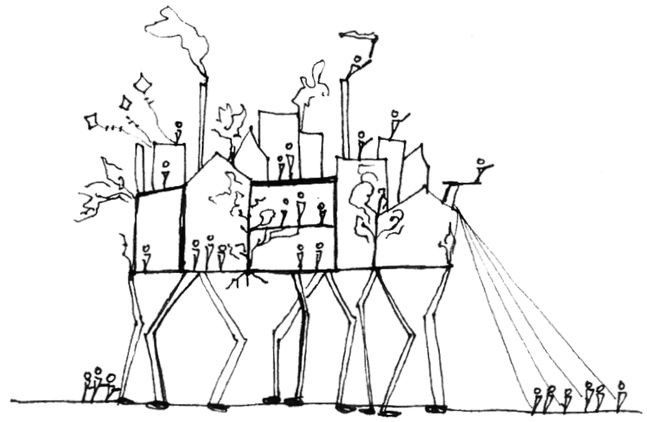
DESIGNING the wild WITHIN



using architecture to reconnect worlds

own image

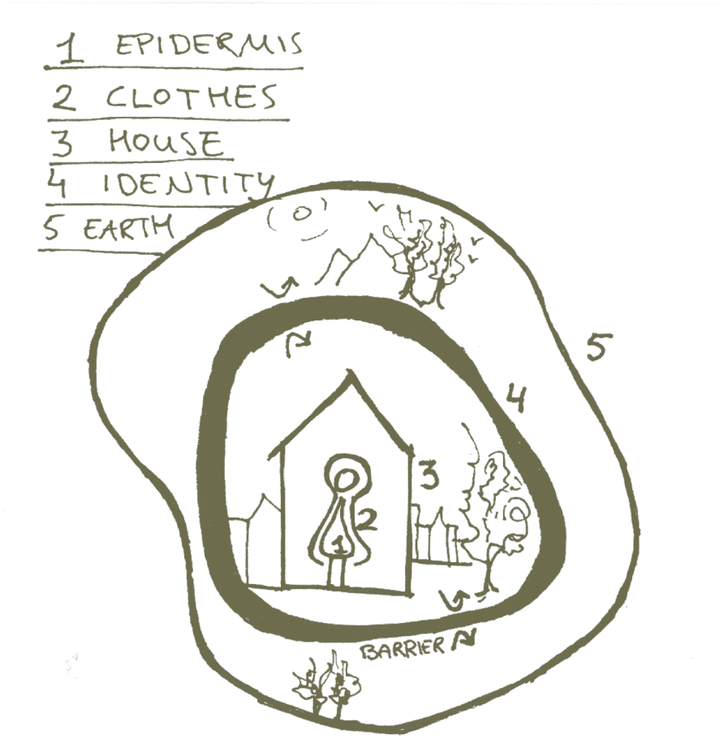
I believe a leaf of grass is no less than the journey-work of the stars

Song of Myself,
Walt Whitman, 1982

own image

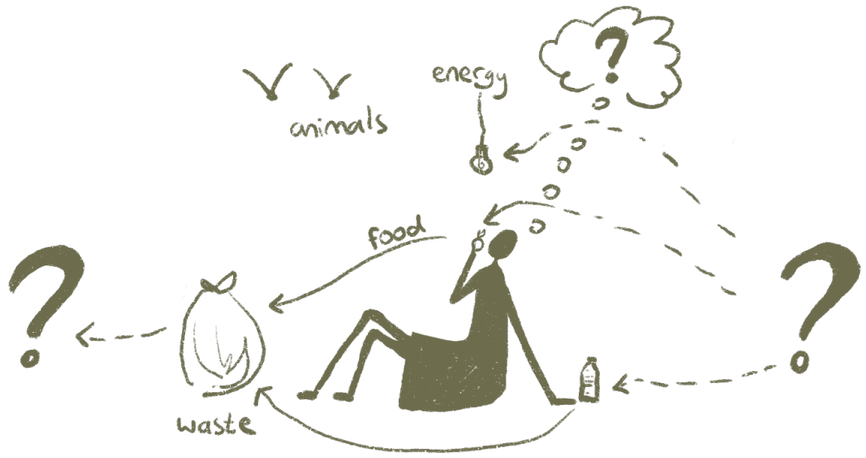
Research
- Problem statement
- Objective
- Theoretical framework
- Methodology
- Literature review
- Case study analysis
- Concluding strategies

Design
- Program of requirements
- Site analysis
- Implementing strategies



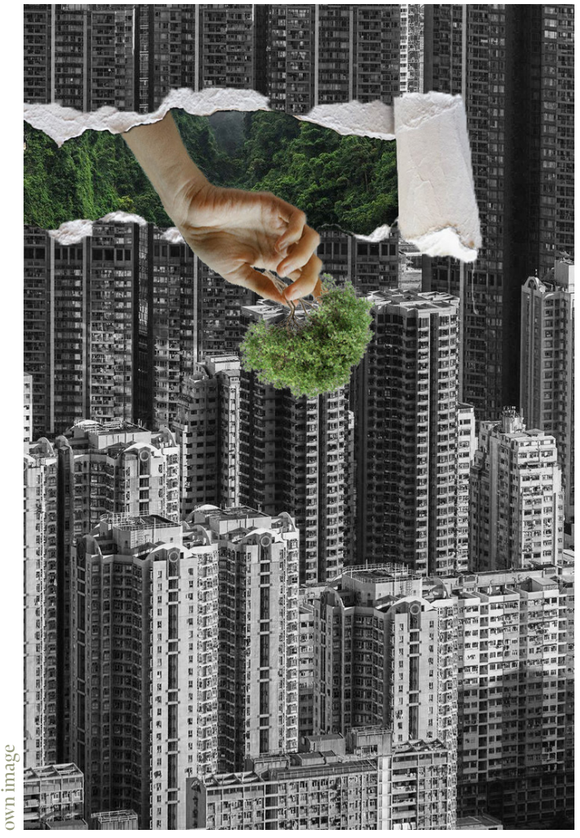
Problem of the city: it made a barrier -

adaptation on Hundertwasser's five skins of humanity (own image)



'Unknown makes unloved and unloved makes unprotected'

Kaat Biesemans-Hoogewijk



own image

Urban residents are increasingly alienated from the natural world, which contributes to the climate crisis. A shift in how we live and build is vital to coexistence with our surrounding natural world.

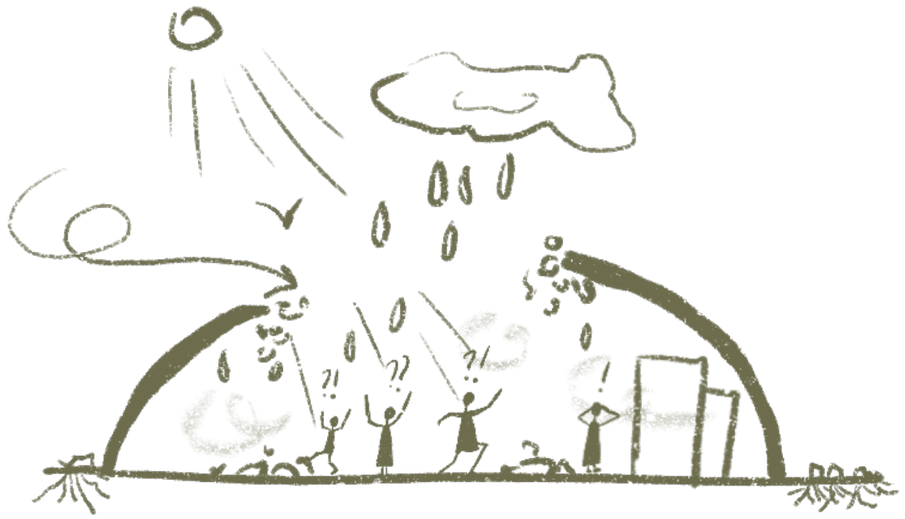
Eco-centric discourse:

People are inseparable from nature and separation from it leads to environmental problems.

Climate & Society, O'Brien & Leichenko

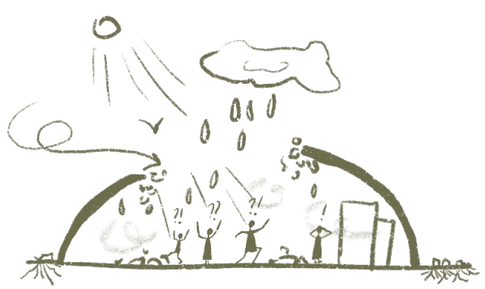
Unprotected living with elements
In the past

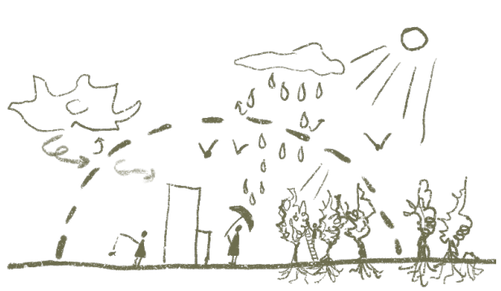
City as protection
Current state



Chaos when protection breaks
Possible future

Learning to live with elements in secure settings
Possible future

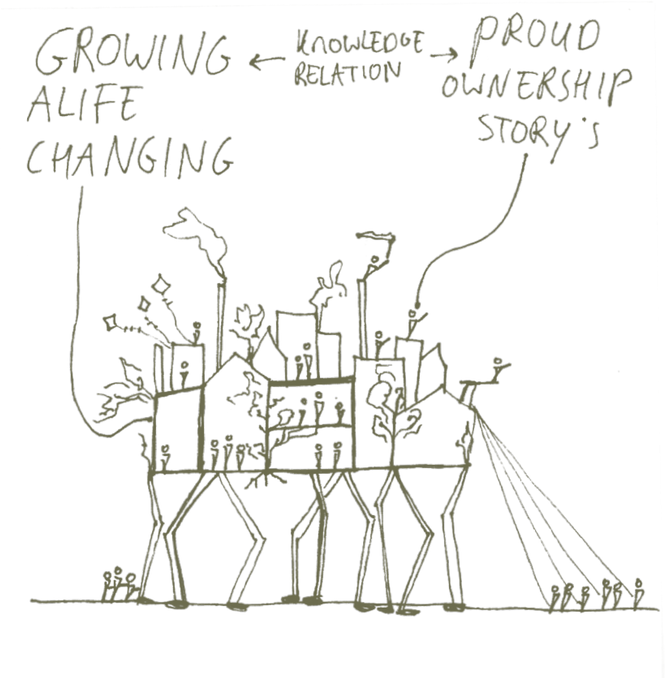




own image

‘The first step in saving nature is the rewilding of our own mind’

Kristine McDivitt Tompkins



Creating strategies to implement in designs
Leading to a system where resillient people have a reciprocal relation with nature

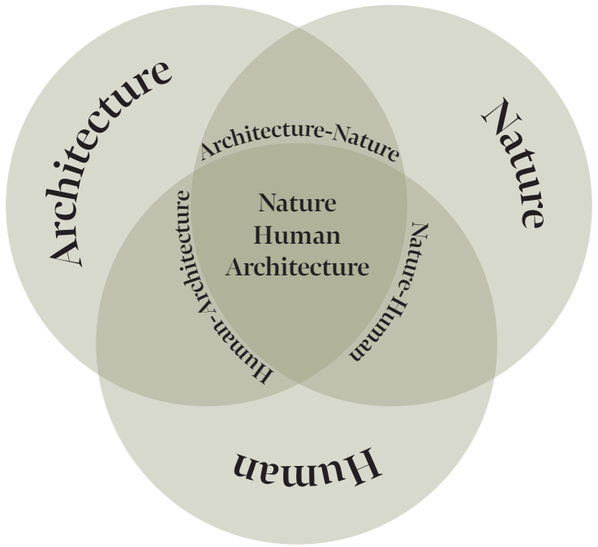


Diagram Theoretical Framework
Different factors within the research: Architecture, Nature and Humans (own image)

1. Human-Nature
- *Climate & Society (Leichenko & O'Brien, 2024) and Edward Wilson's Biophilia Hypothesis (1984) frame the human-nature relationship as* ***interconnected,*** *emphasizing ecological care and integration.*
- *Indigenous perspectives highlighted by Kimmerer's Braiding Sweetgrass (2015) and Watson (2020) provide insights into* ***reciprocal relationships*** *with the environment.*

2. Nature-Architecture
- *Hundertwasser's "five skins of humanity" and his philosophies on rewilding urban spaces (Restany, 2000) inform the* ***integration of nature and architecture.***
- *Day & Gwilliam (2019) critiques superficial sustainability practices, emphasizing the need for deeper* ***ecological connections*** *in design.*

3. Architecture-Human
- ***Participatory*** *and adaptive design theories, such as those proposed by N.J. Habraken (1972) and Yona Friedman (2019), guide the emphasis on user engagement and flexibility.*

own image

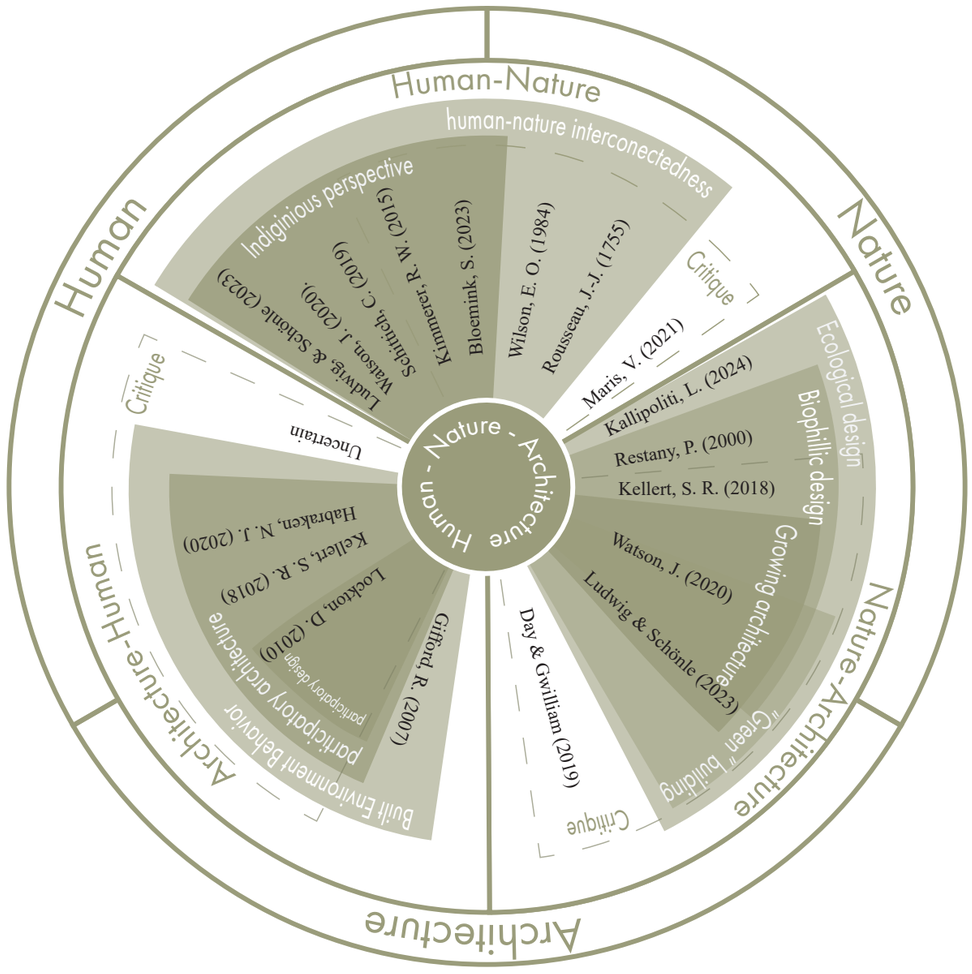
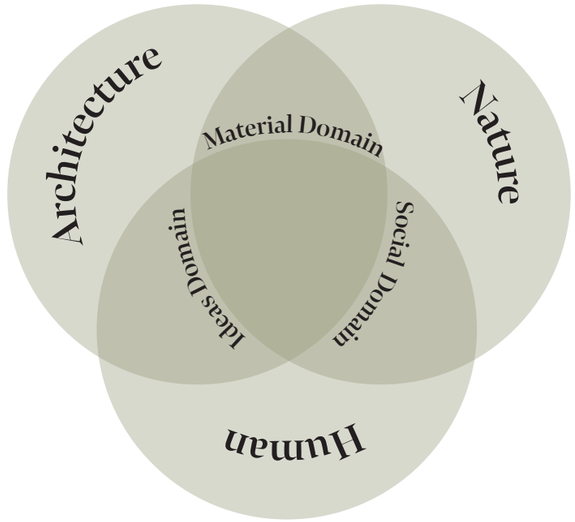


Diagram Theoretical Framework

The diagram shows the theories found in the relationships between humans, nature and architecture. Below the different theories are listed the main sources and a critique of the theory (own image)



Domains derived from the different theories

From the combination Architecture-Nature-Human are the domains Material, Idea Social derived (own image)

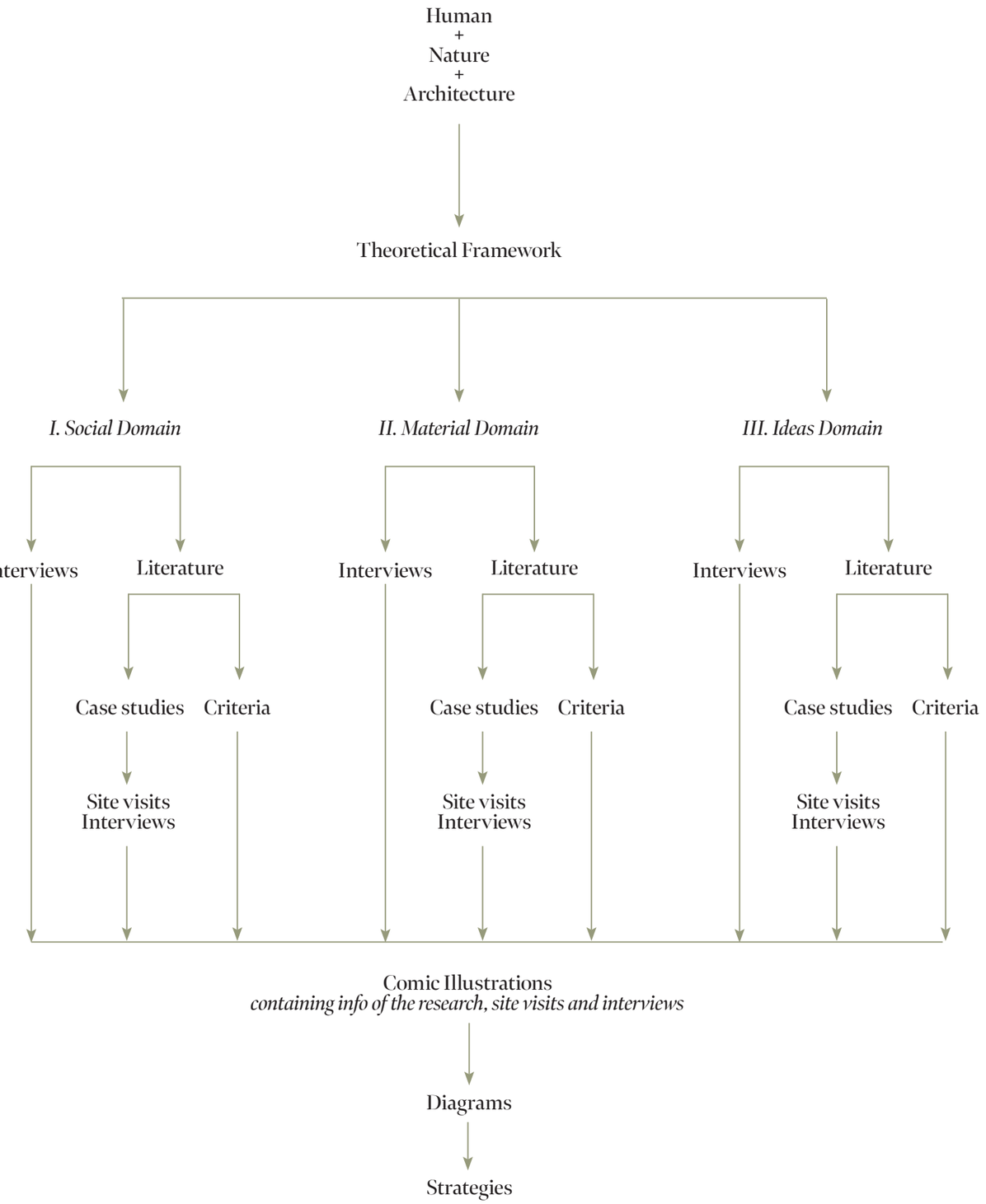


Diagram of methodology (own image)

Criteria

Lenses through which to research the case studies.
Got from the literature of different domains.

Case studies

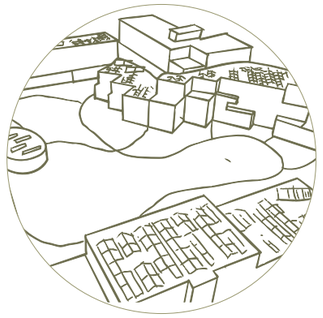
- *Close to the Netherlands*
- *Tour or visit possible*
- *Contact possibility*

De Aardehuizen
Olst - Netherlands

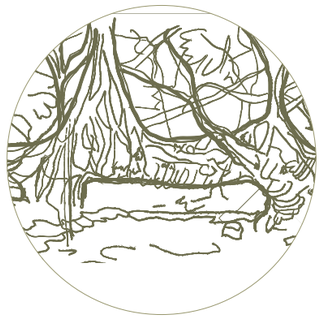
The Social Domain

Community
Active participation in the design and use of spaces fosters ownership, ecological awareness and a sense of belonging.

Reciprocal relationship with nature
Designs should incorporate visible, functional natural systems that encourage interaction and care for the environment.



De Groene Mient
Den Haag - Netherlands



Living Root Bridge
India

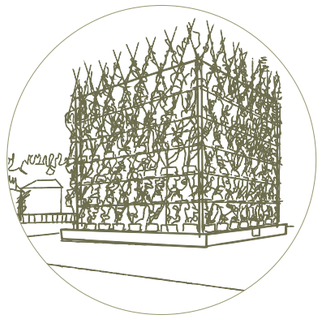
Domain of Materiality

Sustainability

Designs should prioritize durability and low maintenance, ensuring that they can endure ecological changes and human use without requiring constant intervention.

Natural Elements

Materials and structures should incorporate living or organic components that contribute actively to the building's function and ecological harmony.



Plane Tree Cube
Nagold, Germany

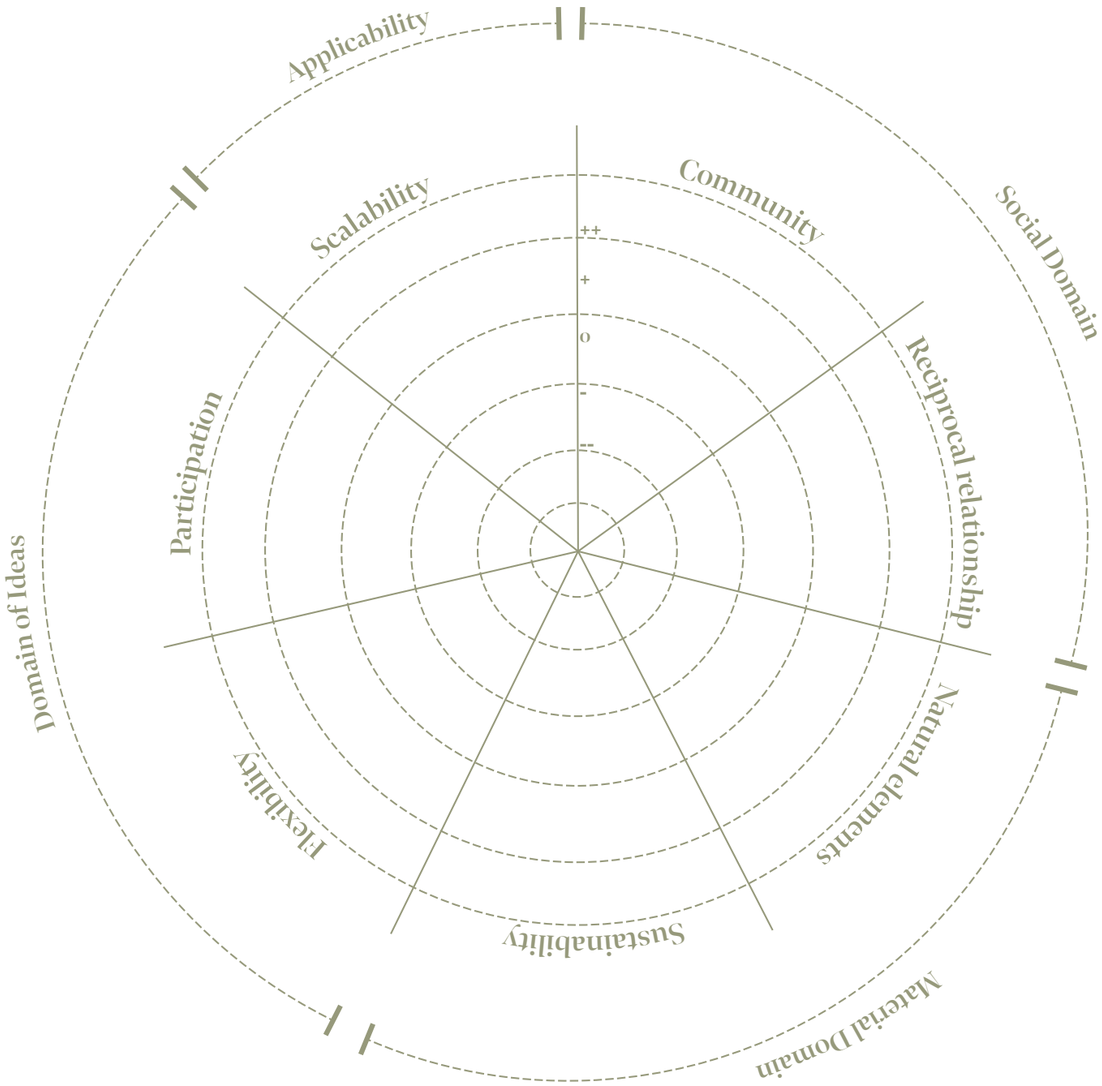
La MéMé
Brussels - Belgium

Domain of Ideas

Participation
The active involvement of residents, craftsmen, and communities in the design and construction process fosters a deeper sense of ownership and connection to the built environment.

Flexibility
Architectural designs should allow for adaptability, enabling spaces to evolve in response to changing needs and behaviors over time.

De Zilvervloot
Dordrecht - Netherlands


Applicability
Scalability
Community
Social Domain
Participation
Reciprocal relationship
Domain of Ideas
Flexibility
Natural elements
Sustainability
Material Domain
++
+
o
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03-10-2024
Bart
Olst
Aardehuizen

11-10-2024
Wessel de Koe
Delft
Aardehuizen

23-11-2024
Arie
The Hague
De Groene Mient

Social Domain

18-12-2024
Dag Boutsen
Gent
La Mémé,
De Zilvervloot

Domain of Ideas

17-01-2025
Lian Blok
The Hague
Living root bridge,
Plane tree Cuve

Material domain

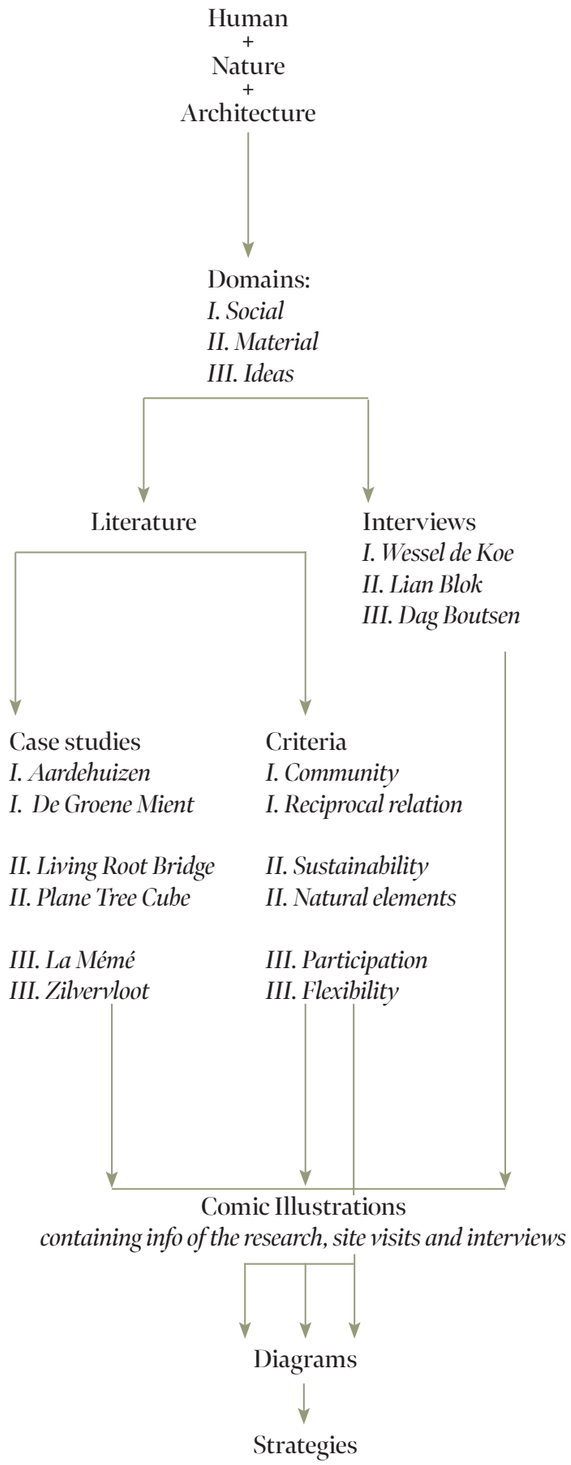
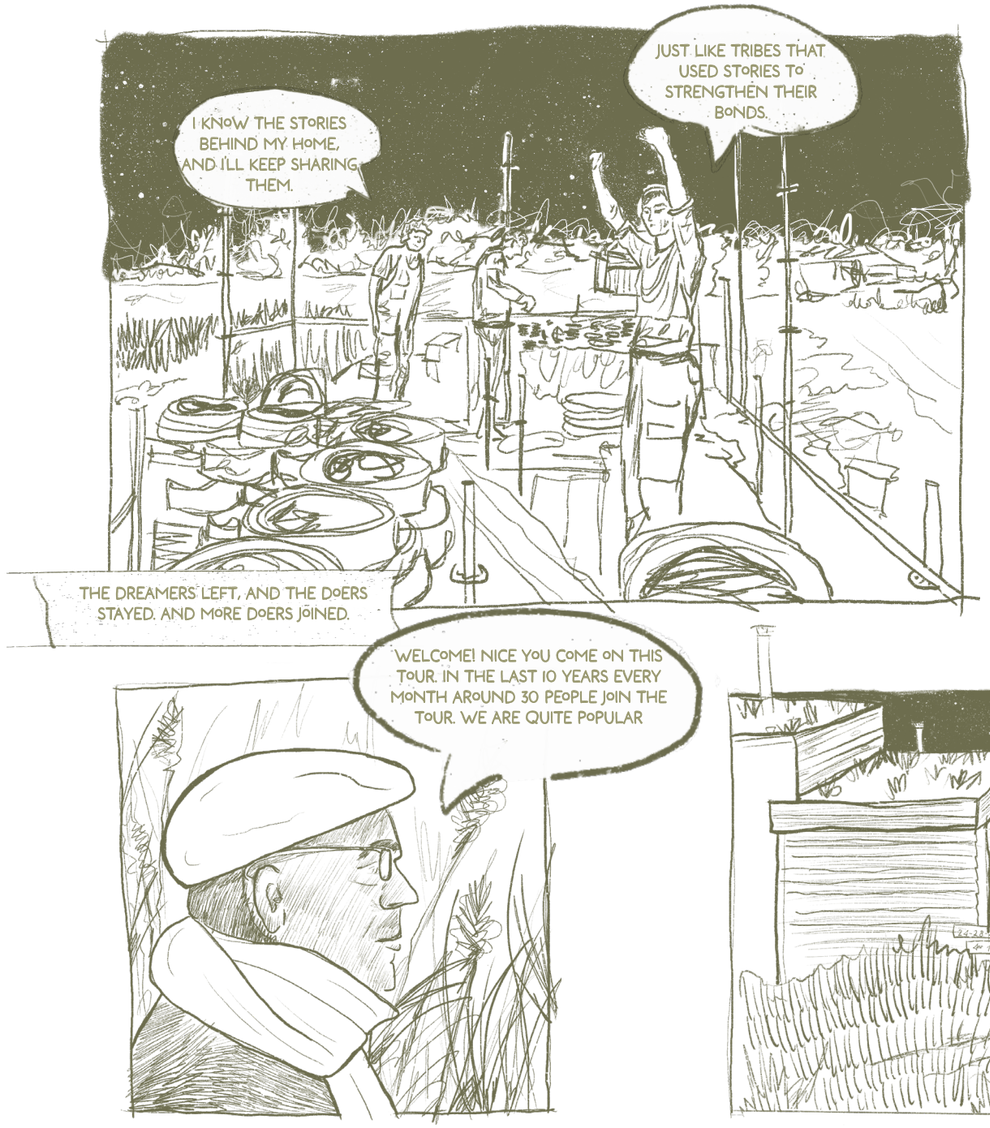
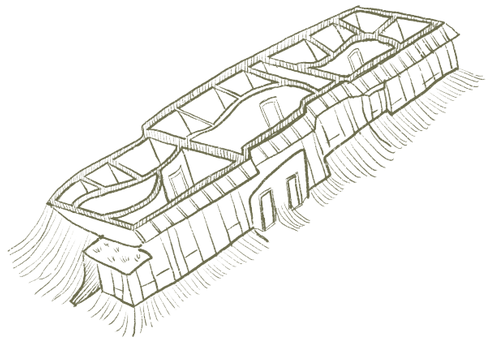


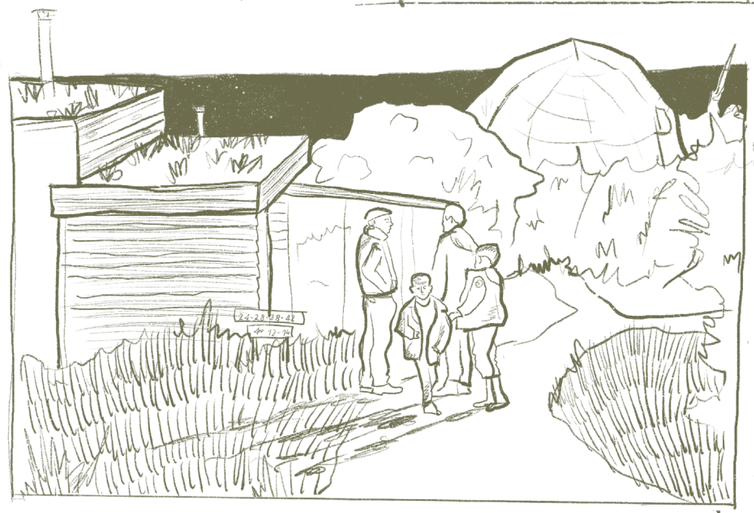
Diagram of methodology (own image)

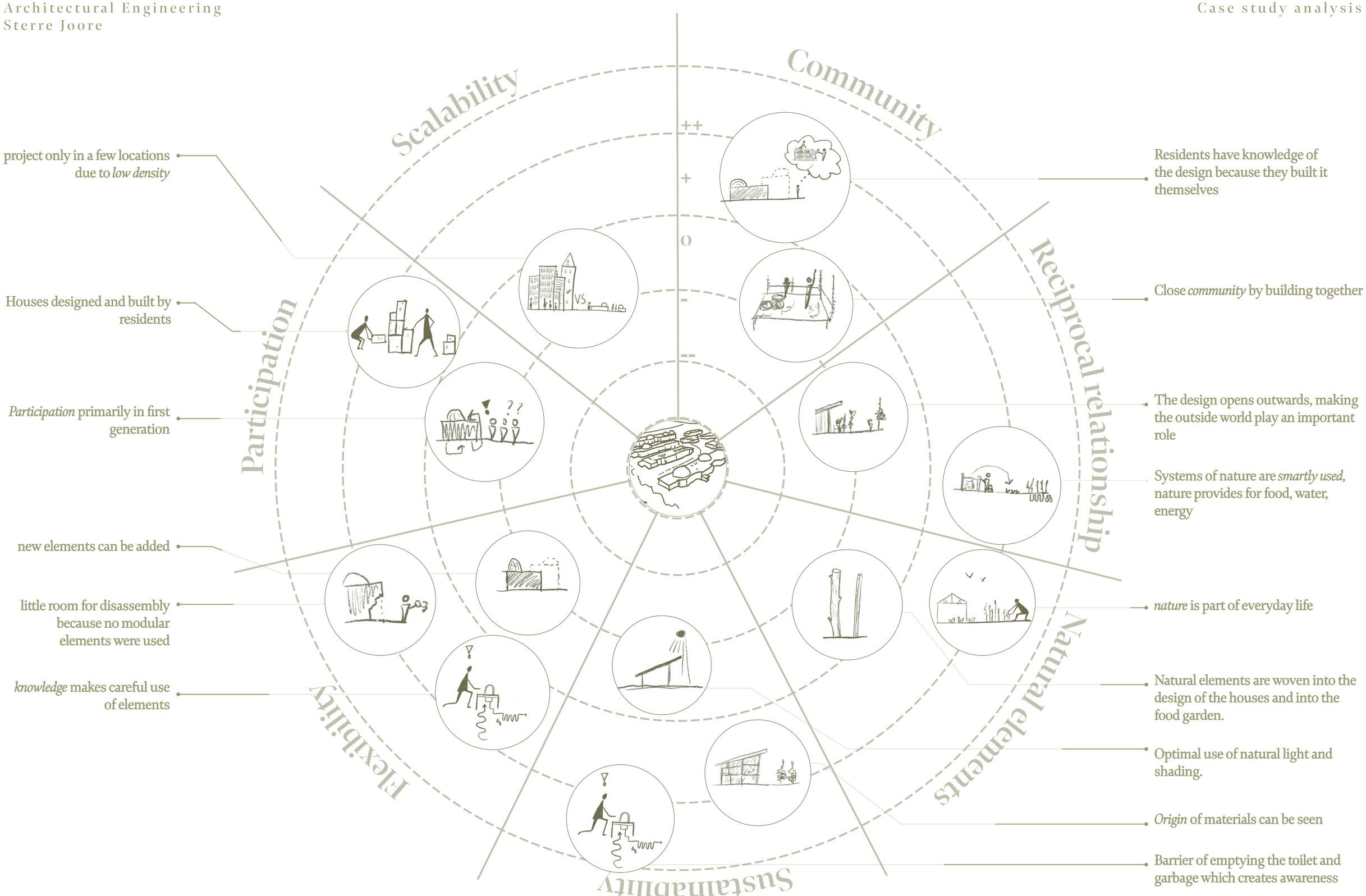
Comic illustrations where site visits, interviews and research are combined (own image)





THE DESIGN WAS BASED ON SUSTAINABILITY, WITH LOTS OF RECYCLED MATERIALS. BUT FROM THE BEGINNING, EXPERIMENTATION ITSELF WAS ALSO IMPORTANT




Scalability
Community
Reciprocal relationship
Natural elements
Sustainability
Flexibility
Participation
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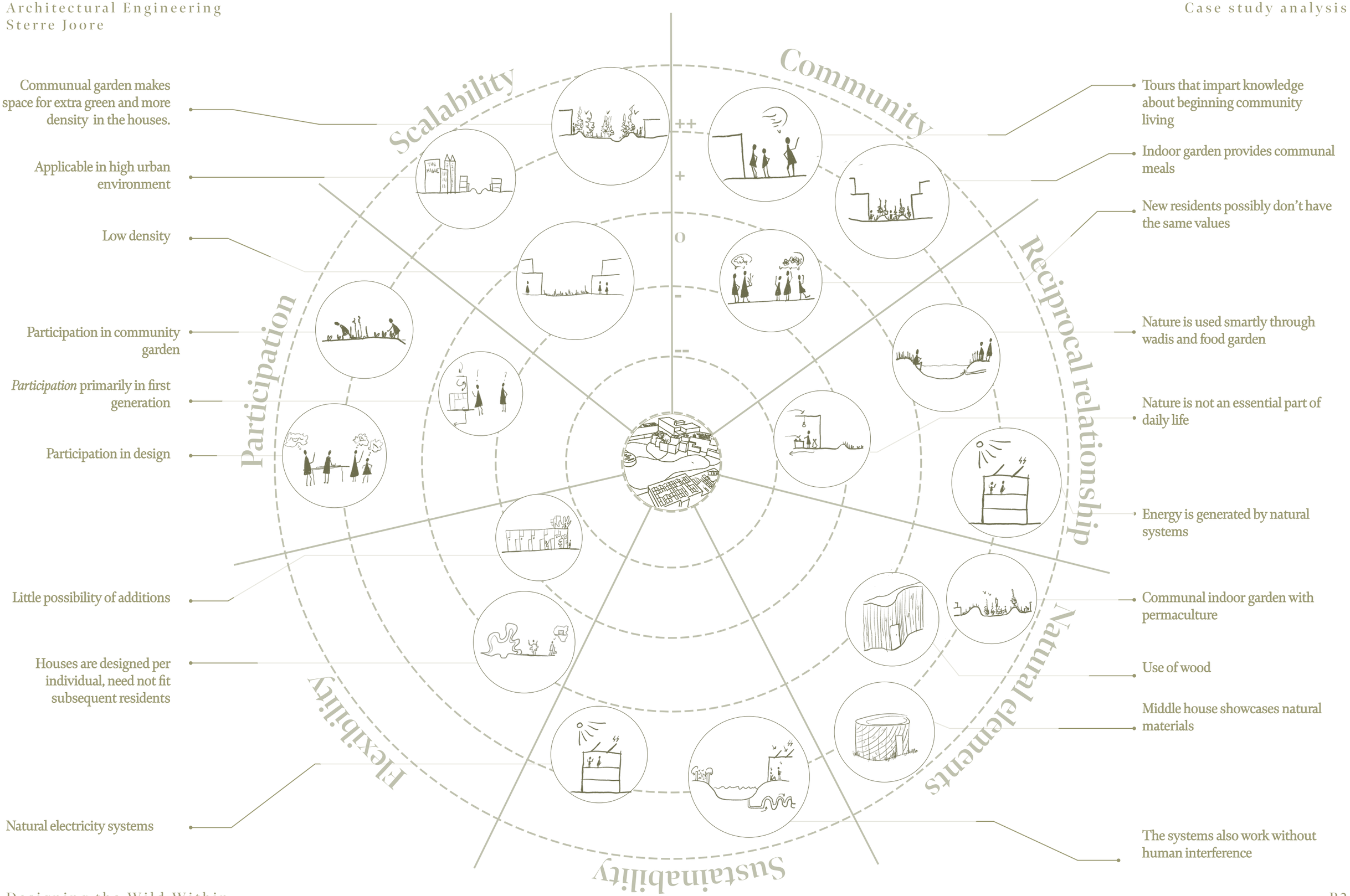
project only in a few locations due to *low density*
Houses designed and built by residents
Participation primarily in first generation
new elements can be added
little room for disassembly because no modular elements were used
knowledge makes careful use of elements
Residents have knowledge of the design because they built it themselves
Close *community* by building together
The design opens outwards, making the outside world play an important role
Systems of nature are *smartly used*, nature provides for food, water, energy
nature is part of everyday life
Natural elements are woven into the design of the houses and into the food garden.
Optimal use of natural light and shading.
Origin of materials can be seen
Barrier of emptying the toilet and garbage which creates awareness


Scalability
Community
Reciprocal relationship
Natural elements
Sustainability
Flexibility
Participation
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Commununal garden makes space for extra green and more density in the houses.
Applicable in high urban environment
Low density
Participation in community garden
Participation primarily in first generation
Participation in design
Little possibility of additions
Houses are designed per individual, need not fit subsequent residents
Natural electricity systems
Tours that impart knowledge about beginning community living
Indoor garden provides communal meals
New residents possibly don't have the same values
Nature is used smartly through wadis and food garden
Nature is not an essential part of daily life
Energy is generated by natural systems
Communal indoor garden with permaculture
Use of wood
Middle house showcases natural materials
The systems also work without human interference


Scalability
Community
Reciprocal relationship
Nature is a partner to be worked with
Nature is an essential part of daily life
Structures are part of the community
Knowledge is passed down from generation to generation
Structure needs user engagement to get stronger
Time and effort for construction is difficult
Applicable only in India
Participation
Structure needs user engagement to get stronger
People are an essential partner
++
+
o
-
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Natural elements
Entire bridge is made of natural material
There is collaboration with growth and time
Bridges have been around for generations
Flexibility
Function or basic structure cannot change
Bridges can grow and change shape
People are an essential factor that cannot be missed
Sustainability


Scalability
Community
Reciprocal relationship
Natural elements
Sustainability
Flexibility
Participation
++
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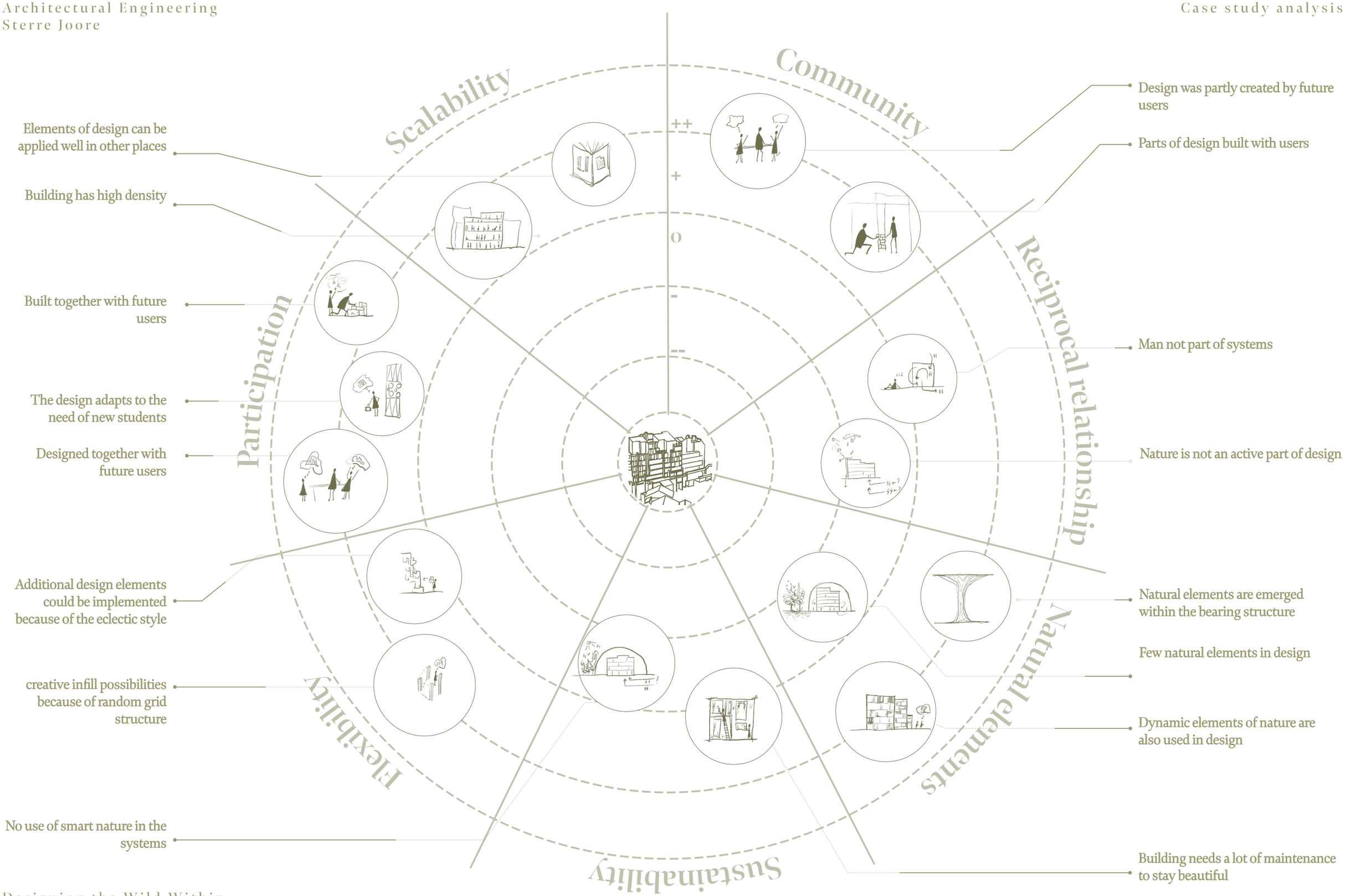
System which can be made in more places
Time and effort for construction is difficult
Structure is for information only, not for use
People not an essential factor
Future users no impact on form or functions structure
Growth requires people to keep an eye on the building
Growing trees take over the structure and become the main structure
Utilized smart parts of nature
Nature is controlled instead of natural growth
No variety of fucntions possible because of open structure
Nature can be formed in other forms
Structure uses natural elements as essential parts
Growth of nature is part of design
No function for future of structure
System will grow and develop without constant human care


Scalability
Community
Reciprocal relationship
Natural elements
Sustainability
Flexibility
Participation
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Elements of design can be applied well in other places
Building has high density
Built together with future users
The design adapts to the need of new students
Designed together with future users
Additional design elements could be implemented because of the eclectic style
creative infill possibilities because of random grid structure
No use of smart nature in the systems
Design was partly created by future users
Parts of design built with users
Man not part of systems
Nature is not an active part of design
Natural elements are emerged within the bearing structure
Few natural elements in design
Dynamic elements of nature are also used in design
Building needs a lot of maintenance to stay beautiful


Scalability
Community
Reciprocal relationship
Natural elements
Sustainability
Flexibility
Participation
++
+
o
-
--
Elements of design can be applied well in other places
High density
Building fits the community, spaces can be added onto the building when user preferences change
No communal space or activities
Man and nature no relationship in design
Dynamic growth in nature is also applied in design
Participation mainly for first generation
Workshops are an important design tool to create instant history in the design
Variety of fucntions possible because of open structure
Structural dimensional errors are accepted by the design because of the eclectic style
No use of natural elements in the systems
Variety of colour, material and shape which occur in nature also features in this design
Use of wood
The wood details are placed with high quality and endure the test of time

Community

1. **Traditions and knowledge transfer**
   incorporate design elements that facilitate the passing of traditions and ecological knowledge to future generations, ensuring long-term community involvement.
2. **User-dependent systems**
   develop systems that depend on community engagement, fostering a sense of ownership and responsibility.
3. **Freedom in design**
   allow flexibility in how communities use and adapt spaces to meet their specific needs, enhancing their connection to the built environment.

Reciprocal relationship

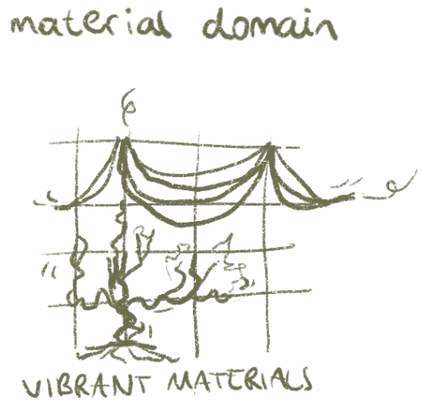
4. **Visible natural systems**
   highlight the presence of natural systems within the design, such as visible water cycles or vegetation growth, to promote ecological awareness.
5. **Integration in construction**
   design structures where natural elements are integral and irreplaceable, encouraging people to protect and sustain them.

Natural elements

6. **Incorporation of living and moving elements**
   include features like baubotanikal structures, moving materials like fabric, or dynamic vegetation that adapt and evolve over time.

Sustainability

7. **Low-maintenance durability**
   balance active human involvement in ecosystems with designs that remain functional even with reduced engagement.
8. **Effort for luxury**
   introduce small barriers to encourage resource mindfulness.
9. **Smart use of natural elements**
   leverage sun, shade, and natural filtration systems for low-tech, energy-efficient solutions.



Flexibility

10. Adaptable spaces

design with open constructions and modular elements that allow future alterations and multiple functions over time.

11. Accept Chaos

Embrace the unpredictability of human use, allowing for easy integration of additional elements over time.

Participation

12. Engagement workshops

facilitate workshops to involve the community in decision-making, fostering instant ownership and history.

13. Responsive design

continuously adapt the design to the evolving needs of the community, ensuring it remains relevant and functional.

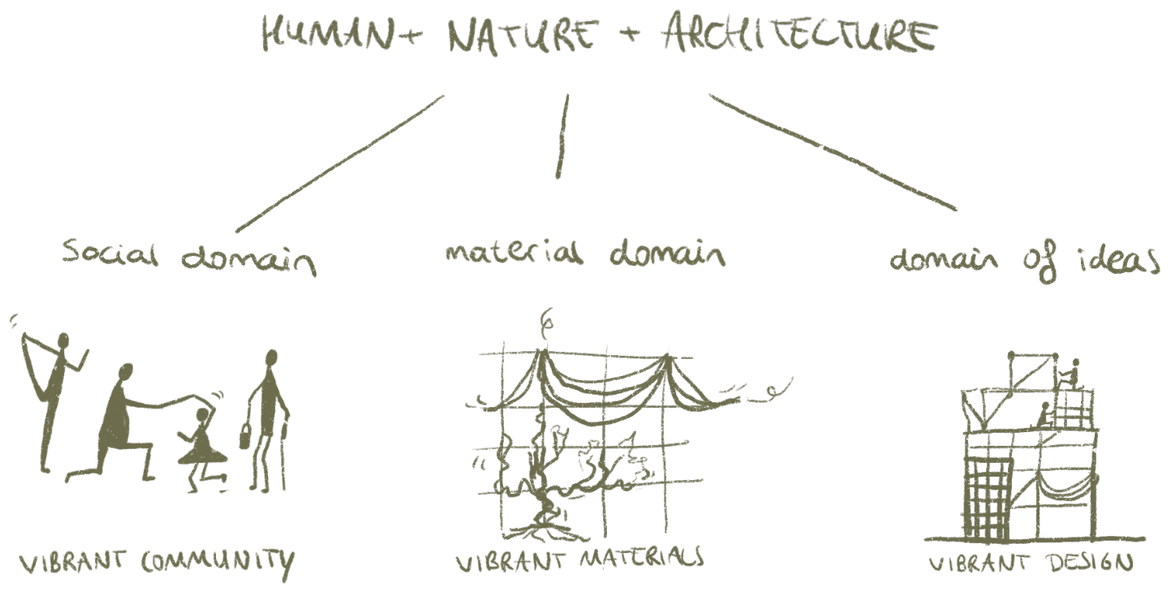
Scalability

14. Avoid uniformity

promote design diversity to suit different scales and contexts, moving away from monolithic approaches.

15. Shared facilities

allows densification or change of functions can be chosen



Community
1. *Traditions and knowledge transfer:*
2. *User-dependent systems*
3. *Freedom in design*

Reciprocal relationship
4. *Visible natural systems*
5. *Integration in construction*

Natural elements
6. *Incorporation of living and moving elements*

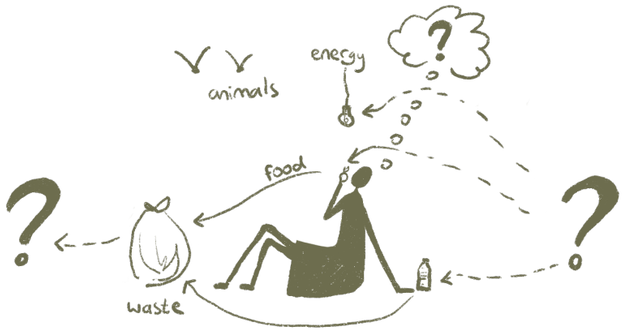
Sustainability
7. *Low-maintenance durability*
8. *Effort for luxury*
9. *Smart use of natural elements*

Flexibility
10. *Adaptable spaces*
11. *Accept Chaos*

Participation
12. *Engagement workshops*
13. *Responsive design*

Scalability
14. *Avoid uniformity*
15. *Shared facilities*

The Design



Target group

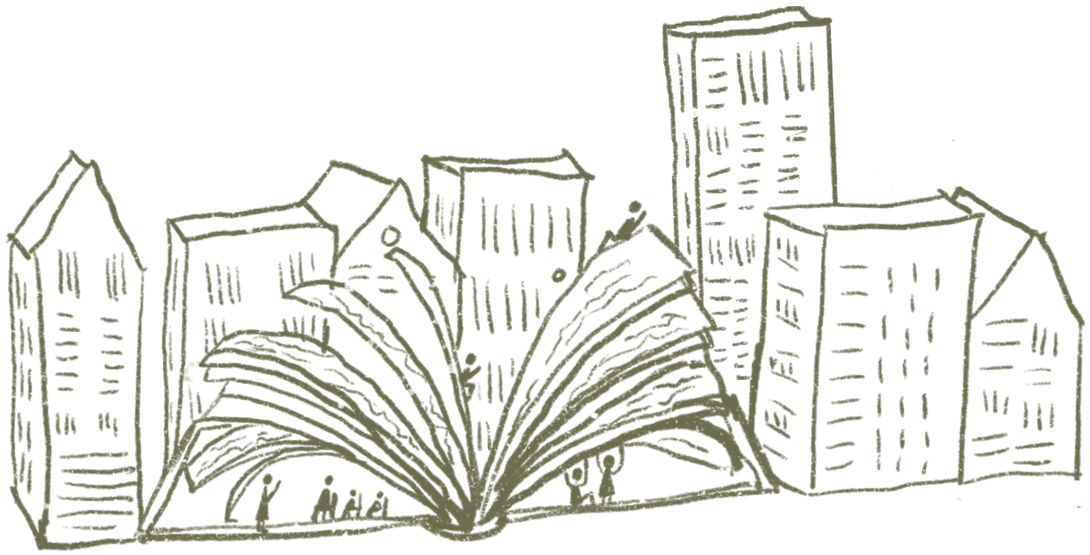
Young people who can learn

Target location

Urban environment


·TIME
·ENERGY


·MEMORIES
·STORIES

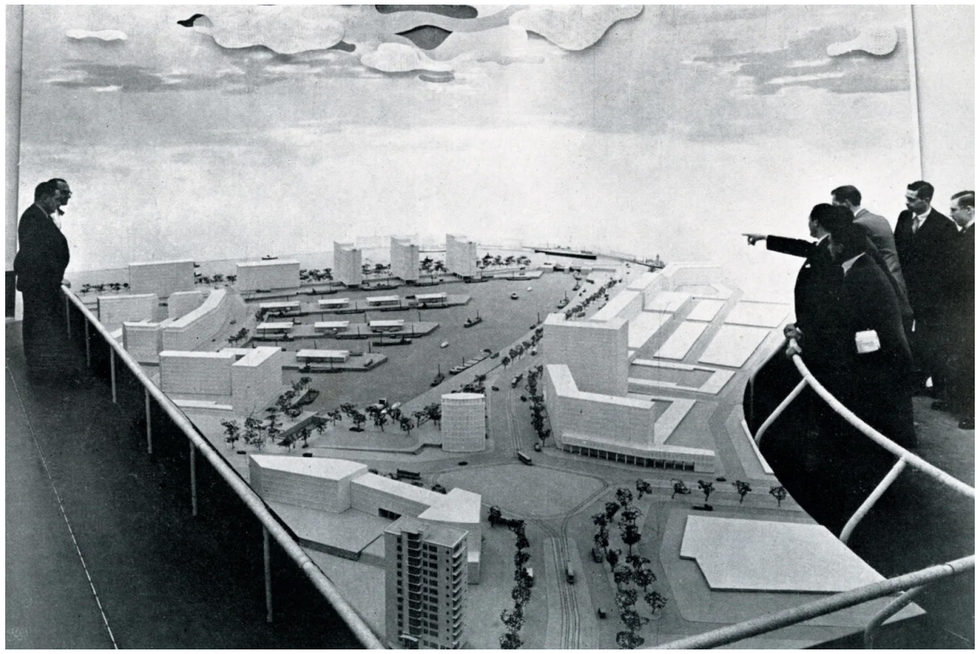


School in Rotterdam

9-12-2024
Platform
Wederopbouw
Tour Rotterdam

1900 — 1920 — 1940 — 1960 — 1980 — 2000 — 2020

housing | **office buildings** | **office buildings converted into student apartments.** | **high-rise buildings - housing**



1900 — 1920 — 1940 — 1960 — 1980 — 2000 — 2020

housing | **office buildings** | **office buildings converted into student apartments.** | **high-rise buildings - housing**

1900 — 1920 — 1940 — 1960 — 1980 — 2000 — 2020

housing | **office buildings** | **office buildings converted into student apartments.** | **high-rise buildings - housing**

1900 — 1920 — 1940 — 1960 — 1980 — 2000 — 2020

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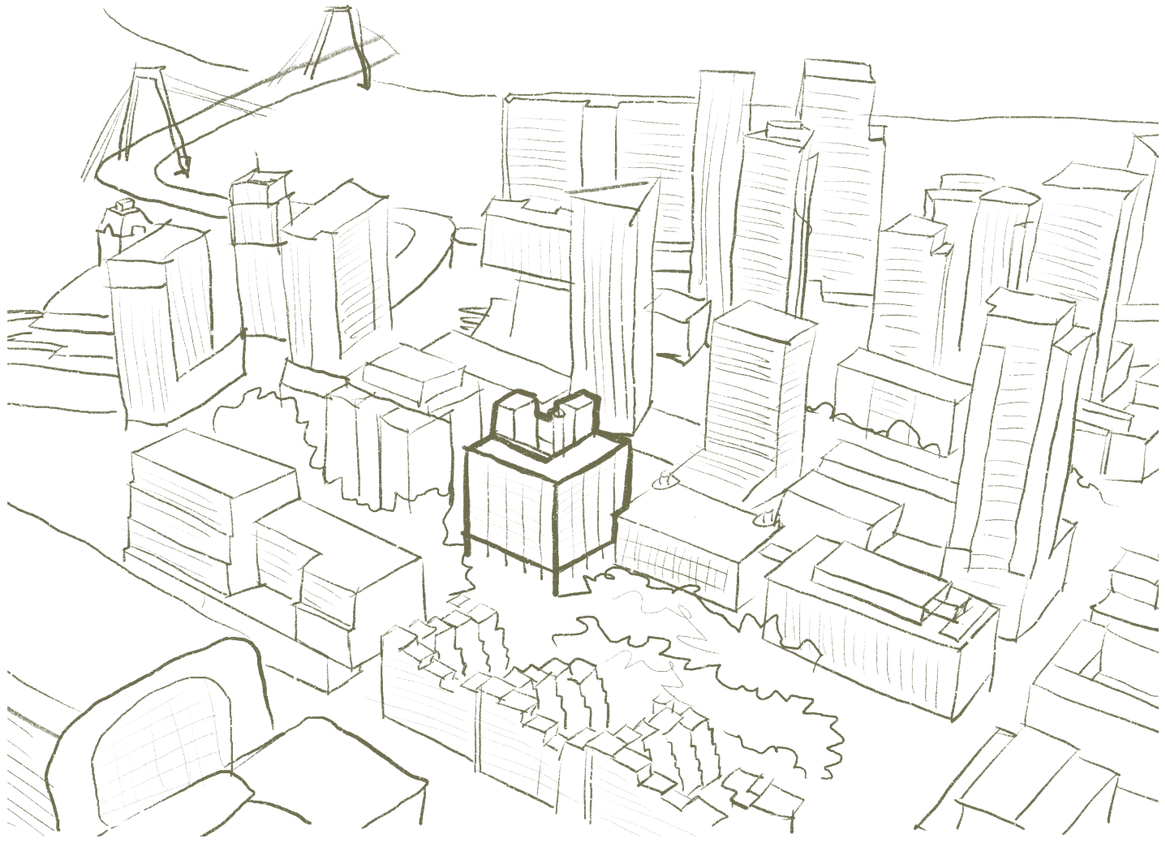


Kantoorgebouw Blakeburg
1977
Jan Hoogstad

Options for adding levels

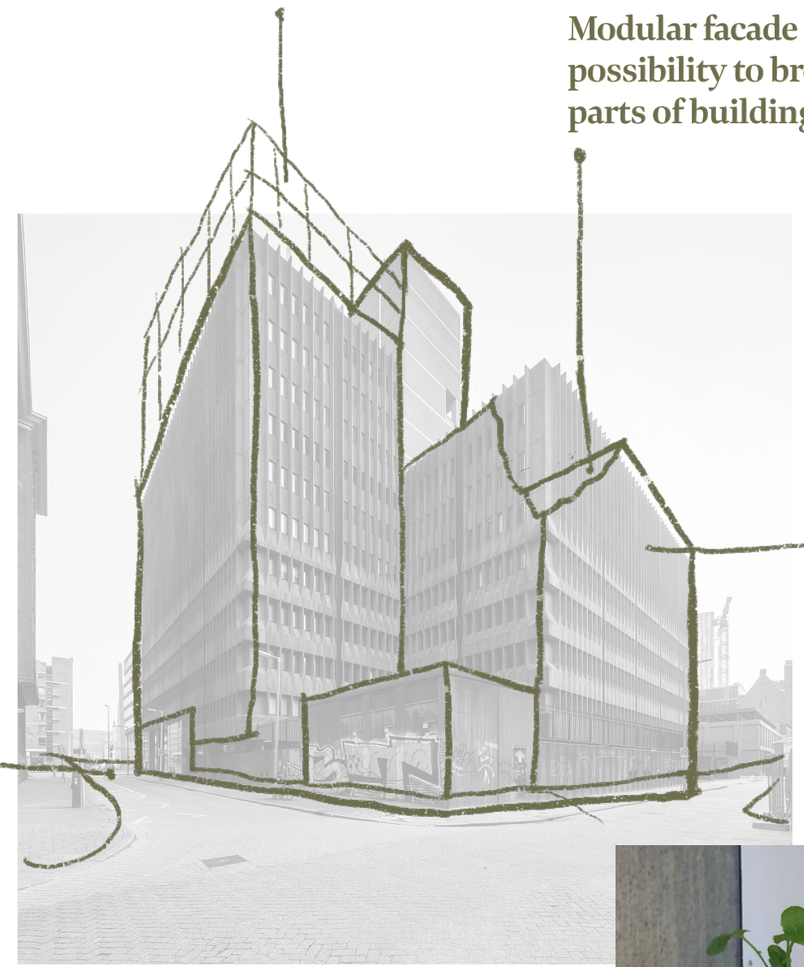
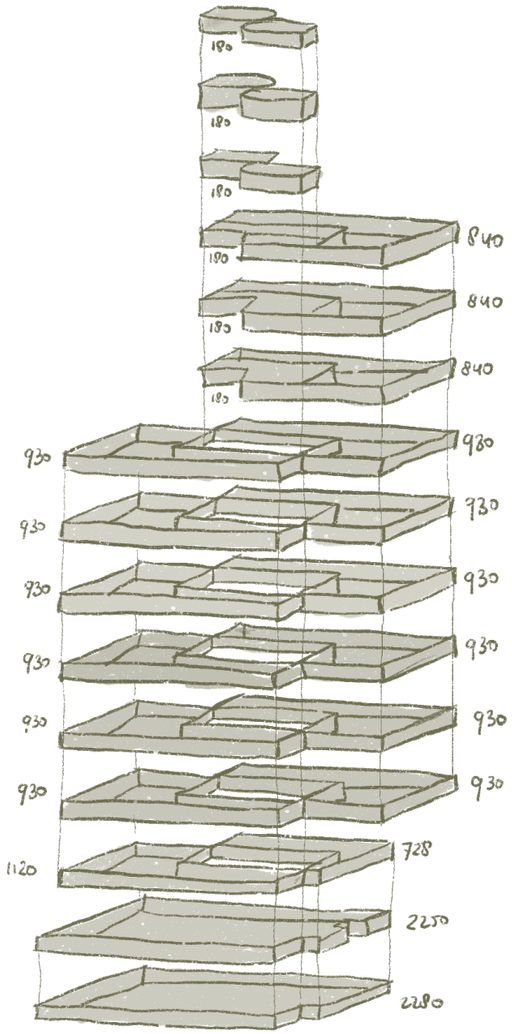


Image and design: Koen Visser



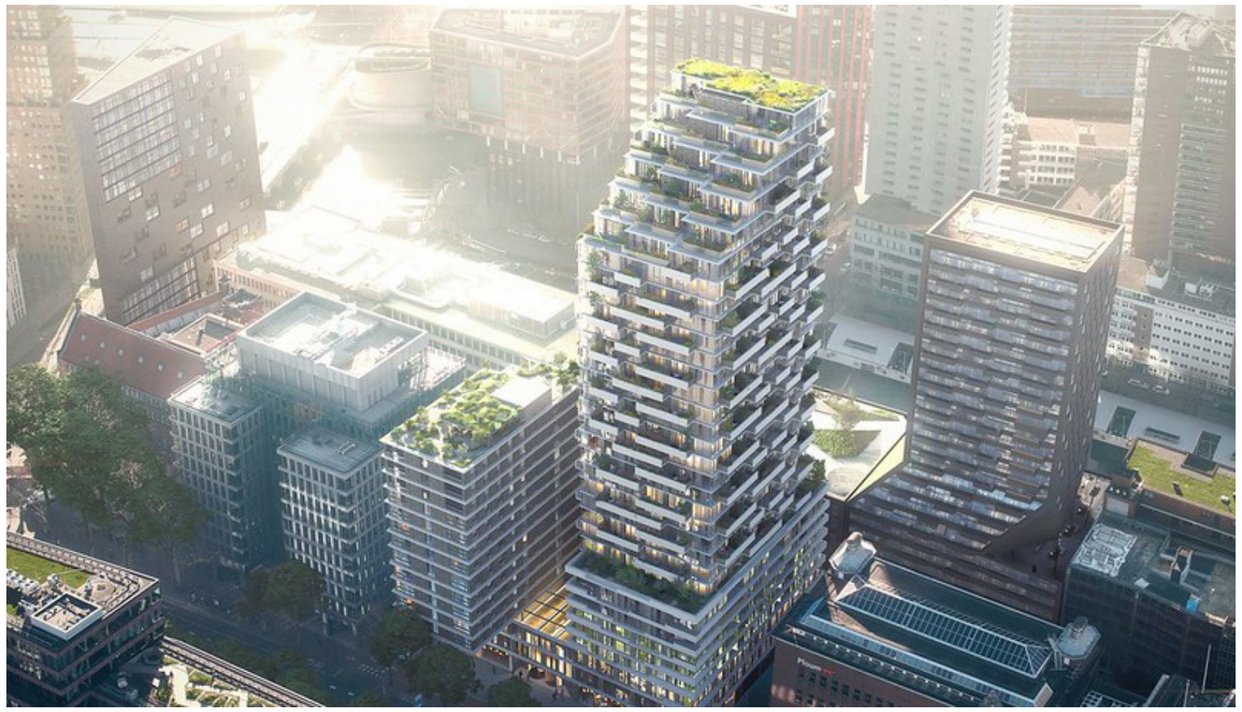
Maximum: 15.528 m2

Classrooms	696 m2
Classrooms 8x	
Toilets children	
Storage	
Coffee en Flex space	156 m2
Toilets	
Small kitchen	
Storage	
Reception	
Meetingroom	
Shared Spaces	251 m2
Theater	
Presentation room	
First aid room	
Entrance	
Physical exercise	541 m2
Classroom for playing	
Physical exercise room	
Cooking	
Atelier	120 m2
Atelier space	
Learning centre	300 m2
Reading and reflection	48 m2
Library	
Reading space	

Minimum: 2.112 m2

9-12-2024
Platform
Wederopbouw
Tour Rotterdam

17-12-2024
Rene Rijkers
Amsterdam
UN Studio -
Blakeburg

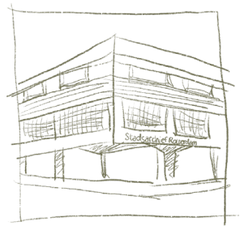


The One, UN STudio

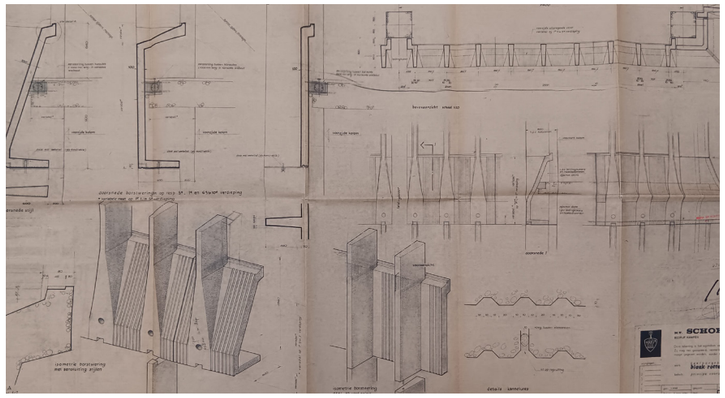
9-12-2024
Platform W
ederopbouw
Tour Rotterdam

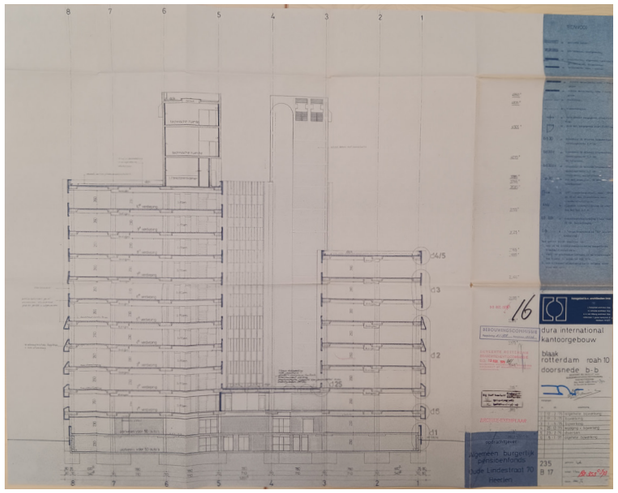
9-12-2024
Stadsarchief
Rotterdam

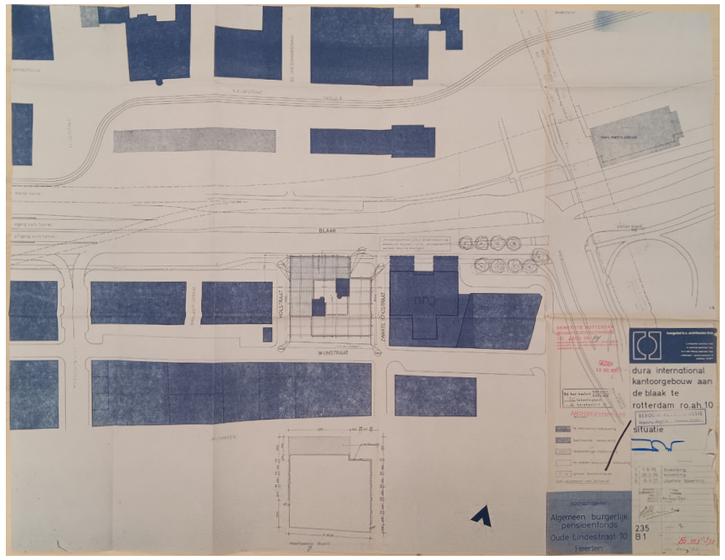
17-12-2024
Rene Rijkers
Amsterdam
UN Studio -
Blakeburg

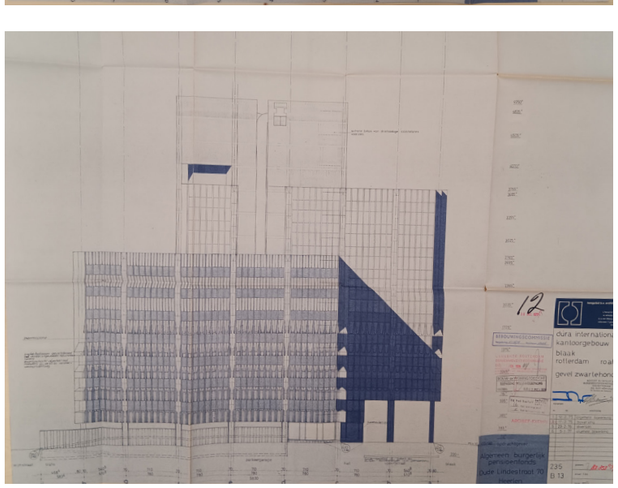


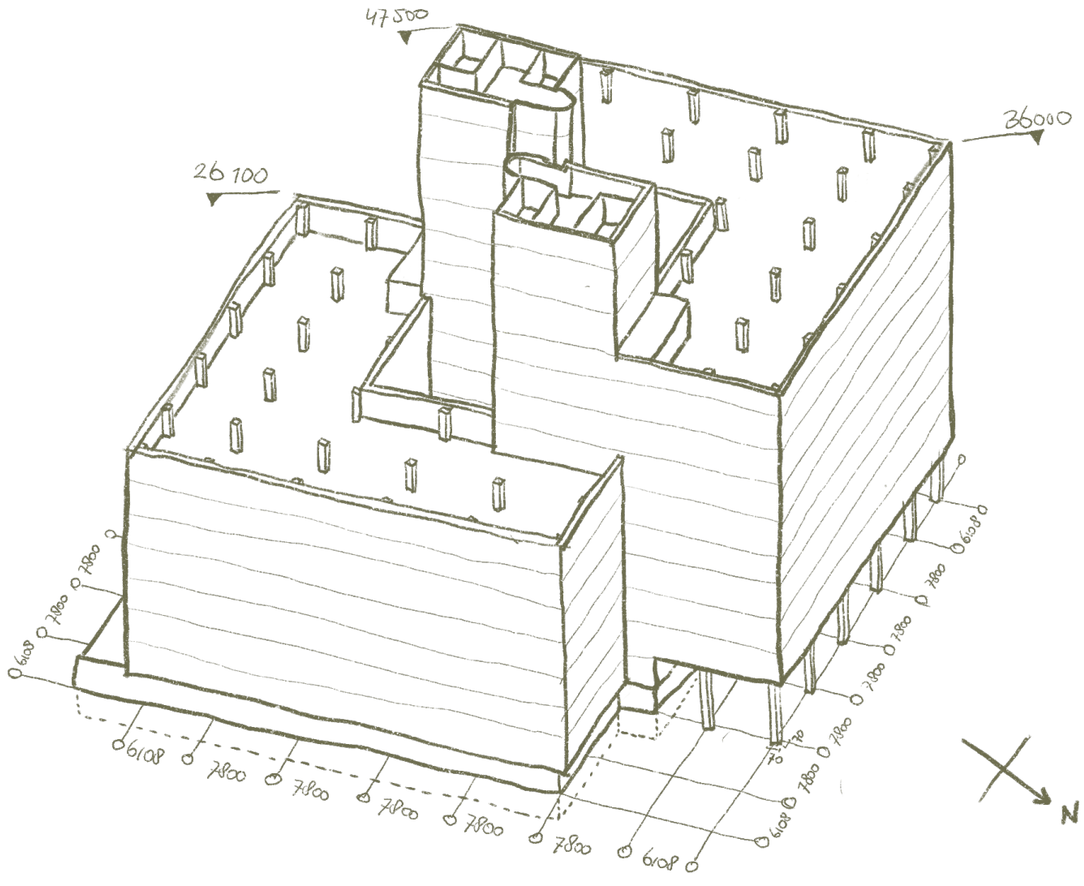
30-12-2024
Stadsarchief
Rotterdam






BLAAK
WIJNSTRAAT
dura international
kantoorgebouw aan
de blaak te
rotterdam ro.ah.10
situatie
Algemeen burgerlijk
pensioenfonds
Oude Lindestraat 70
Heerlen
235
B1

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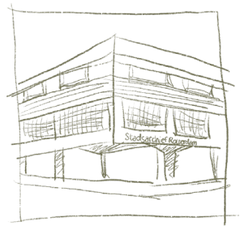
6108
N

9-12-2024
Platform W
ederopbouw
Tour Rotterdam

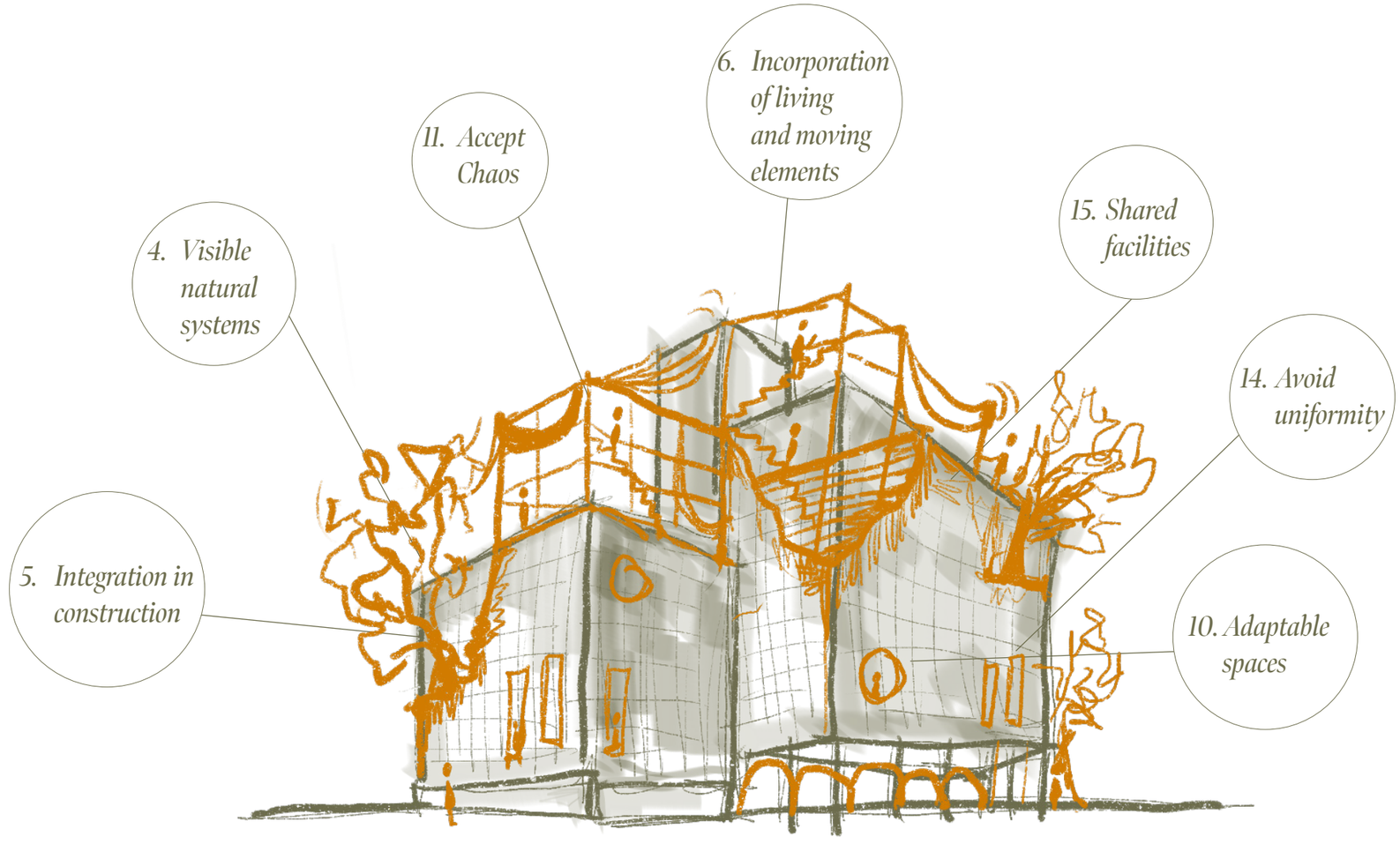
9-12-2024
Stadsarchief
Rotterdam

17-12-2024
Rene Rijkers
Amsterdam
UN Studio -
Blakeburg



30-12-2024
Stadsarchief
Rotterdam

3-3-2025
Participation
workshop
Primary school
Drachten



Community
1. *Traditions and knowledge transfer:*
2. *User-dependent systems*
3. *Freedom in design*

Reciprocal relationship
4. *Visible natural systems*
5. *Integration in construction*

Natural elements
6. *Incorporation of living and moving elements*

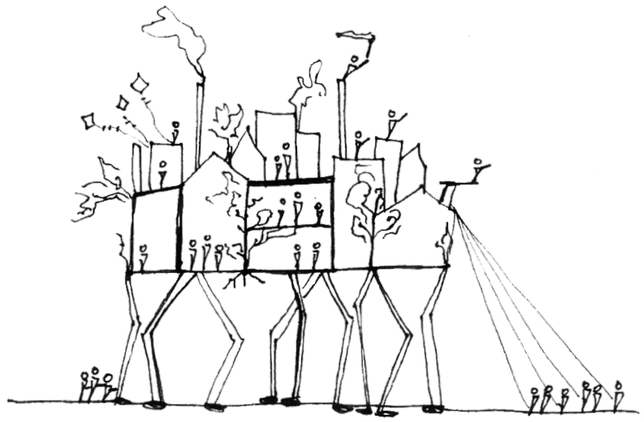
Sustainability
7. *Low-maintenance durability*
8. *Effort for luxury*
9. *Smart use of natural elements*

Flexibility
10. Adaptable spaces
11. Accept Chaos

Participation
12. Engagement workshops
13. Responsive design

Scalability
14. Avoid uniformity
15. Shared facilities

DESIGNING the wild WITHIN



using architecture to reconnect worlds