



International Laboratory  
of Architecture  
& Urban Design

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# FIGUIG

## OASIS DU FUTUR

---

مستقبل





## **Figuig Oasis du Futur / Oasis of the Future**

is a project promoted by ILAUD and My African Competition with the support of the Municipality of Figuig, in the Oriental Region of Morocco, under the auspices of Union for the Mediterranean.



Union for the Mediterranean  
Union pour la Méditerranée  
الاتحاد من أجل المتوسط

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in partnership with My African Competition

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**Milan – Rabat**

### **Figuig: Oasis of the Future** المستقبل

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# Executive Summary

Giulio Verdini

## Aim and ambition

This instant book brings together the very preliminary results of the 'Figuig Climate Studio', a research project focused on the risk of climate change on the fragile ecosystems of historic oasis towns of North Africa.

Taking Figuig, an oasis of the Oriental region of Morocco near the border with Algeria, as a case study, the broad aim of the project was to co-develop, with local stakeholders, scenarios for ensuring resiliency and sustainability to the oasis in the long run. The learning from Figuig can help the fight towards the total disappearing of oases in North Africa and the Middle East, which seems already unavoidable in light of current global warming. The ambition is to align local actions to global agendas of sustainability, in particular: the United Nations SDGs – Sustainable Development Goals (2015); the UN-HABITAT New Urban Agenda (2016); the UNESCO Recommendation on Historic Urban Landscape (2011); the UNESCO Culture 2030 'Rural-Urban Development' Meishan Outcome document (2019); and the more recent Union for the Mediterranean Strategic Urban Development Action Plan 2040 (2021). This will serve the purpose to raise awareness and campaigning to prevent this loss.

## The case of Figuig: challenges and opportunities

The oasis of Figuig is alimented by a sophisticated water system, and comprised of rich natural, agricultural and cultural resources. Traditional customary and indigenous knowledge systems linked to the local Berber culture persist, alongside a very active life of citizens' associations. The unique cultural heritage of seven Ksars forms a homogenous ensemble of water infrastructures, such as dams, cisterns, underground and overground canals, and the extraordinary historic landscape of palm trees gardens. A centuries-old culture of water management has ensured the common use of a precious resource that is still today at the basis of the livelihood of the oasis. Due to the richness of its tangible and intangible heritage, Figuig is in the tentative list to become UNESCO World Heritage site since 2011.

While the town has suffered in recent years territorial isolation, the presence of scattered and often ineffective public investments, lack of job opportunities and depopulation, as in many other rural areas of Morocco, Figuig is determined to embark in a process of sustainable urban transformation, more resilient and inclusive especially towards the women and the youth, and considerate of its traditions, social capital and heritage. The ambition is to diversify and innovate its local economy and energy provision, enhancing the coordination of its development options, developing meanwhile a more coherent, sustainable and shared vision for the future. This is witnessed by the launching of an international design competition for a new multi-functional cultural center in the administrative town center, the Maison Oasis, which will function as a catalyst to engage the civil society.

In the process of reimagining its future, however, Figuig is confronted with acute problems of climate change and persisting gender-gap in accessing opportunities, which have repercussions at all levels. Prolonged draught, overheating and unprecedented water evaporation are posing serious threats for the survival of palm trees and dates cultivation, with visible reduction of the water level of underground cisterns and pools. They are also worsening the livability of common open spaces, reducing the comfort of residential housing and, in general, of the built environment. The presence of a largely inactive female population, often left alone in the seasonal migration process, impedes to revitalize certain economic sectors or to generate new ones.

Such environmental and social challenges, linked to water scarcity, extreme weather conditions, and social exclusion, could altogether undermine not only the current prevailing economic model, based on agriculture, but also the development of new, complementary and potentially beneficial sectors such as arts and crafts, cultural and experiential tourism, creative and innovative services, that are deemed vital for the future of the Oasis.

## The process

The project comprised a number of on-line preparatory meetings with local authorities, academics and NGO partners, during the Autumn-Winter 2021-22, culminated into a one-day seminar in Oujda on 26th March 2022, at Campus du Savoir of Université Mohamed Premier, titled 'Figuig et les villes oasis au Maroc. Vers un développement durable et résilient', where more than 70 people attended from both the Oriental Region and the

Municipality of Figuig. The meeting was followed by a first site visit, and served the purpose to plan in details the forthcoming residential studio (or charrette).

Three main transversal themes were identified, namely: water urbanism, historic urban landscape, and climate-sensitive urban design. Three corresponding strategic sites were selected with local authorities to test new principles of climate urbanism, new inclusive town's spaces, and a new balance between conservation and development namely:

- A) The old Minaret area in Ksar Loudaghir;
- B) Ikoudass and the Palm trees garden, and
- C) Ksar Hammam Tahtani.

Between 30 May and 4 June 2022, twenty students from the Université Internationale de Rabat, L' Ecole Nationale d'Architecture d'Oujda, the University of Westminster in the UK, and the University of Wageningen in the Netherlands, under the supervision of six tutors, with expertise in urban planning and local development, landscape architecture and planning, and architecture, gathered together in Figuig to work with local people to develop the abovementioned scenarios during the climate studio.

The Climate Studio is here defined as a residential, collaborative, 'intensive, multi-disciplinary workshop with the aim of developing a design or vision for a project or planning activity' ' with a particular emphasis on climate aspects, run by expert urbanists, architects and planners. It is inspired by the model of Climate Action Studio tested by UN-HABITAT since 2019, and it is rooted in the methodology of 'tentative projects' tested in ILAUD workshops since 1976, where young and promising students, from different cultural and disciplinary

background, are also involved to bring fresh ideas from different contexts and experiencing an immersive training experience.

During the intensive charrette the team had the possibility to visit the site guided by local authorities (31 May), to participate in a 'knowledge exchange' meeting with 16 associations representative of the civil society and almost 35 people (1 June), to present the final result in a final public meeting with local authorities (4 June). The final vision proposed is articulated in 4 main narratives: 1) Culture & Inclusion; 2) Water Management; 3) Common Space; and 4) Heritage. For each theme, a number of recommendations are put forward.

#### **Figuig: Oasis du Future** المستقبل

Figuig: The Oasis of the future is the final vision proposed, discussed and agreed with the local community. The underlying assumption behind this vision is that the future of Figuig is not only linked to the protection of its cultural heritage and landscape, which is certainly essential for historic reasons, but rather to its capability to innovatively reimagine the town as an attractive and pleasant place for living and working, and for ensuring social progress. In the past, different Ksars experienced conflicts and even wars for the usage of water. The agreement reached on the actual system of water management which associates each Ksar to a different palm tree garden (palmerai), was at the origin of the pacific cohabitation that generated the unique cultural landscape of Figuig, let alone the sophisticated common use of water still in place. Today there is the sense that, while this has been condition to develop a resilient socio-economic model, ensuring its survival for centuries despite the hostile geographic conditions, it is no longer enough to fight the new challenges imposed by climate change

and accelerated social and economic decline. This model needs therefore to be updated and enhanced.

#### **4 Narratives for the oasis of the future**

New bonds and new commons need therefore to be created for the long-lasting survival of Figuig. These are linked to intangible aspects of human development that needs to be central to any future development proposal for Figuig, and associated with meaningful physical transformations of the space of the town in a more inclusive and regenerative way. Through the exchanges with local people, from the formal 'knowledge exchange' with civil society associations to the interviews conducted in situ, we distilled four different narratives, that could enable the transition towards sustainability and resiliency in the years to come:

##### **1) CULTURE & INCLUSION**

An inclusive and diverse town where people recognizes their common and multi-cultural roots, allowing different social groups to emerge and to be active part of the public life. Actions should prioritize the engagement of women in the socio-economic life of Figuig, in traditional sectors such as weaving, but also complementary ones such as community-based experiential tourism. Education and engagement of youth through cultural activities and sport, should be the second pillar of social intervention. The new multi-cultural center, the Maison Oasis, which should be realized in the near future, is a concrete opportunity to feature existing creative and cultural activities and nurture new ones. It has also the ambition to become an 'urban center' of the town, to enable public discussions about public projects, cultural events and so on. The introduction of a local event for cultural celebration (i.e. an annual gathering, possibly week-long: 7 Ksars, 7 days, 7 different cultural



aspects from agriculture, to music and arts and crafts) should help to reposition Figuig in the regional and national geography, helping promoting its reputation and savoir-faire.

## 2) WATER MANAGEMENT

A mindful and caring town that mobilizes all energies towards the protection of water, given its scarcity, and the impact of the prediction of raising temperatures and less precipitations. While this might imply in the future important engineering interventions such as the construction of a new dam, there are local measures that can be already adopted to ensure a regular provision of water, but also a meaningful adaptation of the built environment to the new conditions. A number of small-scale, landscape-sensitive and neighbourhood-based measures can be implemented, for example: bioswales to improve the catchment of water from the surrounding mountains; grey water separation in the town centers; 'ruins gardens' with ad hoc steam catchments, to revive historic structures around the *fogarras*; and finally the restructuring of agricultural plots to improve cooperation and reduce waste of resources. The gardens overall can be the testing ground for new solutions of compost reusing, drop by drop irrigation for allotments, fog water harvesting systems. Finally, landscape architecture measures can be implemented to fight desertification, such as cacti plantation.

## 3) COMMON SPACE

A town of meaningful and regenerated common spaces redesigned with community to become more legible and pleasant, climate-sensitive and inclusive. It is recognized that some parts of Figuig, especially the new developments and the public spaces, lack identity, are often very fragmented and disconnected, reproducing social fragmentations and are increasingly

affected by over-heating. Concerning the built environment, there are a number of different places that form the structure of the town, although often decaying: the system of irrigation and the water pools, the traditional ksars, the new developments and the colonial administrative town center. For each one, dedicated interventions at various scales (macro to micro) can be planned, with the engagement of citizens, to enhance their legibility such as: the cores of each Ksars, the balconies, the interfaces, the civic centers, the water places, the doors of the desert. This can help creating new pathways across Figuig. Key to the proposal is the climate adaptation of the open space, taking inspiration by the shadowy alleys of the historic cores. This will require coordinate actions, the development of sunshades and canopy, possibly with local material (palms), following the principles of circular economy. Innovative solar panel shade structure can be implemented. This solution is linked to the idea of energy community, where each Ksars can allocate underused portion of land to solar panels, rather than having them concentrated in the outskirts of the city. A landscape impact assessment would be required to understand the pros and cons of a consolidated vs spread solar panel system. Finally, attention should be given to create spaces for kids and women, space for collaboration, new spaces of water. A 'Chartre des Espace de la ville' is advised.

## 4) HERITAGE

A frugal smart town, starting from the flagship project of Ksar Loudaghir, that combines urban conservation of buildings and historic urban spaces with innovative digital tools to enable a learning city. The abandonment in recent years of old Ksars to privilege a modern life in the surrounding new developments goes hand in hand with a sort of collective removal

of the history of the town. Soft tools such new signs with QR Codes, alongside a number of small-scale public realm improvements for ensuring the legibility of the area, the safety, an appropriate lighting, and creative and art-led temporary interventions, can overturn a trend of increasing lack of interest for the historic cores. Heritage can be protected with the support of smart technologies and meaningful temporary installations with the primary aim to regain identity to these neglected areas, to bring people back, and, in the long-run, to explore compatible forms of cultural and experiential tourism. Another aspect of this vision is to locate in each Ksar a smaller scale branch of the Maison Oasis, linked to cultural and public programme of the city, in an attempt to ensure suitable decentralization of function and valorization of each historic identities.

## The future of Figuig and the UfM - Union for the Mediterranean Strategic Urban Development Action Plan 2040.

The workshop had the ambition to experiment ideas for policy innovation at the local level, meanwhile contributing to inform global practices of sustainable, inclusive, climate resilient urban-rural transformations. Here the results of the workshop are mapped against the main actions and priority thematic axes of interventions of the UfM Strategic Urban Development Action Plan 2040.

## ACTIONS

### – Action 2: To Educate & Strengthen Capacity

The workshop contributed to train twenty young professionals (10 from Morocco, 10 from abroad), while the entire town, represented by policy makers, local officials, technical expertise, has been actively involved in a week-long series of discussions, meetings and public presentations around

climate urbanism and sustainable heritage conservation. This is unprecedented in the story of Figuiç.

Measuring actions: a questionnaire will be circulated among students and local people involved regarding their learning curve.

#### – **Action 3: To Envision & Govern Together**

The workshop included at least 4 public discussions and presentations, and a knowledge exchange meeting with local associations. The 4 working groups hosted a series of meetings with local officials and technical experts ensuring a highly participative process. Ordinary people were engaged through questionnaires and interviews.

Measuring actions: a report from each group will be produced reflecting on the knowledge exchanges generated.

#### – **Action 5: To Implement & Manage**

The workshop suggested a vision articulated in four narratives and a series of priority actions. The local authority is currently working to develop an action plan to seek for funding and to implement ideas developed during the workshop.

Measuring actions: A future assessment will be conducted in the next months with the view to understand how this can be replicable in similar contexts across the Euro-Mediterranean Region, especially around the priority thematic axes of interventions identified.

## **PRIORITY THEMATIC AXES OF INTERVENTIONS**

The following axes were directly discussed in the Figuiç workshop and in particular touched in the narratives highlighted below:

- (iii) Blue and green infrastructure (2 WATER MANAGEMENT + 3 COMMON SPACE);
- (iv) Heritage conservation-based strategies for sustainable urban development (1 CULTURE & INCLUSION + 4 HERITAGE);
- (viii) Public and shared spaces regeneration (1 CULTURE & INCLUSION + 3 COMMON SPACE);
- (ix) New Towns, urban extensions, and new neighbourhoods (1 CULTURE & INCLUSION + 3 COMMON SPACE).

The four narratives are explored with drawings, maps and images in the following pages of the report.

Measuring overall impact: regular assessment of the implementation of the narratives, and their translation into public policies and plans will be conducted and reported in annual meetings of Schools of Architecture and Planning promoted by Union for the Mediterranean.

## **Conclusions and next steps**

This instant book is the first step of a collective action that will advance in various directions. At the local level, the Municipality of Figuiç, is determined to implement the strategic vision provided and to translate ideas into actions. This will require time and solid partnerships among the institutes gathered together, to ensure a transition towards resiliency and sustainability that can effectively contrast the dramatic impact of global warming. At the international level, the group of academics, professionals, members of the NGOs, students, in agreement with the local

community, is willing to campaign and to raise awareness on the problem of water scarcity and its relationship with unique human habitats like Figuiç, addressing national governments and international organisations, to suggest that action is needed now, and options are still open and worth being explored. It is an effort which has seen the Union for the Mediterranean among the first supporters of this initiative in light of the common challenges faced by countries from this region of the world.

### **Note di chiusura**

- 1 Charrettes definition from the United States Environmental Protection Agency : <https://www.epa.gov/international-cooperation/public-participation-guide-charrettes>
- 2 See in this respect: <https://unhabitat.org/the-first-planners-for-climate-action-studio-in-zanzibar>
- 3 Tutors and students present in the Figuiç Climate Studio are from : Morocco, Netherlands, Belgium, Italy, UK, Portugal, Germany, USA.

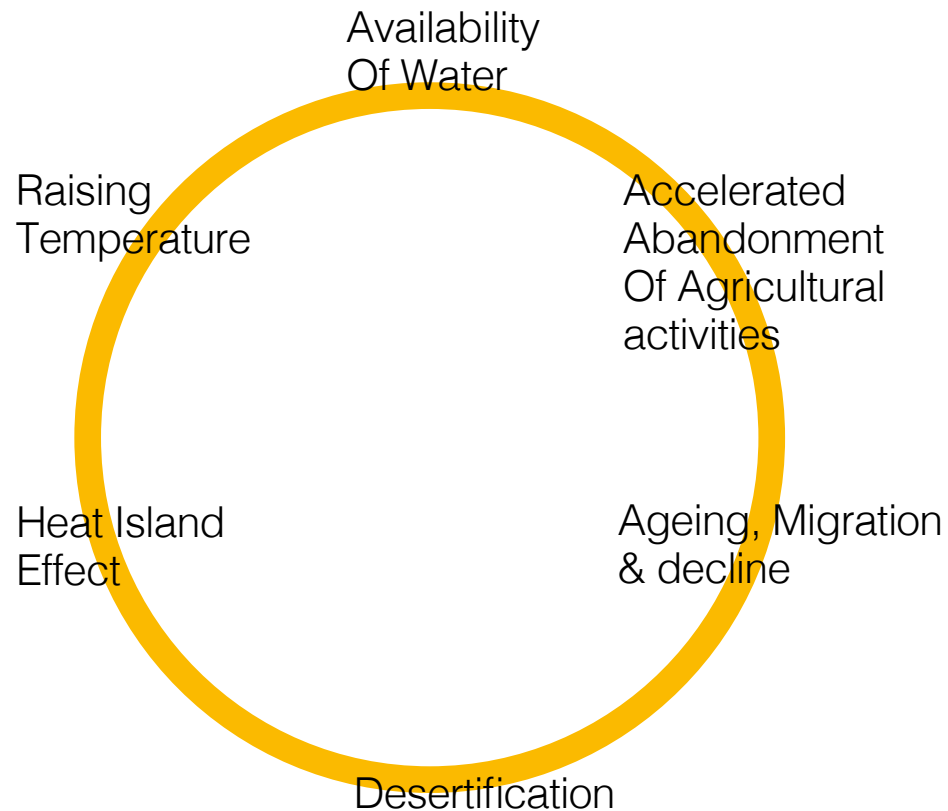
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# Figuig: Oasis of the Future

المستقبل

Presentation of the project

# Climate emergency in North Africa a vicious circle!

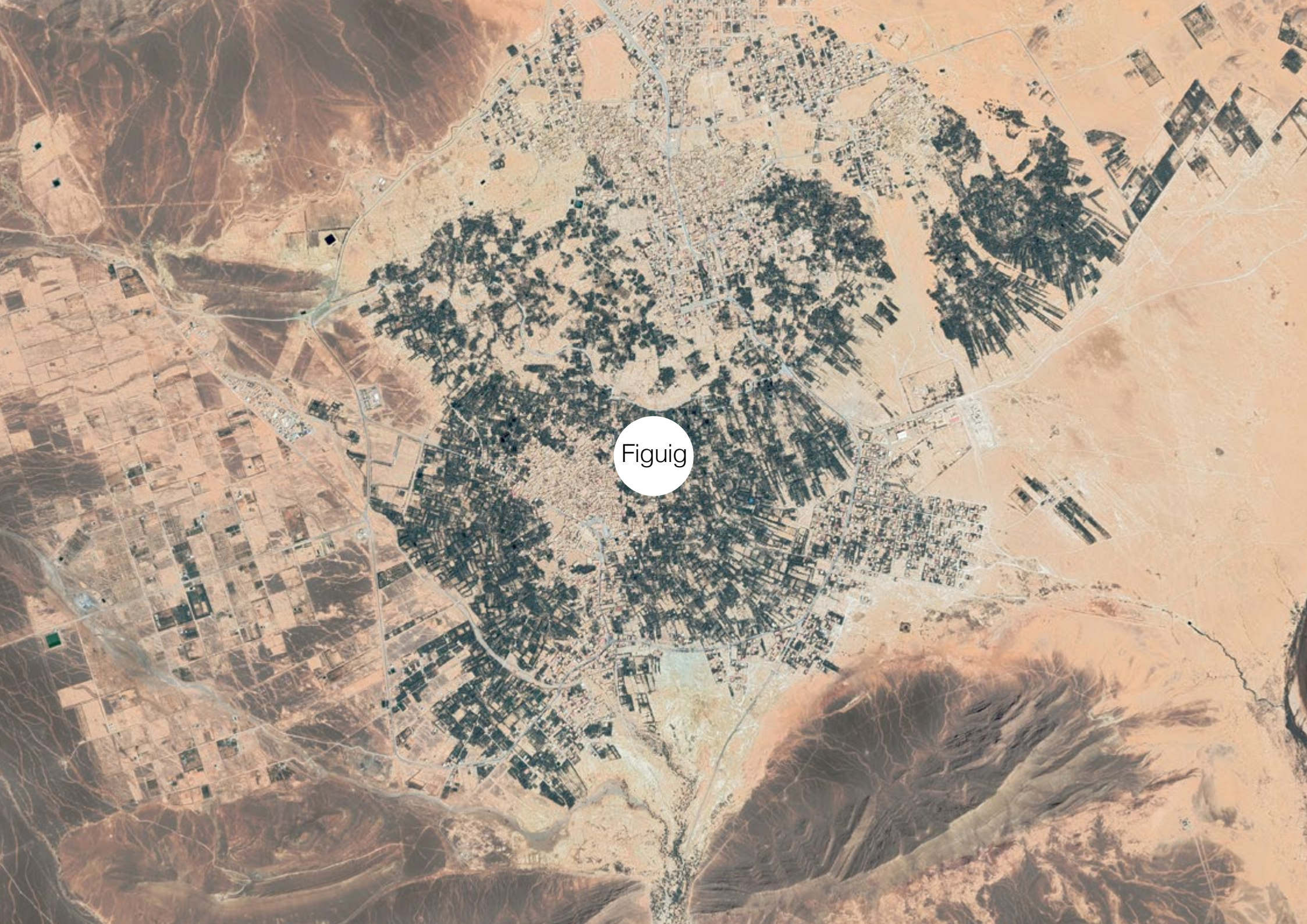


**Action needed:** managing water + reducing heat island effect + fighting socio-economic decline.

**Long-Term Goals:** protect water; Ensuring the survival of palm tree garden economy, diversify the local economy (enabling circular economy); protect local culture, stimulate creativity and innovation.







Figuig



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# Tools for Climate Actions

Scenarios of Resiliency  
and Sustainability

# Workshop Topics

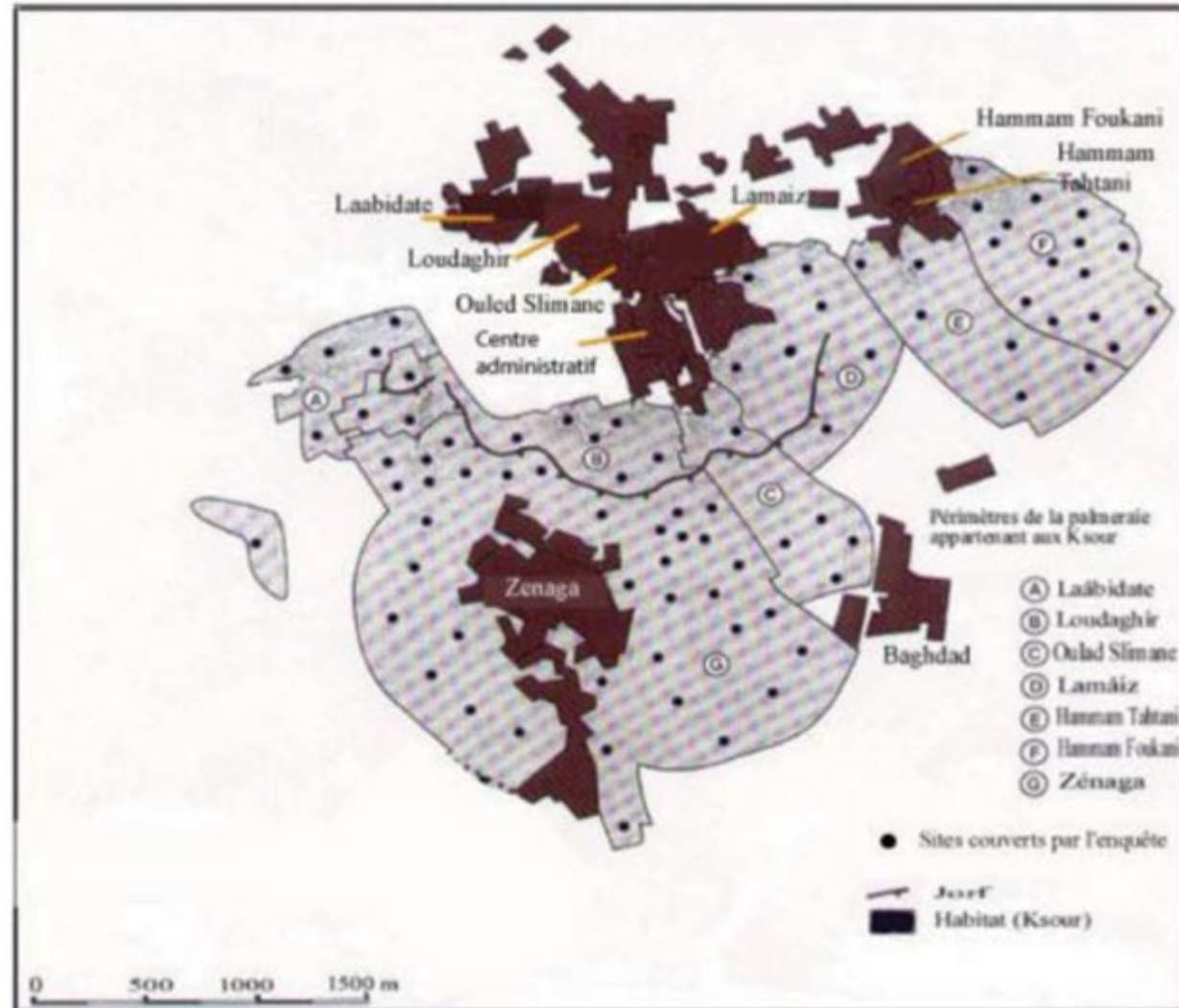
1. Durabilité et Urbanisme de l'Eau  
(agriculture, espace commun, économie circulaire, gestion de l'eau)
2. Paysage Urbain Historique  
(culture, créativité, savoir faire, heritage)
3. 'Climate Urbanism'  
(conservation du bâtiment, qualité espace publique, mitigation & adaptation)

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Scenarios for Resiliency  
& Sustainability



The perimeter of the palm trees garden and the 7 Ksars (Ksours). Source: Nawal (2011).





# Workshop Topics

## A. Preliminary Meeting & Field Visit

Oujda, 26 March 2022

Opening Seminar with authorities and associations:  
'Figuig et les ville Oasis au Maroc.  
Vers un développement durable et résilient',  
followed by a site visit.



## B. Charrette

Figuig, 30 May – 4 June

A week-long immersive experience in the town of Figuig, exploring the site, talking with local associations, policy makers, experts, and ordinary citizens, sketching and proposing ideas for discussion.

Charrette Milestones:

1. Visit Of The Site, 31 May
2. Knowledge Exchange With Local Associations, 1 June
3. Interim Crits & Discussions 2 & 3 June
4. Final Presentation with Local Authorities, 4 June

# Workshop Structure

1. Vision. Culture & Inclusion

2. Water Management

3. Common Space

4. Heritage

# Workshop Structure

1. Vision. Culture & Inclusion

2. Water Management

3. Common Space

4. Heritage

# 1. Vision. Culture & Inclusion

## tutors

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Abubokkar Siddiki


## students


Achraf Benouda  
Ana Sofia Lopez  
Meryem Karim  
Rajae Haissouss  
Robin Zwartsenberg  
Saleem Samuda






# Life around water






1

Palmaire vegetation beds. Palm trees are prioritized, these beds are secondary priority




2

First basin with minimal water decreasing by 75%




3

Women washing in the aqueducts for the Palmaire




4

Abandoned basin now used to play football



5


The wash basin at this location is too dirty to use for irrigation



6


Exit to the Palmaire of Zenaga

Water Manager




"For the last 6 years I could notice there was a shift in water supply for the worst. I try not to think about it because it is stressful. I just pray for the best."

"If I received an abundance of water I would use it for irrigation, I don't need anything else."



"We are aware of change in water supply and fear what will happen."

"If we received an abundance of water we would use it for drinking water the Palmaire would come second."



"We come to wash 2-3 times per week and stay for 3 hours at a time. The detergent we use is natural based and chemical based for stains. We are aware the washing is bad for the Palmaire, but we have no where else and if it was done at home our bill would be too high."

"If we received an abundance of water it should be used for irrigation."

# Bonding for Resilience

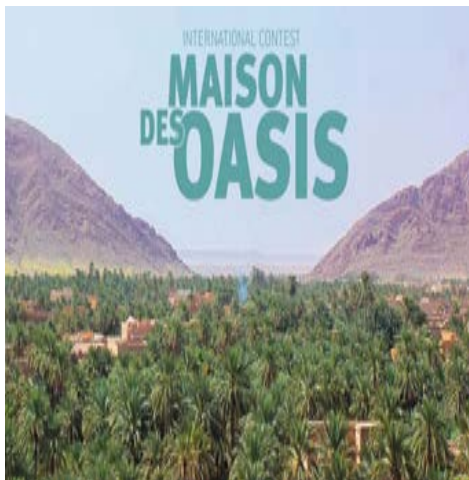
The Oasis of Figuig has historically developed a resilient socio-economic model linked to a sophisticated common use of water within each Ksar. While this has ensured its reproduction across centuries, today it is no longer enough to fight the new challenges imposed by climate change.

LEARNING

NEW BONDS/  
NEW COMMONS

HUMAN  
DEVELOPMENT  
Women Inclusion  
Nurturing Youth

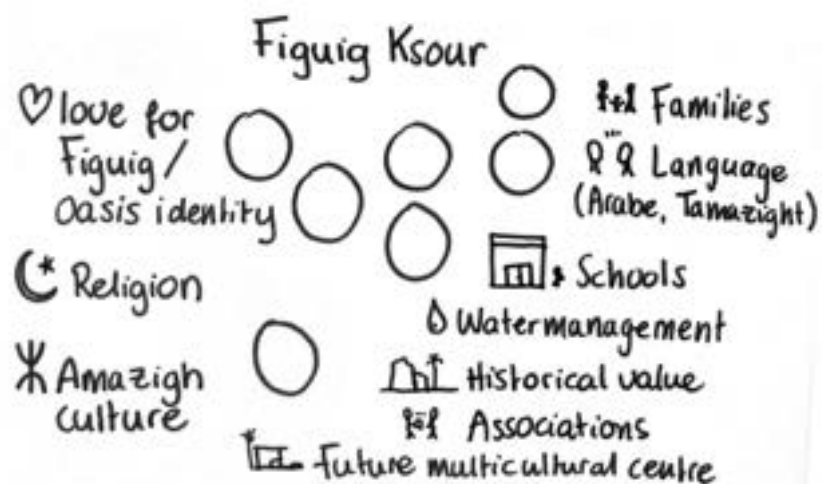
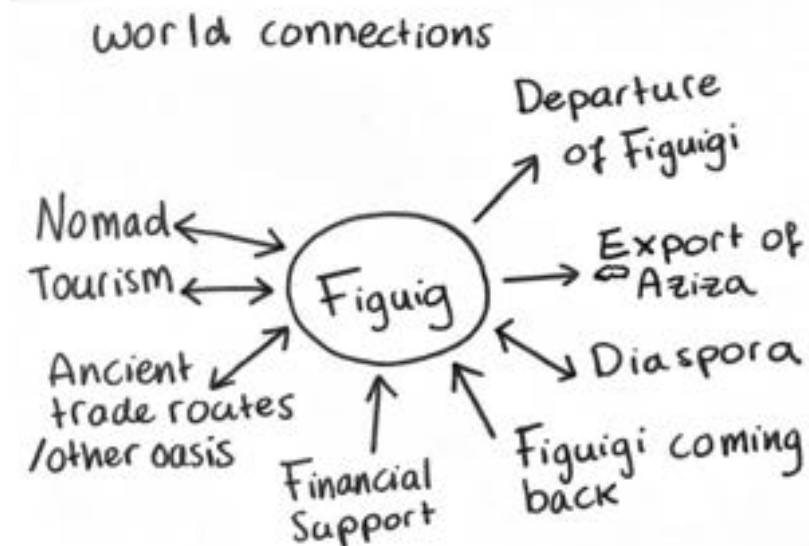
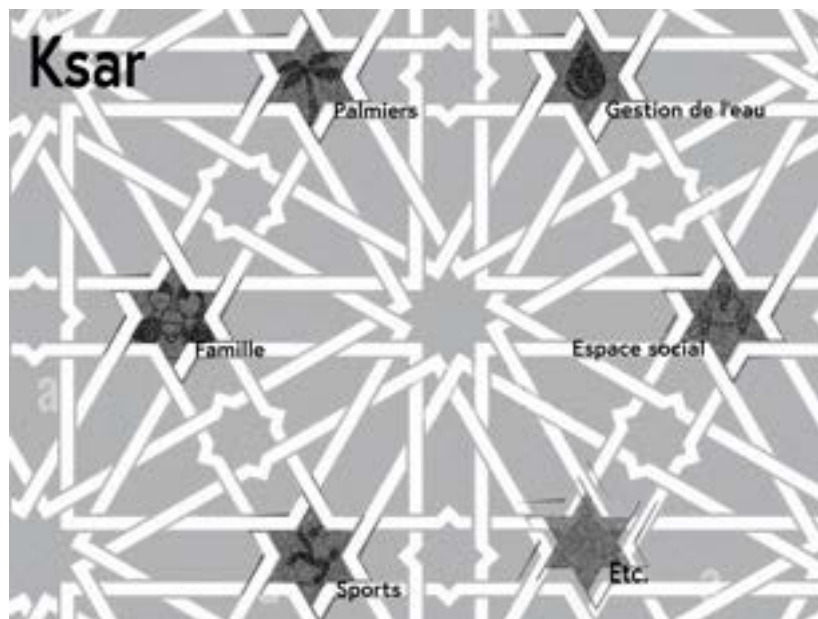
ENABLERS



NEW NARRATIVES

Socio-Economic Inclusion  
Renawable Resources  
Connectivity & Culture

# Enabling Communities

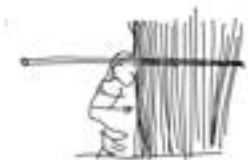
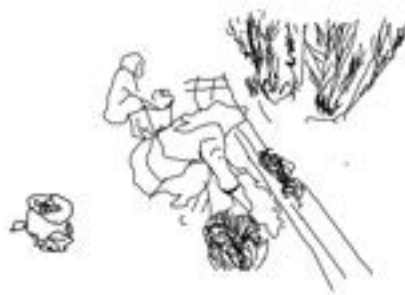
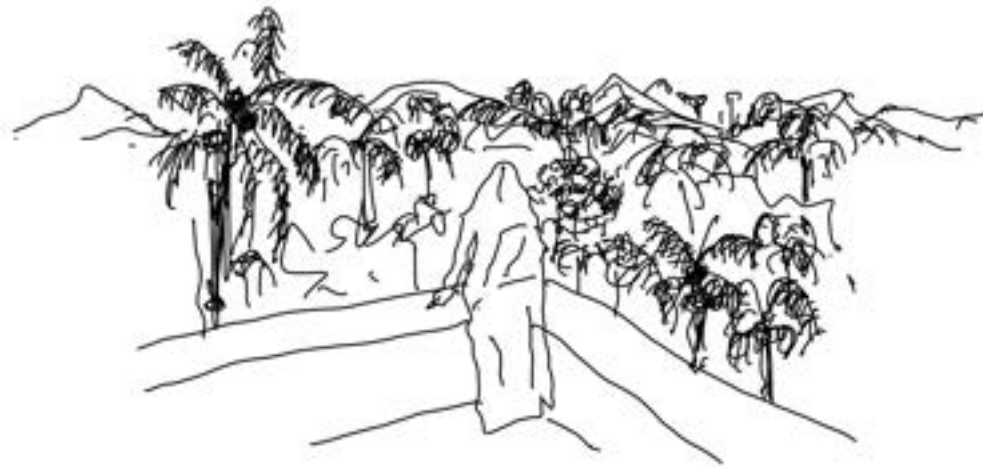


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# New Narratives



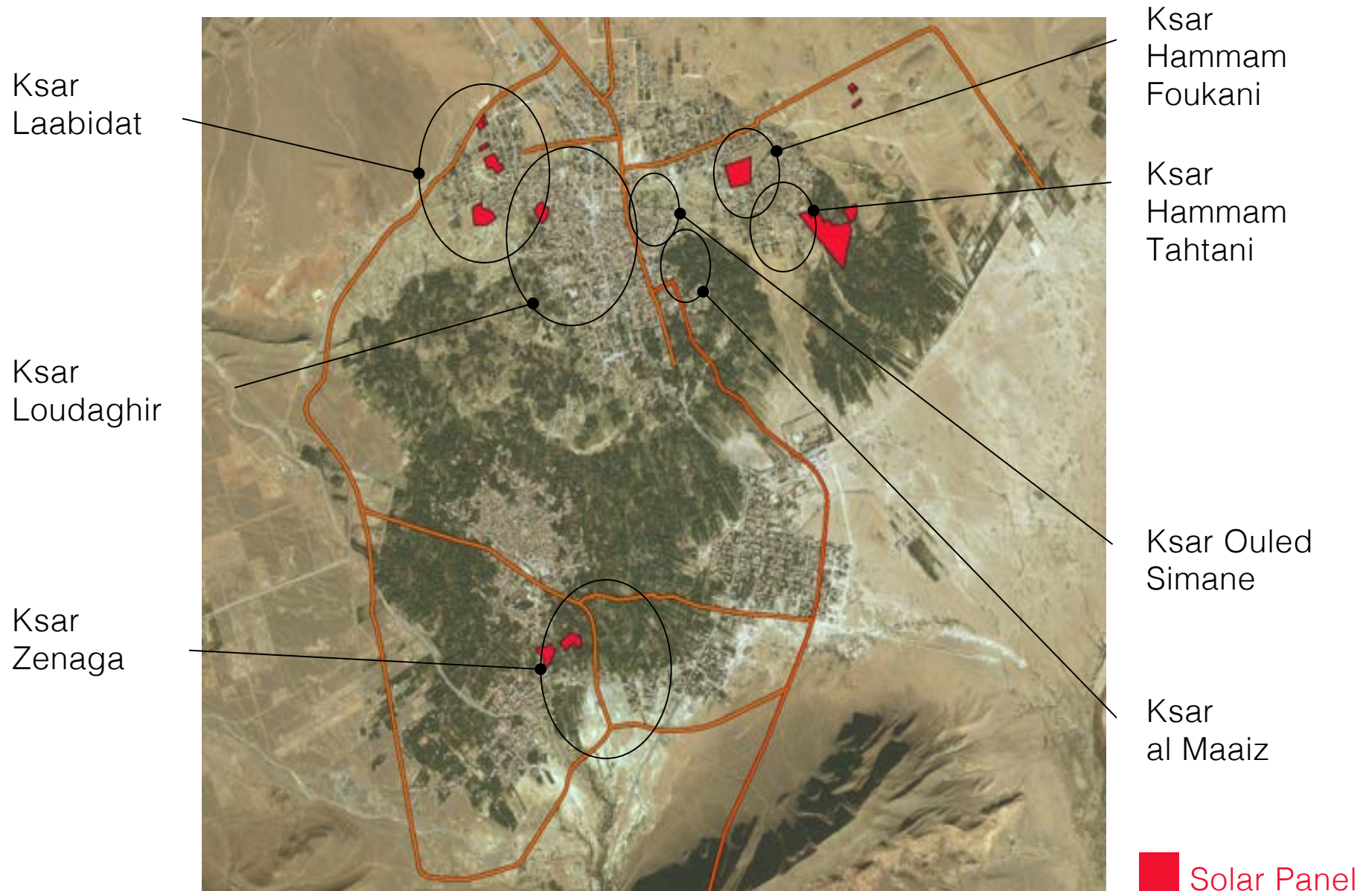
# Weaving Community



# Community based on Tourism



# Energy Communities



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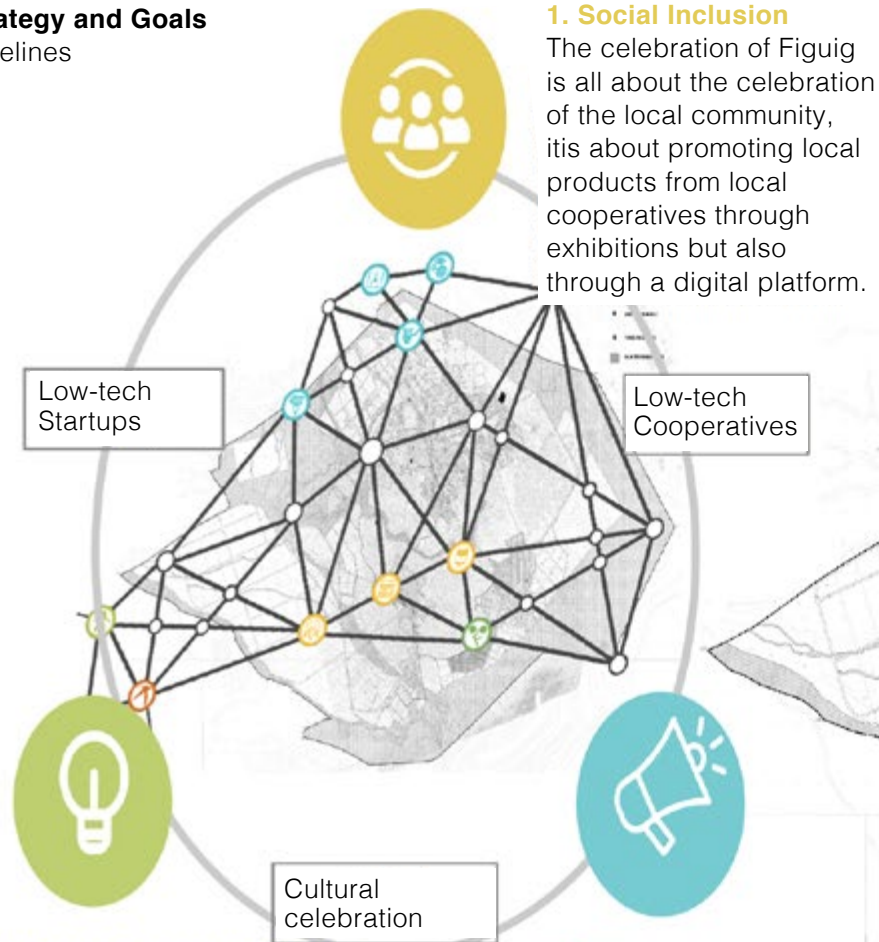
# Celebrating Communities



# Energy Communities

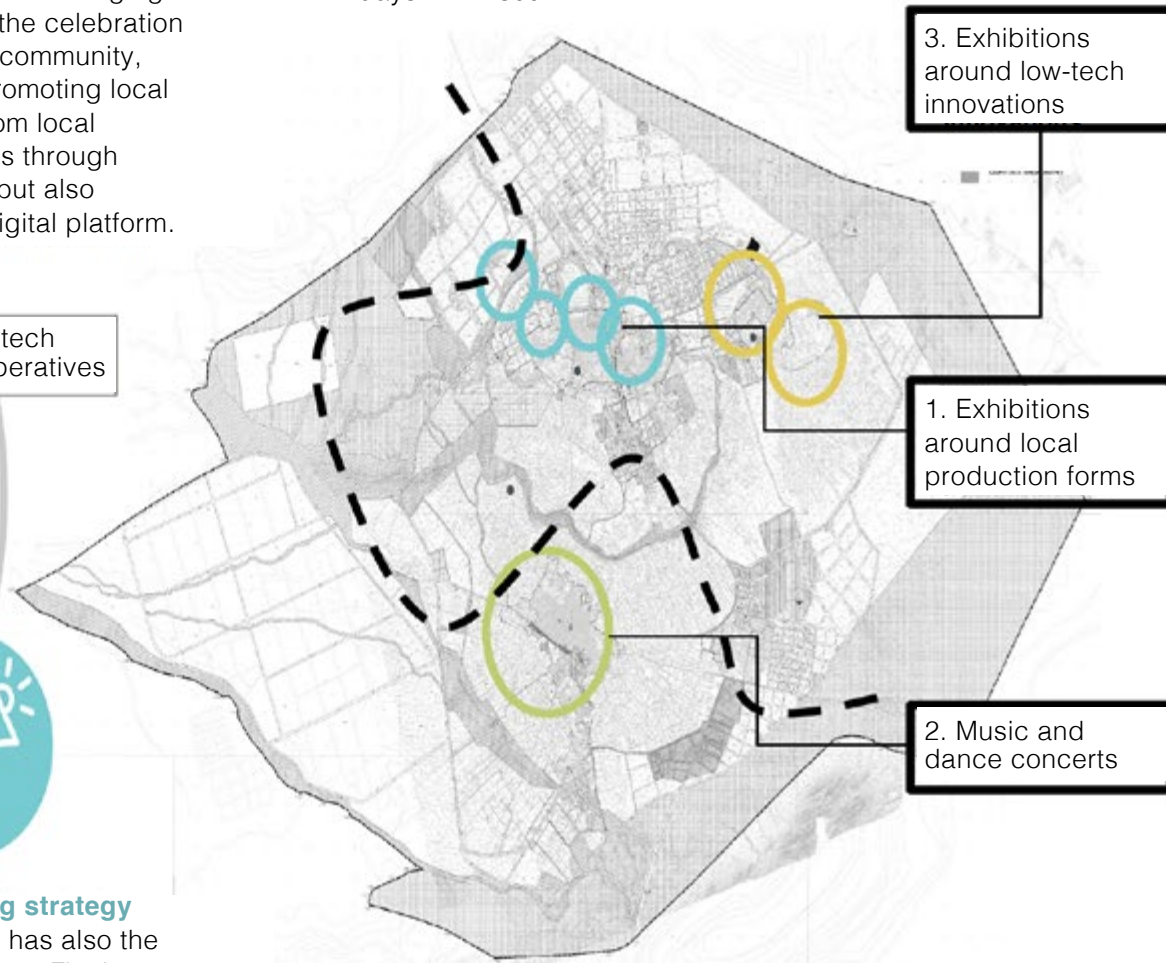
## Strategy and Goals

### Guidelines



## Event Location

7 days — 7 ksour



# Workshop Structure

1. Vision. Culture & Inclusion

2. Water Management

3. Common Space

4. Heritage



## 2. Water Managment

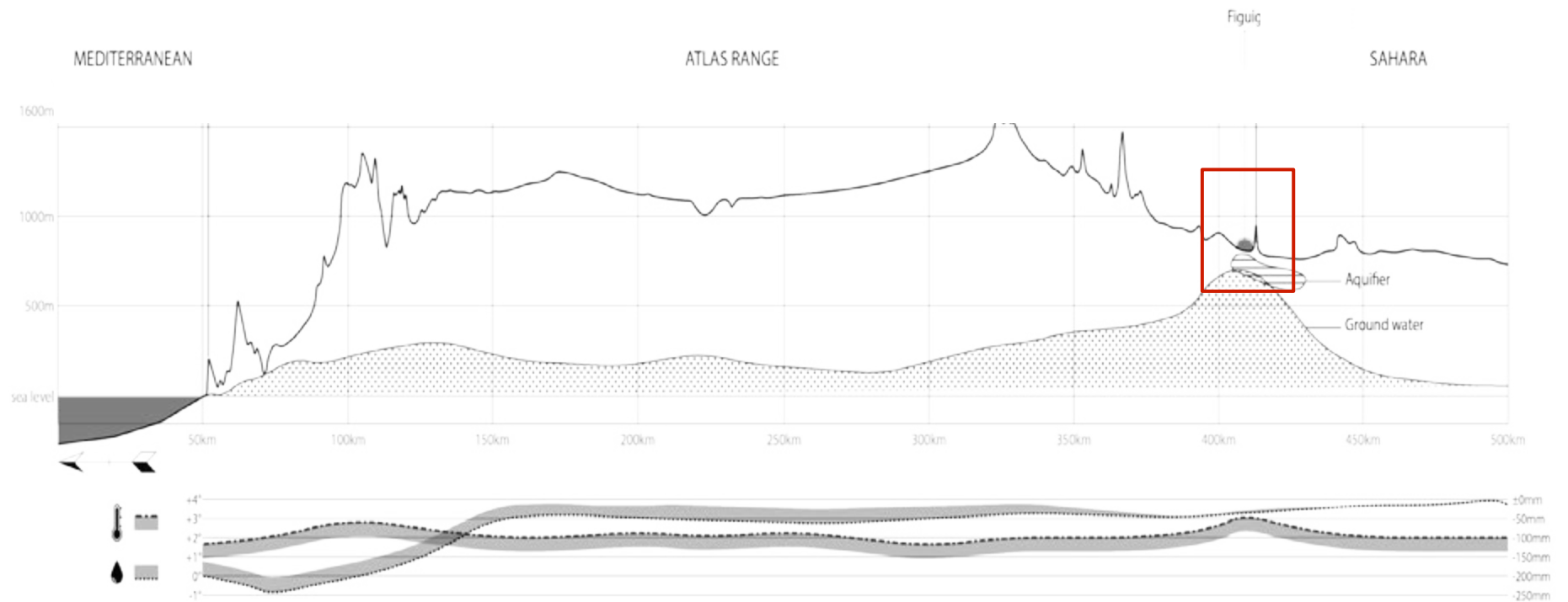
### tutors

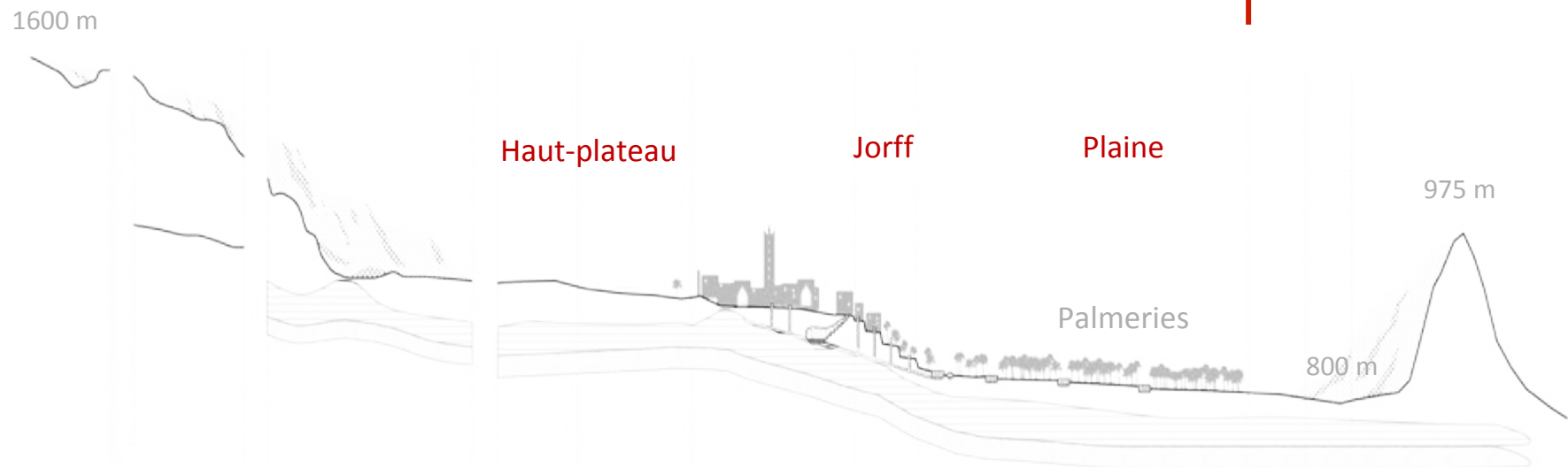
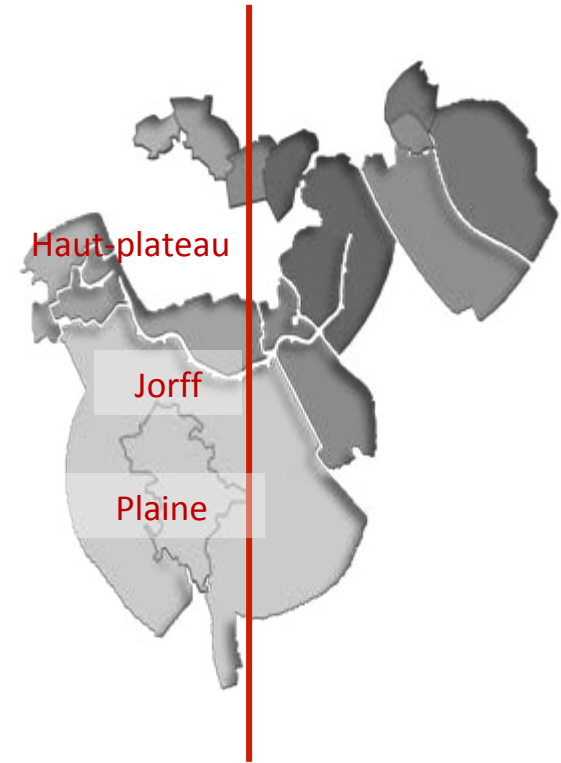
Christian Nolf

### students

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Hatim El Jebbari  
Samrana Hachli  
Nafsika Makri Makridou

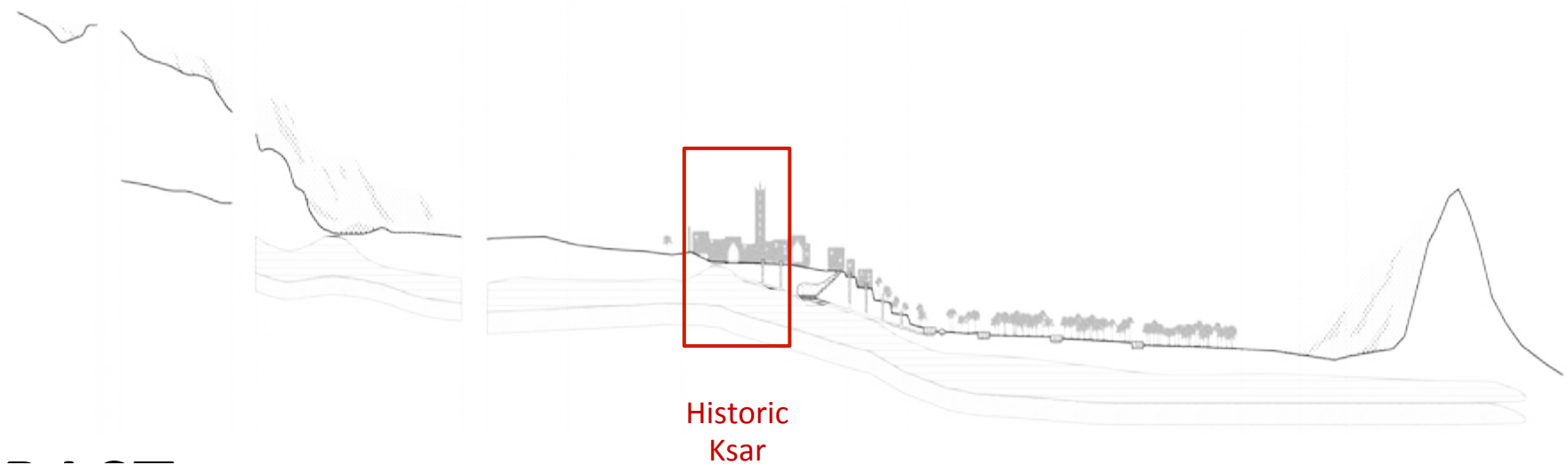






Typical cross-section (North to South)

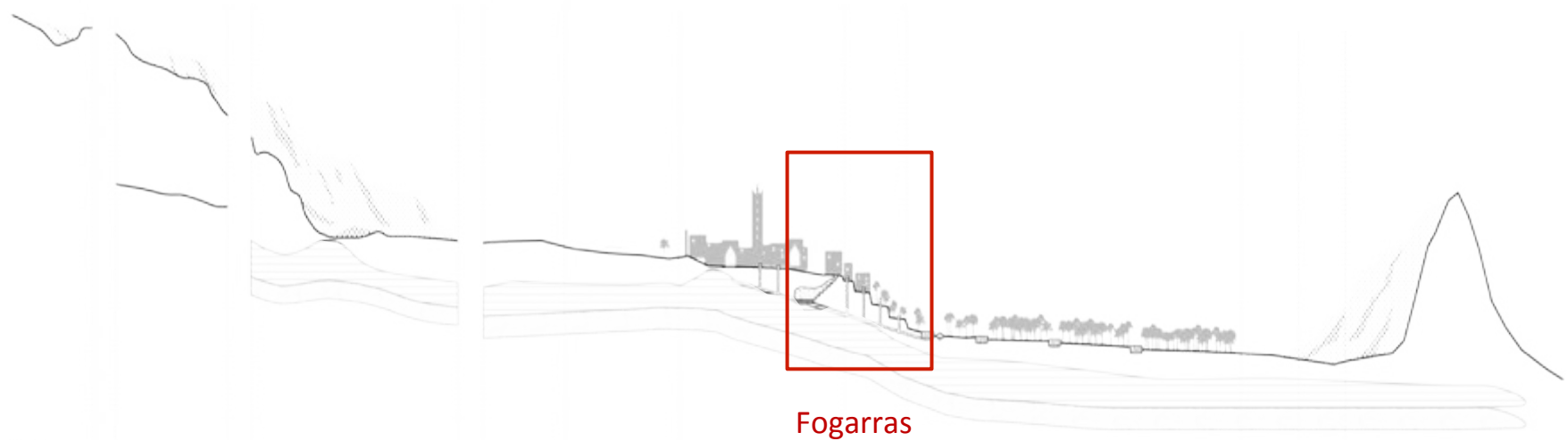
# Past



Historic  
Ksar

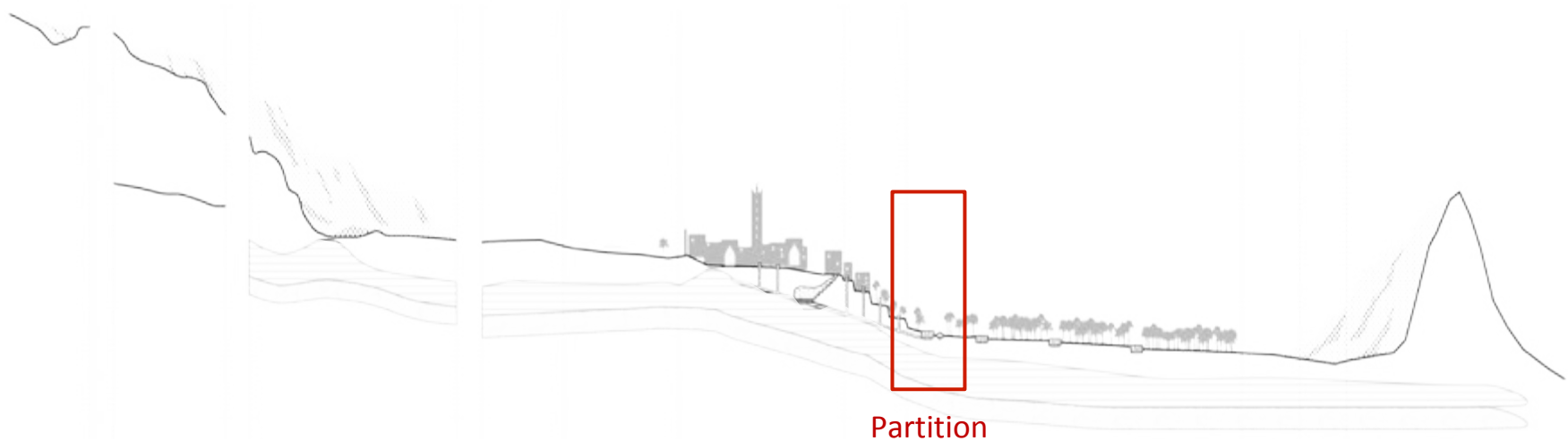


# Past

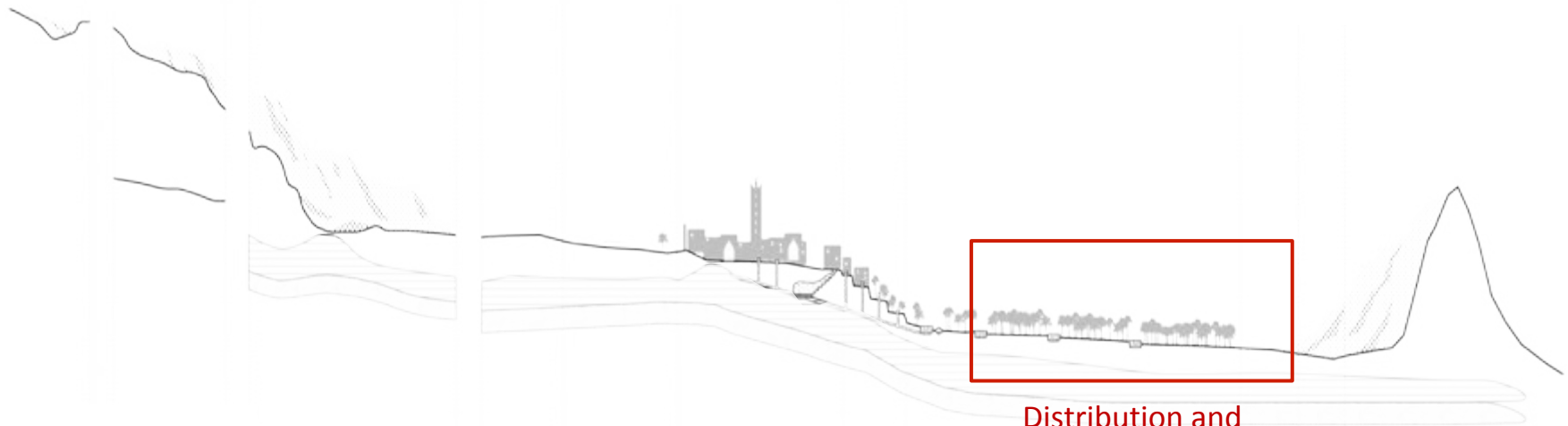
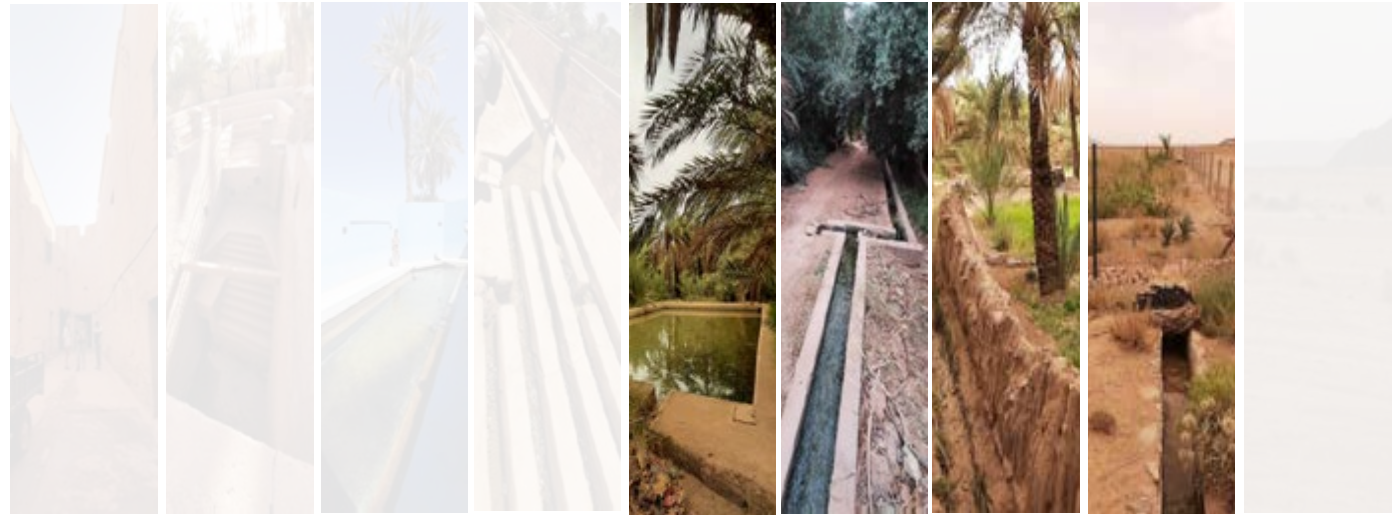




# Past



# Past



Distribution and  
irrigation

# Field Work





# Survey



1	Farhat	Yahya Mustafa	Abderham Ben Ali	Laib Jabri
2	34	48	55	53
3	Yes	Yes	Yes	Yes
4	Ksar Zrenaga ; diwana	Hammam Tahtani 15min away From Land	Ksar Louadaghir Hammam Laabidat (500 - 1000km)	Laabidat (1km away)
5	Yes	Yes	Yes	Yes
6	12ha ; 2ha Used FARM	0.5 Ha (50*30) Small Field	0.5 ha / 1.5ha [20*30] [60*30] Small Field	0.5 ha (20*30) Small Field
7	72 Unit Per Year	192 Unit Per Year	12 Unit Per Year	24 units Per Year
8	Linear Use OF Tree Tier Technique	Linear [10 palme per line, 2m between the lines, 3m between 2 trees]	3 Basee Methodna; Small herbs; ksbour, menth Arbres fruitieres; apple, peaches Dames; aziza, assian, Boufkous Technique ombrage	Simple alignment
9	Palms, Berries, Lemon,	Palms	Small herbs; ksbour, menth Arbres fruitieres; apple, peaches Dames; aziza, assian, Boufkous Technique ombrage	Palmes 22, Olives 9
10	No Its sufficient	Yes It's not sufficient	No Its sufficient	Yes It's not sufficient
11	Pumping is a different resource used in this case to generates water other than the main sources basin. In this case problems occur of the difficulty of pumping over the years since the amount of people using pumping and whales is escalating, water is more insufficient. Water is salty and the pumping is more difficult with the struggle of sand bucking up the stream.	Pumping not needed	Pumping not needed	Pumping not needed
12	yes	---	---	---
13	There was a decline in water sufficiency which required many landowners to choose different sources of irrigation such as. Lending water from others with a bigger amount. Pumping and digging wells. Buying water of the Dam; 15dhs-hour	There's a decline in summer. Compensating with Dam water. It influences Farm owners who raise animals, since the drought makes animal food overpriced	Decline in summer Compensation by lending water from other owners with access to Aine with higher debit; 60dhs per unit Buying From the Dam inconvenient. Waste of water since people don't have a knowledge of good management Messenger ter nonexistent	Decline in Summer Lend by TANITA [Mortha. Jour et Nuit]



# Survey

Rabiaa Boulanouar  
46 Ans  
Yes  
Ksar Al Maaiz –  
Ouled Sliman



1 Ha Farm  
3,5 Ha Plot



3000dh  
s/month



Linear  
Distribution  
3m Row  
Spacing  
2.5m tree  
spacing



Palms  
Olives  
Almonds  
Seeds

Yes, Water supply **is insufficient**.  
I use pumping with solar  
panels systems that require  
no electricity. Since five years, every  
**summer dam water dries out**  
more and more. I use another  
resource that is lending.  
Owners of a larger water  
supply sell their water with  
a product system **ghla**,  
equivalent to **240/6months**

# Future

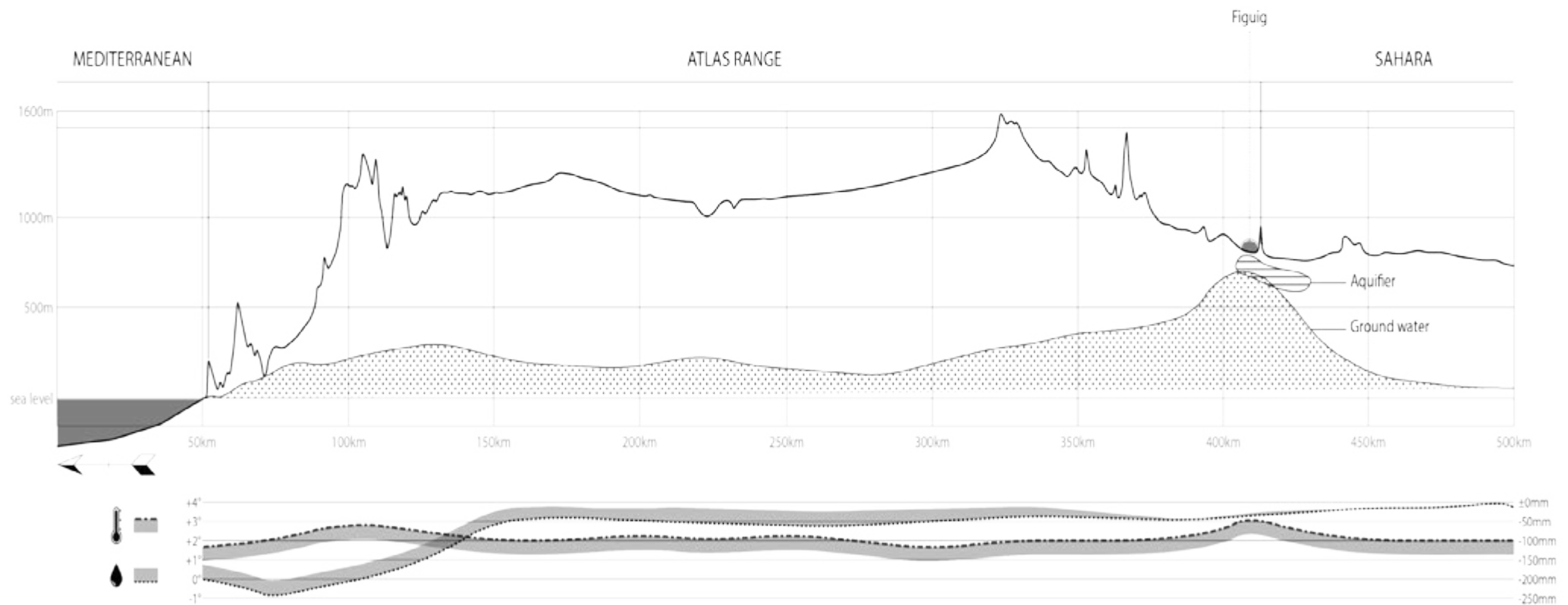
BY 2050



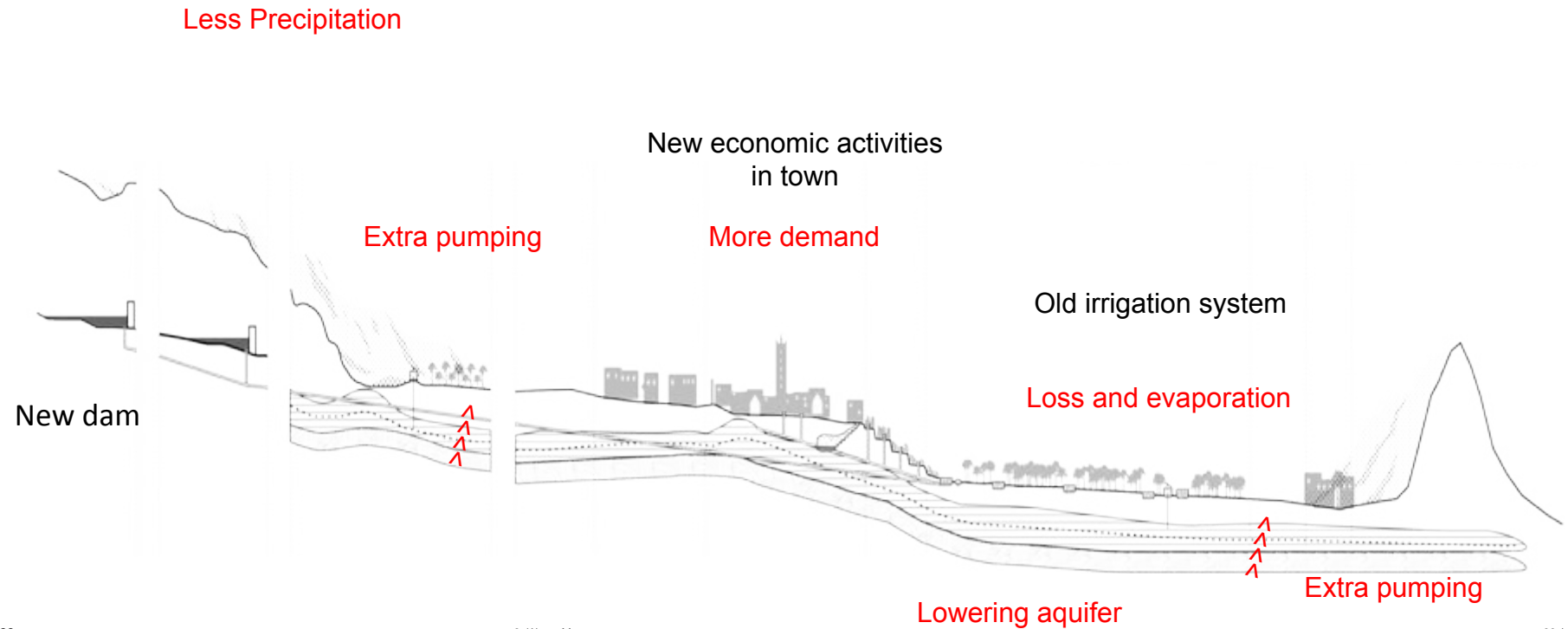
+2 +3 °C



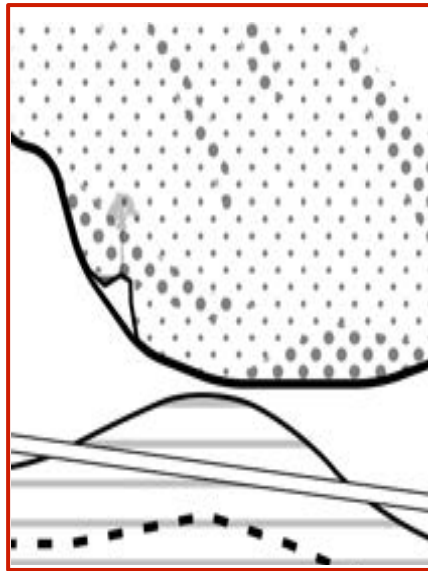
-30%



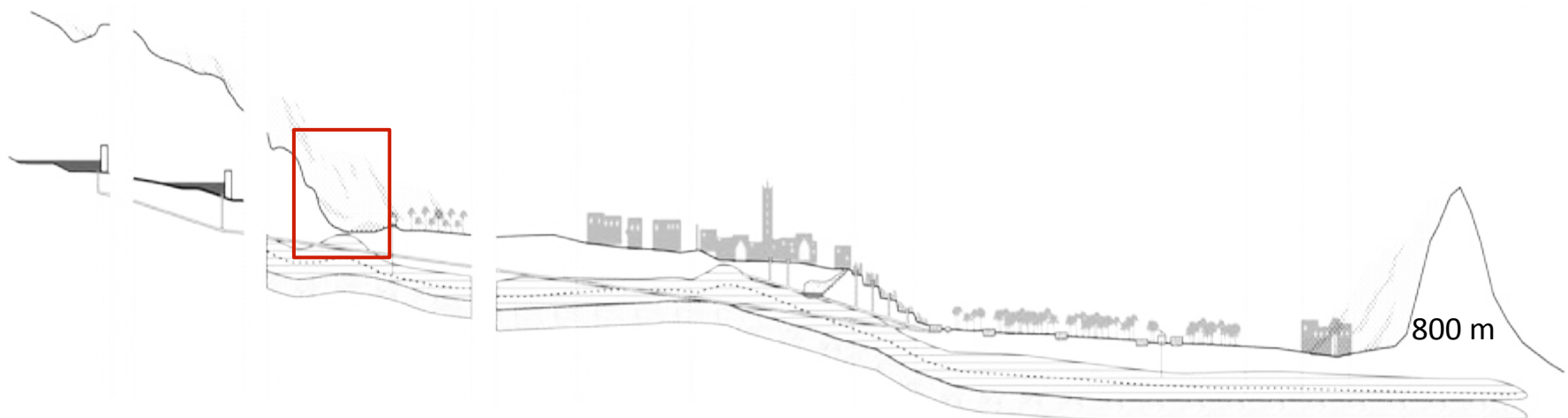
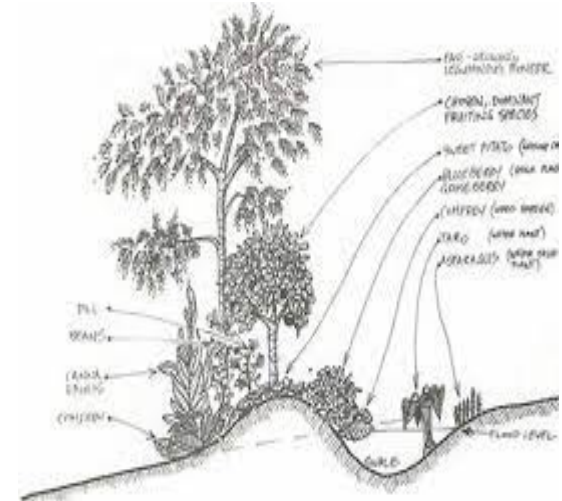
# Challenges



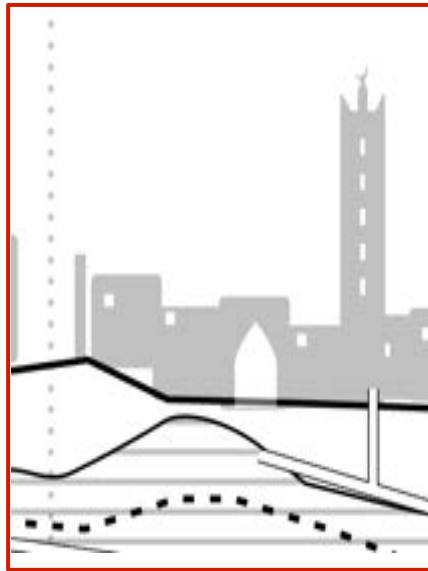
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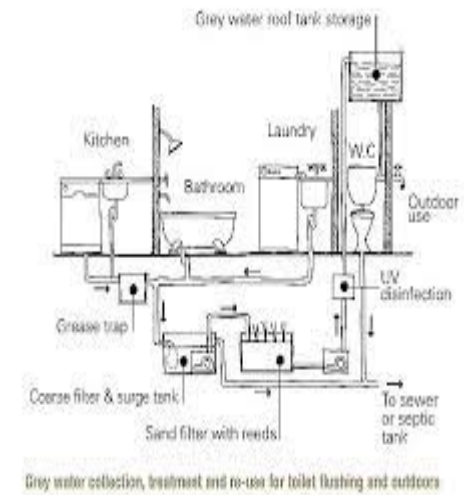
Bio swales  
redirecting rainwater  
falling on mountain

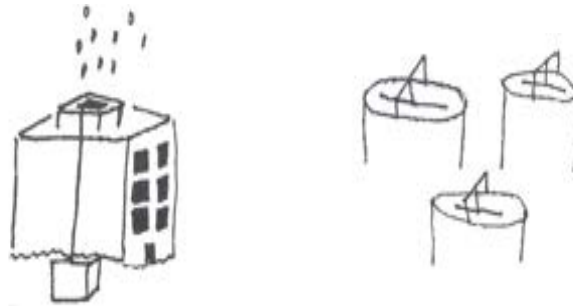


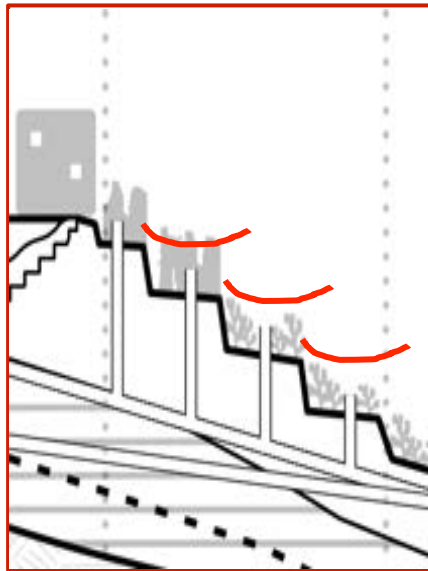




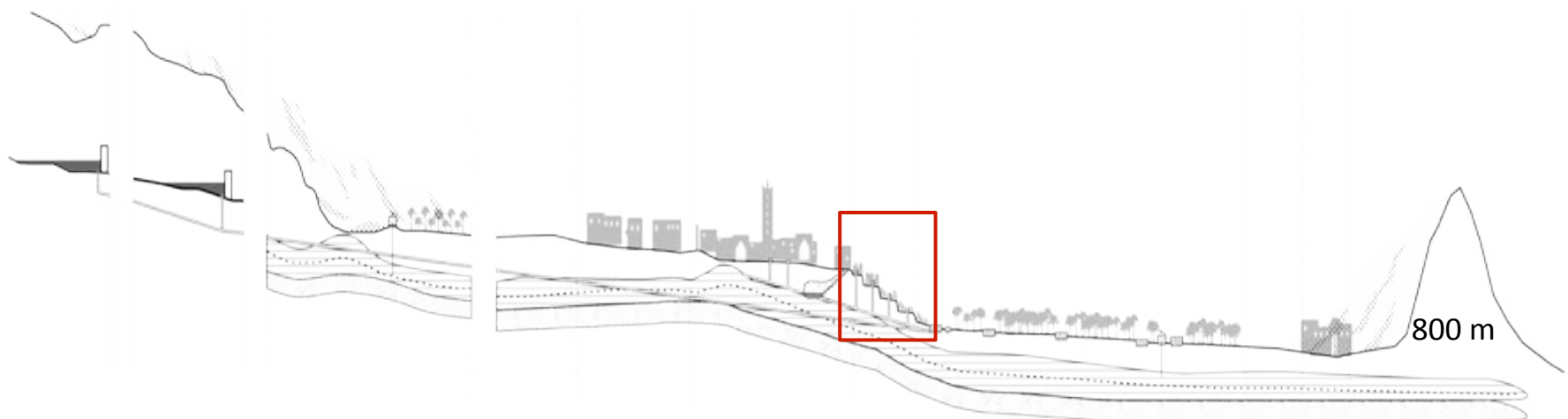
Gray water separation

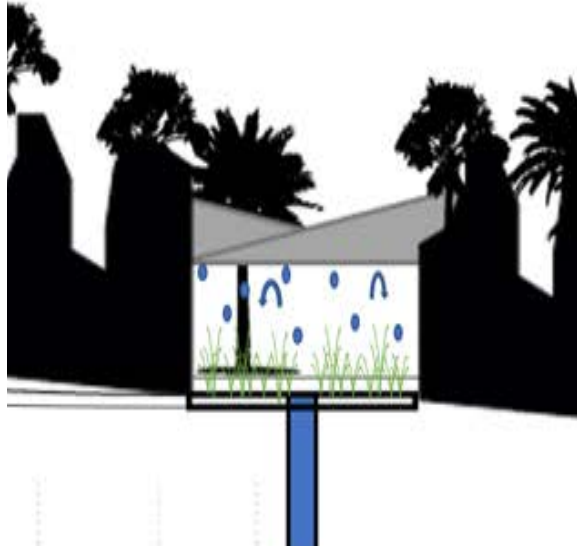






“Ruin Gardens”:  
catching steam from  
the Foggaras





“Ruin Gardens”:  
catching steam from  
the Foggaras





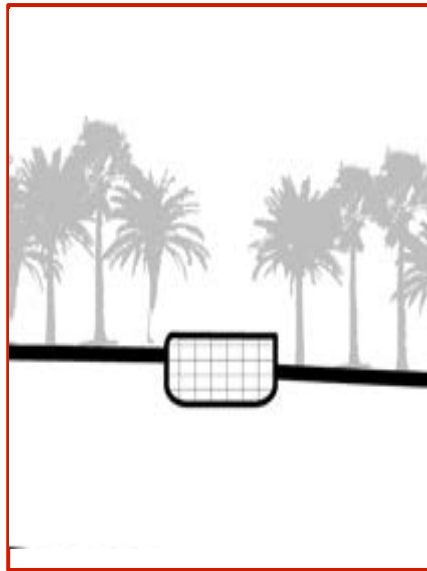




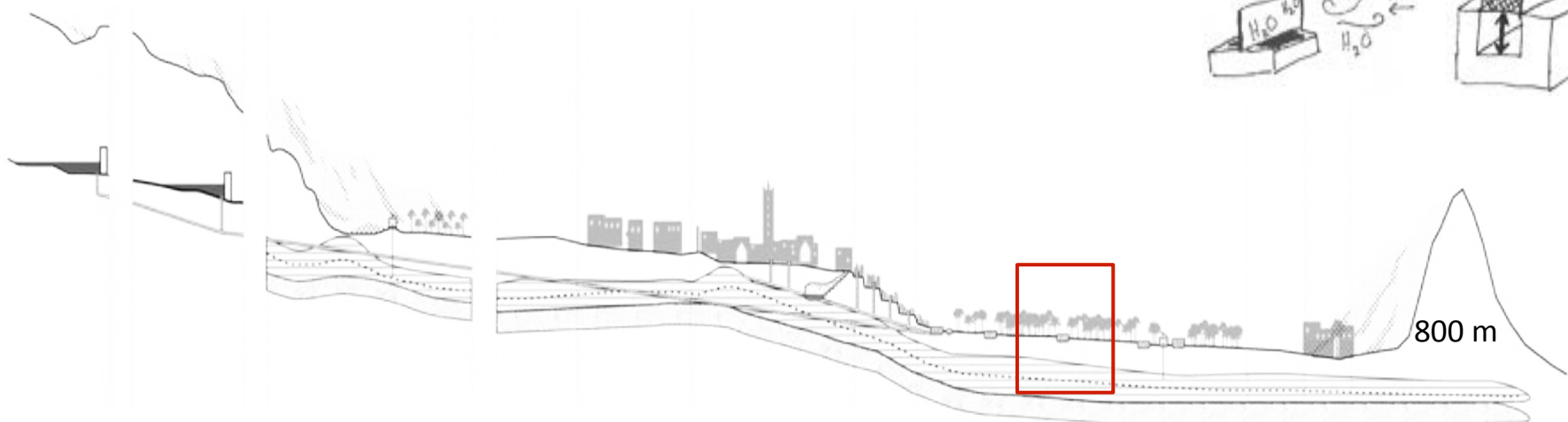


# Strategies

## 4. Modernizing Agriculture



An efficient ecosystem





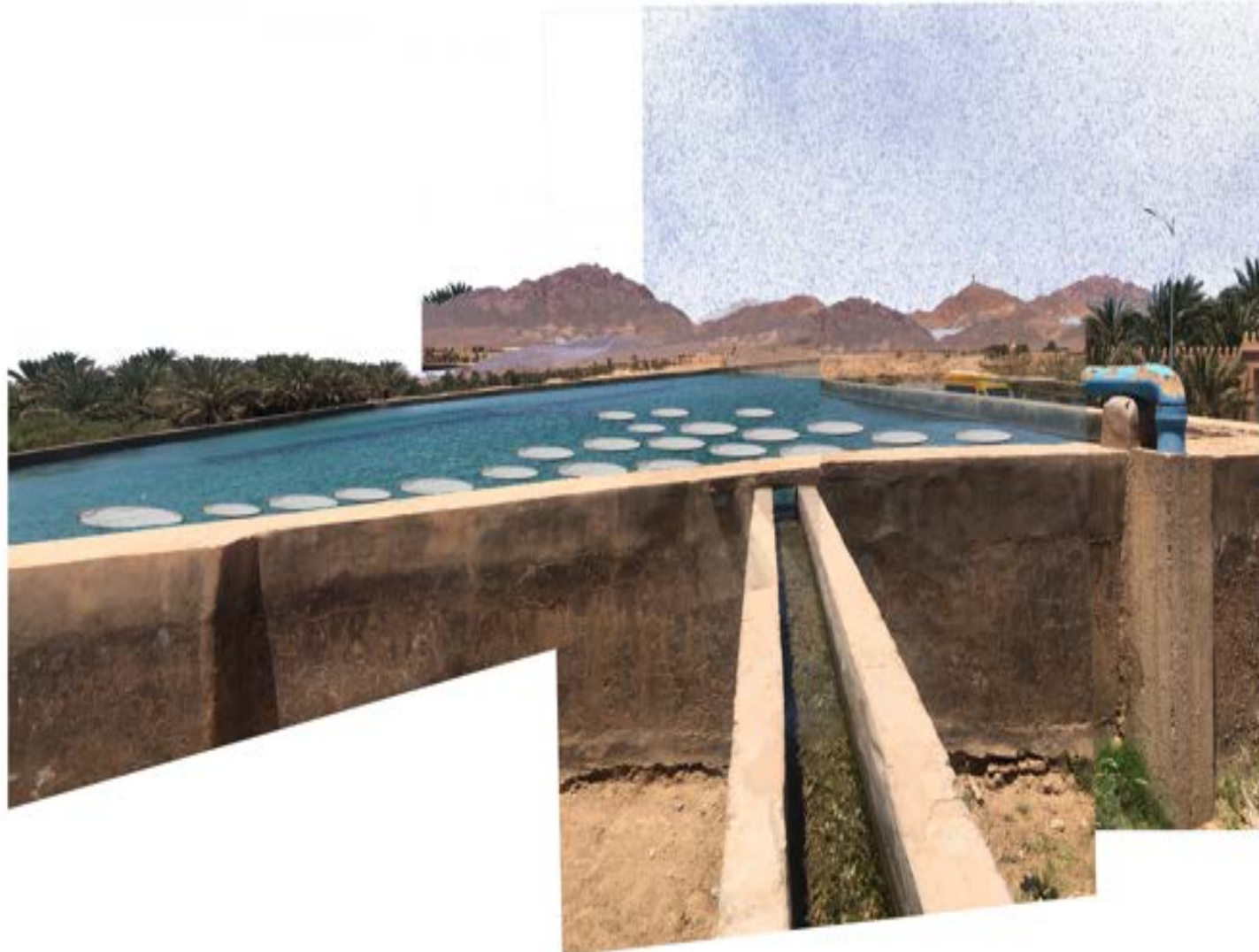
# Strategies

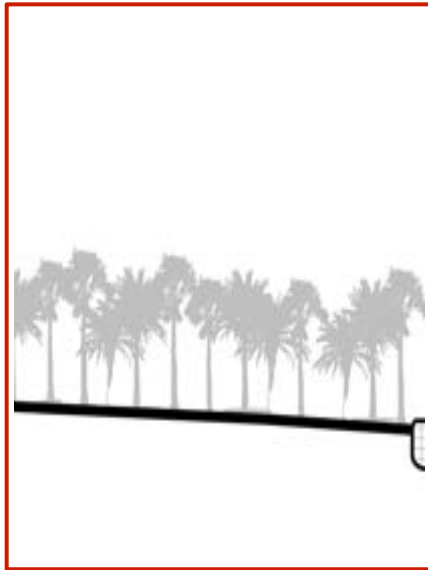
50% loss



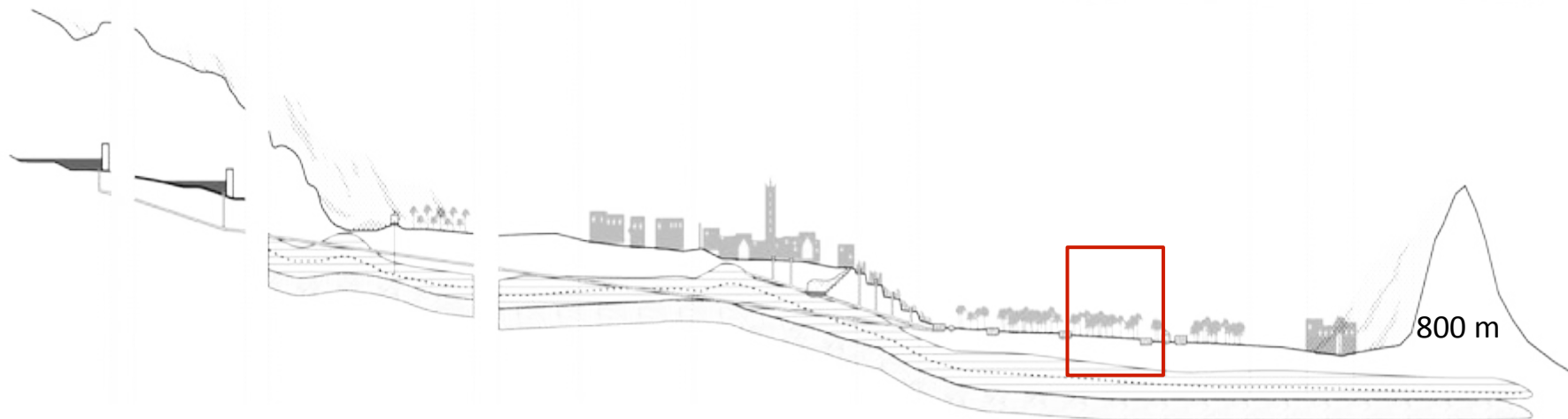


# Strategies



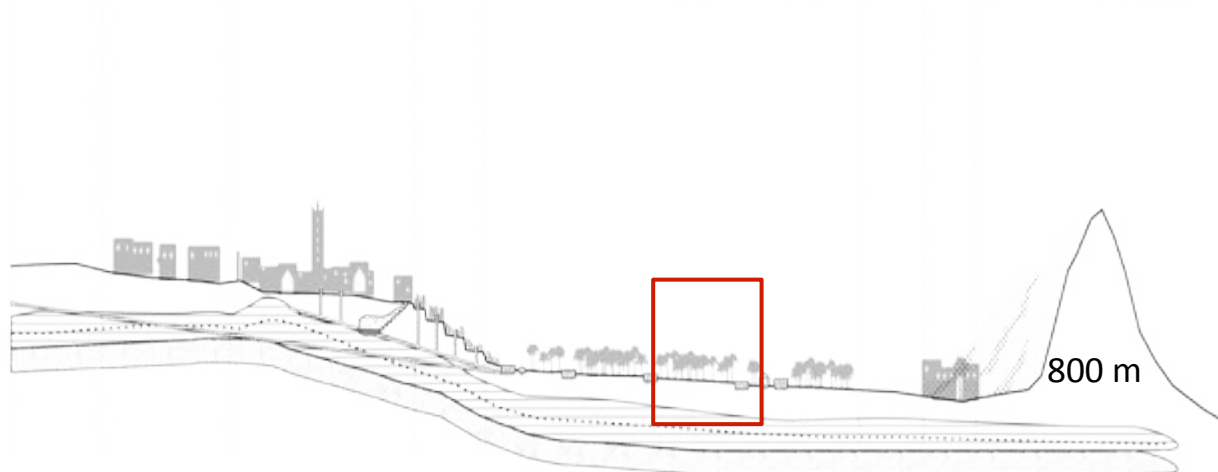
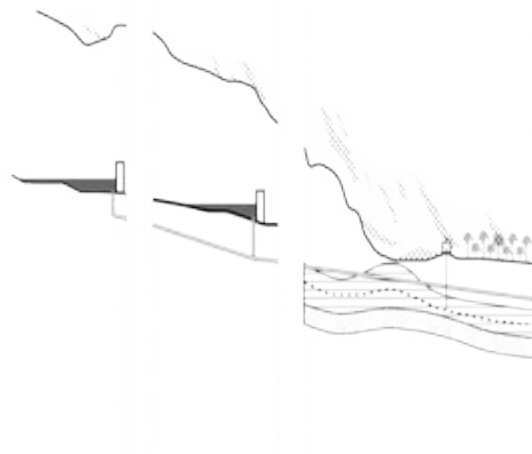
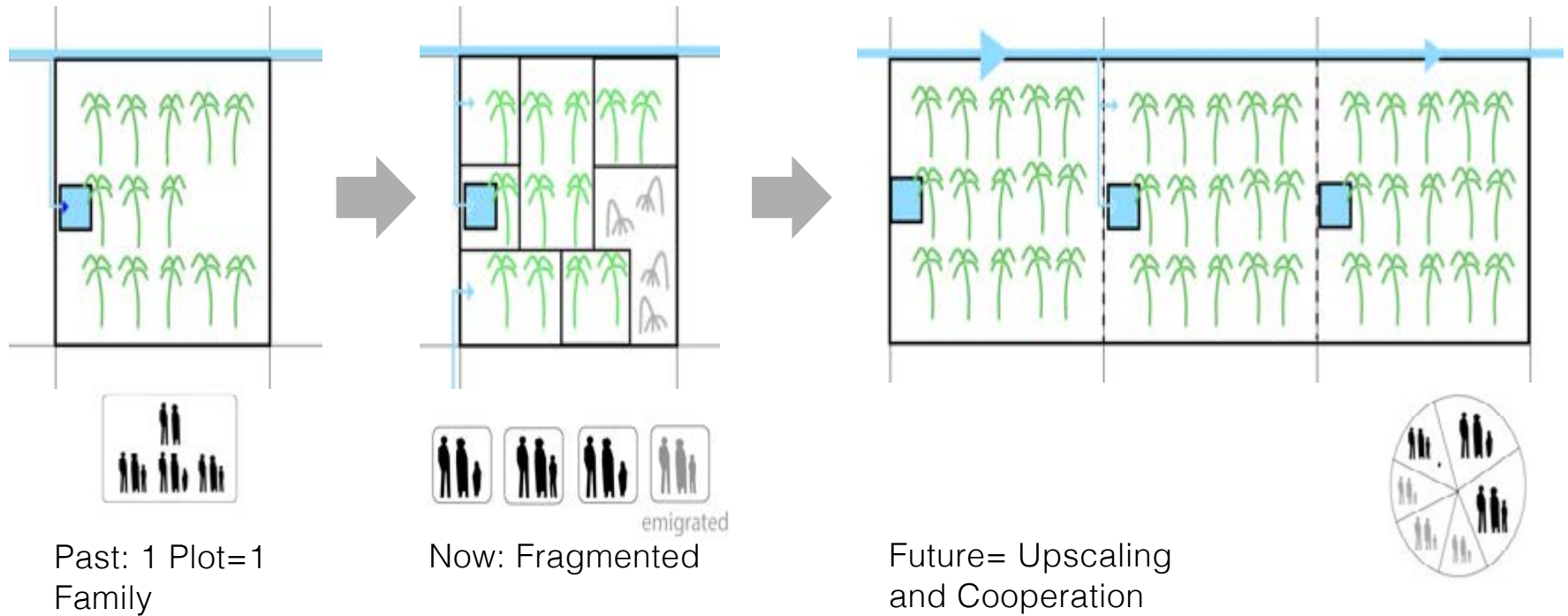


Restructuring  
the plots

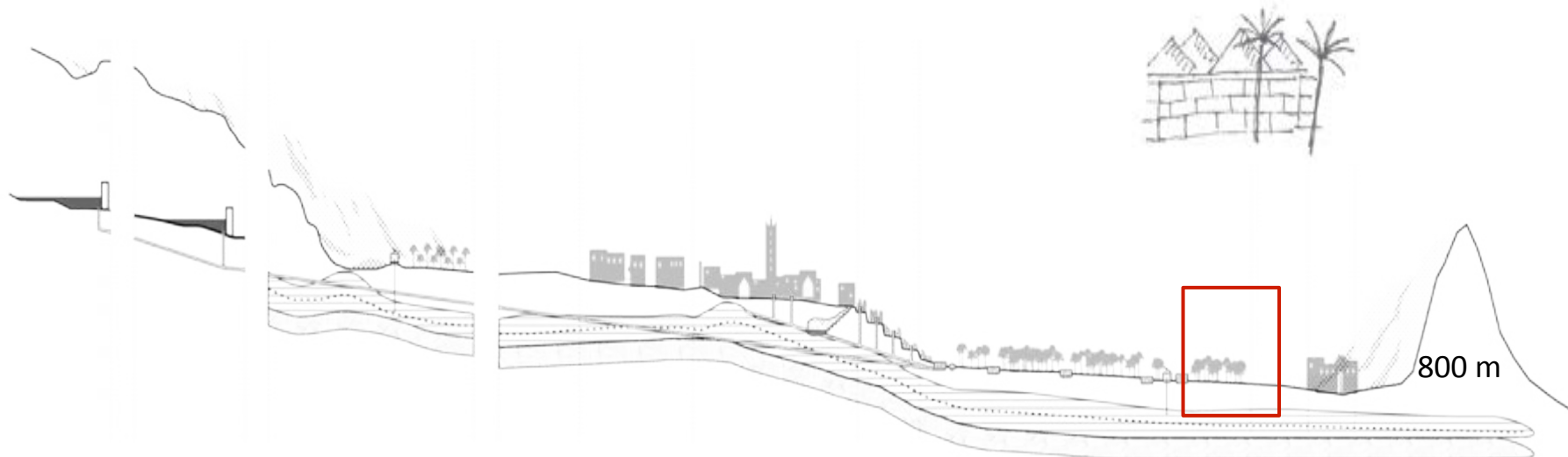


# Strategies

## 4. Modernizing Agriculture



## 5. Countering Desertification





# Workshop Structure

1. Vision. Culture & Inclusion

2. Water Management

3. Common Space

4. Heritage

### 3. Common Space

**tutor**

Florence Vannoorbeeck

**students**

Pasha Vredenbregt

Noa Schouten

Yasmine Belbaita

Marie Kaune

Ayman Boumas



# Challenges

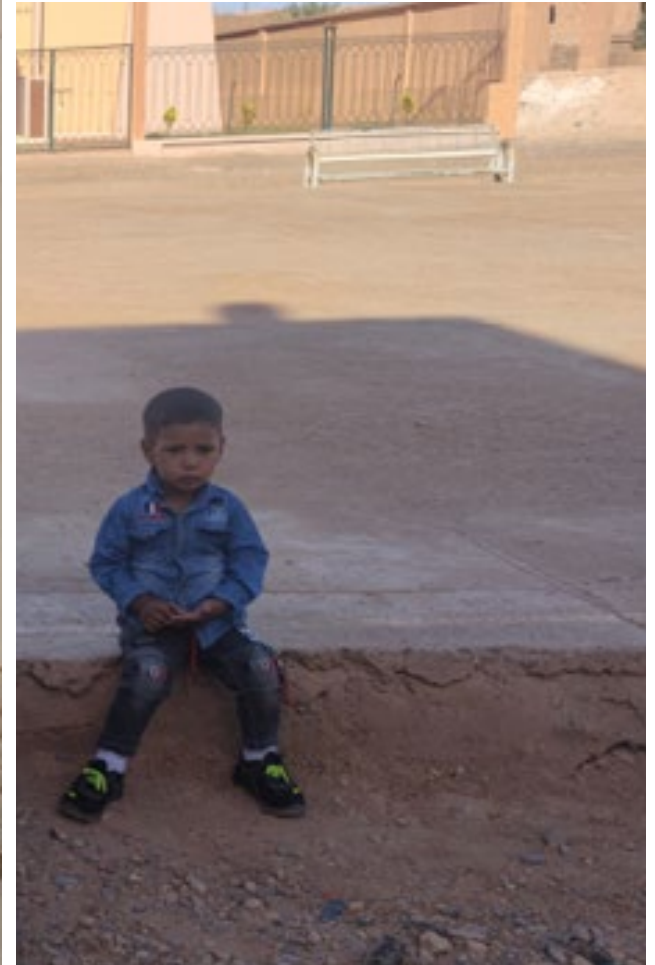
## Lack of an Image of the Town



## Socio-Spatial Fragmentation



## Climate Change

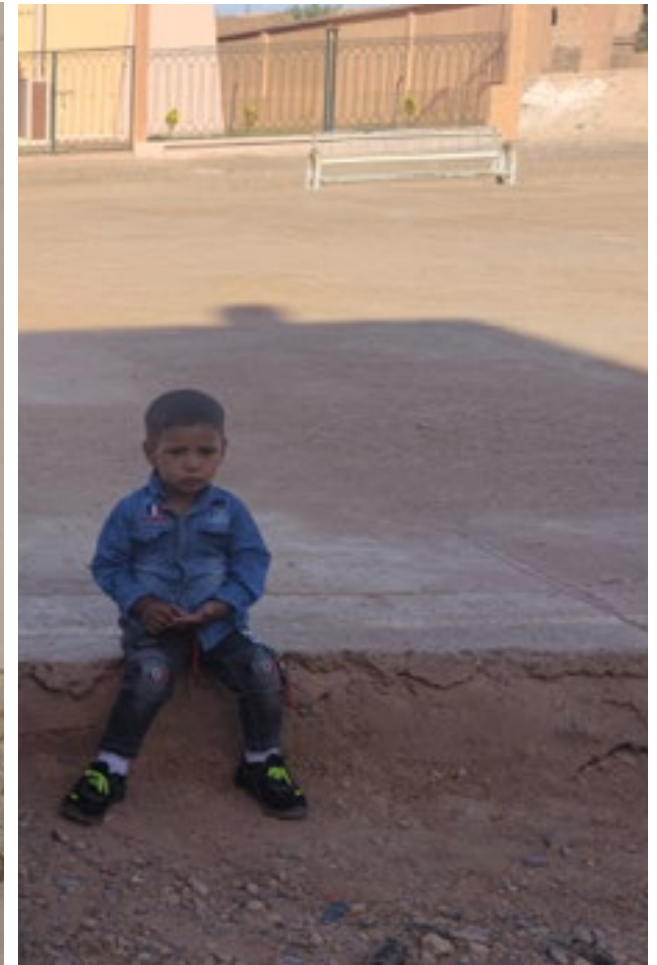




# Opportunities

Public Space:

Space of innovation  
and experimentation for  
the future of Figuig





Legibility / adaption / co-creation

1. **Legibility** of the public space in Figuiè
2. Space **adapted to climate change**
3. Common spaces **co-created** by the inhabitants

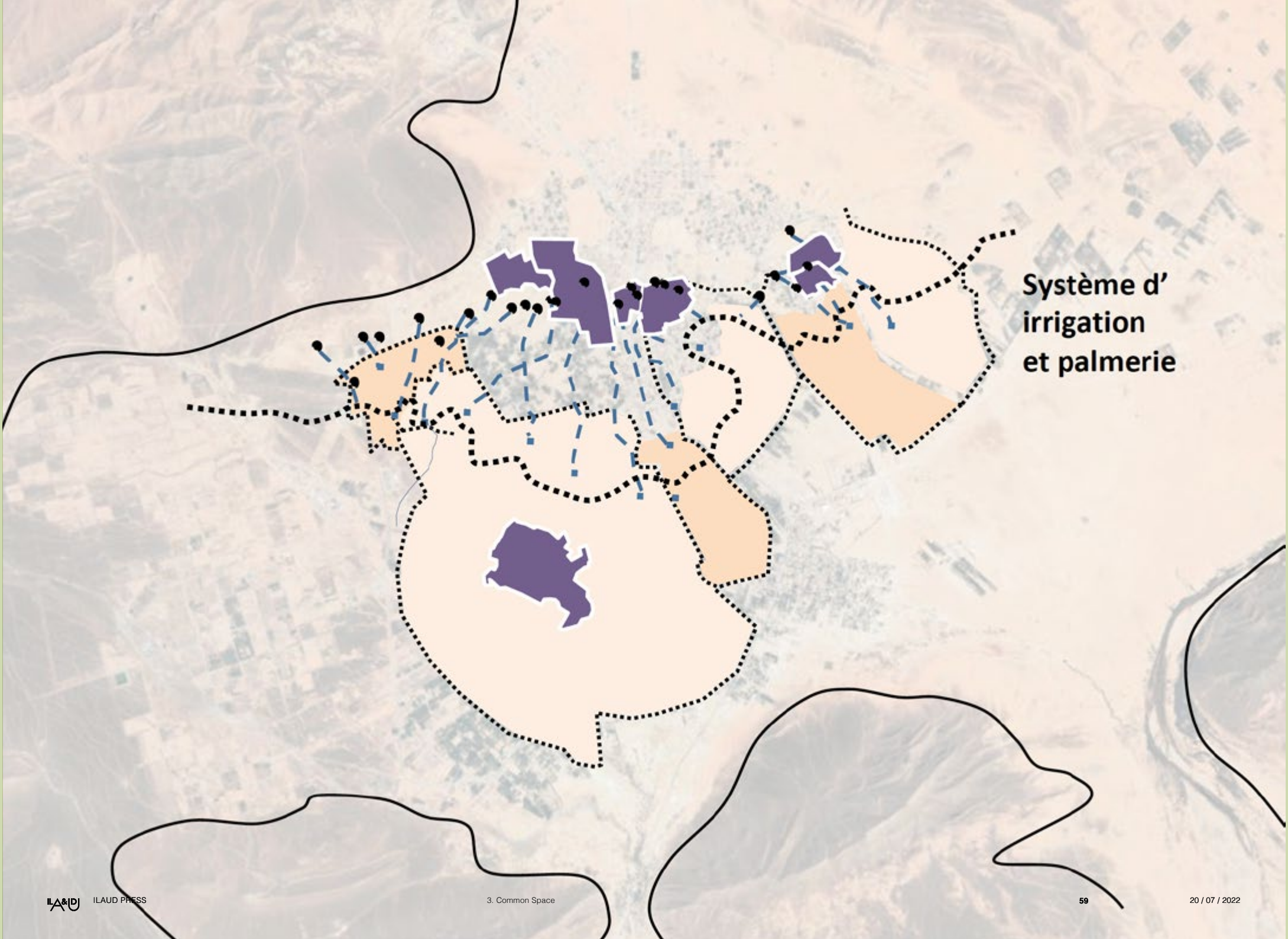
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## 1. **Legibility** of the public space in Figuig





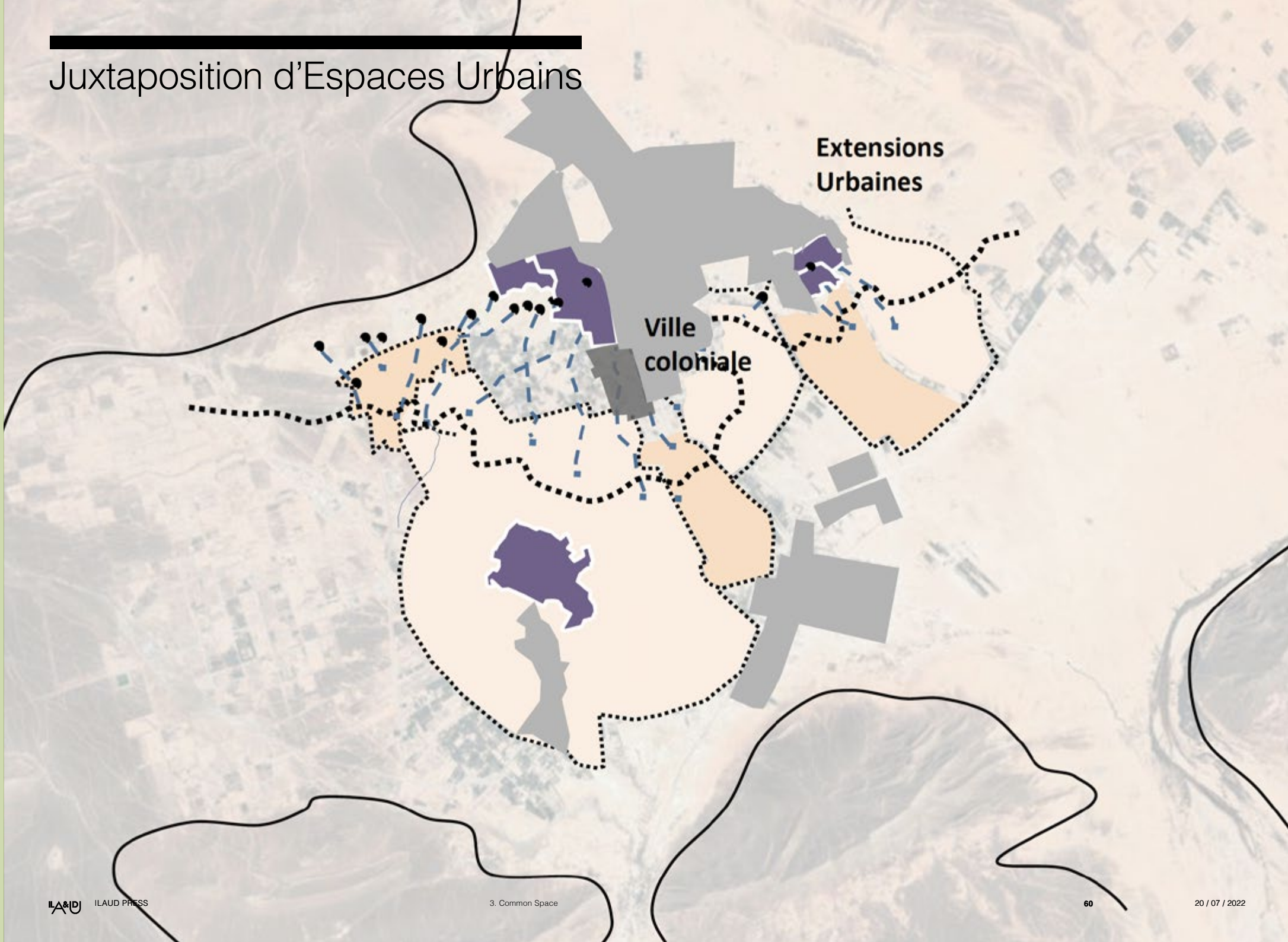




**Système d'irrigation  
et palmerie**



# Juxtaposition d'Espaces Urbains



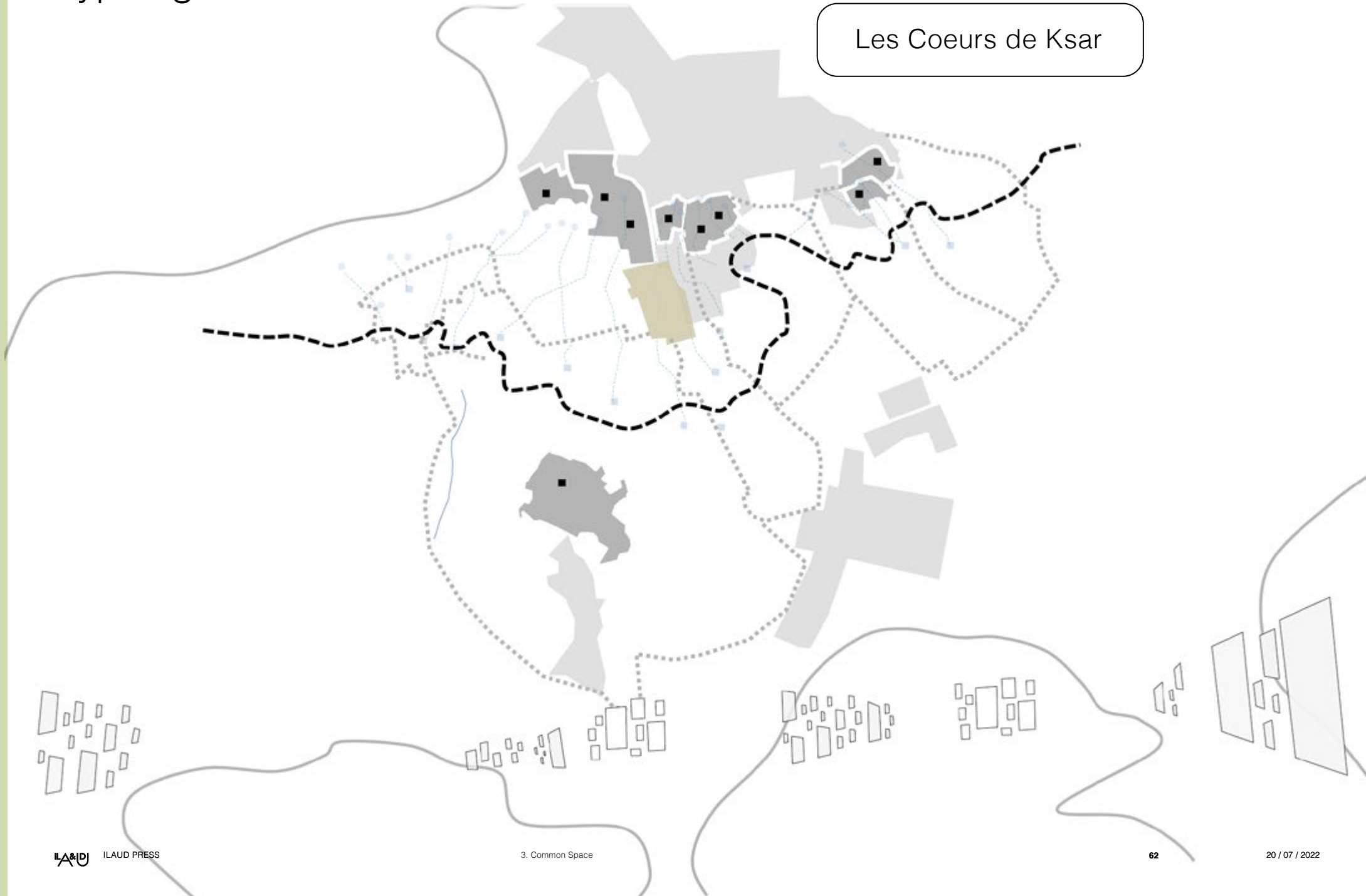
# Typologies de Places

Les Balcons



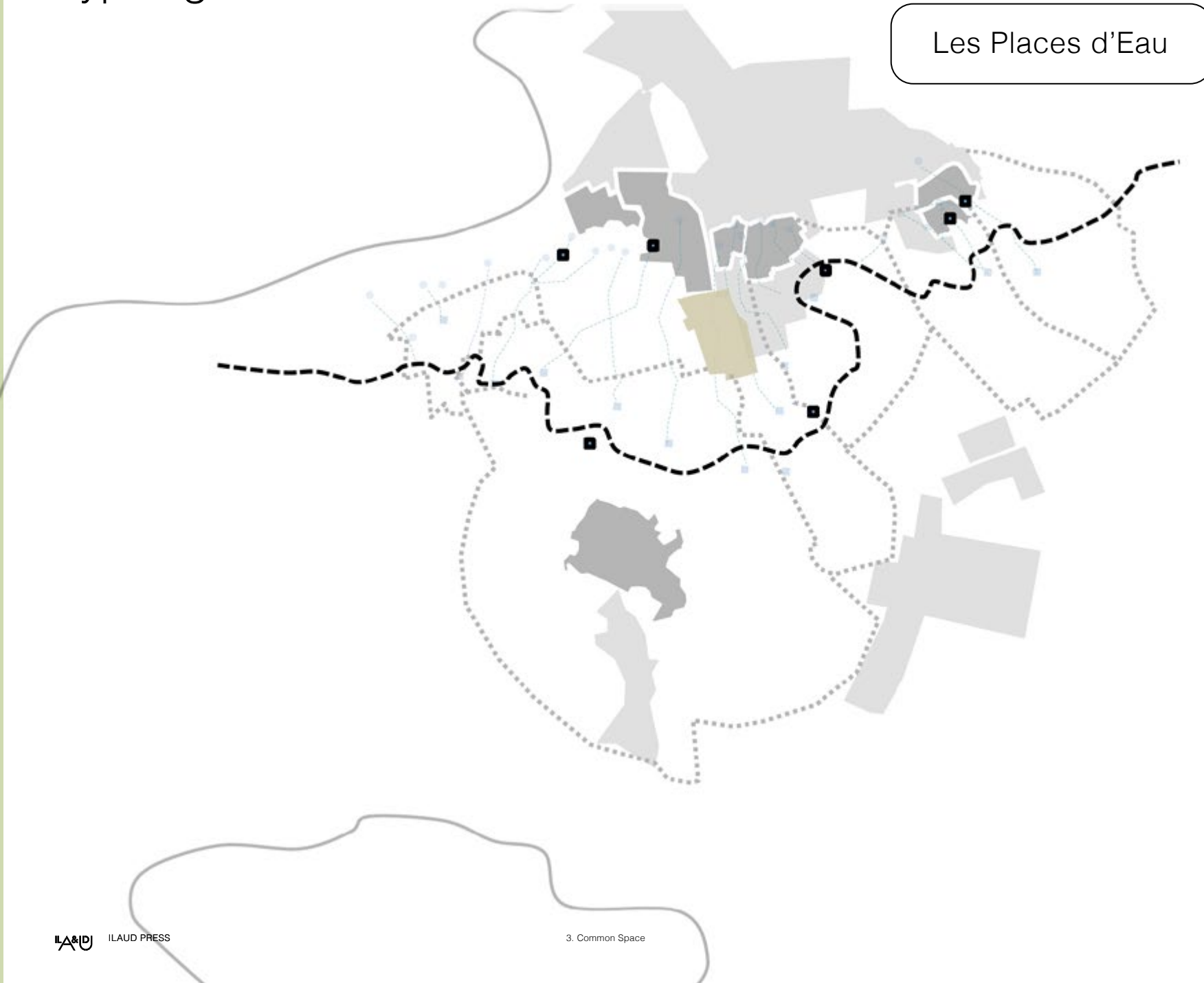
# Typologies de Places

Les Coeurs de Ksar



# Typologies de Places

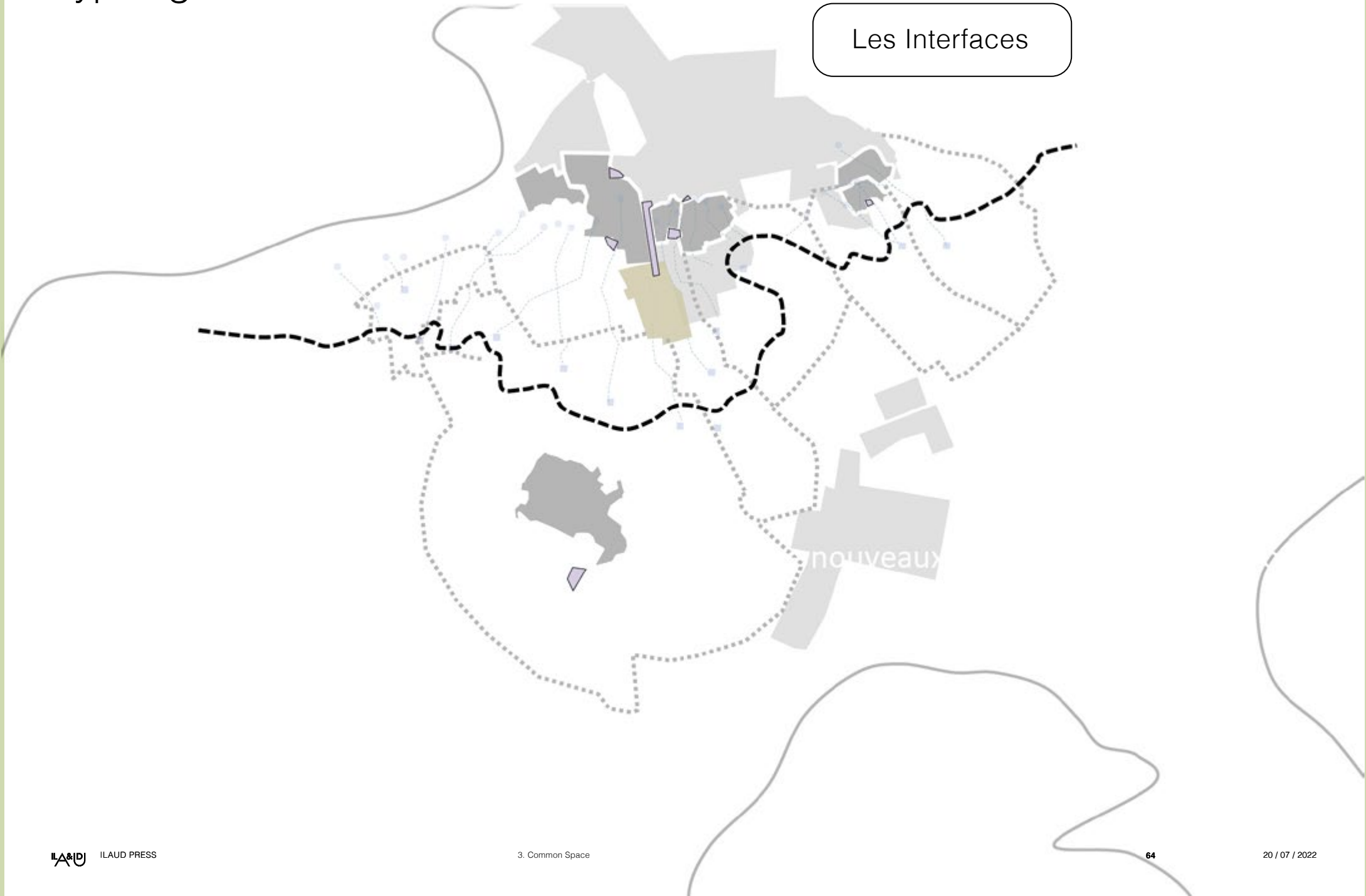
Les Places d'Eau





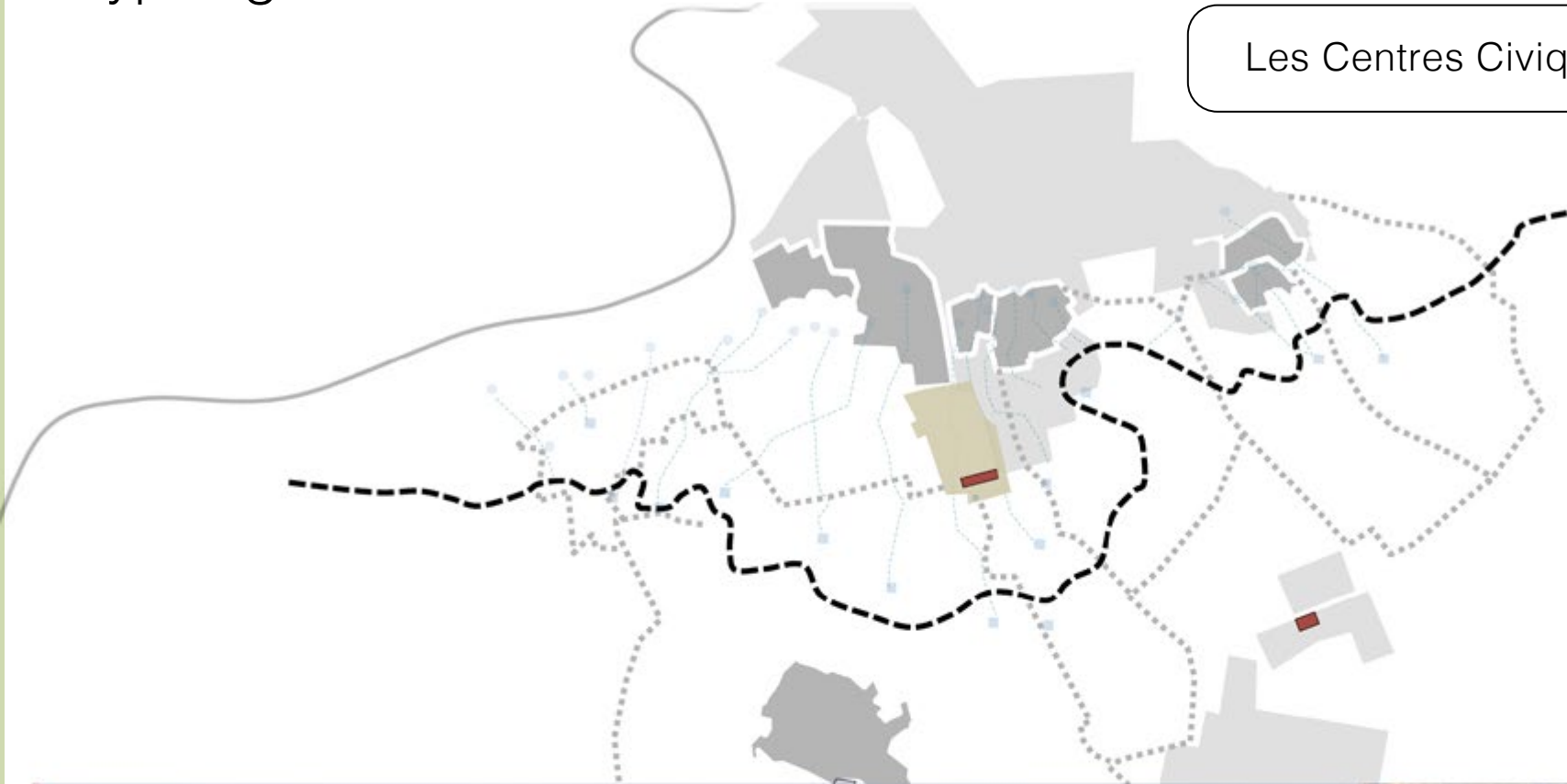
# Typologies de Places

Les Interfaces



# Typologies de Places

Les Centres Civiques



Des espaces d'évènements communaux

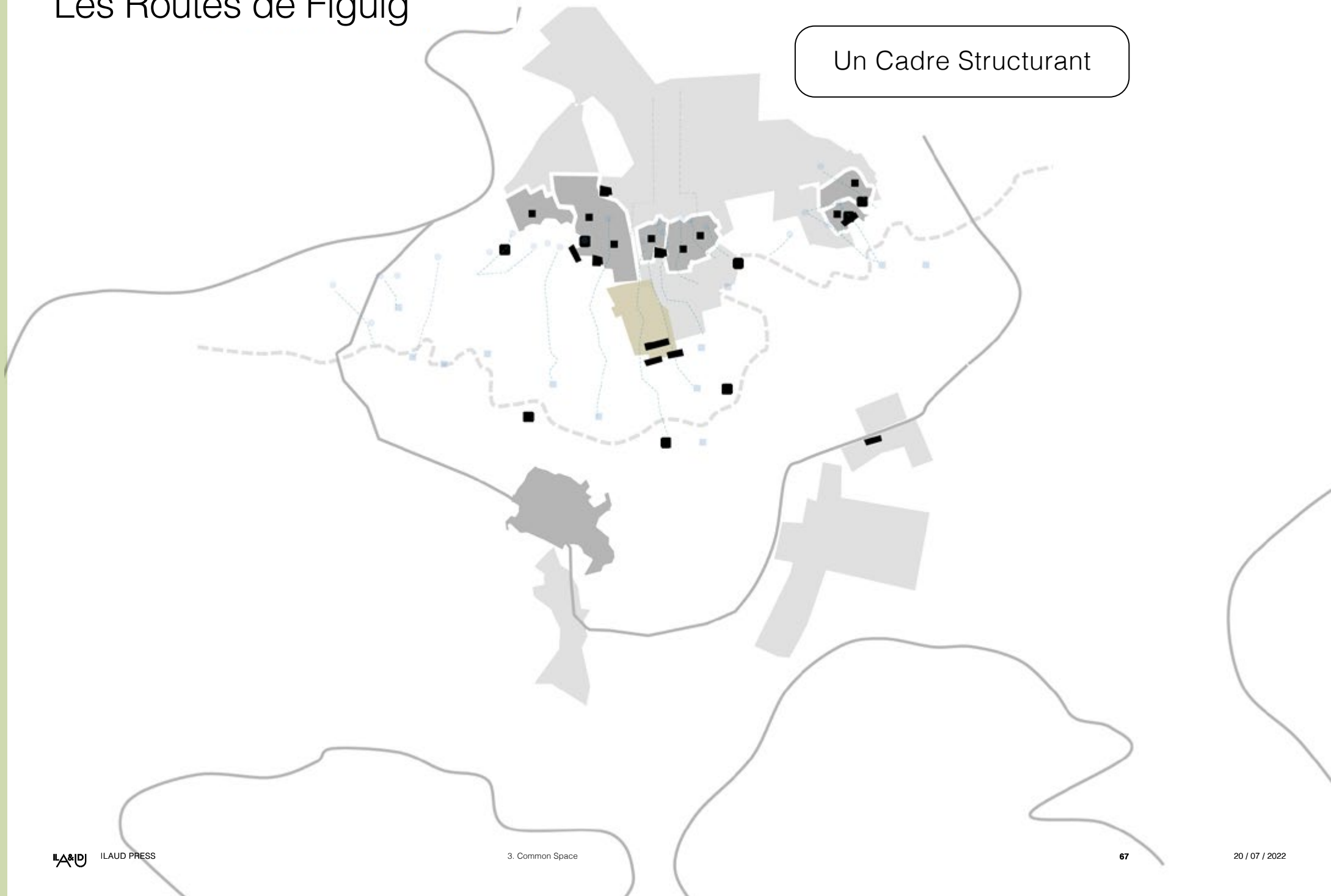


# Typologies de Places



# Les Routes de Figui

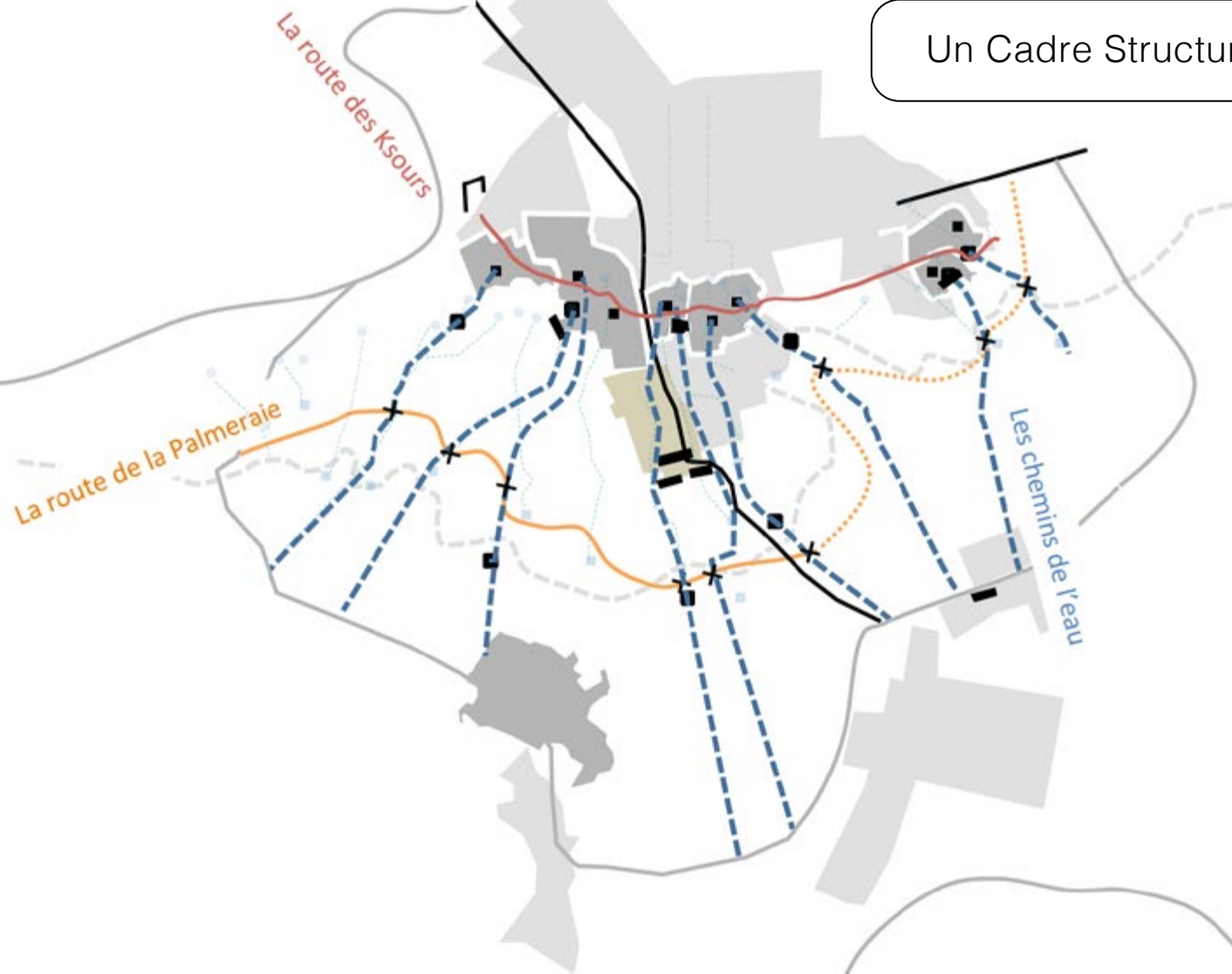
Un Cadre Structurant





# Les Routes de Figuig

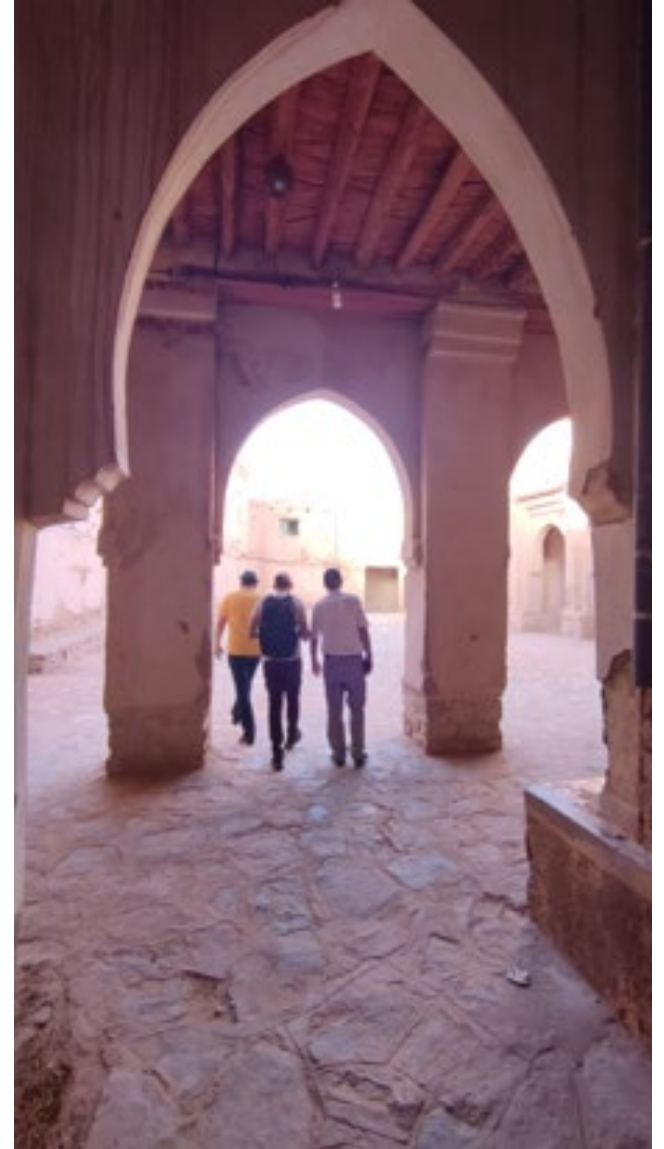
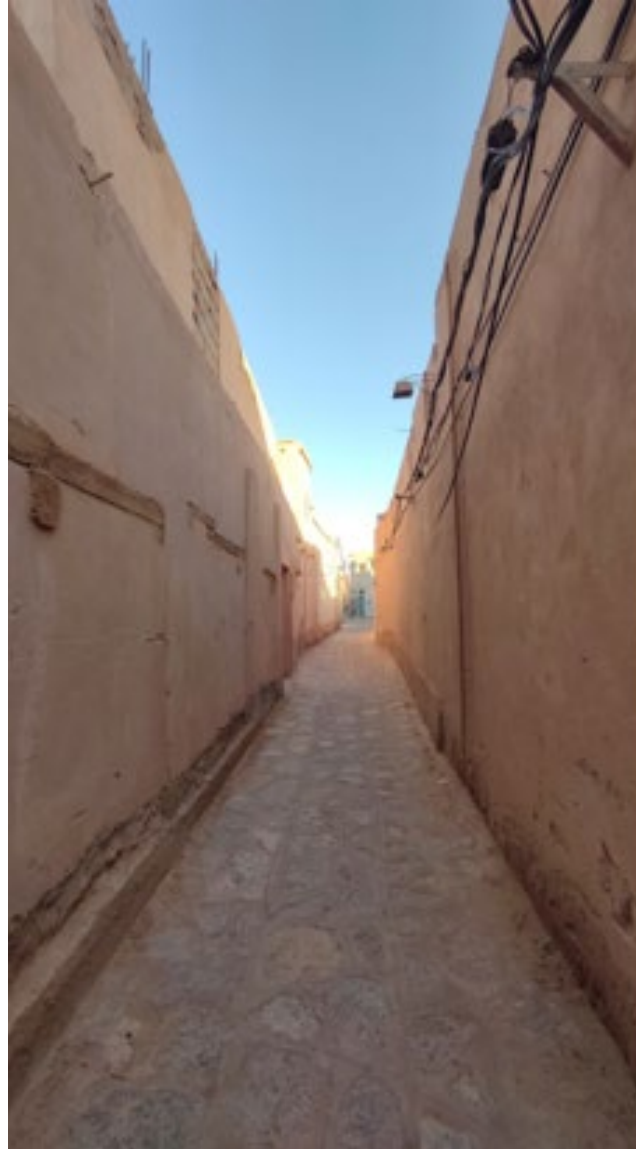
Un Cadre Structurant



---

## 2. Space **adapted to climate change**

# A tradition of Shadow...



...to rediscover





# The Need of a Coordinated approach



# Climatic Intervention: Local & Circular



Sheep wool



Date palm leaves

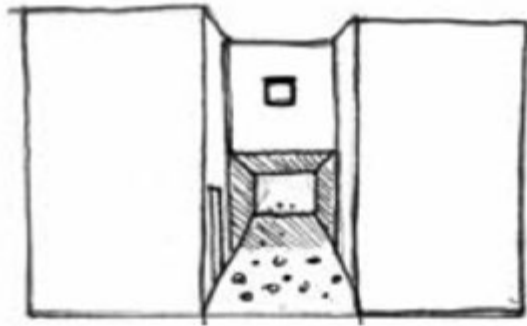


Halfa

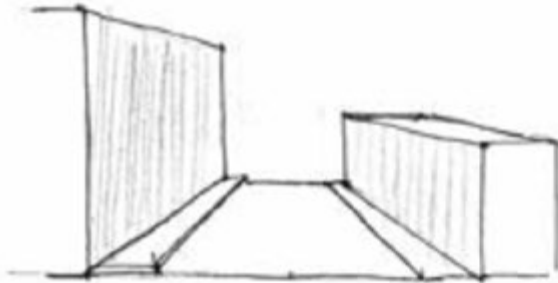


# Typologies of Roads

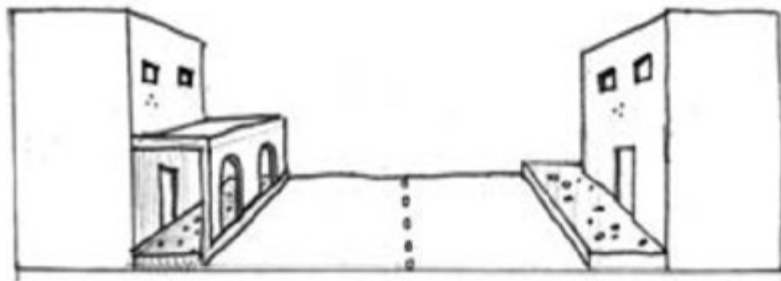
Before



Ksar: L' Oudaghir



New town: Hammam Tehtani

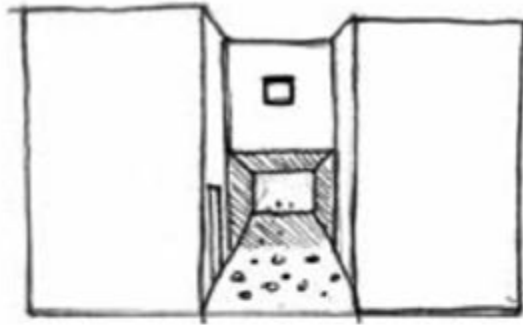


Boulevard

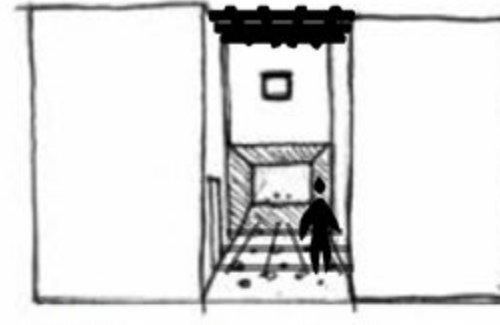


# Typologies of Roads

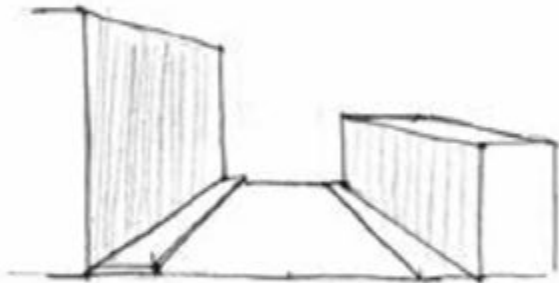
Before



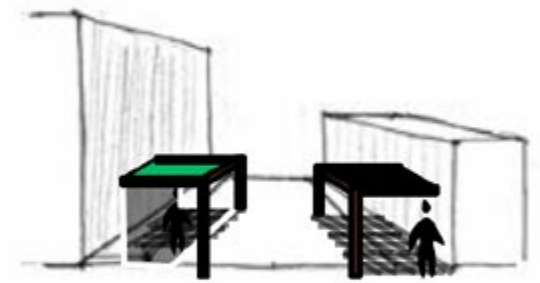
After



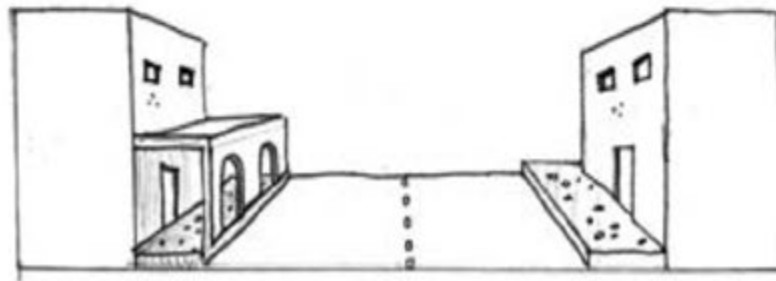
Old Ksar shadow extension



Flexible/movable pergola, local materials



Static pergola, local materials



Trottoire extension and vegetation incorporation, large boulevard



# Typologies of Roads

Before



After



Vacant space



Ksar ruins: Hammam Tehtani



Palmerie

# Typologies of Roads

Before



After



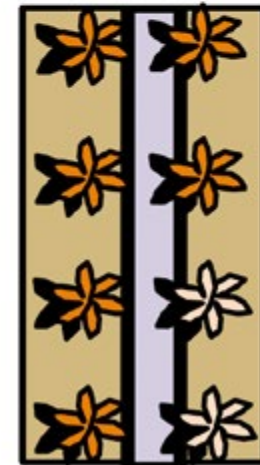
Solarpower and shade in vacant space



Ksar ruin re-activation



Local palmerie revival



---

### 3. Common spaces **co-created** by the inhabitants

# Reconnecting Diversities





**Temporalité** de l'occupation de l'espace: SOIR

Besoins d'espaces pour les **femmes et pour les enfants**

Utilisation quotidienne **des bassins**

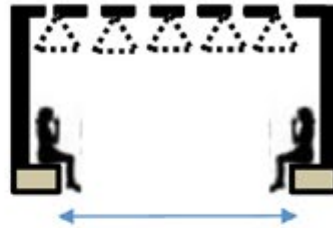
Envie de **s'investir dans l'espace public**

# Principles and References

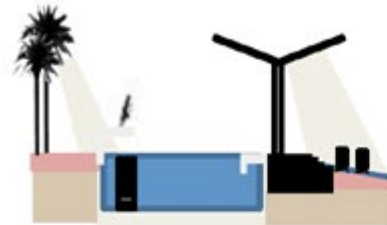
Lighting



Space for Women



Pools



Collaborative Spaces



Plan Lumière



Jamaa de femmes



Bassins publics



Jardin communautaire







Pilot Case



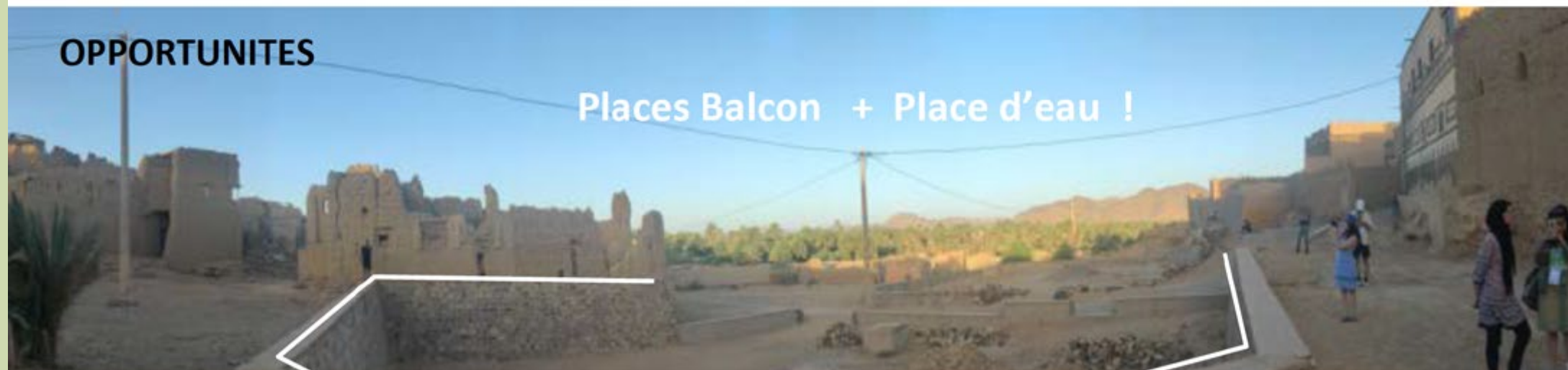
Hammam Tahtani



## PROBLEMS



## OPPORTUNITES





# To create a Door for the Palm Tree Garden



# Ensure New Connections



# Ensure New Connections





# La porte de hamman Tahtani





# La porte de hamman Tahtani / de nuit

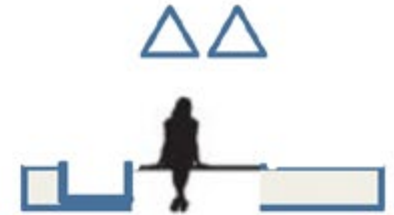
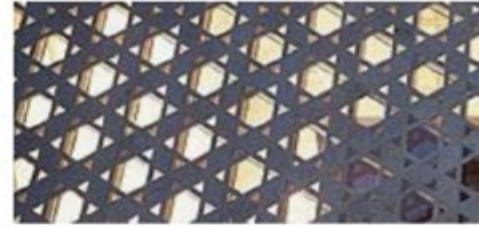


# Le Bassin des Femmes

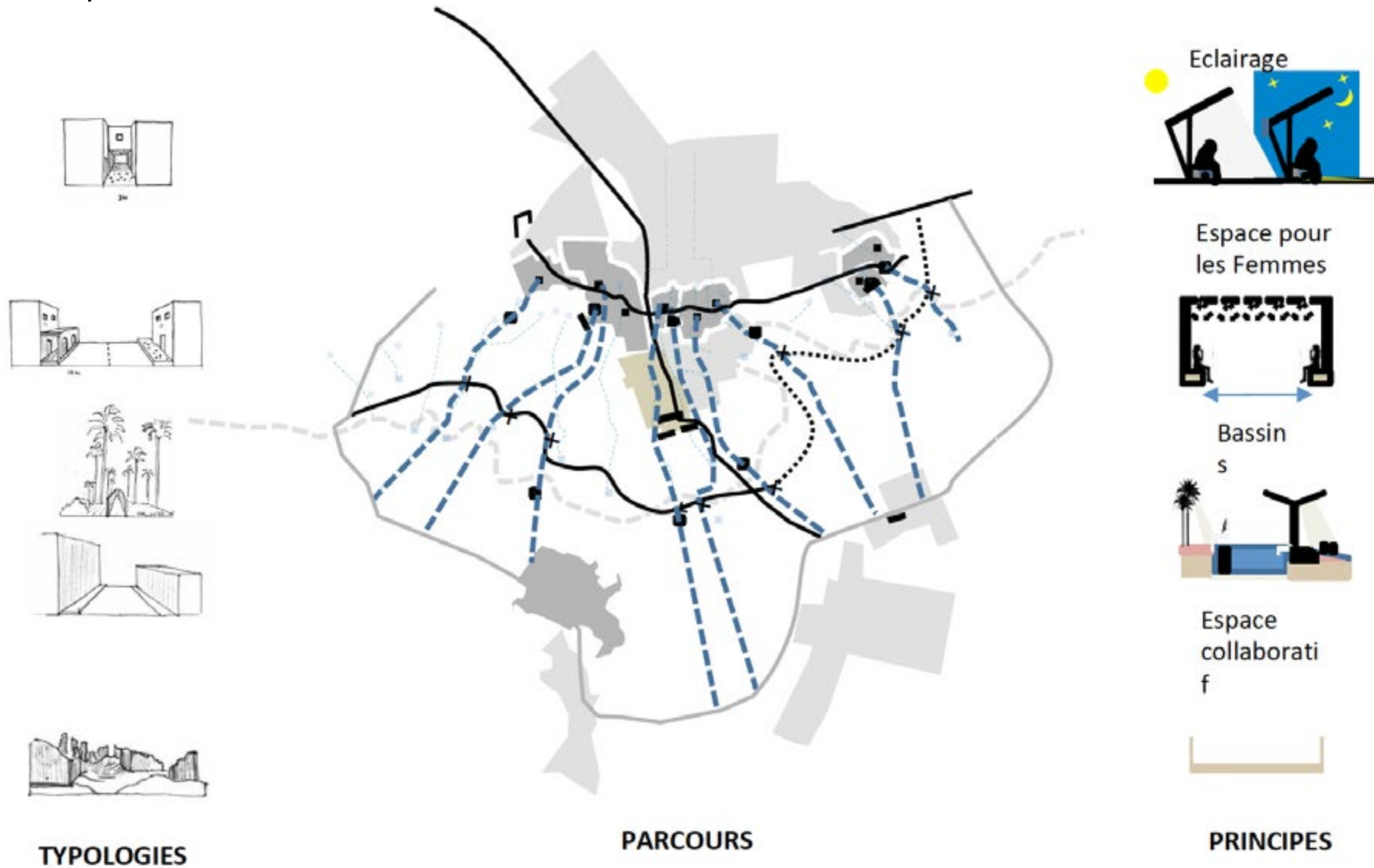




# Le Bassin des Femmes



# Public Spaces



To create a charte des espaces publiques to design typologies of public space/common space and panoramic/thematic routes through the town.



# Workshop Structure

1. Vision. Culture & Inclusion

2. Water Management

3. Common Space

4. Heritage

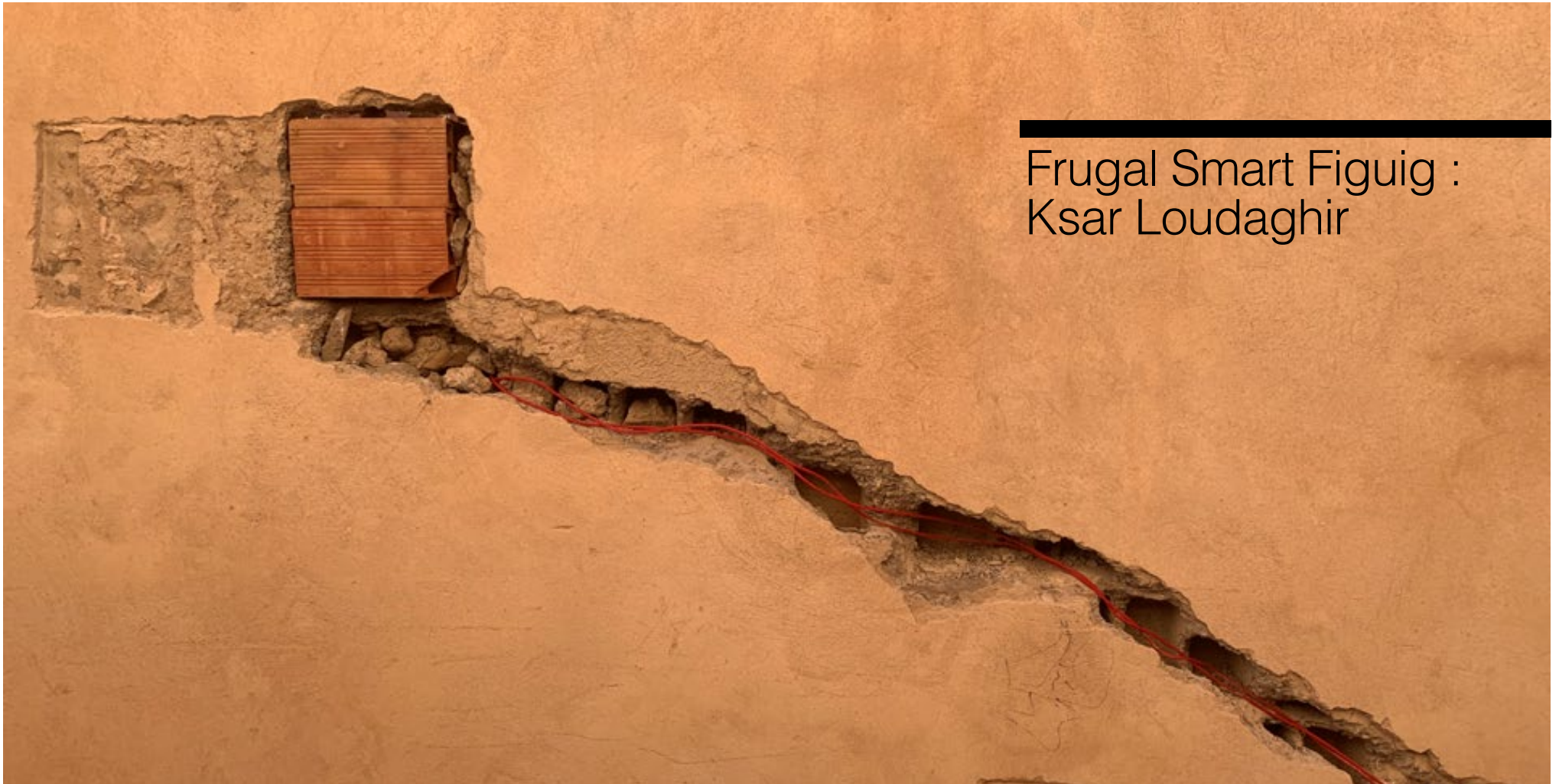
## 4. Heritage

### tutors

Youssef El Ganadi  
Sharif Anouar

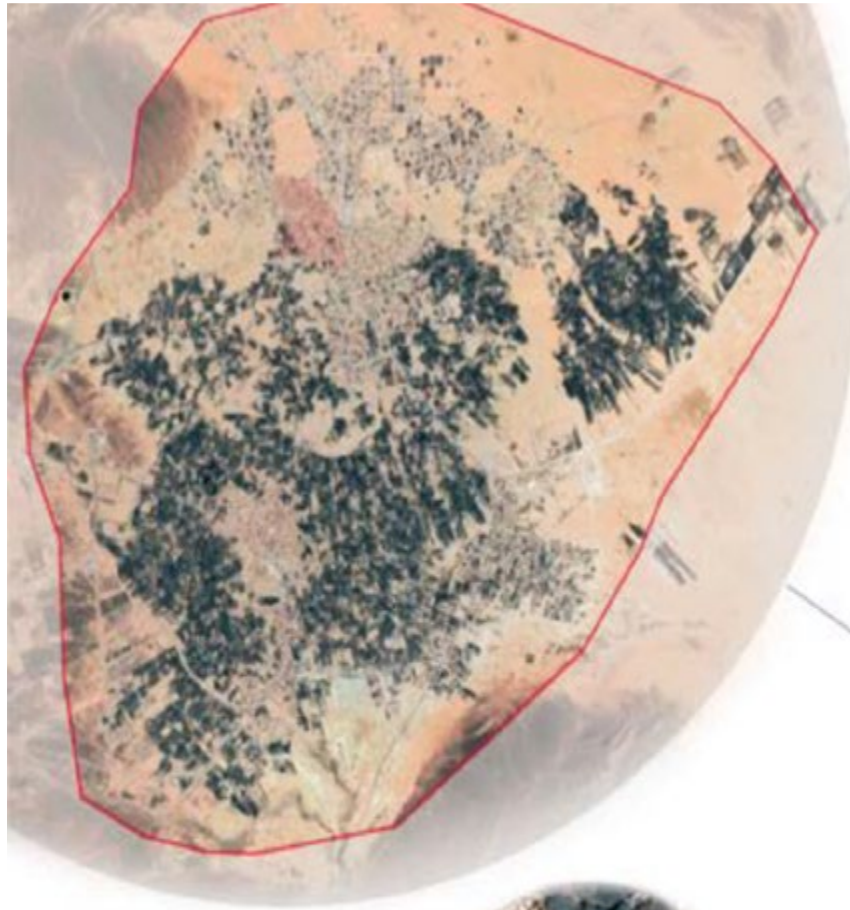
### students

Hatim Bakour  
Emanuele De Angelis  
Salma Mimouni  
Sara Moumen Farah Mouzouri  
Kaoutar Ouahbi

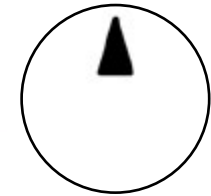


Frugal Smart Figuig :  
Ksar Loudaghir

# Context of Intervention



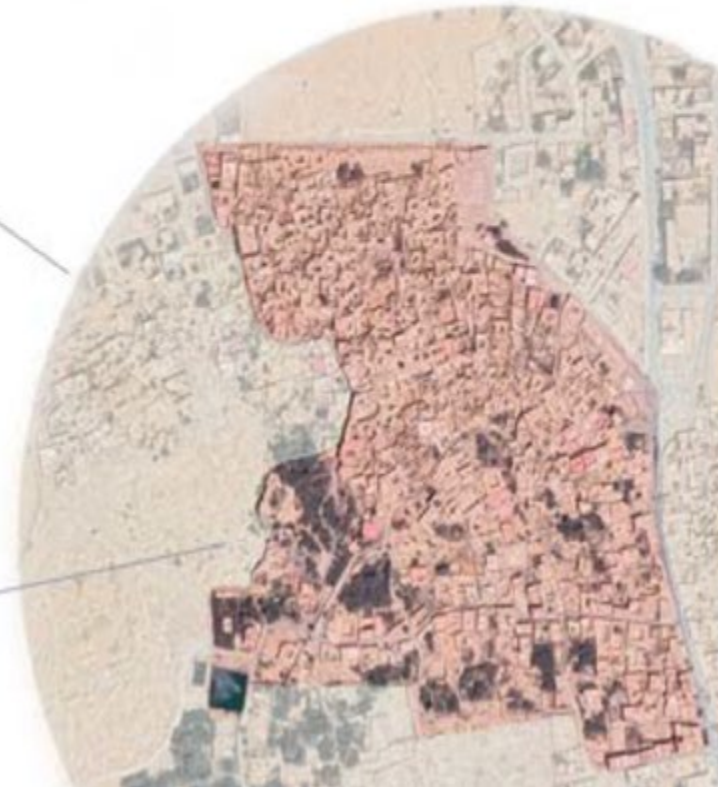
Figuig



Ksar  
Loudaghir

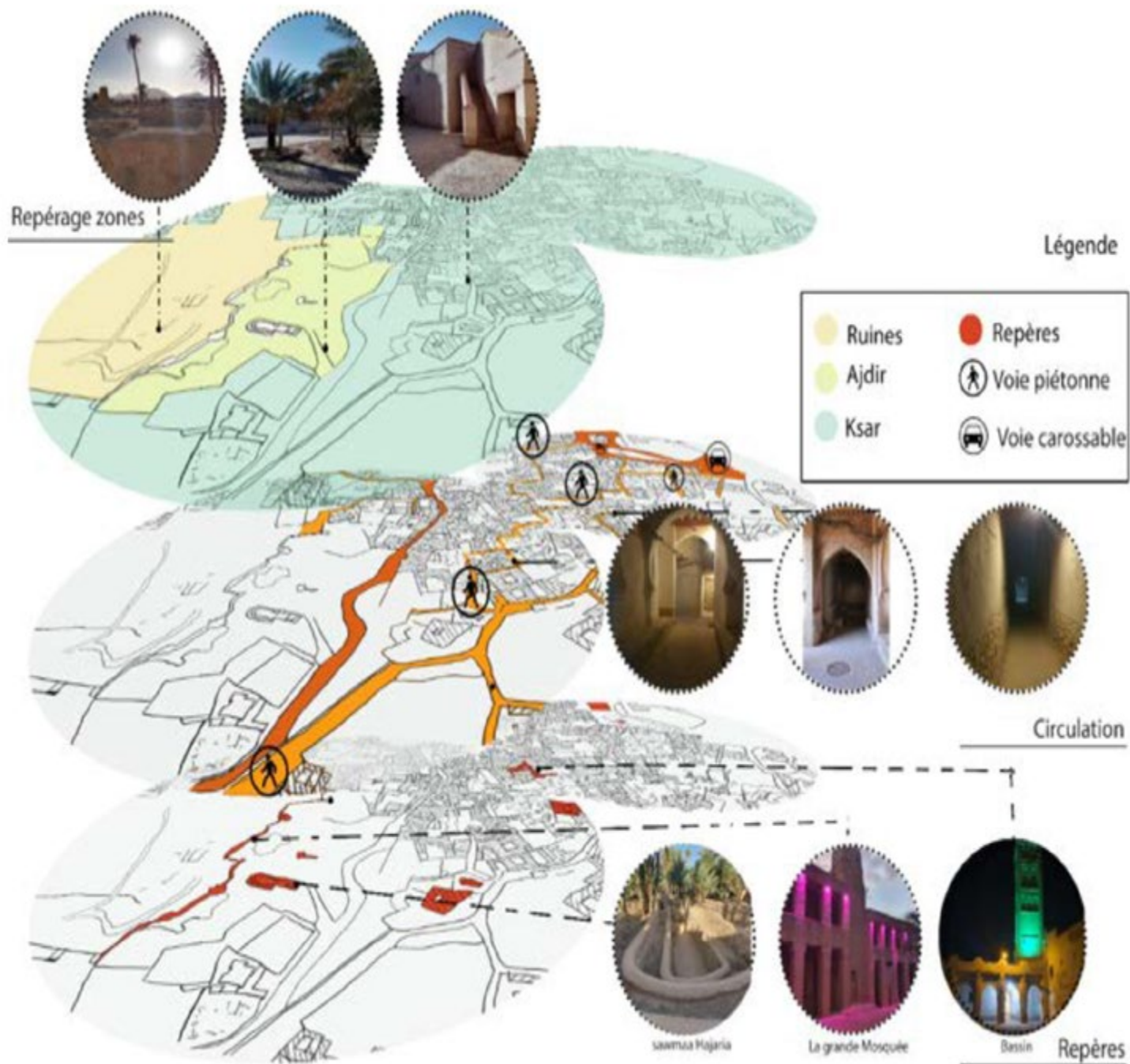


Place Ajdir











# What do People Want?





# What do People Want?

Questionnaire about the Ksar Loudaghbir as a built heritage and a public space

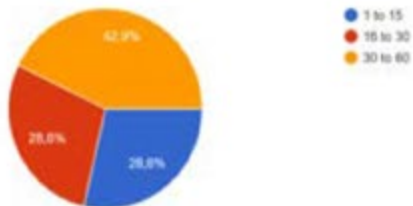
Are you a  
14 réponses



What is your job?  
14 réponses



Age  
14 réponses



How often do you come to Ajdir?  
14 réponses



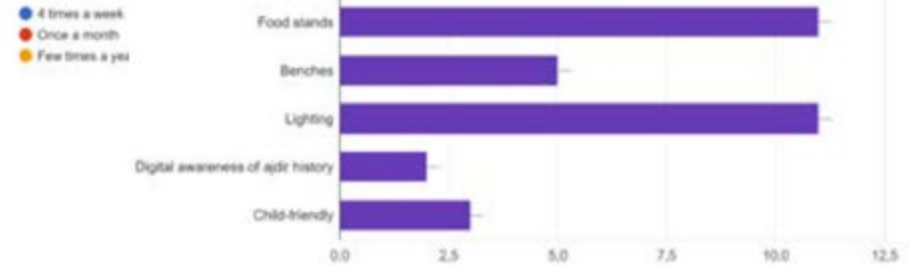
Do you feel secure in Ajdir?  
14 réponses



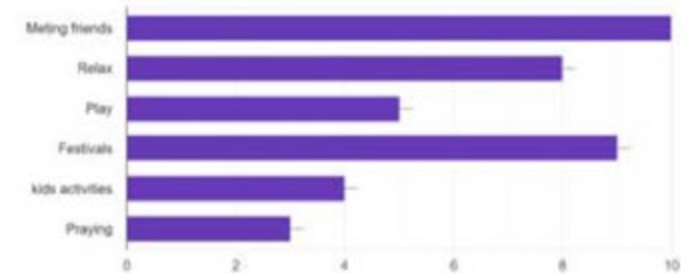
When do you visit Ajdir?  
14 réponses



What do you need to come more often?  
14 réponses



What do you use this place for?  
14 réponses



# What do People Want?

Questionary about the Ksar  
Loudaghir as a built heritage  
and a public space



people

The place is generally used by old women and youth. Female teenagers are not common users of the place.



Time

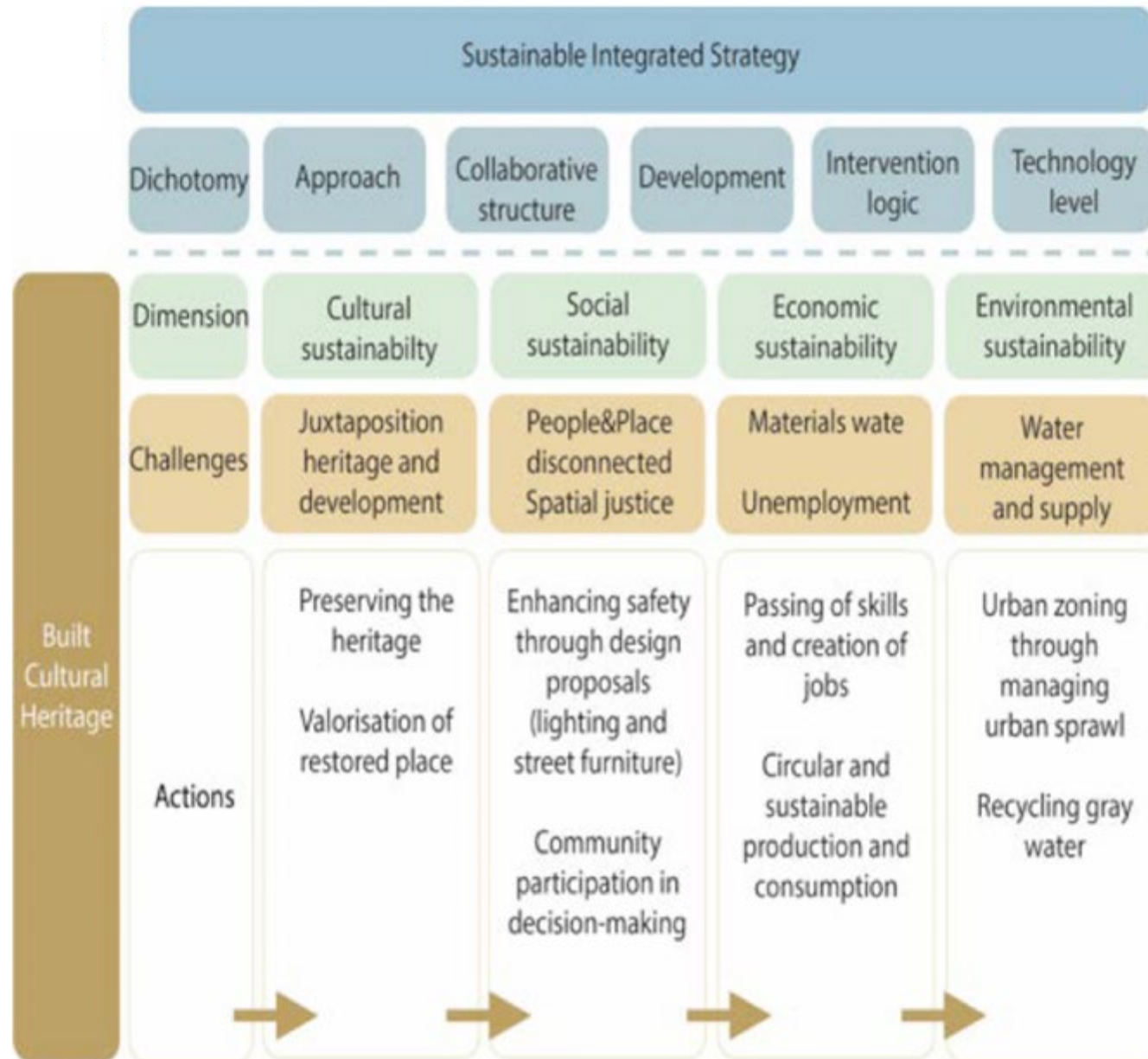
57% only visit this place a few times a year, while 21% of the people are coming to the place 4 times a week. Frequentation is high after the sunset and dies out at night due to lack of public lighting.



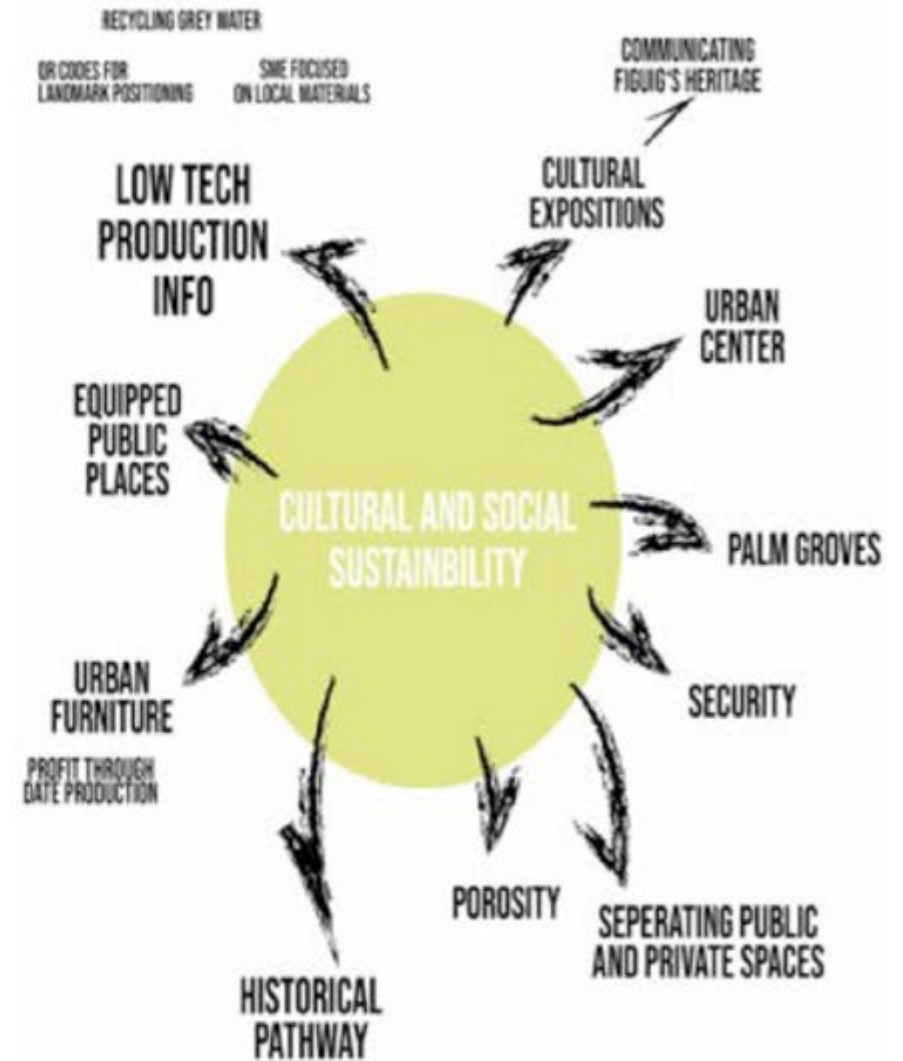
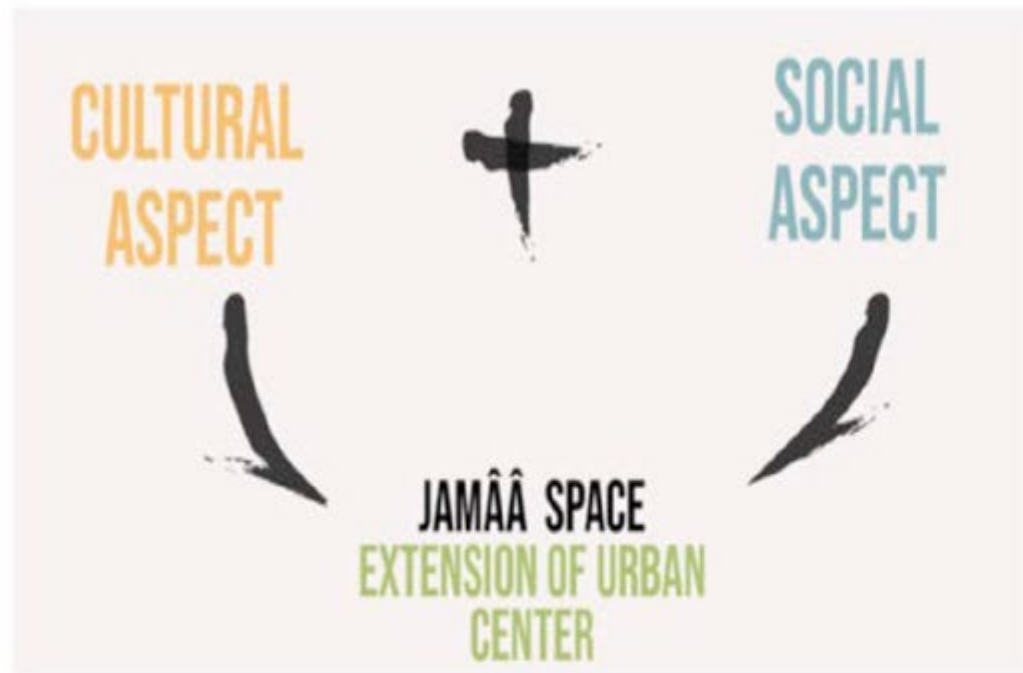
Activities

Users come to relax and meet friends. Users look for other activities/events/ furniture to be implemented; i.e., food stands, festivals..

# Strategy Synthesis



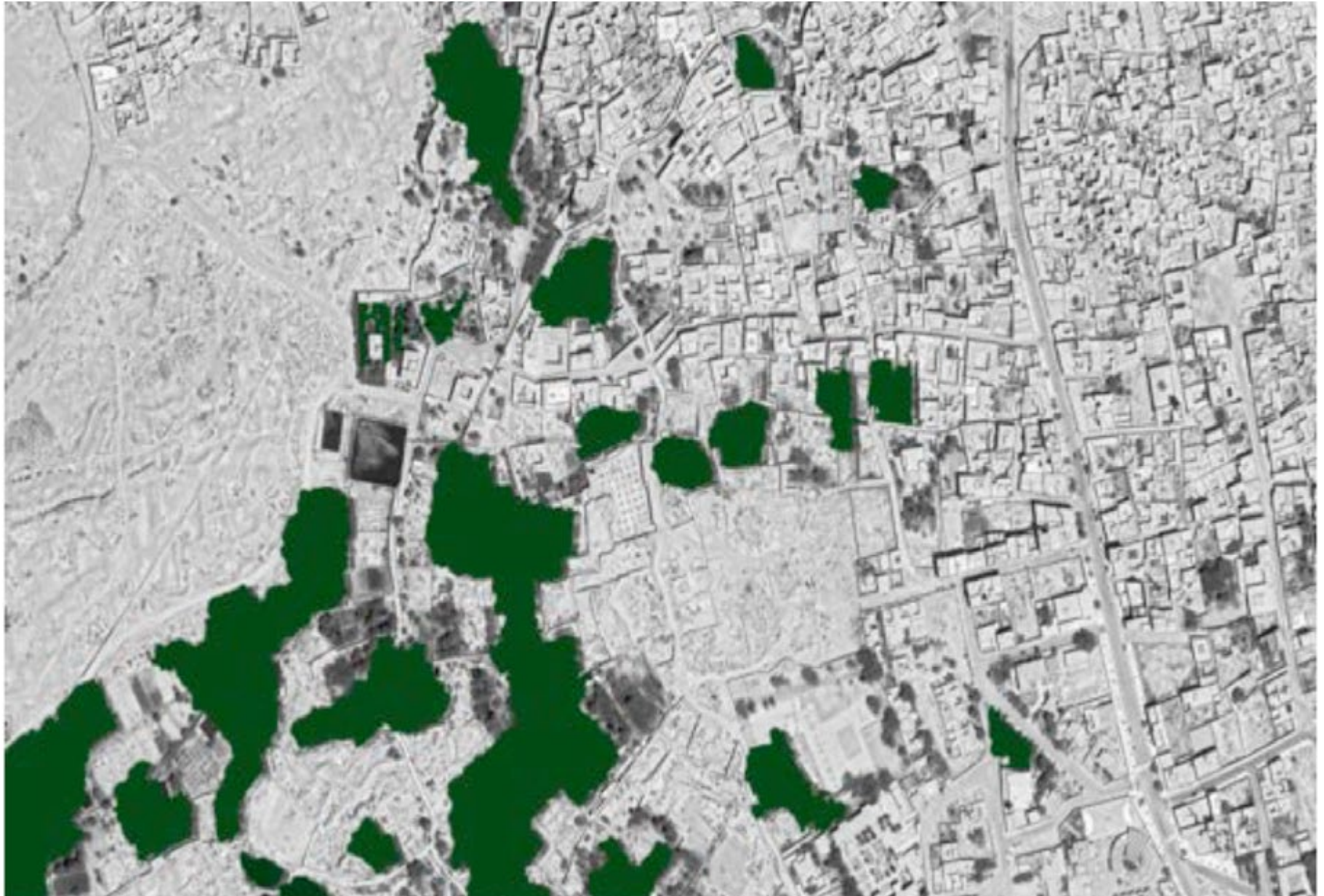








## Existing Palms groves





# Green Porosity



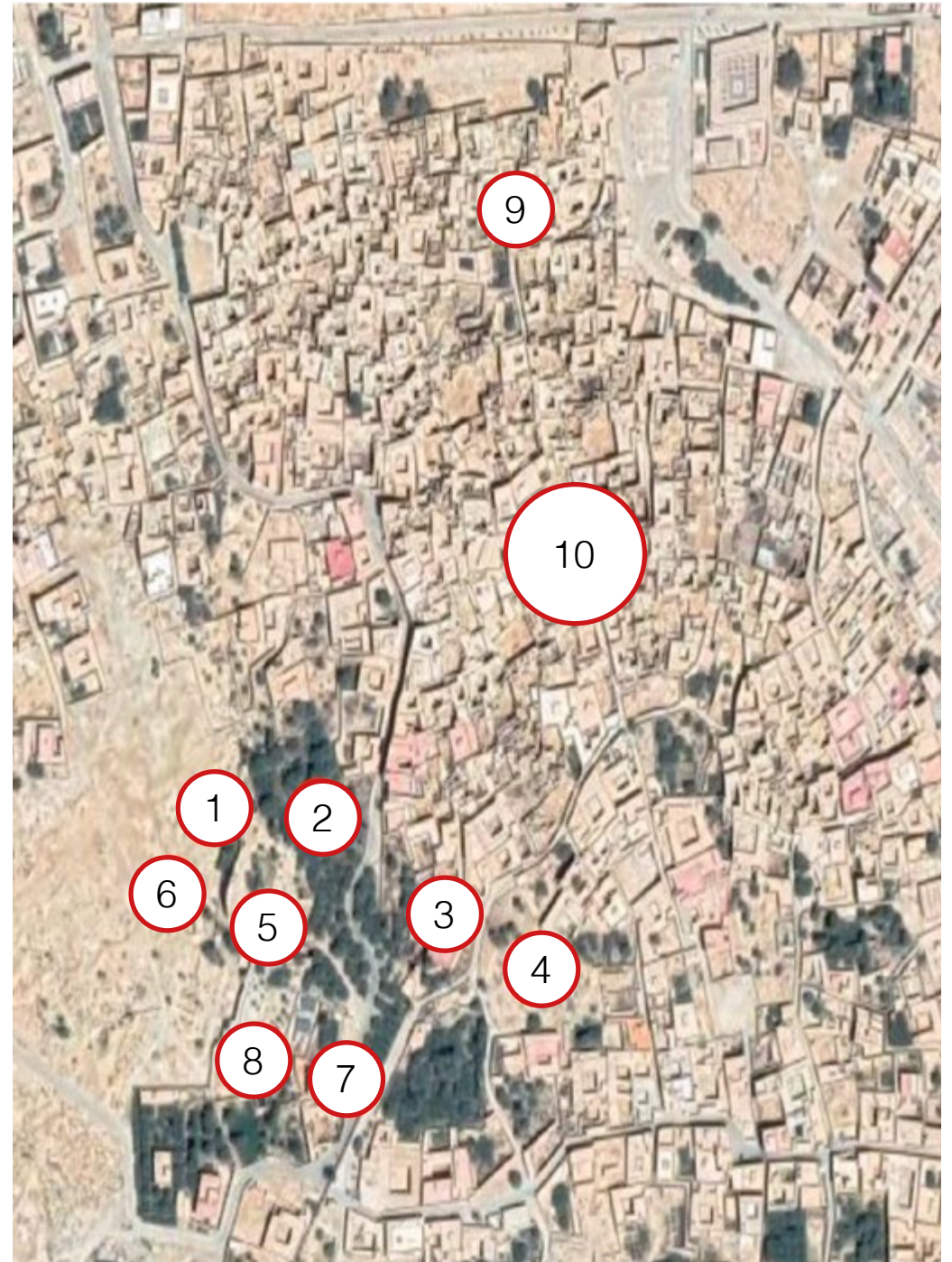


# Actions

## Information Points

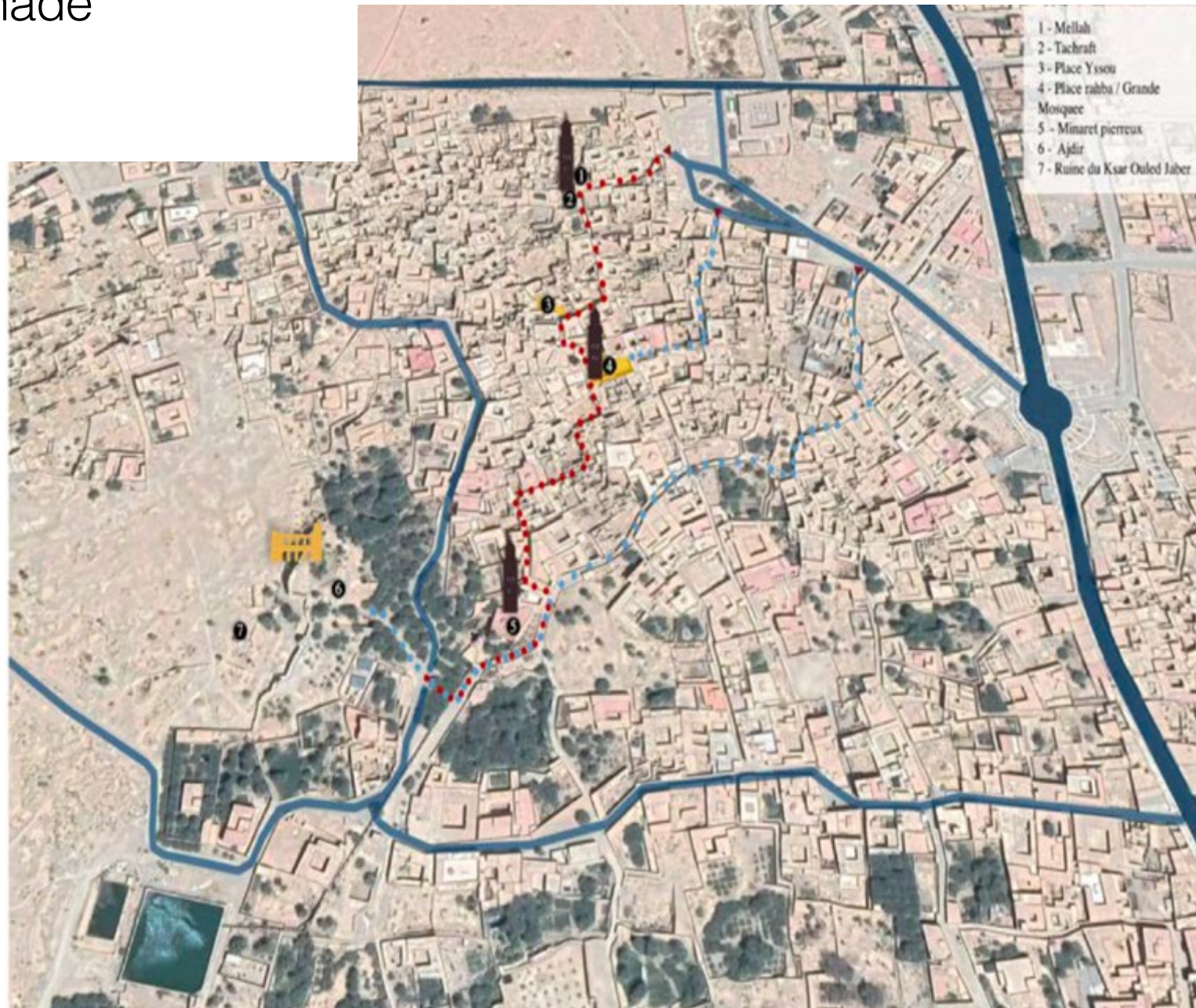
*i*

1. Re-established
2. Palms and their economical aspects on the locals
3. Ouled Zyan Mosque
4. Basin-femme
5. Basin
6. Ruins old disappeared Ksar
7. Aqueduct
8. Re-constructed towers





# Defining the historic promenade





# Smart Street Signs



BEFORE

Example of an  
information board



QR Code :  
Digitalizing  
the heritage



AFTER

Local materials:  
-Palm wood...

# Learning Cities

Valorizing the Architectural Heritage

Using accessible technology to teach local people about the forgotten history of their Ksour.

It is also a way to integrate the new population settling in the city

Tips from the case study:  
Be creative and use innovative yet accessible technology to promote local history.





# Temporary City





# Points of View

Valorizing the Architectural  
Heritage\_Cultural and social  
dimensions



Defining pathways for users.

# New Paths

## Valorizing the Architectural Heritage



Light non-intrusive interventions highlighting valuable ruins and make the site more accessible.

# Arts & Creativity



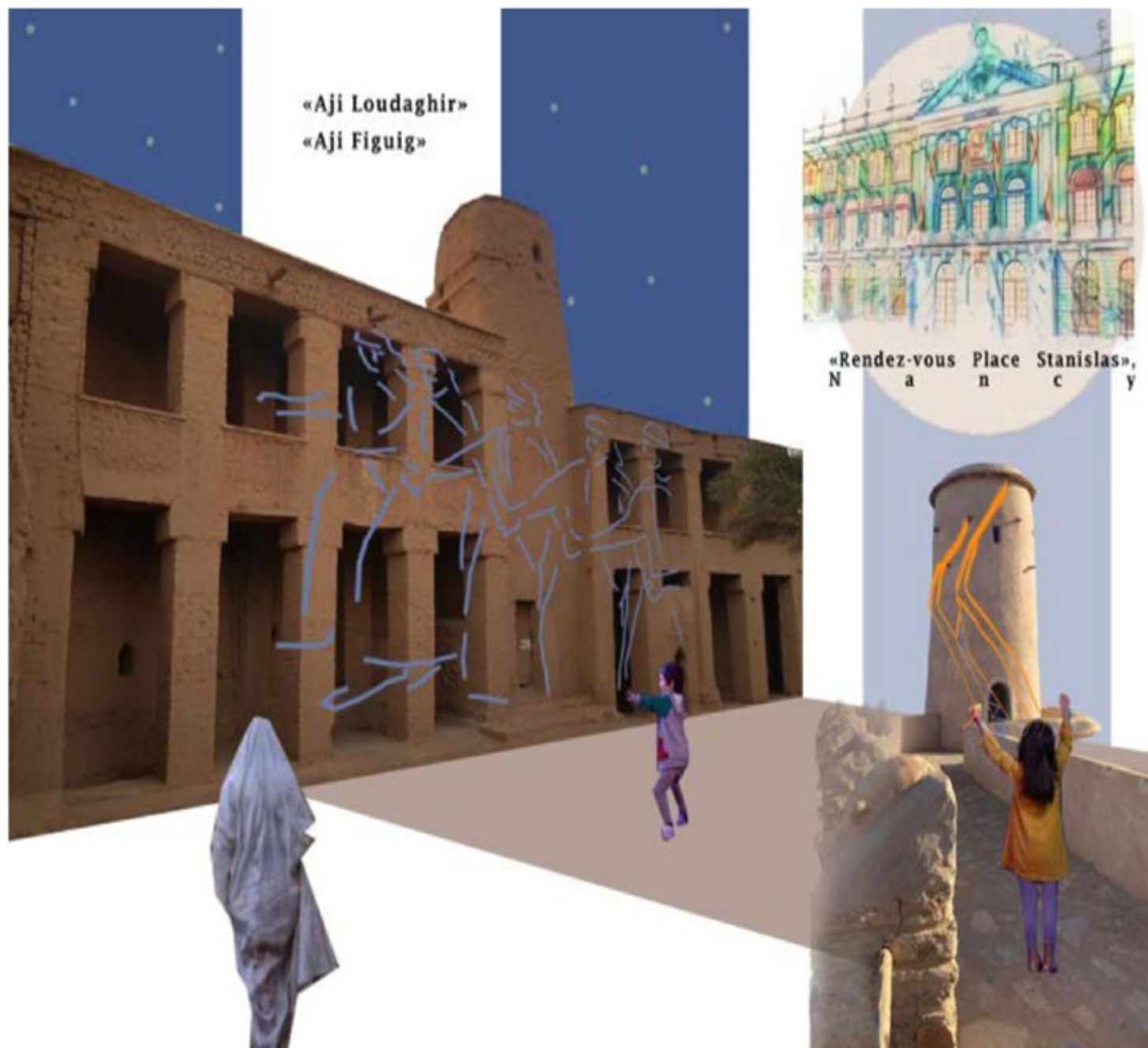
ìTips from the case study :

Use restoration of the tangible heritage as a catalyst for the reinforcement in the intangible heritage and vice versa, use intangible heritage to increase the attractiveness of the heritage site.

Co branding activities and collaboration with artists  
Valorizing the Architectural Heritage Cultural, social and economic dimensions  
Establishment of projection mapping light events.

Source : <https://www.heavym.net/>







Thank You! 4 June 2022