

MOUNT LEBANON

From emergency landscapes to | ecologies of co-habitation

Agricultural production, the normality in a state of exception

WADI-EL-DELEM

QAB-ELIAS

THE BEKAA VALLEY



Introduction

Phenomenon



Syrian civil war



Introduction

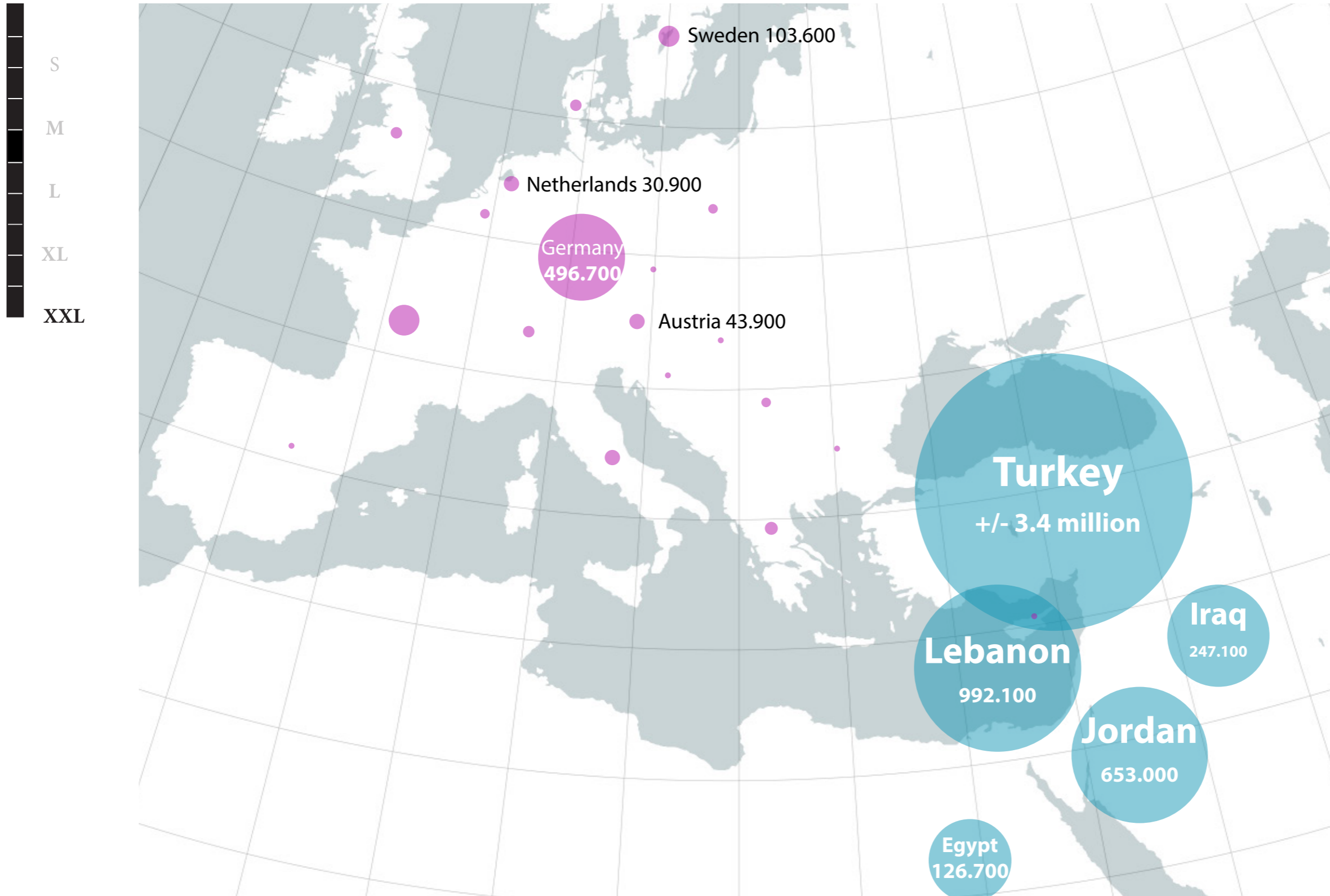
Phenomenon



Displaced Syrian families

Introduction

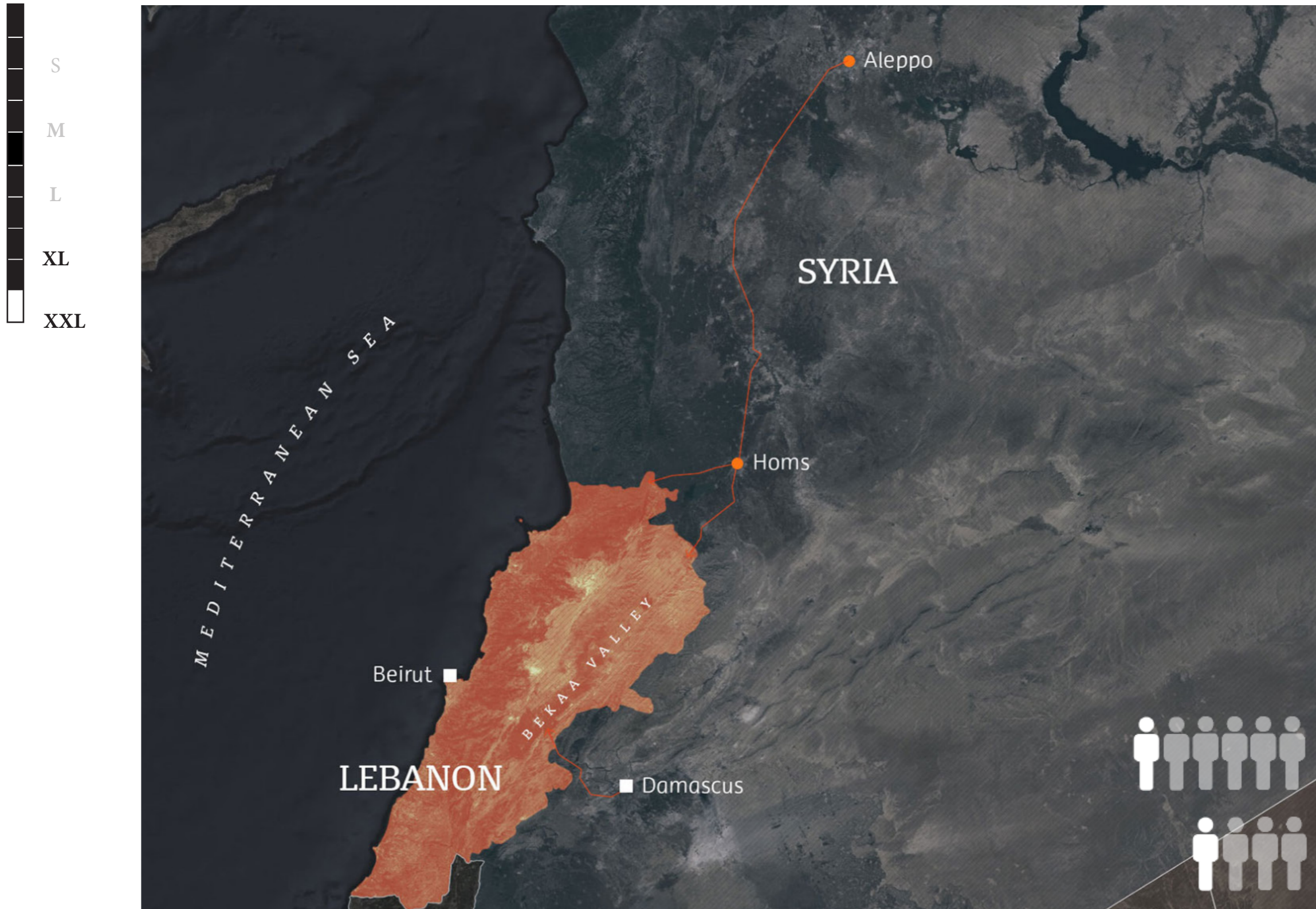
Phenomenon



Europe and the Middle East

Introduction

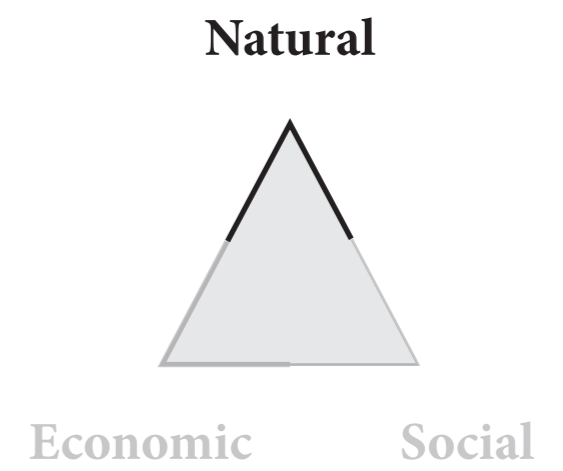
Phenomenon



The Middle East and Lebanon



Emergency landscapes



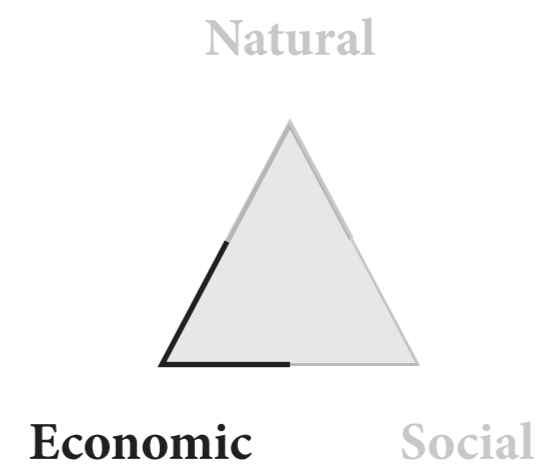


Introduction

Phenomenon

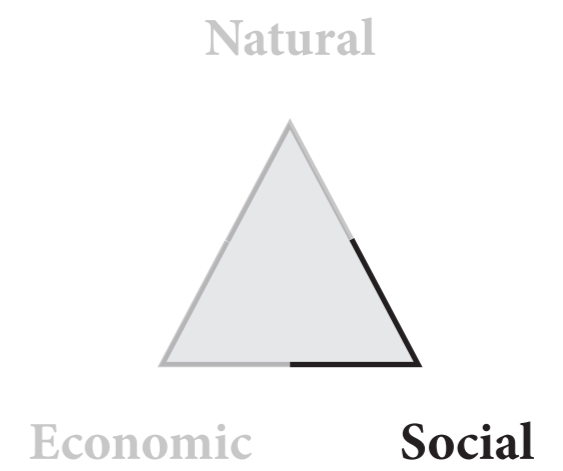


Emergency landscape





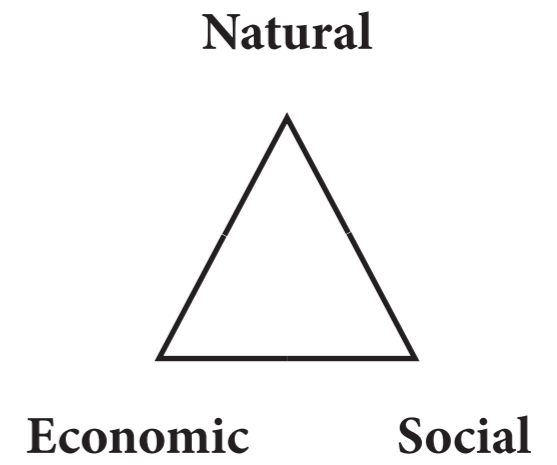
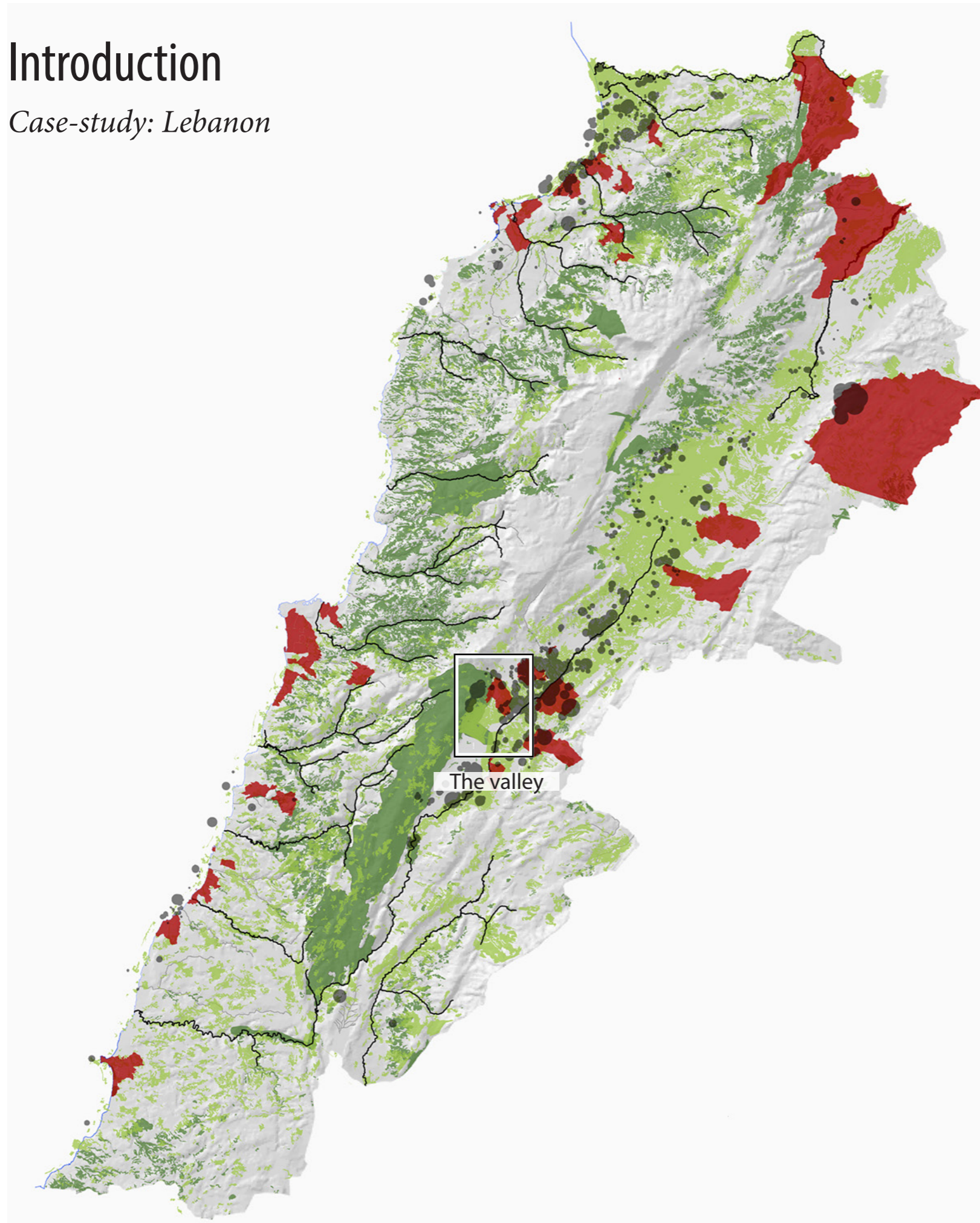
Emergency landscapes





Introduction

Case-study: Lebanon



- Rivers (nature)
- Environmental sensitive areas
- Agricultural areas
- Most vulnerable communities
- Informal tented settlements



Introduction

(Problem) Statement

Through a *holistic landscape approach*, opportunities for the creation of *ecologies of co-habitation* are being explored, wherein communities enter into reciprocal relationships based on agricultural production, with each other and their environment.

Content

Introduction

Research framework

Q1 Analysis
Q2 Synthesis
Q3 Design

The valley and the city
The valley and the city
The neighbourhood

Conclusion and discussion

How does a *holistic landscape approach*³ contribute to new insights on turning *emergency landscapes*¹ into *ecologies of co-habitation*², based on agricultural production?

Information gathering (context)

Desk Research

Site Visit

Interviews

Analysis

Phenomenon

Urban-rural landscape

Natural landscape

Design

Ecological urban landscape design



☰ ☐☐☐☐ Research framework
☐ ☐ Information gathering



Desk research, mapping

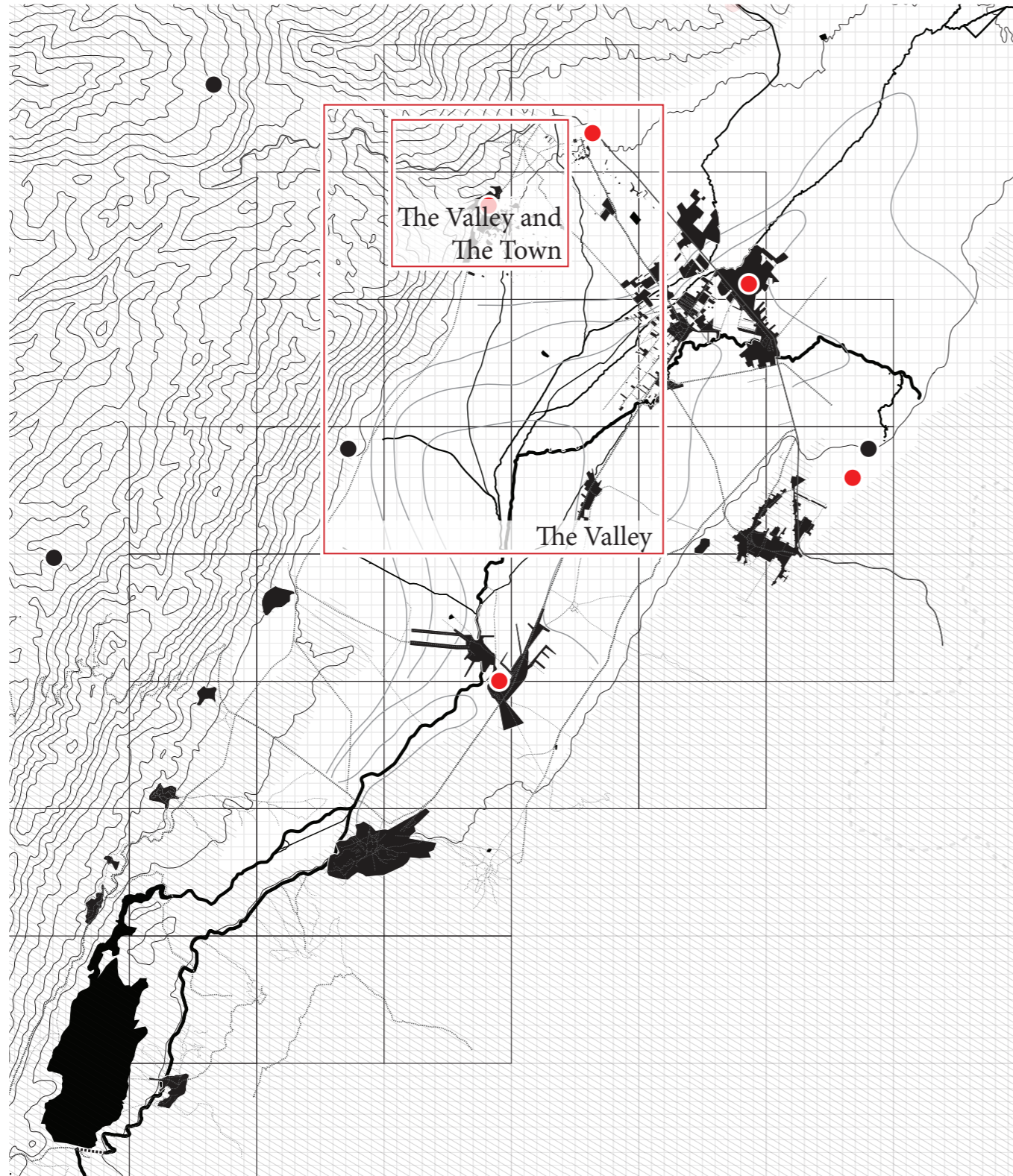


Site visit, interviews/talks



Research framework

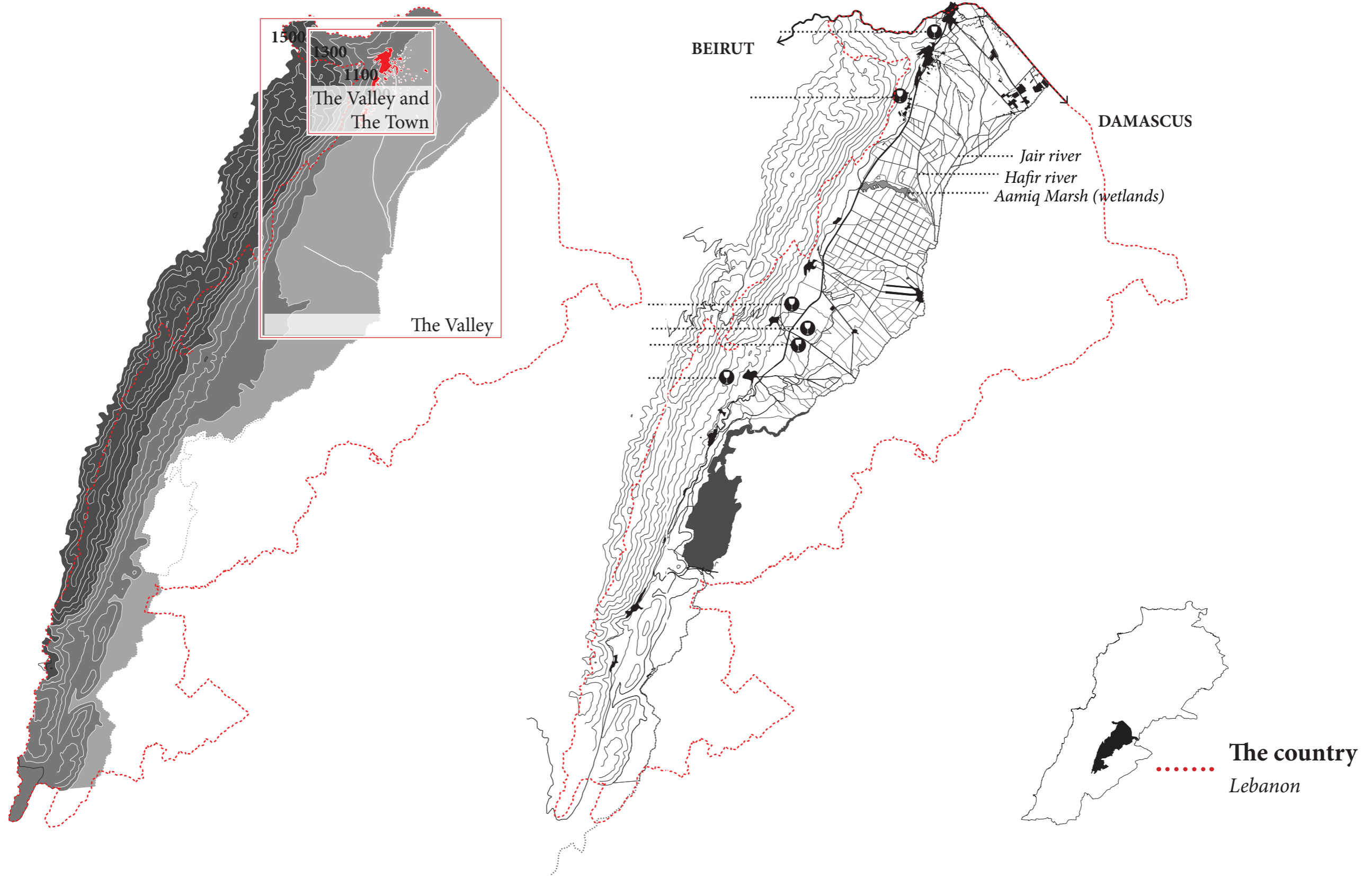
Case-study for a holistic landscape approach





Research framework

Case for the holistic landscape approach: agricultural production





Backyard farming (QE, house)



Cellar (QE, winery)



Gardening (ITS, house)



Food preservation (ITS, house)



Food preservation (QE, cafe)



Orchards / vineyards (land)



Potatoes (QE, market place)



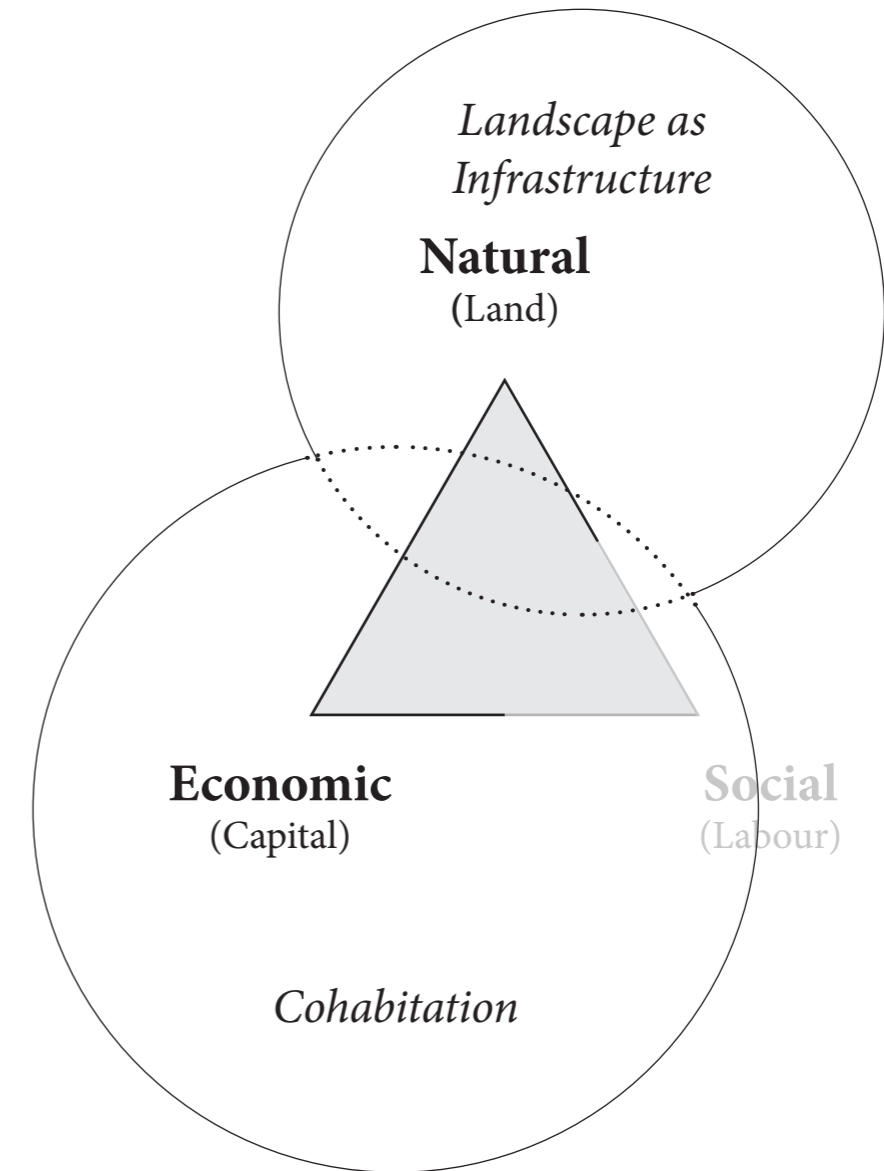
Field crops (Bekaa, land)



Q1 Analysis

Sub-research questions 1

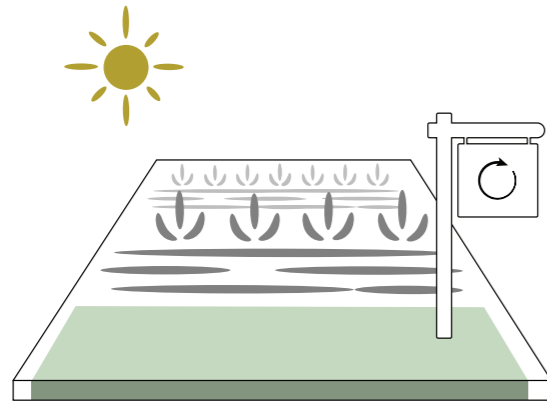
What are the opportunities and challenges of the physical territory, based on a desired balance between nature and agricultural production?



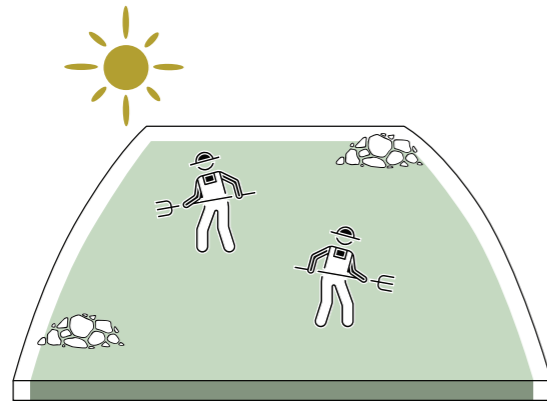


Q1 Analysis

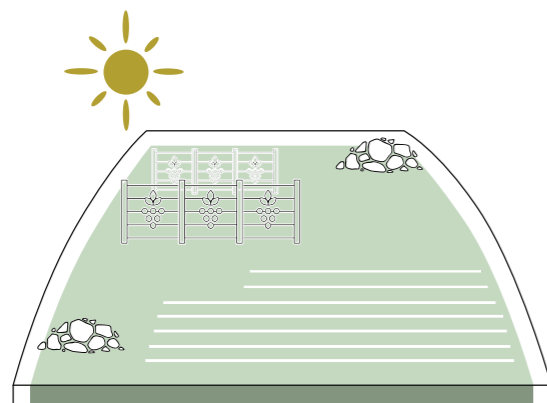
Conclusion: landscape as infrastructure



There is still land available that has no major intrinsic value for nature, but which can be exploited for agricultural production. In particular for agricultural terraces, that also can prevent soil erosion and conserve water



This land is not (yet) interesting for commercial farming, as it is less suitable for mechanisation and requires large labour intensity. This makes the land suitable for small-scale subsistence farming

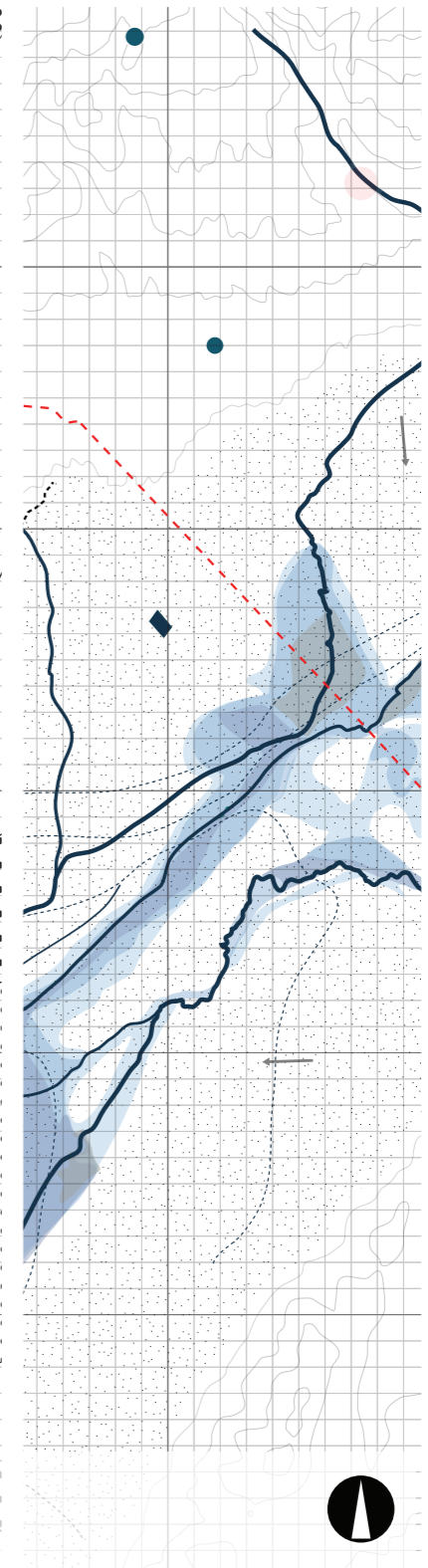
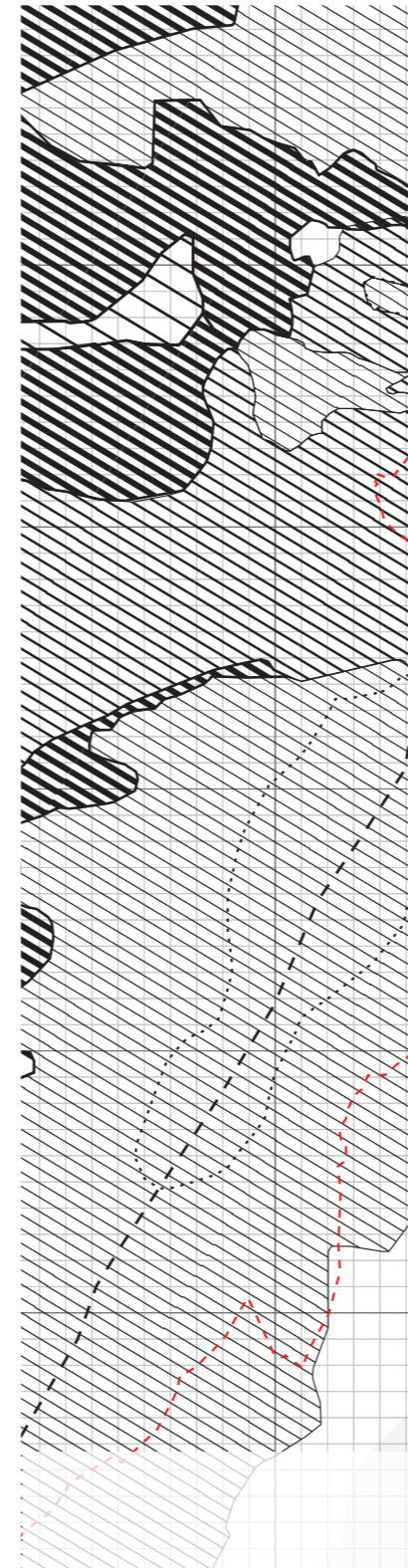
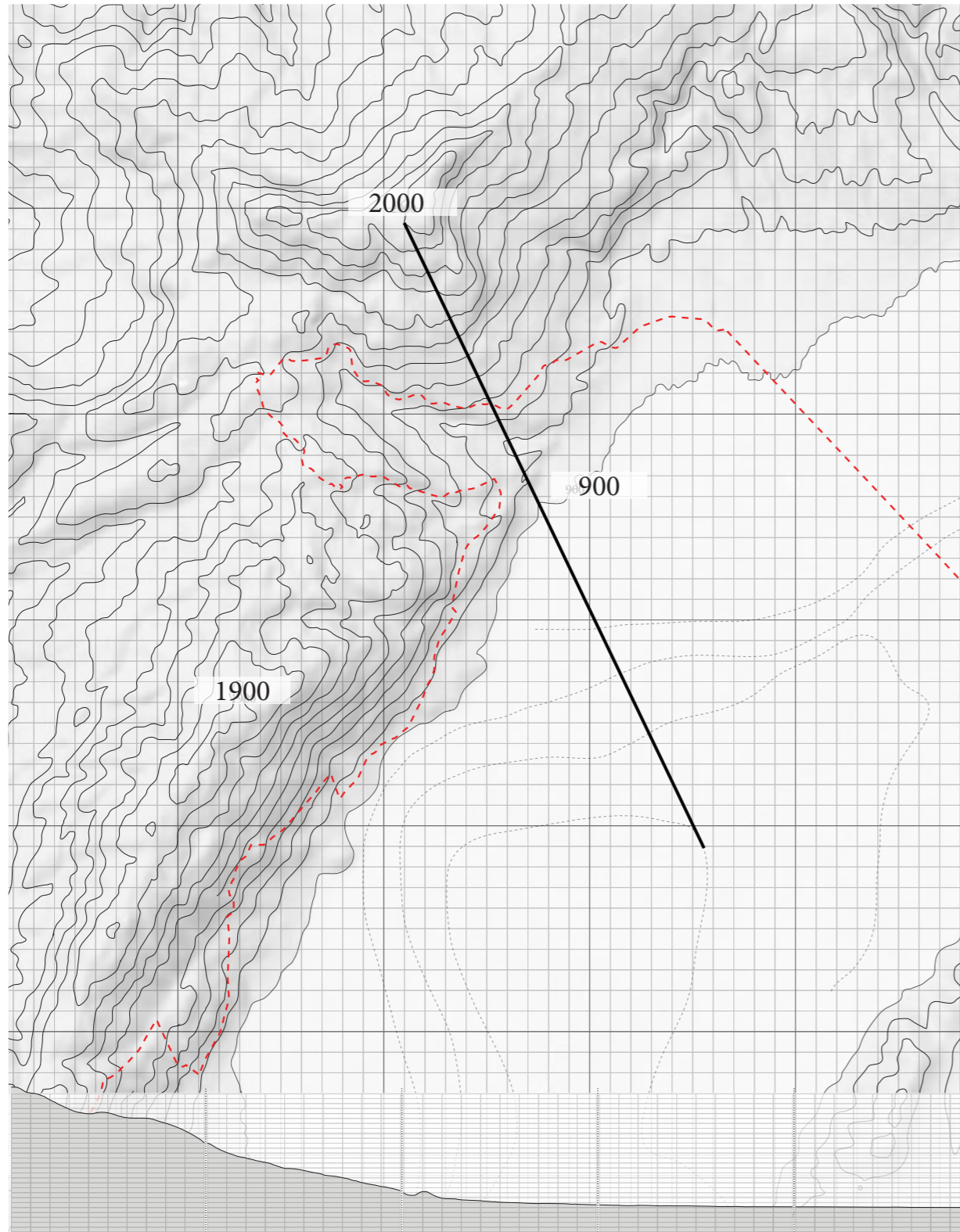


Revitalising the underutilised land can release pressure on the prime agricultural land. It serves as a catalyst for informing and guiding future urban-rural developments



Analysis of the natural landscape

Topography | Geography | Soil | Hydrology

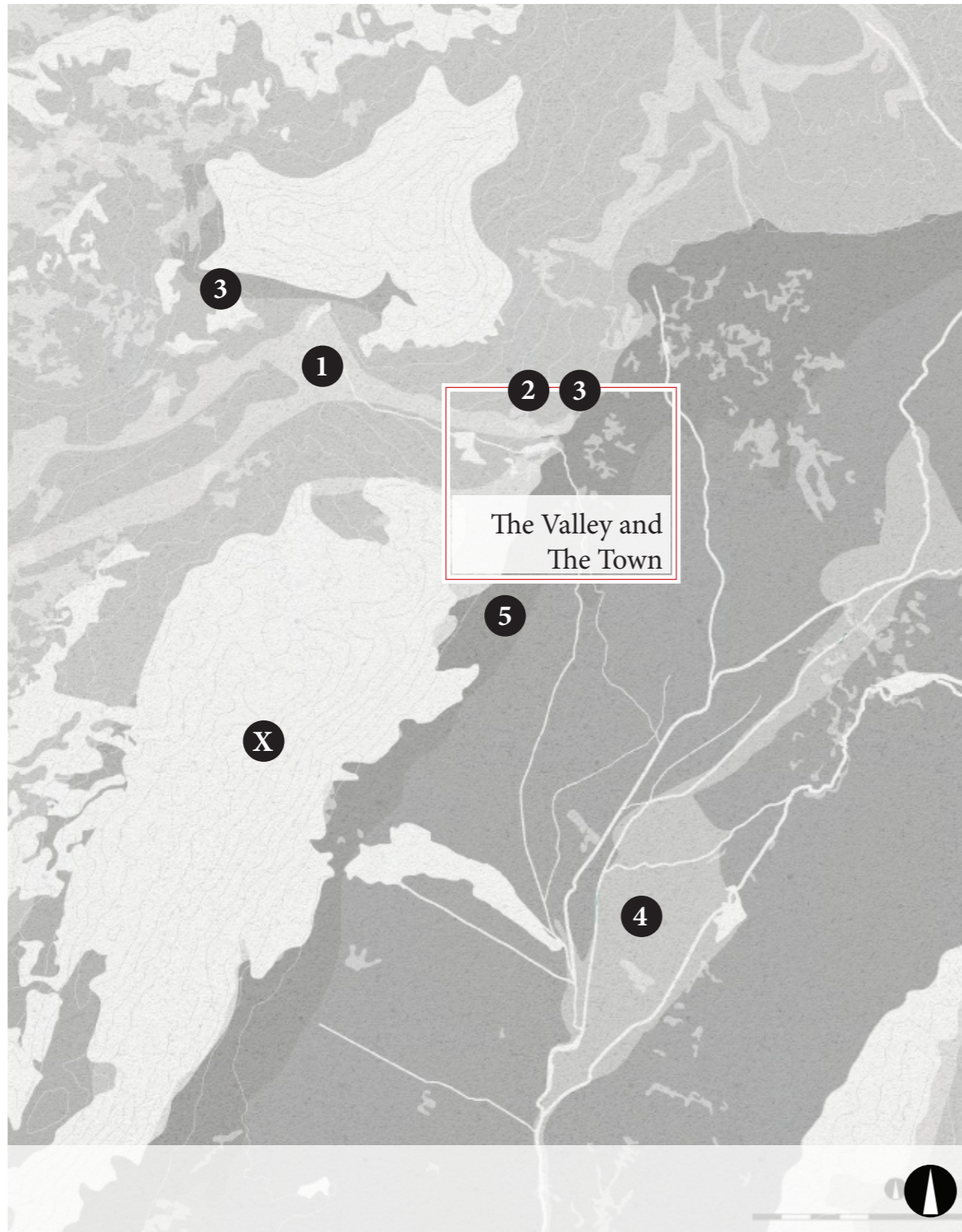


The Valley

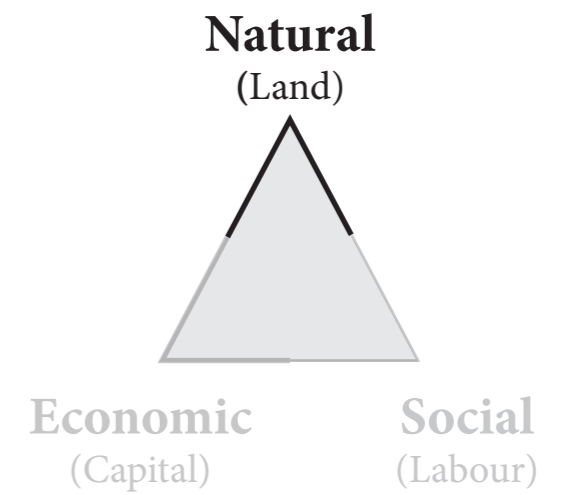


Synthesis of the natural landscape

The suitability for agricultural production



The Valley



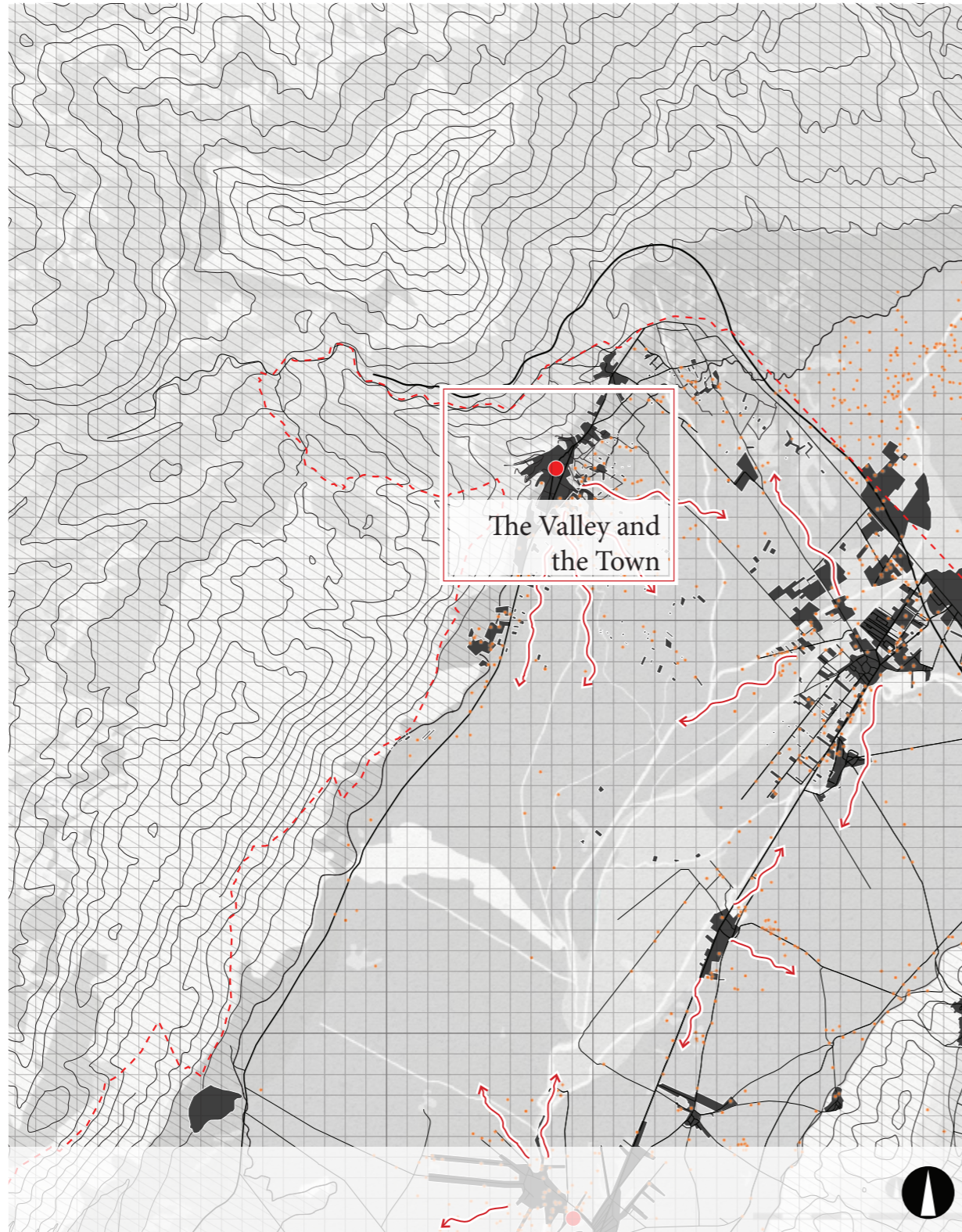
- 1
- 2
- 3
- 4
- 5

- High infiltration Direct interaction top layers
- Steeply inclined Level or gently inclined
- Low nutrient content High nutrient content
- Catchment area Aquifer recharge area

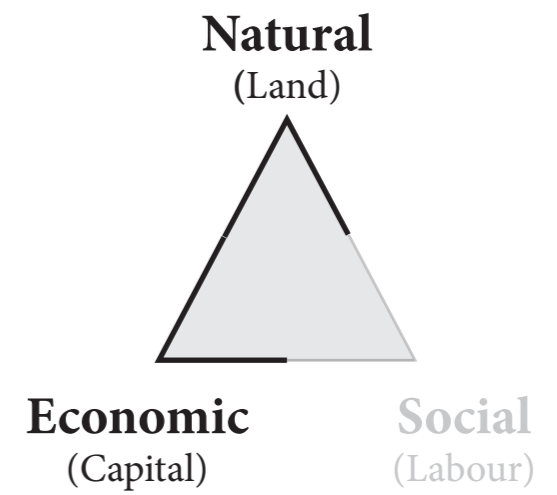
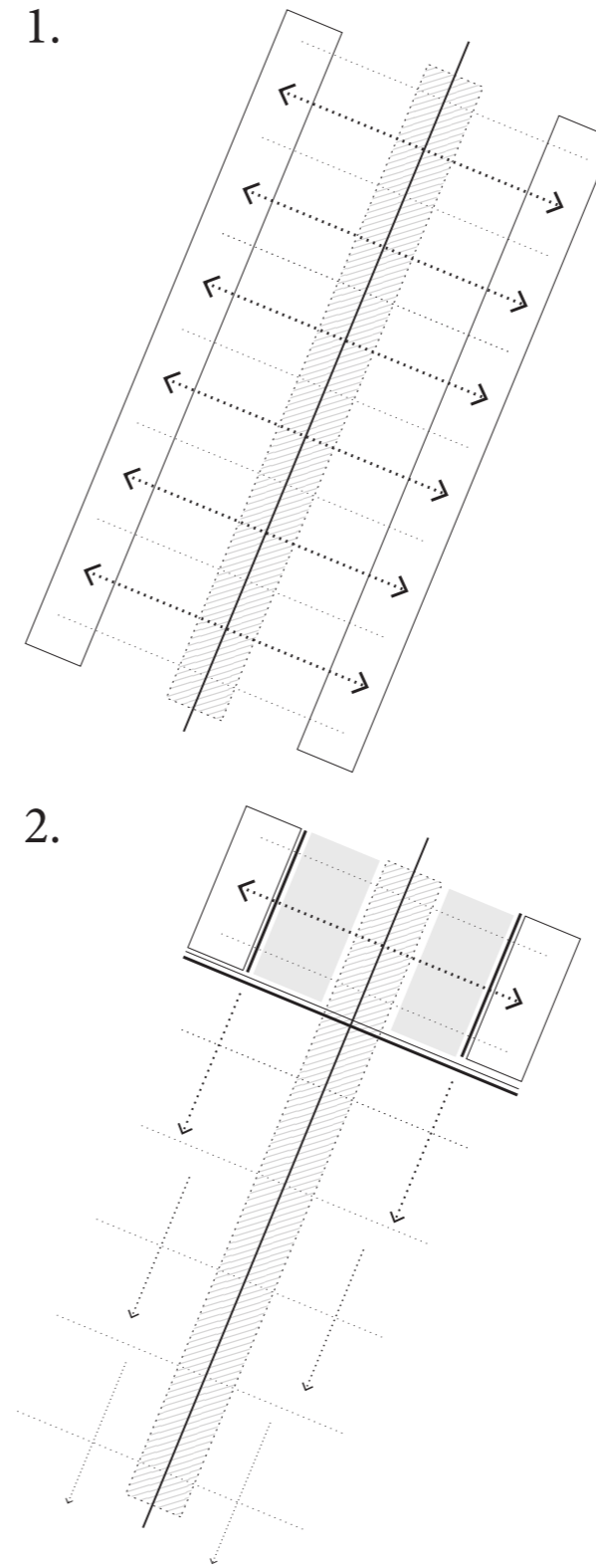


Analysis urban-rural landscape

Compared to the suitability for agricultural production



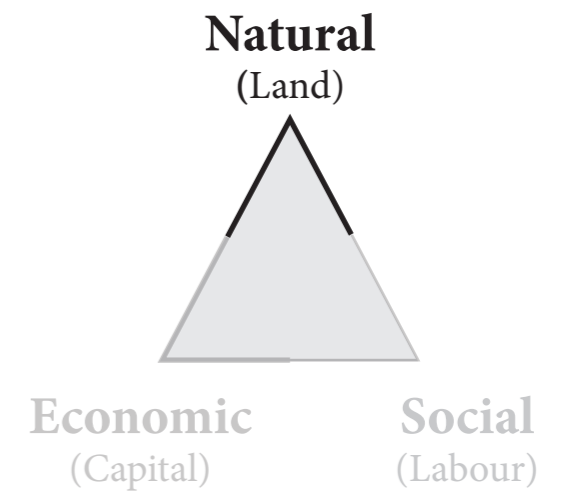
The Valley





Synthesis of the natural landscape

The suitability for agricultural production



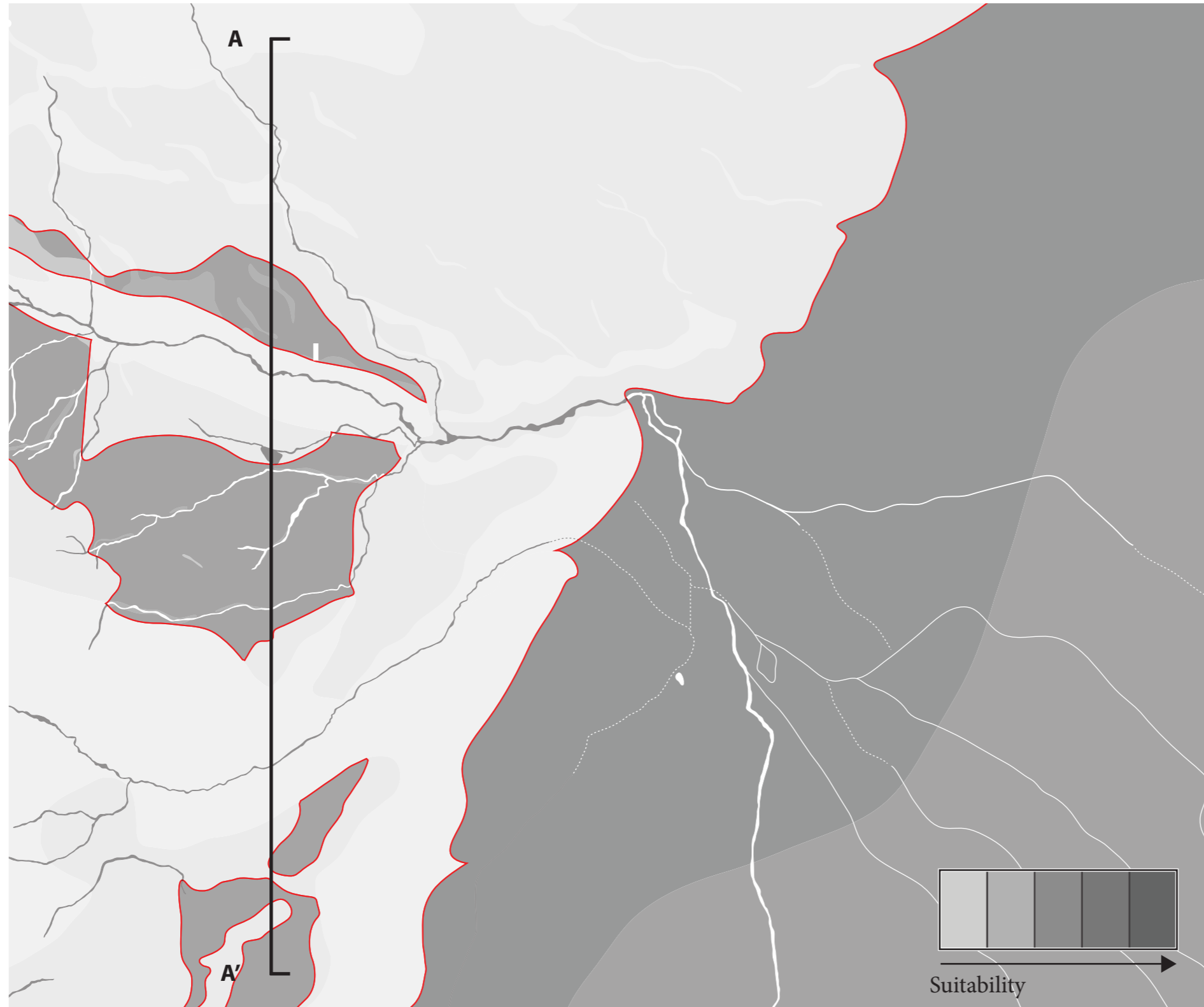
The Valley and the Town



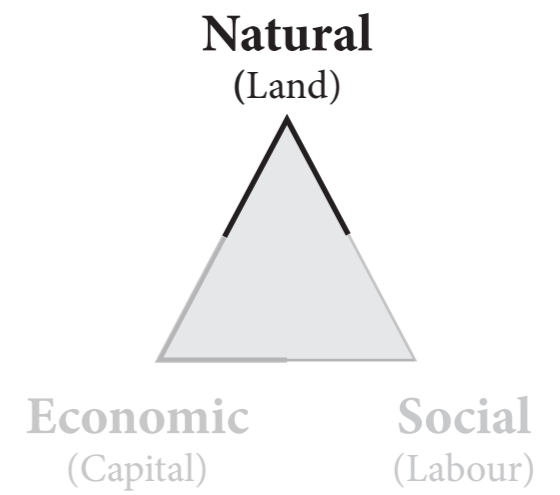


Synthesis of the natural landscape

Landscape as infrastructure



Suitability

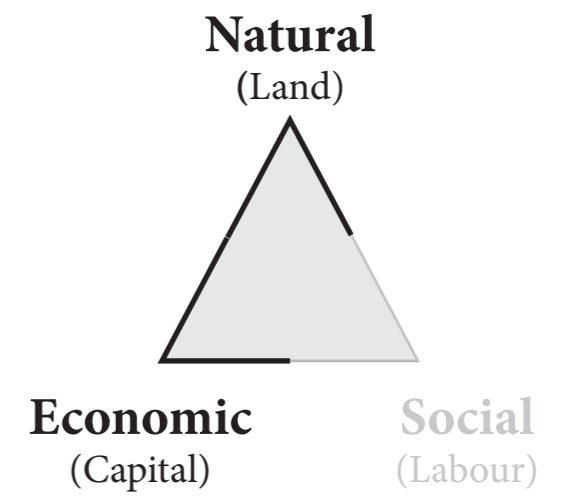
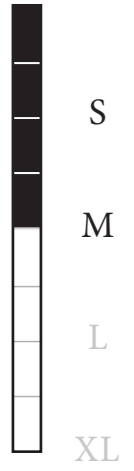


The Valley and the Town



Synthesis of the urban-rural landscape

Compared to the suitability analysis for agricultural production



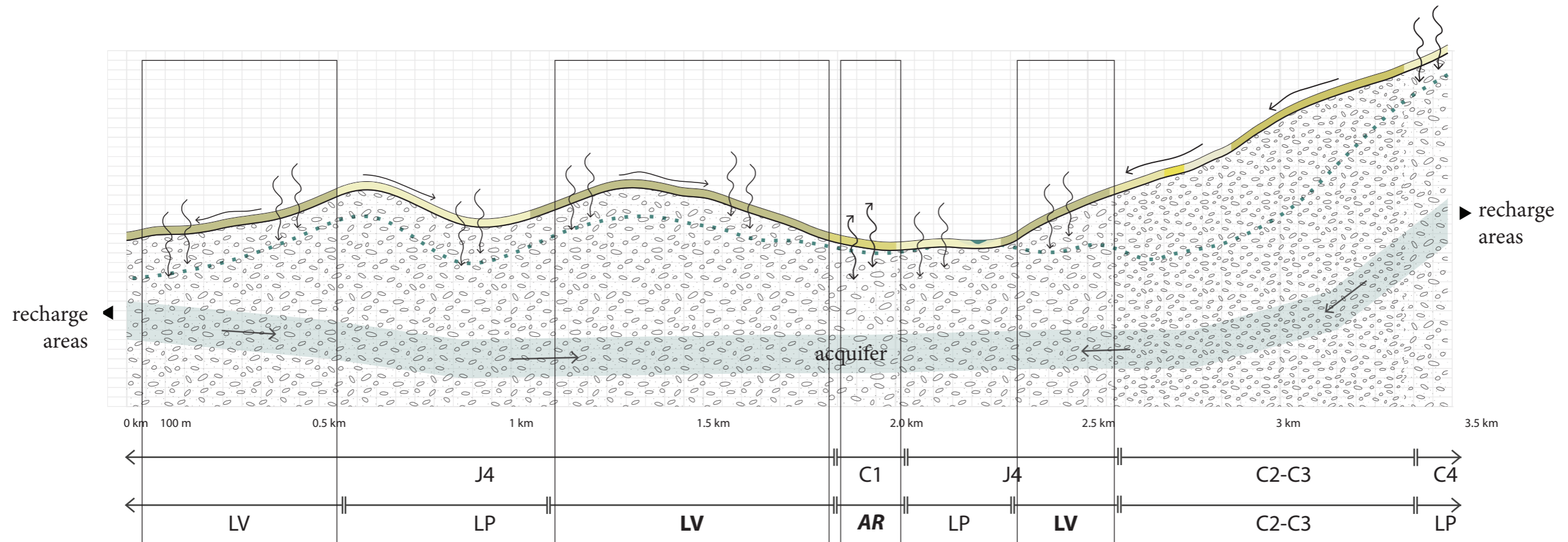
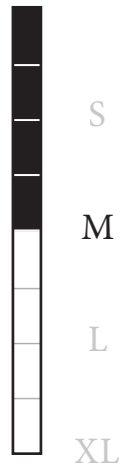
The Valley and the Town





Analysis of the natural landscape

The suitability for agricultural production

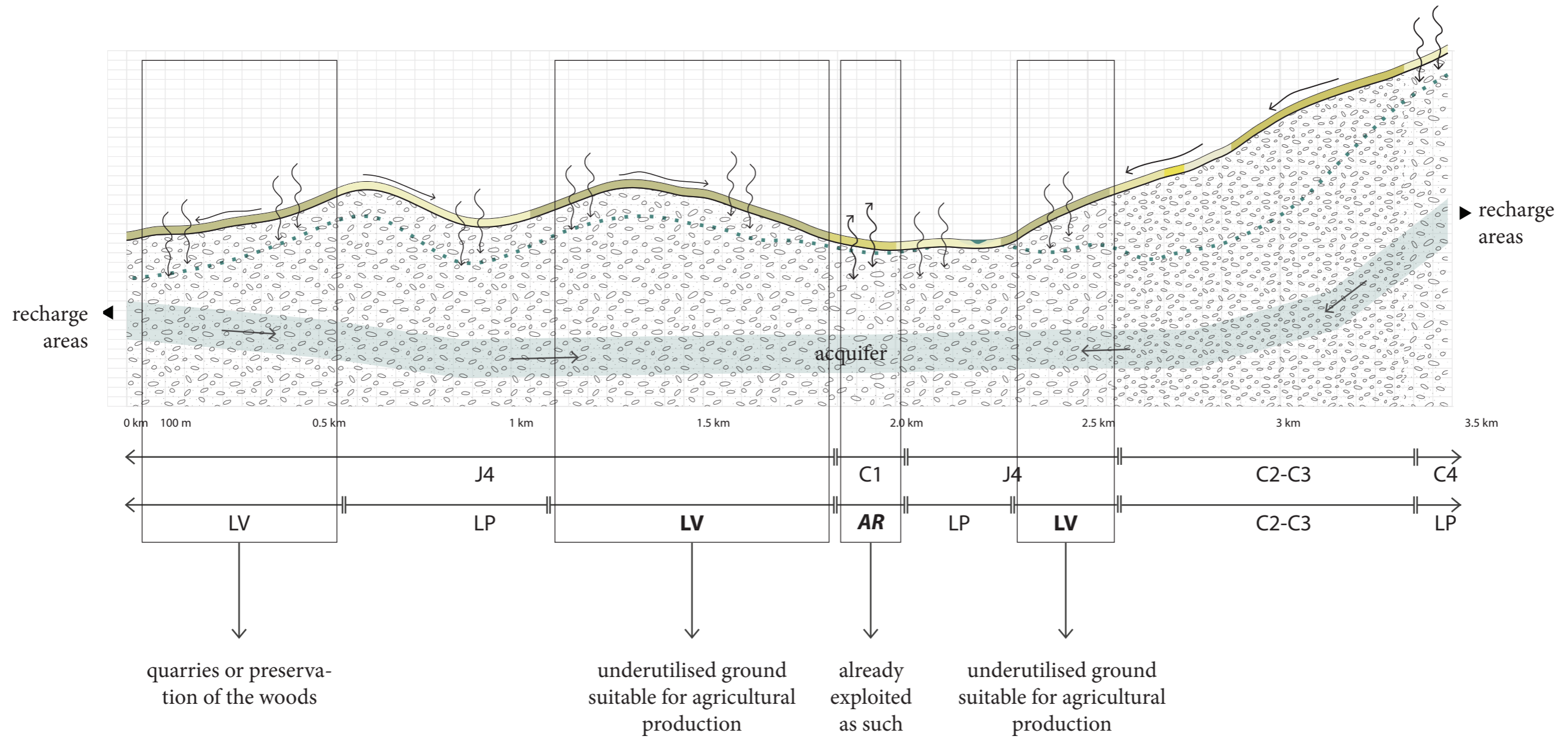
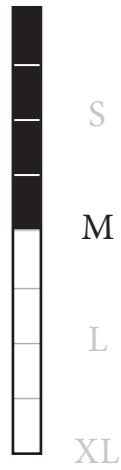


Section A-A - The Valley and the Town



Analysis of the natural landscape

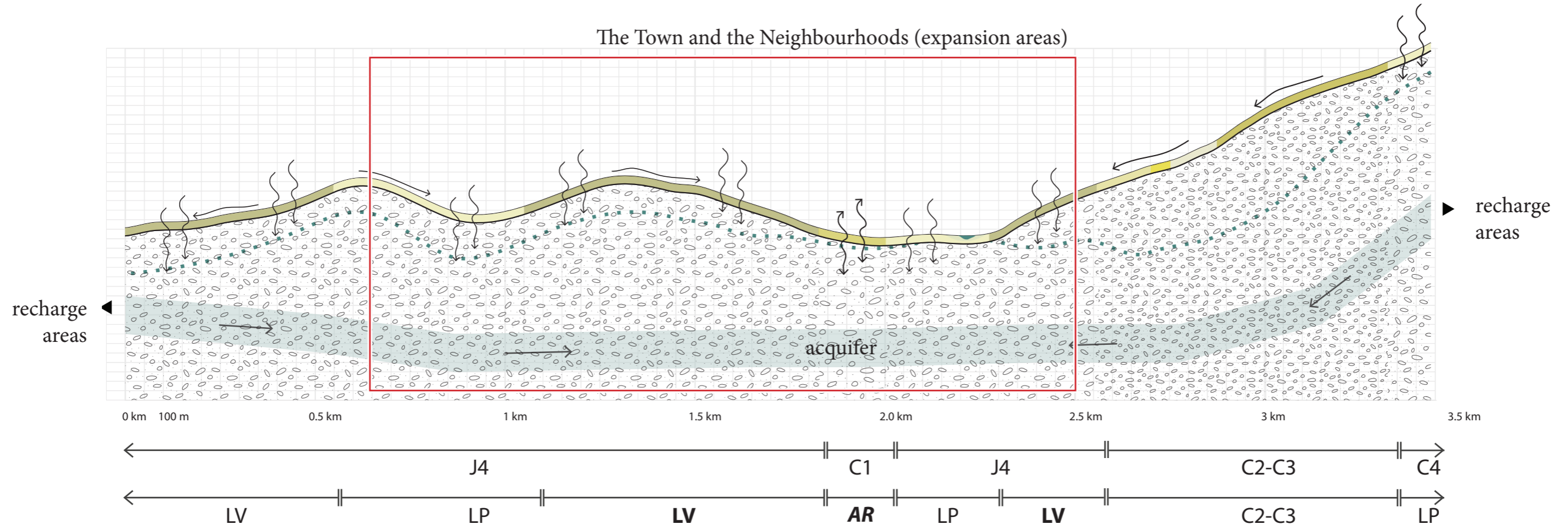
The suitability for agricultural production



Section A-A - The Valley and the Town

Synthesis of the natural landscape

Landscape as infrastructure

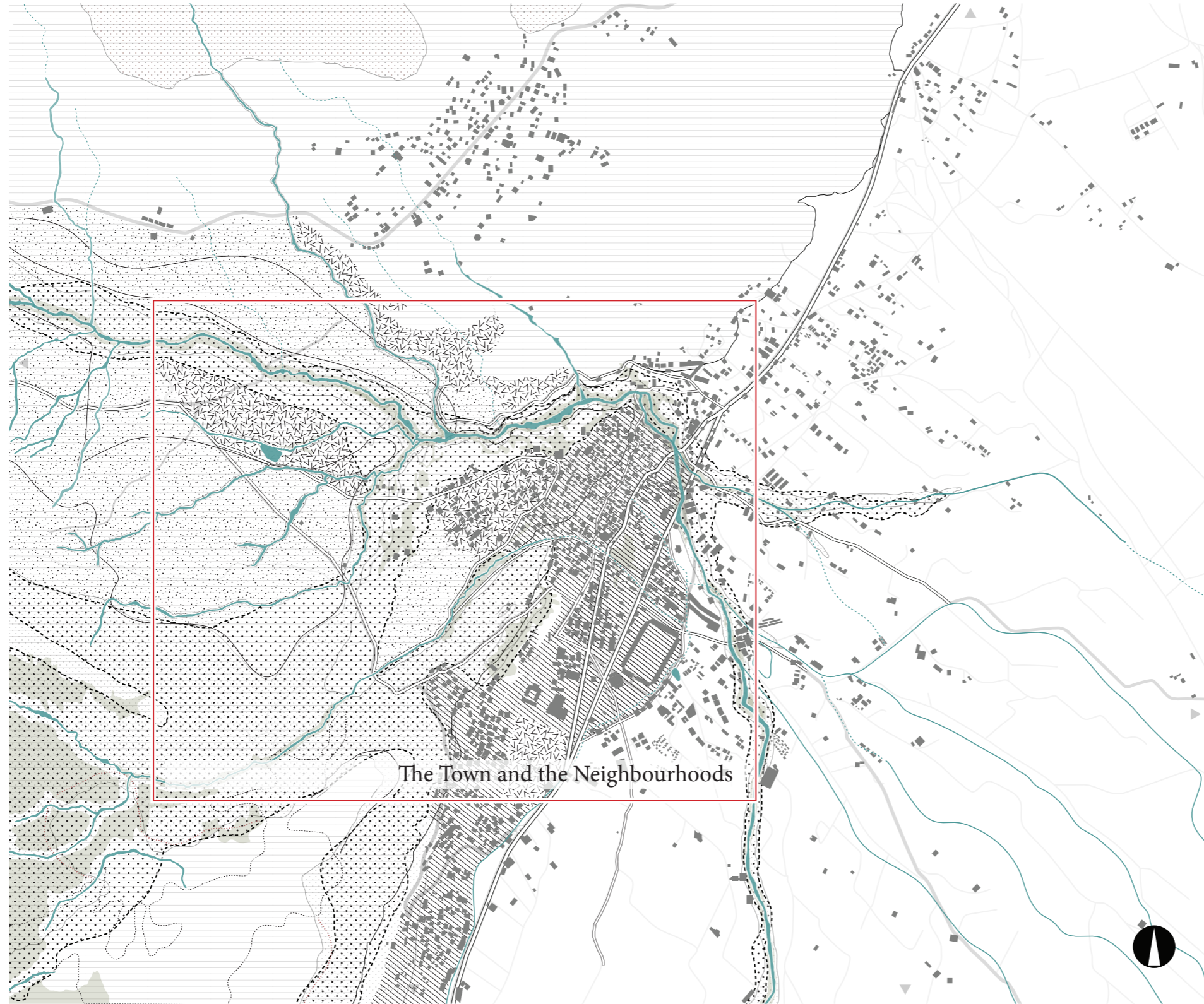


Section A-A - The Valley and the Town



Design framework

Landscape as infrastructure



The Town and the Neighbourhoods

- Hillside
- Urban-rural services
- Urban-rural settlements
- Nature (soft edge)
- Exploited agricultural land
- Expansion zones
- River streams
- Existing roads
- Existing urban-rural patterns

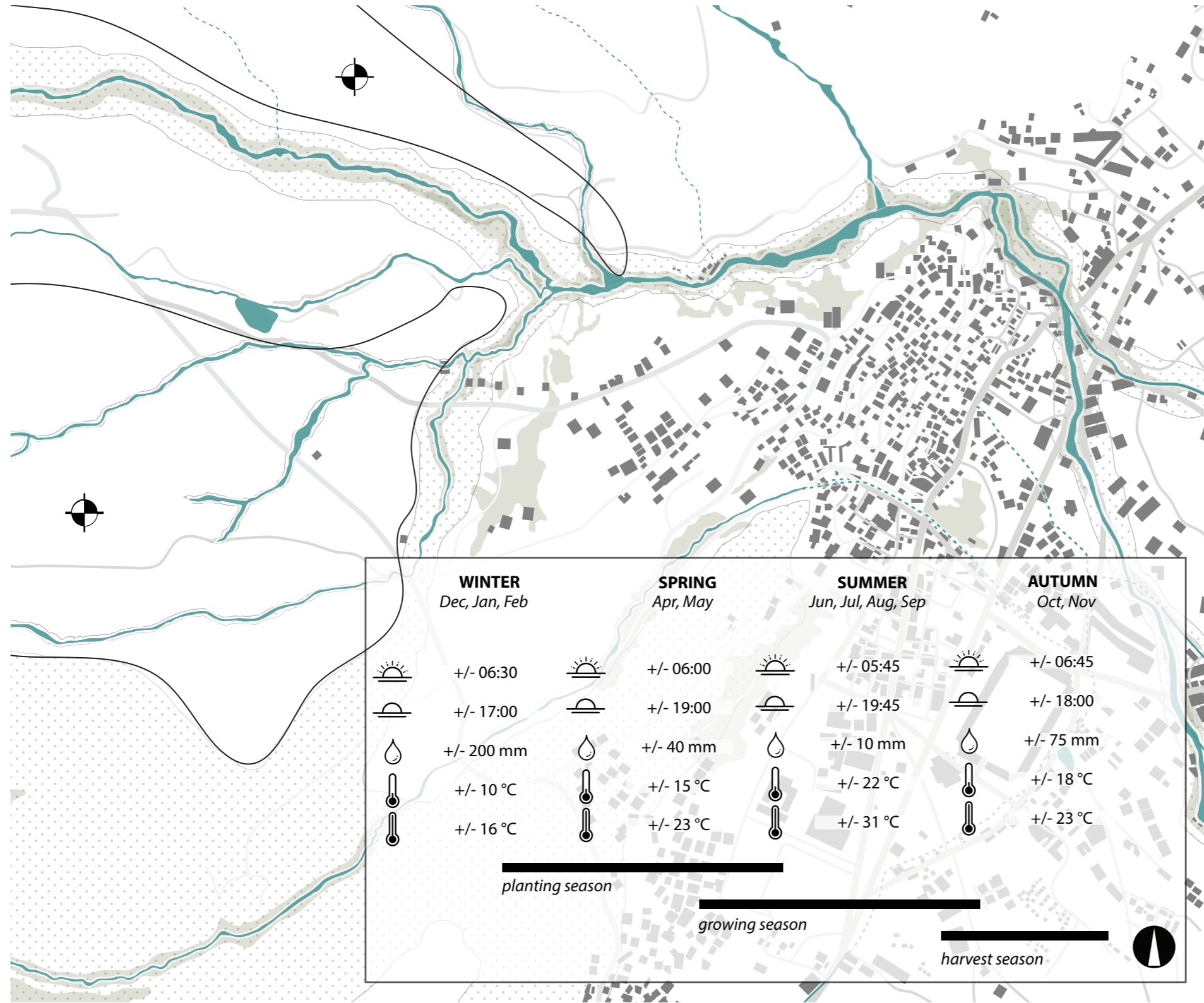
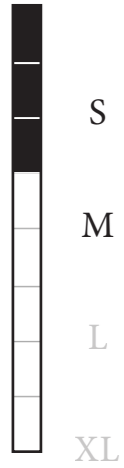
The Valley and the Town





Analysis of the natural landscape

Climatic features



- River streams
- Expansion zones

The Town and the Neighbourhoods (expansion areas)

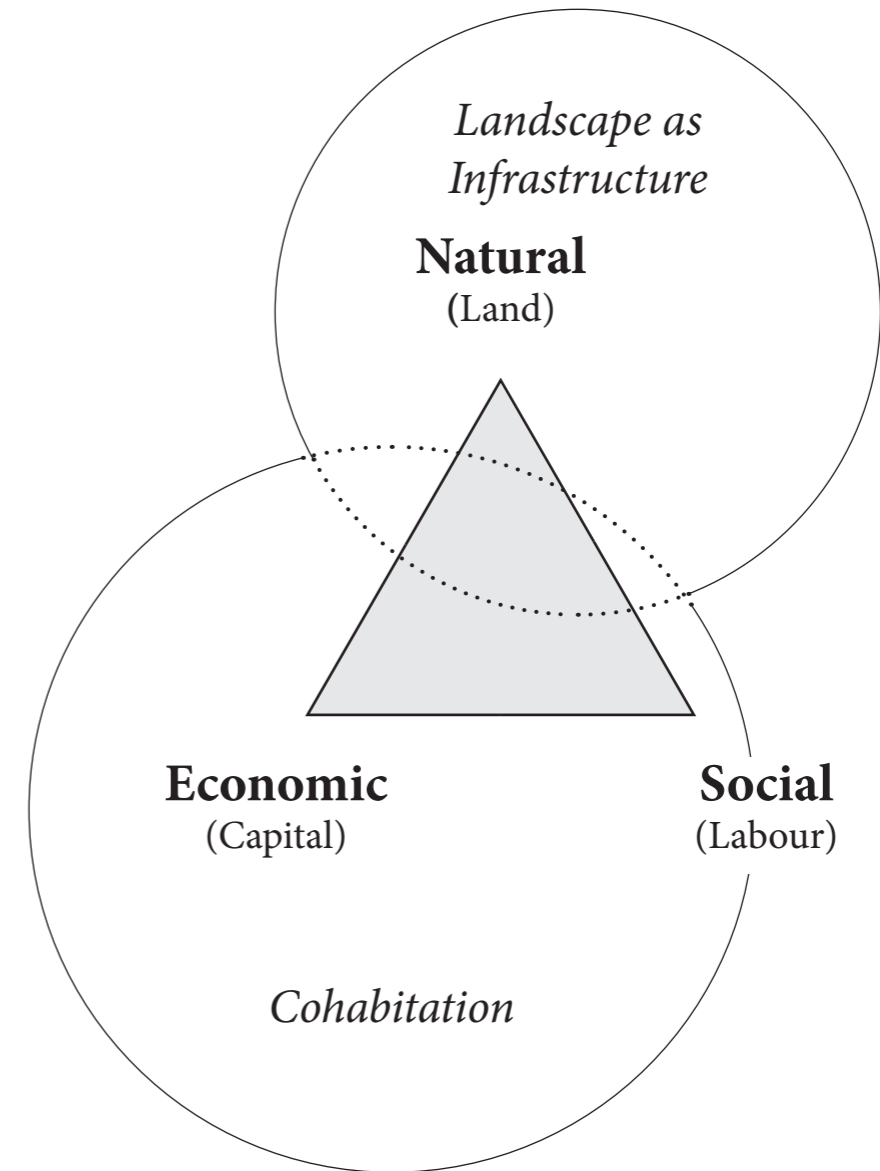




Q2 Synthesis

Sub-research questions 2

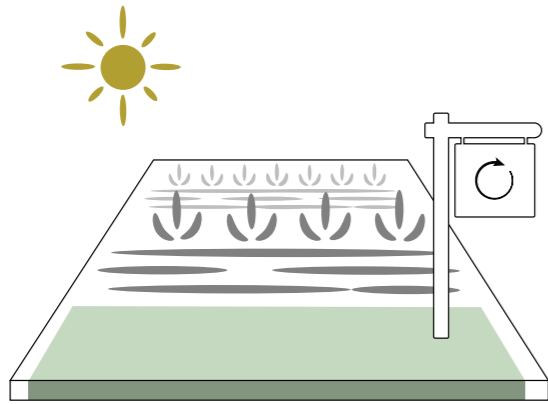
How to exploit the opportunities and address the challenges of the specific territory to maintain prevailing and establish future economies and forms of living, based on agricultural production?



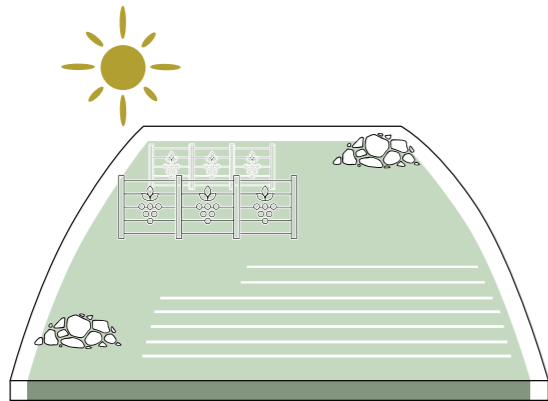


Q2 Synthesis

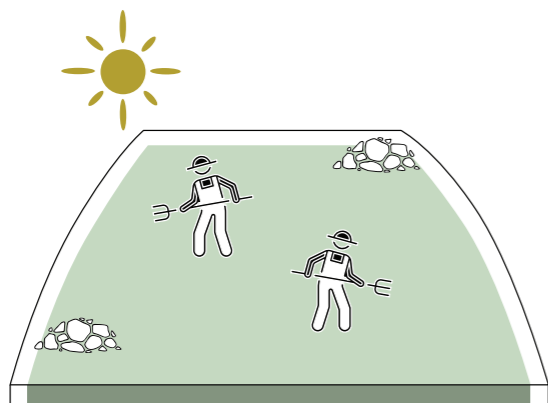
Conclusion: enhance and create man-made infrastructure



Rehabilitate unproductive land,
by developing new agricultural systems



Take structural measures for improving the
accessibility of the land, its readiness for
agricultural production and inhabitation
and to enhance its connection to existing
urban fabric and services



Stimulate the establishment of productive
communities

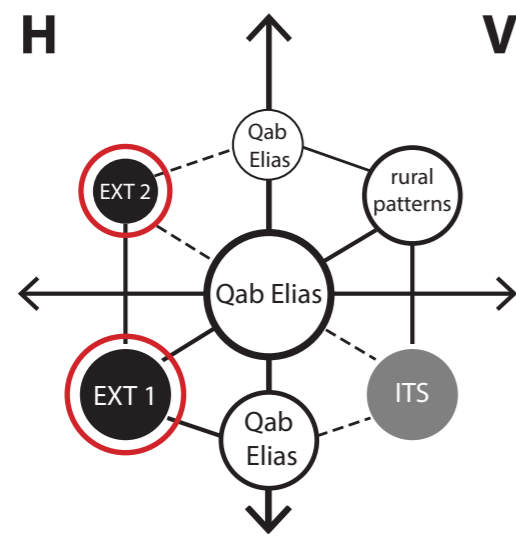


**Expansion
Strategy**



Q2 Synthesis

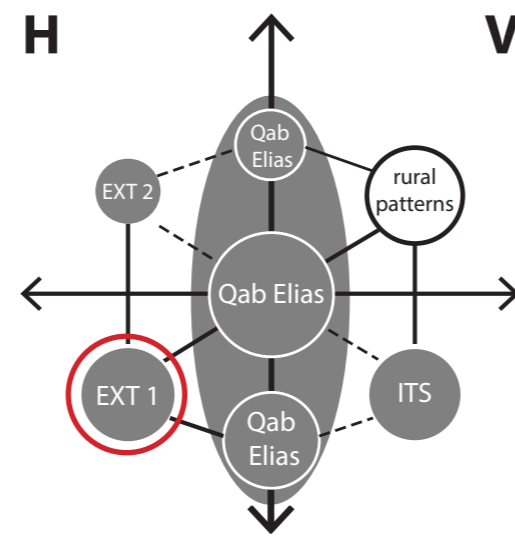
Expansion strategy



S¹ = foundational

T¹ = revitalise (0-5 years)

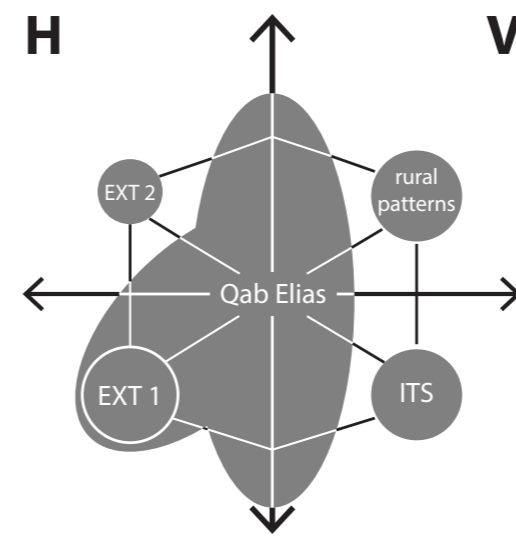
Shelter, food, education, healthcare



S² = belonging

T² = adaptation (5-20 years)

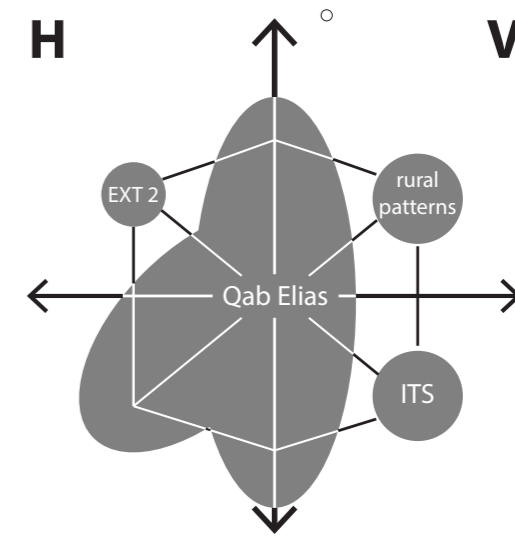
Public space, public programs



S³ = recognition

T³ = growth (20-50 years)

Processes and values in society



S⁴ = saturation

T⁴ = exchange (50-100 years)

?



Observations

Site-visit

a few families have satellite TV and can watch regional channels (03)

simple construction materials are used to provide the most basic protection, such as canvas and wood (02, 05)

occasionally settlements have two stories

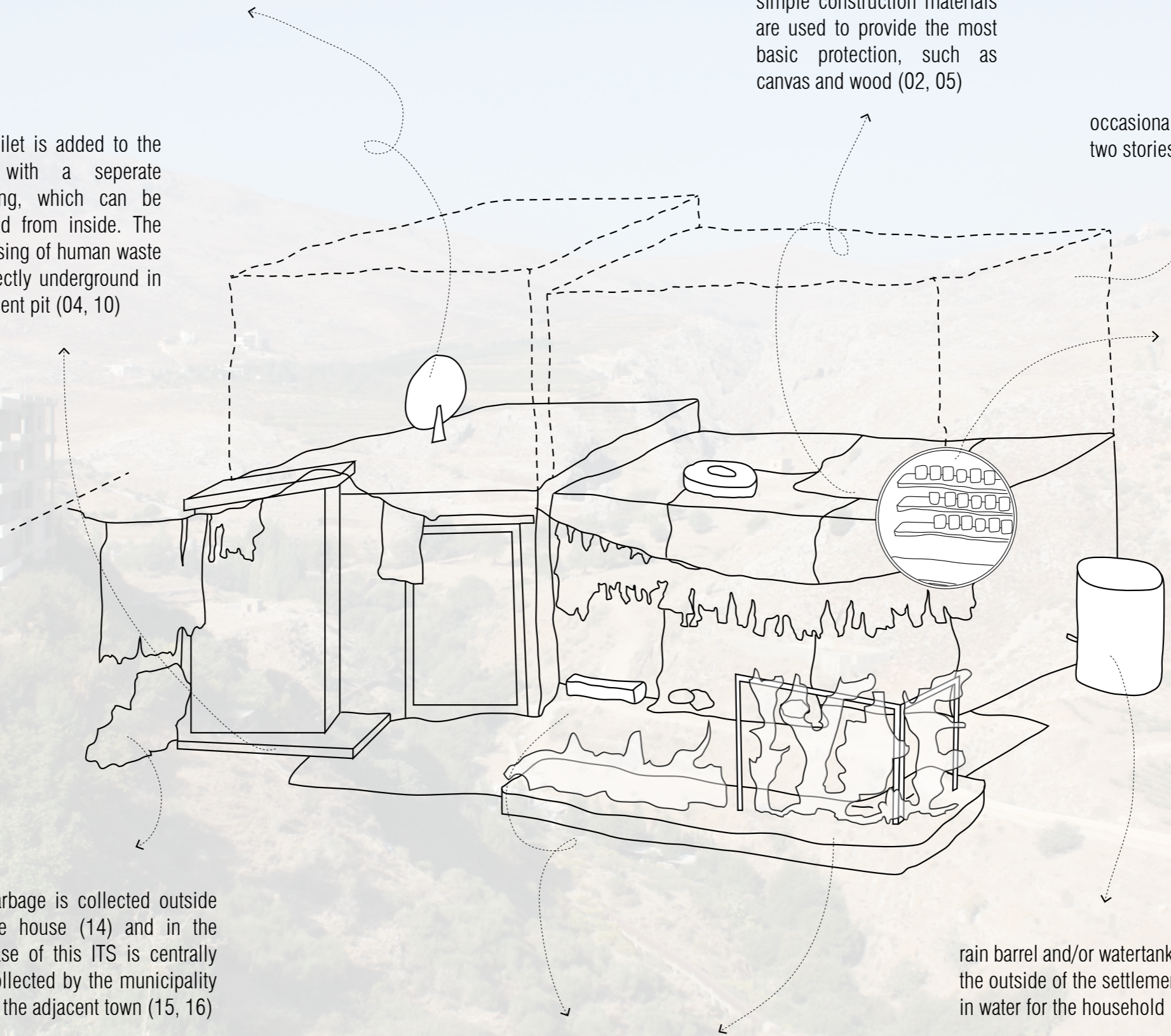
the toilet is added to the ITS, with a separate building, which can be entered from inside. The disposing of human waste is directly underground in a cement pit (04, 10)

mouneh (22), food storage as part of the shared cultural identity between Lebanese and Syrian

garbage is collected outside the house (14) and in the case of this ITS is centrally collected by the municipality of the adjacent town (15, 16)

rain barrel and/or watertank attached on the outside of the settlement, providing in water for the household

transition zone between the private and public space. Given expression by outdoor furniture (08), small gardens with flowers and vegetables (18) and/or outdoor kitchens (07)

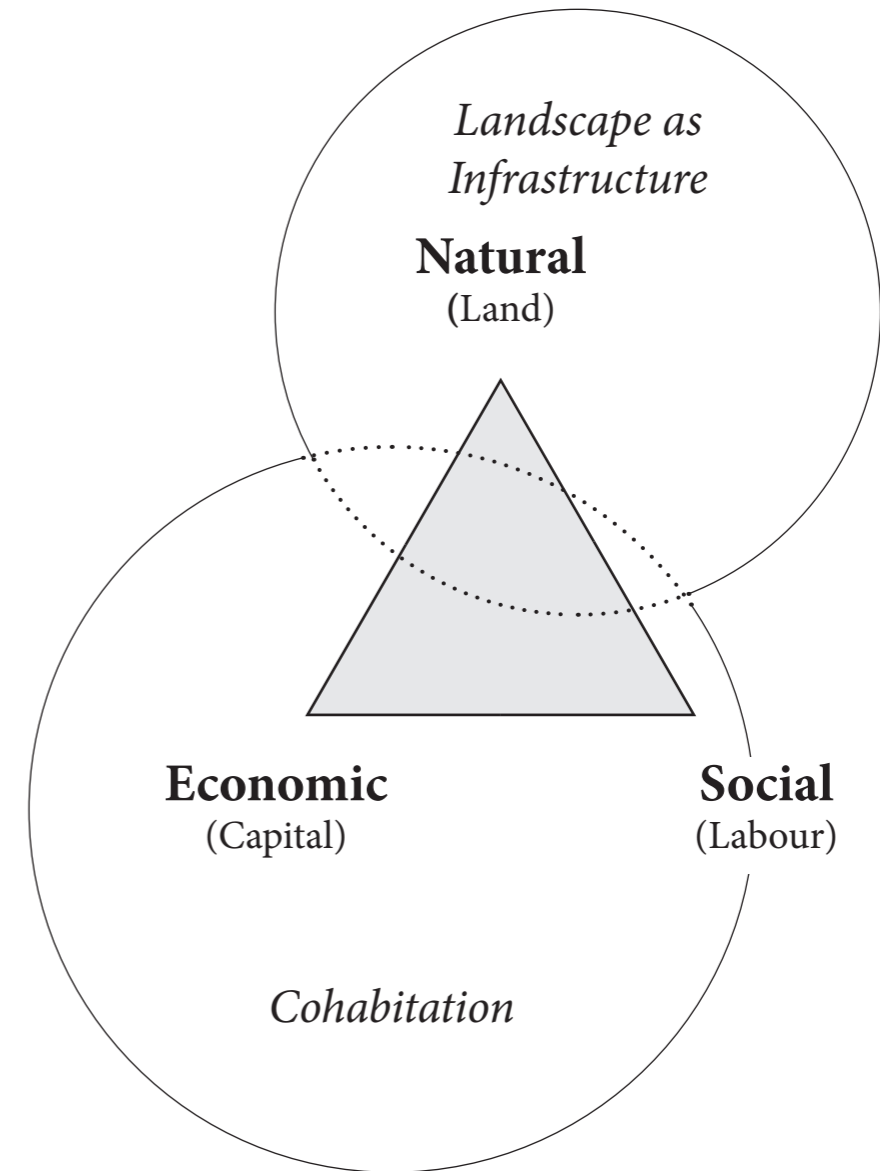




Q3 Design

Sub-research questions 3

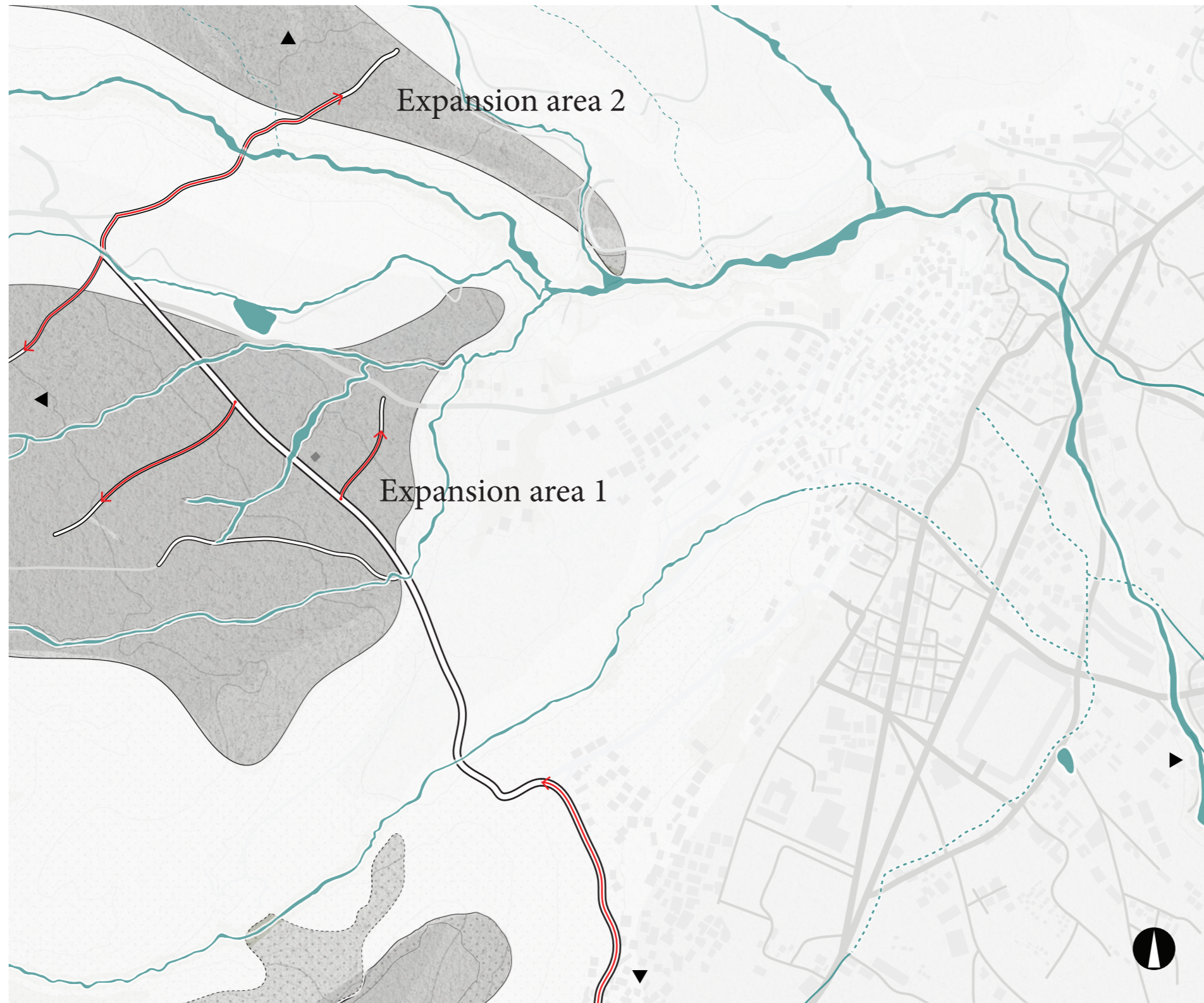
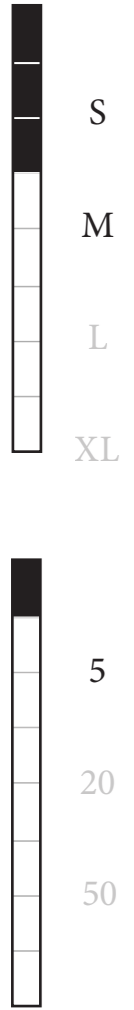
What are the (socio-)spatial implications of the impositions for maintaining prevailing and establishing future economies and forms of living based on agricultural production?





Design phase T¹

Transport infrastructure



- River streams
- New roads
- Existing roads
- Underutilised land

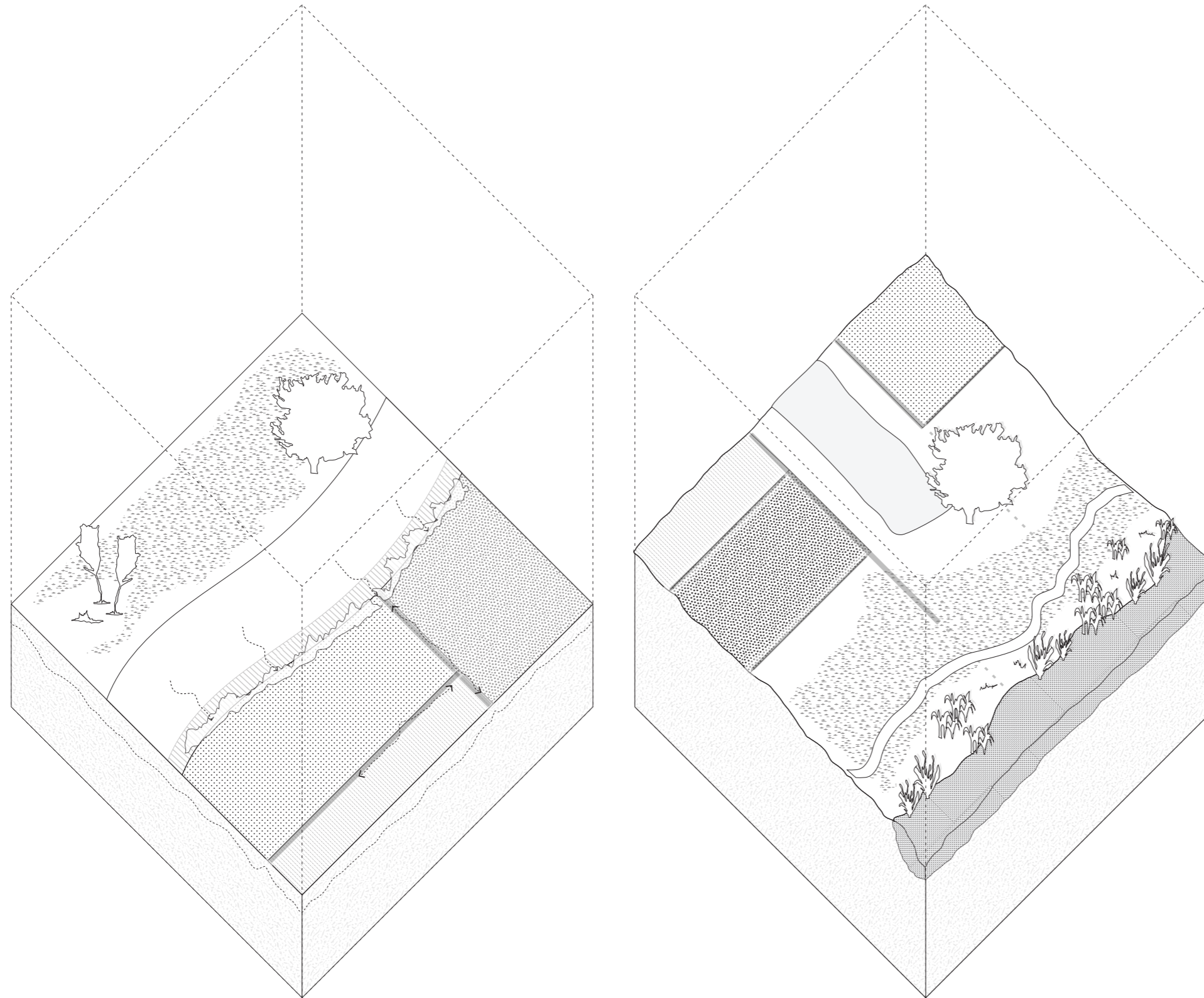
The Town and the Neighbourhoods (expansion areas)





Design principles

Transport infrastructure

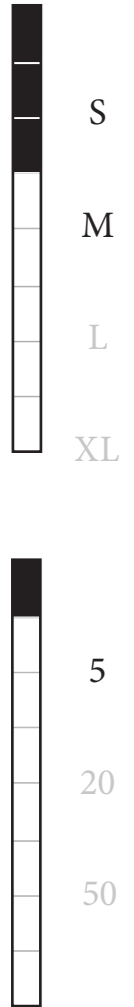


Improve accessibility, connectivity, street hierarchy and apply natural measures for purification



Design phase T¹

Primary agricultural production and habitation infrastructure



- River streams
- Roads
- Settlement zones
- Nomadic zones
- Terracing
- Housing
- Housing under construction

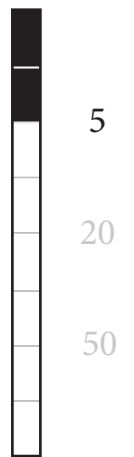
The Town and The Neighbourhoods (Expansion areas)





Design phase T¹

Primary agricultural production and habitation infrastructure



- River streams
- Roads
- Settlement zones
- Nomadic routes
- Terracing
- Housing

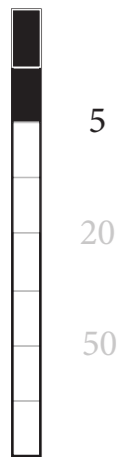
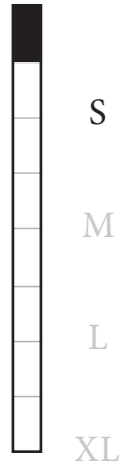
The Neighbourhood (Expansion area 1)





Design phase T¹

Primary agricultural production and habitation infrastructure



- River streams
- Roads
- Terracing
- Housing

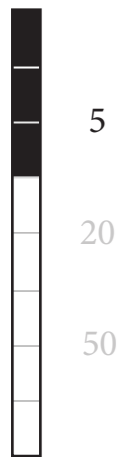
The Community (Expansion area 1)














Design phase T¹

Secondary agricultural production and habitation infrastructure



-  Solid waste collection points
-  Irrigation system
-  Greywater reuse system
-  Wastewater system
-  Rainwater harvesting system
-  Water for households
-  Bushes
-  Terracing
-  Housing

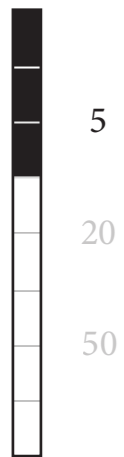
The Community (Expansion area 1)














Design phase T¹

Agricultural production and habitation



-  Solid waste collection points
-  Irrigation system
-  Greywater reuse system
-  Wastewater system
-  Rainwater harvesting system
-  Water for households
-  Bushes
-  Terracing
-  Housing

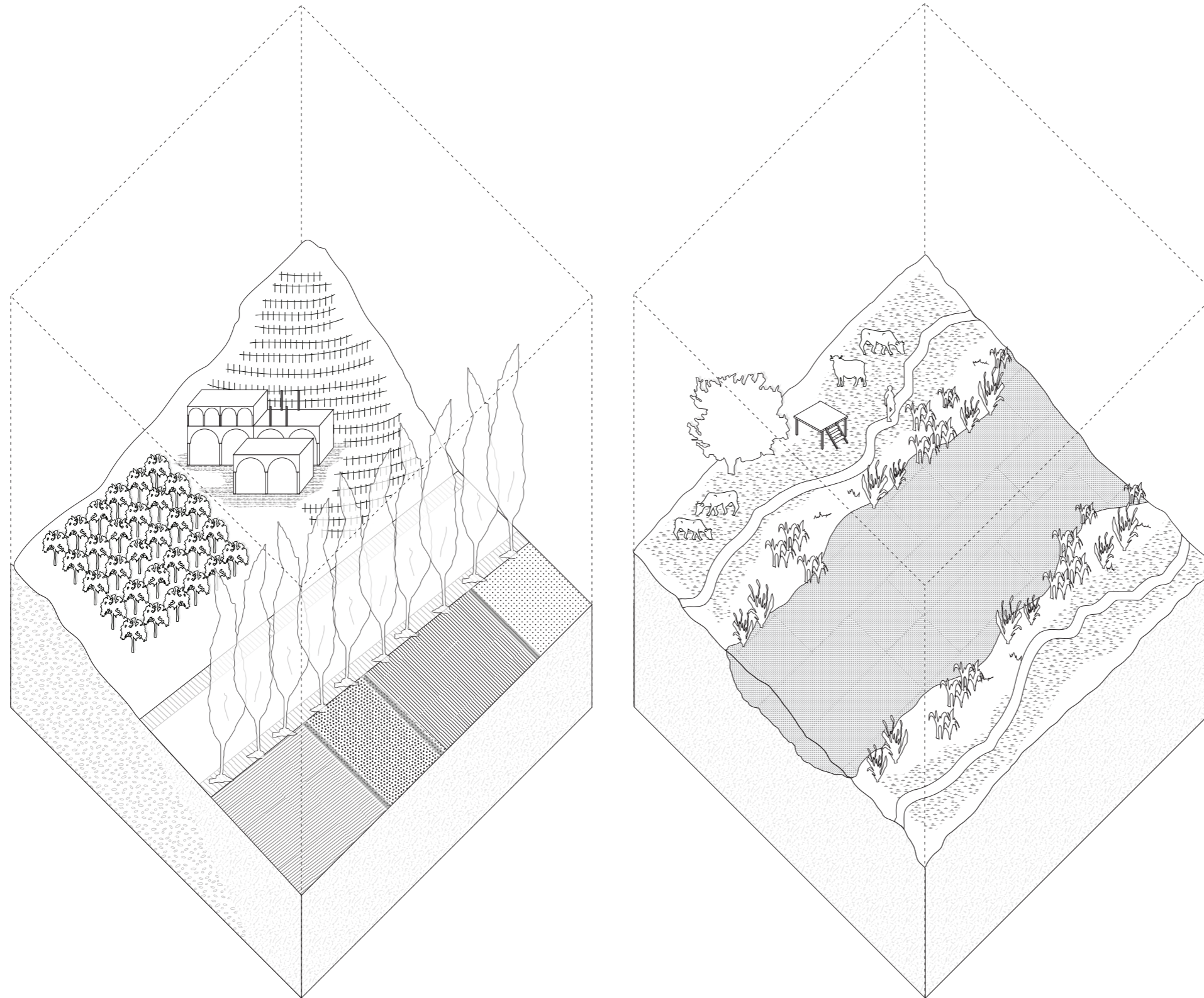
The Community (Expansion area 1)





Design principles

Secondary agricultural production and habitation infrastructure



Implement and improve orchards, vineyards, field crops and nomadic farming and the related urban-rural forms



Impression 1

Productive landscape



The Community (Expansion area 1, map and section in one)

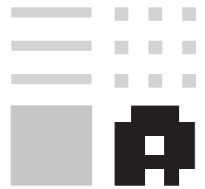


Impression 2

Productive landscape



The Community (Expansion area 1, section)



Conclusion and discussion

A holistic landscape approach: analysis and design

- I** Strong relations between the Syrians living in the specific territory and the rural Lebanese communities is further elaborated on **Agricultural production**

- II** There is underutilised land for future development that does not compete with prime agricultural land and can merge over time with the existing city **Revitalise underutilised land**
- Development is focussed on both the deprived Syrian, the impacted Lebanese population and other groups of society. Thus benefitting society as a whole **Revitalise economy and people**

Based on and in respect to the natural landscape



Conclusion and discussion

A holistic landscape approach

Landscape and natural resources play the most important role for supporting the ecologies of co-habitation, wherein collectivities and shared realities are hosted by means of agricultural production

Wherein the ecologies are designed as infrastructures that shape these future agricultural economies

Questions?

- [2] Al-Din. (2015). Smoke rises after what activists said were air strikes by forces loyal to Syria's President Bashar al-Assad in Arbeen, in the eastern Damascus suburb of Ghouta. Retrieved March 27, 2017, from <https://www.theatlantic.com/photo/2015/04/in-syria-four-years-of-war/389781/>
- [3] CAFOD. (n.d.). Lost family portraits. Refugee Camp, Bekaa Valley, Lebanon. Retrieved from <https://cafod.org.uk/News/Voices/refugee-crisis>
- [5] CAFOD. (n.d.). Lost family portraits. Refugee Camp, Bekaa Valley, Lebanon. Retrieved from <https://cafod.org.uk/News/Voices/refugee-crisis>
- [6] Keulen van, D. (2017). Living in ITS at Litani river. Retrieved June 13, 2017, from <https://www.flickr.com/photos/davidvankeulen/32887678585/in/album-72157671237794186/>
- [7] Keulen van, D. (2016). Syrian refugees working in the field. Retrieved June 13, 2017, from <https://www.flickr.com/photos/davidvankeulen/28361364171/in/album-72157671237794186/>
- [8] World Vision. (n.d.). A day in the life of a Syrian refugee. Retrieved from <https://www.worldvision.ie/news/detail/a-day-in-the-life-of-a-syrian-refugee>