





Beyond the tent:

Re]thinking Architecture of response to]
Service Refugees and their Host Communities

A thesis submitted to the University of Oregon, Portland

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People's choice award, May 10 2014



In all the host countries receiving refugees, the people and the government are divided between the humanitarian duty to help, and the economic burden that imposes on the infrastructure.

How to make helping refugees more convenient for the host communities, who might need help themselves? How to make constructions made to help refugees, more sustainable socially and architecturally? My goal is to explore possible answers through urban design and architecture.

This part of the research explores precedents, and design goals. The second part is the design outcome, explored through drawings and models.

PREFACE

The problem of refugees from two perspectives



TIME, SPACE AND DIGNITY

the crisis and the people

10

TIME, SPACE, AND DIGNITY

" There is a central quality which is the root criterion of life and spirit in a man, a town, a building, or a wilderness. This quality is objective and precise, but it cannot be named. "

Christopher Alexander

The Syrian civil war or Syrian crisis started in March 2011. Since that date, the country of 22 million witnessed the internal displacement of 4.5 million civilians. By the end of the third quarter of 2013, two million refugees are displaced into five neighboring countries: Lebanon, Jordan, Turkey, Iraq and Egypt. Caught in the war, families leave everything behind them and cross the border to the host country. The refugees' situation is known by the United Nations as the worst exodus since the Rwandan exodus 20 years ago.

While neighboring countries have an already suffering infrastructure system, and limited resources, refugees are left to NGOs and volunteers who rely on campaigns to help refugees with their basic needs. In Jordan, Zaatari camp emerged from the desert. It hosts 140,000 refugees (some sources site 100,000 refugees, mentioning that some of the refugees actually returned home). This made the camp the fourth largest "city" of Jordan.

In late August, the plans to build a new refugees camp with better conditions, for receiving more refugees started. The new camp, named Azraq, will host 100,000 refugees. This decision started amongst the political international debate about the involvement of Western countries in a military approach. This showcases not only the fragility of the situation, but its unpredictable turns and indefinite end.

Families with financial resources start a new life where they rent a place to stay, find a job and send the children to school. Other families rely on the hospitality of citizens of the host country, while the majority of refugees live in small unorganized tents. As there are no camps for refugees in Lebanon, refugees seek shelter in abandoned structure, unfinished buildings or empty lots.

The refugees have been living in the kind of camps where tents and dusty roads are the only aspect of urban design. Kids reportedly miss a greener landscape, before the war. A lot of basic human needs are missing, and there is no sense of place where people can start over. In a situation like this, people stop living and switch to a survival mode relying on international organizations' help and kids' labor.

The situation doesn't seem to get any better. Citizens from Jordan or Lebanon are divided between the humanitarian aspect of the situation, and the large burden that it imposes on their respective countries. By the end of this year, one out of every 5 people living in Lebanon is Syrian. Some sources cite that this expectation was exceeded by the end of August 2013.



Refugees camp in Jordan



Refugees camp in Turkey

the urban context

“ Working with scale in this way leads us away from before leading us toward design, as it requires that architects understand something of the diverse systems already in place before they rush in. ”

Marie Aquilino

The majority of refugees in Lebanon are distributed in the Valley of the Bekaa, located in the east of the country with high concentration of agricultural activities. The other part of refugees is living in Akkar, located to the extreme North of Lebanon few kilometers away from the borders with Syria. Both of the locations are relatively safe, with occasional crashes emerging out of a political or religious background. With both of the possible sites being agricultural, there are opportunities for a new urban development where the refugees' camp can be built. Other benefits include wells for water, solar energy and possibility of wind energy in certain spots. These energy autonomy opportunities can release any additional pressure on existing infrastructure, services and resources.

The city needs to express the upcoming population using it.

In this particular case, Lebanon and Syria share some urban and architectural aspects.

The proximity of the two countries provides to certain extents the availability of similar materials and craftsmanship.

Designing a refugees camp is also about designing for people, who are invisible.

It means designing for a refugee, an elderly or a child. Making the place not only bearable, but livable. Creating a safe place, not permanent home, but a safe space.

The point behind “building new” is to allow expansion if needed without permanently damaging any existing urban fabric of old Lebanese cities. In the research, I will look over what designing new means, and the symbolism of the location close to the Syrian borders.



Agricultural Lebanese village



Agricultural land in Lebanon

the vision: now and beyond

“ Scale also tells us where we can be open and fluid and give into chaos. Scale then is the narrative, the story of the place. ”

Marie Aquilino

The main problem is dealing with time and space, and dignity.

This is not an emergency type of architecture.

Time means temporarily, but also flexibility since a big budget will be invested in this project. Space is dealing with the needs of refugees, with dignity and respect while keeping a mind that this is a host country, and a resettlement in new lives or even to their original country is important, especially after war comes to an end.

Urban vision

With this large number of refugees, I envision a new city emerging independently in the vast agricultural valley. The location would be beneficial for energy autonomy, and work opportunities. The landscape could bring peace to the displaced and wounded. A system of roads maintains the circulation within the city, using local materials and low impact substances.

Architectural vision

The camp is divided mainly into two parts.

The dominant part is the residential part, where families live together with access to natural lighting, proper ventilation and clean water. One approach is to designate families and neighbors originally from the same city and allocate them adjacent units.

The other important part of the camp is the amenities presented to help people recover both emotionally and psychologically. With more than 50% of the refugees being children, spaces will be designated to receive NGOs, such as Mercy Corps, to teach them and prepare them to be back to school. Most of the families are headed by the mother, with absence of male spouses. Areas for women's activities and wellbeing are to be designed, in proximity of the residential part.

What does that make of Lebanon?

What could be an architectural vision for the refugees' camp, which usually have a life span of 12 years?

One valid option is to treat the city after its vacancy as an adaptive reuse project. Part of the project could be subsidized for Eco-tourism, while the other part could be retrofitted for limited income housing for Lebanese citizens. With proper funding and studies, this could be the first Eco-tourism and energy efficiency low cost city in Lebanon.



Ecovillage initiative in Lebanon- Greenpeace



Agricultural workers in Bekaa, Lebanon



Eco-roof in Lebanon

the vision: now and beyond

" Rarely do disasters just happen- they often result from failures of development which increases vulnerability "

Hilary Benn, UK secretary of state of international development

Programmatic vision

The number of tourists in Lebanon for the years from 2010 to 2012 is respectively 2.3 M, 1.3 M , and 1.7 M. These are Great numbers for a small country of 4 million citizens. All of that was before the situation declined in neighboring countries. The country services and banking sector, primarily fed by tourism, is suffering amid the region's insecurities.

In 2013, more than 1 million Syrian refugees are in Lebanon.

After Iraq war, about 50,000 Iraqis mainly distributed on families moved to Lebanon.

The war in Egypt has its toll on Lebanon as well.

After the Israeli-Arab war in 1948, 300 000 Palestinians settled in Lebanon.

Who and for who?

Over 80 international organizations are working in Lebanon to support refugees across the country. Volunteer driven initiatives, led by Lebanese concerned youth are also a common way of helping

refugees.

In several attempts, I will be trying contacting UN-HCR, Mercy Corps and UN-habitat.

Another organization is Syria Humanitarian Assistance Response Plan (SHARP).

If agreed, they could act as my client by answering my questions and helping understand a refugee's need.

Update:

I contacted UN-Habitat Lebanon, and was able to obtain unofficial information. The main concern was to involve Lebanese host communities in the benefit of helping refugees. That was a major information that redirected the intention of my project.

Program

- Housing units for 7,000- 10,000 refugees (numbers to be checked upon application on site);
- Public open space kept hygienic;
- Open space between housing units;
- Community center for psychological support;
- Children's school and activity center, with flexible classrooms. Schools in this case are run by International Educational Organizations and run by shift in order to accommodate the large number of students.
- Internet and media center;
- Woman crafts center
- Water and electricity center
- Offices for NGOs and security for the camp
- Expansion towards agricultural fields, to be treated as community spaces.

As discussed above, the phase of recovery will overshadow the design intent of my proposition.

What happens next is of great criticality for the feasibility of the project. How to avoid turning these settlements of humanitarian goals into a phantom city after resettlement, or even worse, into slums during its usage? The answer is very complicated: through policies and design implemented simultaneously.

A good planning is the first condition for a good disaster prevention management.

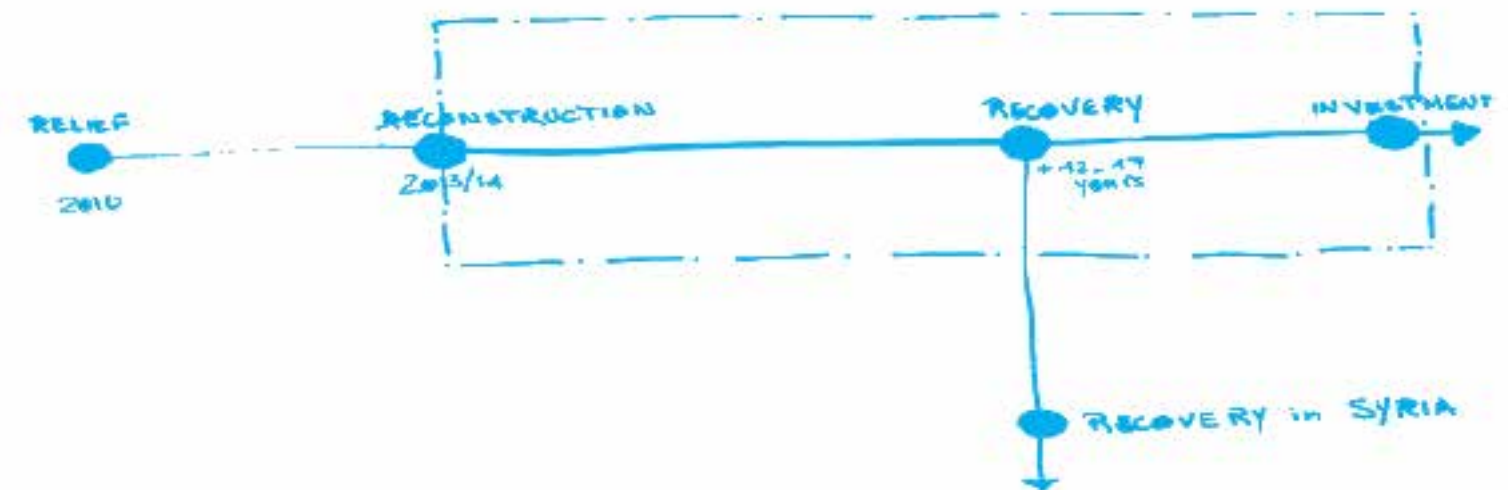
- Engaging local markets for construction and post-resettlement usage;
- Training local builders and providing work opportunities;
- Long-term planning instead of short-term action;
- Decent, durable and culturally appropriate for both the guest and the host cultures;

- Design a permanent place: the temporarily of the project is to be induced through governmental policies and in-situ relief work;

- Climatically suitable and inexpensive to maintain.
- Planning for the immediacy of the situation, with keeping in mind the multi-phased adaptive reuse possibility: the project can be turned later into an Eco-tourism hub (a booming sector in Lebanon), an environmental school or a low-cost housing targeting young professionals. That creates a strong sense of viability, turning a symbol of discontent into a unique place benchmarking sustainability.

Update:

The project in the design phase is an agroforestry campus that benefit the host community and the refugees at the same time.



the thought and the action

“ Scale also tells us where we can be open and fluid and give into chaos. Scale then is the narrative, the story of the place. ”

Marie Aquilino

The thought

After three years to the start of the violent crisis in Syria, one million refugees crossed the borders towards the smallest neighboring country: Lebanon. Today, one in every 5 people living in Lebanon, one is a Syrian refugee. Half of these refugees are children, with the humanitarian problem projected to escalate. With large systematic camps in Jordan, and the lack of formal shelters in Lebanon, a big role of relief and recovery work should be done not only through non-governmental entities, but also architects.

The action

Historically, some post-disaster settlements caused serious mental and physical discomfort or illnesses to their users. Problems are usually caused by the poor land choice, the degradation of the built site and the massive neglect and waste cause by the usage. Therefore, I think erecting durable and secure buildings is more responsive to the refugees' needs. The (re)generation in response to the disaster:

“What does it mean to be safe? Safety is not only anchored in better technologies or better buildings. Safety lies somewhere where beyond shelter, in the freedom of being secure enough to relax, play, aspire and dream.” Marie J. Aquilino.

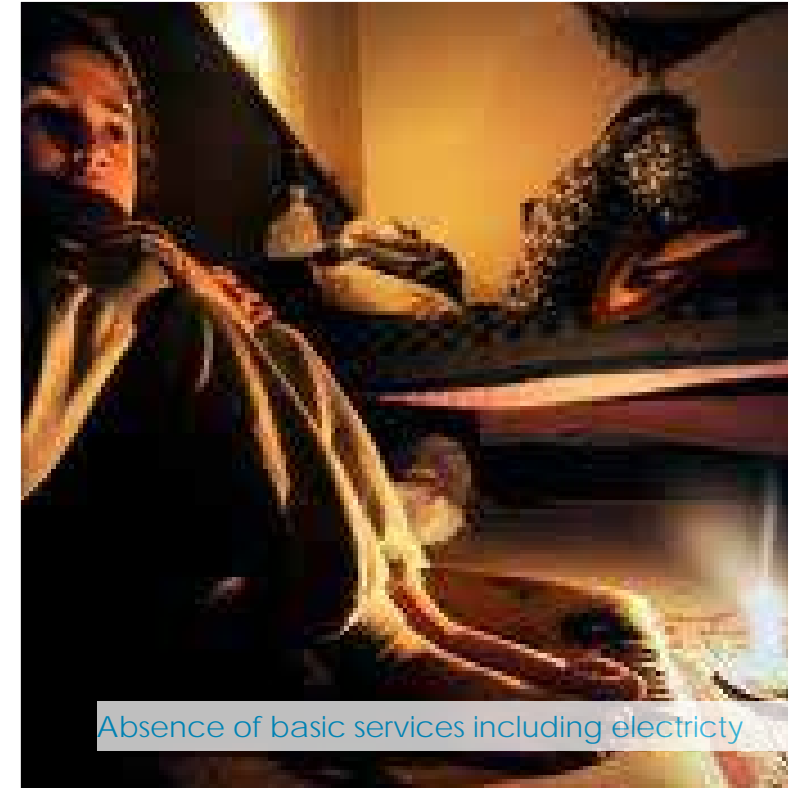
To answer the question of regeneration in a post-disaster case, one must think of three phases: Relief, Recovery and Reconstruction. In the case of Syrian refugees in Lebanon, this scenario doesn't work well. As the problem started two years ago, no initiative was taken to provide relief for the coming masses. The phase of relief happened in an improvised way where Lebanese citizens helped Syrian who just fled their country, and other youth-led and international NGOs.

The phase of Recovery is undergoing at this moment, especially if the war in Syria deescalates. It is the right time to help the people in need of medical treatment, continuous education and psychological support. Above all, it is time to present a housing solution where people can be safe, decent, humane and beautiful.

The final phase of reconstruction in this case is tied to the geographical location. The physical reconstruction for Syrians can only be done in their country. Depending on individual cases, some refugees might seek a figurative reconstruction of their lives by starting a new life in their host country (Lebanon, Jordan, Turkey, Iraq and Egypt), or use it as a gateway to countries in Europe (Germany for example is receiving and re-integrating 5000 Syrian refugees as of September 2013).

So how can Recovery be Regenerative? And, what exactly is it regenerating?

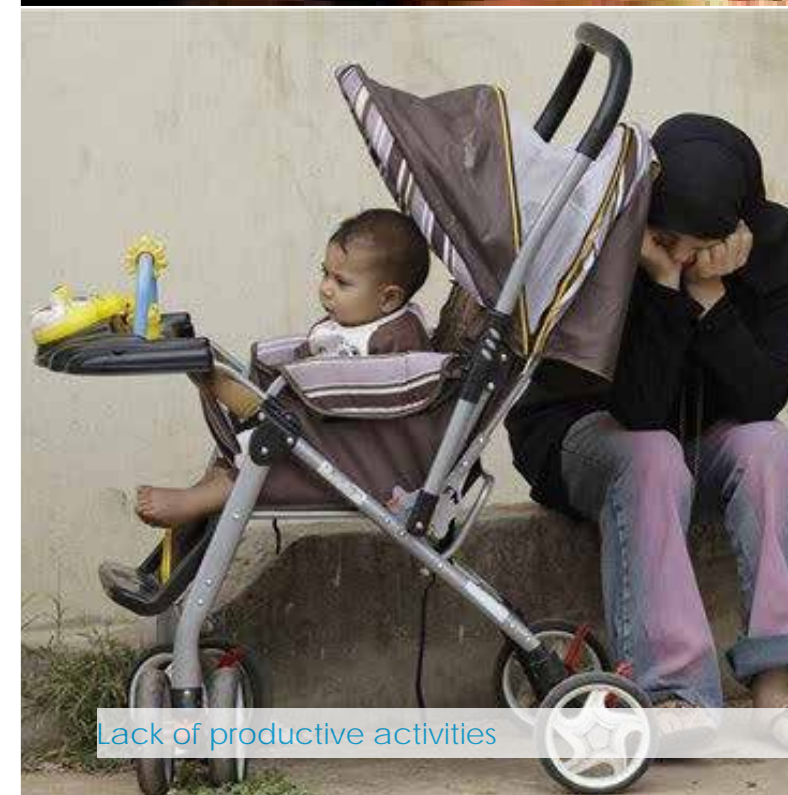
Creating a new normal, even if untied to the original disturbed place, is a good start for regenerating safety, life and possibly growth of the victims. Throughout planning, construction and usage, a participatory approach with the future residents should be encouraged.



Absence of basic services including electricity



Lack of clean accessible water



Lack of productive activities



Crowded temporary tents



LESSONS FROM HUMANITY

In a recent interview, Aquilino shows shocking facts: 200,000,000 People affected in the last 10 years by natural disaster: 98% of which live in developing world. The Japan tsunami, and the chain of disasters that followed, is a proof that even developed countries with high level of preparedness are vulnerable facing natural disasters.

Over several projects, like the construction of post-earthquake permanent homes in Peru or the Aga Khan award winner center for cardiac surgery in Sudan, two shifting principles occur:

1. Shifting the thinking from short term response to long term planning for resilient development;
 2. Requiring shared expertise on the ground, including social workers, architects and planners.
- This means that the process is shifted from a fragmented process of thought and action, to a well-orchestrated resilient response.

LESSONS LEARNED

Marie J. Aquilino describes in her book few principles to a successful humanitarian built intervention. The summary is as follows:

1. At first, design nothing. Just listening (and re-searching) what the people want. Let the people choose. They might not want vernacular, they might only want exactly what they had before. Letting the people be at the center of their own recovery is of great psychological value.
 2. Permanence is an important step in humanitarian design. Victims of a disaster have the right to permanence and returning safely.
 3. Use innovation when only needed. That allows better use for money where needed.
 4. Set goals for the design to achieve.
- For my thesis topic:
- Engaging local market;
 - Training local builders, of both the host and the guest communities;
 - Every structure functions within a larger development scheme;
 - Not enough long-term planning

After the disaster

Immediate response usually carries poor spatial planning and material selection. This leads to abandoned, unused or collapsing structures. An example from the book is "Microwave residences" that are often built in hot flood regions, with no consideration for local materials or human comfort. Another example is after the tsunami in Sri Lanka, when money donations exceeded the needed amount; the government relocated a fisherman village inshore. Families depending on fishing to survive and live lost their source of income. In the same country and due to lack of coordination, more than one hundred perfectly sound living units were restored by one NGO, only to be torn down and replaced by another NGO few weeks after. Other examples worldwide show environmental problems leading to deforestation or water pollution. Social problems and crime are also a result of poor planning and arbitrary responses.

Lesson: I should look into precedents. A lot of cases are known for failing, and the reasons are known. Analyzing these cases might help. Also, trying to understand why the successful interventions worked is even better.

Post-tsunami houses in Sri Lanka





LESSONS FROM HISTORY

Bourj Hammoud, Lebanon

The Bourj-Hammoud district is the immediate eastern geographical extension along the Mediterranean coastline of Beirut, the Lebanese capital. Bourj Hammoud and Beirut are separated by the Beirut River.

It currently houses a large population of 90,000. The area forms a compact district and extends over 2.4 square kilometers. As part of the greater Beirut conurbation, it presents distinctive traits linked to its location and socio-economic characteristics, hence the challenge of its development.

Until early 20th century, Bourj Hammoud was an agricultural area and marshlands, with scattered individual settlements. It was owned by rich Lebanese families. After 1928, Armenian refugees who had survived the Ottoman persecution started settling in the area, in compact quarters organized in regular gridiron patterns, each populated by natives from a village in their original homeland, which gave its name to each new quarter. Small houses had a frontage on the street, with handmade crafts to be sold, and a small residential part where family lived and worked.

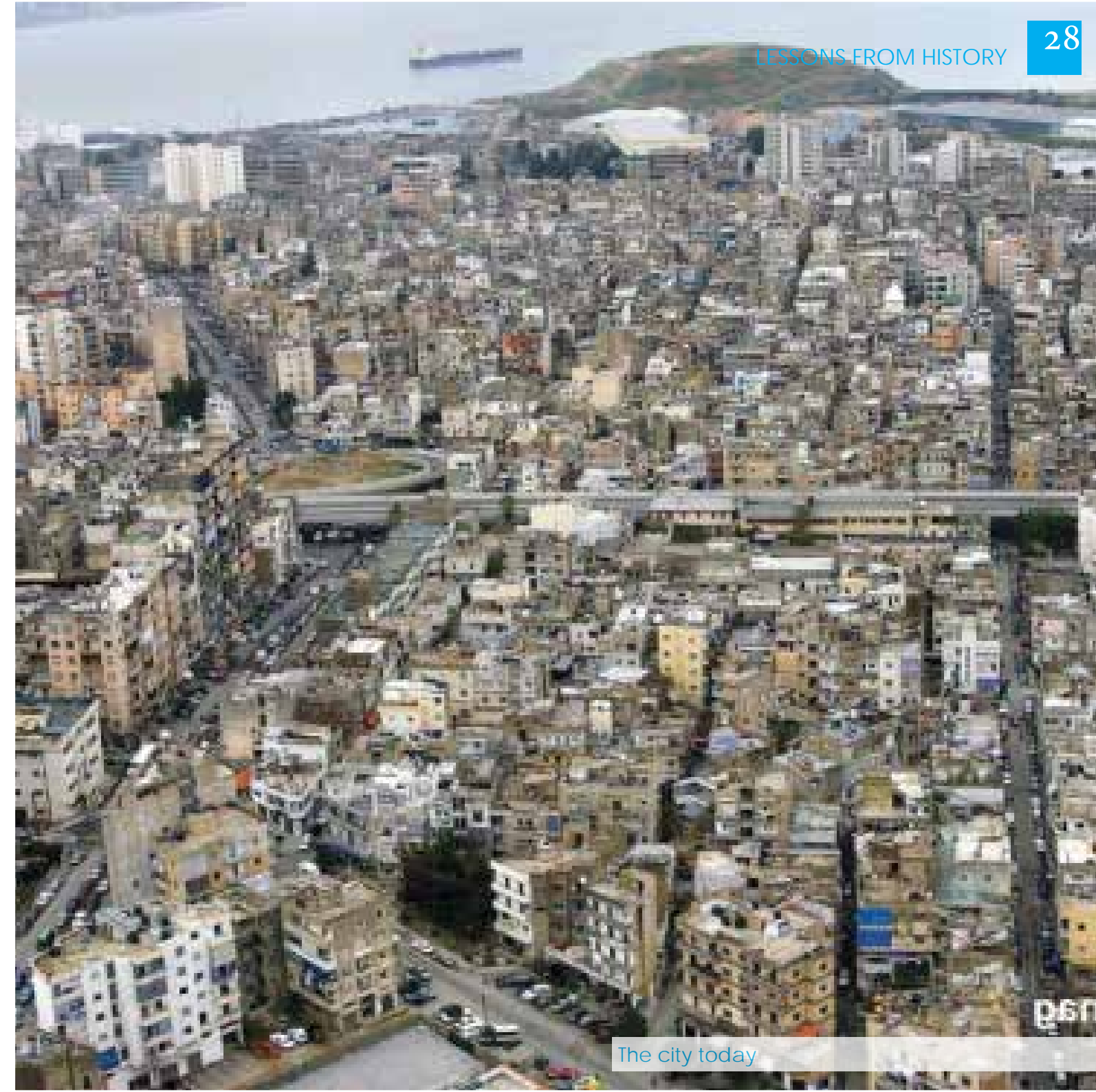
In mid-forties, internal migrants from rural areas were attracted by employment opportunities in and around Beirut, at the same time part of the population migrated to Armenia. The district is generally considered as a popular area that has evolved from a settlement with makeshift shelters to a densely populated area, an active commercial pole and an in-

dustrial and handicraft activities hub.

According to Bourj Hammoud municipality, the district is constituted from nine quarters, it extends on a plane along the Beirut River to a depth of around 2 km from the seashore, within a width varying between 0.9 and 1.3 km. These are low lands where the water table is not deeper than 1.5 meters from the surface soil level.

The following is the description of the land use, as provided via the municipality's website:

"The parcels' sizes vary predominantly between 30m² and 130m² with larger parcels varying from 900m² to 1500m² on the peripheral areas mainly along the Highway with few large parcels scattered in the area are occupied by various institutions. The few existing open spaces are the intersections of the major roads, some of them landscaped including sculptures or artworks and managed by the municipality. The area is nearly saturated with buildings except for few free parcels on the peripheries. Most buildings are attached along the streets, mainly two to three floors height in the west and the middle of the District, and four to six floors height at the east and peripheral areas, with a number of small flats in each building. Taller buildings have recently emerged along the northern edges mainly fronting the highway and mostly for office uses. "



The city today

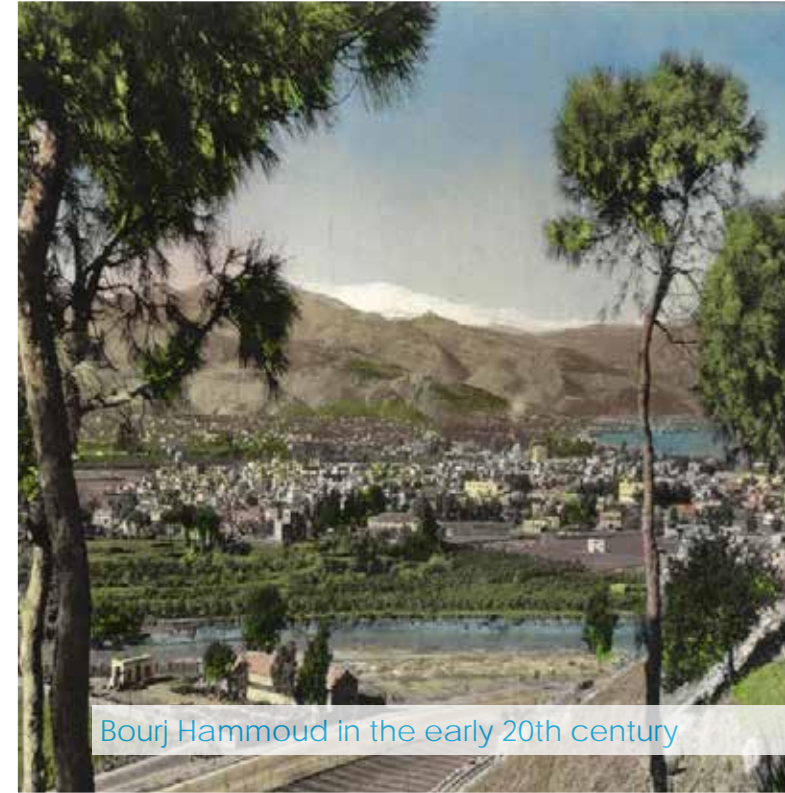
Bourj Hammoud, Lebanon

Until this day, Bourj-Hammoud is considered an active trade and production (mainly handcrafted) hub in Lebanon. With the majority of it being residential, the area has witnessed gradual transformations where mixed-use became common. Among the main roads (with the exception of few internal narrow streets) an intensive growth of commercial activities and hand-craft production workshops transformed the district into an active and known commercial hub. The spectrum of goods produced is varied, contributing to the liveliness of the area and, at the same time, some conflicts among few incompatible activities.

Remarks:

The project designed during the thesis is not intended to always be used by refugees. This is then a big difference between the thesis topic and Bourj Hammoud, and exceptions of design principles need to be made.

- a. Evolution of refugees settlement during time;
- b. Integration of multi-use spaces and commercial and production related activities;
- c. Large area of a major city occupied by a part originally planned for refugees: relationship to existing infrastructure;
- d. Aspects of daily life in Bourj Hammoud can be applied as lessons in my thesis design;
- e. Maintaining a cultural identity to original country, while integrating well into society.



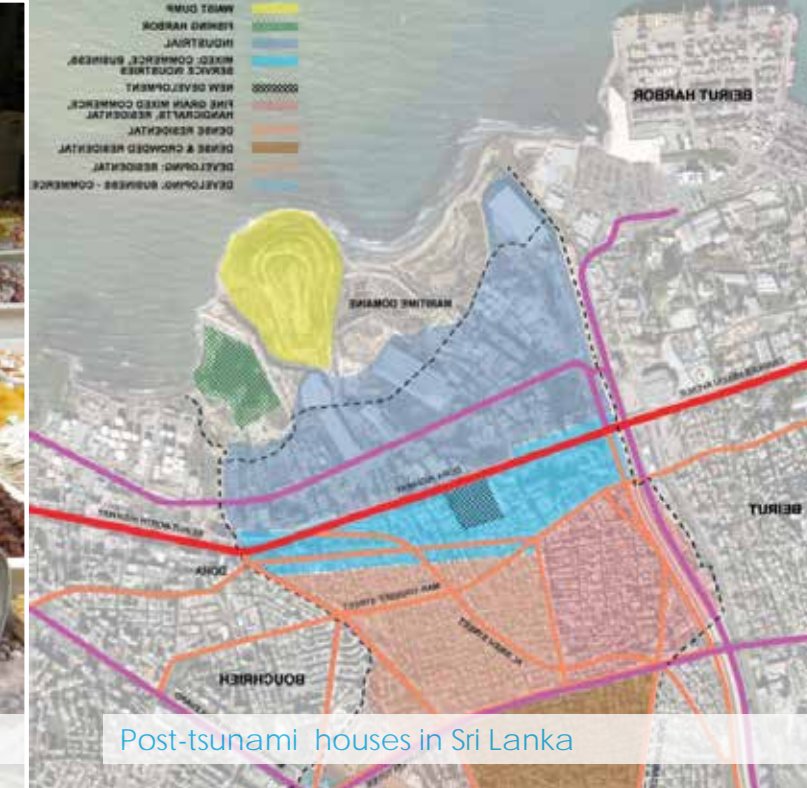
Bourj Hammoud in the early 20th century



Aerial view of Bourj Hammoud and Beirut



Local market



Post-tsunami houses in Sri Lanka

Nahr el Bared, Lebanon

The Nahr el Bared area is a 19-hectare refugee camp located in Northern Lebanon. It was first established in 1948 to host refugees from the Lake Huleh, in northern Palestine. Until 2007, it housed 27,000 Palestinian refugees.

During 2007, the camp was totally destroyed after a summer long conflict between the Lebanese Army and an extremist group (mainly formed of non-Palestinians). Thousands of families were forced to abandon their homes and seek temporary refuge at another nearby camp.

In 2008 the United Nations Relief & Works Agency (UNRWA) embarked on an ambitious project to replace the buildings that had been destroyed. Working alongside the community-based Nahr el-Bared Reconstruction Commission, the team developed an eight-phase master plan for 5000 houses, 1500 shops and six school complexes.

The project is nominated for Aga Khan award for Architecture.

The original camp followed the extended-family pattern and building typology of the refugees' villages. By reconstructing what was destroyed and introducing better architectural qualities, the reconstruction is successful.

The first families began returning to their homes in 2011 and the first three completed schools opened to students later the same year.



Nahr el Bared, Lebanon

Limited land and the exigency of recreating physical and social fabrics were primary considerations. The reconstruction includes:

- The reconstruction of the residential units and shops after meeting with residents, to recreate the same organization they had (adjacencies, proximity to shops and neighbors)
- The replacement of all infrastructures for the camp (water networks, sewage networks, electricity grid)
- Increasing the amount of public space surrounding the buildings from 11% to 35%
- Introducing a system of independent structures that can be extended up to four stories. These structures had the same location as the plan before the destruction, but their footprints are reduced to allow ventilation and open spaces.

The project was successful because of:

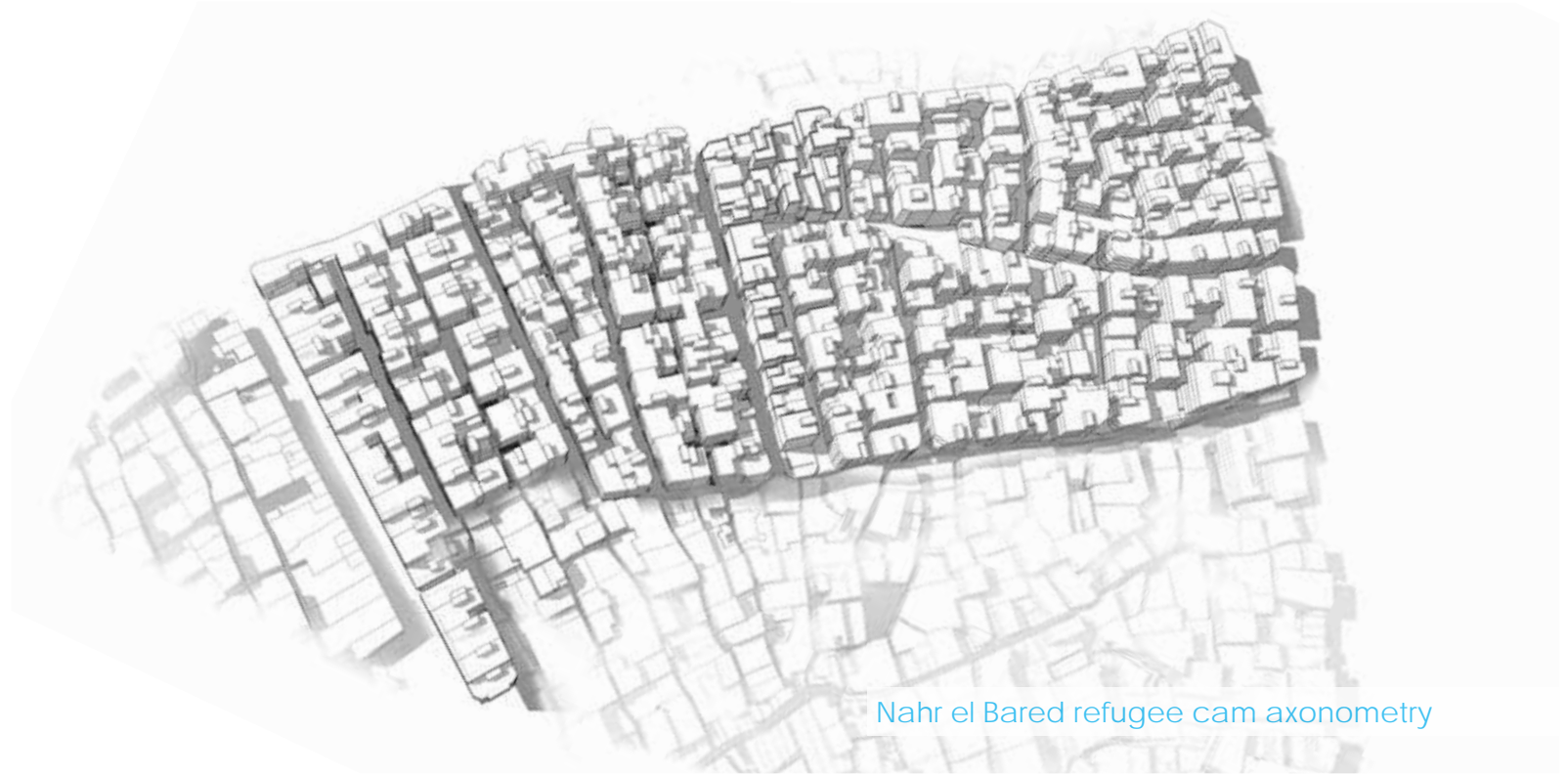
- a. Participation of community in the choice of their new home;
- b. Integration of sustainability in the new design approach;
- c. Consideration of green spaces and important aspects related to quality of life as a major component in the recreation of the destroyed part;
- d. Application of "using innovation only when needed" rule- that helped limit the budget while keeping the dignity of living in a refugee camp;
- e. Usage of low cost and low maintenance local materials- probably usage of local workers as well.



The camp after construction



Post 2006 devastation area



Nahr el Bared refugee camp axonometry

Zaatari Refugee camp, Jordan

Zaatari is a refugee camp in Jordan, located 10 km east of Mafraq. It was first opened on July 28, 2012 to host Syrians fleeing the violence in the ongoing Syrian civil war that erupted in 2011. On July 4, 2013, the camp population was estimated at 144,000 refugees, making it Jordan's fourth largest city. It is connected to the road network by a short road which leads to the highway 10 OSM.

The camp features market-like structures along the main Street where goods like vegetables, basic household equipment and clothes can be purchased, and coffee shops.

Since the opening of the camp in July 2012 there have repeatedly been demonstrations held by the camp population. The main concern relates to the lack of sufficient food supplies and better accommodation. The camp has seen an increasing number of reports of crime, including prostitution and drug-dealing. Furthermore demonstrations are used as a forum to create awareness of the conflict and to express political views.

Due to the maximum capacity of 60,000 refugees a second camp was built 20 kilometres east of Zarqa in the Marjeb Al Fahood plains.

UNHCR remains responsible for the refugees and the camp is managed by the Jordanian Hashemite Charity Organization / JHCO. In March 2013 the UNHCR called the German Mr Kilian Kleinschmidt to be the "Senior Field Coordinator" of the camp.[13] Other actors include:

- a. Multi-disciplinary coordination between different governmental and non-governmental organizations;
- b. Quick realisation of the plans, but this came at the expense of the architectural and urban quality, as expanded on in the remarks section

Remarks:

The Zaatari camp is the 4th largest refugees camp in the world. A close reading of the situation shows the low sanitation conditions, lack of activities for residents, crime rate, lack of human rights (women and children specially).

There is a tremendous lack of recreational facilities, shades, green spaces and refreshing water elements.

In this case, it seems that this is a case to learn from, by avoiding the mistakes that were done.



Zaatari camp in last quarter of 2013

Zaatari Refugee camp, Jordan

Community Mobilization:

InterSOS is in charge of the winterization campaign.

Medical:

- Médecins Sans Frontières (Doctors Without Borders)
- French military field hospital providing a “surgical unit specialised in treating war injuries
- Moroccan military field hospital
- Italian Field Hospital
- UAE Red Crescent
- Jordanian Red Crescent
- Handicap International
- IFH Noor Al-Hussein Foundation, Partner with UNHCR, UNFPA
- Two clinics operated by UNFPA for primary health care and reproductive health care

WASH (Water/Sanitation/Hygiene) coordination and overall responsibility:

- Unicef
- Federal Agency for Technical Relief THW constructed 160 kitchen units and 380 toilets. was

- MSB
- MercyCorps

Food:

- WFP

Hygiene Promotion:

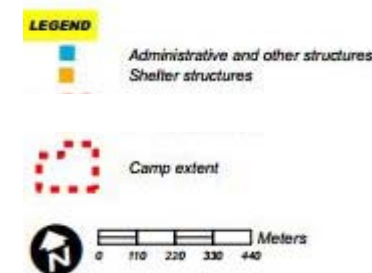
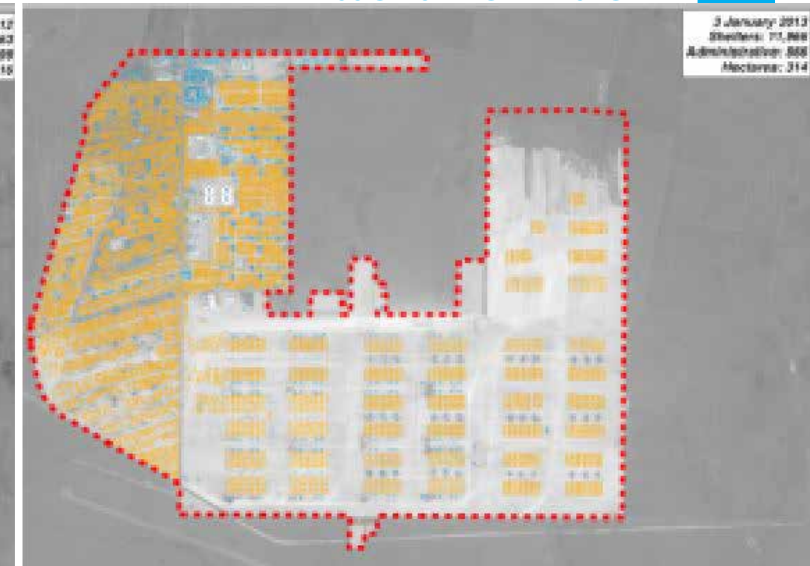
- ACTED responsibility lies in the field of water treatment, water testing and waste management (liquid and solid).

Education:

- Unicef
- SCJ / Save the Children - Jordan “is working to enroll children of Syrian refugees in the Zaatari Refugee Camp in schools” as a part of “the educational outreach programme”
- IRC / International Rescue Committee is active in assessing the extend of gender based violence
- IOM International Organization for Migration
- UNFPA

Others

- ICRC is tracing families and relatives of refugees.



Evolution of Zaatari camp in 2013



A PATTERN LANGUAGE

A pattern language

A pattern language gives each person who uses it the power to create an infinite variety of new and unique buildings, just as his ordinary language gives him the power to create an infinite variety of sentences.

The language, like a seed, is the genetic system which gives our millions of small acts the power to form a whole.

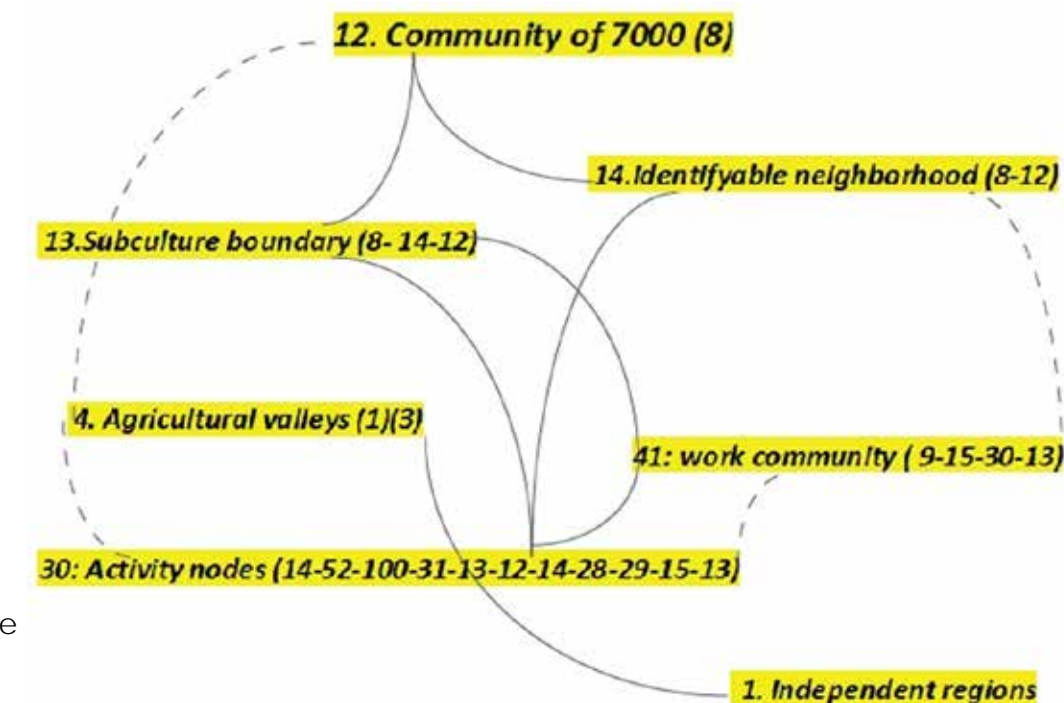
Part 1: Choosing a Language for the Project

These patterns are patterns chosen as a reference for more detailed pattern selection. From this list, six were chosen as the direct response to the urban design level of my project. The patterns in bold are patterns applied on an urban scale level, which is the first phase of the project.

1.Independent regions
2.The distribution of towns
4.agricultural valleys
5.lace of country streets
8.mosaic of subcultures
9.scattered work
11.local transport areas
12.community of 7000
13.subculture boundary
14.identifiable neighborhood
15.neighbourhood boundary
18. network of learning
19.web of shopping
24.sacred sites
25.access to water
26.life cycle
27.men and women
28.eccentric nucleus
29.density rings

30.activity nodes
31.promenade
32.shopping street
34. interchange
36.degree of publicness
38.house cluster
41.work community
45.Necklace of community project
46.Market of many shops
47.health center
51.green streets
57.children in the city
60.accessible green
61.small public square
62.high places
67.common land
69.public outdoor room
71.still water
72.local sport

96.number of stories
99.main building
100.pedestrian street
104.site repair
106. positive outdoor space
107.wings of light
108.connected buildings
112.entrance transition
114.hierarchy of open spaces
120.paths and goals
122.building fronts
124. activity pockets
126.something roughly in the middle
129.common areas at the heart
131.the flow through rooms
163.outdoor room
164. opening to the street
105.structure follows social spaces
206.efficient structure
207. good material
146.climbing plants
253.things from your life



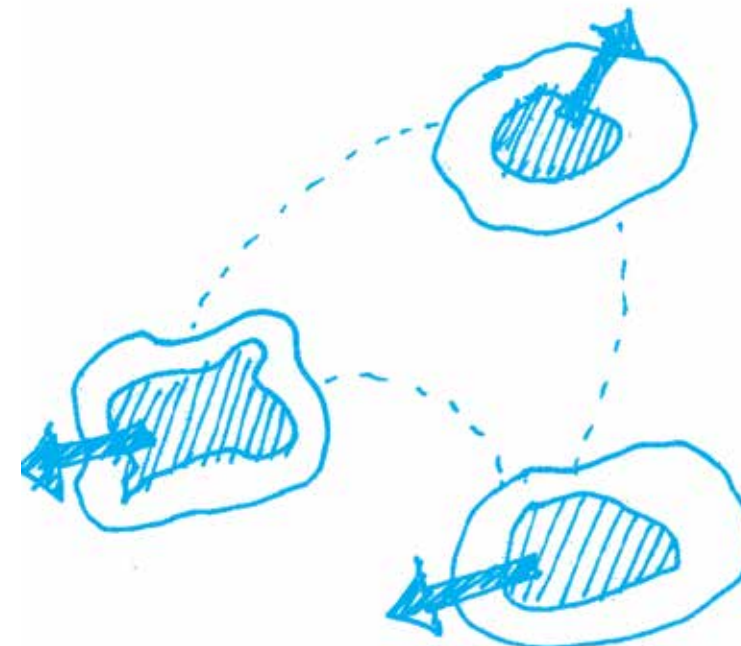


Independent regions



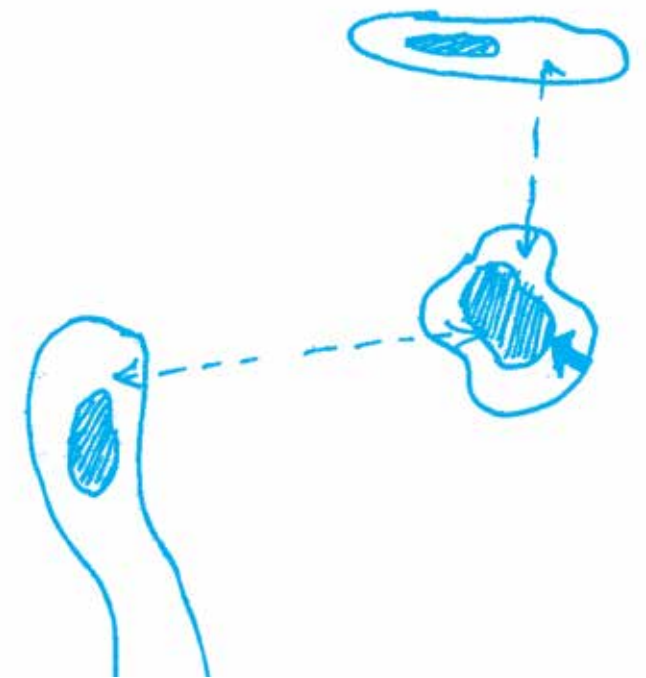
Problem

Metropolitan regions will not come to balance until each one is small and autonomous enough to be an independent sphere of culture.



Solution

Wherever possible, work toward the evolution of independent regions in the world; each with its own natural and geographic boundaries; each with its own economy, each one autonomous and self-governing; each with a seat in a world government, without the intervening power of larger states or countries (2)



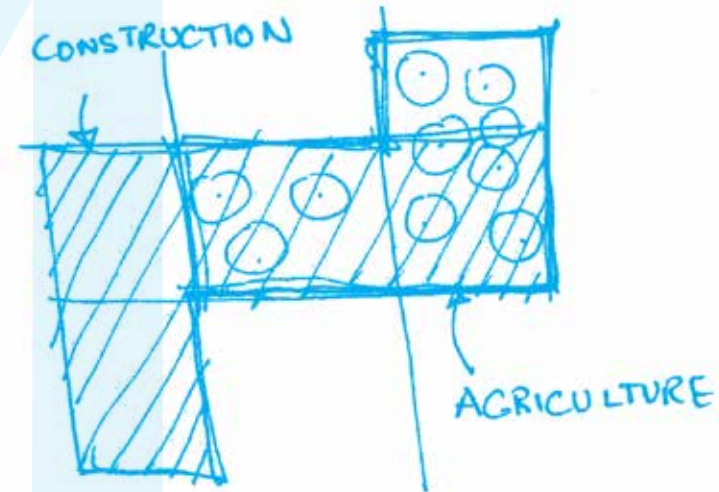
Application

Instead of creating infill that overwhelms the existing infrastructure, create a new city/settlement that can set an ecological and economical model for the region.



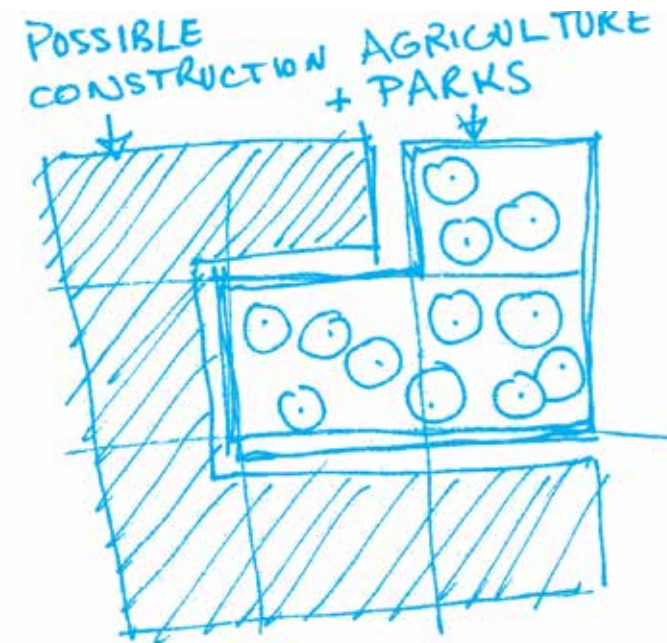
Agricultural valleys

1 3



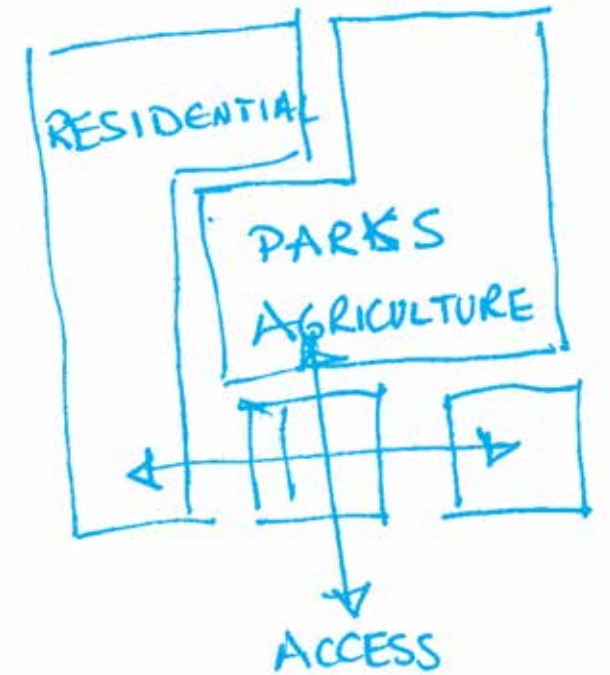
Problem

The land which is best for agriculture happens to be best for building too. But it is limited- and once destroyed, it cannot be regained for centuries.



Solution

Preserve all agricultural valleys as farmland and protect this land from any development which would destroy or luck up the unique fertility of the soil. Even when valleys are not cultivated now, protect them: keep them for farms and parks and wilds.(3-7)



Application

Choose an agricultural site where a new urban development for refugees is possible. Prioritize sites with access to an urban settlement, infrastructure and water source.

Community of 7000

8

A PATTERN LANGUAGE

48



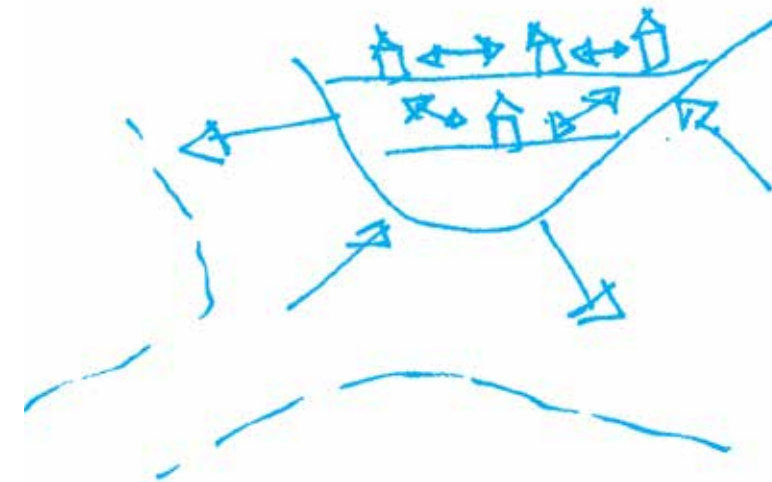
Problem

Individuals have no effective voice in any community of more than 5000-10000 persons.



Solution

Decentralize city governments in a way that gives local control to communities of 5000 to 10000 persons. As nearly as possible, use natural geographic and historical boundaries to mark these communities. Give each community the power to initiate, decide, and execute affairs that concern it closely: land use, housing, maintenance, streets, parks, police, schooling, welfare, neighboring services. (13- 14- 28-31-44)



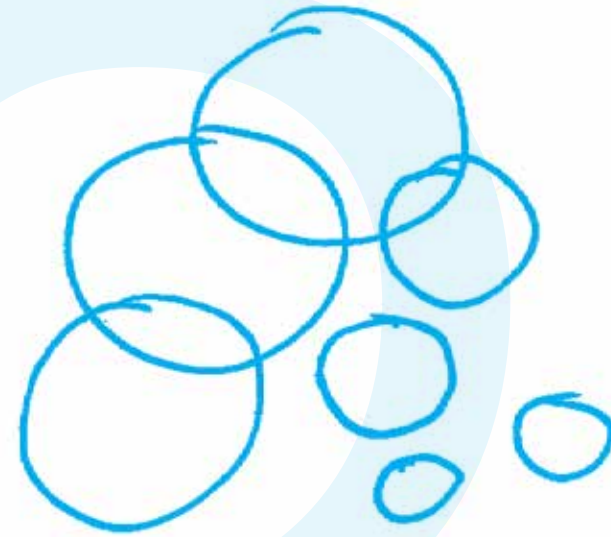
Application

Establish small communities of 7000 residents at a time and provide amenities and work opportunities. All refugees do not need to be located in one spot. Also, not all refugees need to be accommodated the same way.



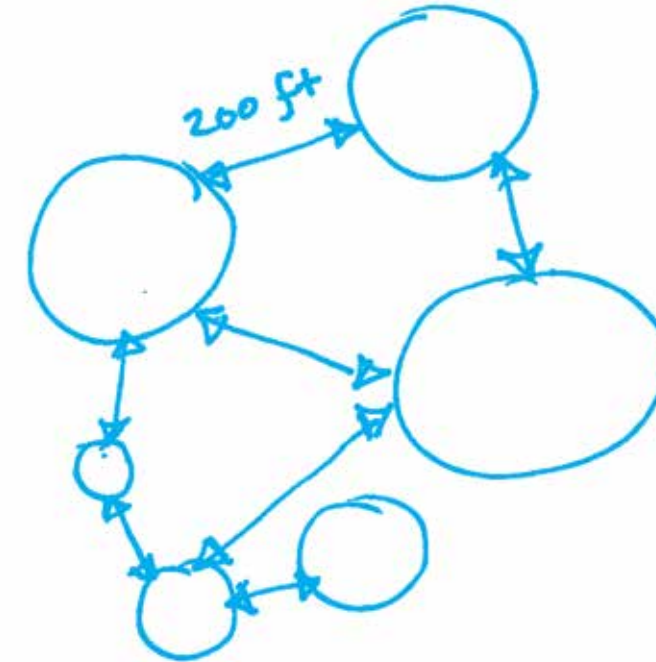
Subculture boundary

8-14-12



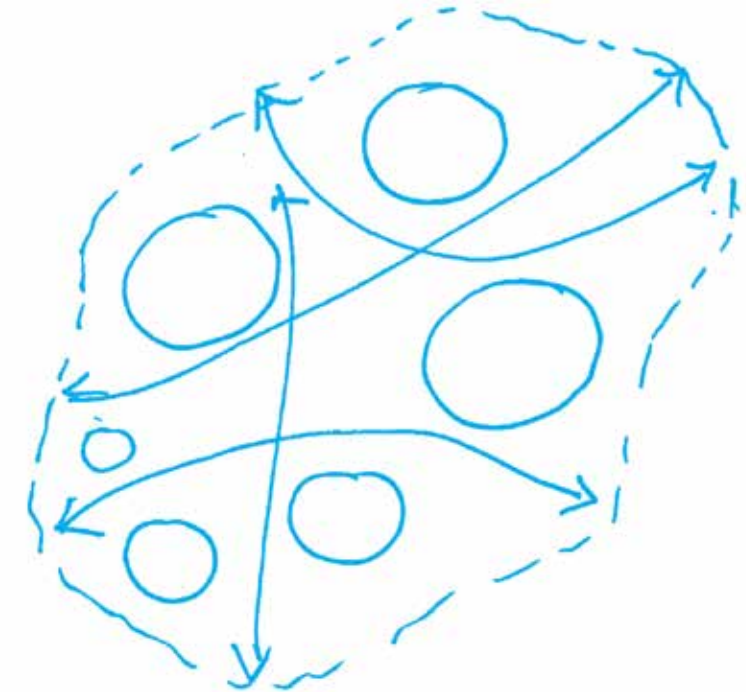
Problem

the mosaic of subcultures requires that hundreds of different cultures live, in their own way, at full intensity, next door to one another. But subcultures have their own ecology. They can only live at full intensity, unhampered by their neighbors, if they are physically separated by physical boundary



Solution

separate neighboring subcultures with a swath of land at least 200 feet wide. Let this boundary be natural- wilderness, farmland, water, or man-made railroads, major roads, parks, schools, some housing. Along the seam between two subcultures, build meeting places, shared functions, touching each community. (7 -24- 25-59-60-64-71-17-41-23-41-42-84-97-30-41-28)



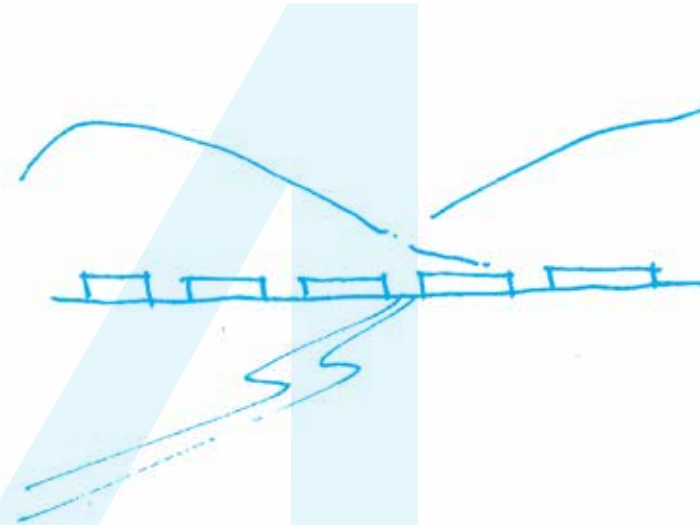
Application

Just like a city, a refugee's settlement need to have a great application in daily life settings. Subcultures need to have their own ecologies, their space to breath and interact with other. It is important to clearly differentiate these subcultures (residential, healthcare, pother residential parts)



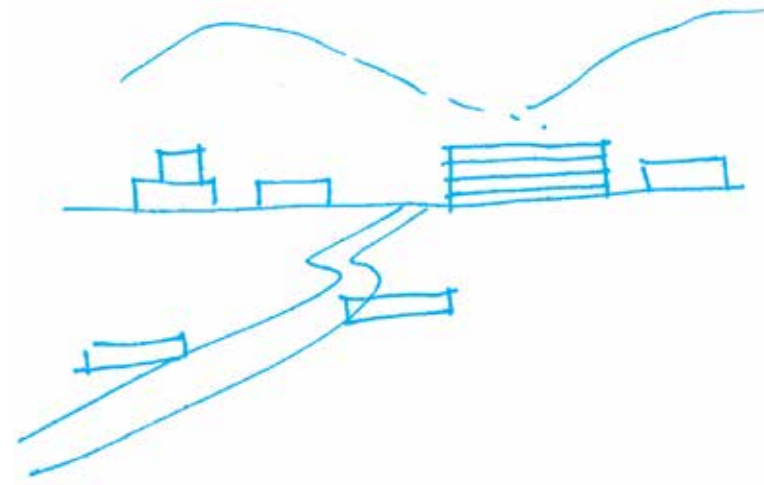
Identifiable neighborhood

8-12



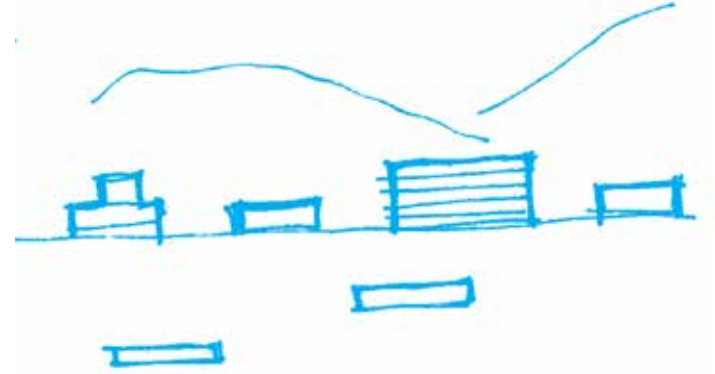
Problem

People need an identifiable spatial unit to belong to.



Solution

Help people to define the neighborhood they live in, not more than 300 yards across, with no more than 400 or 500 inhabitants. In existing cities, encourage local groups to organize themselves to form such neighborhoods. Give the neighborhoods some degree of autonomy as far as taxes and land controls are concerned. Keep major roads outside these neighborhoods. (53- 15- 23-60-61-37-41)



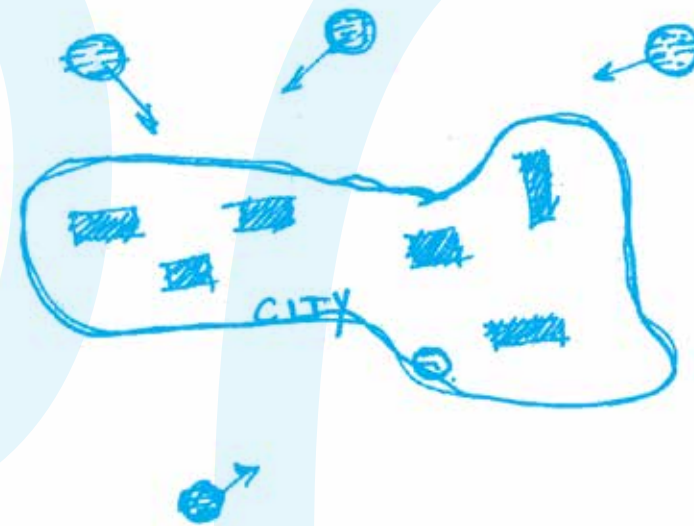
Application

Establish a clear identity between different functions (healthcare different than residential different than schools). Then, differentiate the functions among themselves by the placement, even if the look similar from outside.



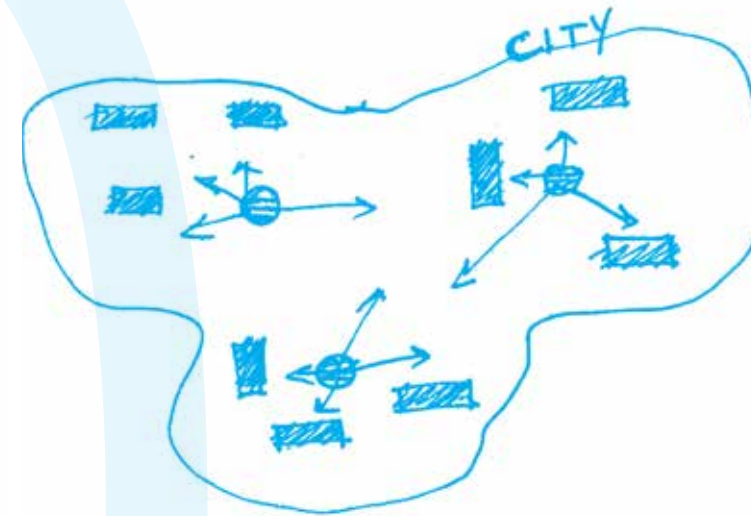
Activity nodes

14 52 100 31 13 12 14 28 29 15 13



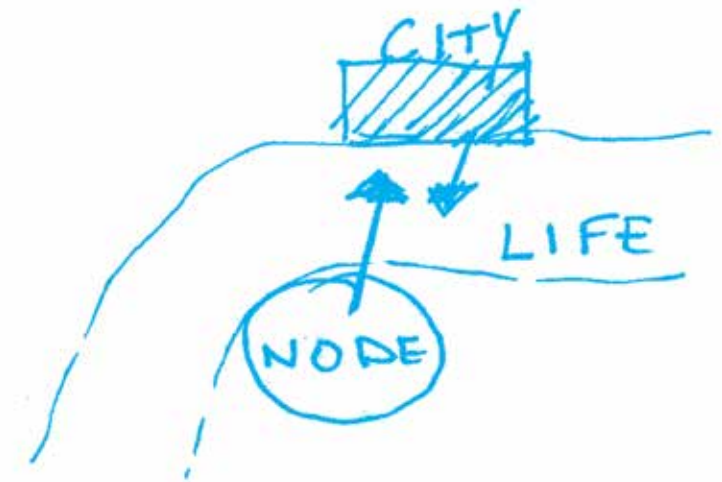
Problem

Community facilities scattered individually through the city do nothing for the life of the city.



Solution

First identify those existing spots in the community where actions seem to concentrate itself. Then modify the layout of the paths in the community to bring as many of them through these spots as possible. This makes each spot function as a "node" in the path network. Then, at the center of each node, make a small public square, and surround it with a combination of community facilities and shops which are mutually supportive. (31-33-120-36-61-41-44-47-43-84-87-88-90-93)



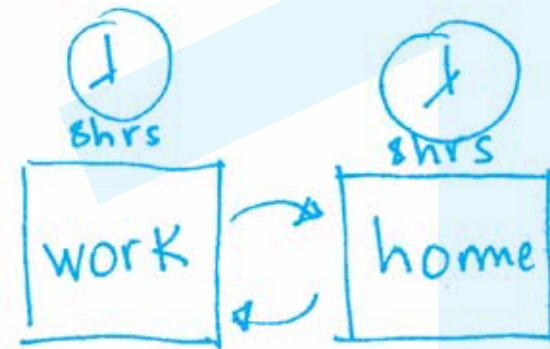
Application

Organize the functions around a core, which brings together the community. Then create activity nodes along the residential and non-residential parts, for people to come together. This will bring life to the city.



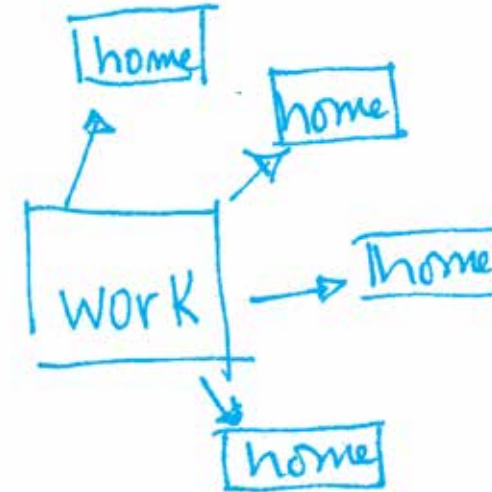
Work community

9 15 3013



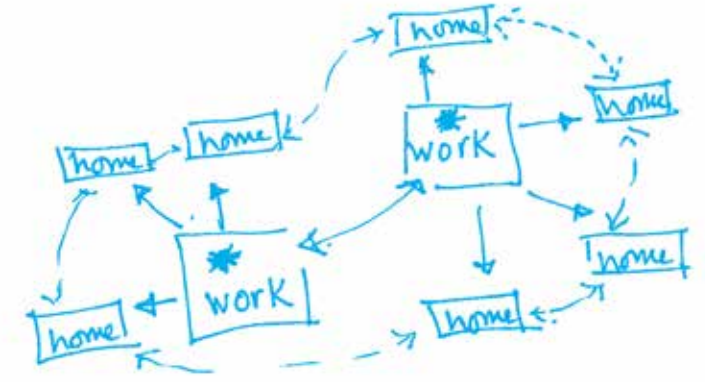
Problem

Problem : if you spend eight hours of your day at work, and eight hours at home, there is no reason why your workplace should be any less of a community than your home.



Solution

Build or encourage the formation of work communities- each one a collection of smaller clusters of workplaces which have their own courtyards, gathered round a larger common square or common courtyard which contains shops and lunch counters. The total work community should have no more than 10 to 20 workplaces in it(61-60-72-



Application

Vernacular Syrian and Lebanese architecture share some common aesthetics and typology of functions. Although vernacular may not be the answer, the courtyard and other typology offers an opportunity to organize work space around houses.



THE PROJECT LANGUAGE

Always build local

“All architecture is shelter, all great architecture is the design of space that contains, cuddles, exalts, or stimulates the persons in that space.”

Philip Johnson

Usually, in refugee's settlement, the architecture used to house the victims is cheap and non-sustainable. Most of the materials used are shipped from other countries, even other continents. The design is usually simple to the extent of dehumanization of the users. After a certain period of time, these deployed architectures turn into slums.

* * * *

THEREFORE ,
a good solution is to build using local materials, construction methods and forms.

* * * *

This pattern helps promote the sustainability of post-emergency buildings. Using local materials encourage the economy of the host country. It also engages the refugees and their host country to participate together to come up with a design and implementation scheme that responds to both their local cultures (with the help of architects and planners)

IMPLEMENTATION/SOLUTION:

To apply this pattern, it is important to follow a bottom-up design approach. The pattern is satisfied since the first step of the design, since meeting the users until finishing the building process.

a- Talk with the users, figure out what their way of life is, what is their culture and what would they like to keep of it, even in the host country/location;

b- Research local materials and be trained on how to use the- make sure these materials are available locally;

c- Understand the local construction techniques and if possible, include all the users in the building process;

d- Use vernacular approaches for achieving sustainability and energy autonomously;

e- Improve construction techniques to be done quickly in response to a disaster.



Free energy everywhere

"I don't divide architecture, landscape and gardening: to me they are one."

Luis Barragan

In a setting where refugee's first worry is to survive, sustainability and energy performance is usually compromised, to provide safety and food. This is not a healthy way of planning tomorrow's settlements, as it creates more problems down the road.

* * * *

THEREFORE.

starting with choosing the site to implanting the buildings, sustainability and energy efficiency (autonomy) has to be a drive force in every design and policy step. Wind, sun, water and soil are resources to be used and respected.

* * * *

This pattern is set up to save on expenses for an average settlement life span of 12 years. Rather than being a burden to the host countries. Refugees in newly established settlements can use free natural energy, and potentially, under specific conditions, give energy back to the main feeding infrastructure.

IMPLEMENTATION/SOLUTION:

To apply this language, it is important to follow an interdisciplinary approach, where urban design comes in at first with the choice of the site and the layout of main urban nucleus and density rings. Then comes the architect's role by individualizing and increasing the efficacy of each unit. Until the last detail, by educating the users to adapt to the structures they have. It is important to note that each project can create its own developed energy scheme.

a- Choosing a site in a potential wind harvesting location in case needed. More importantly, orienting the site towards maximum solar efficiency (passive heating/cooling and natural daylight)

b- Using local materials to decrease the embedded energy usage;

c- Using Photo-voltaic panels for each residential unit. The community nodes have large roof areas of solar PV panels.

d- Use the river as a natural landmark, which provides cooling in the summer and energy in the winter.

THE PROJECT LANGUAGE

62



Eyes on public spaces

"I believe that public space should be intentional: it should be obvious that you belong."

Janet Echelman

Similar to the energy pattern, in a setting where refugee's first worry is to survive, sustainability and energy performance is usually compromised, to provide safety and food. This choice is set by budget or planners decisions. This is not a healthy way of planning tomorrow's settlements, as it creates more problems than solutions.

* * * *

THEREFORE,

it is important for a city of 7000 residents to associate public spaces to community nodes, and semi-public spaces to each necklace of residences (7 to 14 units)

* * * *

This pattern is set up to provide an amenity for large community activities, like weddings and conferences as well as smaller family gatherings like children playing and woman working from home. Since the goal is to recreate a somewhat normal lifestyle for refugees (until their situation is solved), creating a space for different scale of social integration is key to success.

Start with big community nodes:

- a- Public space next to community halls, with doors and windows overlooking these spaces;
- b- Usable public space next to market, probably an edible garden.
- c- Create a difference of landscape levels to provide different perspectives into the open spaces, green spaces, landscaped spaces and community spaces.

Also, proceed on applying this pattern to residential/private units:

- a- Add a semi-public space in the center of 7-14 units. This will create a small nucleus to this small neighborhood.
- b- Don't use separation signs or fences. It is important to families to communicate together, for children to play safely together, and for young people to study together in a hygienic open space. Privacy is important.
- c- Plant these spaces with medium-density trees for privacy and noise insulation.



Windows as visual extension

“We require from buildings two kinds of goodness: first, the doing their practical duty well; then that they be graceful and pleasing in doing it.”

John Ruskin

Community buildings need more exposure to the public spaces. Families units need more privacy, therefore more exclusion from the street level. Community buildings that are secluded, as well as family units that are exposed don't function well in a post-disaster settlement.

* * * *

THEREFORE ,
as a rule keep windows height proportional to the size and usage of the building. If it is a big community building, use large low windows. If it is a residential unit, use relatively high windows.

* * * *

This pattern is created to ensure privacy when needed, and social openness where required .Community buildings in their usages are complementary to the usages of residential units. This needs to be shown not only via aesthetics (outside appearance of windows), but with the users experience as well.

For community places:

- a- Use large windows;
- b- Use low windows for visibility from and towards outside;
- c- Use high windows for day lighting if needed;
- d- Use large doors at the focal entry points;
- e- Use retractable doors for functions overlooking the public spaces, so these spaces can be used as a covered extension of the public realm.

For residential units:

- a- Use smaller windows and keep the large windows for public functions such as the family room, if existing;
- b- Use high windows for natural ventilation and natural daylight;
- c- The use of high windows help buffer the noise from outside;
- d- Use only one entry point per unit.



THE PROJECT LANGUAGE

66



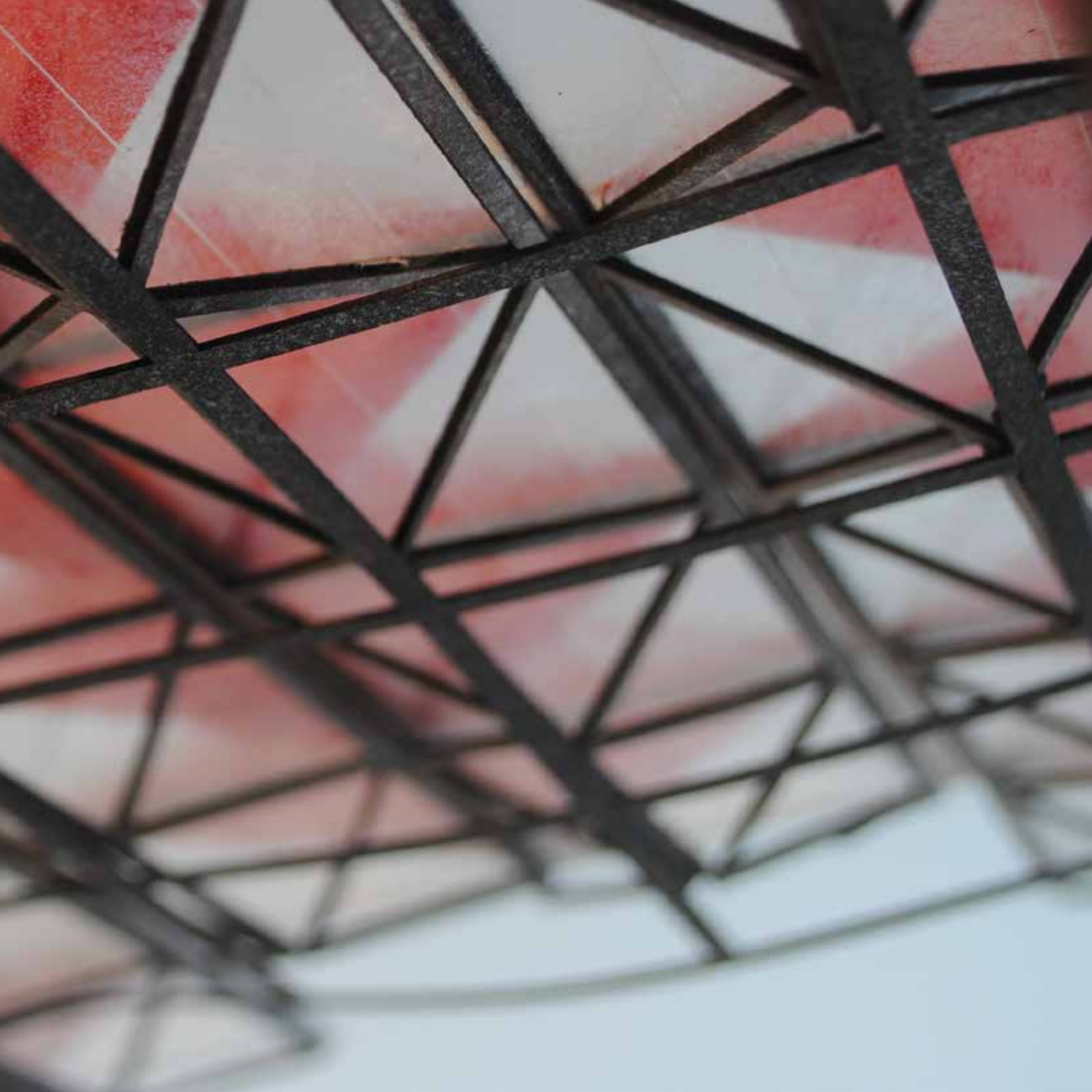


During 3 Minute Thesis Competition at UOregon



During Statewide 3 Minute Thesis Competition





BEYOND

THE

TENT

[Re]thinking Architecture of response to Service Refugees and their Host Communities

Problem| Displaced

The Syrian civil war or Syrian crisis started in March 2011. By MID 2014, MORE THAN two million refugees are displaced into five neighboring countries: Lebanon, Jordan, Turkey, Iraq and Egypt. Caught in the war, families leave everything behind them and cross the border to the host country. The refugees' situation is known by the United Nations as the worst exodus since the Rwandan exodus 20 years ago.

Architecture| A Role

Neighboring countries have a weak infrastructure system, and limited resources, refugees are left to NGOs to help refugees with their basic needs. Families with financial resources start a new life. Other families rely on the hospitality of citizens of the host country and live in small unorganized tents. As there are no camps for refugees in Lebanon, refugees seek shelter in abandoned structure, unfinished buildings or empty lots.

Users| Host and Guest

Designing a refugees camp is also about designing for people, who are invisible. It means designing for a refugee, an elderly or a child. Making the place not only bearable, but livable. Creating a safe place, not permanent home, but a safe space. Keeping in mind the host community is key. What's in it for them?

Site| Fertile and in need

With this large number of refugees, I envision a new city emerging independently in the vast agricultural valley. The location would be beneficial for energy autonomy, and work opportunities. The landscape could bring peace to the displaced and wounded. A system of roads maintains the circulation within the city, using local materials and low impact substances.

Process| Participatory

The purpose of my project is to develop a seed for an urban design that serves the Syrian refugees in the agricultural valley of Lebanon, while providing investment opportunities for the host community in the short term and the long term, like repurposing of the campus to an agro-forestry campus. The building is a new kind of mixed use building for refugees. It is a large transitional and adaptation center.

2012
100000

2013
800000

APRIL
2014
2.3 MIL

LATE
2014
3.5 MIL



100000
REFUGEES



THE BIGGEST
EXODUS SINCE
THE RWANDAN
GENOCIDE 20
YEARS AGO

World	11
Europe	64
Asia	22
North America	22
South America	22



21%



25%



54%

REFUGEES NEEDS



Education



Shelter



Health

GLOBAL PROBLEMS
LOCAL SOLUTIONS
MUTUAL RIGHTS
HUMANITARIAN AID

Training

Agriculture

Finance



HOST COMMUNITIES RIGHTS



THE SITE



Market| Interaction



Activities| empowerment



Parcels



Light Industry



Residential



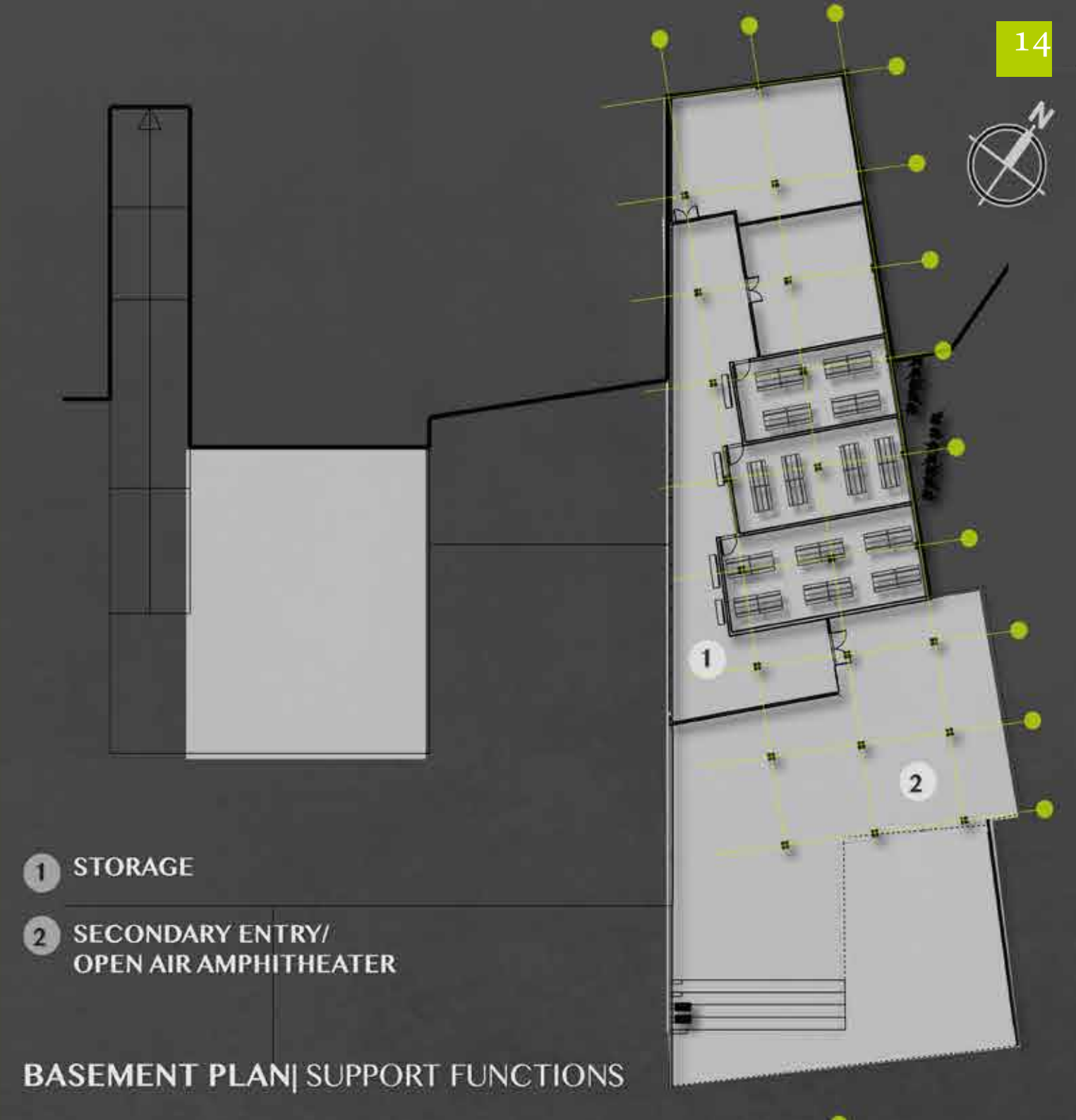
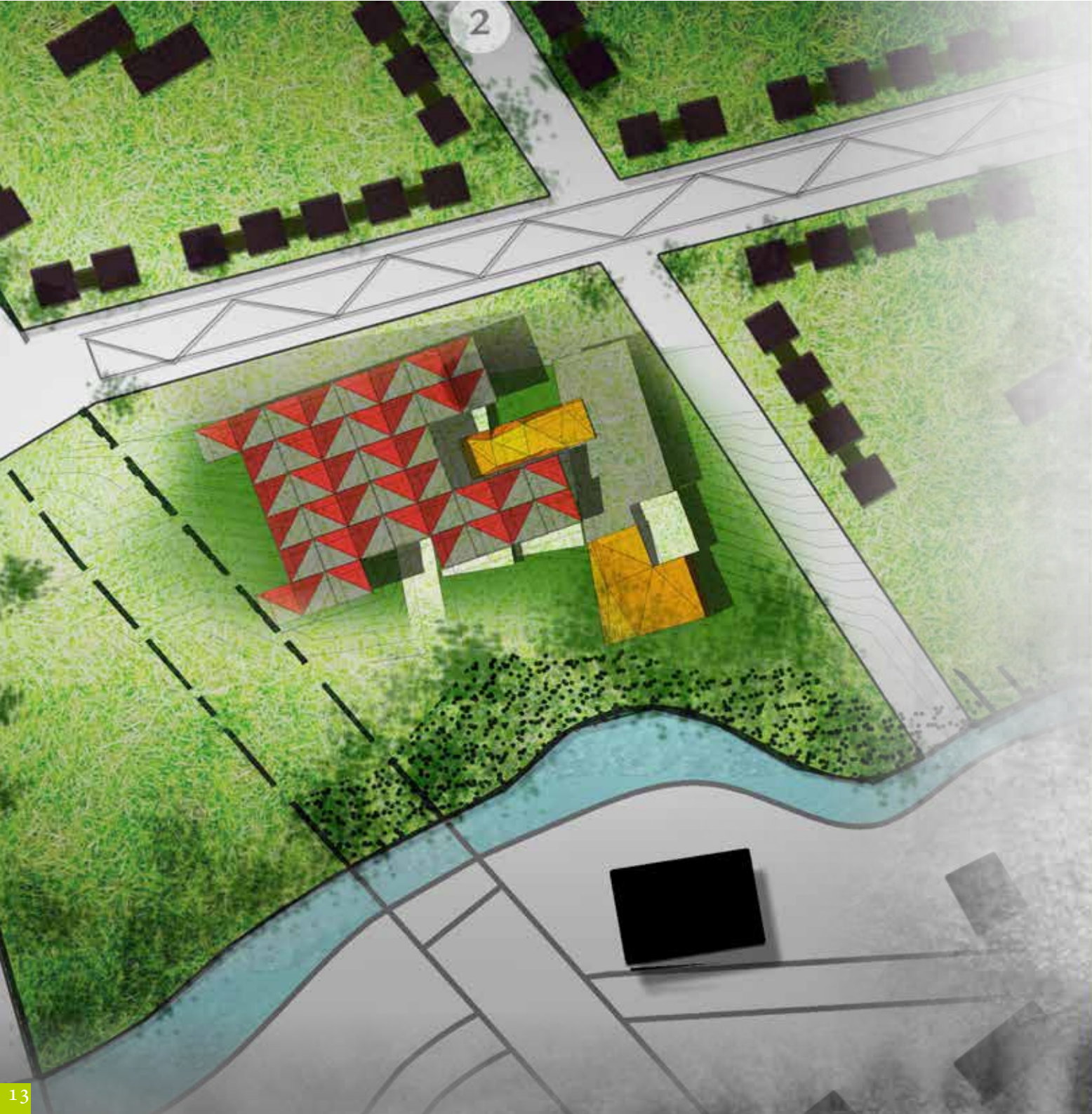
Built

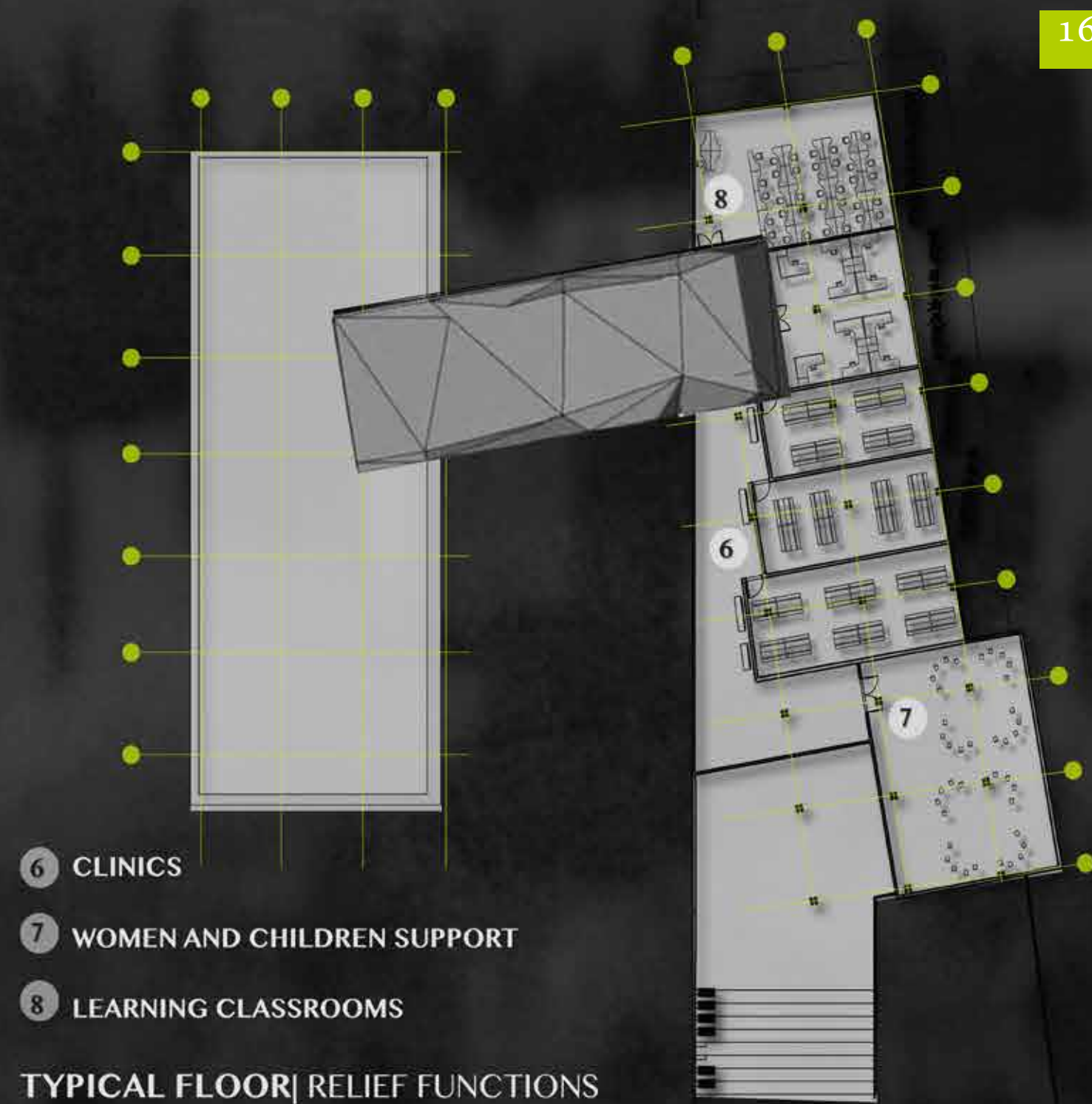
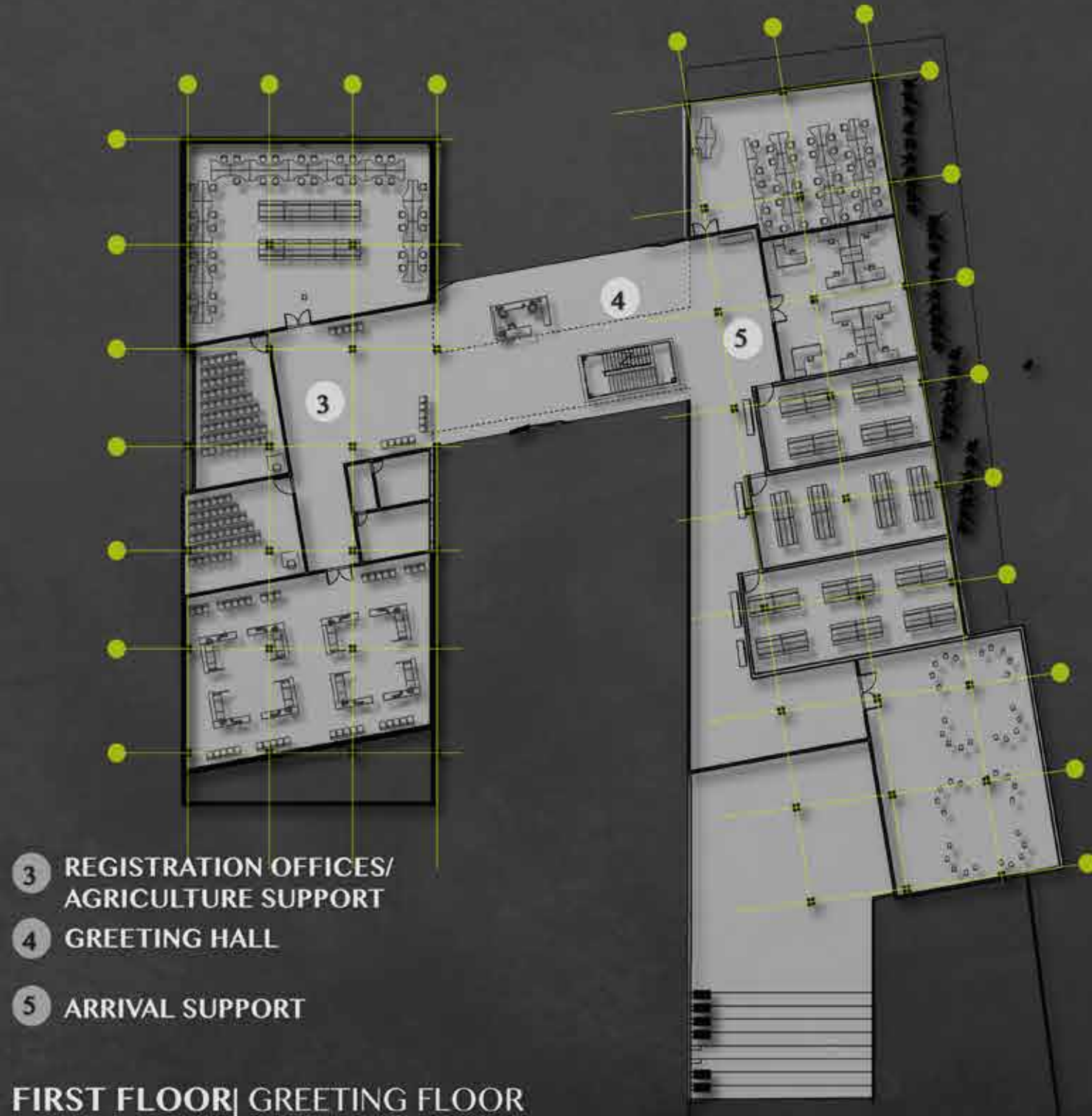


Agriculture



Road Network





ENERGY| Local

Structure providing:

- Protection from rain
- Protection from sunshine
- Usable and humane spaces
- Extension to the surrounding landscape
- Access to the built environment

Structure supporting:

- Colorful shades inspired by local cultures
- Rainwater collection
- Photovoltaic panels oriented South

STRUCTURE| Constructability

Concrete post and beams construction for ease of construction, expansion and availability of local materials and skills;

6m x 6m grid
Smallest unit is 36sqm
Expandable units
Open spaces where needed

FORM| Clarity

Boxes overlooking all spaces and containing the community functions;

Aid organizations offices
Medical assistance
Training spaces
Community Kitchen
Multipurpose space

LOCAL| Individualization

Subdivided spaces for individual or familial use;

Gardening spaces
Transitional units for refugees
Workspaces for refugees

SURFACES| Variation

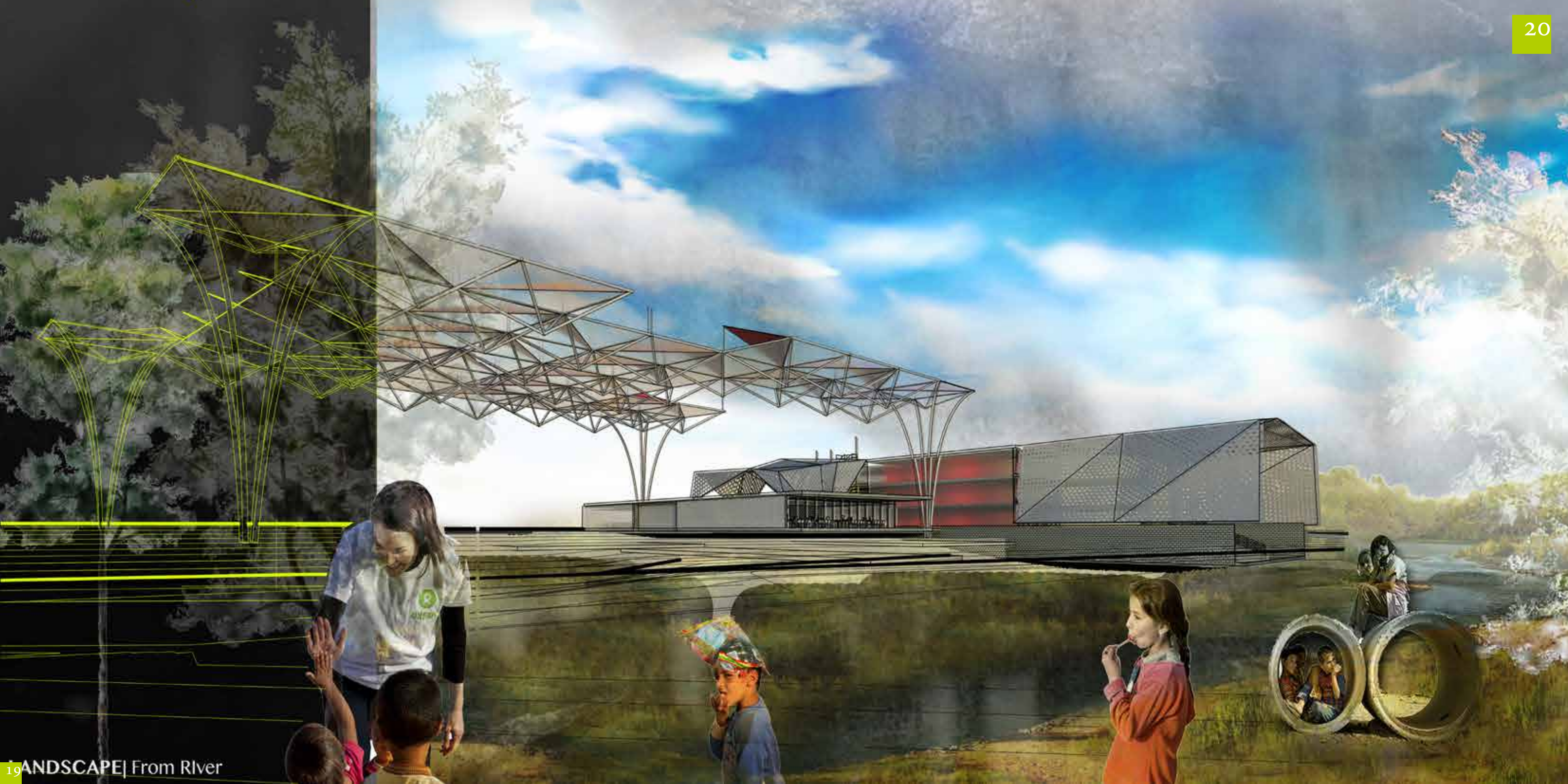
Variation of slabs to create different heights and surface, favoring:

Solar orientation
Air flow
Light and shade
Circulation
Views

SPACES| Public Access

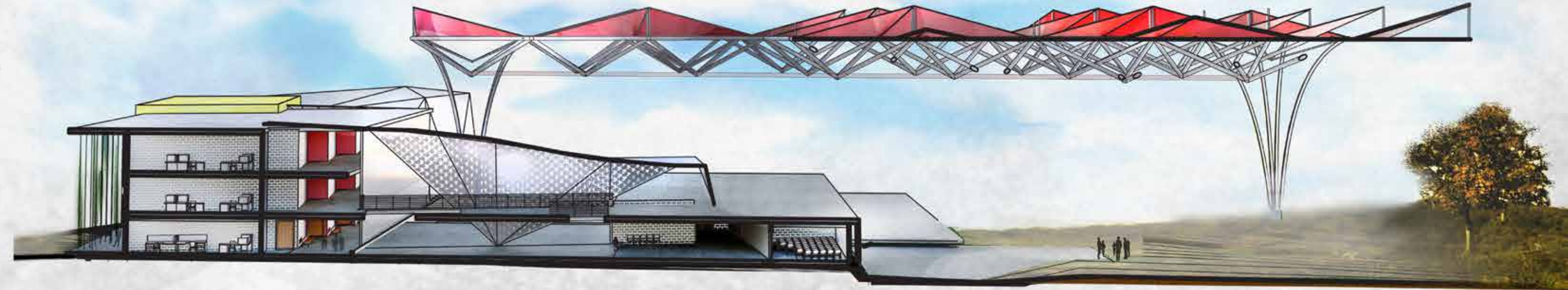
A mix of linear and enclosed open spaces;

Private and public uses
Circulation and assembly
Occasional and daily
Official and public access



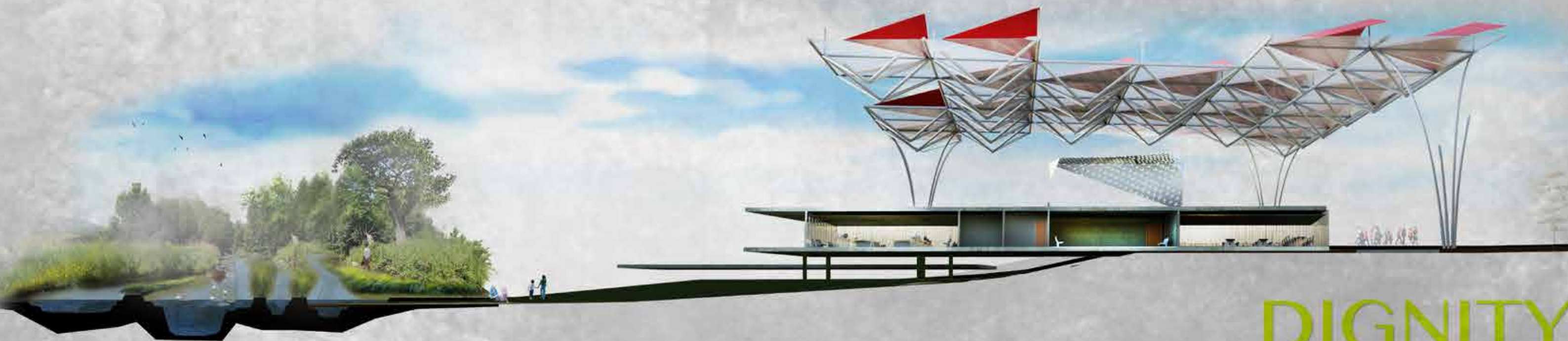


SECTION| Relief functions
Inspired by water elements in Arab architecture and the healing symbology of water



SUSTAINABILITY

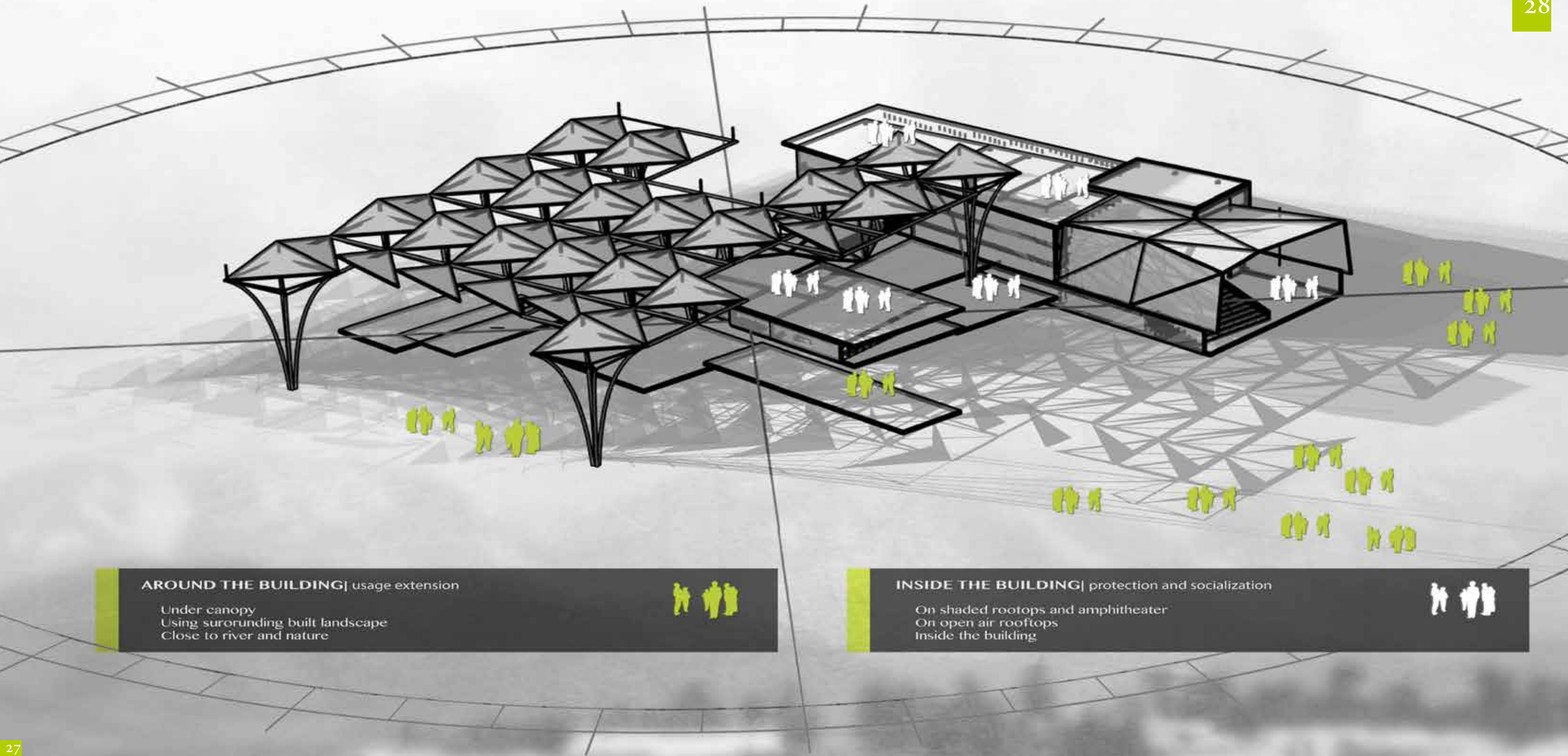
SECTION| Open air entrance
Inspired by the courtyard configuration and privacy and sustainability features of Mousharabieh



DIGNITY

SECTION| Social roof

Inspired by arbor trees on top of Lebanese houses and pyramid red roof from traditional architecture



AROUND THE BUILDING| usage extension

Under canopy
Using surrounding built landscape
Close to river and nature



INSIDE THE BUILDING| protection and socialization

On shaded rooftops and amphitheater
On open air rooftops
Inside the building

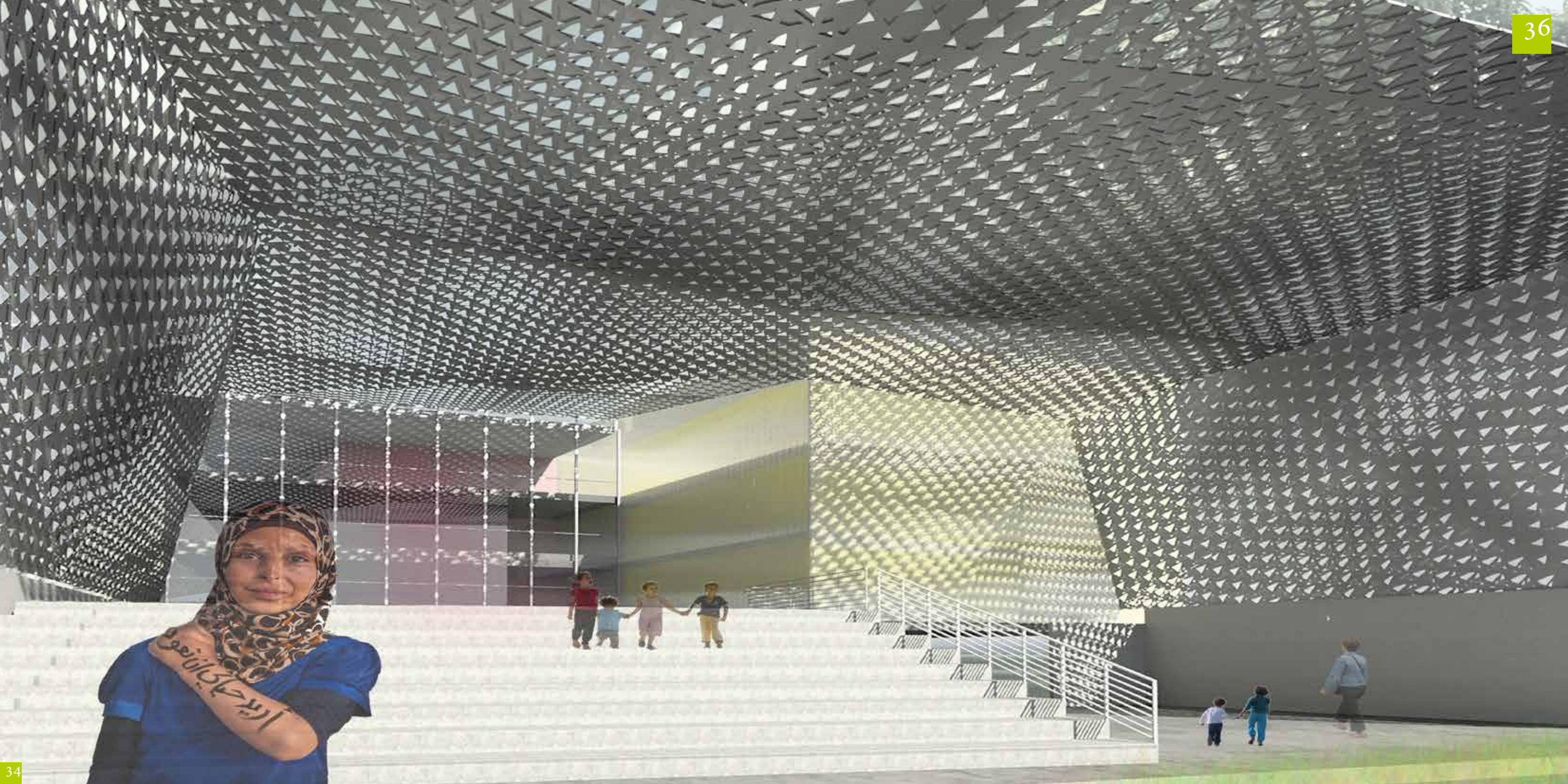




SAFETY LIES SOMEWHERE BEYOND SHELTER
IN THE FREEDOM OF BEING SECURE ENOUGH TO
RELAX, PLAY, ASPIRE, AND DREAM.



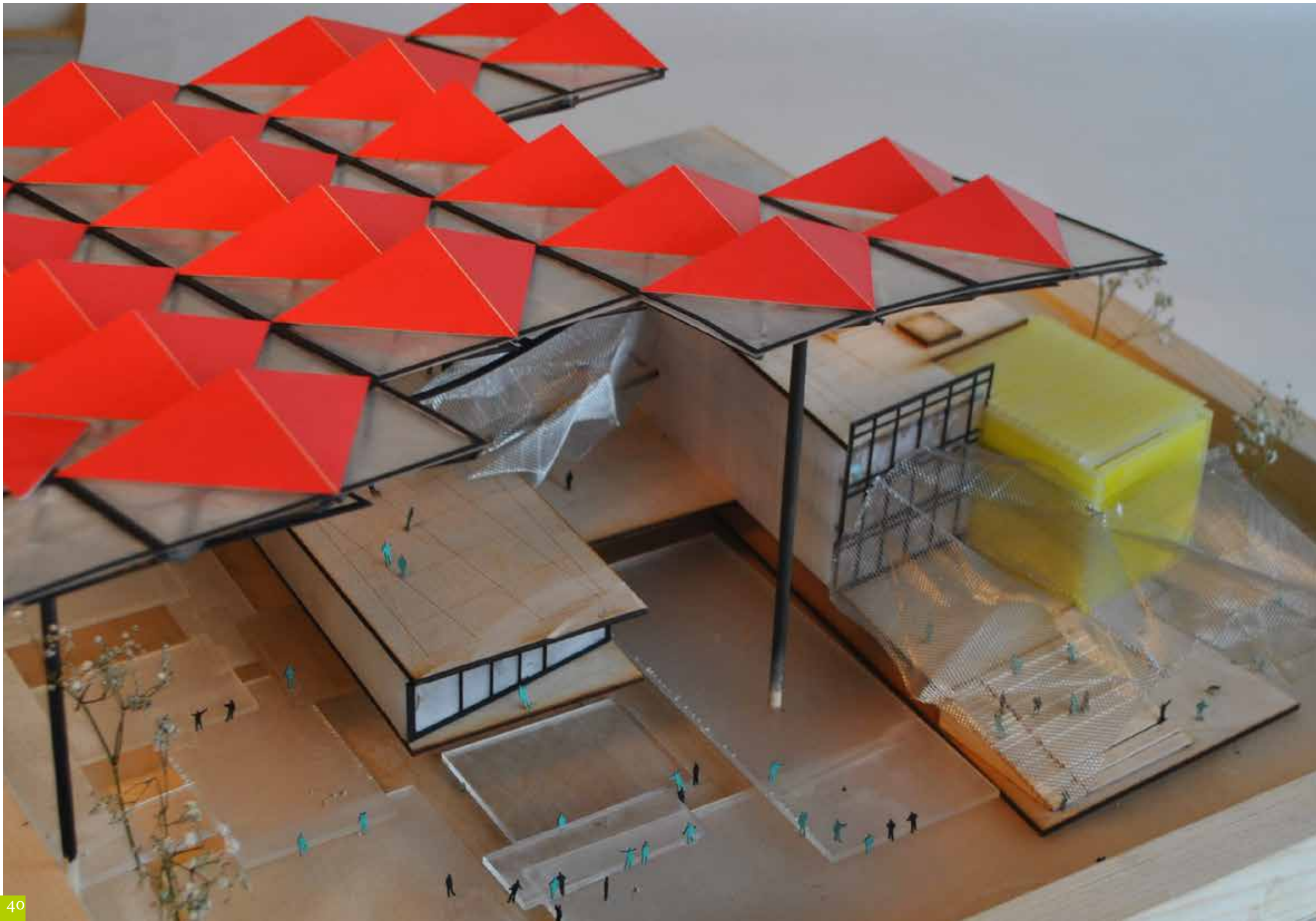


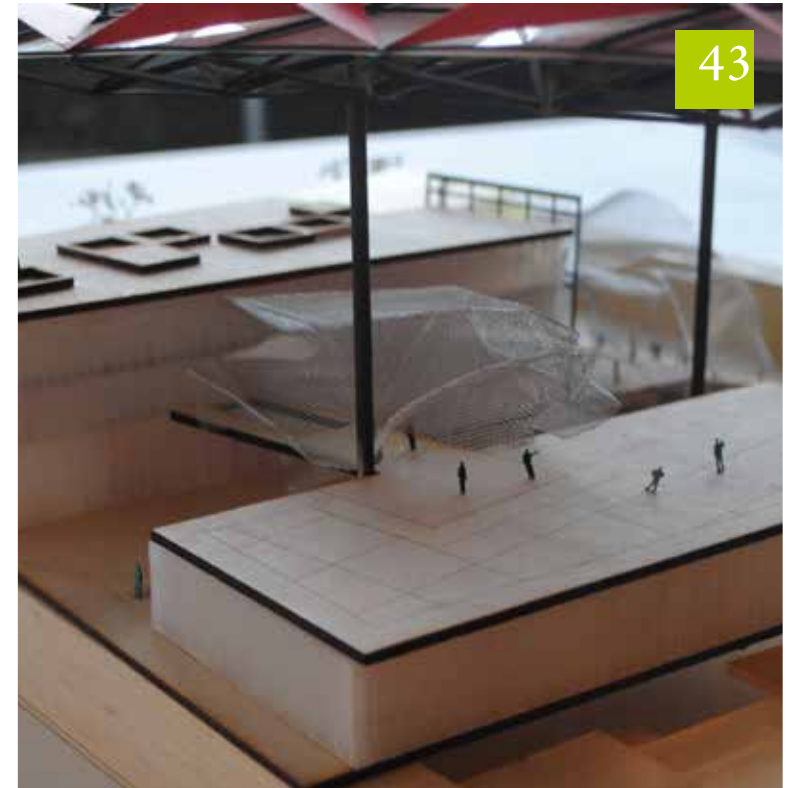


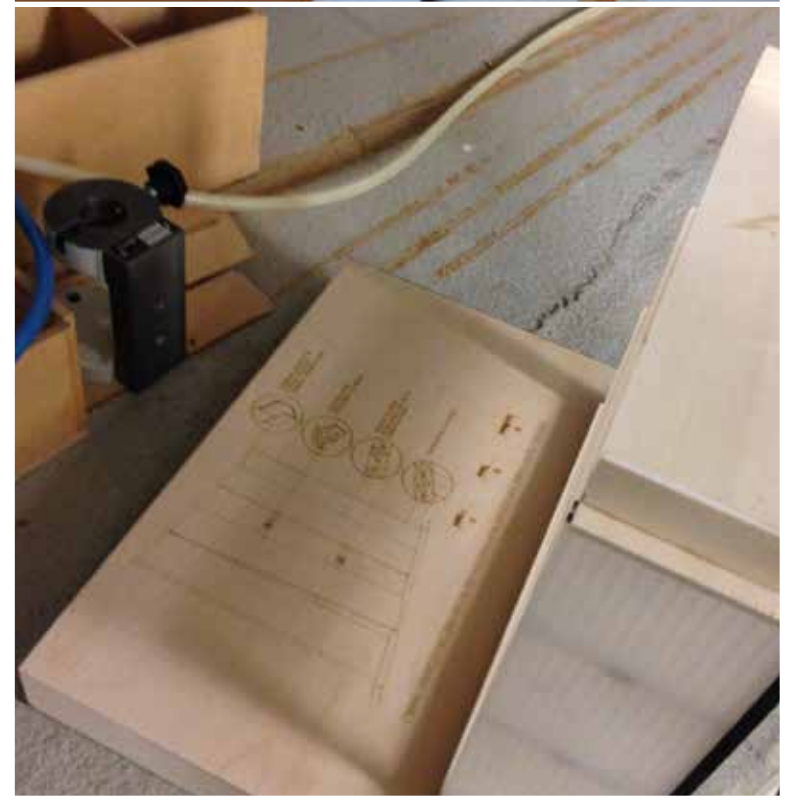
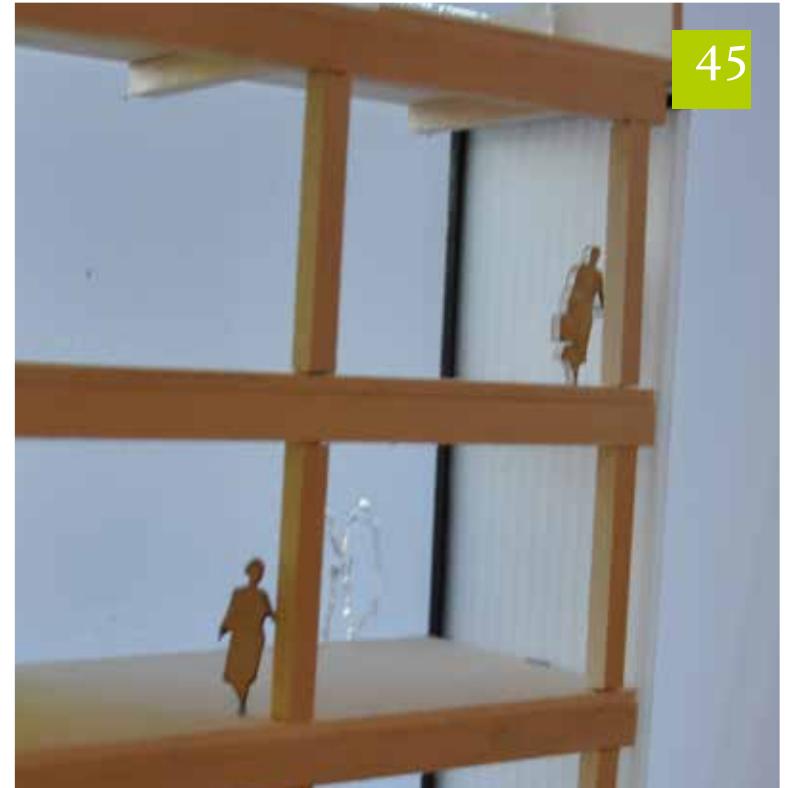
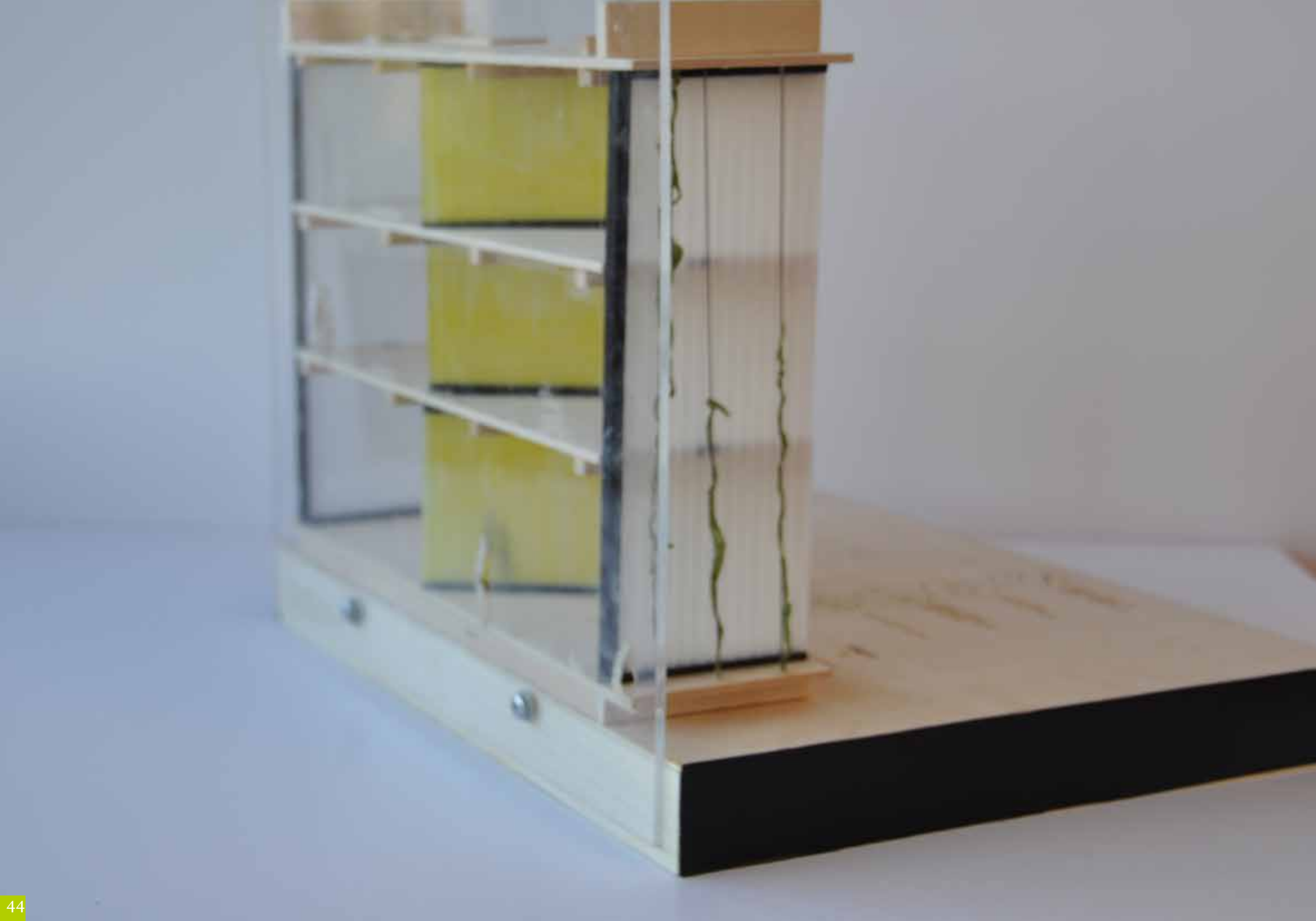


FINAL MODELS







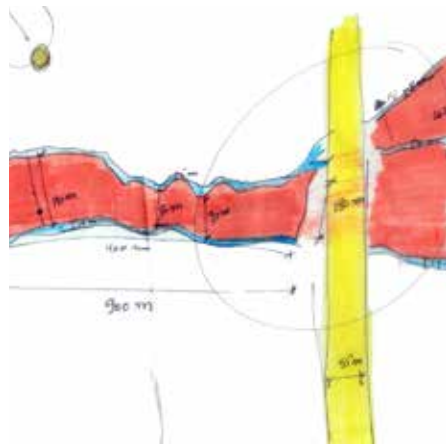




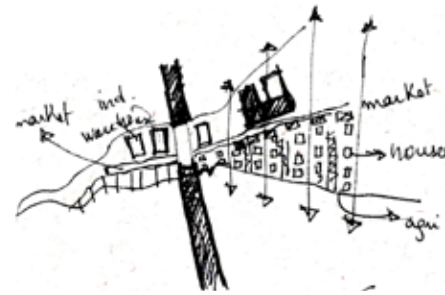


DESIGN PROCESS

designing the site



areas of development



main access studies



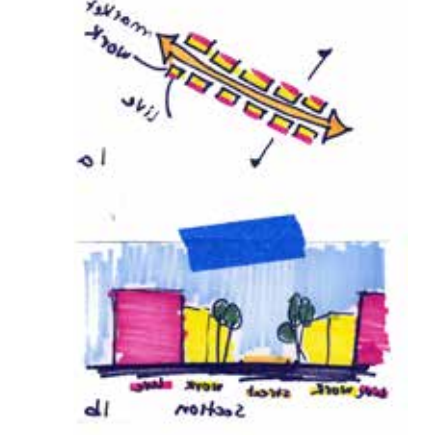
pedestrian activity



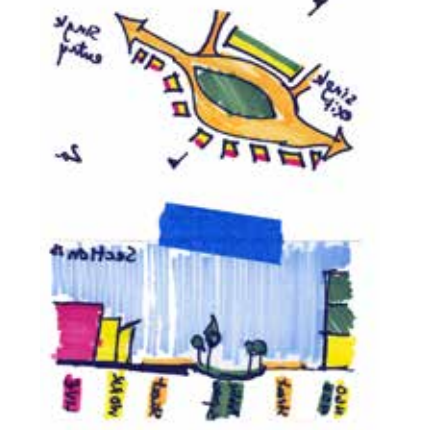
first sketch



cluster configuration



single access point



multiple access roads



rural market feel



flexible spaces sketch

phasing the developmeny

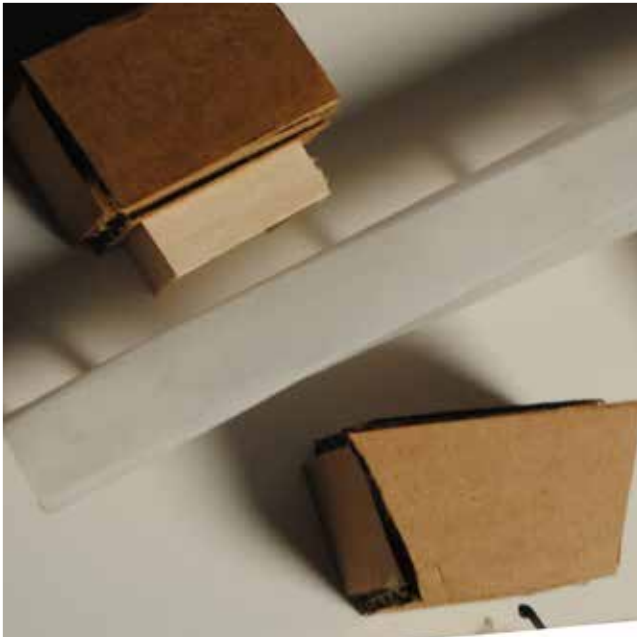
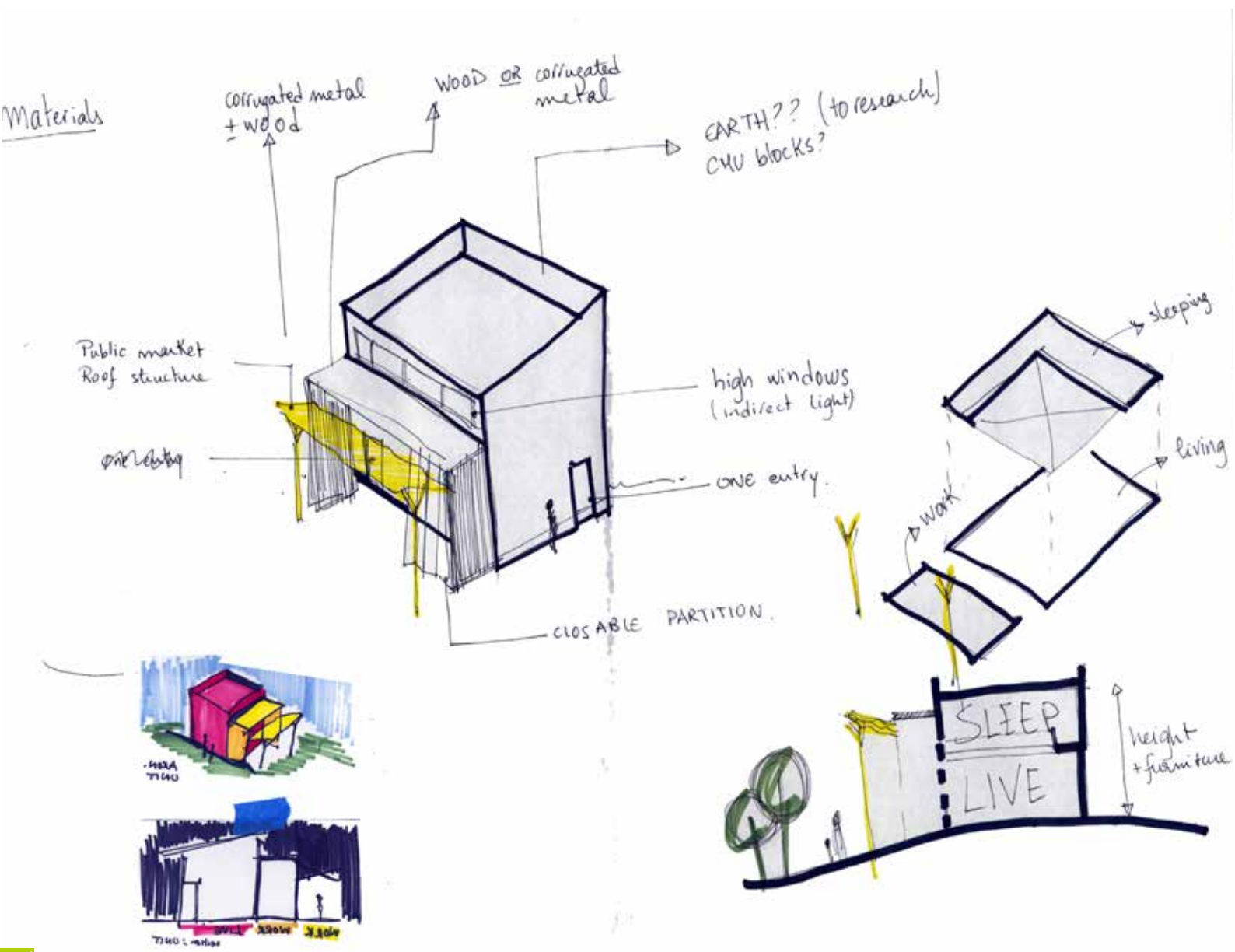
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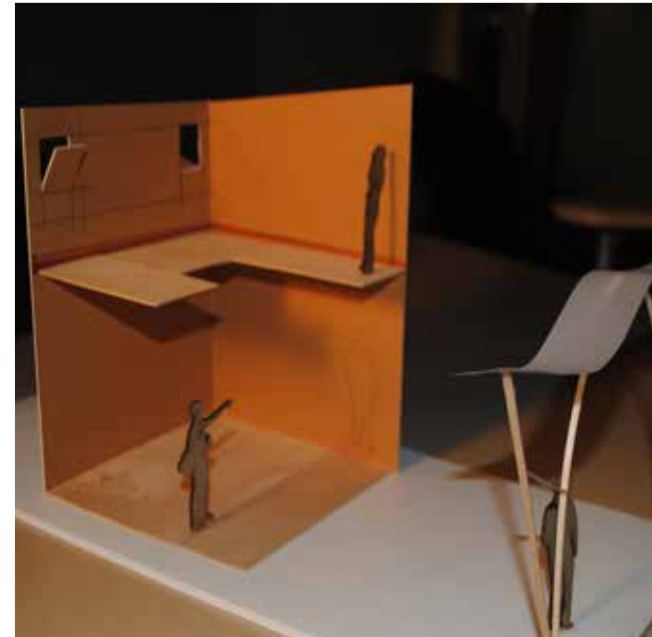
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46

imagining the shelter



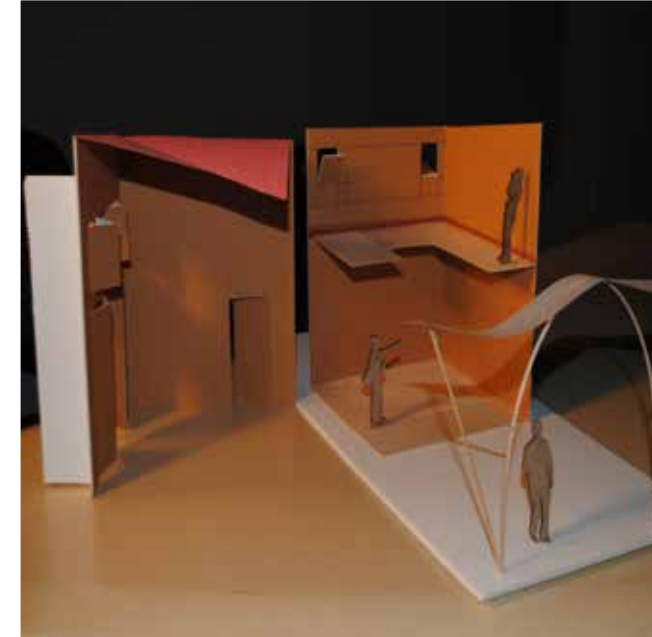
market and shelters



shelter double height space

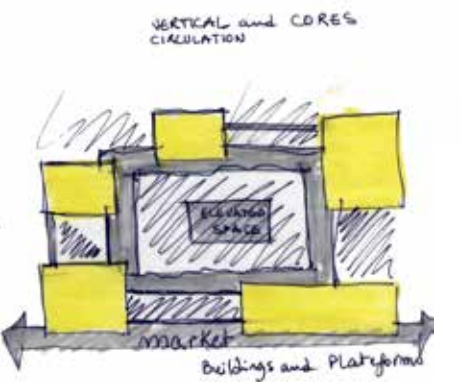
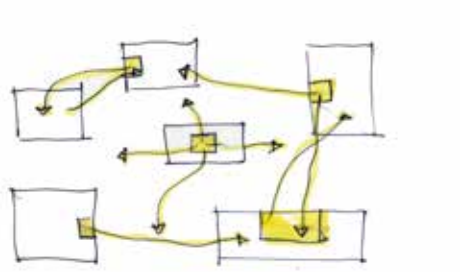
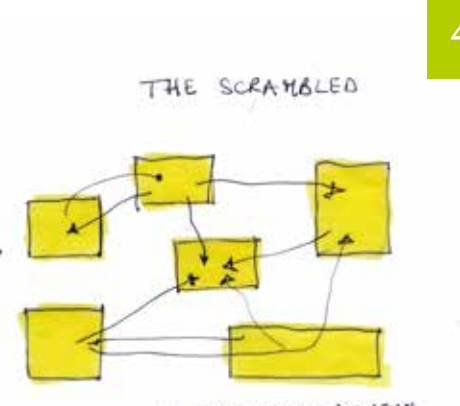
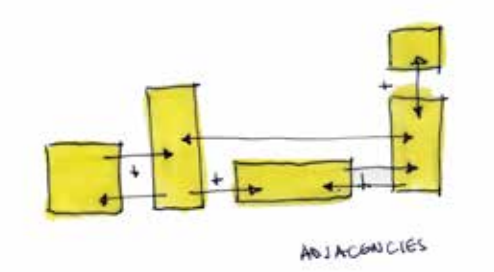
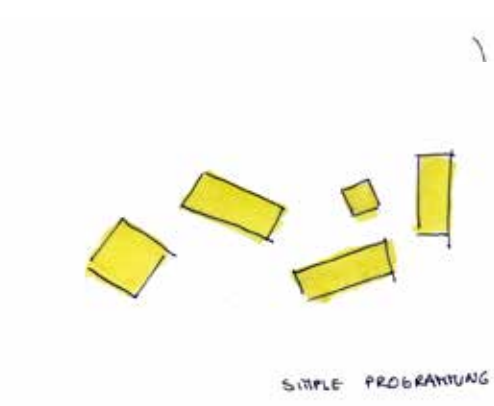
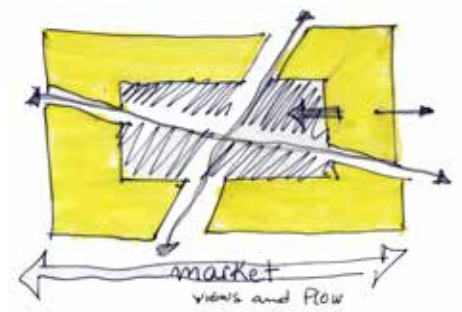
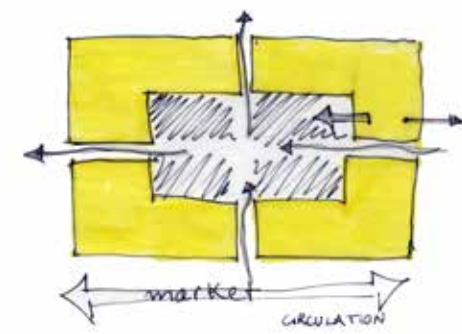
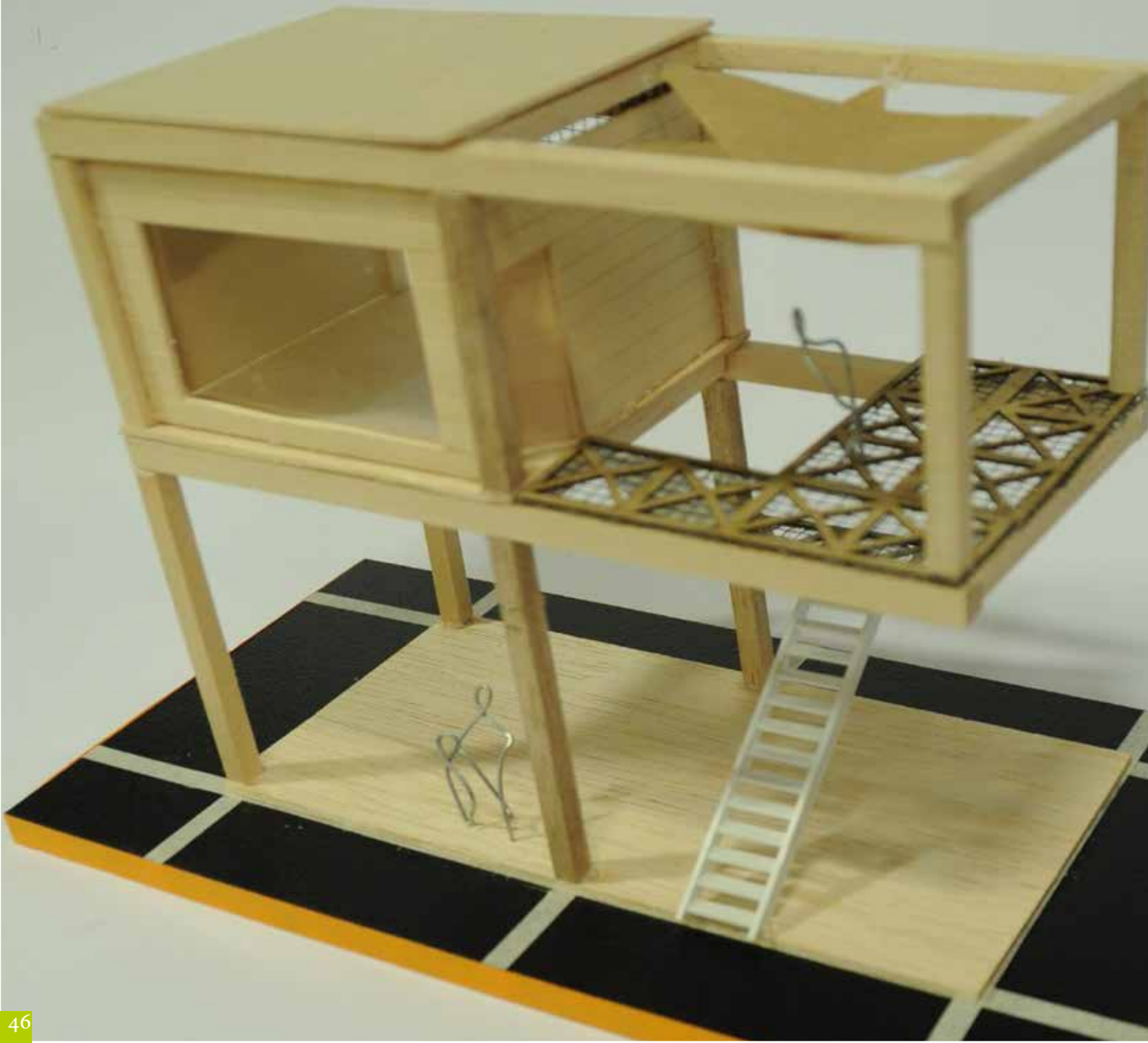


first sketch



interior spaces

designing the building



the courtyard

the additions

the bridges

