



GROWING FUTURE HATFI

[INTEGRATING EMERGENT SPATIAL DEMANDS
INTO A COMMUNITY-SUPPORTIVE
POST-DISASTER DEVELOPMENT STRATEGY.]

P5 Presentation
Peter Arnts

29.06.2012

GROWING FUTURE HAITI

[INTEGRATING EMERGENT SPATIAL DEMANDS
INTO A COMMUNITY-SUPPORTIVE
POST-DISASTER DEVELOPMENT STRATEGY.]

Part one;
Development strategy

Part two;
**Test case in Tisous
community**

GROWING FUTURE HAITI

'A development framework that supports the integral development of informal communities in Port-au-Prince during the post-disaster relief phase through the inclusion of urban agriculture.'

Informal developments



Missing of basic functions to sustain livelihood



Lack of governmental support



Project aim

Formulation of a **development strategy** that overcomes the underdeveloped status of informal settlements in Port-au-Prince and enables the human and social development of the community.

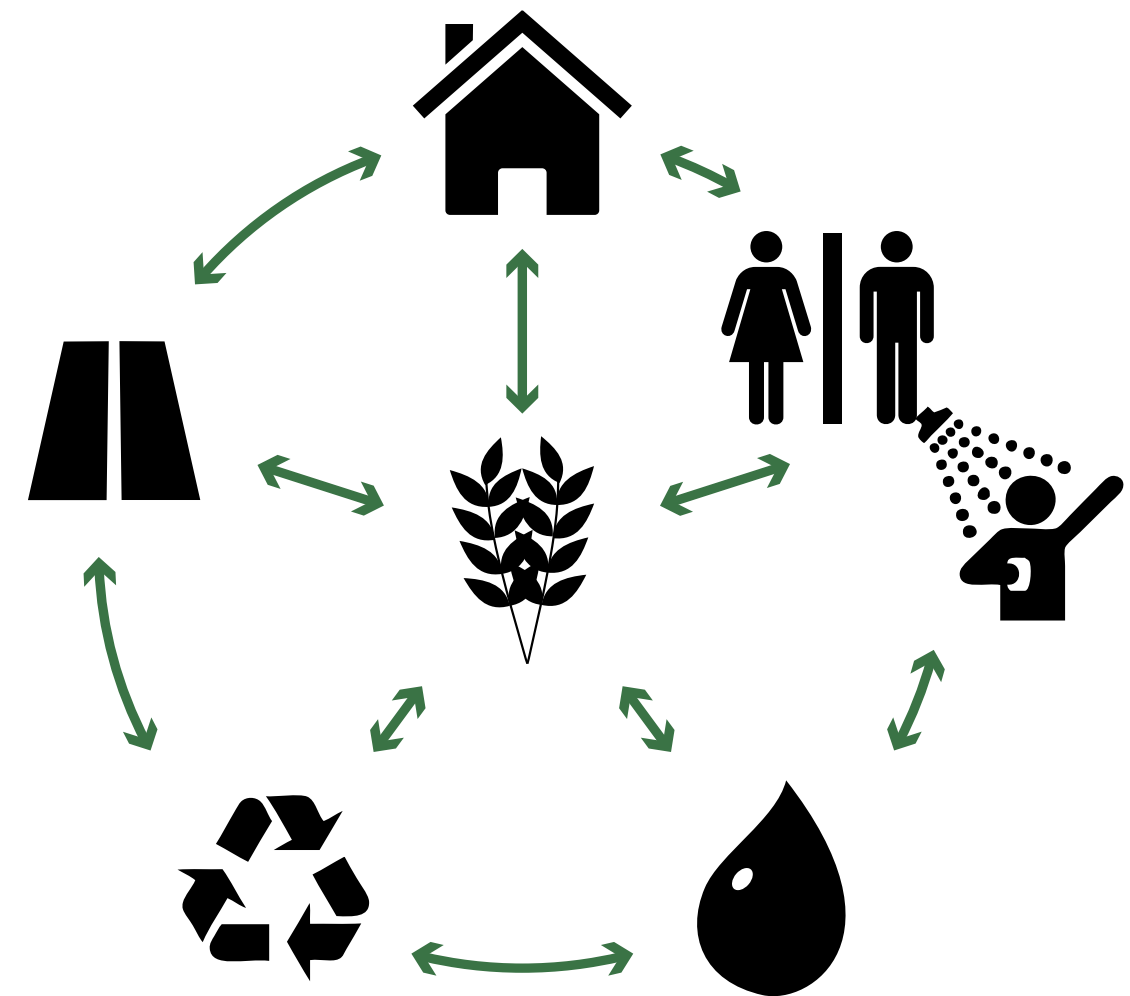


Project proposal

Inclusion of urban agriculture for:

- **Interlinking basic facilities.**
- **Strengthen communal social capital**
- **Generate structure inside the settlement**

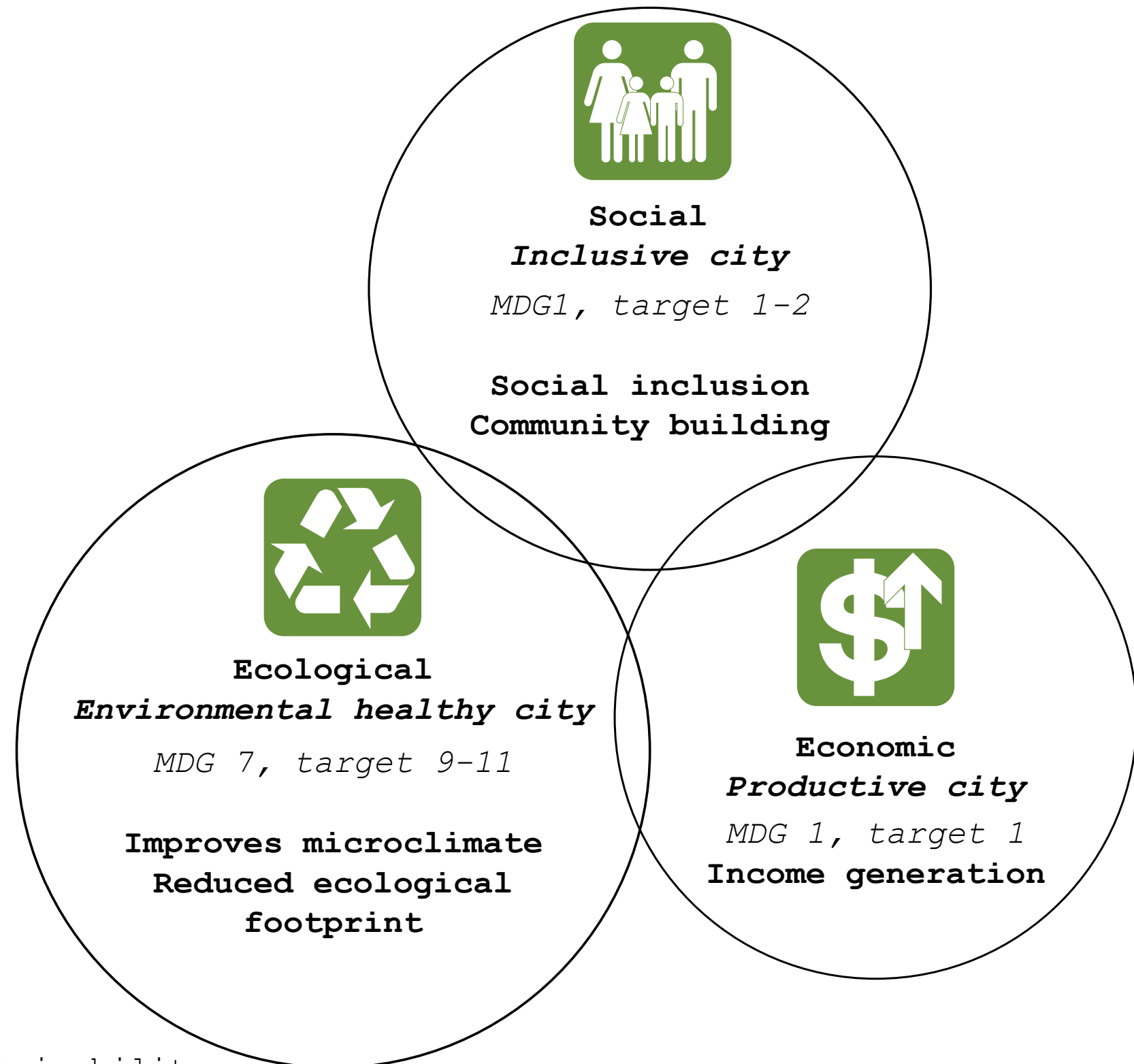
Supportive development framework



Research question

Which spatial interventions are needed in order to make urban agriculture an integral part of sustainable development plans for informal settlements in Port-au-Prince as part of post-disaster integral redevelopment plans?

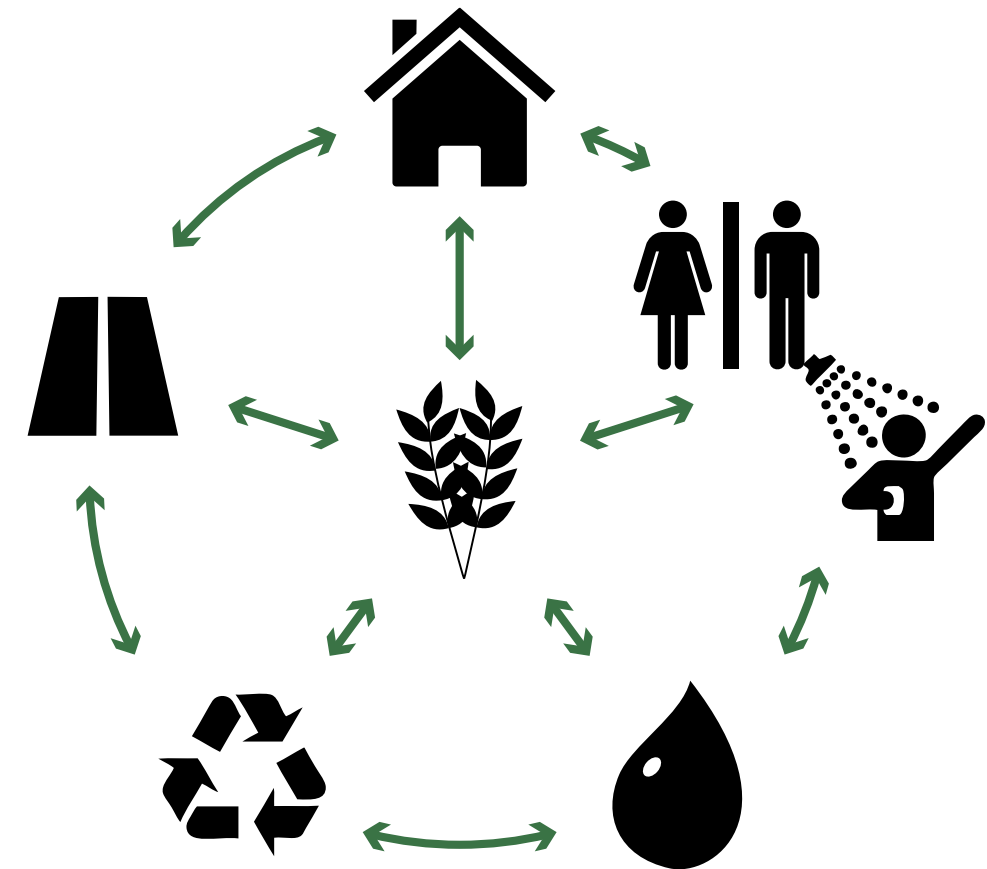
Why urban agriculture?



Based on FAO; Profitability and sustainability of urban and peri-urban agriculture

Urban agriculture as mediator

"...applying intensive production methods ,
**USING AND REUSING NATURAL RESOURCES
AND URBAN WASTES** to yield diversity
of crops and livestock."

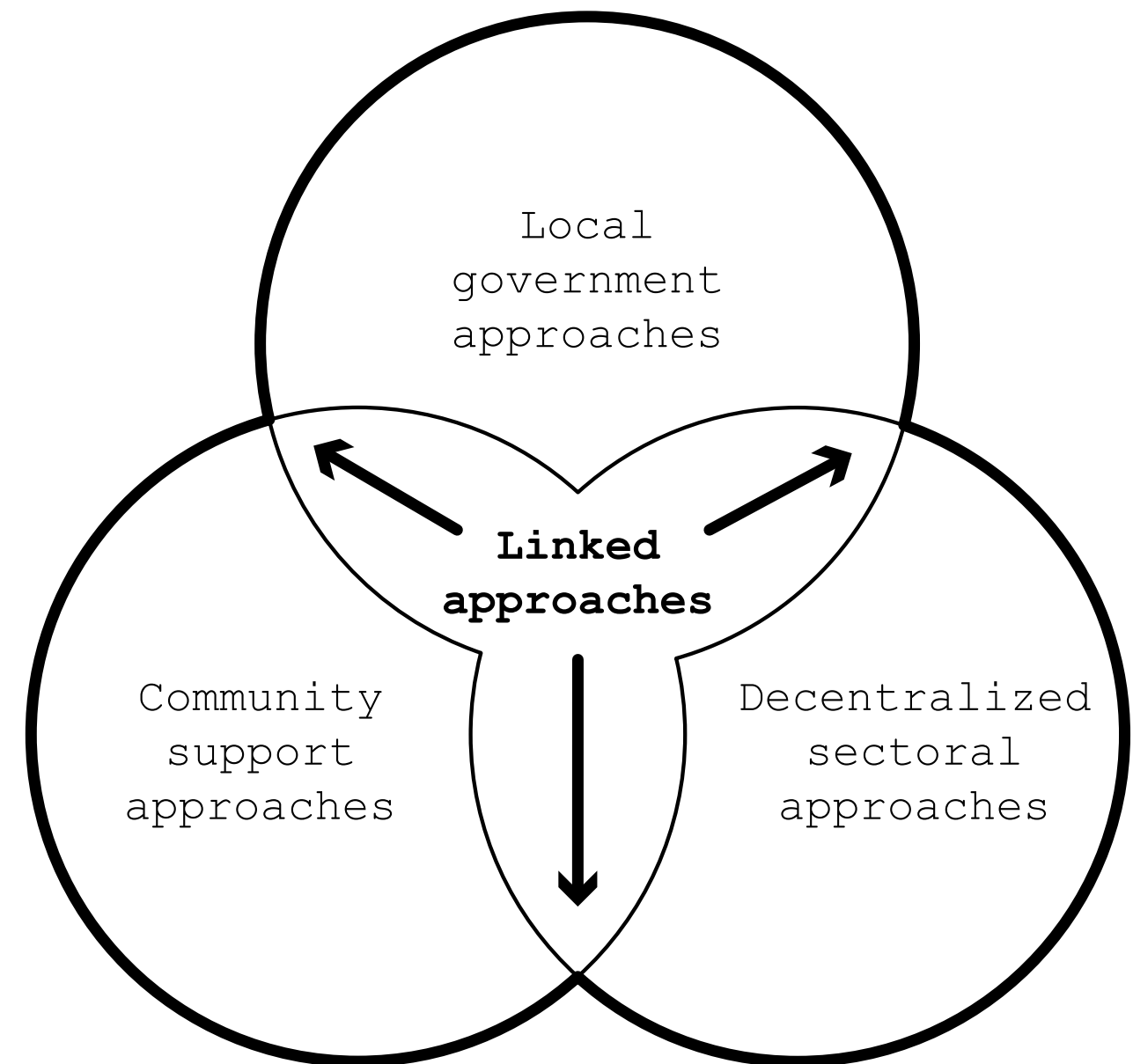


Source: Jac Smit; Urban agriculture: Food, jobs and sustainable cities

Not without support framework

Need for supportive framework to link settlements development to larger scale developments.

Interlinked development program to overcome the complex problems.

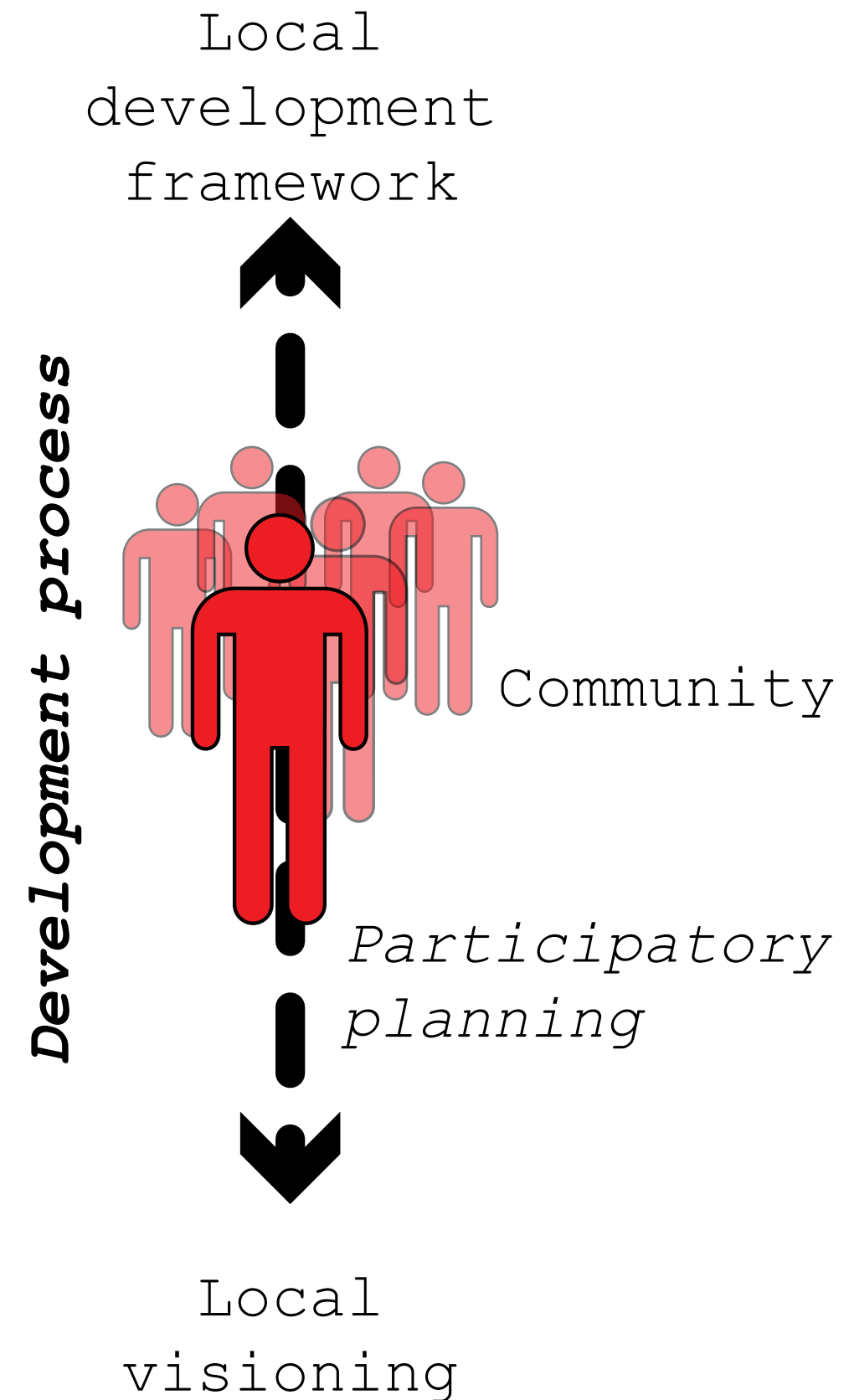


Source: Helling;
Linking community empowerment, decentralized governance, and public service provision through a local development framework.

Development structure

Enabling framework;
Local development framework

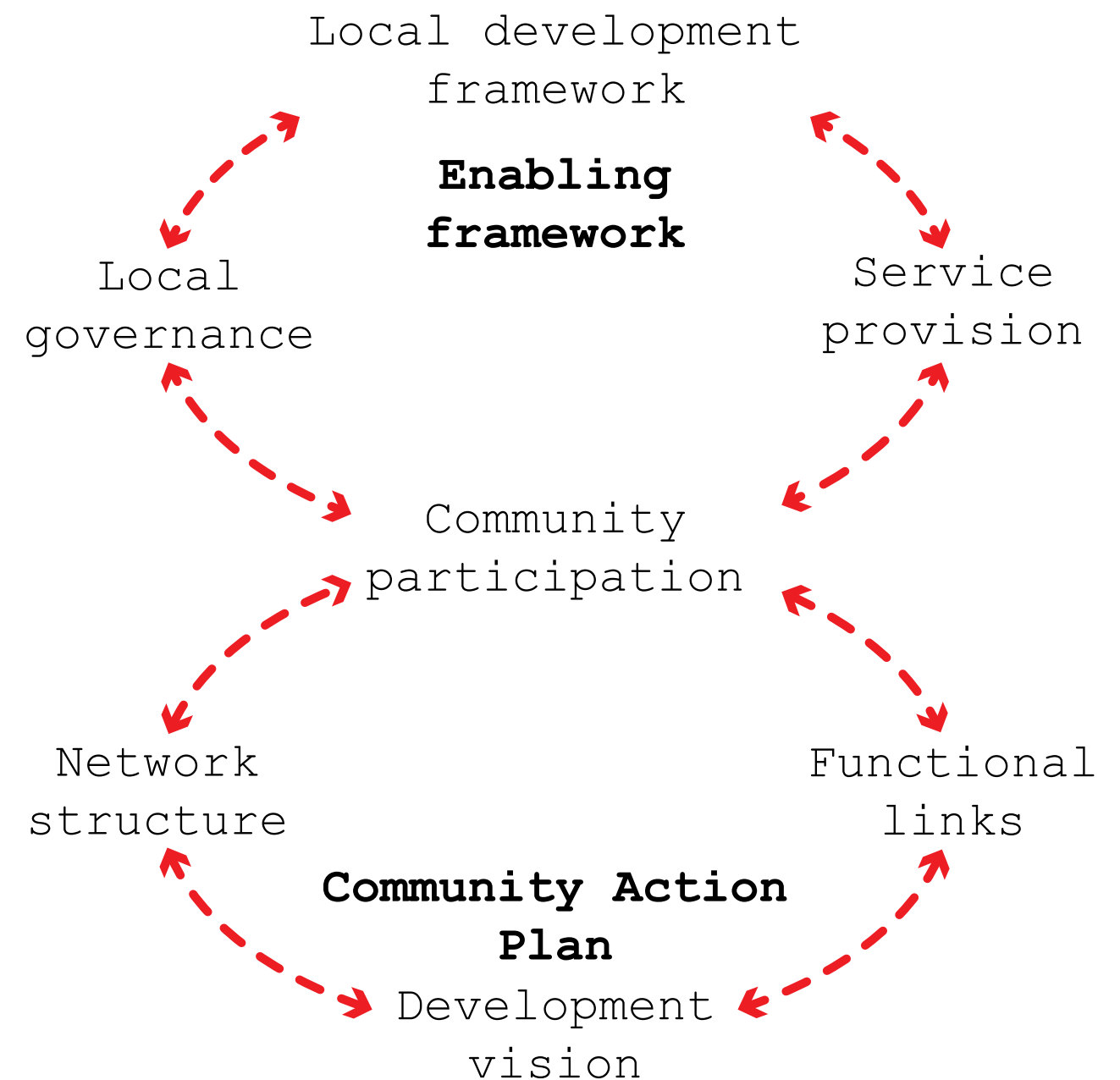
Local visioning;
Community Action Plan



Hypothesis

Structure the settlement by formation of **Community action plan integration urban agriculture** in the development vision.

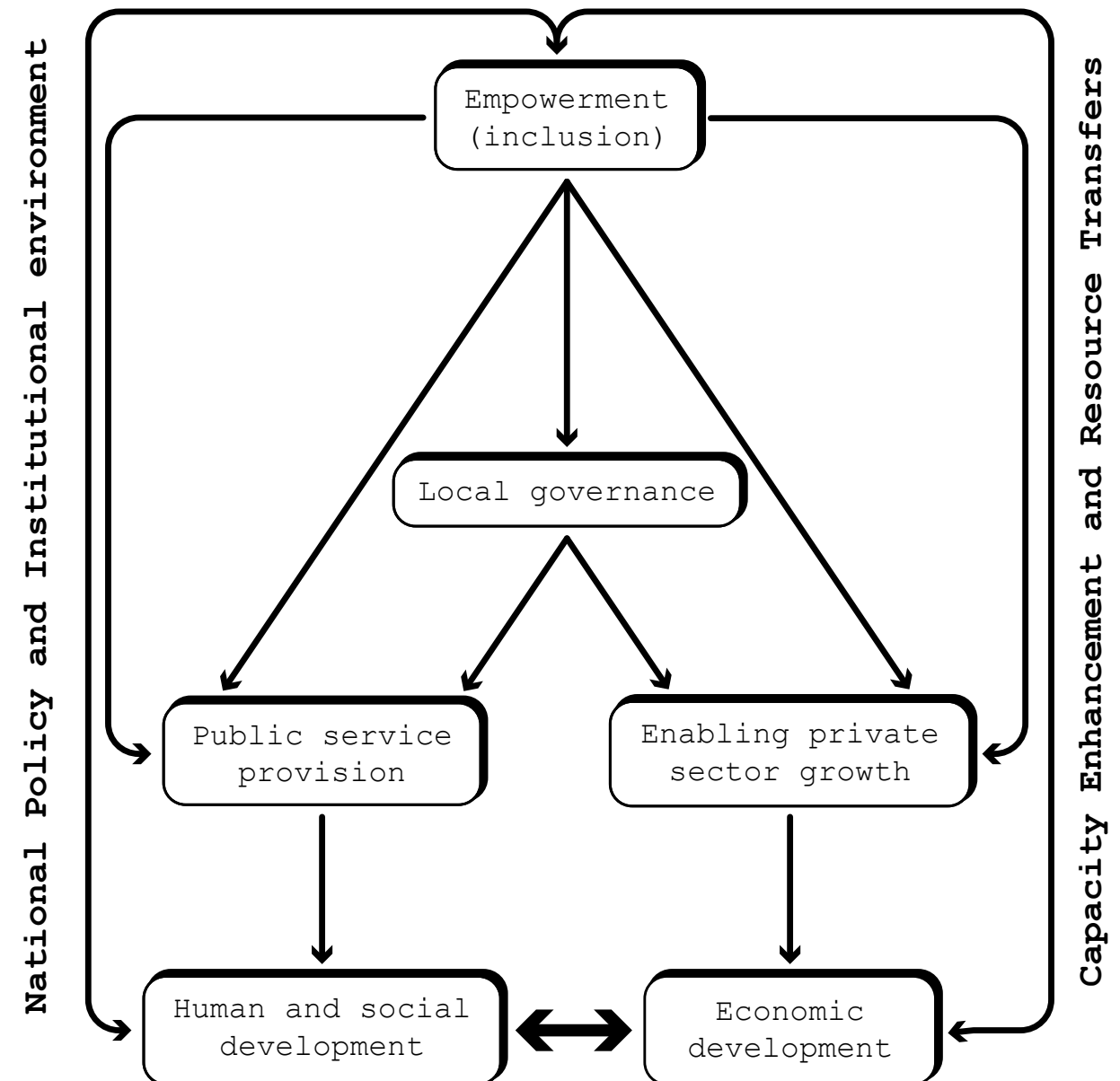
Support the Community Action Plan by making it part of the local development framework.



Local development framework

- Increasing access to public infrastructure
- Increase empowerment of local actors
- Enhance sustainability of local development process

Source: Helling;
Linking community empowerment, decentralized governance, and public service provision through a local development framework.

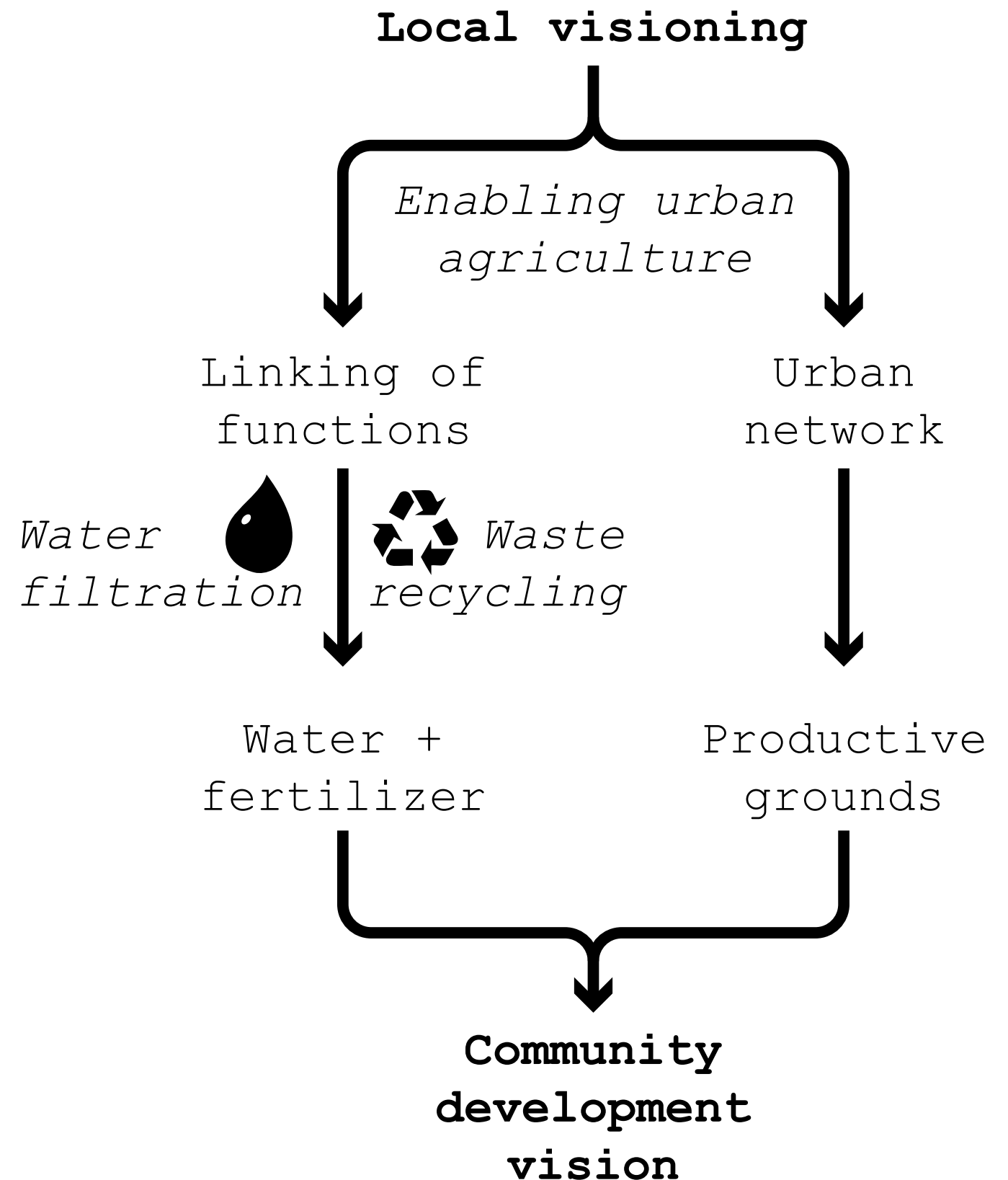


Local visioning

Local vision by enabling the implementation of urban agriculture.

Need for

- **Water**
- **Fertilizer**
- **Production grounds**

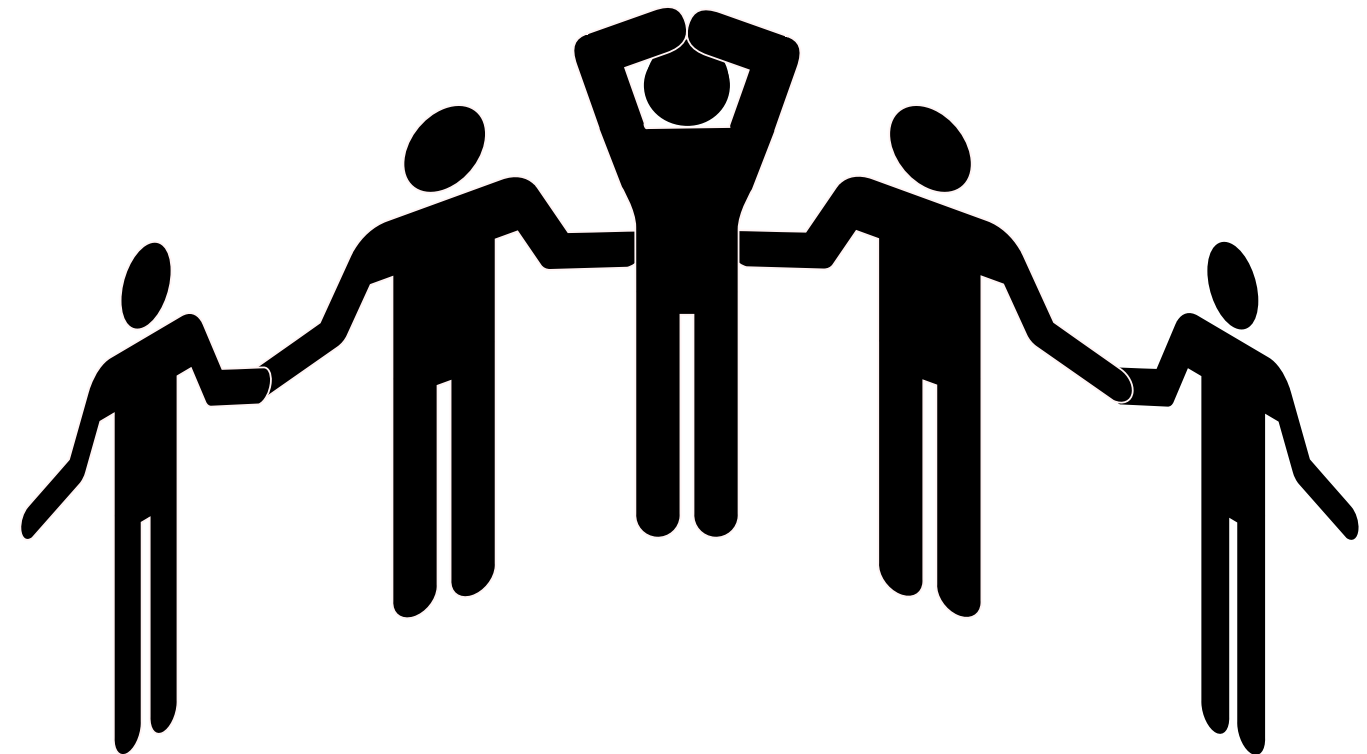


Cooperation

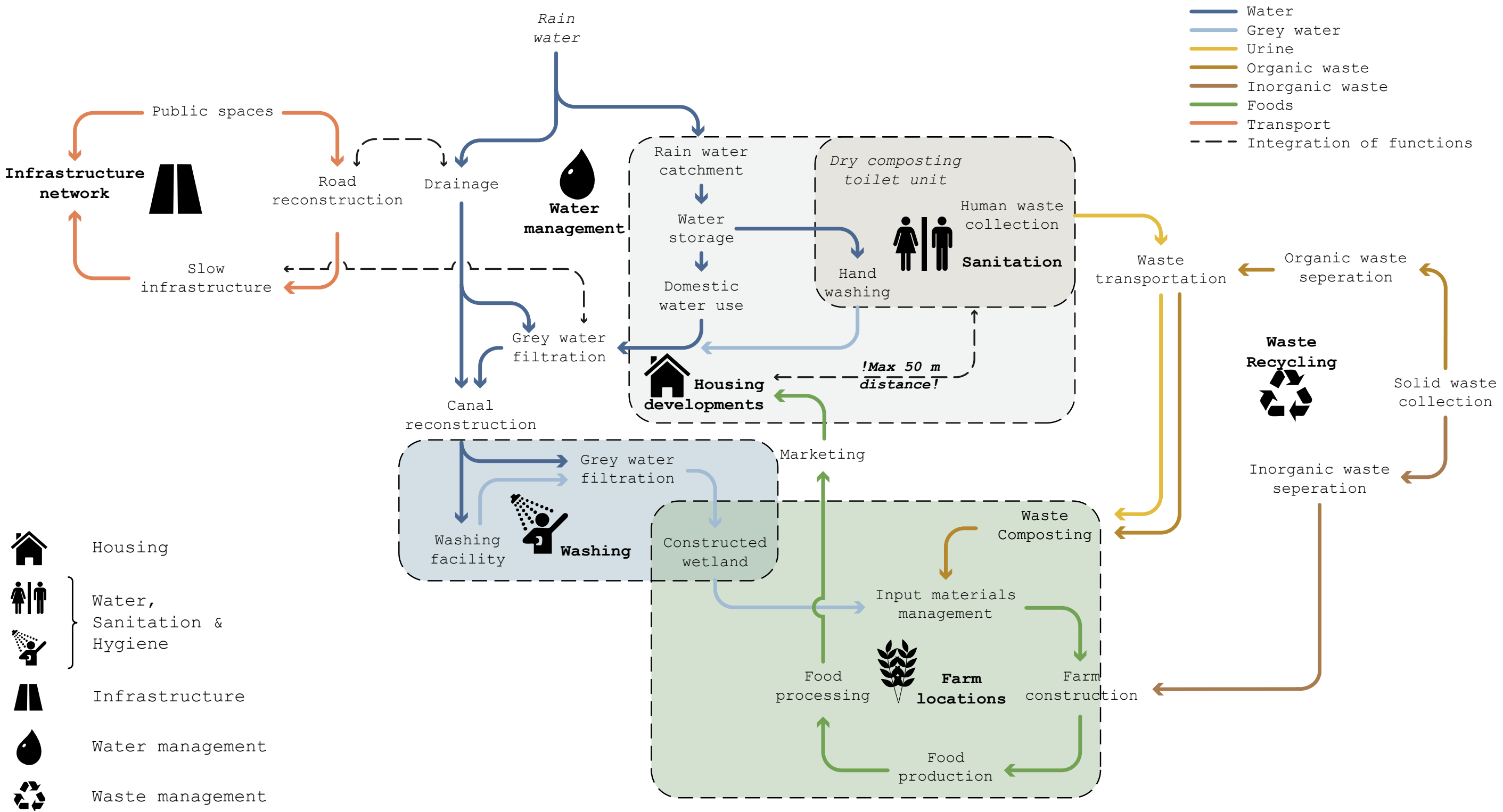
Principle of cooperation;

"Cooperation not competition is the very basis of future survival and of existing life system."

Source: Bill Mollison
Permaculture: A designers' manual



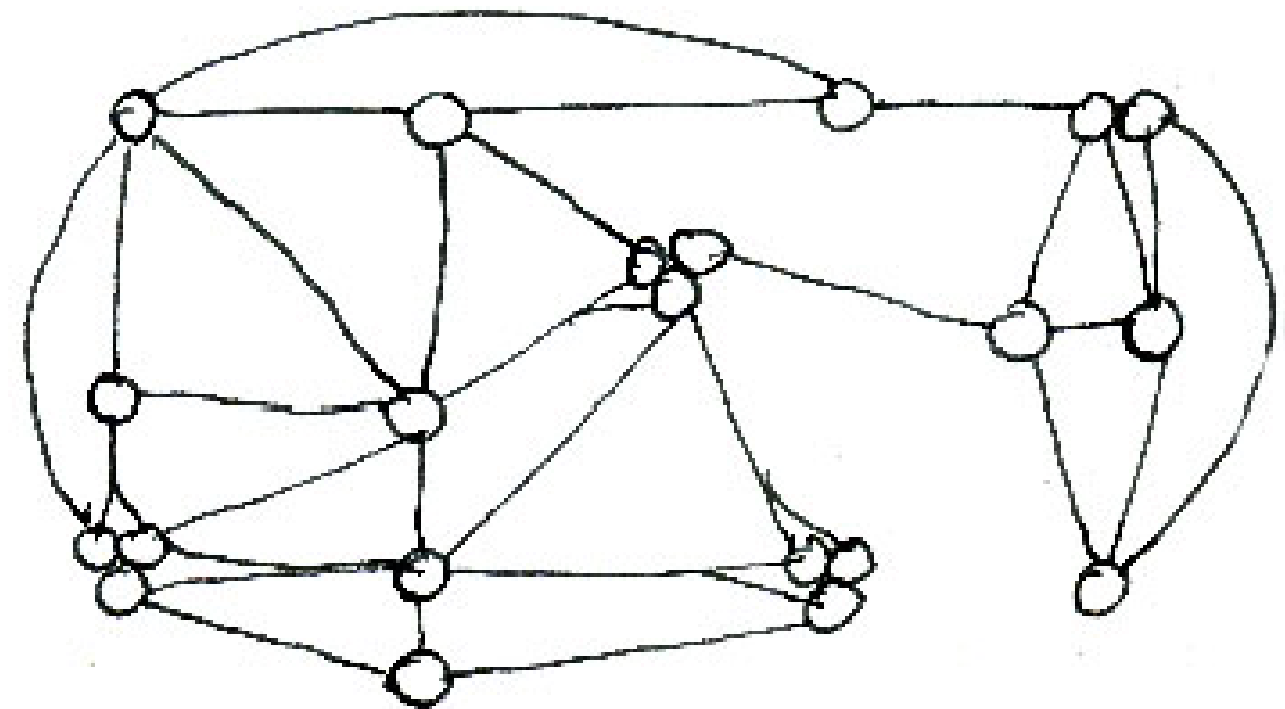
Linking of functions



Urban network

Introduction of spatial elements to build up urban network.

Generation of cooperation between urban spaces.

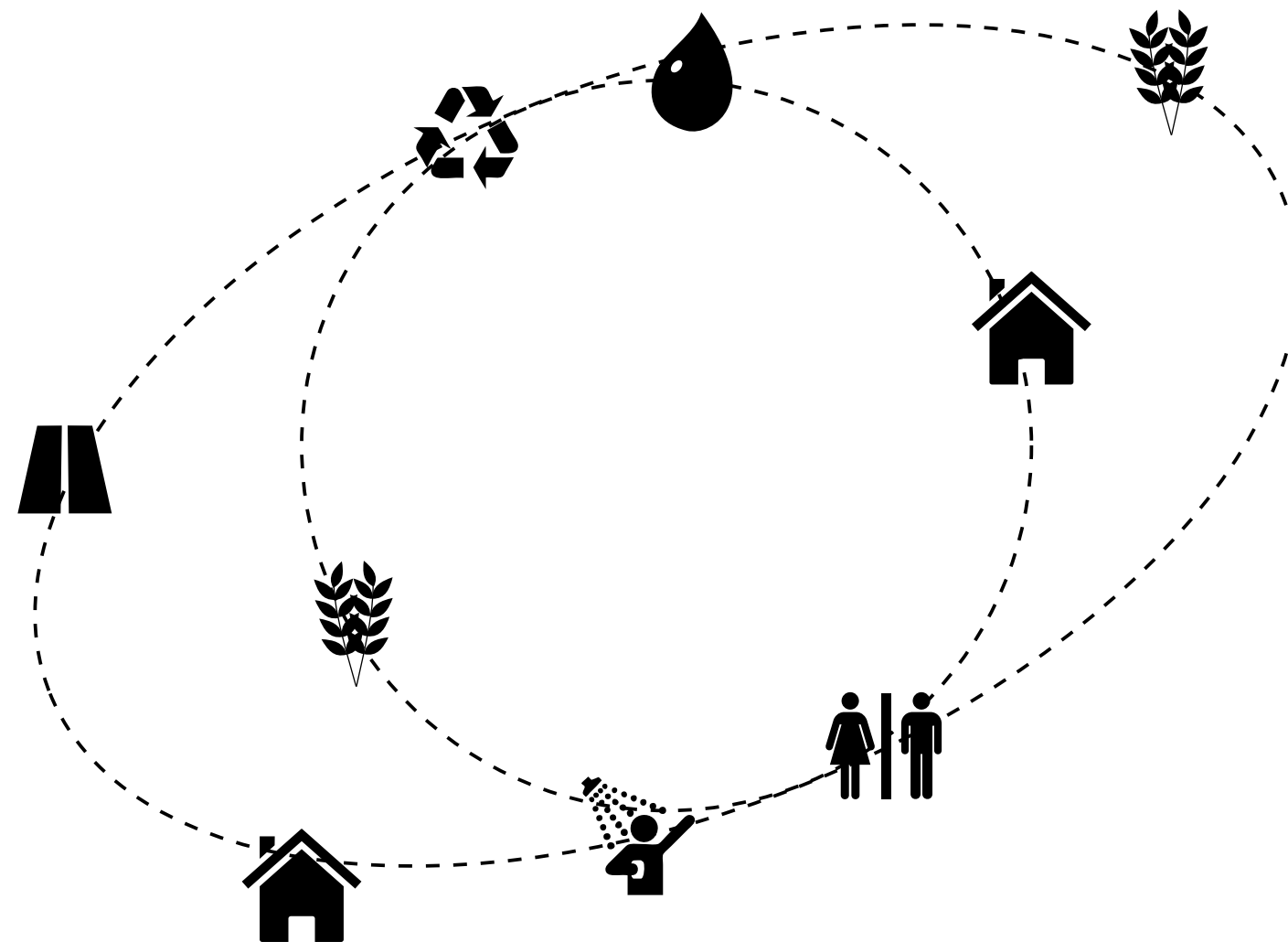


Source: Salingaros
Principles of urban structure

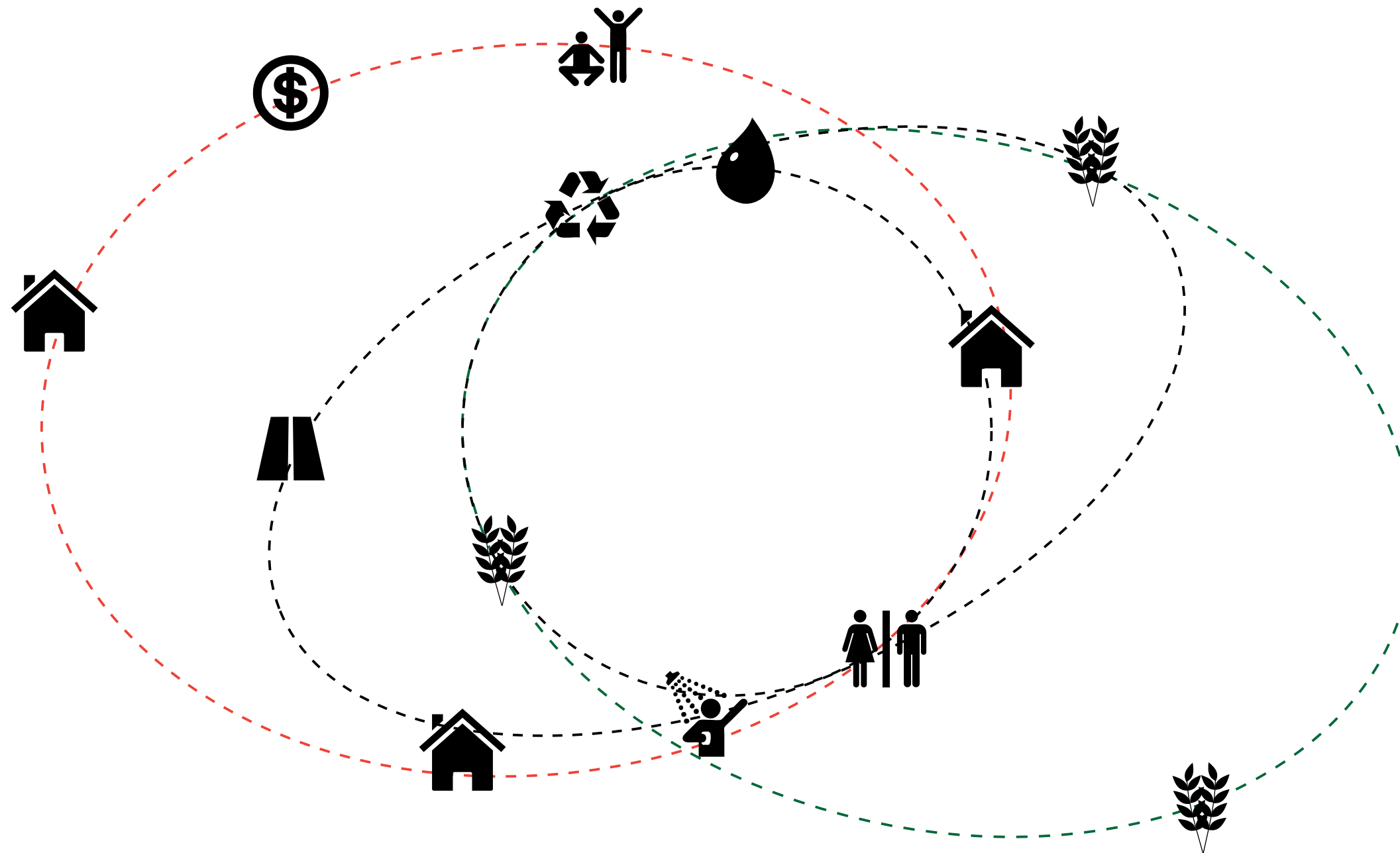
Development of structure enhances use



Development of structure enhances use



Development of structure enhances use



Introduction

Project
definition

Development
structure

**Development
framework**

Tisous
test case

Conclusion +
Recommendations

22/59

Spatial elements

Ecosan Garden, Soil



1. Productive spaces

Quinta Monroy Project, Elemental



2. Housing developments

Inkwenkwezi secondary school, Neoro Wolff architects



3. Socio-economic facilities

Medellin escalator, Benavidas



4. Infrastructure

Guayaquil, Ecuador, architecture in development



5. Slow infrastructure

Malecon development architecture in development



6. Water lines

Participatory approach

Project start

Creation of
partnerships

•NGO,
•National governance,
•UN organisations,
•Communities,
•Sectorial
governmental bodies,
•etc

Stating of
project goals

- Social development,
- Inclusive urban environment,
- Development of basic facilities,
- etc

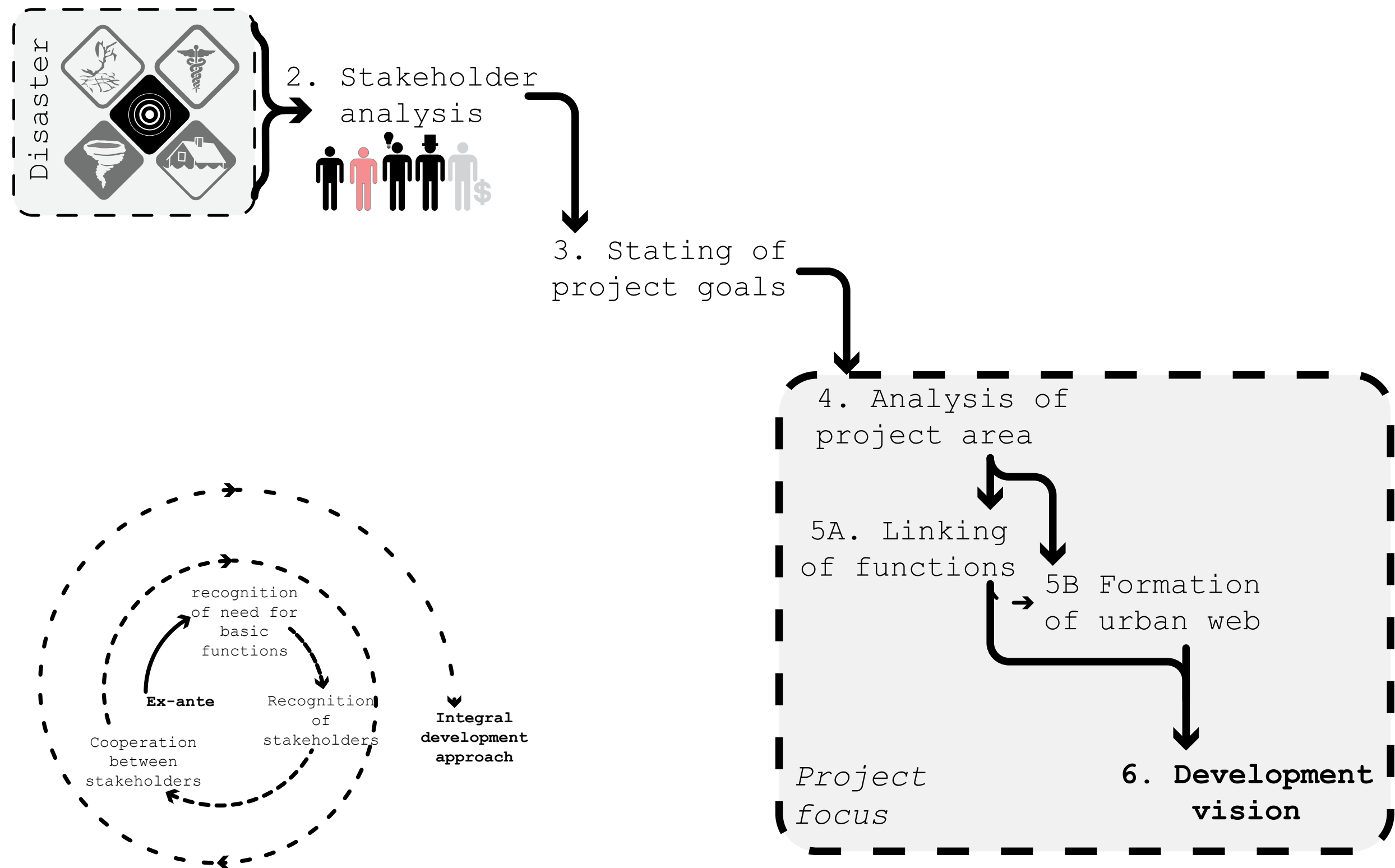
Analysis of
project area

Vision development &
implementation plan

Implementation
of vision and
follow-up

Source: Helling
Building Bridges through Participatory Planning - Part 1, UN-Habitat

Development visioning



'TISOUS 'TEST' CASE



1. Project start

Source: BBC news

Tisous community

- Informal settlement on urban fringe
- Poor urban conditions
- Need for integration

200

100

500



Introduction

Project
definition

Development
structure

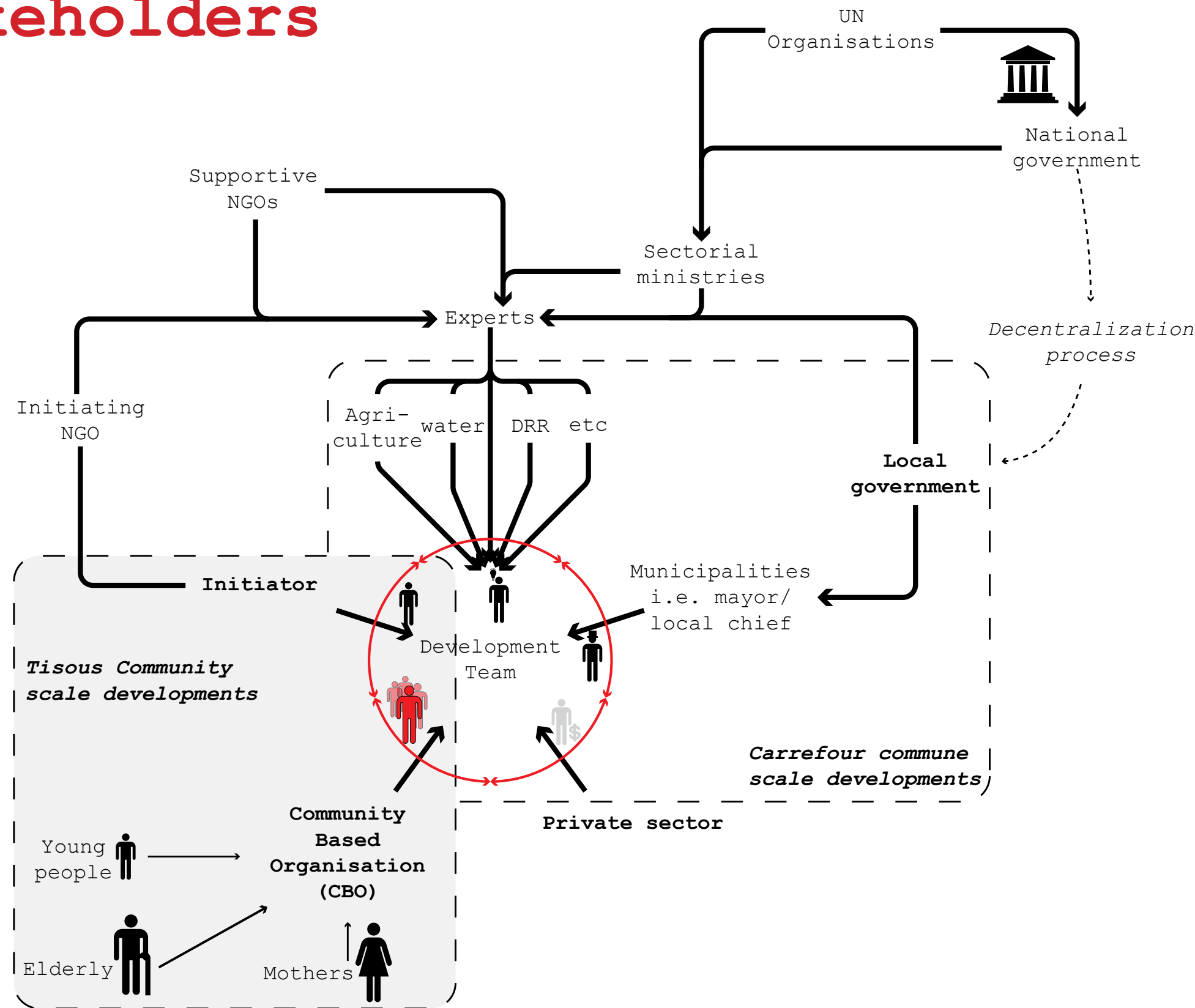
Development
framework

**Tisous
test case**

Conclusion +
Recommendations

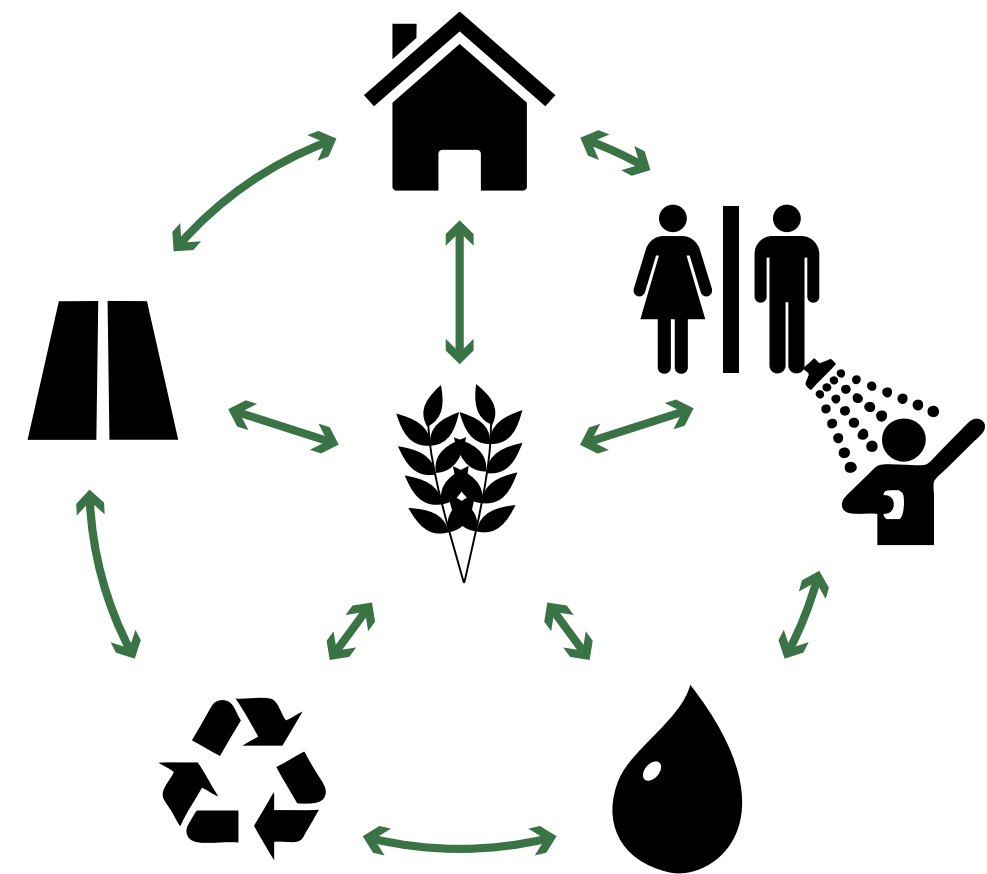
28/59

2. Stakeholders

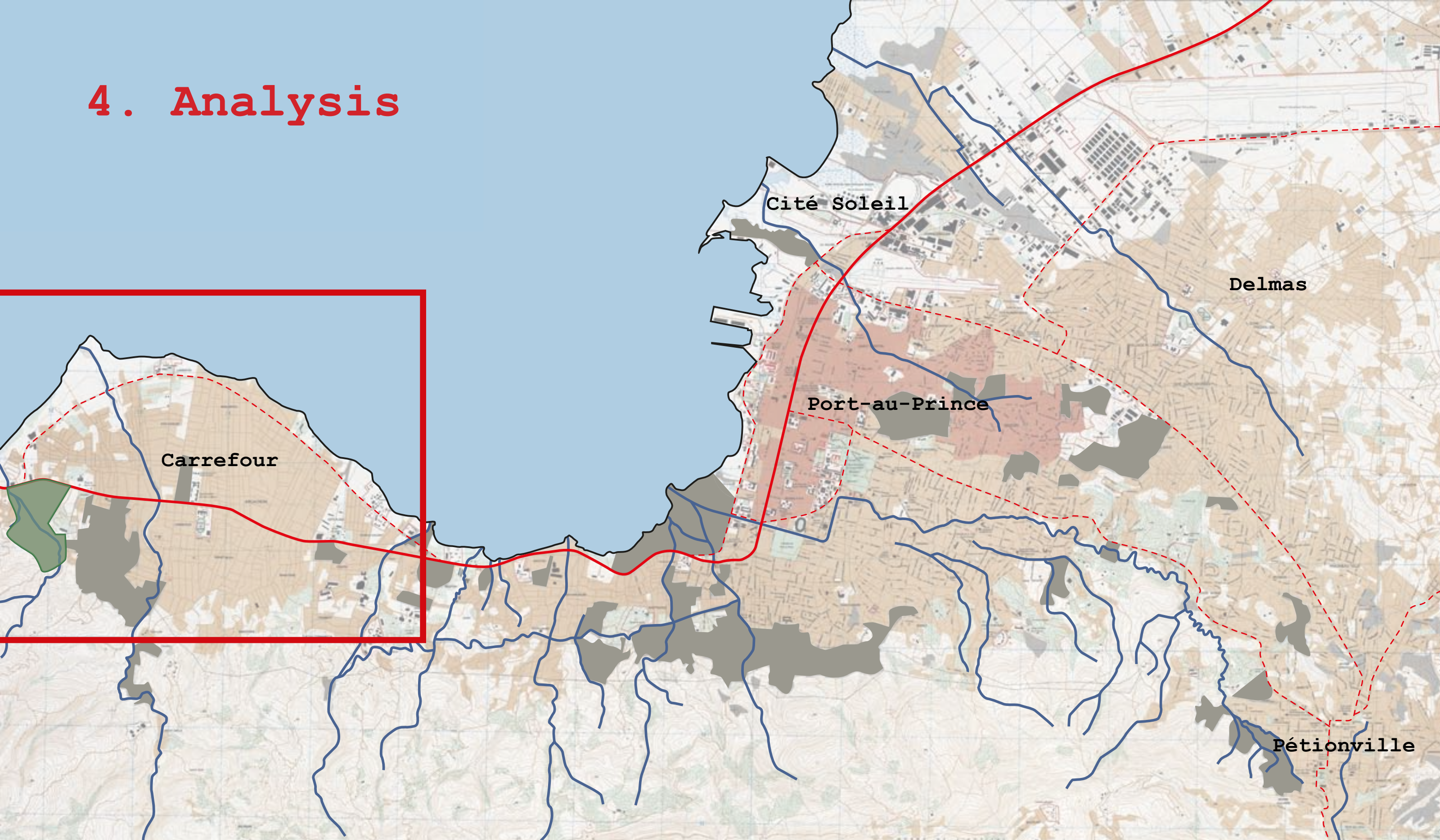


3. Project goals

- Supportive urban environment
- Enable future growth and expansion of network



4. Analysis



Characteristics



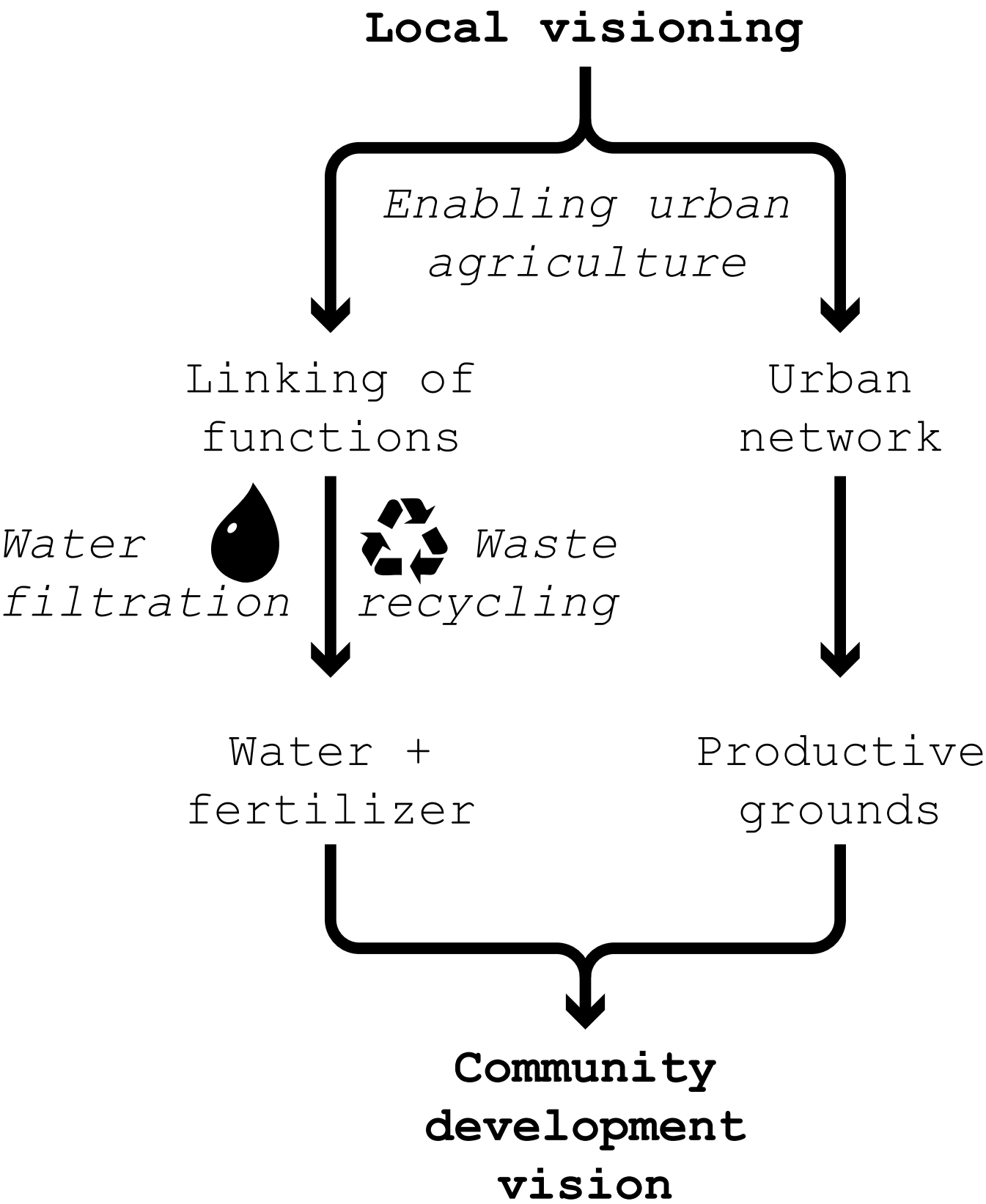


Rural character

- Anarchic constructions
- Lack of infrastructure
- Lack of organisation

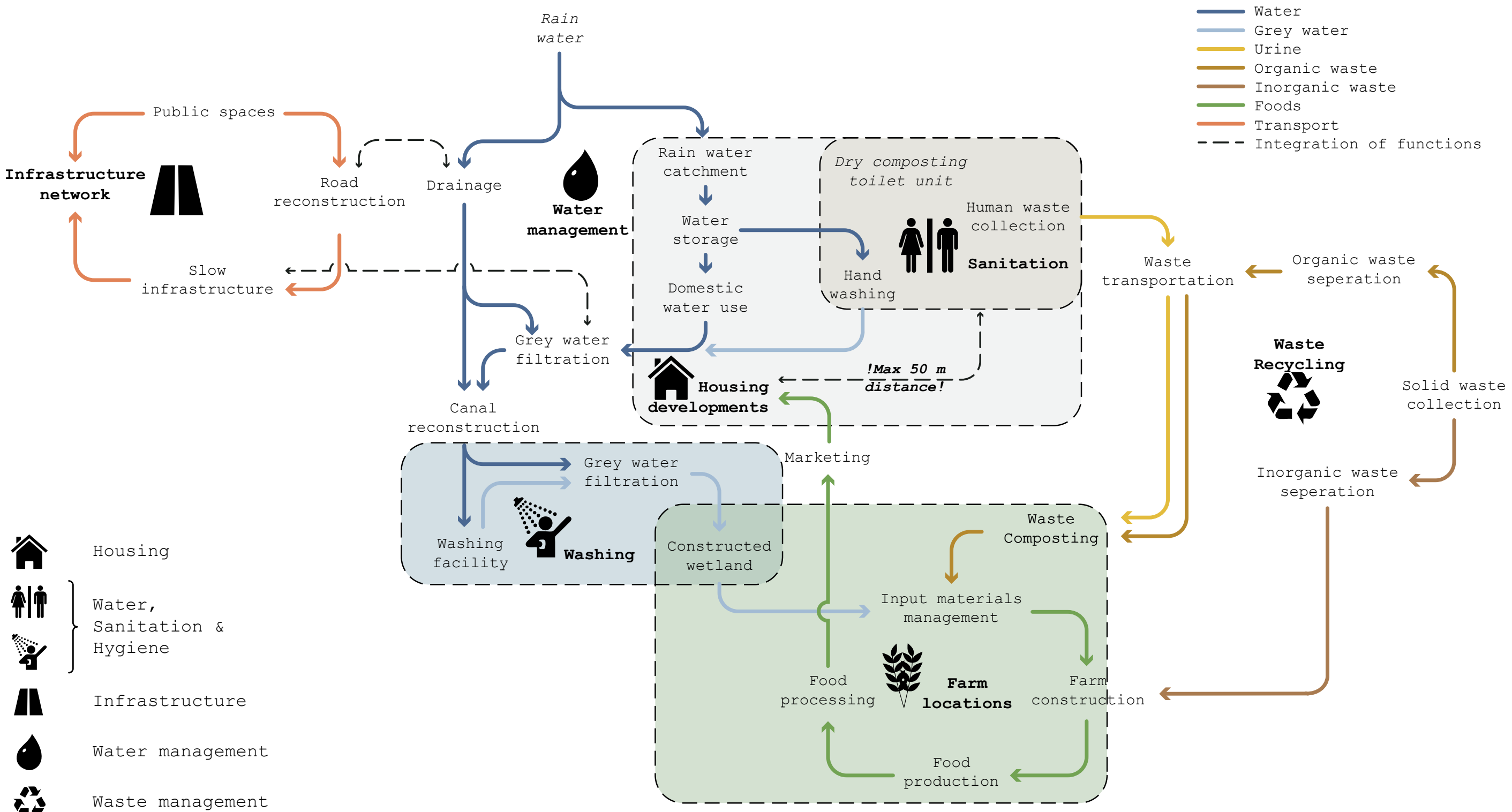


5. Vision development

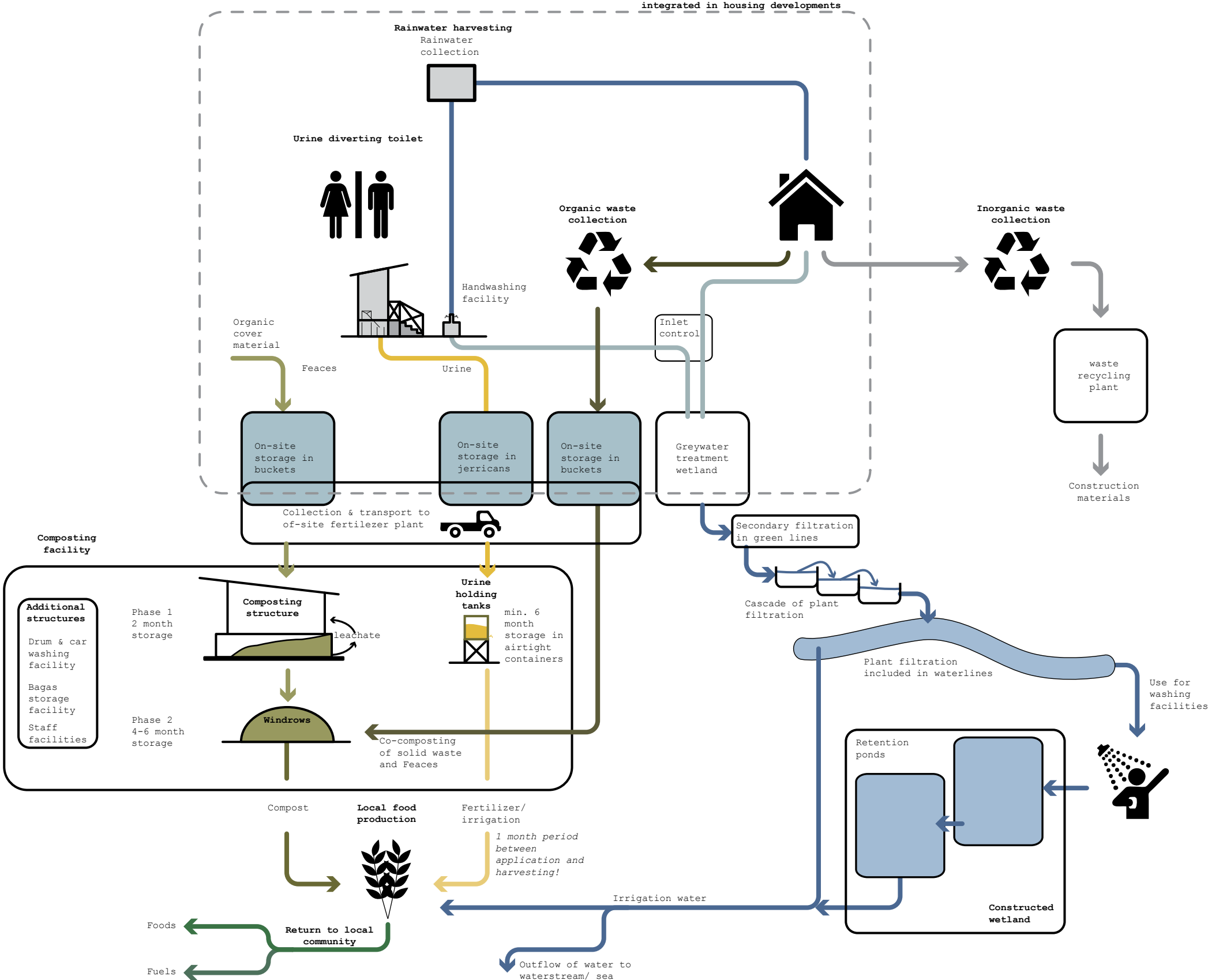


Enabling urban agriculture
Network of basic facilities
Structure built environment

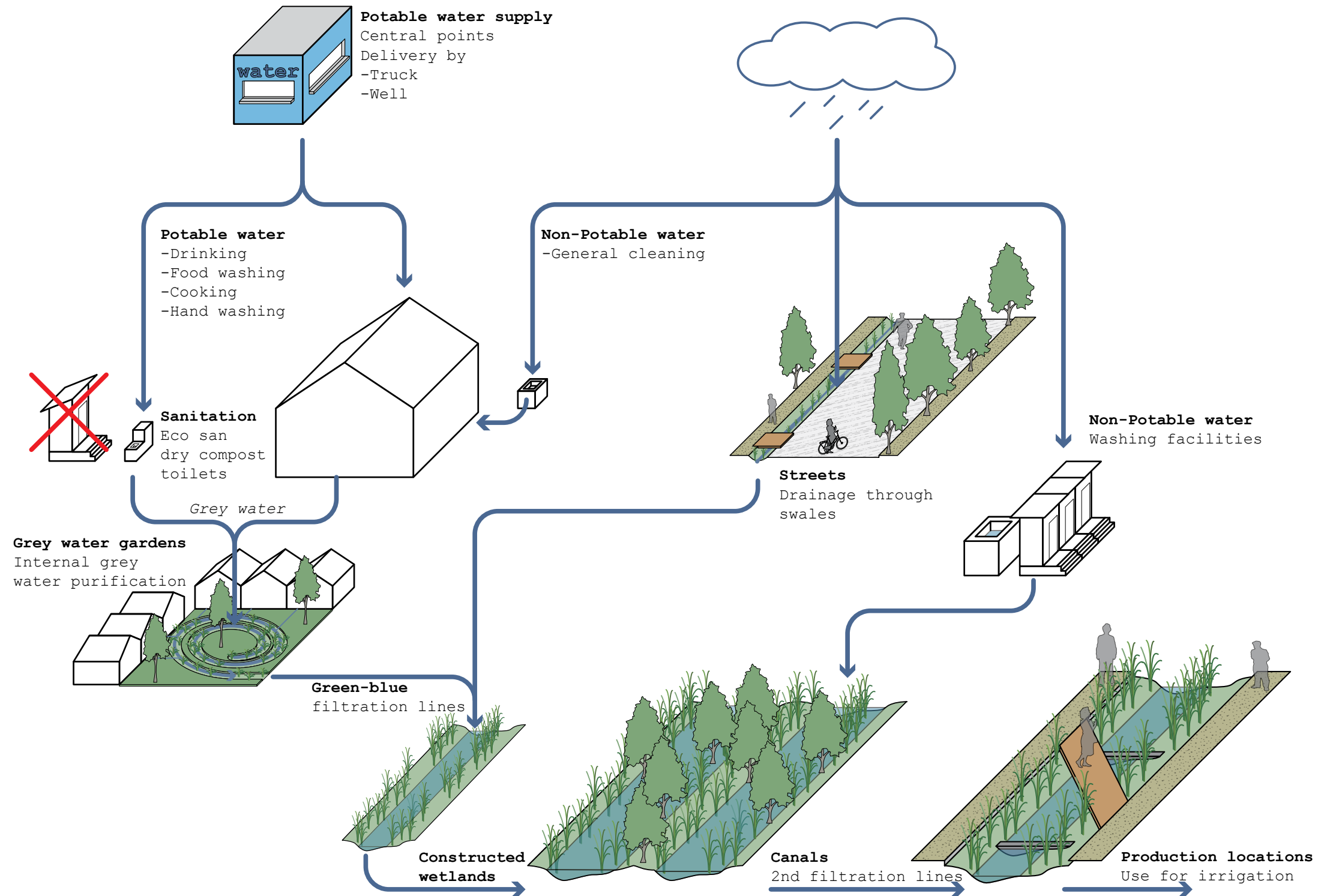
5A. Linking of functions



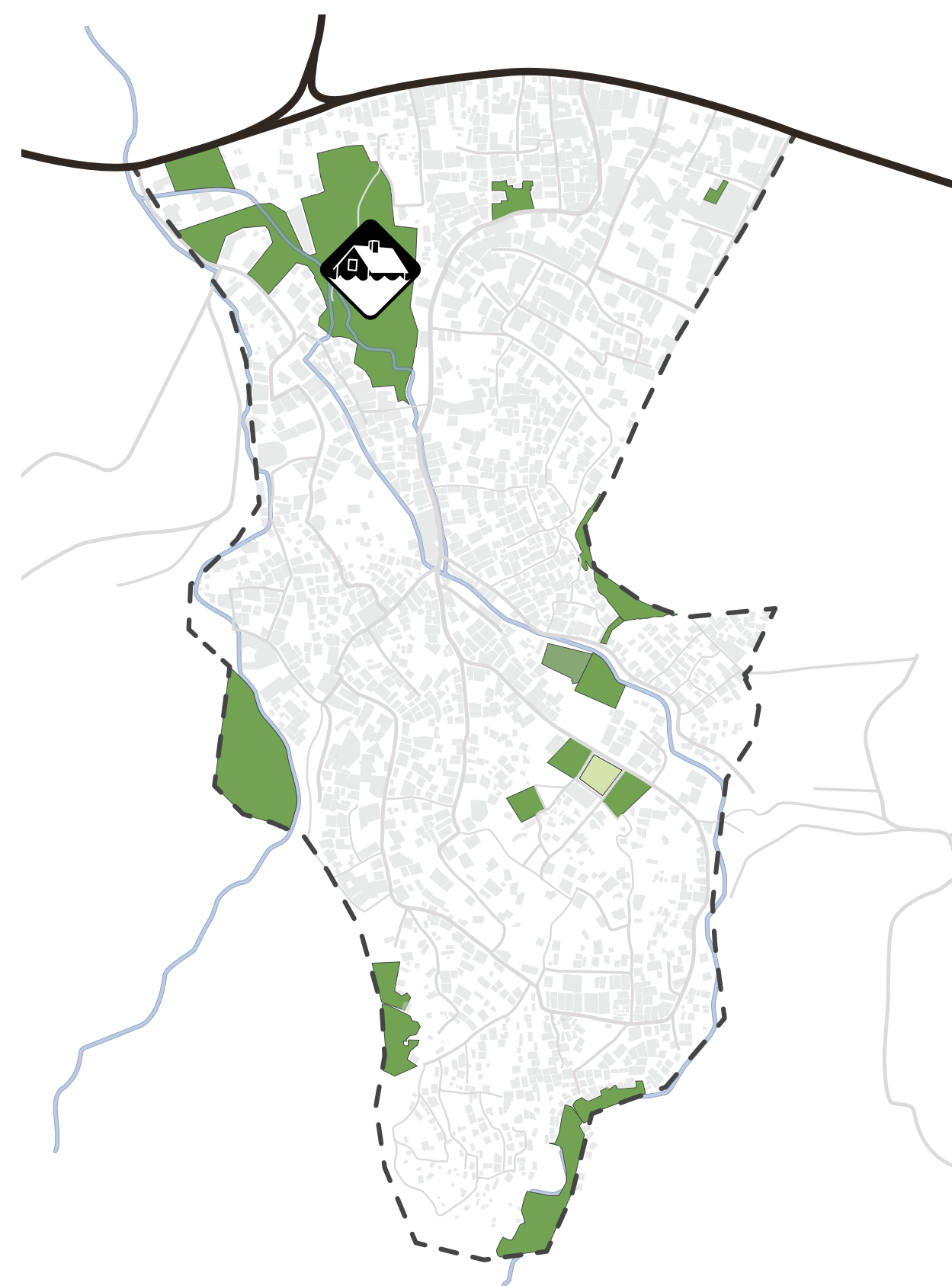
Overview of integrated Water and waste management system in Tisous



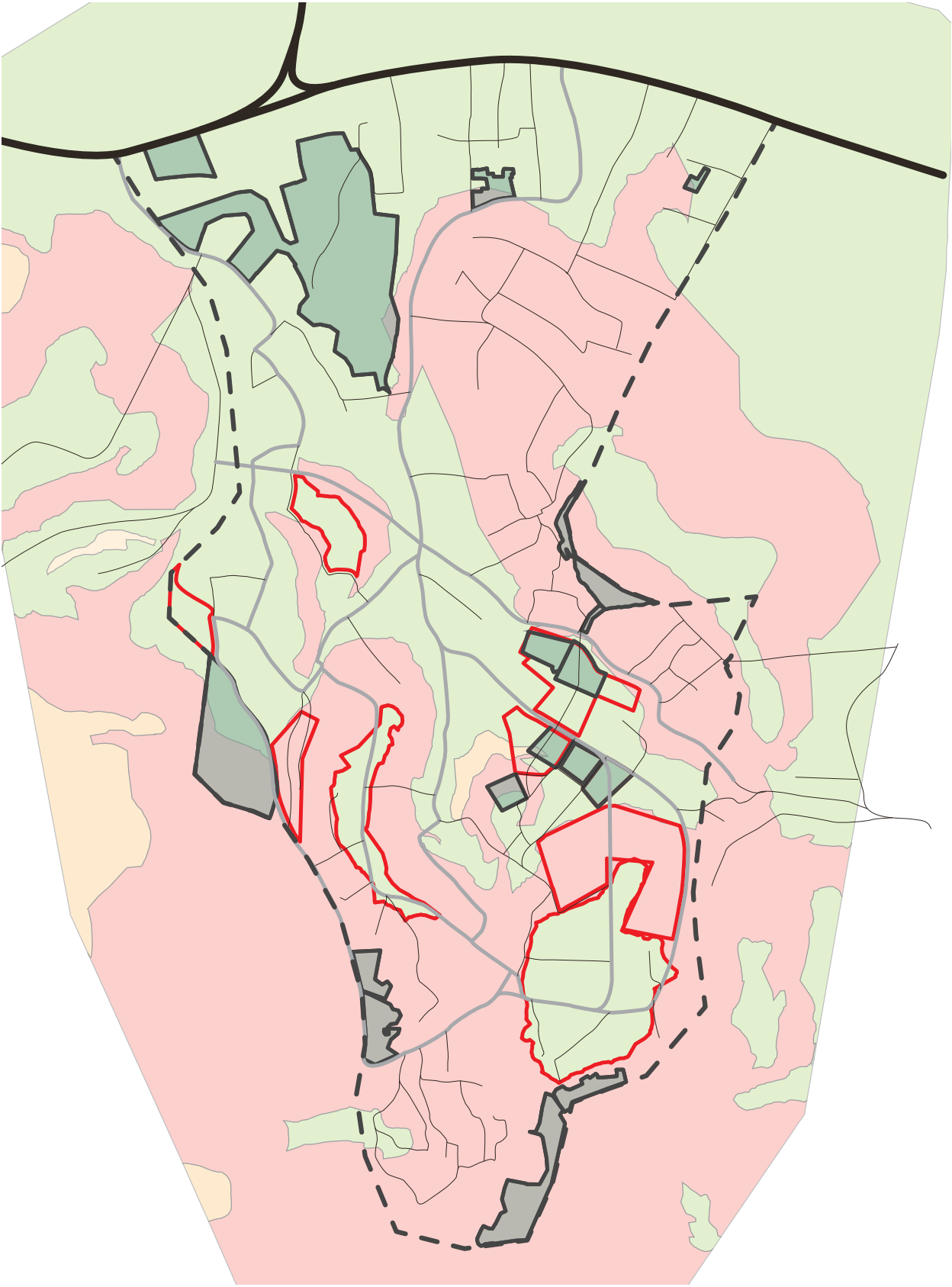
Water management



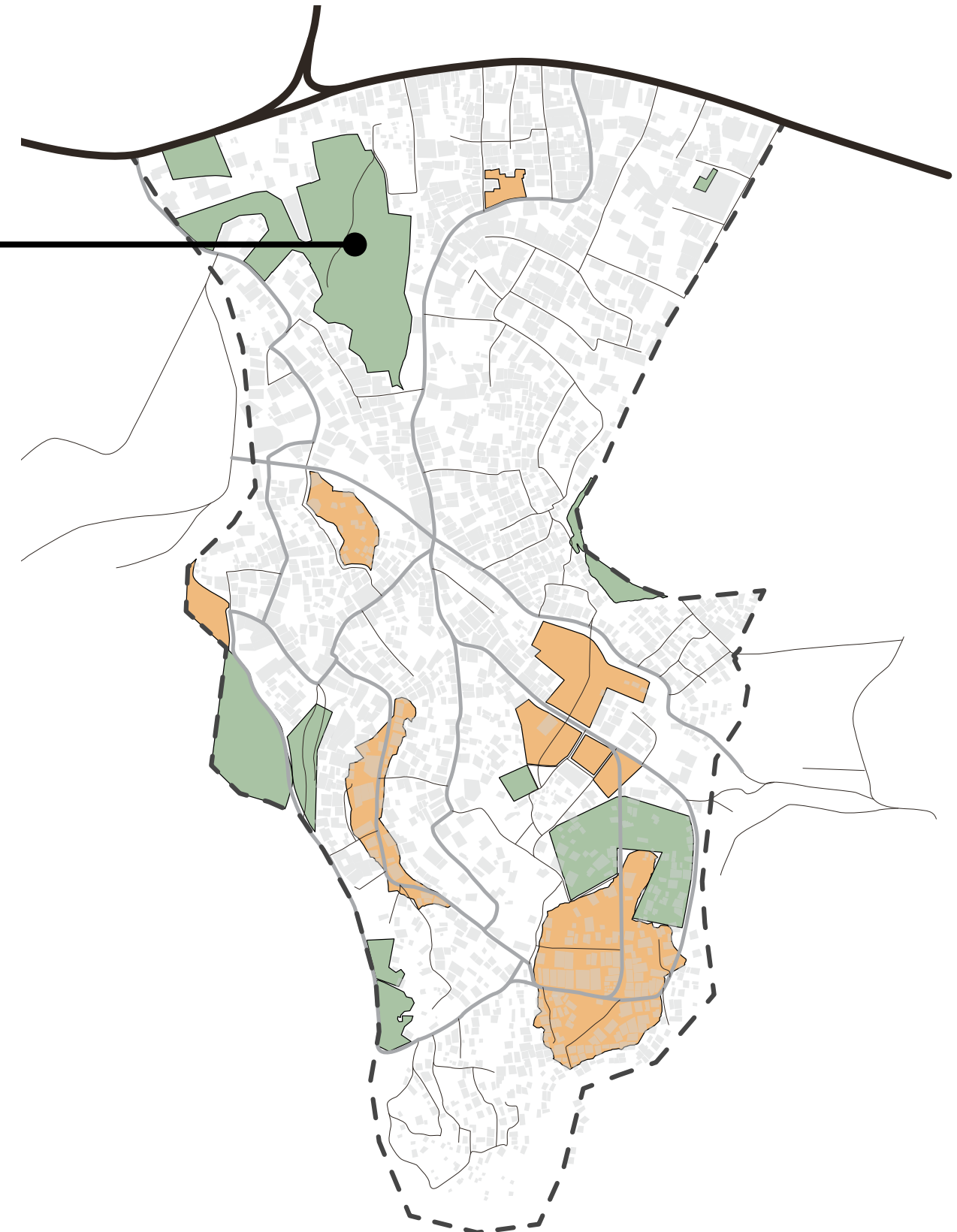
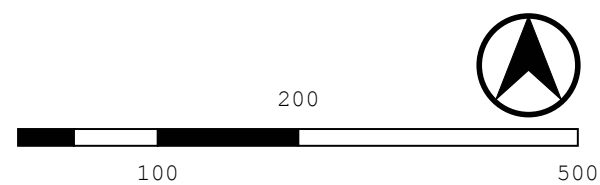
5B. Urban network



Productive spaces selection



Production & urban spaces



Production network

Per 1000m²

Potatoes

1250 Kg



Cabbage

667 Kg



Chicory

2222 Kg

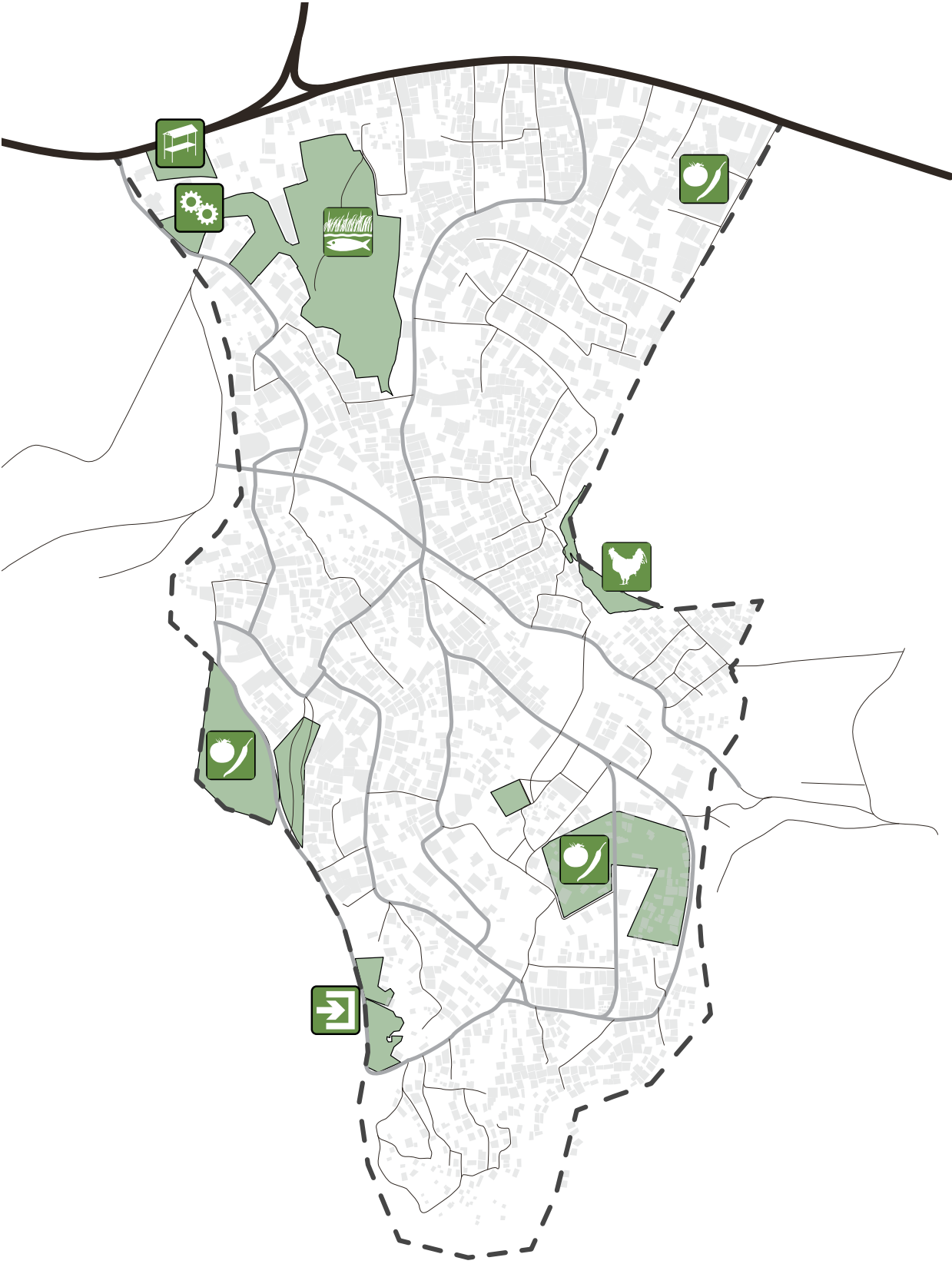


Spinach

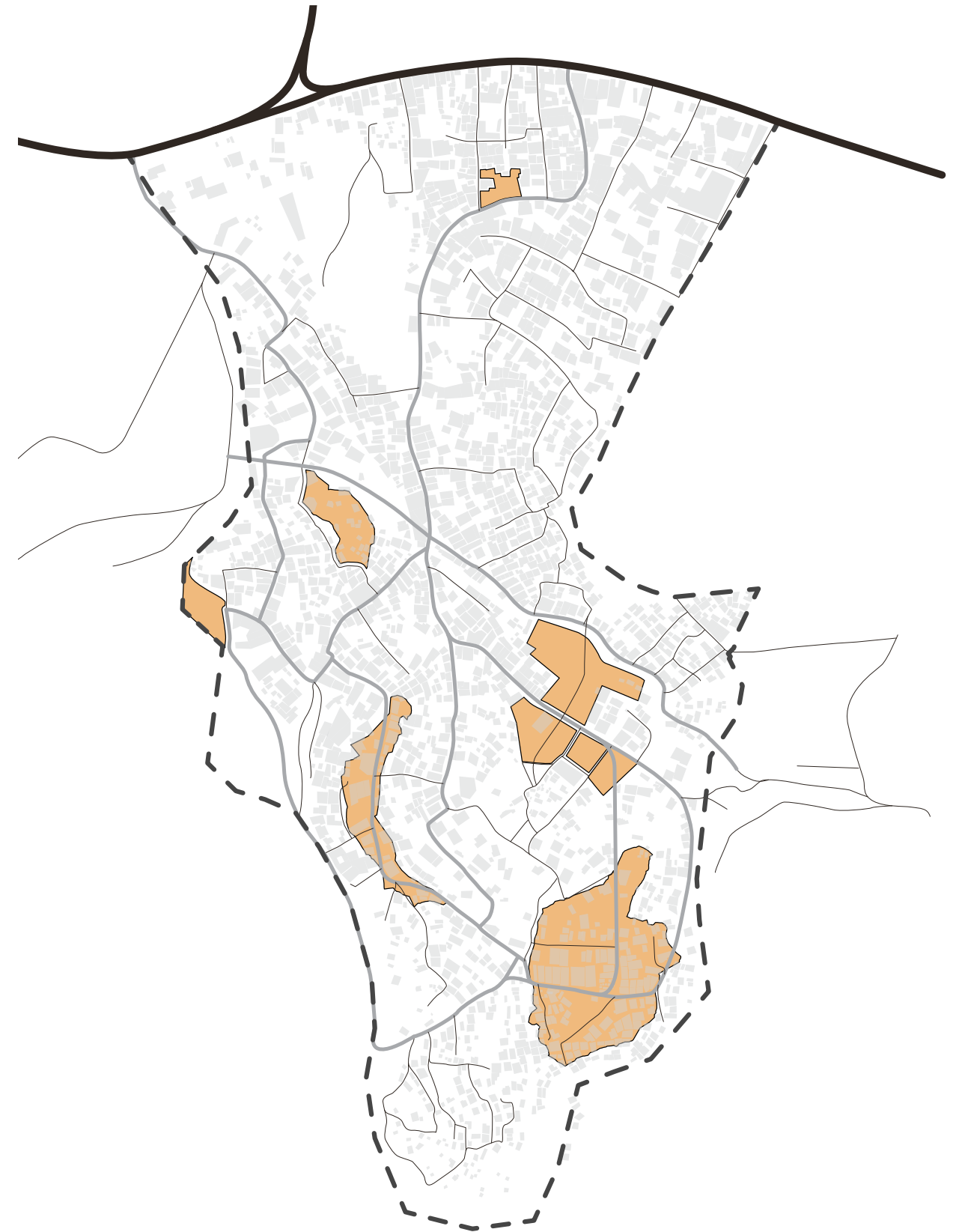
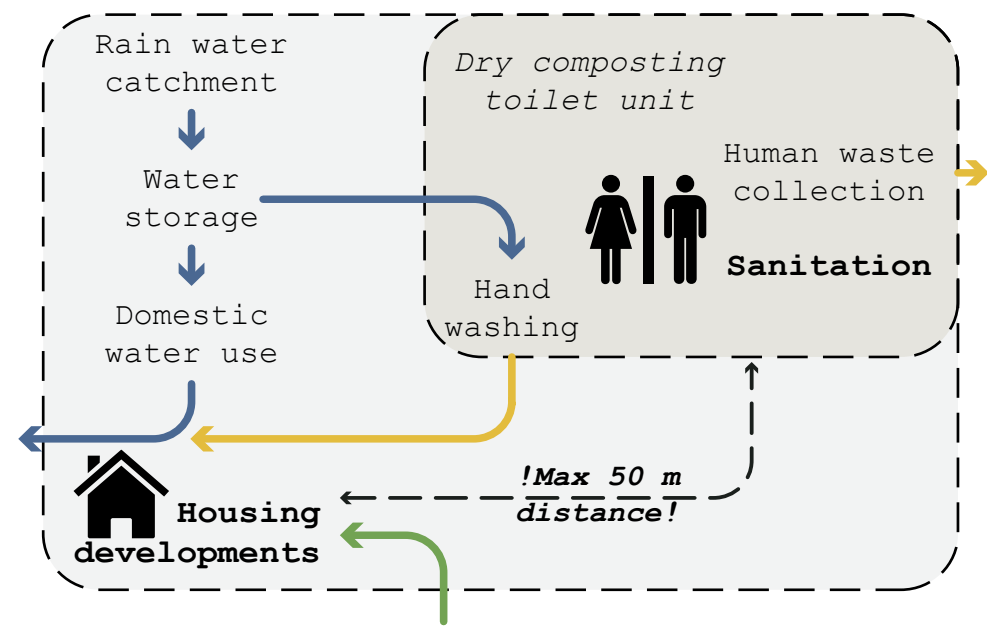
1225 Kg

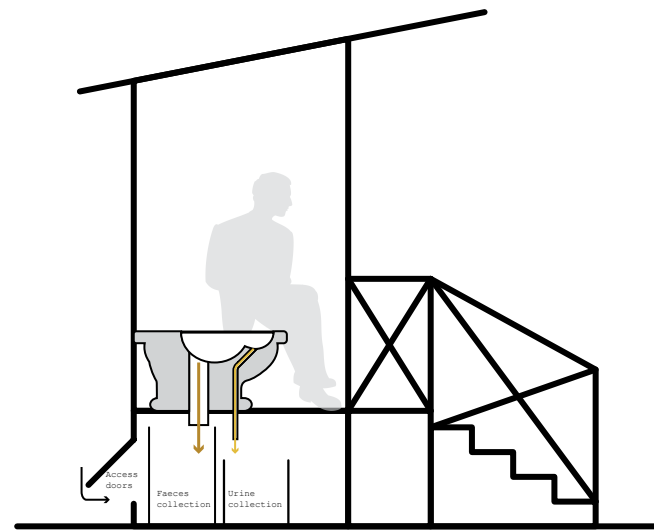


Source: FAOstat in combination with
Food composition database, USDA

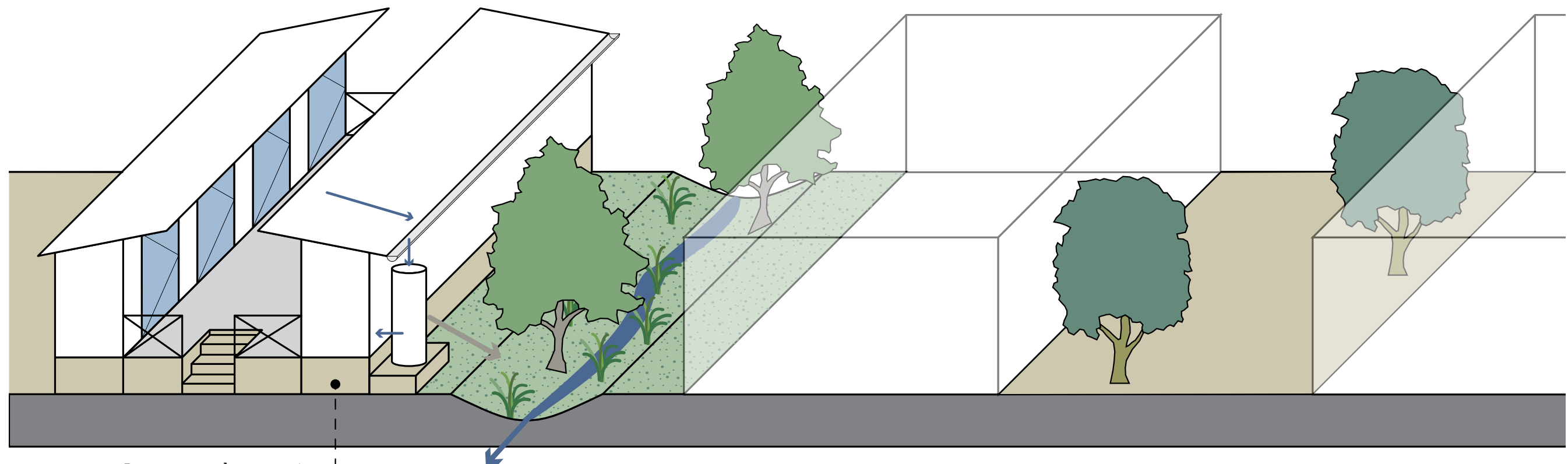


Housing development





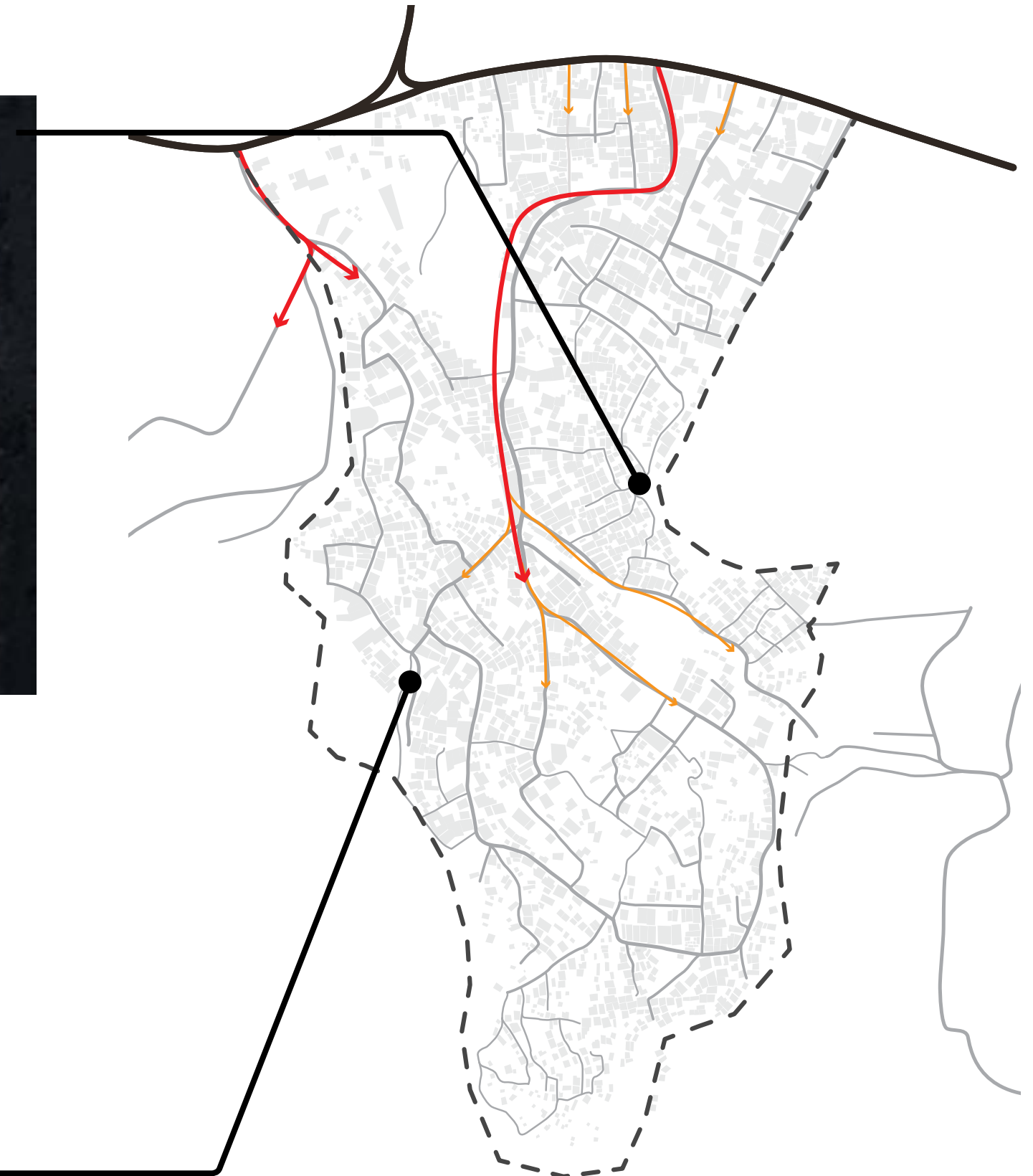
Sanitation unit



Access doors to
collected human waste

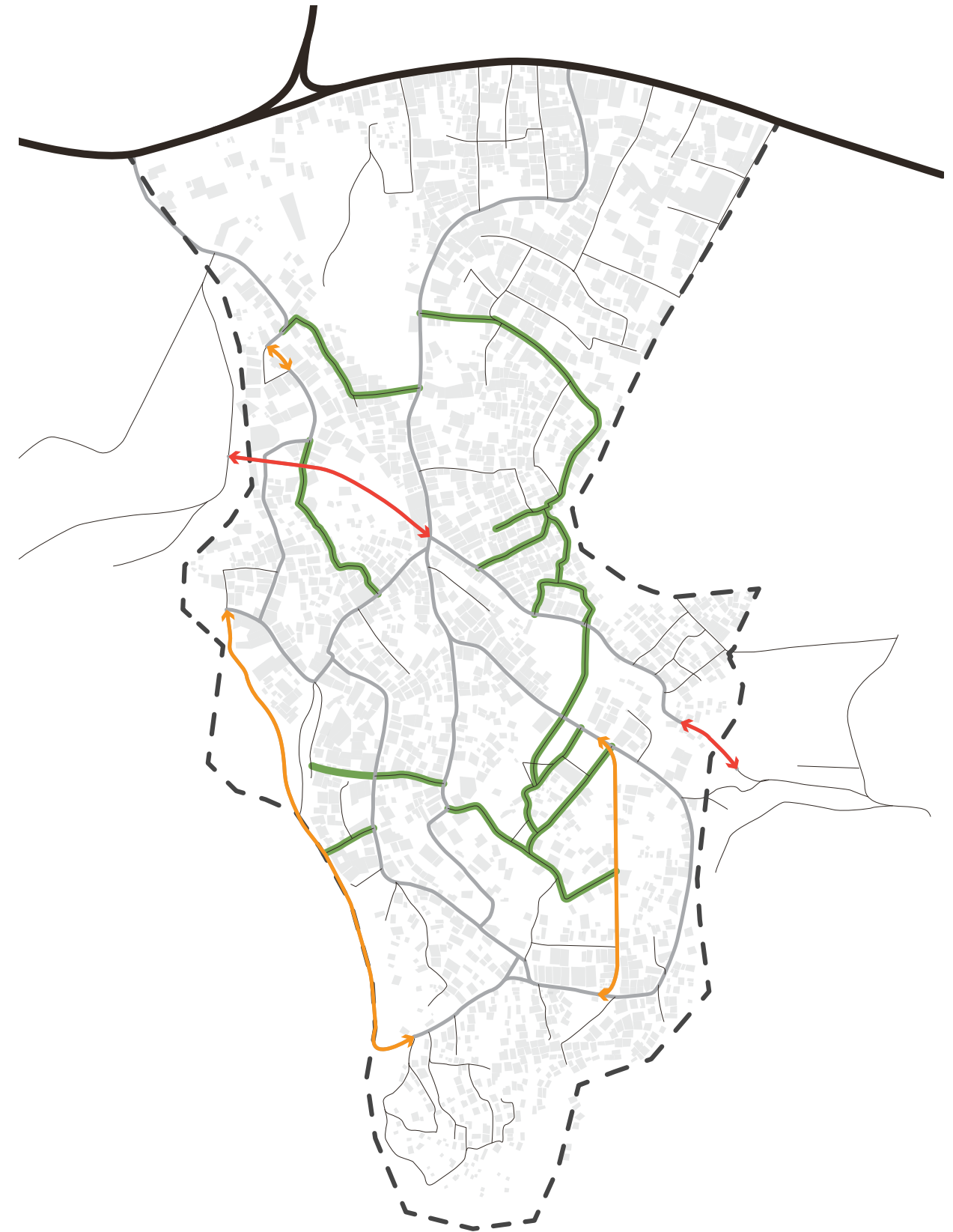
Water filtration

Road network



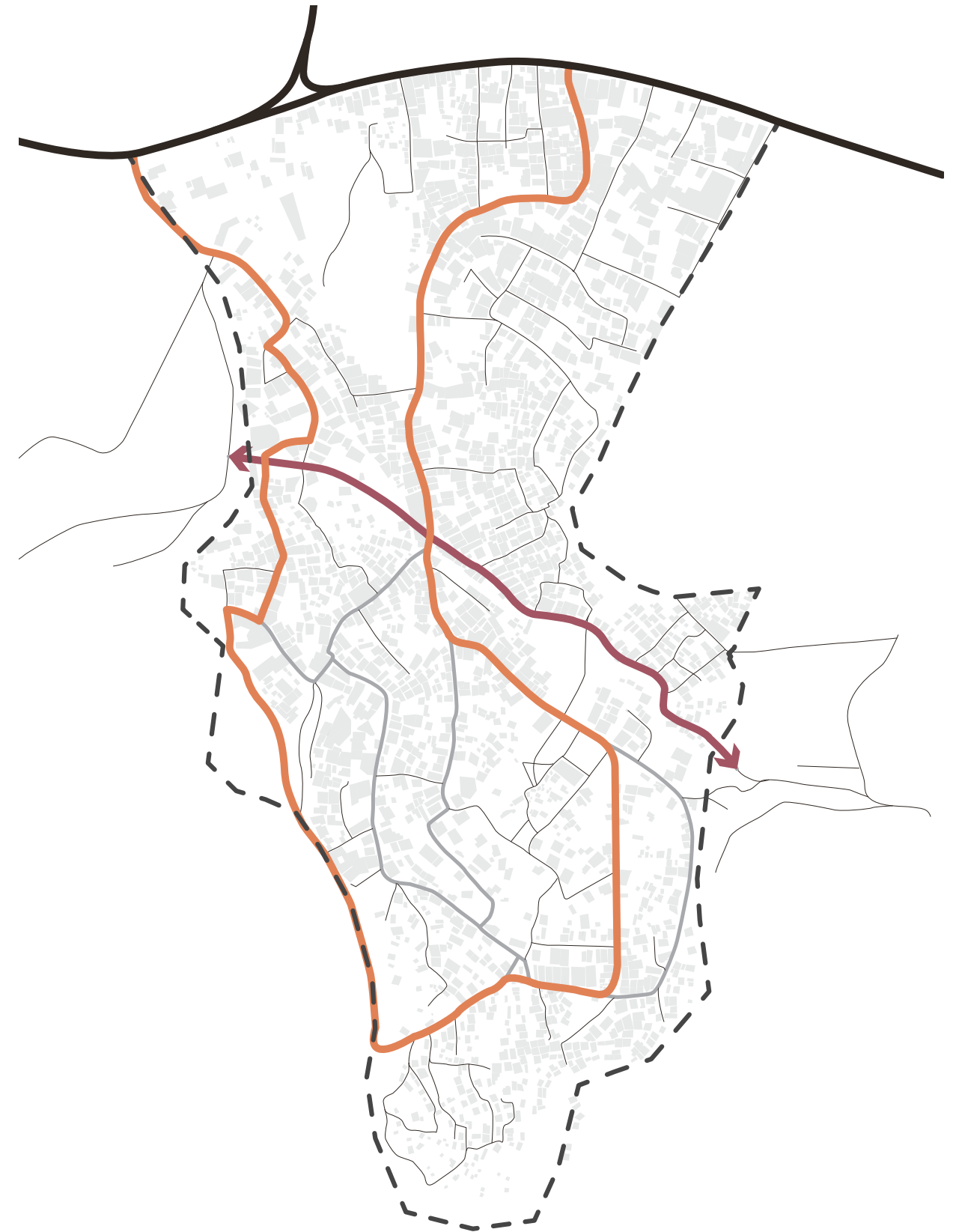
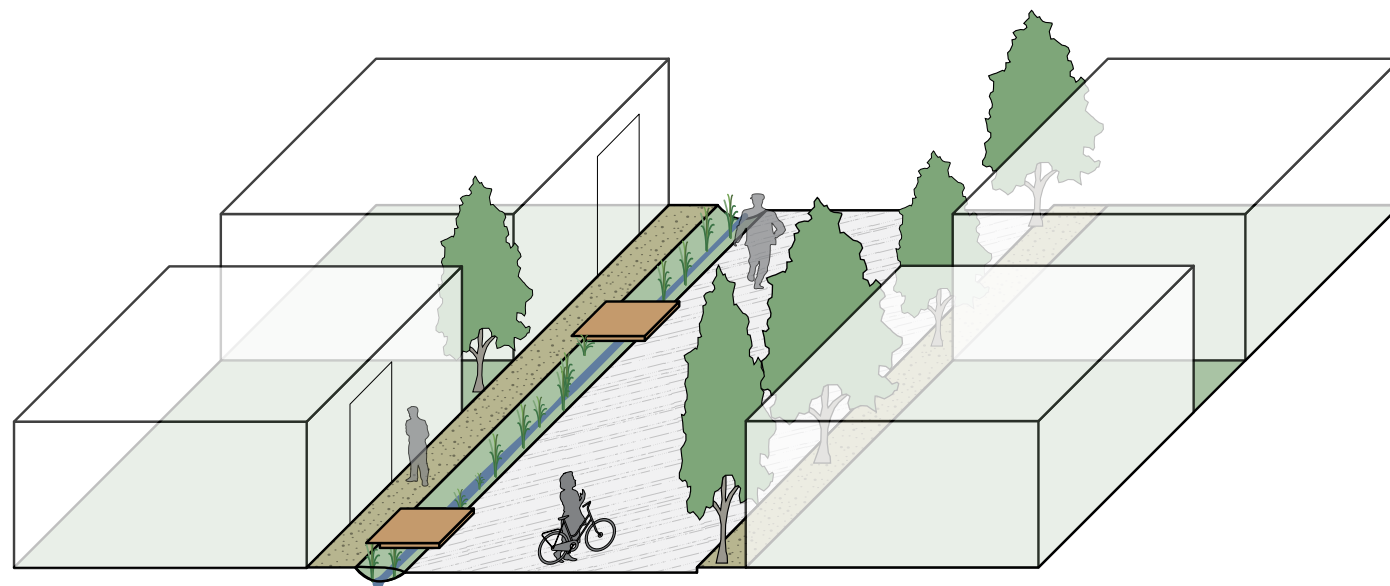
New infrastructure network

New hierarchy
of road structure
Fast & slow infrastructure



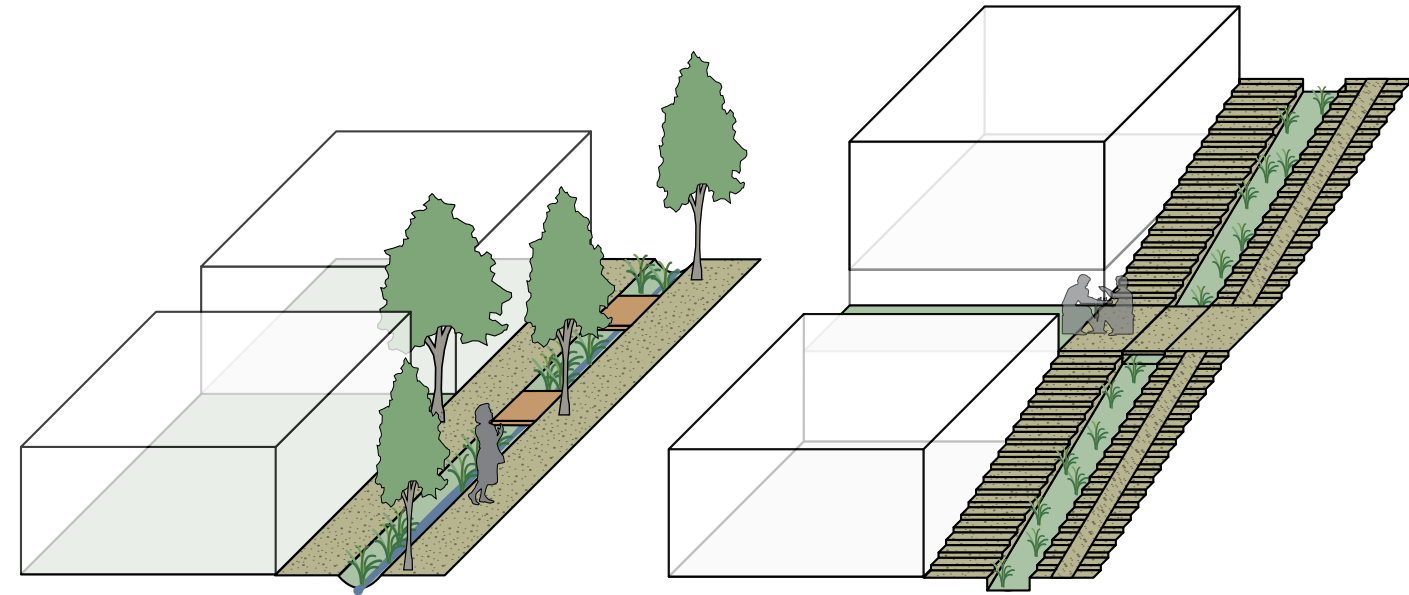
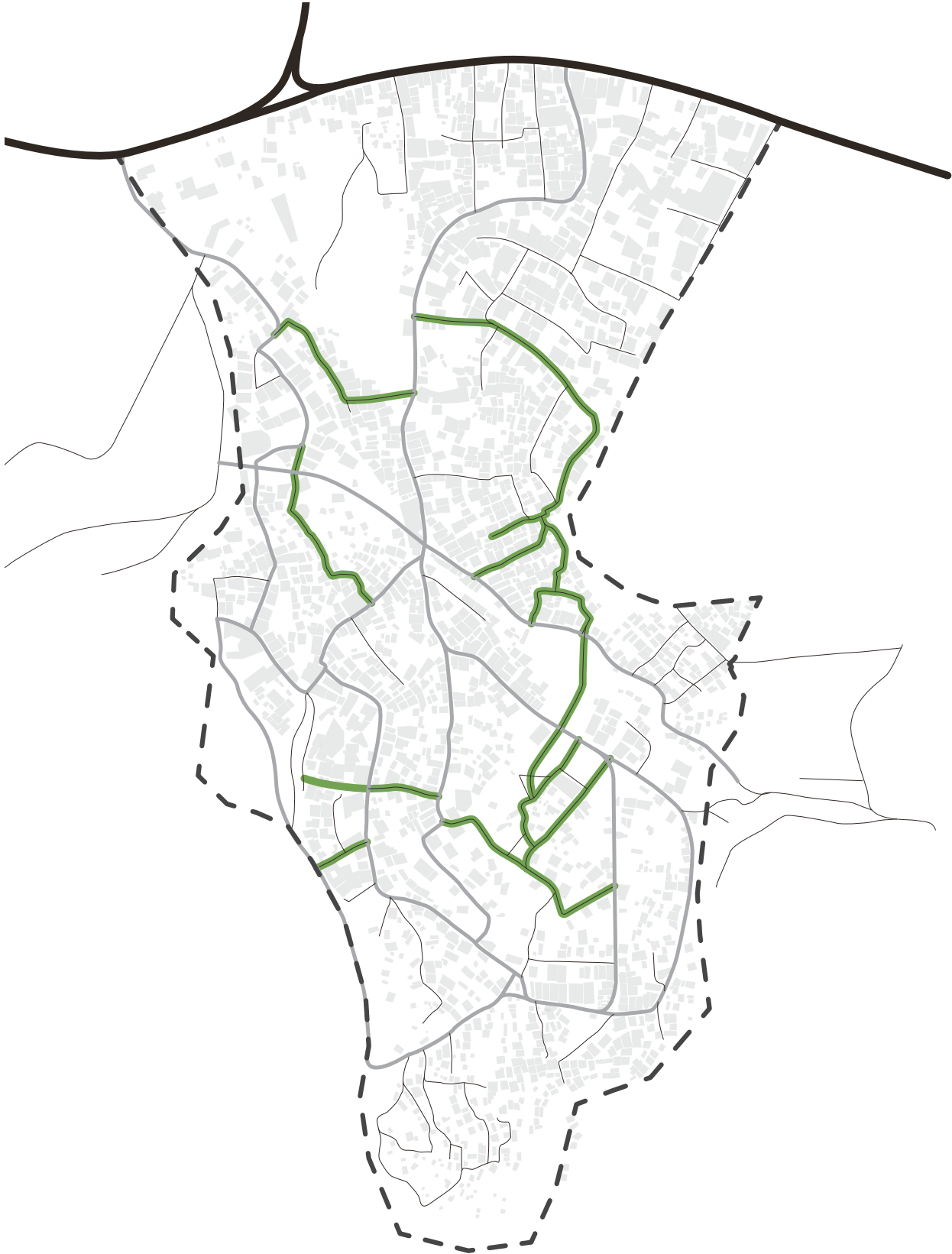
Roads

- New ring road structure
- Second east-west corridor



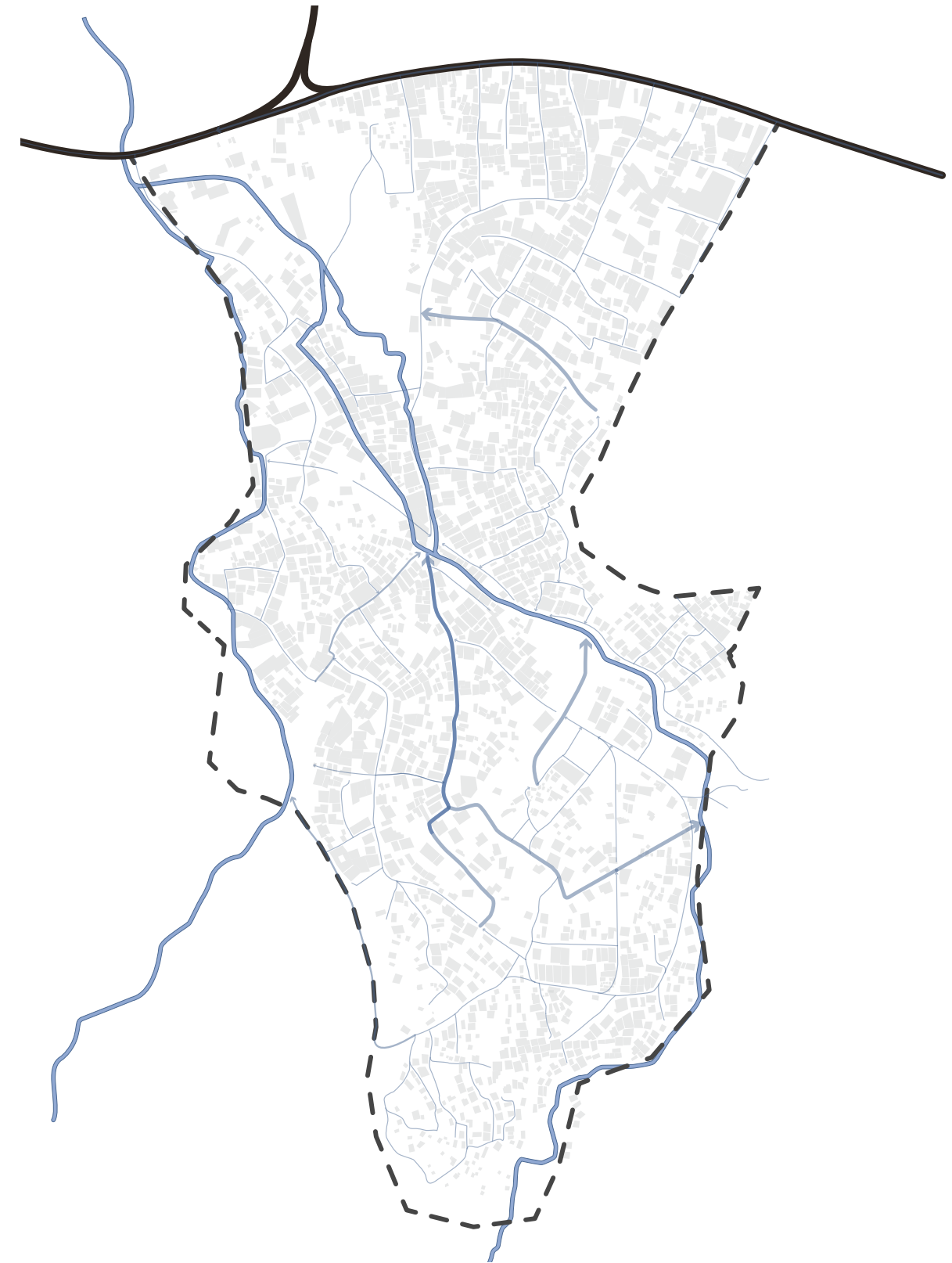
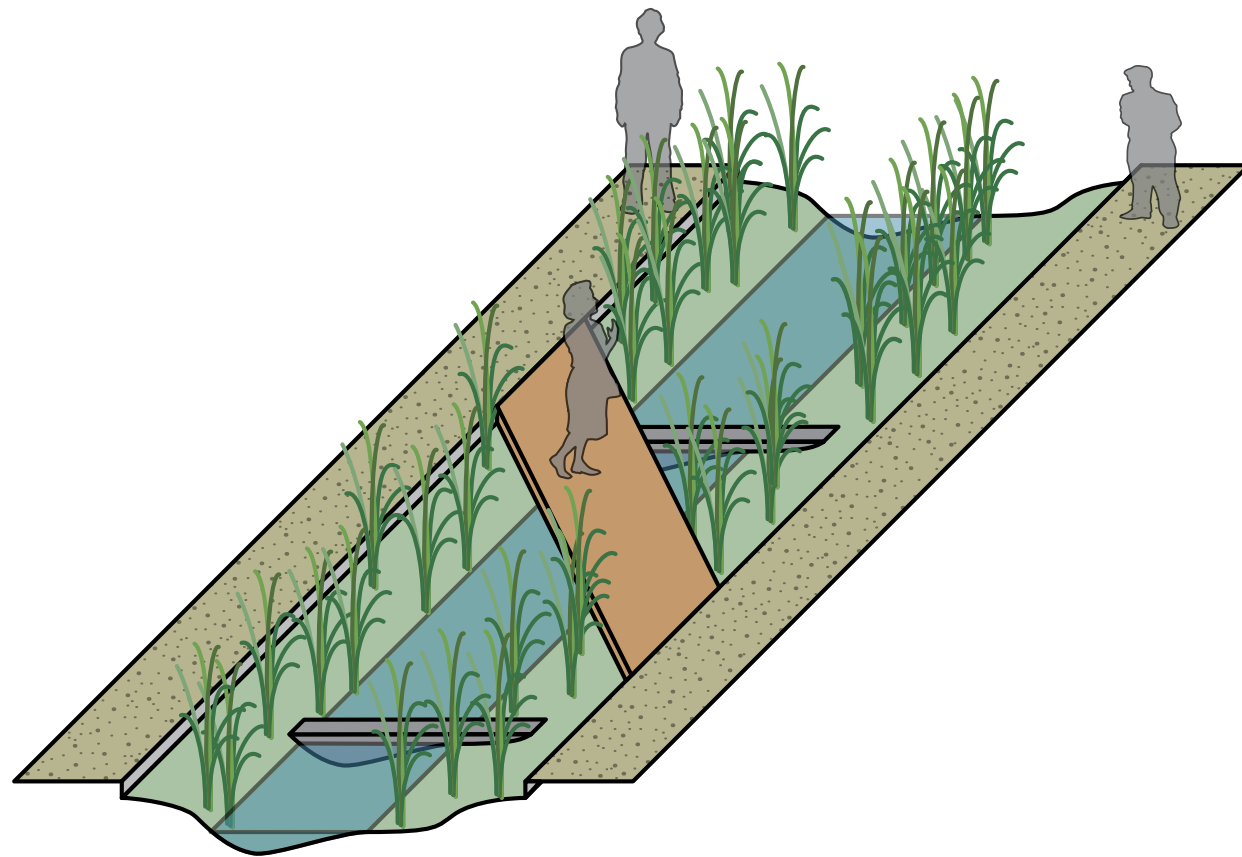
Slow infrastructure

- Network of public spaces
- Connections to homes

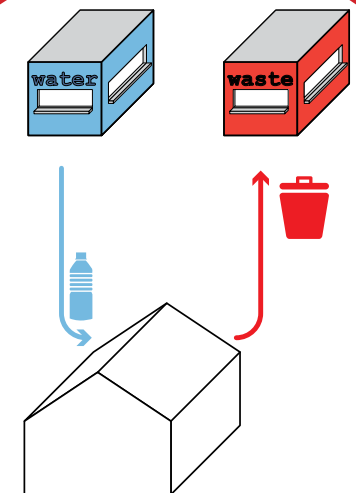
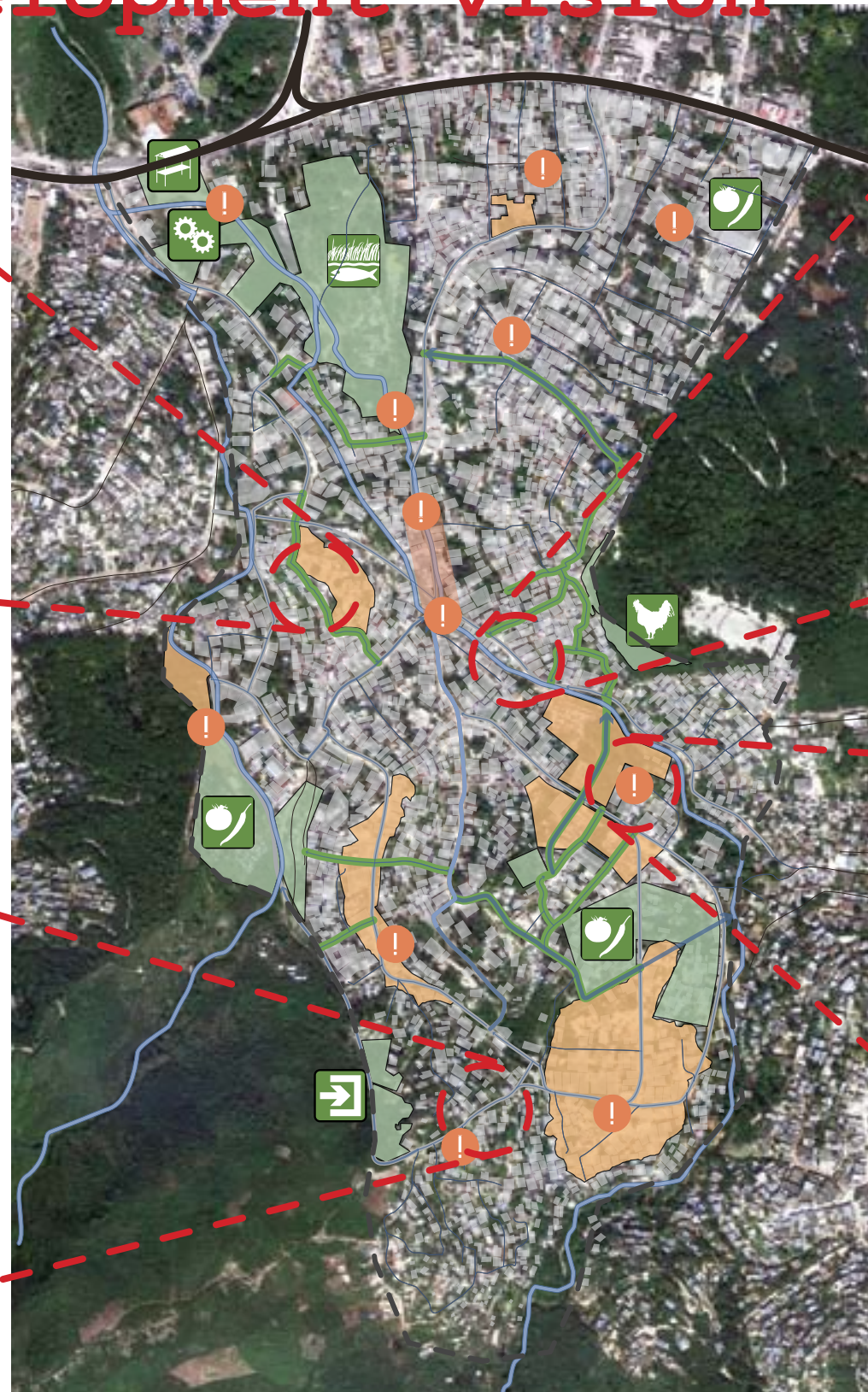
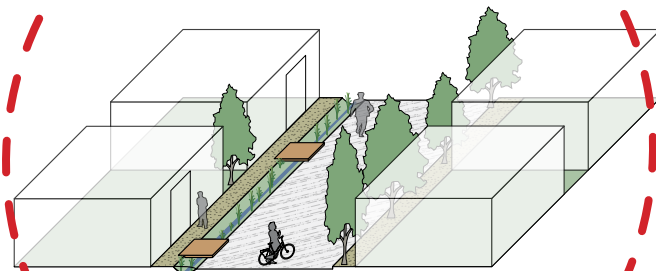
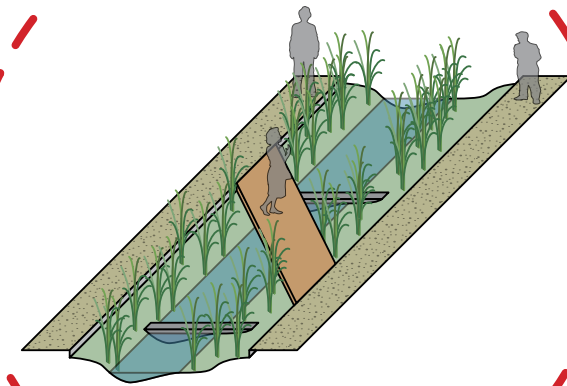
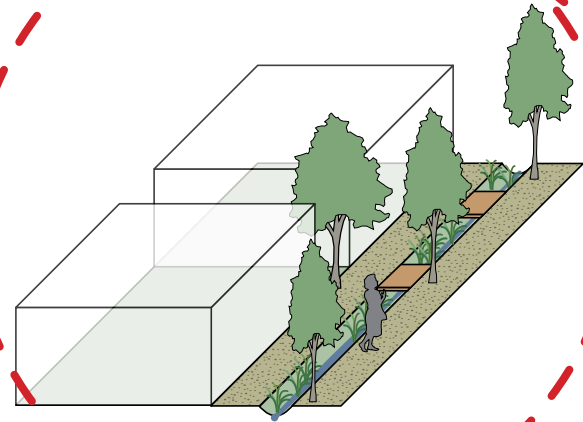


Water structure

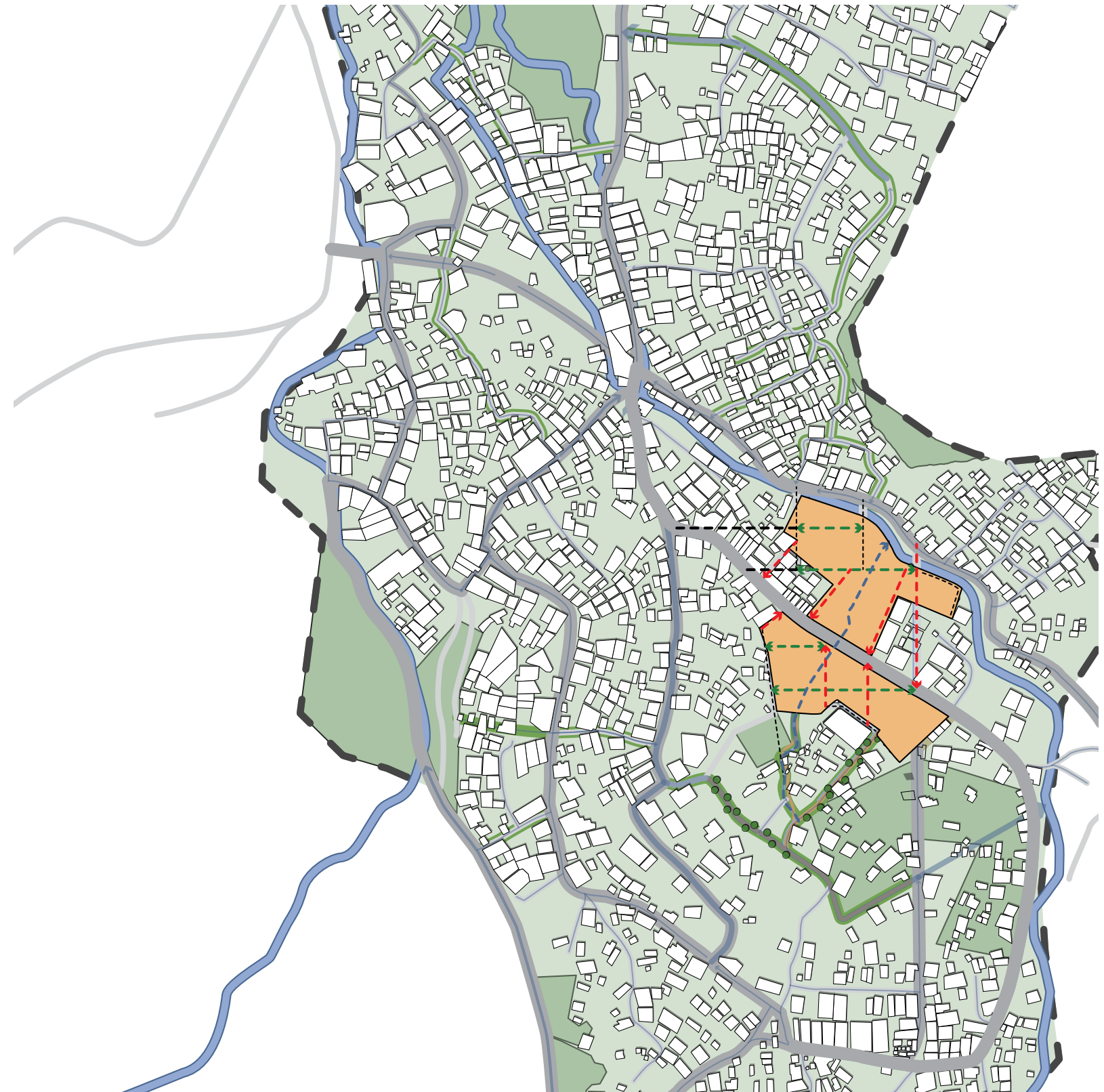
- Biological filtration by plants
- Check dams to slow velocity



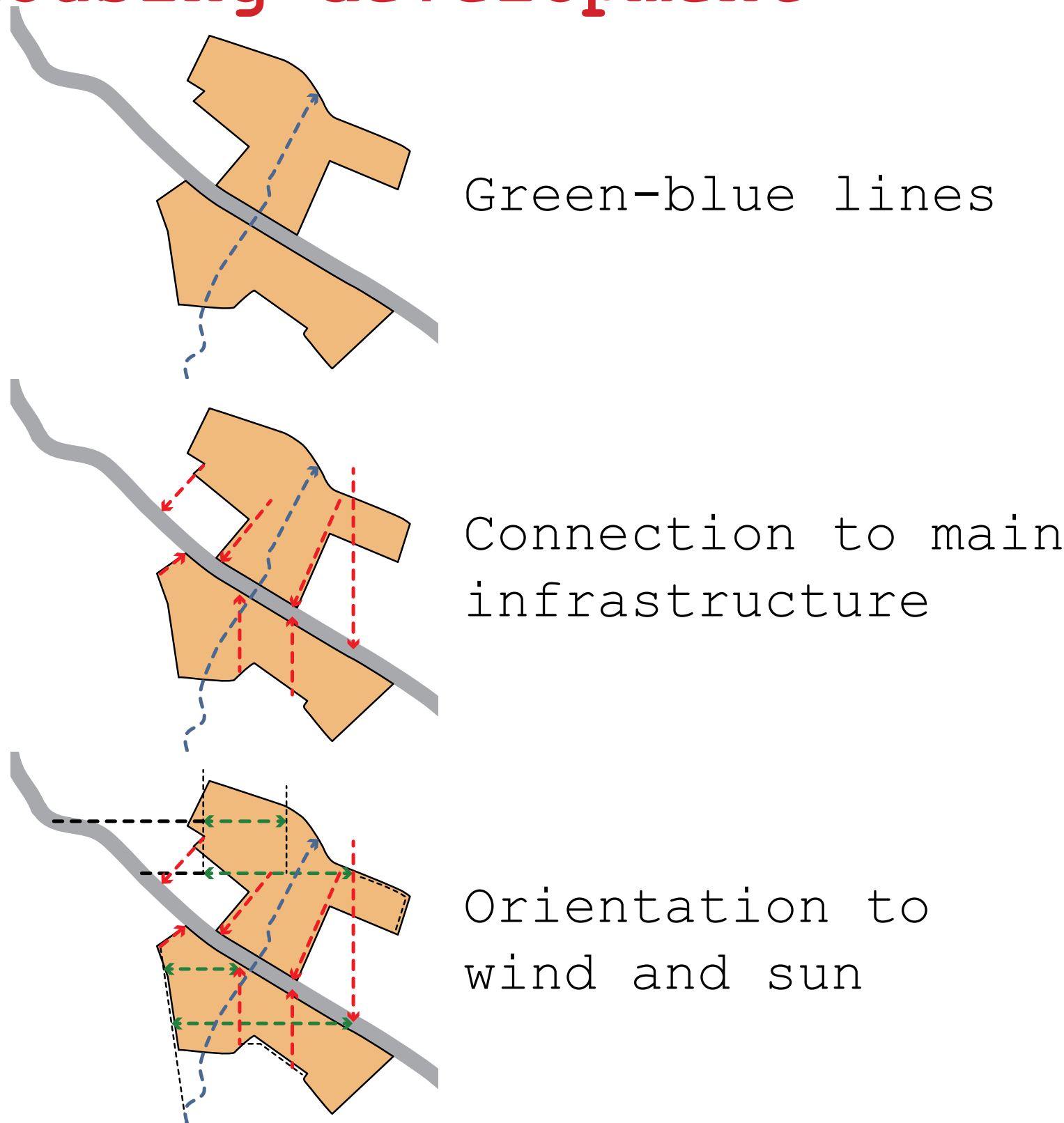
6. Tisous development vision



Urban intervention



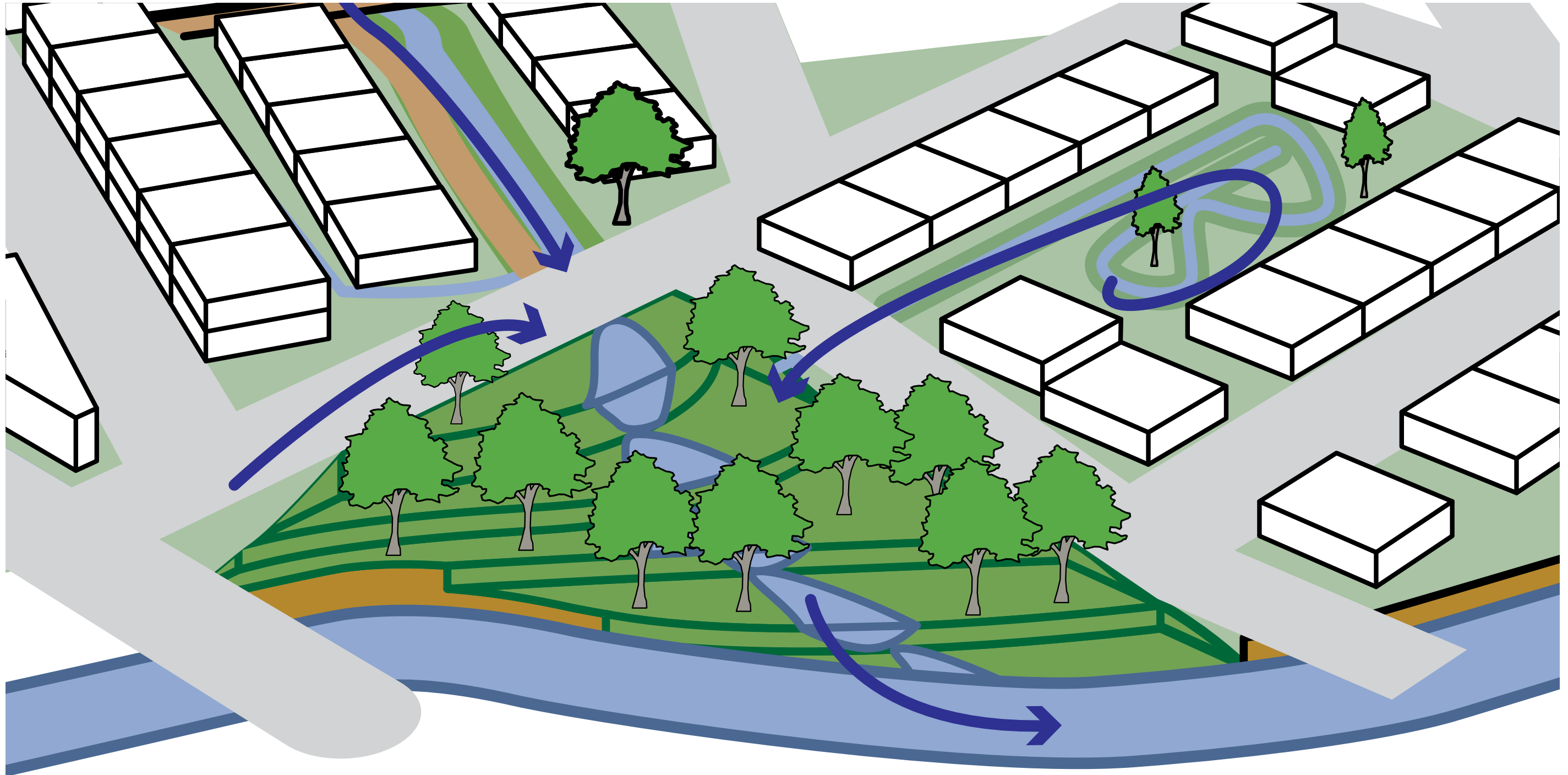
Housing development



Housing clusters



Water structure



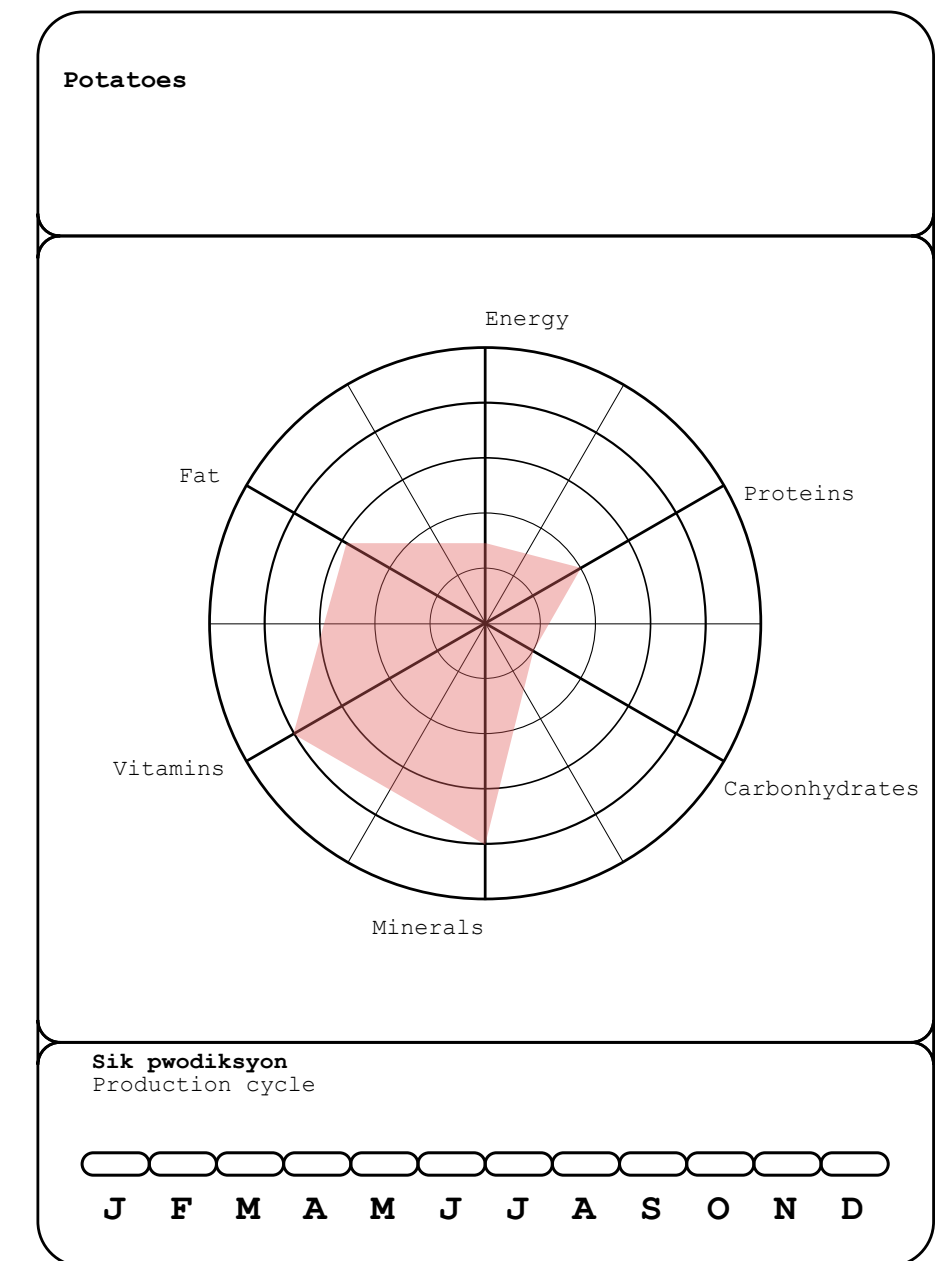
CONCLUSION + RECOMMENDATIONS

Urban agriculture

Food production depending on many elements involved e.g.

- Crop rotation
- Knowledge
- Soil conditions
- Fertilizer use

More knowledge on food and farming needed

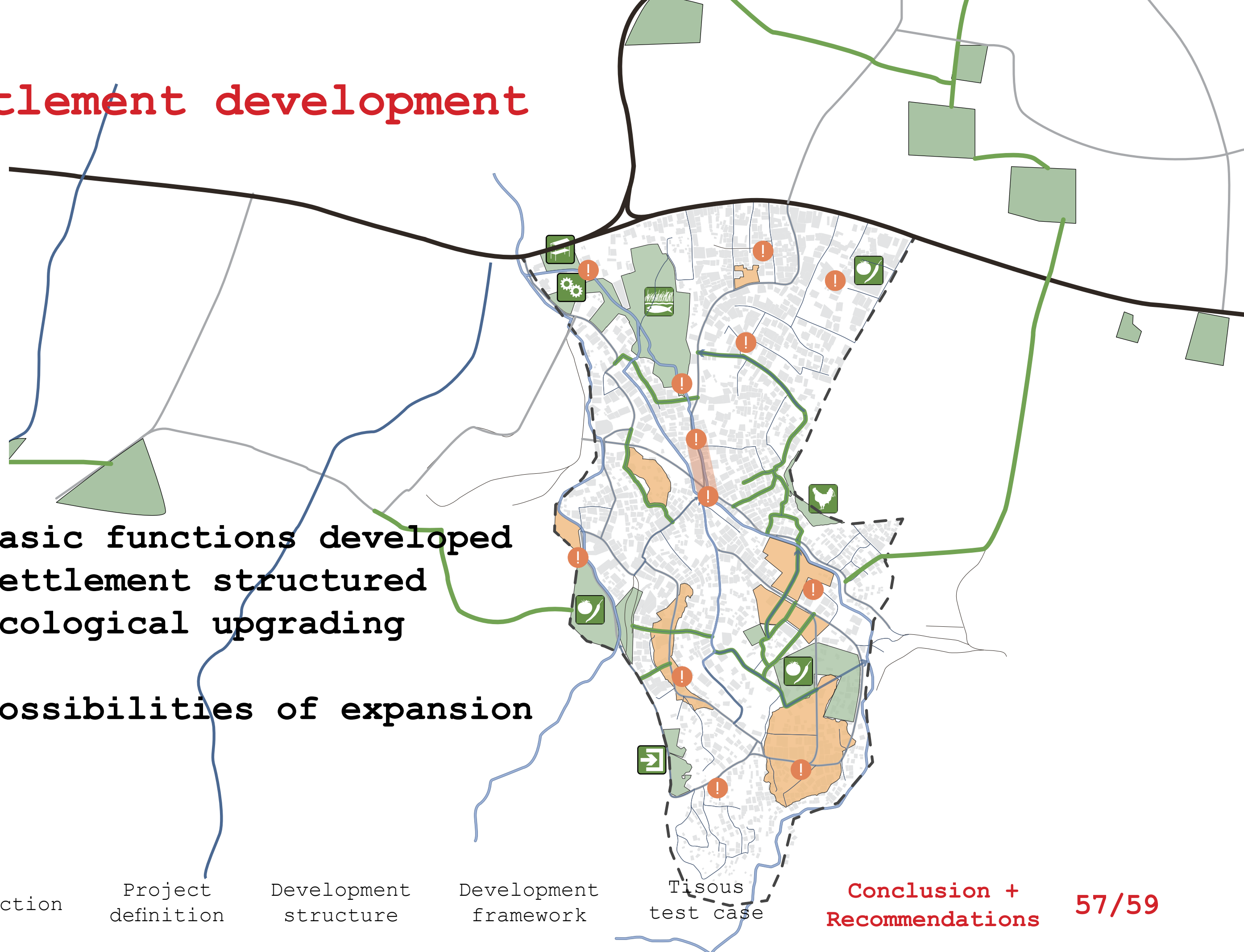


Community development

Local training required
Strong community structure
Test in the field needed!

Settlement development

- Basic functions developed
- Settlement structured
- Ecological upgrading
- Possibilities of expansion



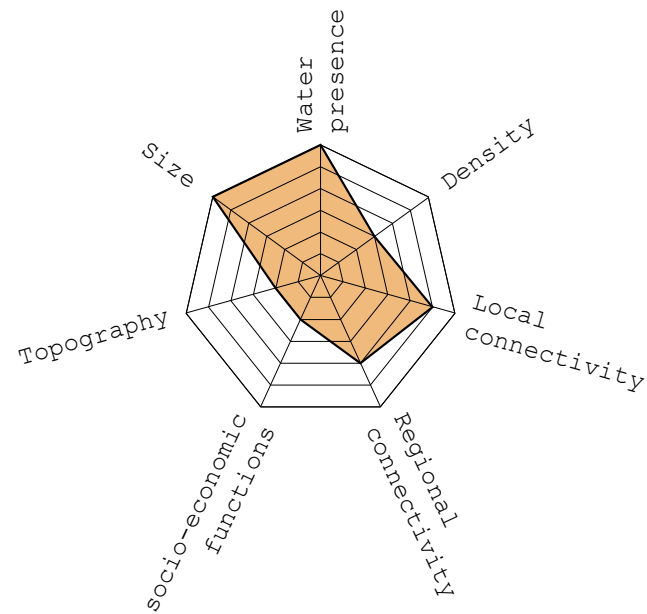
Local development framework

- Up scaling is difficult
- Number and influence of stakeholders is important
- Clarify overall project goals at start to focus stakeholders visions



**GROWING
FUTURE HAITI**

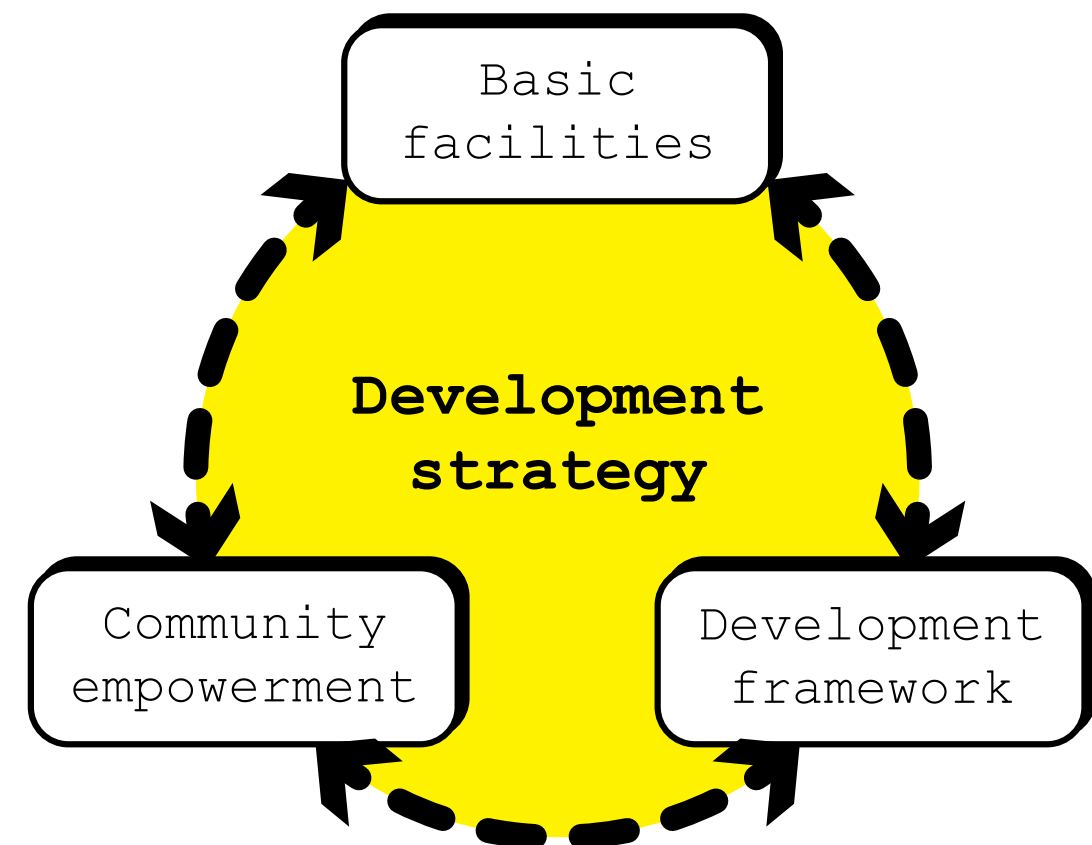
THANK YOU!

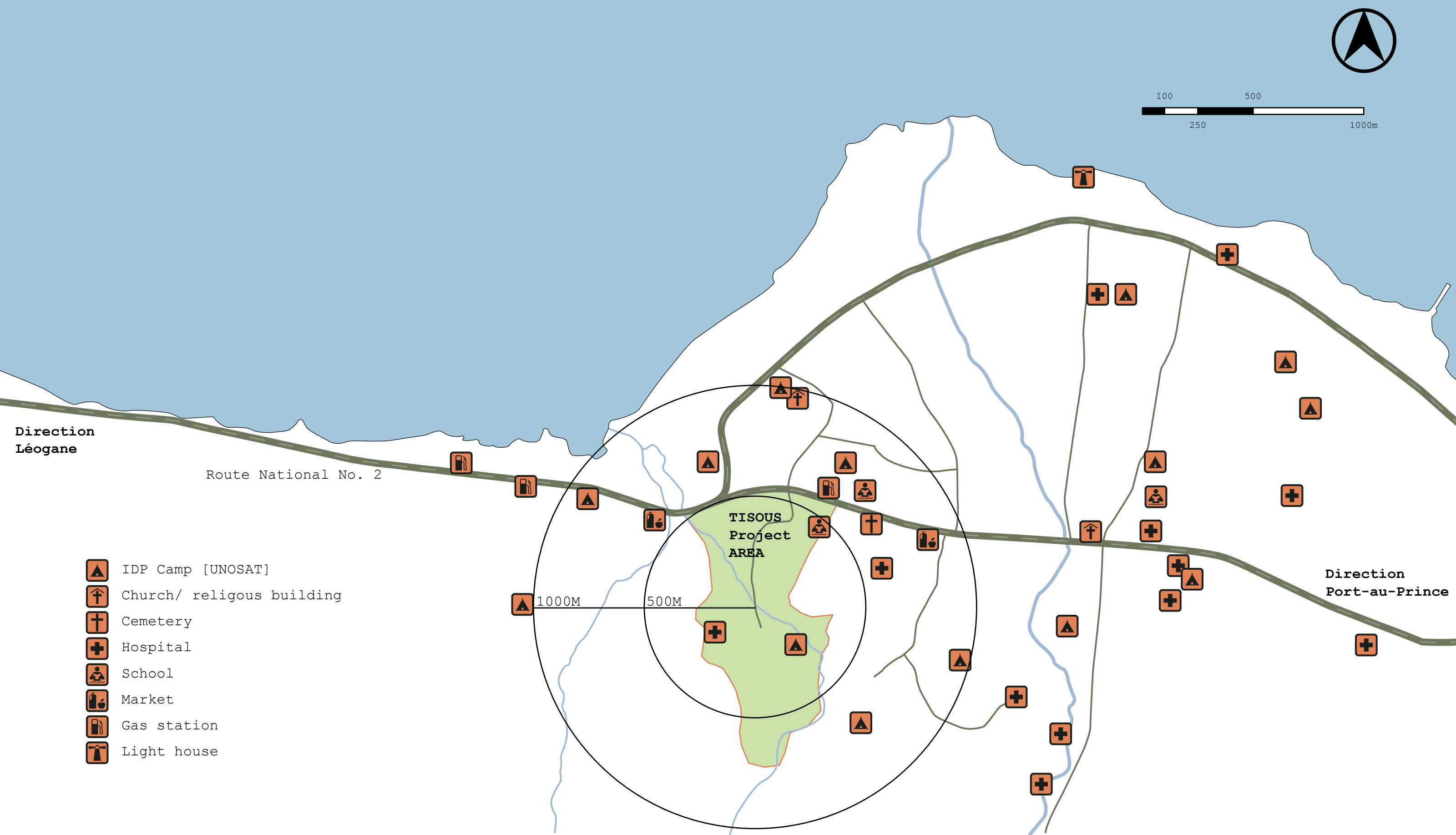


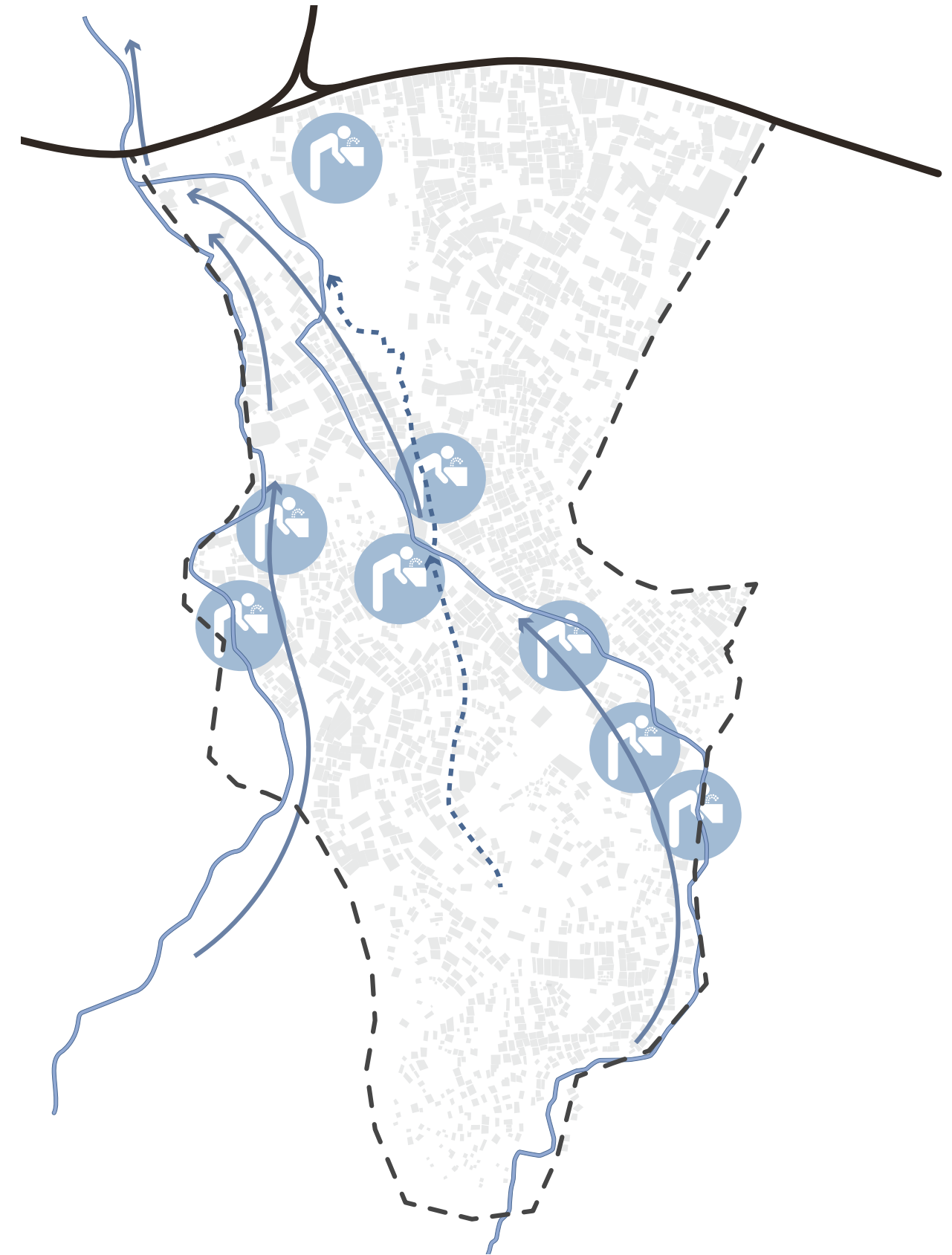
Production location *Flood prone area*
 Water stream and water body in the middle of the site
 Located in the northern part, in the middle of the community
 Large open site, low housing density in the surrounding
Functions?
 Along two sides connection to circular road
 Relatively Flat surface
 Area: 26.465 m2

Project aim

Formulation of a **development strategy** that overcomes the underdeveloped status of informal settlements in Port-au-Prince using **urban agriculture** as a mediator between the different needs of the communities.







Water distribution

