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IN
LANDSCAPE ARCHITECTURE
SUBMITTAL FORM

Towards a Propitious Landscape Transformation

by
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maaroub - tyre district

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title

statement

Towards a Propitious Landscape Transformation

“Maaroub in south Lebanon has historically been known for its recreational open public spaces that have now disappeared, it is also known for having an abundance publically owned lands that are either being illegally urbanized/intervened on, or neglected/abandoned. The Project aims to transform Maaroub into an ecological and recreational hub by making uses of these publically owned lands”.

maaroub inventory

Located in the South of Lebanon,
Tyre district, a rural village called
Maaroub



Figure 1: Lebanon



Figure 2: Tyre District

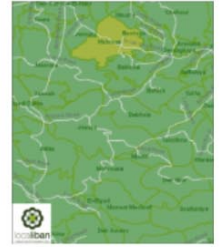


Figure 3: Maaroub Context

Land Ownership

- Privately Owned
- Publically Owned
- Municipal



Figure 4: Land Ownership

Landcover Analysis

- Scrubland
- Agriculture
- Rocky Scrubland

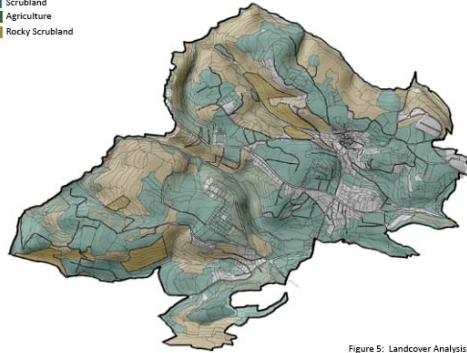


Figure 5: Landcover Analysis

Publically Owned Lands

- Publically Owned Lands

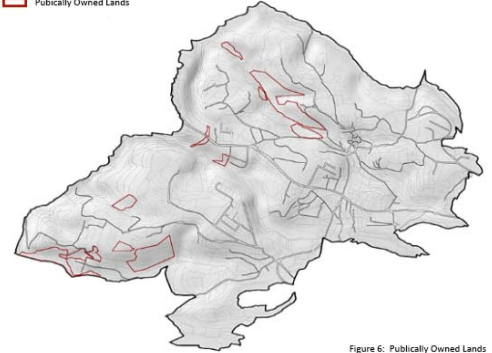


Figure 6: Publically Owned Lands

Pollution

- Garbage Dumping in Publically Owned Land
- Garbage Dumping
- Publically Owned Land

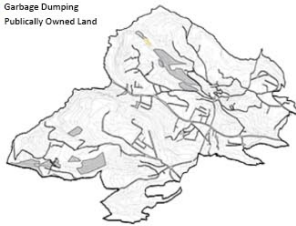


Figure 7: Pollution

Hydrology

- Seasonal Stream
- Cont 10

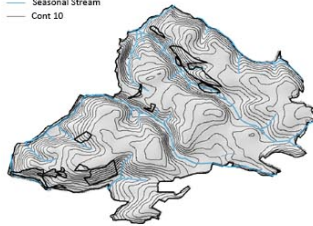


Figure 8: Hydrology

Current Water Sources

- Water Tanks

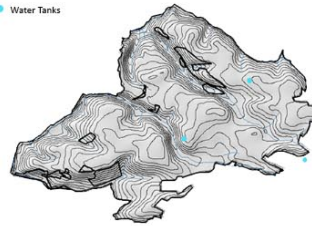


Figure 9: Current Water Sources

WaterShed

- Value
- High 353
- Low 137

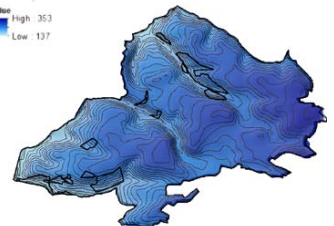


Figure 10: Watershed

Slope Aspect

- East (0-22.5)
- North-east (22.5-45)
- East (45-67.5)
- North-east (67.5-90)
- South (90-112.5)
- South-east (112.5-135)
- South (135-157.5)
- South-west (157.5-180)
- West (180-202.5)
- West (202.5-225)
- North-west (225-247.5)
- North (247.5-270)
- North-west (270-292.5)
- North (292.5-315)

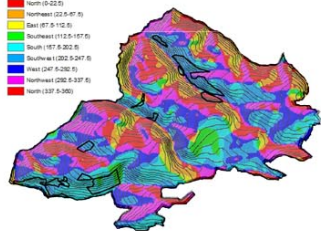


Figure 11: Slope Aspect

Slope Analysis

- 0.01 - 3.48
- 3.49 - 6.96
- 6.97 - 10.44
- 10.45 - 13.91
- 13.92 - 17.38
- 17.39 - 20.85
- 20.86 - 24.32
- 24.33 - 27.79
- 27.80 - 31.26
- 31.27 - 34.73

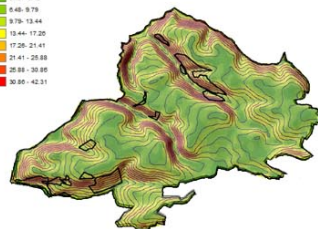


Figure 12: Slope Analysis

Soil

- Astropoclepposols
- Calcic Fluvisols
- Calcic Regosols
- Eutric Lixisols
- Rendzic Lixisols

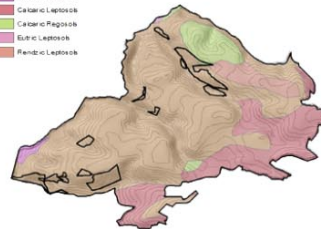


Figure 13: Soil

Road Network

- Publically Owned Lands
- Inaccessible Publically Owned Lands
- Primary Roads
- Secondary and Tertiary Roads

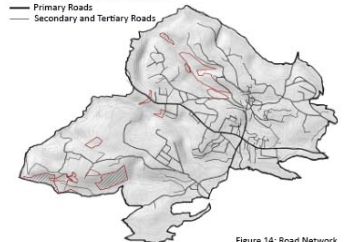


Figure 14: Road Network

Historically known for its recreational open spaces that have now disappeared. Also, known for having an abundance of land owned by the government that are being misused or abandoned/neglected.



maaroub inventory

Urban 1963

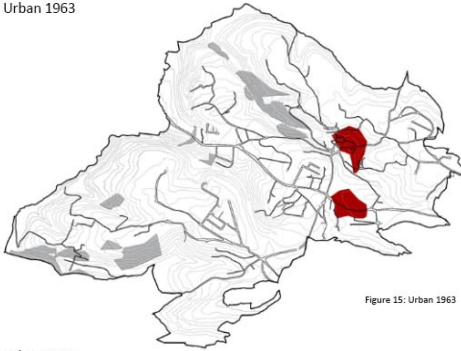


Figure 15: Urban 1963

Urban 1994

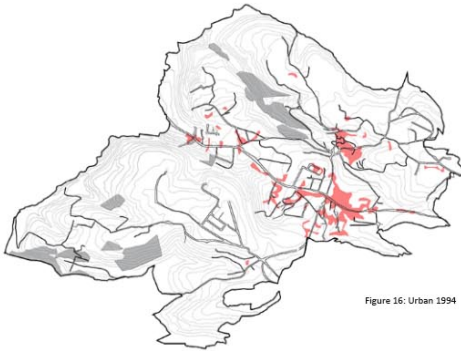


Figure 16: Urban 1994

Urban 2005

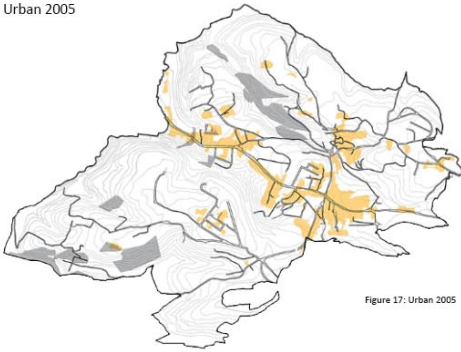


Figure 17: Urban 2005

Urban 2013

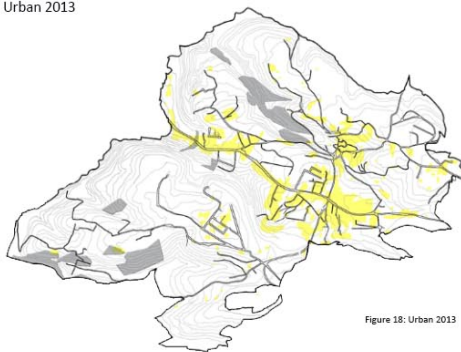


Figure 18: Urban 2013

Overall Urban Expansion

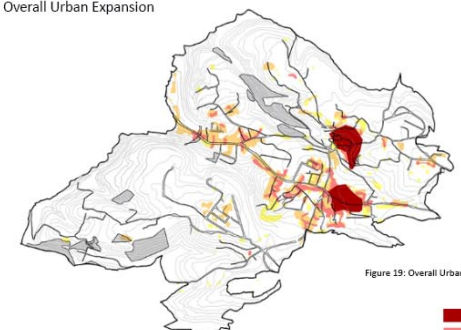
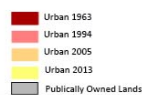


Figure 19: Overall Urban Expansion



Historical Ruins

Concentrated in Old village



Figure 20: Historical Ruins

Social Facilities

Linear Development with Urban Expansion

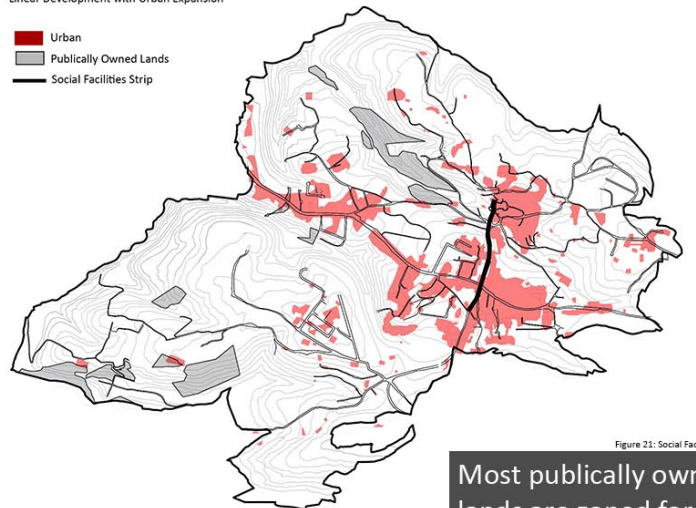


Figure 21: Social Facilities

Most publically owned lands are zoned for shrublands or agriculture. Future expansion in periphery of village.

Zoning

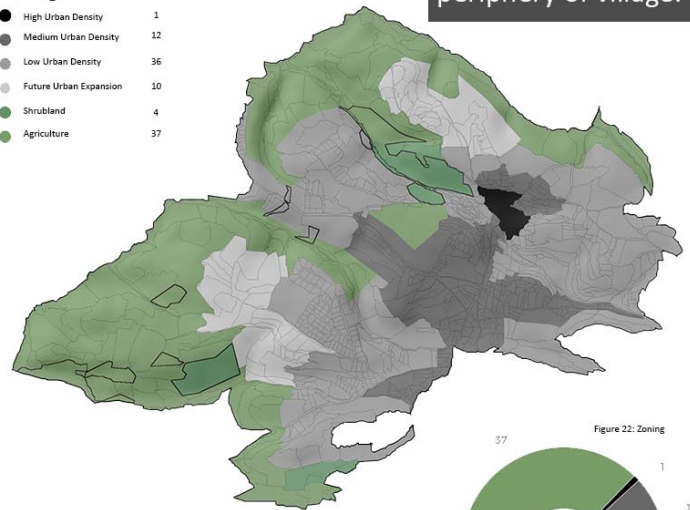
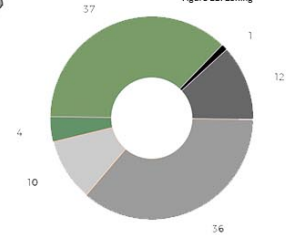


Figure 22: Zoning



maaroub inventory

Public Gardens

- Public Gardens
- Publicly Owned Lands

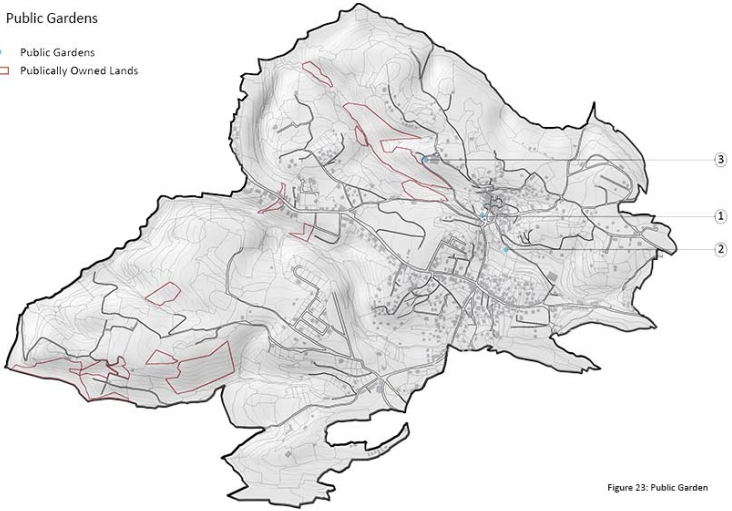


Figure 23: Public Garden

① Old Town Seha Garden



② Water Spring Garden



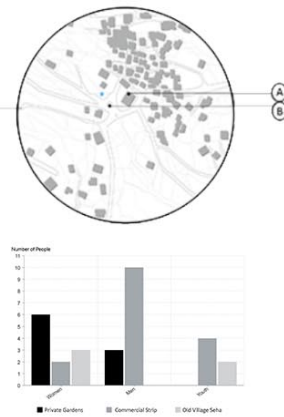
③ Public School Garden



Social Hubs



Figure 24: Social Hubs



① Commercial Strip

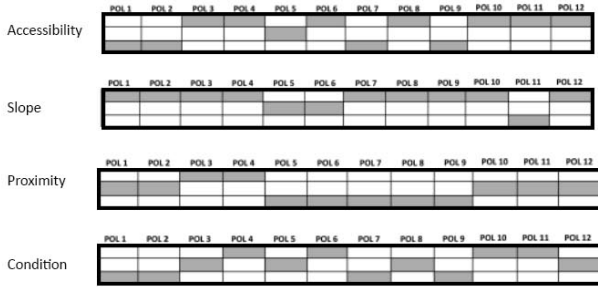


② Old Town Seha



maaroub analysis

Criteria	POL 1	POL 2	POL 3	POL 4	POL 5	POL 6	POL 7	POL 8	POL 9	POL 10	POL 11	POL 12
Accessibility	Difficult To Access	Difficult To Access	Easy To Access	Easy To Access	Medium To Access	Easy To Access	Difficult To Access	Easy To Access	Difficult To Access	Easy To Access	Easy To Access	Easy To Access
Proximity To Social Hubs	1.8 km	1.6 km	750 m	750 m	2.3 km	2.2 km	3.0 km	3.0 km	2.4 km	1.3 km	1.3 km	1.1 km
Slope		54%	40%	48%	50%	25%	15%	33%	45%	40%	47%	0%
Land Use	Shrubland	Shrubland	Rocky Shrubland	Rocky Shrubland	Rocky Shrubland	Urbanized / Agriculture	Rocky Shrubland	Rocky Shrubland	Rocky Shrubland	Urbanized	Urbanized	Rocky Shrubland
Condition	Abandoned	Abandoned	Neglected	Intervened On	Neglected	Intervened On	Abandoned	Neglected	Abandoned	Intervened On	Intervened On	Neglected



Conclusion Map

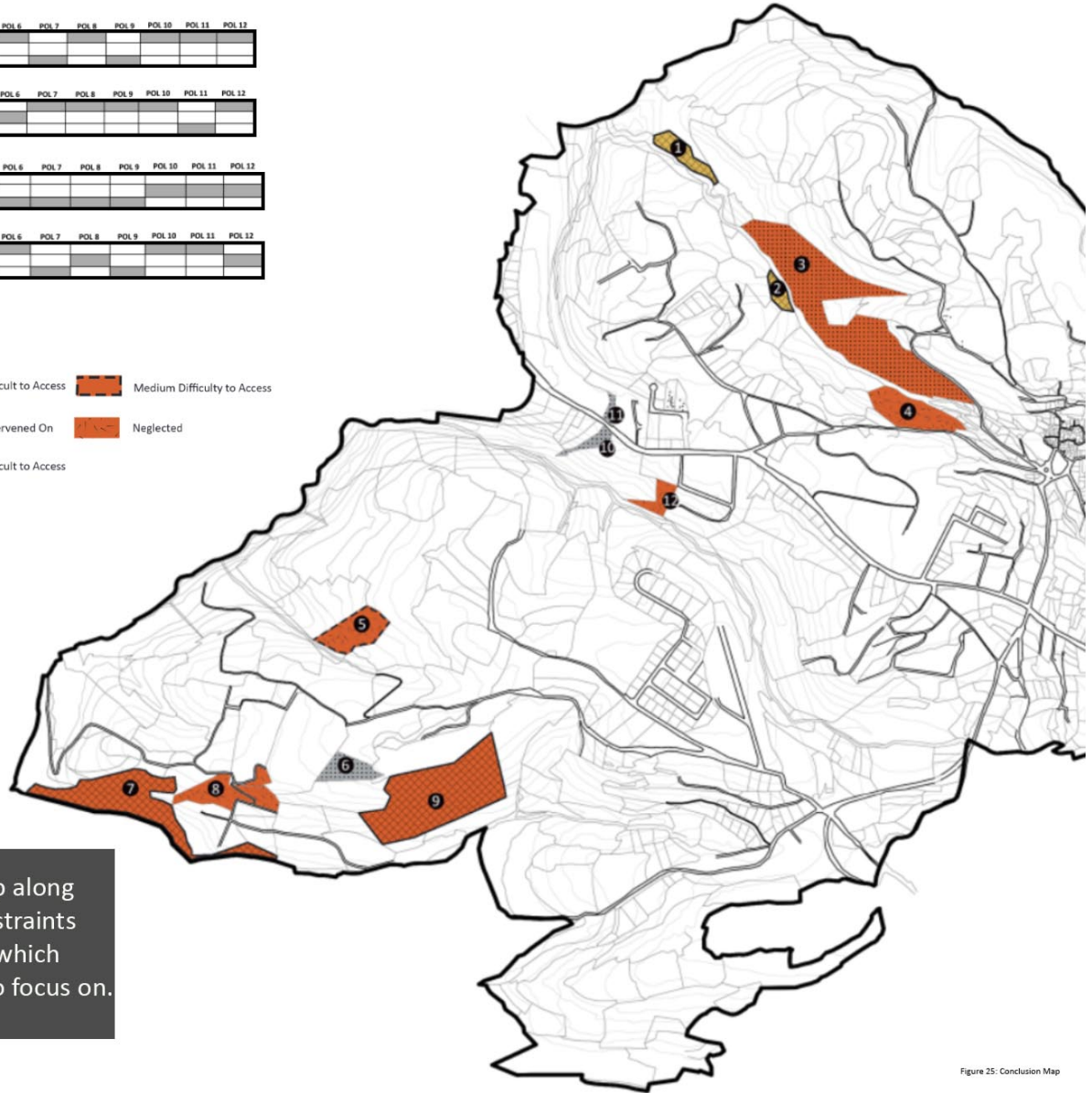
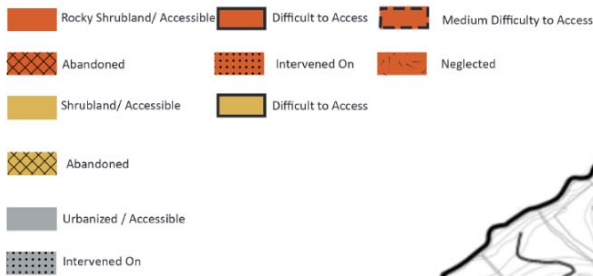


Figure 25: Conclusion Map

Based on conclusion Map along with Opportunities/ Constraints map helped in choosing which publically owned lands to focus on.

Opportunities

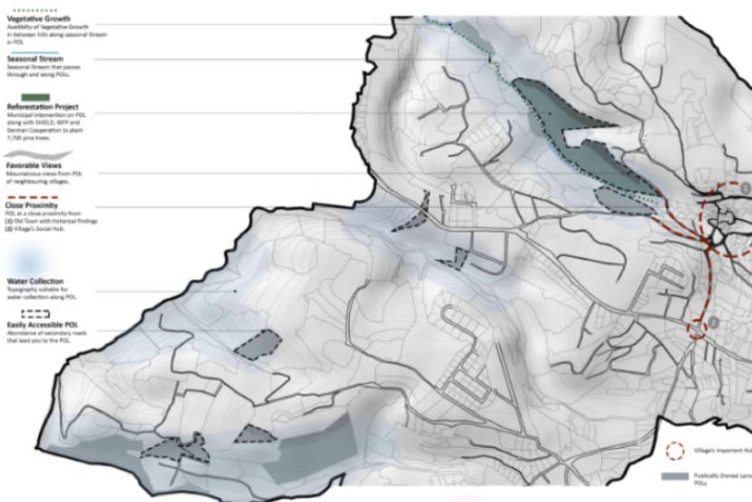


Figure 26: Opportunities

Constraints

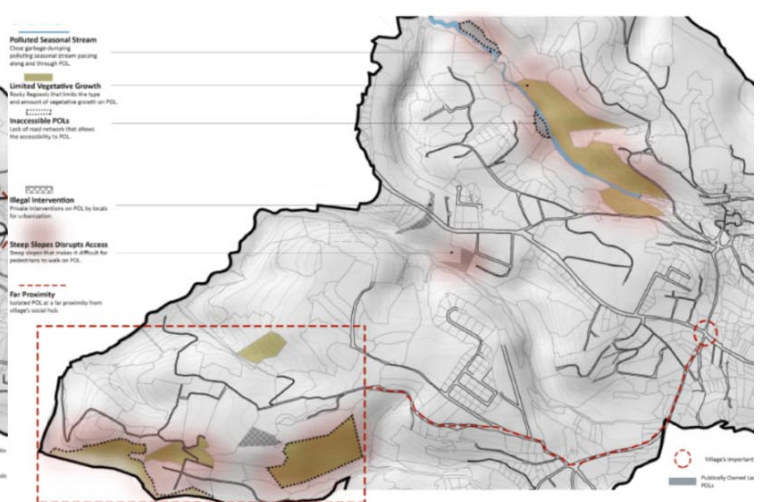


Figure 27: Constraints

maaroub analysis

Area of Interest



Pictures from Site

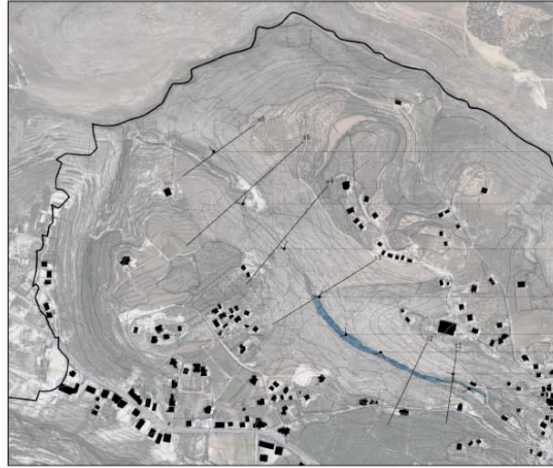


Figure 28: Pictures from site



Diagrams - Existing Valley Borders



Figure 29: Existing Valley Borders

Area Identity

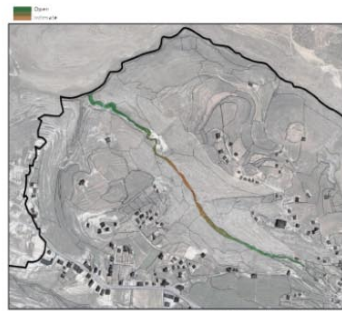


Figure 30: Existing Area Identity

Land cover

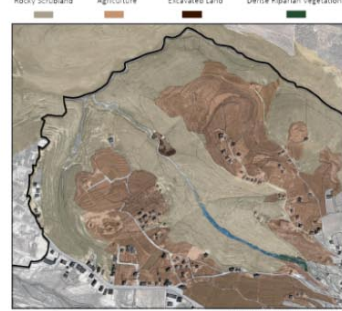


Figure 31: Existing Land cover

Views

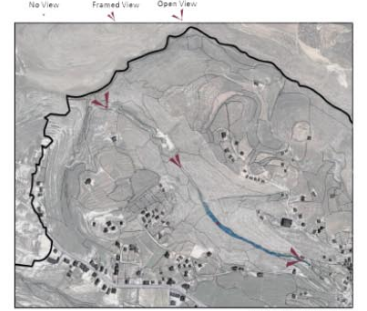


Figure 32: Existing Views

Sections - Existing Section 1



Section 2



Section 3



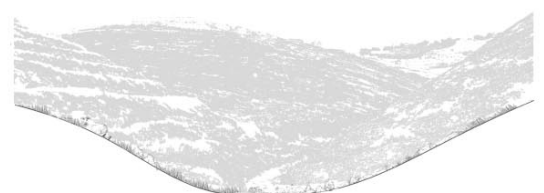
Section 4



Section 5



Section 6



maaroub strategy-concept

Strategy/ Concept Diagram

The project aims to transform the valley into an ecological hub by reviving the memory of water and reforesting existing neglected shrublands making it an ecological and recreational passageway to other villages.

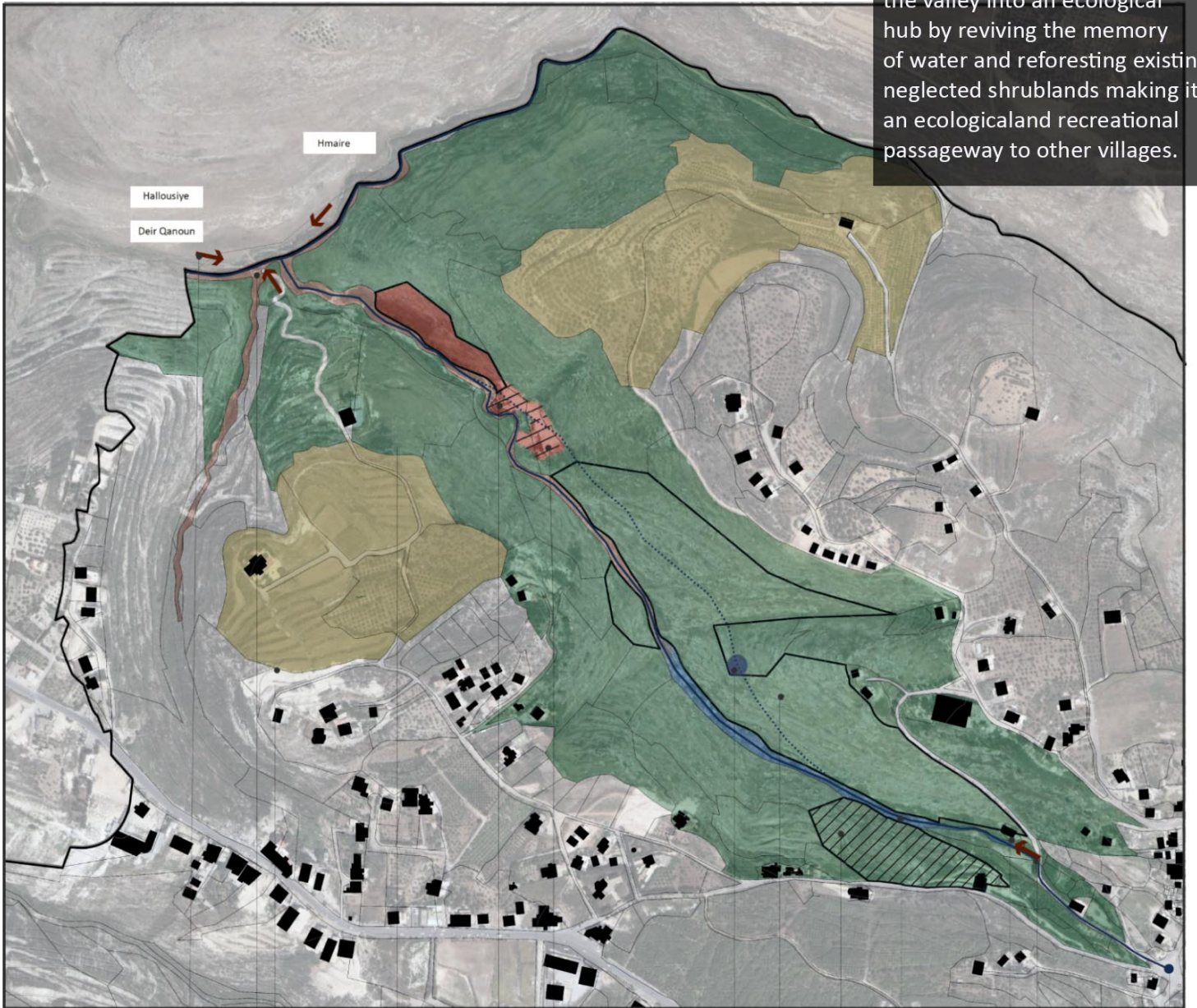


Figure 33: Strategy/Concept

- Access Points - Facilitate Accessibility
- Extention by revegetation valley
- Reforest all shrublands
- Rehabiliate Area
- Provide Seating Space
- Viewing Platform
- Trail through forest
- Trail in the Valley
- Revegetate seasonal stream strip
- Trail along stream
- Connect to Old Town

Mood Images

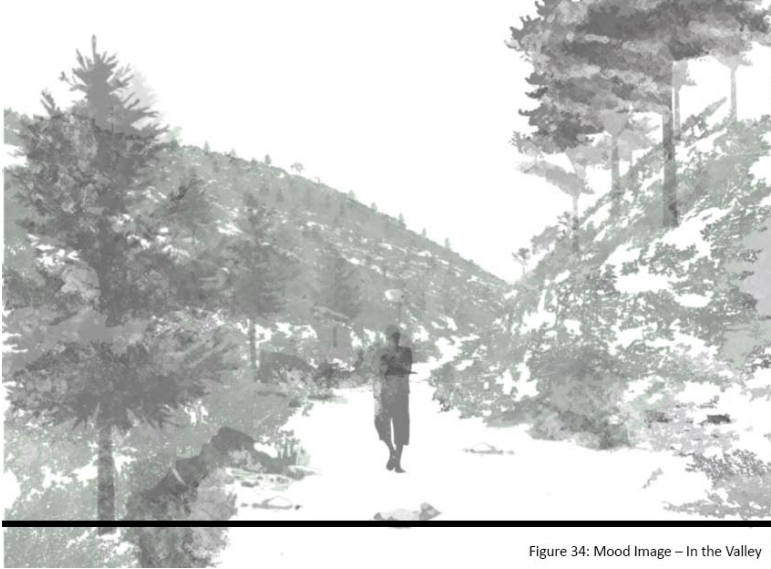


Figure 34: Mood Image – In the Valley

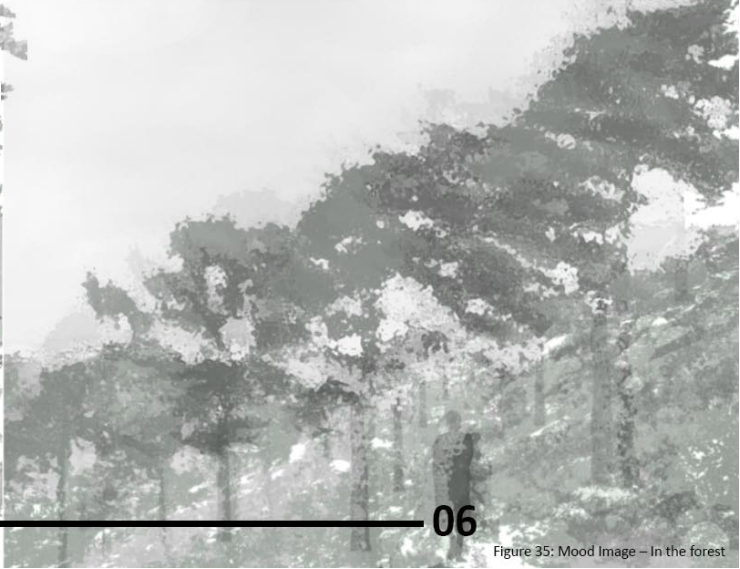


Figure 35: Mood Image – In the forest

maaroub design

Having lost the area's ecological and recreational importance by disconnecting the vegetated strip along the seasonal stream in order to provide a pathway for a garbage dumpster, my design aims to revive the area by providing an outdoor exhibition space that introduces different landscape experiences through a trail that takes you through both the reforested hillsides and the revegetated valley and recites the story of the disappearance of the seasonal stream that once existed and was used by the villagers.



Figure 36: Plan

Perspective - In the Garden



Figure 37: Perspective - In the Garden

Water Collection

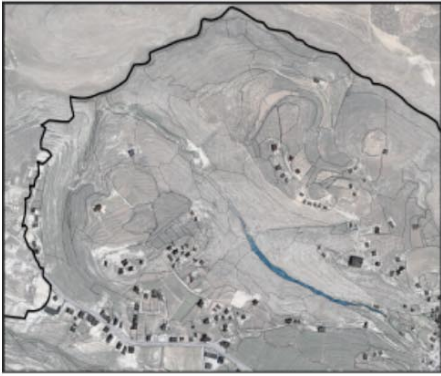


Figure 38: Water Collection

Accessibility

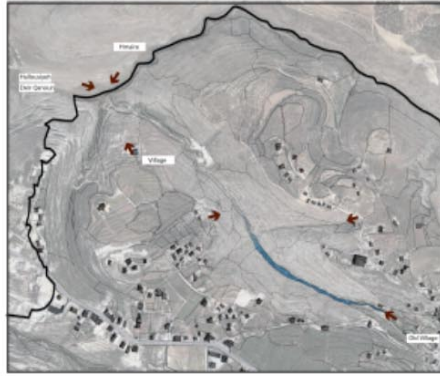


Figure 39: Accessibility

Trail Typology

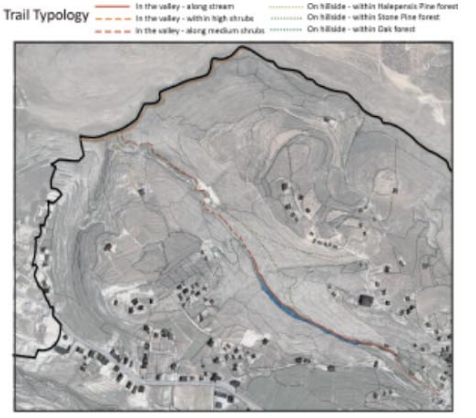


Figure 40: Trail Typology

Landcover



Figure 41: Land cover

Proposed Activities

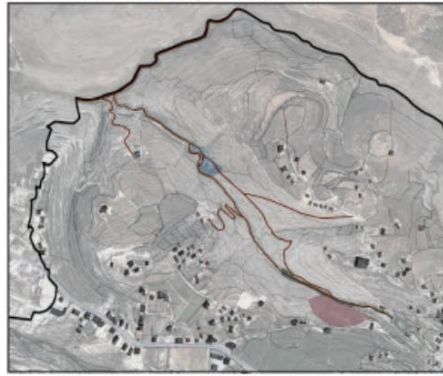


Figure 42: Proposed Activities

Phase I

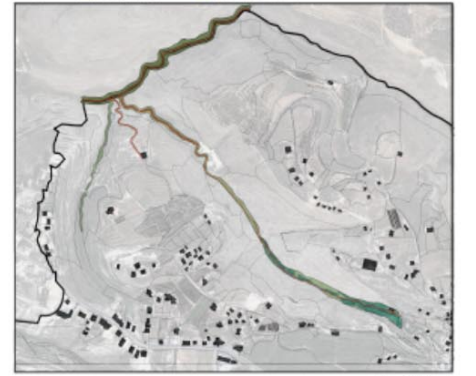


Figure 43: Phase I

Phase II

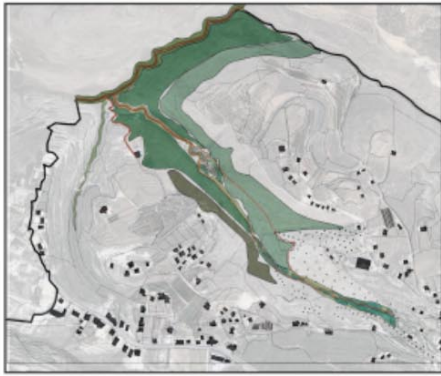


Figure 44: Phase II

Phase III

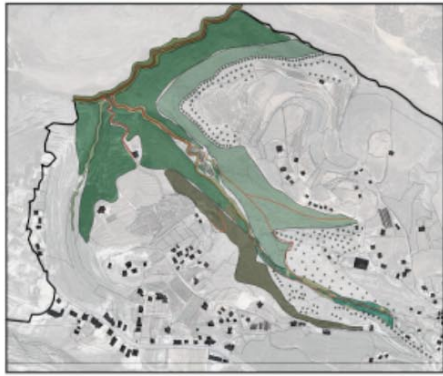


Figure 45: Phase III
Forest Succession - Phasing

Phase IV

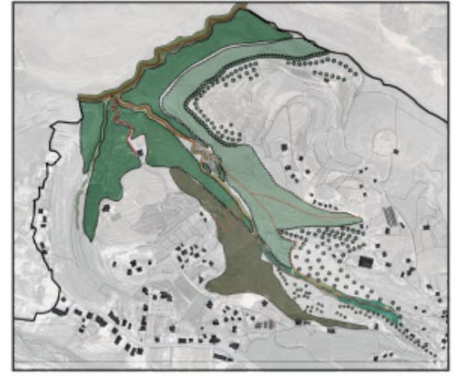
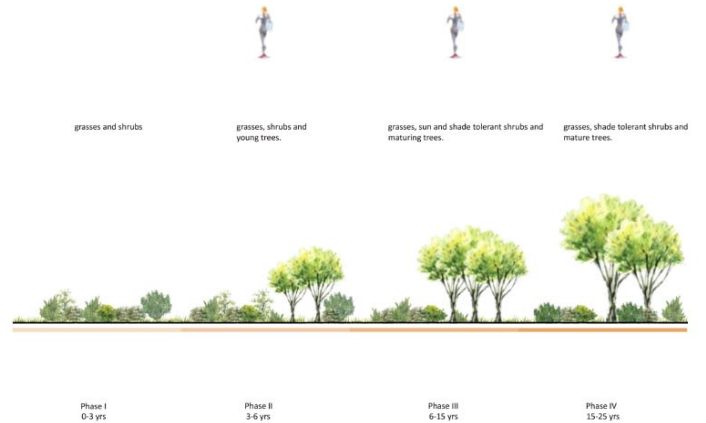


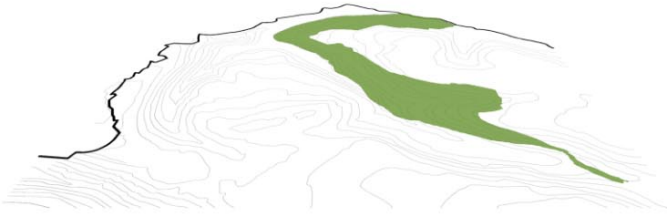
Figure 46: Phase IV

Cut Plan



Figure 47: Cut Plan





Forest Tree

Pinus Pinea



Understory

Spartium Junceum



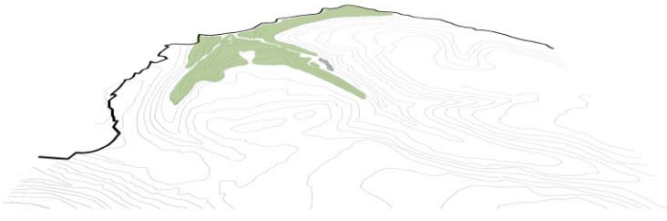
Cistus x Salvifolus



Ficus microcarpa



Malvaviscus Drummondi



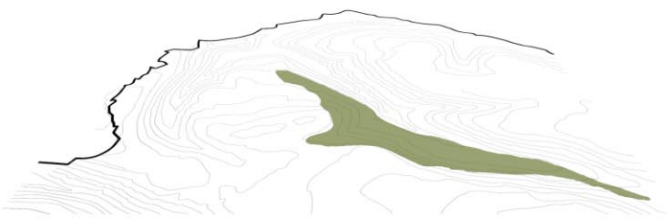
Forest Tree

Pinus Halepensis



Understory

Ophiopogon Japonicus



Forest Tree

Quercus Calliprinos



Understory

Spartium Junceum



Cistus x Salvifolus



Ficus microcarpa



Malvaviscus Drummondi



Scattered Trees

Melia Azedarach



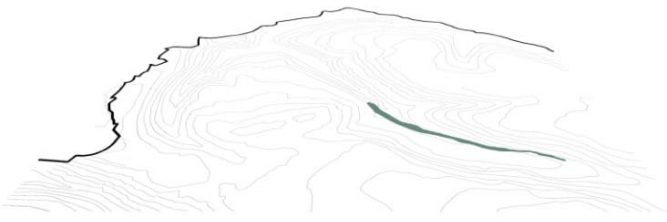
Shrubs

Spartium Junceum



Mytus Communis

Rhamnus Alaternus



Riparian Vegetation

Arundo Donax

Ternstroemia gymnanthera

Dodonaea viscosa

Murraya paniculata

Hibiscus rosa-sinensis



Rosmarinus officinalis

Typha latifolia

Juncus effusus

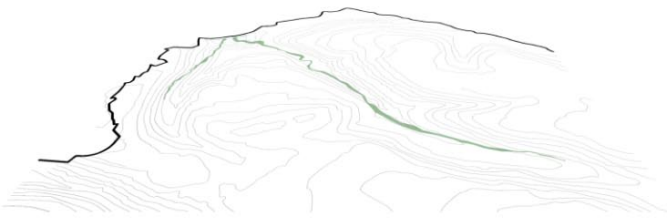
Mentha spicata

Linaria Vulgaris

Vicia grandiflora

Liriope muscari

Pachysandra terminalis



Native Shrubs

Spartium Junceum

Cistus x Salvifolus

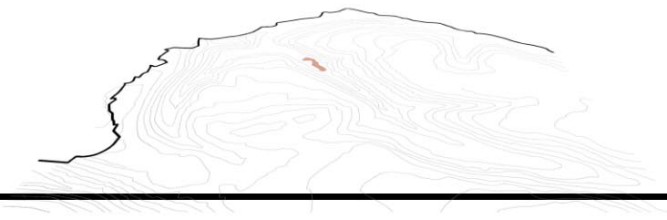
Ficus microcarpa

Malvaviscus Drummondi



Scattered Trees

Melia Azedarach



Shading Trees

Melia Azadarach

Laurus nobilis

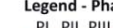
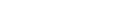


Understory

Ficus microcarpa

Malvaviscus Drummond

Ophiopogon Japonicus



Legend - Phasing
PI PII PIII PIV



Figure 48: Planting Palette

Plan



Figure 49: Section Line - Plan

Cut Plan

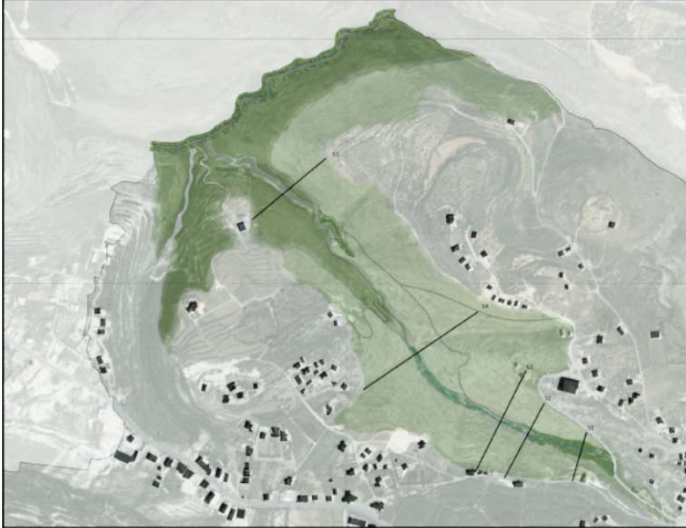


Figure 50: Section Line - Cut Plan

Section 1
Phase I



Phase II



Phase III

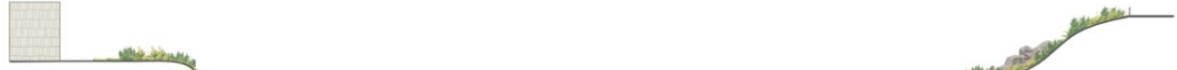


Phase IV



Trail along stream - Through high riparian vegetation

Section 2
Phase I



Phase II



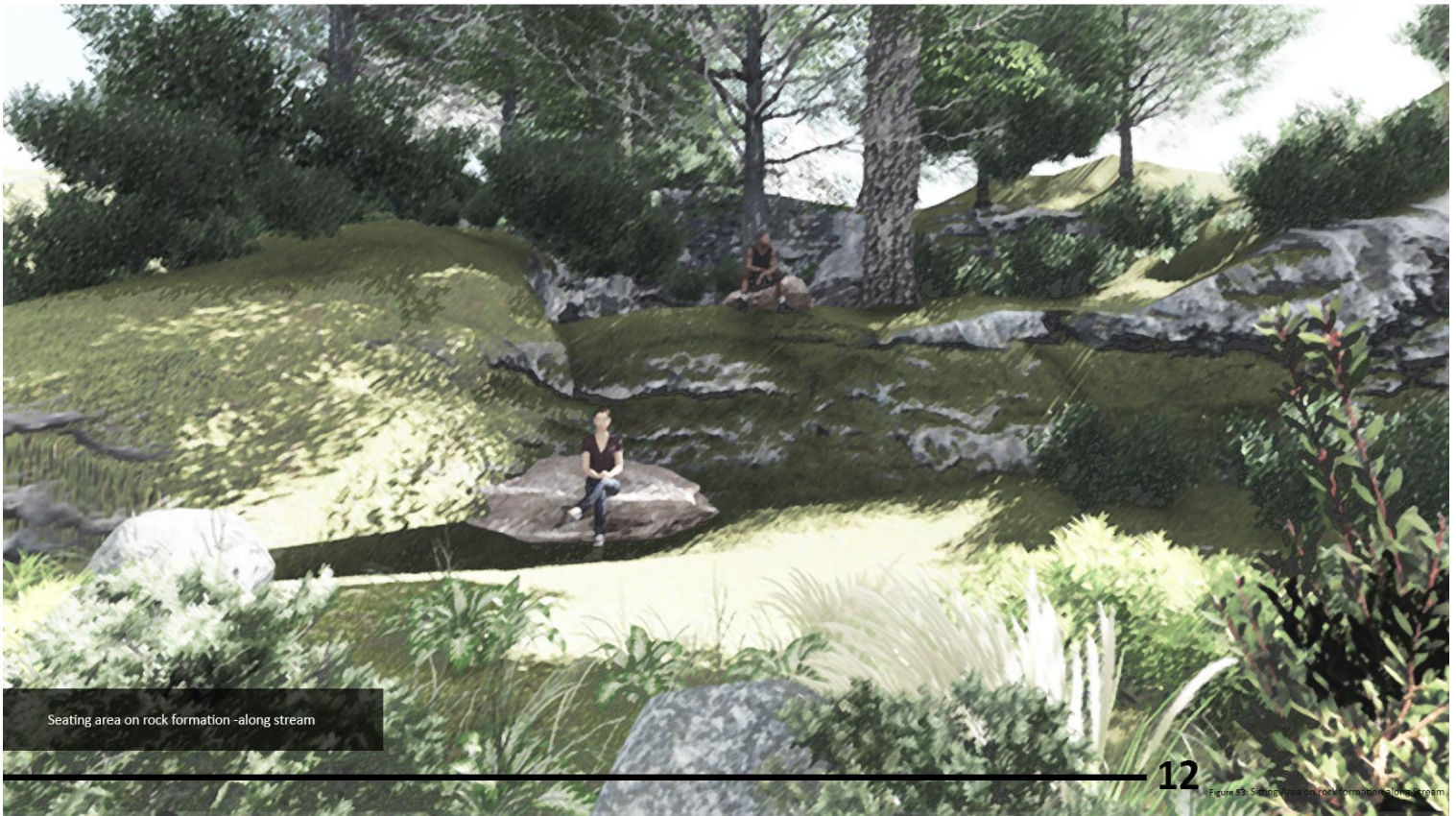
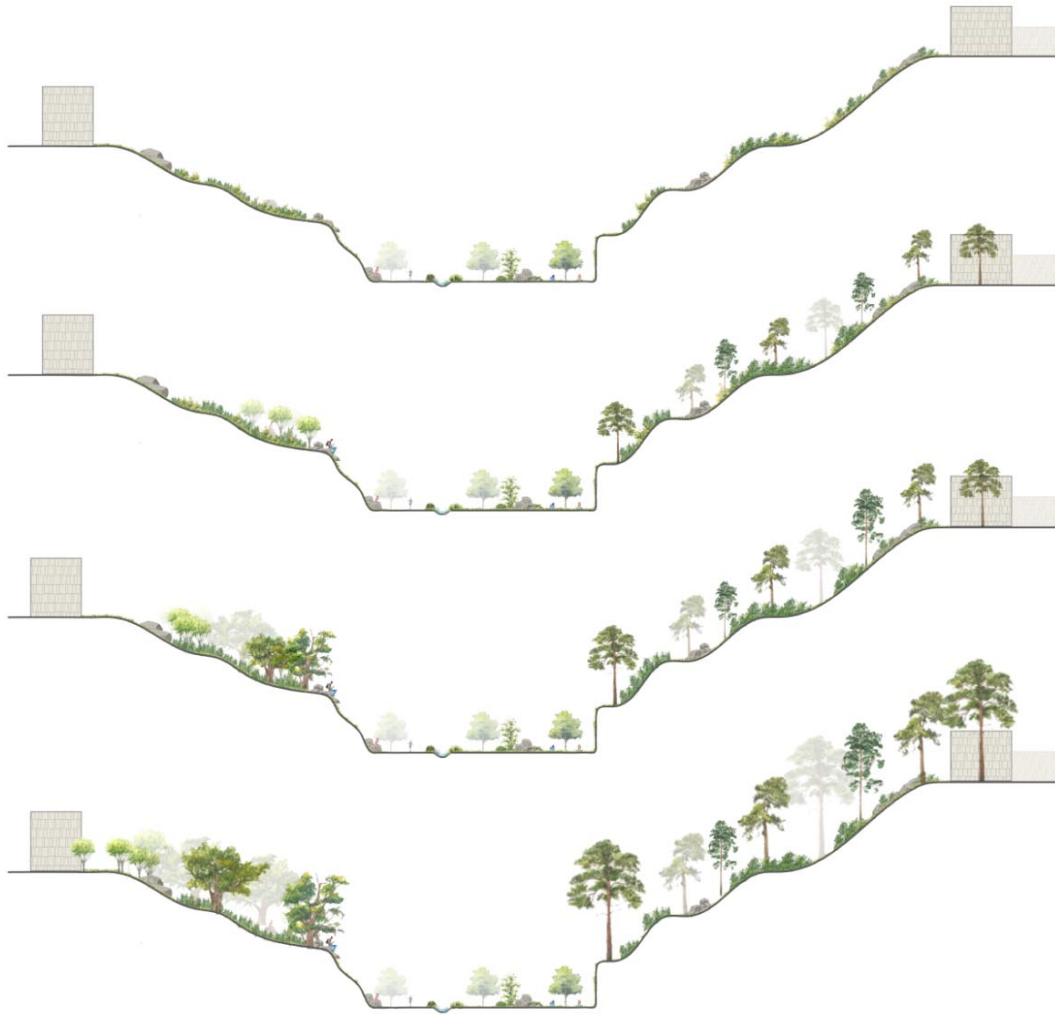
Phase III



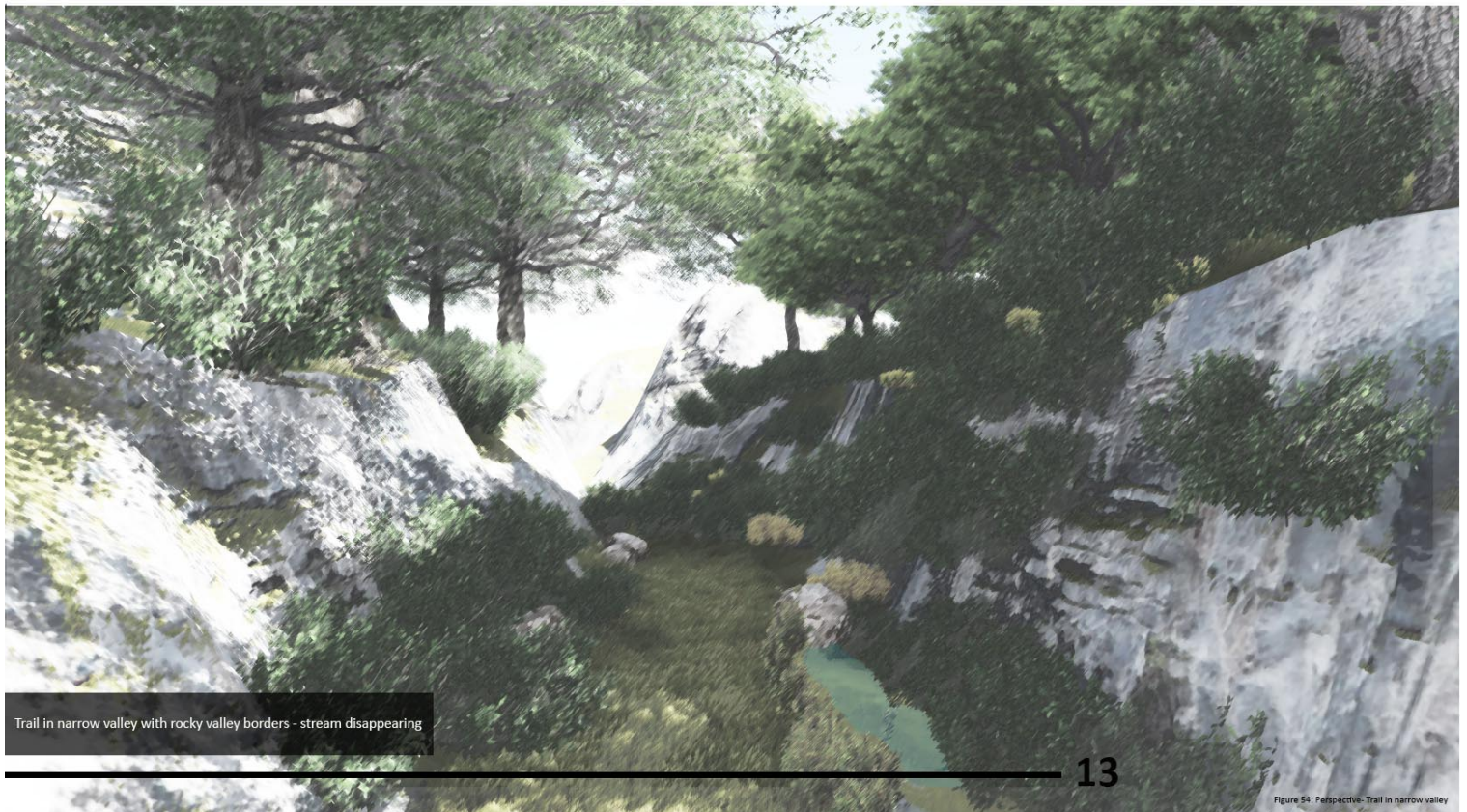
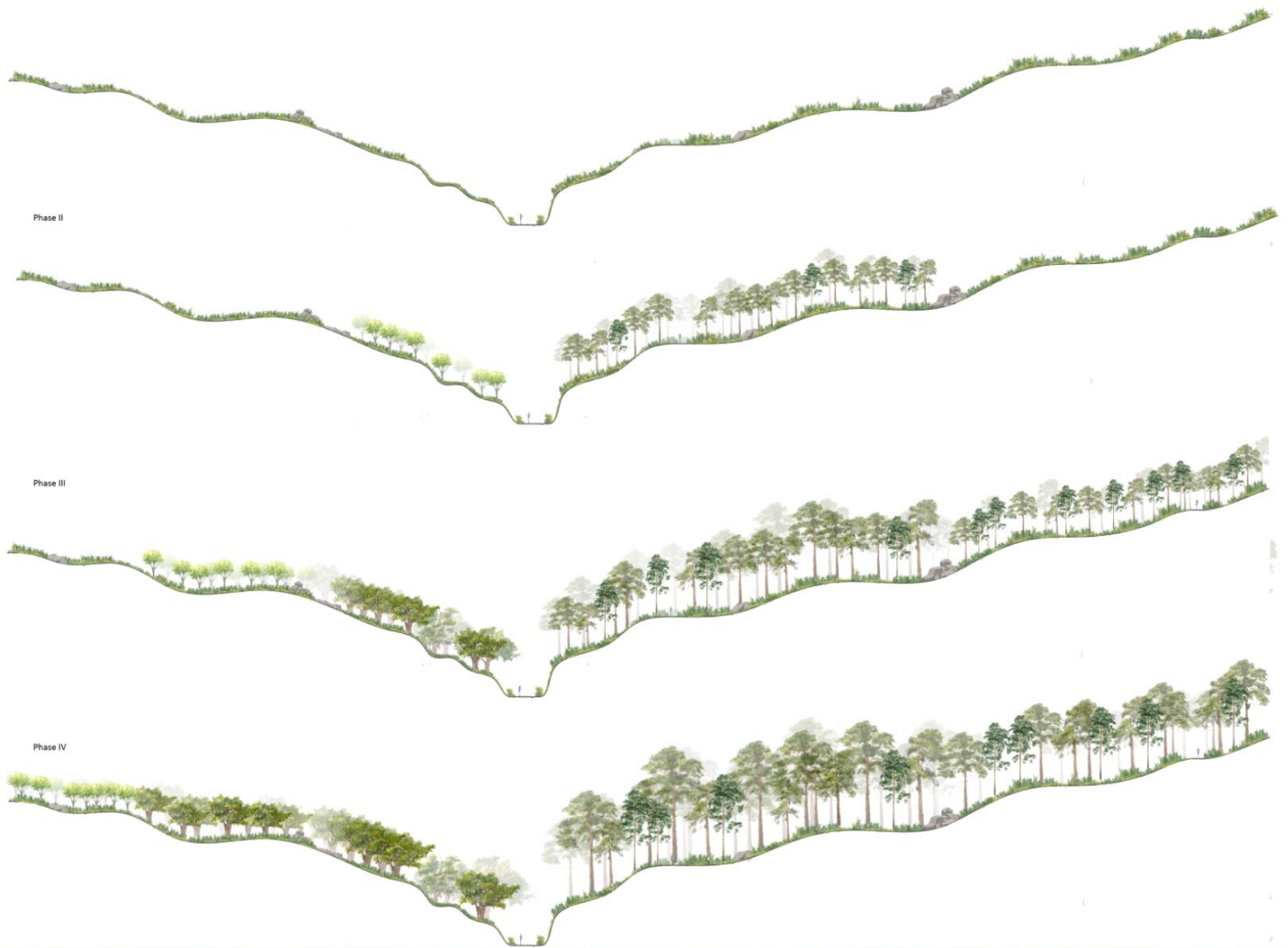
Phase IV



Section 3
Phase I



Section 4
Phase I

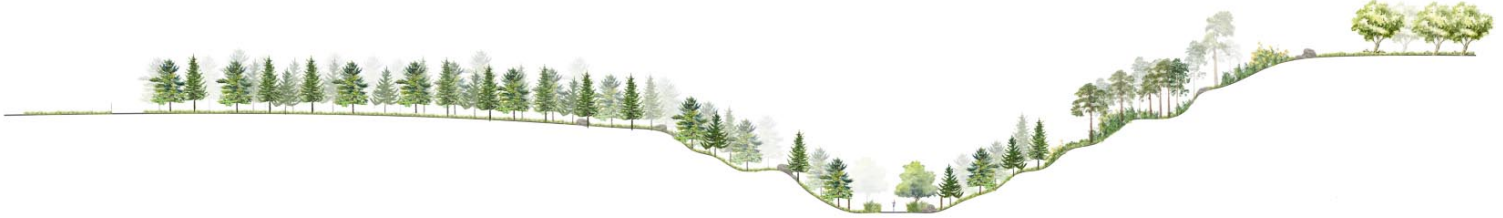


Trail in narrow valley with rocky valley borders - stream disappearing

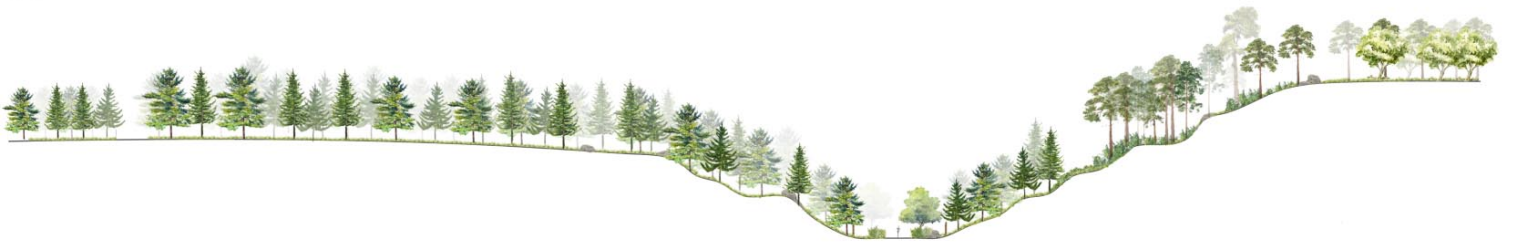
Section 5
Phase I



Phase II



Phase III



Phase IV



Trail in the valley - between Halepensis and Stone Pine

b i b l i o g r a p h y

The Metro-Forest Project - Landezine

<http://landezine.com/index.php/2016/07/metro-forest-bangkok-urban-reforestation-by-lab/>

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https://www.asla.org/2019awards/636488-Re_Storying_The_Knobs.html

Cá Mau, Vietnam Back from Planning to Planting

<http://www.emurbanism.eu/student-work/ca-mau-vietnam-back-from-planning-to-planting>

MUSHA' LANDS: "SAVING WHAT REMAINS" - THE CASE OF TIBNEEN

http://sardassets.lau.edu.lb/arc_catalogs/the-place-that-remains-proceedings-essay-10.pdf

What is Succession?

https://www.dnr.state.mn.us/biomes/succession.html?__