

Refuge Urbanism

Urban Design in the Refugees` Settlements in Jordan

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In the reality of the world that we live in, forced displacement is transforming the globe suddenly and rapidly. Every year, singular or series of events are threatening the safety, health and well beings of millions of people who forced to move out and over the half are under the age of 18. According to UNHCR, on a daily bases 33.972 people obliged to escape their homes because of conflict or persecution they are facing and seek to resettle. 65.3 million are displaced and 21.3 million are registered as refugees under UNHCR Commission and UNRWA. Due to several ongoing conflicts, the Middle East is now a geography shaped by displaced populations and refugees; it is described as The Mother of All Humanitarian Crises. These population shifts have a drastic impact on the social fabric of the host countries such as Turkey, Lebanon, Jordan and Iraq. A relatively small country of 9.5 million, Jordan's demographic composition has dramatically transformed due to the continuous influx of refugees since 1948s. 2 million Palestinian, 131,000 Iraqis, and 1,265,000 Syrian, it means over 35% are non-Jordanian. This social diversity shapes the Jordanians' social networks. One can find a person who has a Palestinian grandmother, an Iraqi's friend, and taught Syrian students.

As a shelter geography and it is named as top hosted countries, Jordan continuous to represent a survival and hope place for millions of people. In another hand, the challenges are growing, and the waves are containing loads on the infrastructure, resources and public services. The settings of new social fabrics generate and uncertainty transforms certain locations due to these rapid changes. The situation can conclude that Refugees' Human System significantly is changing the Built-environment System where it reforms cities and creates new genuine metropolitan. The process is to define a collective set of the locations, population, time and social network of Refugees' Systems in Jordan. The result is to come up with analytical assessment that selected 5 cases which has intelligently hidden power of these Systems. By different scales, the operational conditions analyzed in order to find design components, understanding the underlying practice, potentials and the gaps, and spaces of possibility.

This thesis will explore the approaches to remark and rethink the urban design in the refugees' settlements. The specific territory for the urbanism is to approach the self-sufficiency which is short term solutions in order to reach the long term integration. It will be applicable assumptions within the sites of refugees by targeting multi- disciplinary to sustain durable economic, political and social factors by the built environment to inclusive response of how the host countries can act to the current situation and to the rapid influx of refugees. This means rethinking resilient strategies and management of social changes by reorient the cities towards a vision of responses within its context by the refugees.

The research methodology aims to create a waved relation between the analysis of multilayers conditions of refugee settlements and the potential urbanism within the complexity of the context. In this aspect, method's phases started by mapping out all the settlements with its historical, quantitative, and cultural background, the result is assessment process for all the settlements to proceed to the next phases by selection of cases that include mostly variables and potential implementation. The second phase is the literature review which is divided into two areas of study Human and Built environment to reinforce the analytical phase. The analytical phase is generating several maps and analyzing photograph, statistics, and recorded videos of the cases. The settings will be analyzed at different scales in order to investigate Systems of refugees in camp or settlement where the immediate support took place to serve the impacted members. The settings will be classified by the formal and informal of the social aspect of refugees' locations. This method will try to answer several questions can be asked in context, Who has the power? How is socially and economically powered? Who is the audience? Who affects the context? The situation of Us as surrounded community and Others as Refugees. Who defines "Us" and who is "Other"? What fixes boundaries of us and others? What constructs it?

Literature review

i. Definitions

"A humanitarian emergency is an event or series of events that represents a critical threat to the health, safety, security or wellbeing of a community or other large group of people, usually over a wide area."(Coalition 2013)

Humanitarian Coalition, Retrieved on 6 May 2013

Refugees

The blanket term describes the displaced population who has assistantship from the humanitarian organization. The definition of United Nation High Commissioner for Refugees was limited to people who have crossed the borders of their country of origin to seek asylum because of fear of persecution. Within the last three decades, this is developed to include people who internally displaced (IPDs) besides who returned to the place of origin and with a temporary asylum status with no official description of a refugee from the host country. UNHCR definition includes people who have assistantship from organizations and displaced due to the natural disaster. The distinction between each case is the international and protection law, in addition to the size, location and the physical boundaries of the refugees' settlements(Kennedy 2008).

Refugee's Settlement

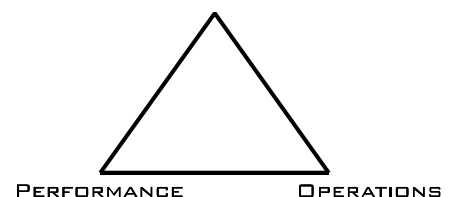
Begin with Camps definition which is a large grouping of shelters for the displaced populations (Refugees). The grouping is not less than 50 households. The refugee's camp is an extreme form of urban and architectural practice. The components are institutional, formal, and design procedure which influenced to form the result of the refugee settlement. The camp regulations shall stand at least at some distance from the host community, it does not consider integration or a place of permanence (Kennedy 2008). There are three categories of the durable solutions in the case of refugees, voluntary repatriation, and integrations within the host community and resettled in a third country (UNHCR 2007a:44-45). As previously mentioned the integration is less clear. Even though the cases are not predictable and it is not the best practice to maintain permanence "Camps occasionally become permanent settlements" this is foreseen before the camp is established (UNHCR, 1996).

The settlement is a composition of operations, performance and morphology. The settlement is also expansion for the refugee's shelters, it has six categories, settlement within host families, rural and self-settlement, urban self-settlement, grouped and collective settlement, self-settled camps, planned camps(Corsellis & Vitale 2005:2).

Design within the Refugees' context

In the matter of the fact, the design of the camps is referred to its own action. A general formal hierarchy of principles, concepts and procedures gives the built environment the products of systematics and initial indications of the sequential actions. The planned camp is divided to residential shelters and non-residential of communal spaces for sanitation, cooking, and places of worship. Finally; the product of the built environments is a multidimensional design of interventions that evolves multitude of hand(Kennedy 2008)

Fig: Refugee settlement composition
MORPHOLOGY



Actors in the Refugees` context

The actors divided into two categories direct and indirect supporting program. There is a variety of organizations that contribute by its direct supporting programs for refugees. The direct involvement is affected the built environment and the rules of the context of refugee. INGOs is the international non-governmental organizations, IOs is international organizations such like the Red Cross movement, IOMs is the international organizations of migration and the UN agencies. Beside that the host government who has international agreements with UN laws for the humanitarian response. The Indirect implementations of the organization are as funding and supporting(Kennedy 2008). The refugees who are the inhabitants of the settlements have a primary influence and affect the built environment. The variation of background gives a great variety of design expectations and responses to their physical elements. The addition of the refugee definition is that a unified force interacts with the environment greatly and rapidly(Kennedy 2008).

ii. Human System**Humanitarian crises In Middle East**

The UNHCR was expected to disappear after WWII refugees resettled, but it is still an official institution for refugee's rights due to the continuation of the needs for the formal intergovernmental network around the globe due to Humanitarian problem and its evidence of the vulnerability of the communities.(Loescher, Betts et al. 2008) The refugees have always existed due to wars, political conflict, ethnicity, religions crimes and others human right abuses(Loescher, Betts et al. 2008). In the past decade, Humanitarian crises and the number of affected people have doubled(Nation) .

The Middle East was worship site of protection by offering a refuge for people who was fleeing from conflict(Loescher, Betts et al. 2008) . The current situation in the Syrian crisis in the Middle East entered its fifth year where almost half of the population is forced to move out. The conflict affects the surrounding states that Lebanon and Jordan have the highest ratio for the existence of refugees per capita worldwide(Ghazal Sep 03,2015)

By the global refugee regime, it includes agreements and practices which define the obligations, rules, norms, principles and the procedures. The mandatory practice of the UN institutions and states that agreed by providing protection, durable solutions, protracted refugee situations besides the protection and solutions as political, politics of asylum to face the refugee's waves and conditions(Loescher, Betts et al. 2008). Nowadays; Jordan has sectors to adapt and develop the responses strategies toward the Humanitarian crisis that it is currently happening. The policies come as three terms; Short-Term is the humanitarian funds, Medium-Term is the preventing deterioration, and Long-Term is the development funds(Sigmond 2016).

The sectors divided the responses into two components:

1. (The Refugee Component): it is defined by the providing the protection and assistance to the refugees who are living in camps; settlements or in the local communities. It aims to immediate strengthen the impacted communities such as maintaining food, sanitation, healthcare, shelter, and relief items. It is adapted by UNHCR (Sigmond 2016).
2. (The Resilience Component): it is defined by assisting the impacted communities to cope and recover from the crisis in all the sectors. The management and strategies of household, communities and national system. This response to expanding the capacities of the local and national systems that face pressure. It is adapted by United Nations Development Programme(Sigmond 2016).

Dynamic of Refugees` in Jordan

Throughout the history Jordan accepted refugees, the waves already started before the region of Transjordan become an official state, and these waves changed the social fabric of the country and changed the urbanism of the contexts. This section highlights the fabric of refugees where some became Jordanians and have the full citizenship rights.

1- Jordan Minorities

Large waves arrived from the North-West of Caucasus in 19th century to the Ottoman Empire where they formed settlements and placed relationship with the locals. Circassians took Jordan as one of the refuge places where they are maintaining their identity and culture with a level of integration in the Jordanian society (Shami 2009).

Between 1878 and 1905, Immigrant formation of the settlements took place in Amman, Jerash, and Balqa region. The first settlements were in caves and the Roman ruins of Amman and Jerash. In very short time, their role in the development started to appear within these areas, for example, they added new agricultural techniques besides the establishment of the economy, and this helped Amman to grow in urban center. The urban formation was different from the Arab villages in the agricultural lands as shown in figure (1). The houses were built in a small spot within the land that owned by individual and separated from the surrounding houses, in contrast of the clustered back to back houses in lands that belonging to the all the village which marked the spaces between Arabs and Circassians by the economy factor(Shami 2009). The street pattern was wider due to the different type transportation mobility cart which made urban context distinguished between the Circassian and Arabs areas. The architectural feature and the building techniques were also strikingly distinctive. The first generation of Circassian dwellings appeared as stoned building of simple façade and flat roof and the second type was mud brick building and porches of wooden posts that hold the roof, rooms were open to the porches. The masonry work was by the family themselves, and local masons were not used (Shami 2009). The spatial structure of the settlements reflected the social organization and the relationship of the origins of the Circassian waves. Amman was divided into three main quarters of groups, two-quarters toward North-West side, and South-East was Chechen side. The Wadi-seer location had clear division due to the topography which formed upper and lower quarters, and each one has the cemetery where they still separated until the moment (Shami 2009).

The Jordan became a state in 1921, and the Circassian formed the middle-class in the community with positions in the government and military, besides the substantial representation in the parliament(Shami 2009).Until the moment, the Circassian`s royal guards with their traditional warrior uniform who served the kings are unique evidence of the Circassian`s culture in Jordan society(Abu Assab 2011).

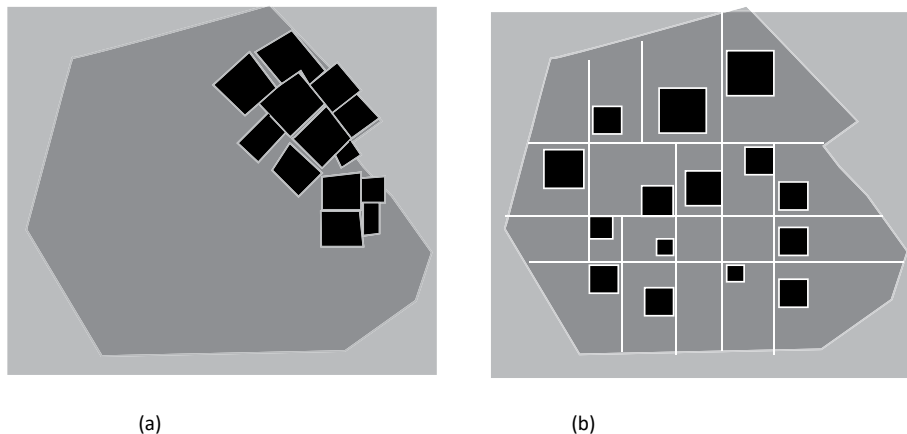


Fig. (1): a: Arabs village formation. b: Circassian village formation(Author)

2- Palestinian

The understanding of the human dimension of the Palestinian refugees is by knowing their experience of trauma and suffering when they had fled Palestine following the establishment of the state of Israel (Marshood 2010). Palestinian refugees' definition is the refugees who were residents of Palestine between June 1946 and 1948 and lost their homes in the 1948 Arabs-Israeli conflict; all the refugees have the Jordanian citizenship. Consequently, in 1967 the new refugees moved to Jordan and it was defined as internal displacement since the West Bank and Jordan were united (Marshood 2010).

United Nation Relief and Work Agency, UNRWA came to the sense of humanitarian crises of the Palestinian refugees while other refugees are under UNHCR commissions. According to the UNRWA close to 1.9 million Palestinian and they are registered as refugees, and 335000 are living in camps. In Jordan, there are thirteen refugee camps; ten of them are official which mean that UNRWA provides the physical infrastructure and the social services. The Jordanian government manages the unofficial camps (Alnsour and Meaton 2014). The Palestinians who live in camps are the fourth generation of the refugees came from different villages and cities, but they shared the same experience of pain and lost. Some camps established since the Nakbah 1948 namely: Irbid Camp; Hitten Camp, also known as Marka Camp; Jerash Camp, also known as Gaza Camp; and Zarqa Camp, Al-Hussein Camp, and Baqa'a Camp. The camps have the identity of the origin, and it is isolated homogenous fabric. The access to the camps is a challenge due to the "Control Factor" by which the institutions and mechanism that controls the camps (Marshood 2010).

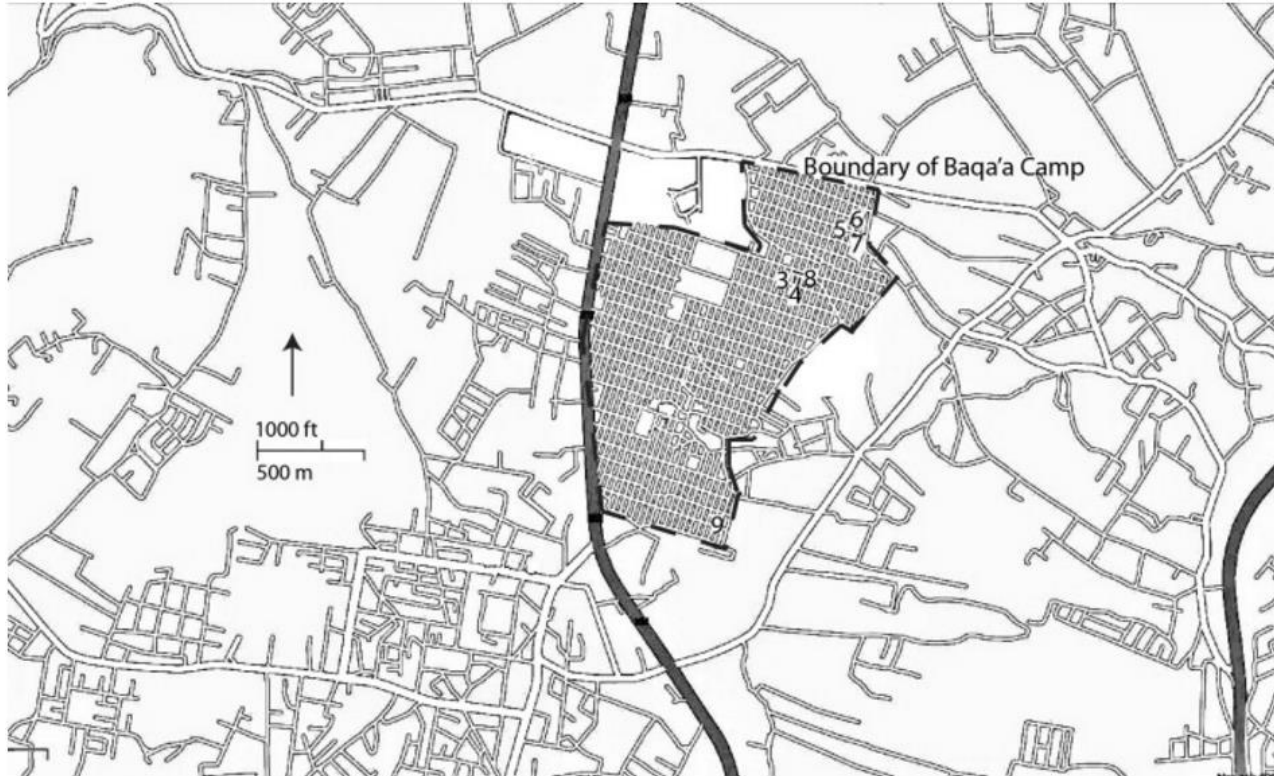
The built environment and the spaces of the camp were originally tents and marquees which provided the shelter. Over the decade the refugees are now living in the brick houses, the urban fabric can be described as haphazard pieces; it is now considered more permanent low-income housing (Alnsour and Meaton 2014).

Official Palestinians' refugee camps in Jordan.

Name of camp and year established	Initial population	Population (mid 2000s)	Area M2	Density-pop per kilometre
Wehdat, 1955	5000	51,443	477,000	107,846
El-Hussein, 1952	8000	29,464	338,000	87,171
Baqa'a, 1968	26,000	93,916	1,307,000	72,243
Talbieh, 1968	5000	6970	133,000	52,406
Souf, 1967	Unknown	20,142	596,000	33,795
Husn, 1968	12,500	22,194	754,000	29,435
Irbid, 1950	4000	25,250	219,000	115,296
Gaza, 1968	11,500	27,600	507,000	54,437
Heteen, 1968	15,000	45,593	894,000	50,998
Zarqa, 1949		18,509	189,000	98,931

Source: <http://www.un.org.gate.lib.buffalo.edu/unrwa/refugees/Jordan.html>.

According to the Table of the official camps in Jordan, it shows that the largest Palestine camp in term of population and the area is the Baqa'a camp which was established in 1968. The density of 29,000 to 115,000 persons per sq.km which compared with Mumbai with less density of 30,000 (Citymayors, 2013).



Fig(2):Aerial view of Baqa'a Camp.

Source: maps.google.co.uk, adapted from <http://goo.gl/maps/zlkwH>

In the context of the refugee camps, there are two issues of the construction of their built environment. The quality of the urban housing which can't provide a communication within the community. The housing conditions and people sensation toward their houses(Alnsour and Meaton 2014).

In Baqa'a camp there are three qualities of the housing:

1. High quality with appropriate features and material.
2. Medium quality with appropriate material but insufficient ventilation spaces.
3. Low quality with no planning or standards in term of structure, spaces, and material.

The style of the houses was informal without planning or regulations. It was related to the temporary urban design of the tent structure as the formation of the camps and the symbolic right of return. The tents were replaced and became permanent with the different design style, materials(Alnsour and Meaton 2014).



Fig(3):Photos of Baqa'a Camp. (Alnsour and Meaton 2014)

3- Iraqis

Iraqis expressed multiple displacements since the mid of 90's after the Gulf war, by 2003 nearly 350000 Iraqis in Jordan. The Iraqis are considering Jordan and the neighbor countries as translocating destinations to transit to become asylum seekers to the developed countries(Saltsman 2011) .Refers to UNHCR report 2009, the Jordan urban setting has a constraint for the Iraqis migrant population; it is the lack of the access to the resources of education, health, and employment.

4- Syrians

The Syrian civil war has consequences of refugees who fled to the neighboring Jordan. UNHCR, Jordan government and the NGO's received the refugees to provide the basic needs include food, education, and health care. The Syrian is now 20% of the population of Jordan who is having the situation of temporary permanence. They are dependent on the aid provided, and the Jordanian government sees the refugees as an uncertainly source. The government faces the complexity of hosting the refugees meanwhile maintaining the security and the stability of the resources(Davidson 2015).

Syrian civil war started in March, 2011. Jordanian census in November 2015 showed that there are 1.4 million Syrian in Jordan where the registered number in the UNHCR is 628,427 refugees who live in official camps and urban context. It means that more 50% are not registered, and they are living in Jordanian cities. According to UNHCR, on a daily bases 300 people occurs to the Jordanian cities. These people find their way to urban areas; the majority goes to Mufrag, Irbid, Zarqa, and Amman looking for jobs and services. Irbid is the Jordanian border city with Syria; as a result Irbid has the largest number of families. Irbid city has 135,280 registered refugees who live in the city or its towns. The number is not an indicator of what is really there, 30% Percentage of all urban refugees registered with UNHCR in Irbid. The area of what is locally known as Dera'a refer to the city in Syria where is the origin of the most of the refugees. The urban fabric holds over 5,000 registered refugees. The area is located near the governmental university and beside Commercial Street.

The challenges are the amount of assistance varies monthly from 80 to 155 JD per family; it depends on the size of the household and average rental 175 JD. The food security gives (46%) in Irbid AOR received 20 JD per person per month, while (39%) received 10 JD. The refugees can access Ministry of Health facilities besides NHCR provides primary and secondary health care. Other challenges are the educational sector where is over 70% of school-age children are not attending school and mostly are unemployed (UNHCR).

In July 2012 Zaatari camp was established with 15,000 refugees and reached 56,666 refugees in the beginning of 2013. Since then, the camp came through regular fluctuations because of temporary and permanent movements. In a very short time, the number increased to reach more than 200,000 in its first year then declined to nowadays 79,979 registred refugees. According to UNHCR, the number of women headed the household is 1-5 and average of 80 births per week. The Zaatari camp located to the east of Mafrag city, it is in the boundary between the Hauran plateau and the Syrian Desert. The camp is the largest camp that accommodates Syria refugees. At the beginning the shelters were tents with harsh weather in the Jordanian desert, UNHCR provided 500 portable caravans as a shelter for over 2,500 of the most vulnerable refugees during 2012-13(UNHCR).

The camp is the fifth largest city in term of population, and it evolved more as a community. The 3,000 markets and shops of a wide range of food, household goods, and clothes have appeared, it is called 'Champs Elysees' and 2,500 refugee-operated shops and businesses. In addition approximately 6,500 labor opportunities are provided. The families started to personalize their shelters in many ways, they planted flowers and trees. The people changed the built environment in many levels, in order to have more comfortable and colorful surrounding.

Zaatari is divided into 12 districts, with representatives chosen from each district. The first two districts called “Old city” which the densest area and it is closer to the services and hospital.

The new camp of Azraq established in 2014. It administrates by the Jordanian Government and UNHCR. The camp has 30,000 shelters and other administration building; it has 3 hospitals, 3 schools. Nearly, 55% of refugees are under the age of 18, making the provision of basic education to school-aged children extremely difficult. It has low attendance rate (UNHCR).

In the north of Jordan, a rocky desert the Iraq camp stretch along 15km. The camp was originally for Iraqis and Kuwaitis in the first Gulf war. Nowadays is seen as a white row of metals household for Syrians. “Prisoners of the desert” the media is described the camps situation for refugees.

The Jordanian government opened new camp to accept the continuation of the refugees’ influx. Azraq camp is well planned one with a capacity of 130,000 refugees. It has four primary health care center. The field is divided into nine villages; each village has 3,500 caravans which are housing up to 15,000 (UNHCR). The village has two clinics, playground, police station and a school. The food supplied by a primary market and school children have their snacks in the school. The camp contains 53,946 refugees; the refugees have newly entered the country or moved from the urban areas and Zaatari camp. About 58% of the populations are children and 1226 people with disabilities.

Refugees’ life

Mostly vulnerable people tend to protect themselves and conscious about their surrounding and their areas. Refugees are affected by the powerlessness in term of personality, intellectual power, ability and the relationship (Lammers 2007).

The feeling of the negativity about the Organizations or governments which it refers to the conflict they have the term “sleeping with the enemies” which gives lack of trust toward the new system that they are living in which has the direct contact with refugees (Lammers 2007).

The state of refugees:
Very little information about themselves
Insecure
Feel of Fear
Memories of wars
Lack of peaceful environment

There are differences between the research of the refugees in camps and in cities that in the cities is less orderly and transparent. The diversity refugees backgrounds, concerns, and status of the Urban fabric (Lammers 2007). Refugees have situations of reporting stress, depression, and PTSD which is posttraumatic stress disorder. The social environment and circumstances supporting this situation by three universal psychological needs (Weinstein, Khabbaz et al. 2016):

Competence (effective)
Relatedness (connected to others)
Autonomy (acting with choice)

iii. Built-Environment System

In this section discusses the man-made surrounding for the refugees context, it provides the general aspects of the public health, sanitation and constructions engineering of the short need of shelters. The design of the context neglects to rethink social and economic of the fabric for long term(Kennedy 2008).

Resilient Urbanism

The Urban built environment is defined as a building, structure and infrastructure representative in the physical and social aspects where the people can live, work, and communicate (Bagaeen, 2006). Cities are formed of weaved systems which affect individual and social communities. The results of the cities' creation are urban structures, community network and monitor the performance. The concern in the society of the city is the population growth where are the stress, and the shock will be faced. The problem is that includes foreseen and unforeseen threats exclusive in a large urban system(OECD June 2016).

The factors of the emotional attachment are accessible of public spaces and institutions it is including the Mobility, Obstacles, Sense of isolation. What are the scales to measure the resilience of the cities? Big Data analytics, technology, innovative land-use policy and planning, infrastructure design, new financing and insurance products, and frequent crises management platforms and smart and predictive policing(Wood, McGrath et al. 2012).

Reform the cities to be more resilient:

- Absorb, adapt, transform and prepare for the past and future shocks and stresses to ensure sustainable development, well-being, and inclusive growth.
- Adaptation: solving problems, manage to provide a solution and take a benefit from the past experiences.
 - Absorb: find the gap and provide well design system to absorb the impacts.
 - Redundant: Spare systems to capable of serving in front of the unexpected changes
 - Flexible: the rapid response.
 - Resourceful: find essential and new resources to make the systems, and the services functioned.
 - Inclusive: The system that is inclusively designed to ensure the diversity in the communities are consulted and empowered in the process of developing the policies as possible.
 - Integration: a co-operation and collaboration.

Dynamic Refugees Urbanism

In cities, development and agencies need to account some factors: diverse urban populations. The population is the both displaced and host communities), the presence of a variety of existing state and non-state actors (armed and not armed, licit and illicit). In the disaster response the diversity of formal and informal institutions that all play roles (whether positive or negative)(Kunz 1973).

Types of long-term stressors:(Sigmond 2016)

- Demographic shock, the continued refugees' influx. The pressure will continue on the services, housing, and labor market.
- An Economic shock, disruption, and loss of the activities of trades, agriculture, and industry by the refugees' crises as well as the conflict is happening in the surrounding.
- Social and political conflict.

The organizations of a settlement are the accessible housing, transportation, education, community service health care and political process beside the social network of refugees. Urban spaces construct the citizenship and identity. The strategy relies on encouraging their own and their households' resources to

reproductions. The infrastructure in the communities is the work of connectivity of resources, information, and people(Wood, McGrath et al. 2012).

The study of the social resilience by:

- The form of Local supportive communities.
- The providence of the connectivity to the resources of the hard and soft infrastructures.
- The emotional support that leads to the attachment to the place.
- Social infrastructure.

The emotional geographies are the relationship of the people with place. It is the connectivity of the site and the sense of well-being. There are policies, process, and practice. The emotion forms the economics and politics. Meaningful senses of space which has multi-scales from the human being to the nation scale(Wood, McGrath et al. 2012).

Refugees are facing employment challenges in the one year and again in 5 years where the most affected people who have professional and managerial occupations. Refugees who earn assistance in their income face a low level of living after seven years. The results are the mental issues of frustration and insecurity which affects the mental health of individuals and families. The public transits have advantages for the refugees more than the citizens themselves. Ethnic neighborhoods are an infrastructure of social and emotional networks to support the settlement process (Wood, McGrath et al. 2012).

The valuable connections are an essential part of the refugees' settlements process. How can we enhance the settlements infrastructure to increase the belonging to the nation?

The two cases of the emotional connectivity of the geographies of refugees settlements:

- Personal connectivity with settlements worker
- Physical and communities infrastructure

During my second semester of the graduate school I had studio project that we had in School of Architecture and Planning, University at Buffalo, the project is to Rethinking Resettlement in Buffalo. Resettlement is defined as acclimation and early stages of adaptation, while integration is a long-term process through which individuals become full and empowered participants in all dimensions of the society. Our proposal seeks to embed a carefully composed mix of supportive programs to prepare the refugees better for this long-term integration. The ideal resettlement time is three years until they are ready to move into their owned homes.

We viewed the refugees' resettlement issue in Buffalo from different angles to try to develop strategies in various scales, the urban, the architecture and the unit scale. The urban scale helps resolve not only resettlement issues but also revitalizes unoccupied monuments around buffalo's beltline. On a smaller scale, we picked a building among on the beltline and we are to highlight the refugees' needs to integrate into their new environment without undermining their unfortunate psychological backgrounds. The new build's extension will include an active courtyard, community kitchen, community garden, community daycare, and a retreat center. On the smallest scale, as per unit we designed flexible apartment units and partition walls can that acquire different family sizes.



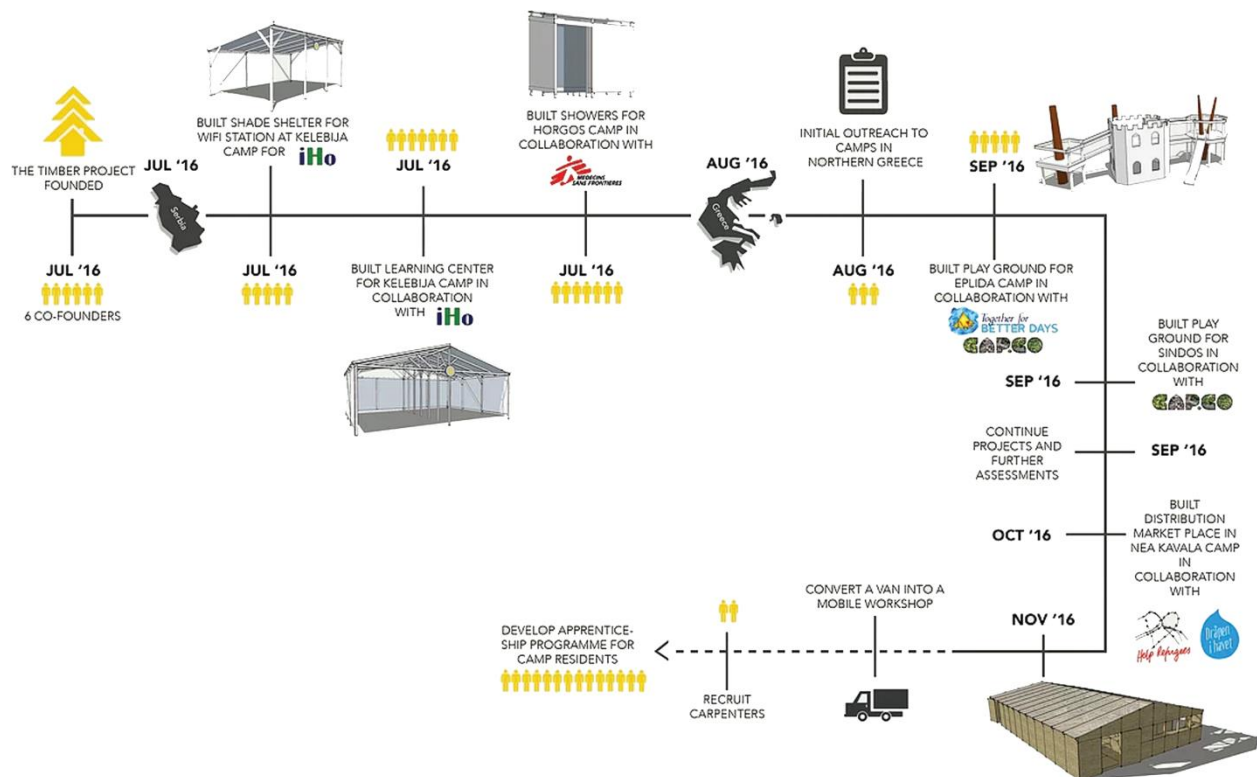
Fig(4): Project: Rethinking resettlements/Occupied Monuments

Authors: Ajouz, Alawneh, Mirghaderi

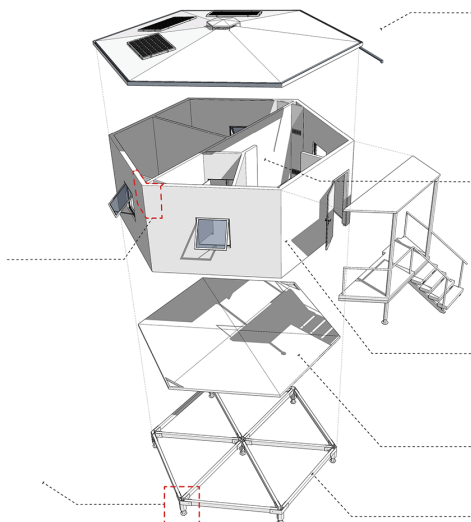
Year: 2016

The Timber Project is a non-profit organization. It is a project that developed by two Edinburgh alumni after a visit to Greece in the Christmas to help desperate refugees arriving by boat from Turkey. They noticed the needs to work for the vulnerable community of refugees. The project is to provide basic shelter, shower blocks, children's play areas, and hygiene facilities for refugees in Greece.

The objective of the project is addressing the urgent needs for refugees. They are building health, education, recreational and services units and seeking to improve conditions in the camps.



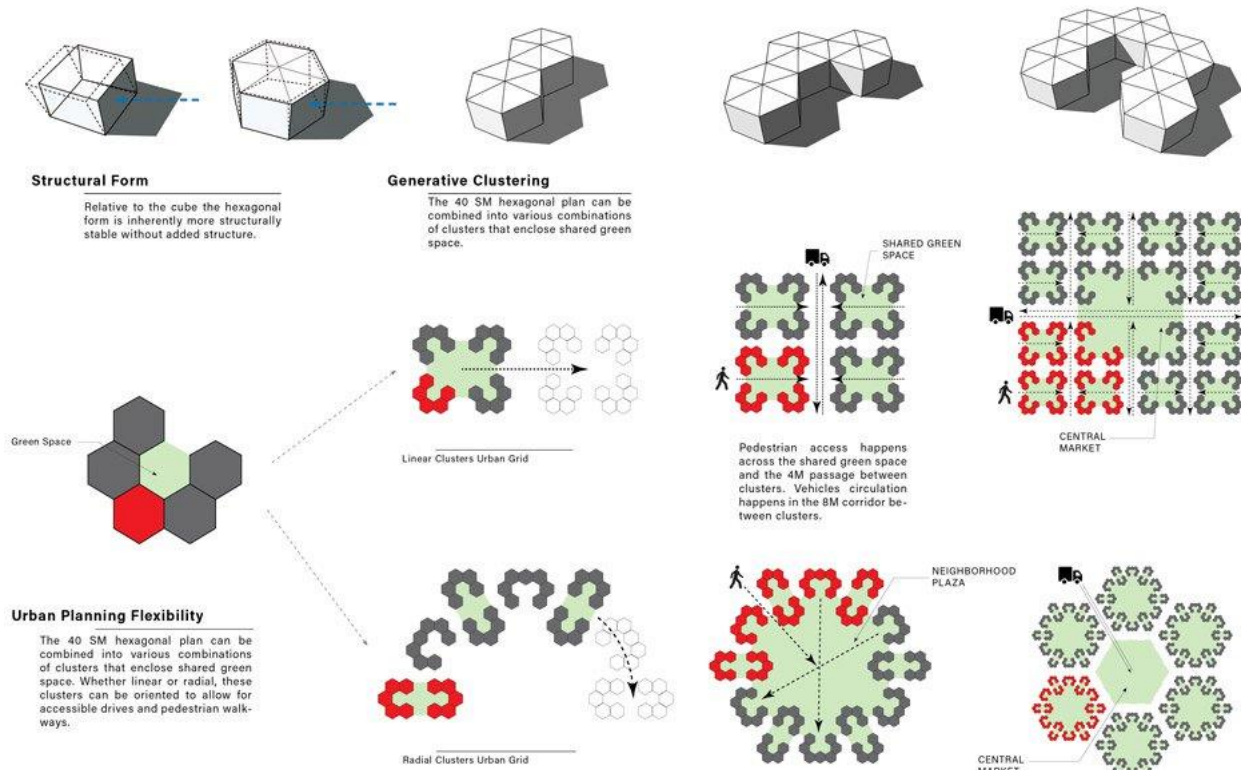
Fig(5): The Timber project Timeline
<http://www.thetimberproject.co.uk/story-so-far>



Fig(6): Construction diagram
<https://www.dezeen.com/2016/04/14/architects-for-society-low-cost-hexagonal-shelter-housing-refugees-crisis-humanitarian-architecture/>

The project of the low-cost hexagonal shelters for refugees is a proposal stems from the organization's recent work with Chalmers University in Gutenberg, Sweden, it is a shelter prototype for Syrian refugees in Alzaatari Camp.

Each Hex House unit has two bedrooms, a kitchen, a bathroom, a living room and a small porch. The units can be combined to provide larger area. The structure of the hex elements made of SIPs with steel façade and foam insulation. The exterior panels approximately are 10-13 feet. The ventilation windows varied in its size.



Fig(8): Planning diagram
<http://www.thetimberproject.co.uk/story-so-far>

Cultural Architecture

Building culture defines by human relationship and social habit; institution doesn't play a significant role in this term. It is working with complex and integrated Human Systems(Davis 2006).

In the agricultural communities the impacted the changes rapidly, the economic improvement or the social changes which form the communities of farming in the world. Differences in the religious, social structure, economics, and the relationships of cities and towns, this causes differences in the built environment of the buildings. The timing of the construction activity tied to cycle or the human ritual of the birth, marriage, and death (Davis 2006).

Dynamic Refugees Architecture

The primary concern for the building for refugees is to have the safe and secure place; the refugees seek to have a secure structure where they can have their needs and develop it to fulfill the short and long-term needs. In the camp such as village, No formal institutions and comprehensive knowledge of the building, the social structure of family related to the involvement of the houses construction year after year, it is built by the well-known mason workers who live in the same area. (Davis 2006)

The camps are easy and quick solutions in the architecture cycle. It makes of the tents and caravans, the organizations put the first line of the cycle. The camps are planned as self-contained systems of economy, managements and multilayers process.(Dalal 2015)

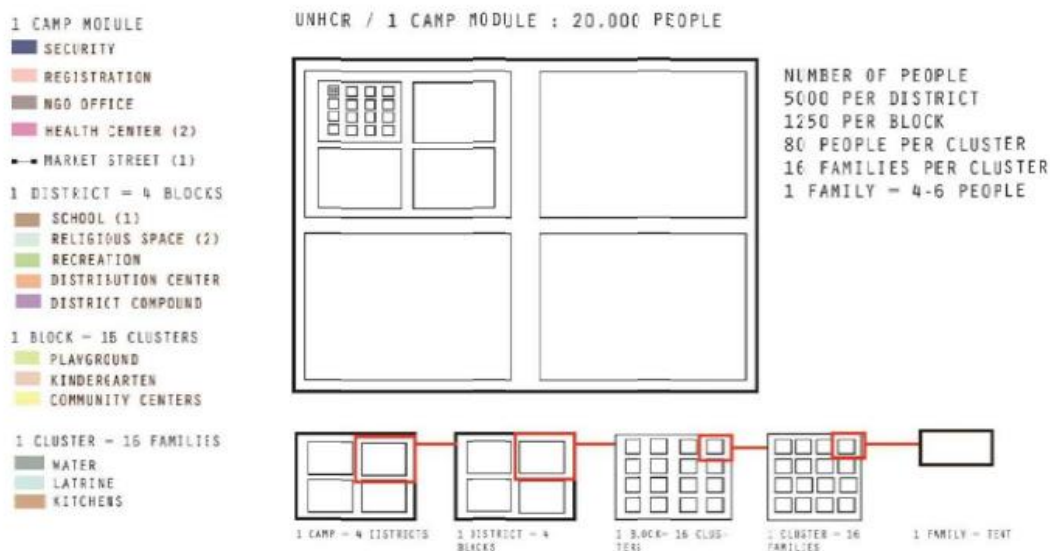
The camps begin to create new social, cultural and political systems, this reflects on the spaces of the refugees' built-environments. In the time, the people are starting to change and replace the structure of their shelter to feel the permanence and being safe and secure.(Chaudhry 2015)

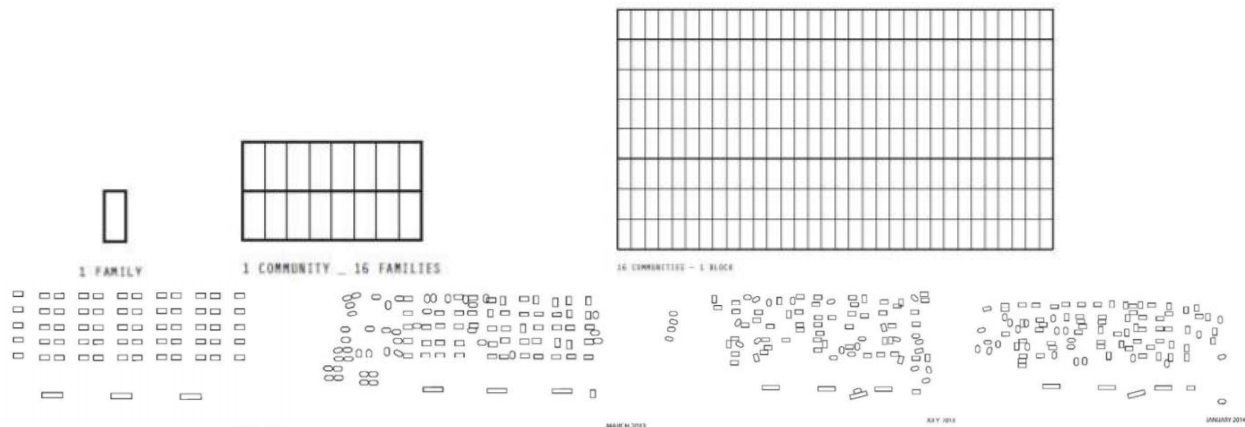
According to UNHCR the size of the camp calculated as following:

$$20,000 \times 45\text{m}^2 = 900,000 \text{ m}^2$$

The master plan for the camps include the surrounding characteristics of nature, existence features, topography, services, shelter areas and the potentials expansion.

UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES REGULATIONS





Fig(9): Changes in the Clustered of the refugees' shelters(Chaudhry 2015)

The following table indicates the camp organization refers to UNHCR which is containing modulars, content and the populations for the planned camps.

Module	Content	population
Family	1 family	4-6 persons
Community	16 families	80 persons
Block	16 communities	1,250 persons
Sector	4 blocks	5,000 persons
Camp	4 sectors	20,000 persons

Each camp has the services and infrastructure organized as the following:

Service	Per population
1 water tap	1 community (80-100 person)
1 latrine	(6-10 person)
1 health center	(20,000 person)
1 referral hospital	(200,000 person)
1 school block	(5,000 person)
4 distribution points	(20,000 person)
1 market	(20,000 person)
1 feeding center	(20,000 person)
2 refuse drums	1 community (80-100 person)

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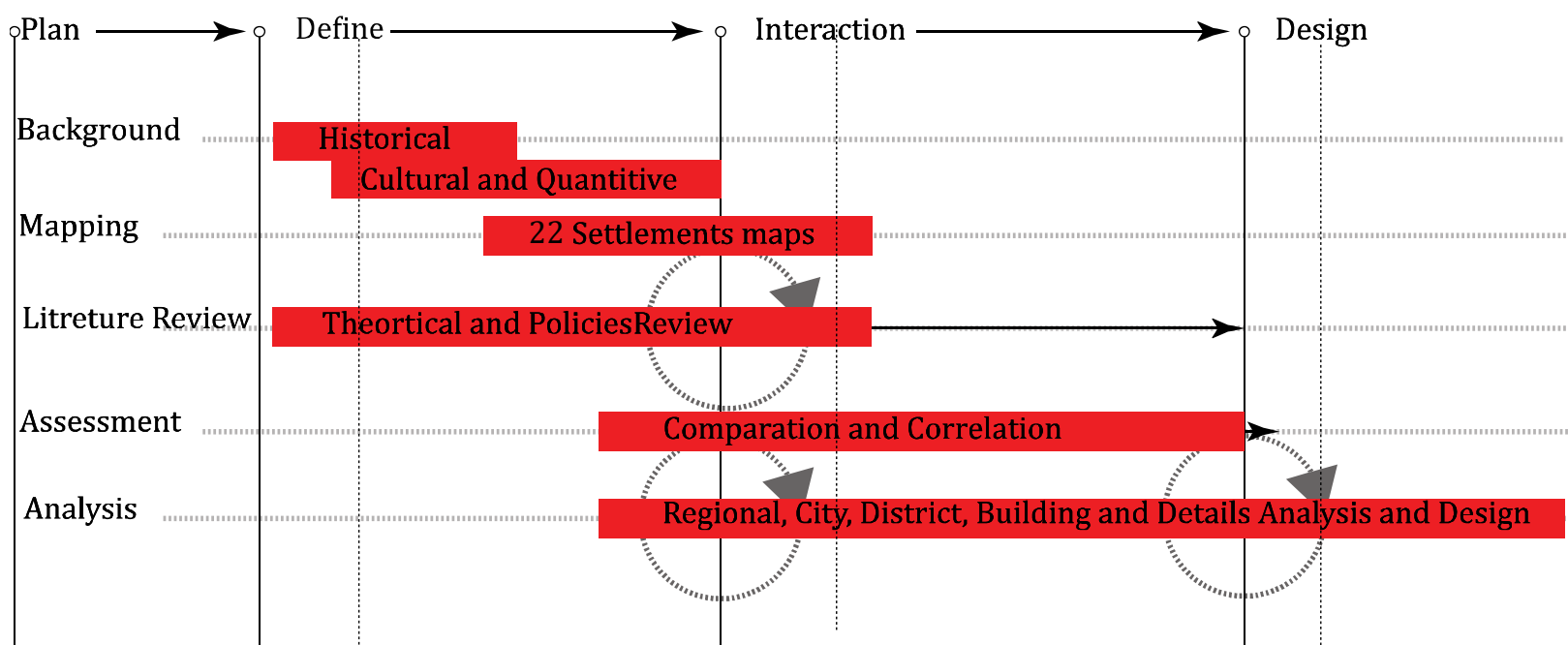
Research Methodology

The research methodology is exploring the multilayers of the conditions in Jordan refugees' settlements; it tries to understand the refugee's systems within the built environment. The objective of the methods is to understand the underlying of the cities practice, analysis the settlements' operations, analysis the disciplines that affected transformation or creation of the cities, reach the hidden resilient components and inclusive urbanism that the host country the international organization can obtain a general plan for the refugee's settlements. The phases of the method process are:

- Historical, quantitative and cultural background research.
- Mapping of the settlements.
- Literature review.
- Analysis photographic, statistics, and recorded videos.
- Design alternatives.

It is an indirect suggestion of a relationship between Research and Design the potential options of urbanism within the complexity of the urban condition of refugees settlements. The methodology seeks to make a connection of components in the analytical process. The sequences of the process led to objectives which make arguments of the issue and the importance of a collective set of the settlements within Jordan. The comparative and correlated analysis of the cases is by making a particular set of criteria such as context, social network, time, and population. The assessment process is that gives the ranking for the selection of the most cases by it is spatial, formal, social, historical, and statistics background that has variation and similarly beside its potentials and gaps of the human system and the built-environment system. The previous process gives the results of the correlational assessment by making deep analysis by for each selected case by scales which is started with Regional, City, District, Building, and materials. In the design, products can be embedded within the last process by making interventions in each scale for the different cases.

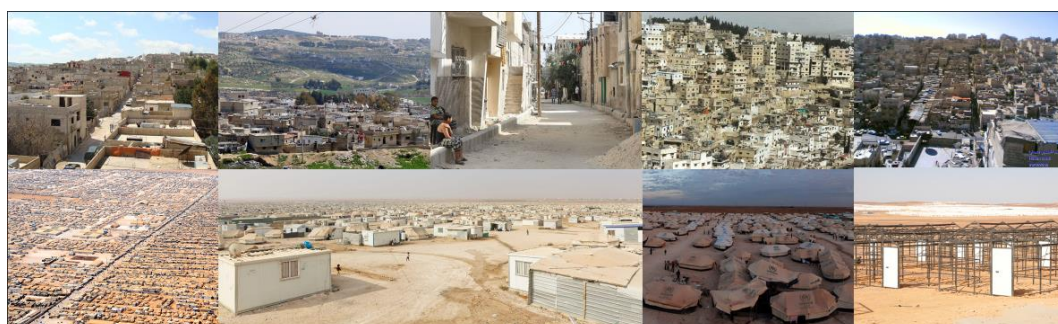
Research Methodology Diagram

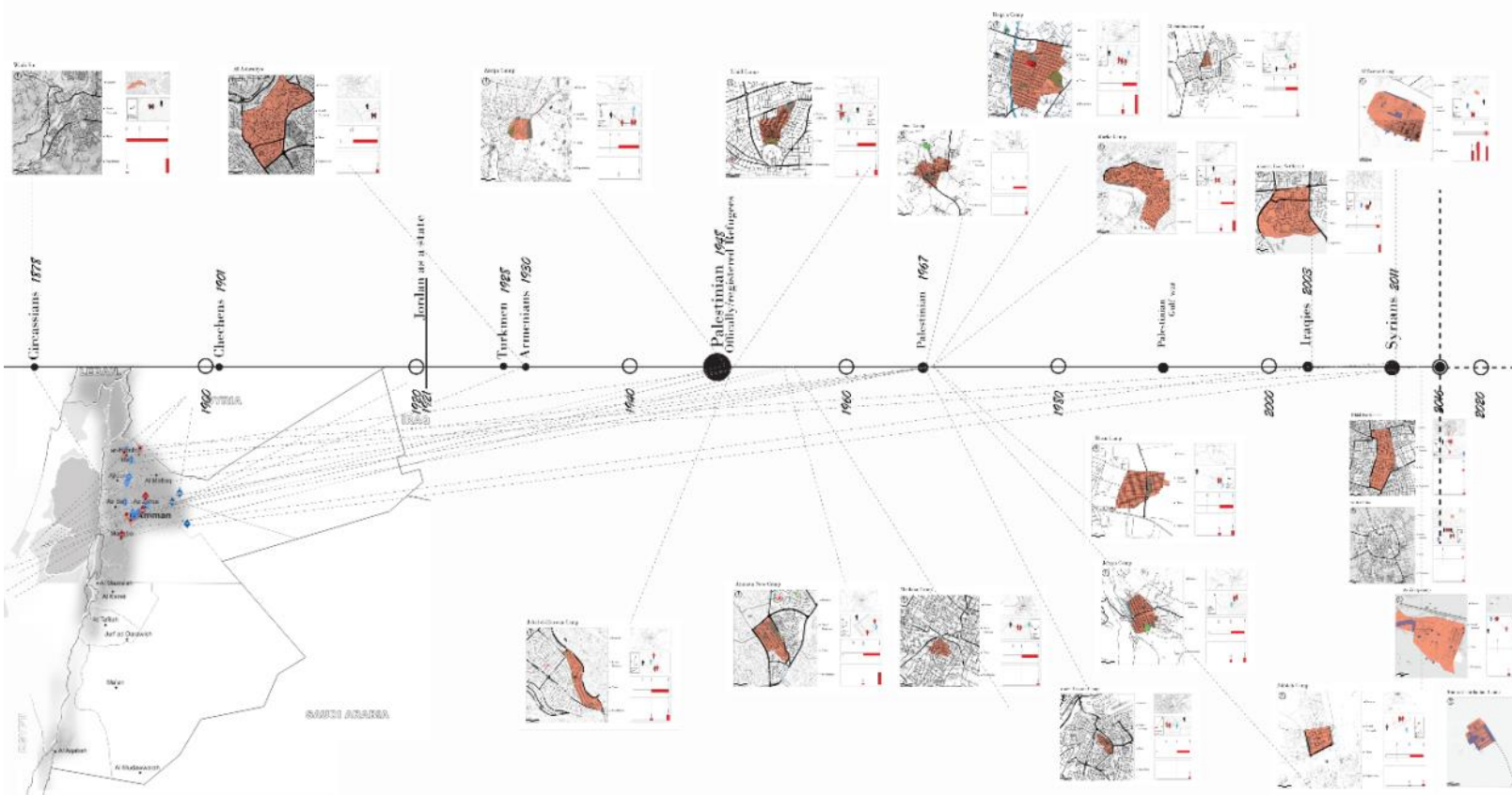
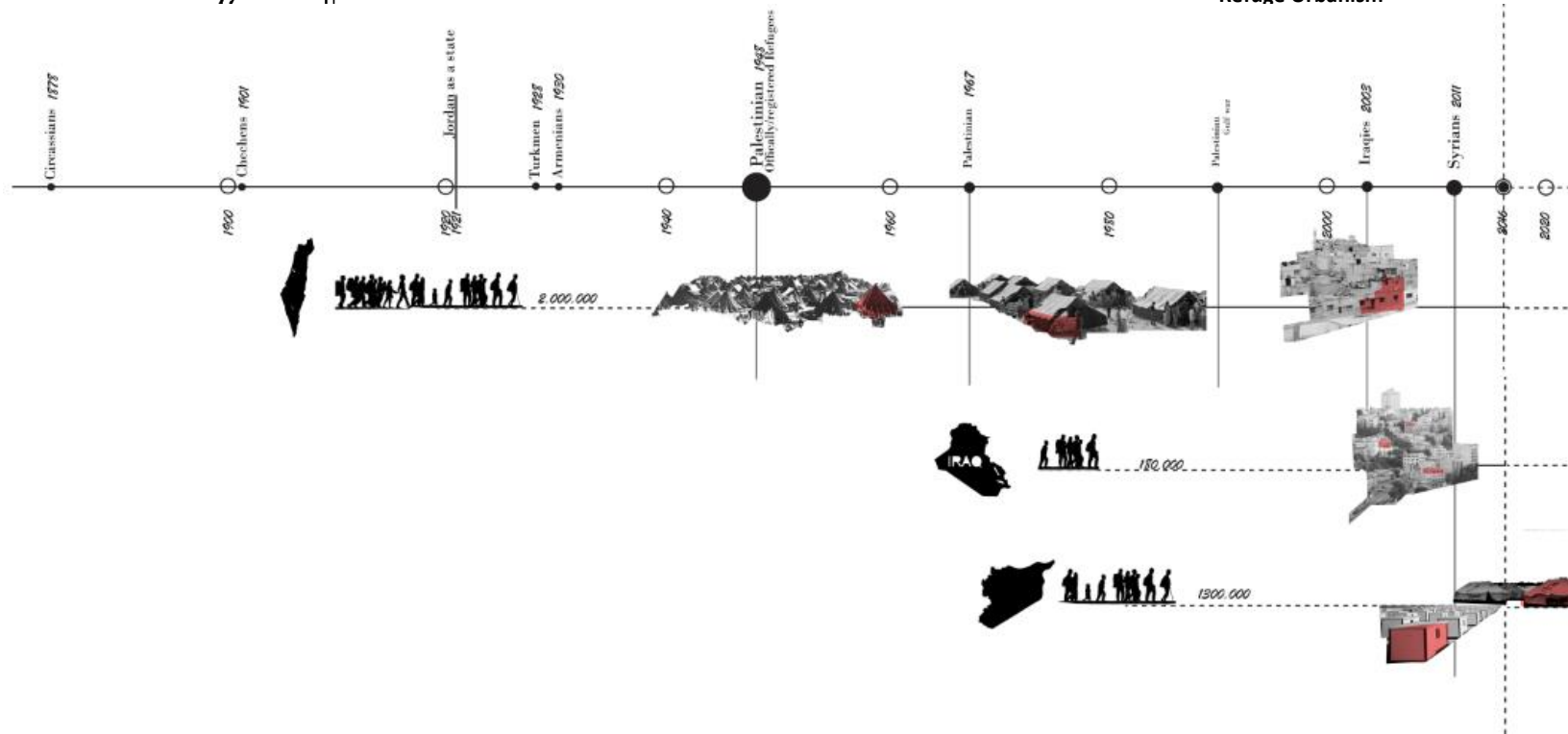


Historical, quantitative and cultural background research

The Historical documentation clearly is the traditional method to use in the research in order to understand and have engagement with existing of the refugees settlements in the context of Jordan. The following chart is clarifying all the cases of the settlements with the information of location. Beside the background information, the historical and current photos are collected to build up archival library to enhance the understanding of the condition and its process.

Settlements	Location	Time	Population
Wadi-Sir	Amman	1878	60,000
Ashrafeeh	Amman	1930	6,000
Azarqa Camp	Azarqa	1949	20,000
Irbid Camp	Irbid	1950	28,000
Amman new Camp	Amman	1951	57,000
Jabal Hussein Camp	Amman	1955	32,000
Baqaa Camp	Balqa	1968	119,000
Souf Camp	Jarash	1968	19,000
Jarash Camp	Jarash	1968	25,000
Amir Hassan Camp	Azarqa	1968	10,000
Madaba Camp	Madaba	1955	5,500
Asukhneh Camp	Azarqa	1968	6,000
Alhusun Camp	Irbid	1968	25,000
Talbeih Camp	Amman	1967	8,000
Marka Camp	Amman	1968	53,000
Dir ghbar	Amman	2003	48,000
Zaatari Camp	Mafraq	2013	79,900
Azraq Camp	Azarqa	2014	54,000
Emarites Camp	Azarqa	2014	7,730
Irbid Settlement	Irbid	2011	5,700
Ramtha	Irbid	2011	7,700



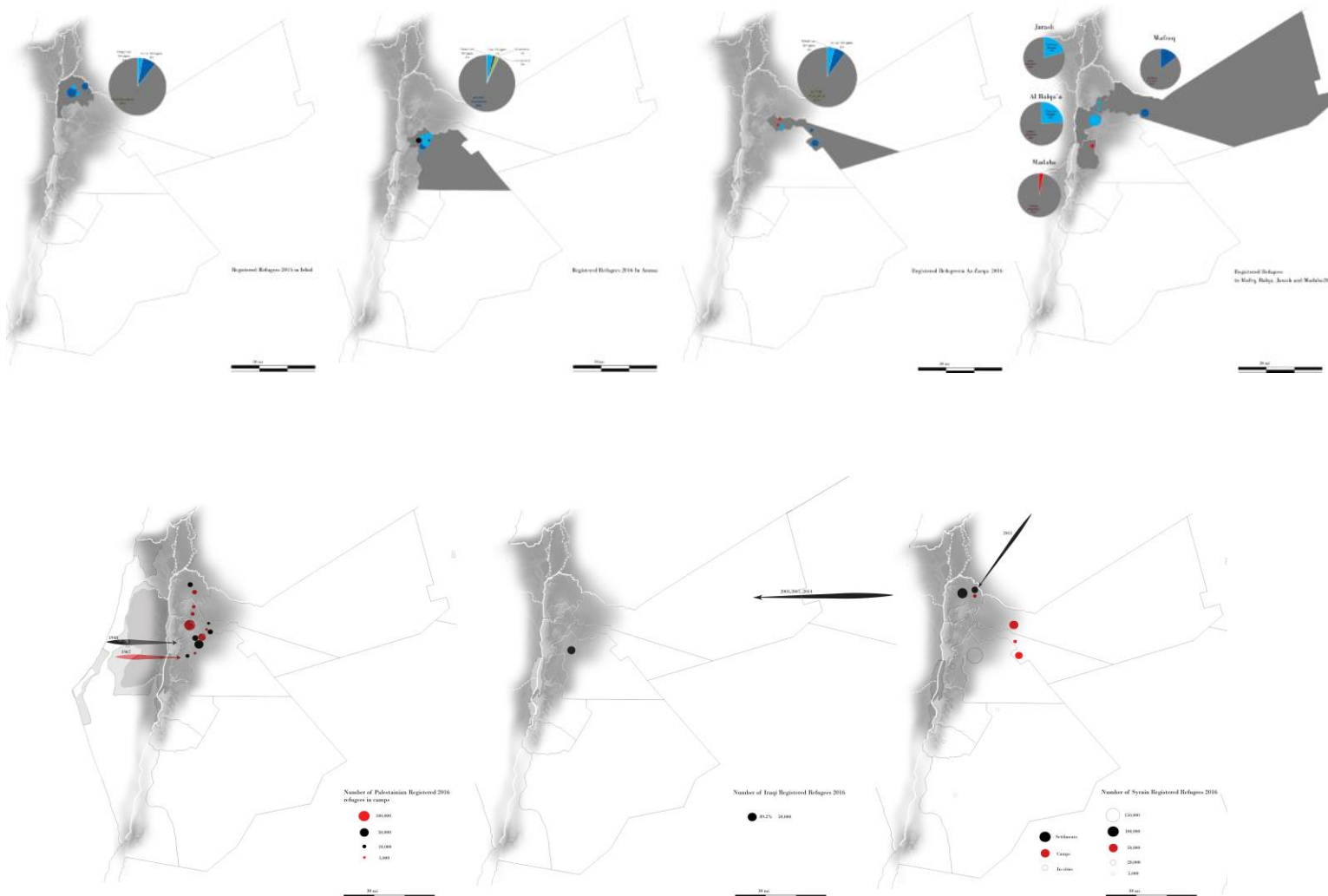


The Timeline indicates the origins of the refugees and the time of its establishments. Jordan map has the locations and its identification as camps or urban settlements.

Mapping of the settlements

The mapping is used as method to display information about the settlements within the cities and it is location and demographics of both refugees and host communities. The other type of mapping in the regional scale is classifications by the origin country of refugees. Other classifications are the social aspect of refugees' locations and the formation of the wave's existence:

- The extension of cities: is creating new neighborhoods that need new infrastructure with the cities services.
- Revive neighborhoods: is changing the city identity by an existence of the new arrivals.
- Form new cities: The genuine cities are produced by the existence of the social fabric to habitat certain location and have a new social infrastructure.
- Integration within cities: unexpected increscent of social fabric within the urban fabric formed in a certain way to meet the new social needs of these waves.





Official Organizations

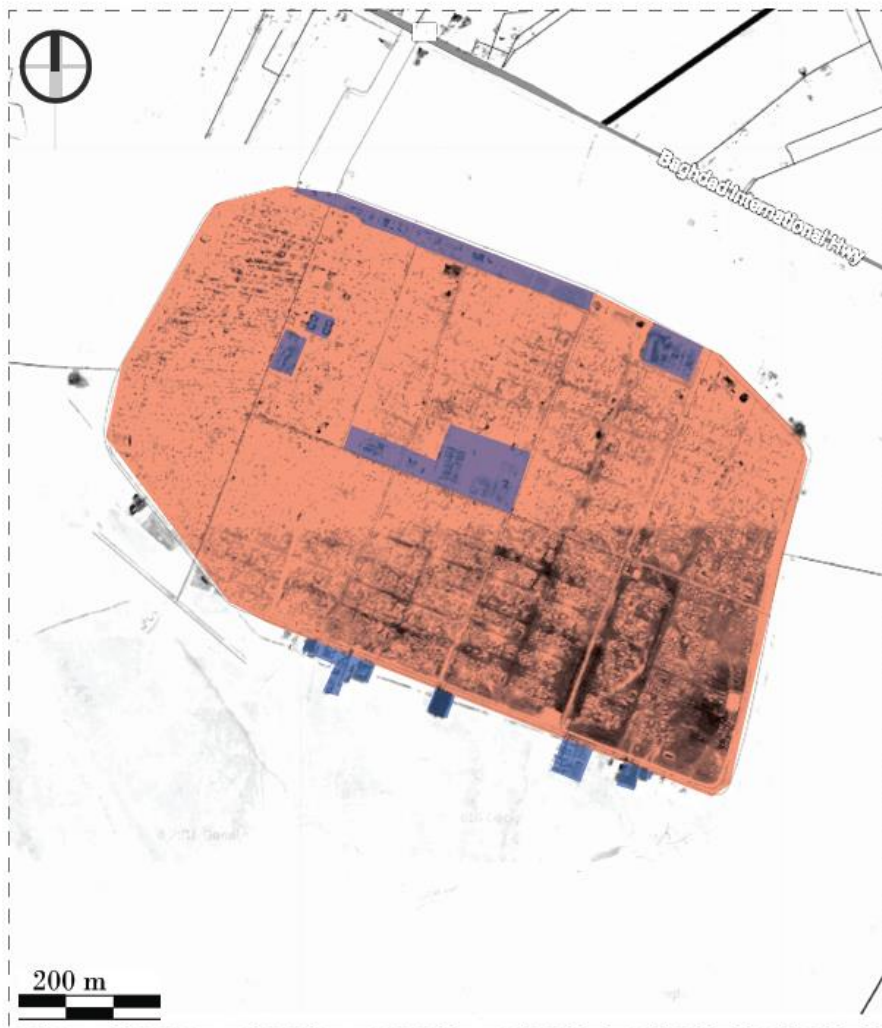
- UNRWA Camps 
- UNHCR Camps 
- Unofficial Camps
- Settlements



The mapping of the following settlements and within the timeline of the Jordan history and this comes in scale in order to have the sense of the area and to have the assessments for the settlements in the criteria of location, social network, time and population.

This is an example of one of the camps. The heading title of the name and the analysis is divided into five parts the maps is giving the area of the territory of camp and it highlights the institutional location. The four categories of the analysis are context, Social network, time and population within the timeline of the camp.

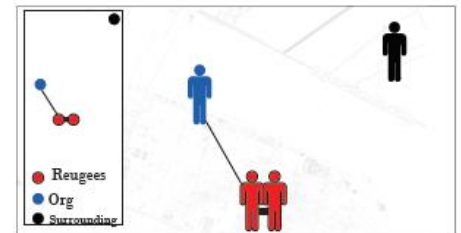
Al Zaatari Camp



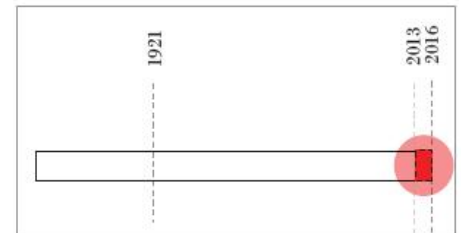
● Context



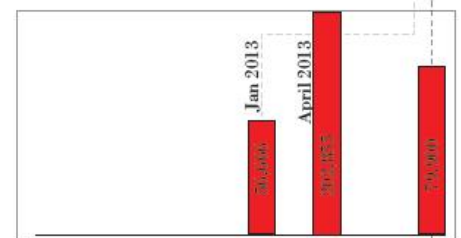
● Social
Network



● Time



● Population



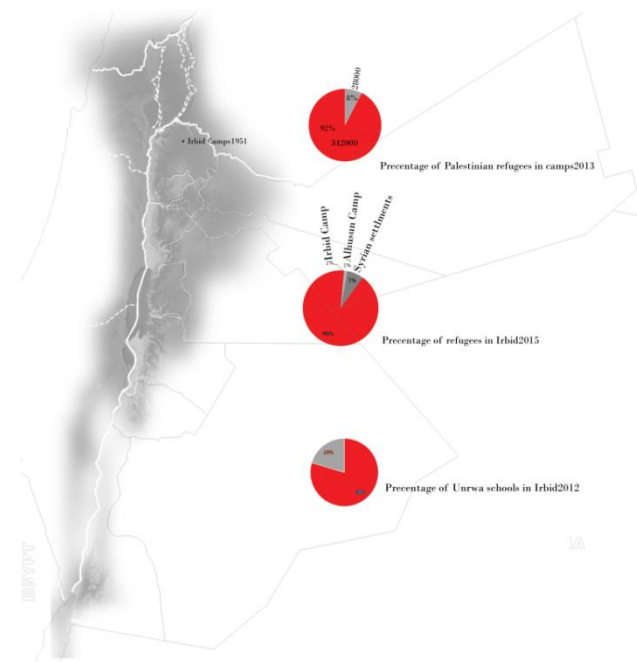
The table is the camps assessments for the selection of five cases to go through analytical process for the conditions.

Analysis photographic, statistics, and recorded videos.

The scale will start from the regional point of view of the areas of camps and settlements in Jordanian cities, the cities are the major cities in Jordan where it is located in the north and the middle of Jordan.

**International Airports**

30 mi



Source : © United Nations Relief and Works Agency for Palestine Refugees in the Near East
UNHCR - syrport@unhcr.org,
Ministry Of Education

Population and UNRWA schools

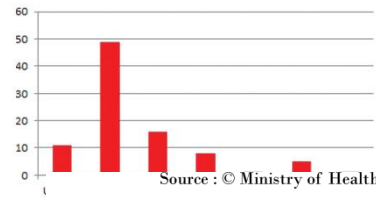
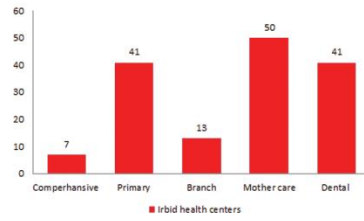
30 mi

The three biggest cities in Jordan capital Amman, Az-Zarqa and Irbid beside Jarash and Baqa'a . The second scale is the city itself where it is searching in sectors the educational system and the statistics of the city and the refugees of it and the location of the educational and health and transportation existences.





11 km



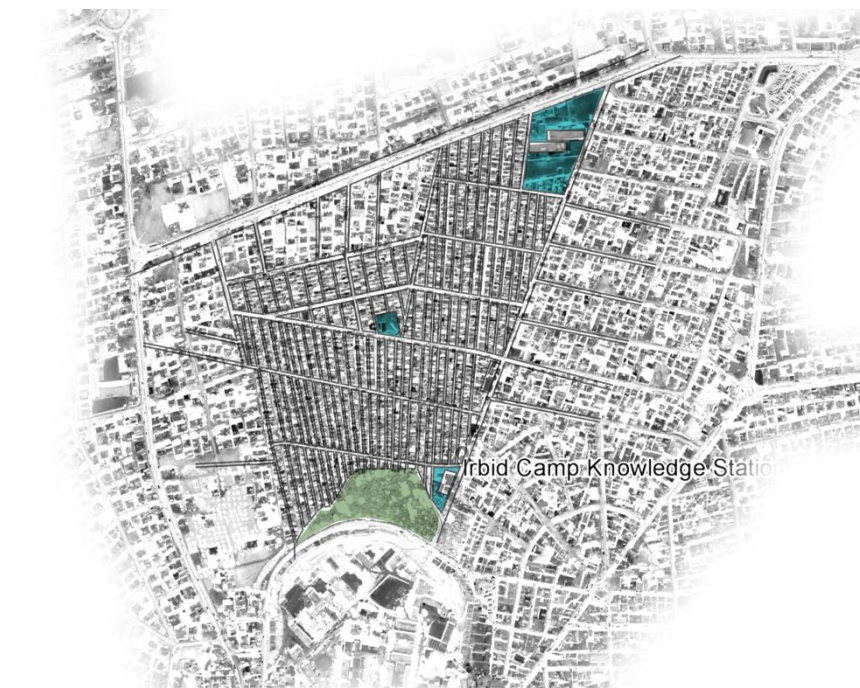
Source : © Ministry of Health (MoH)

Health center location and numbers



- H Hospitals
- C Centers
- Clinics

The third scale is the District scale where it is generating several maps for the neighborhood by analysis the main routes, Street types, social routes, analysis the edges the precedents of education and health and the number of the refugees with their statistics of gender and age. The looking for an amount of money that is entering into the refugees' settlement. Statistics of the people housing refers to the number. Besides the topography of this scale, the employments and the area of working, and the economy and the WASH.

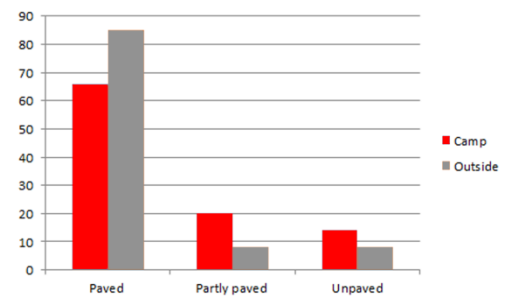
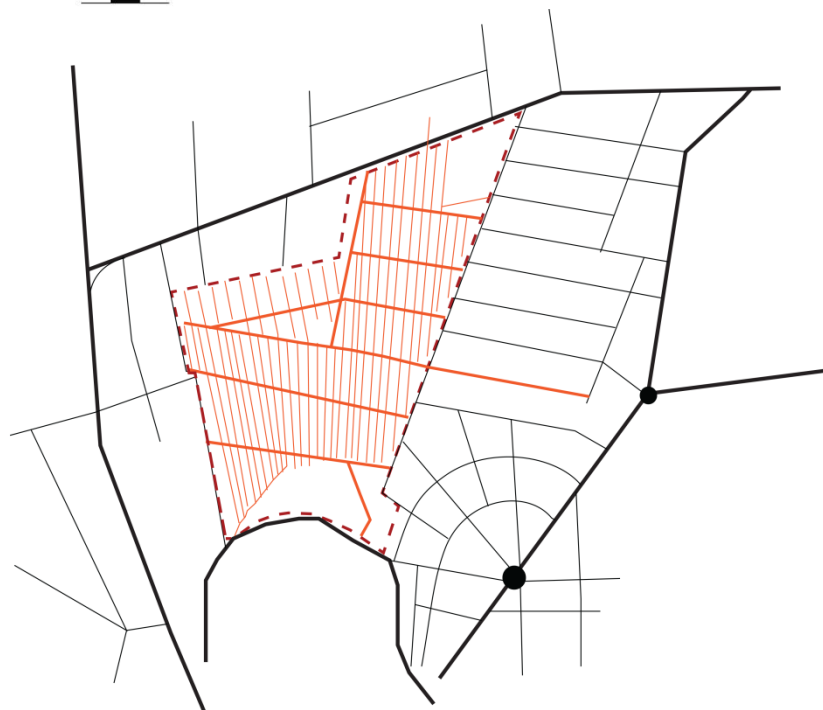
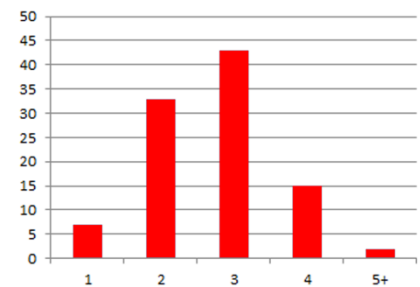


Units 2153



Average sqm 19

% Irbid camp units



The scale becomes more architecture and physical features. the building scale, this is dealing with the prototype of the block where it is varied from the place to place with it is physical features. The types of the buildings refer to its functions. The last scale is the details scale where is the type of materials, elements, façade, streetscape, visual interaction and social acts within the building "Sections"



Irbid Refugee Camp الأردن, مخيم اربد



Irbid Refugee Camp الأردن, مخيم اربد



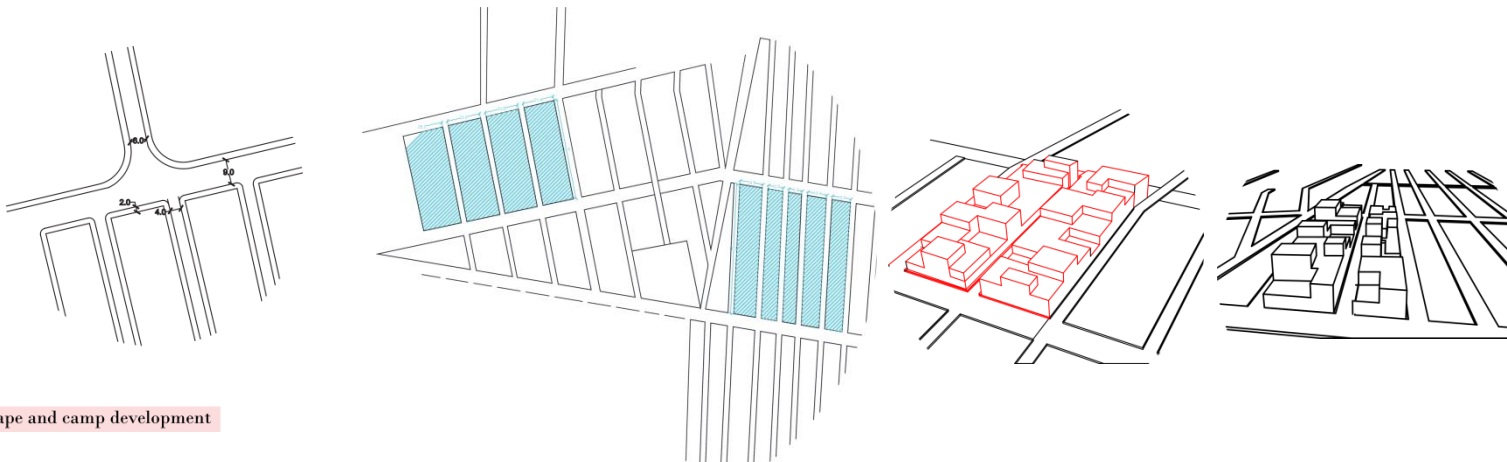
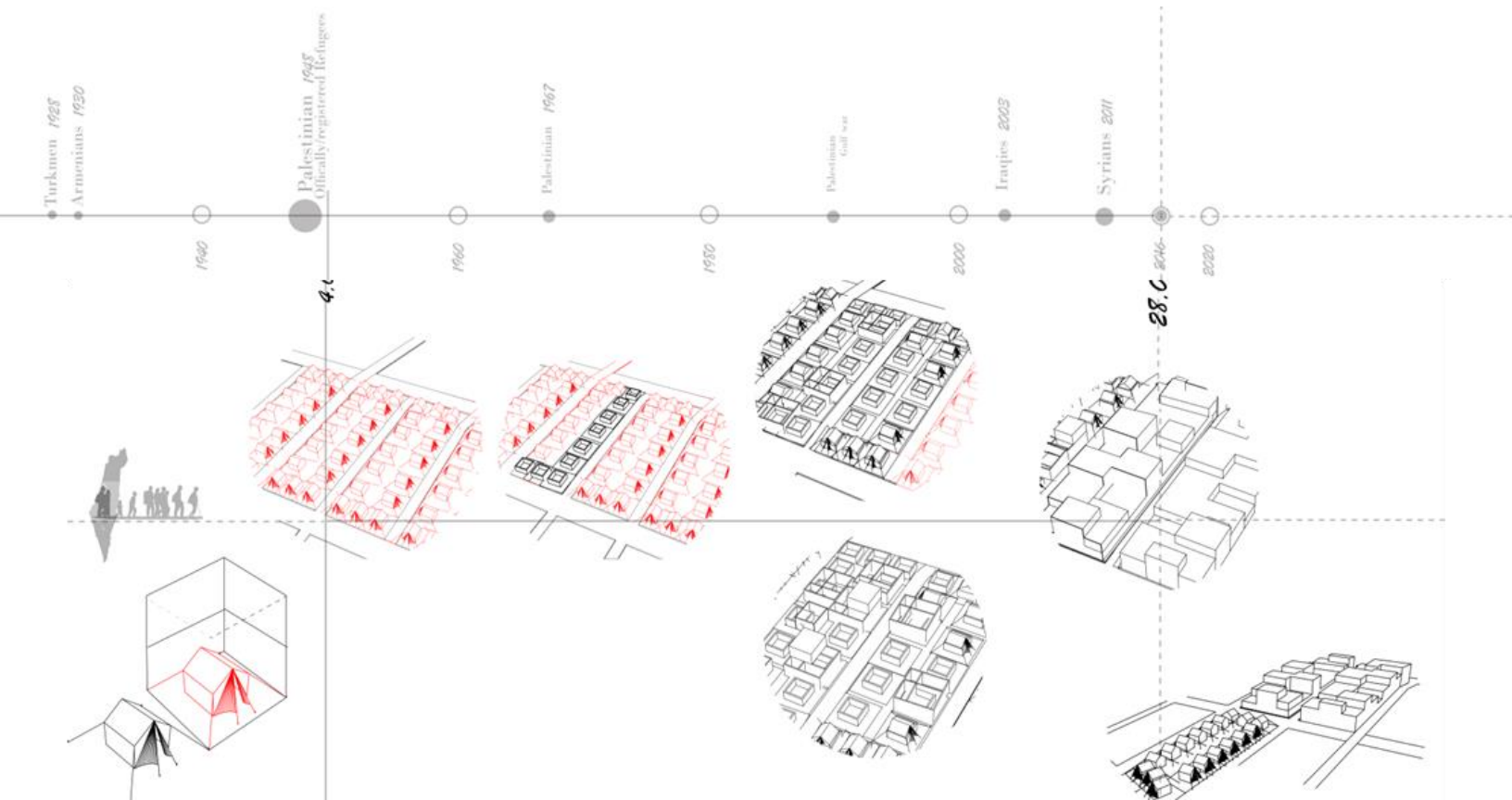
Irbid Refugee Camp الأردن, مخيم اربد

Irbid Refugee Camp الأردن, مخيم اربد



Irbid Refugee Camp الأردن, مخيم اربد

Irbid Refugee Camp الأردن, مخيم اربد



Streetscape and camp development

Design alternatives

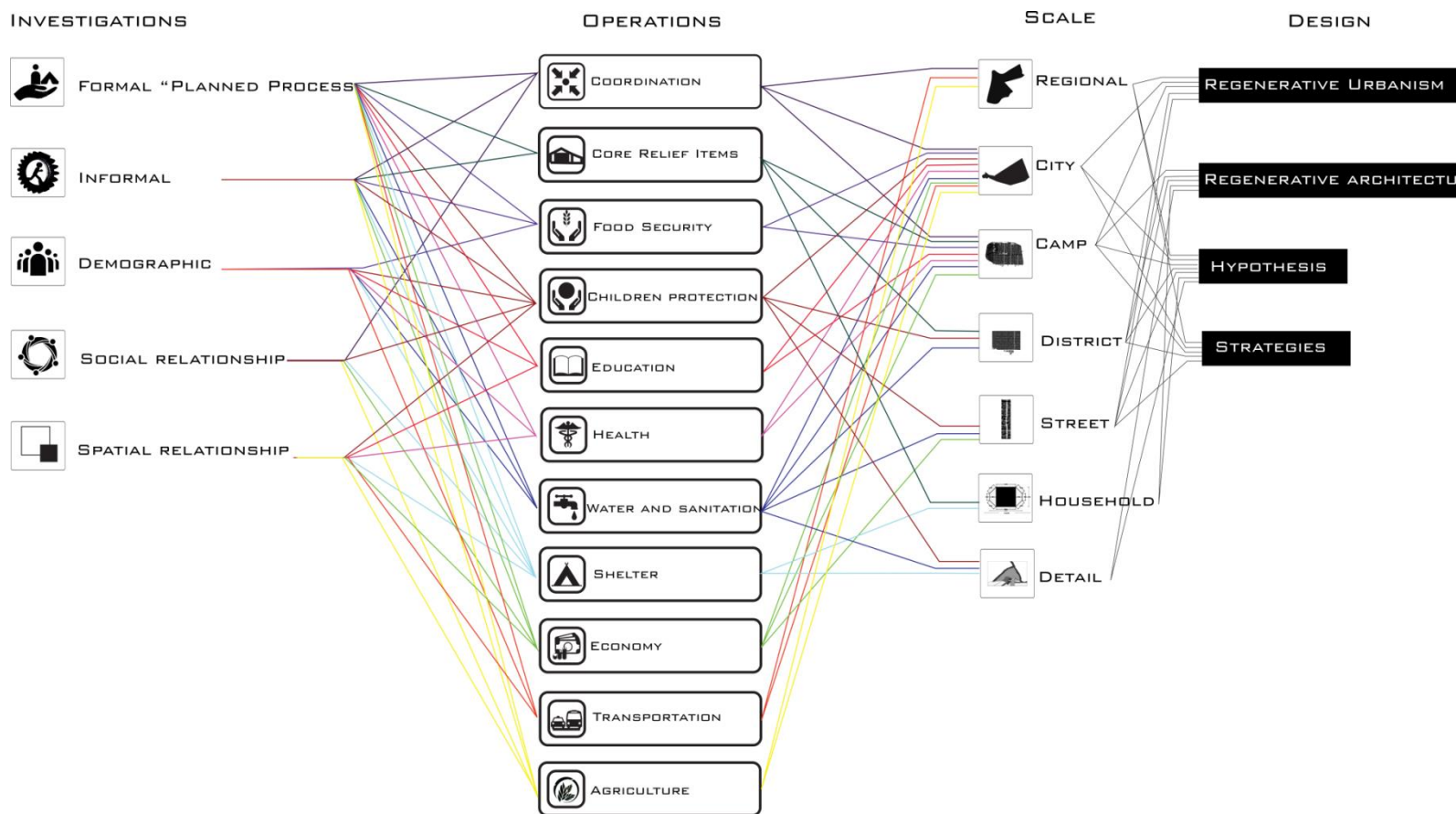
Defining a specific territory for the urbanism is by graphics and maps. It is to approach the self-sufficiency which is short term solutions in order to reach the long term integration. It will be applicable assumptions within the sites of refugees by targeting multi- disciplinary to sustain durable economic, political and social factors by the built environment to inclusive response of how the host countries can act to the current situation and to the rapid influx of refugees. This means rethinking resilient strategies and management of social changes by reorient the cities towards a vision of responses within its context by the refugees.



Main objectives from the design interventions are:

- Understand the factors that play different context.
- Exploration of the settings “NOT singular solution, Opportunities of options”
- Framework to analyze and response to different areas investigation of its operations are accruing within the refugees settings

Framework of the design interventions

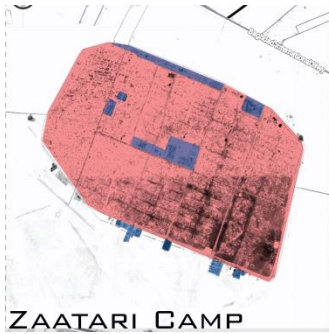


Matrix understanding:

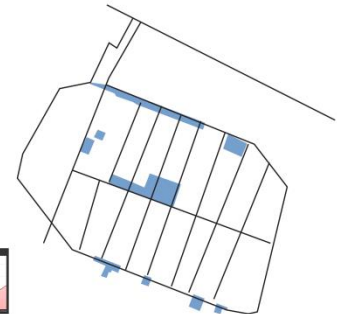
LOCATION

TOPOGRAPHY

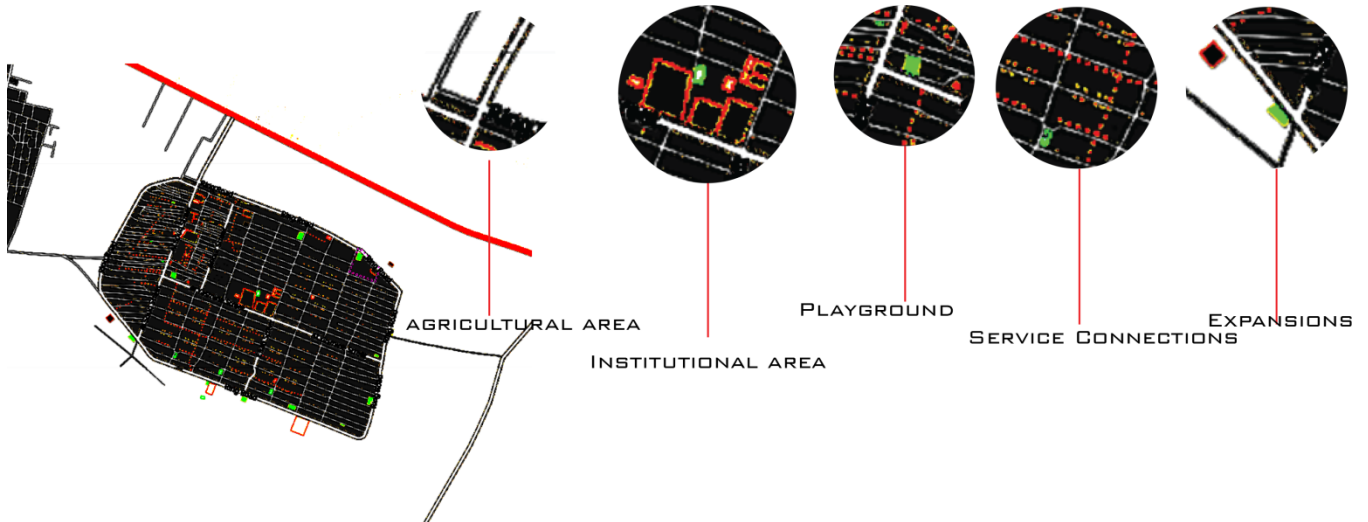
URBAN DESIGN



FIRST REFUGEES CAMP FOR SYRIAN IN JORDAN
THE AREA IS 5.25QKM WITH DENSITY OF 24,212 PER SQKM
IT IS THE THIRDED BIGGEST CITIES OF JORDAN



Spaces of possibility



For example for the design intervention within the framework

The following is investigation of the informal process of the core relief items that the refugees are using.

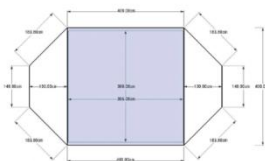


CORE RELIEF ITEMS

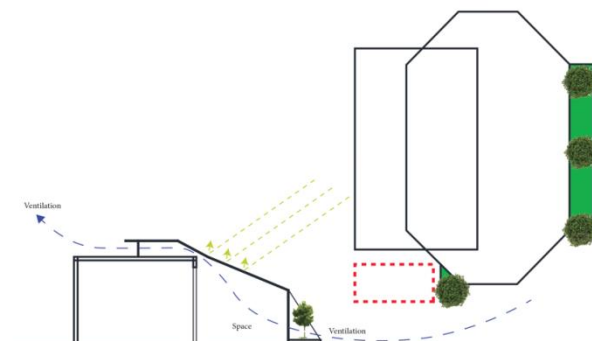


DETAIL

REGENERATIVE ARCHITECTURE



D-RINGS PLACED ON 25MM WEBBING 6 ARE SEWN AT FLOOR LEVEL TO THE MUD FLAP, INSIDE, TO HOOK THE INNER TENT ATTACHMENT STRINGS





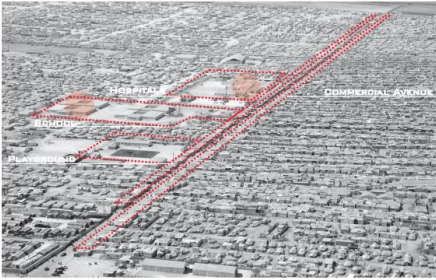
ECONOMY



STREET

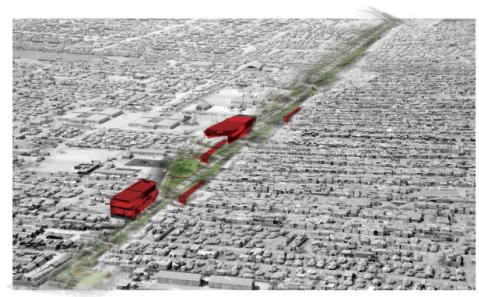
REGENERATIVE URBANISM

REGENERATIVE ARCHITECTURE



66%

OF THE WORKING AGE REFUGEE
POPULATION EARNS SOME FORM OF
INCOME



80



BIRTHS PER WEEK



CHILDREN PROTECTION



1,100,000 USD
FUND

ALTERNATIVE EDUCATION SERVICES
SUCH AS INFORMAL, NON-FORMAL
EDUCATION, AND BASIC LIFE SKILLS
ACTIVITIES

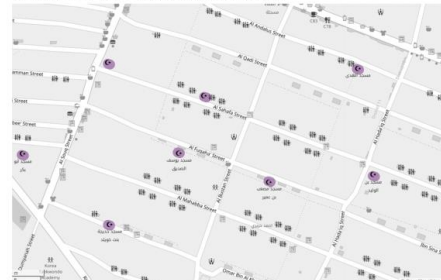


CAMP

REGENERATIVE URBANISM

STARTEIGIES

FIND SOCIAL PLACES TO HAVE VOCATIONAL
EDUCATION AND AWARENESS CENTERS



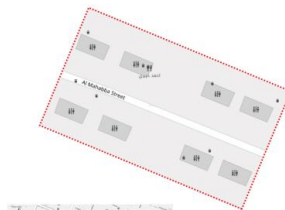
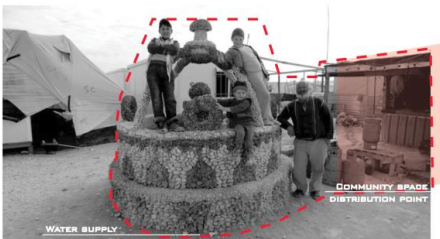
COORDINATION



DISTRICT

REGENERATIVE URBANISM

REGENERATIVE ARCHITECTURE



DISTRIBUTION POINT
SERVICE
COMMUNITY SPACES



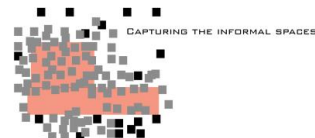
SHELTER



HOUSEHOLD

REGENERATIVE ARCHITECTURE

HYPOTHESIS



November 2012	January 2013
<p>Cluster 1</p> <p>Cluster 2</p> <p>Cluster 3</p> <p>Cluster 4</p> <p>Cluster 5</p> <p>Cluster 6</p> <p>Cluster 7</p> <p>Cluster 8</p> <p>Cluster 9</p> <p>Cluster 10</p> <p>Cluster 11</p> <p>Cluster 12</p> <p>Cluster 13</p> <p>Cluster 14</p> <p>Cluster 15</p> <p>Cluster 16</p> <p>Cluster 17</p> <p>Cluster 18</p> <p>Cluster 19</p> <p>Cluster 20</p> <p>Cluster 21</p> <p>Cluster 22</p> <p>Cluster 23</p> <p>Cluster 24</p> <p>Cluster 25</p> <p>Cluster 26</p> <p>Cluster 27</p> <p>Cluster 28</p> <p>Cluster 29</p> <p>Cluster 30</p> <p>Cluster 31</p> <p>Cluster 32</p> <p>Cluster 33</p> <p>Cluster 34</p> <p>Cluster 35</p> <p>Cluster 36</p> <p>Cluster 37</p> <p>Cluster 38</p> <p>Cluster 39</p> <p>Cluster 40</p> <p>Cluster 41</p> <p>Cluster 42</p> <p>Cluster 43</p> <p>Cluster 44</p> <p>Cluster 45</p> <p>Cluster 46</p> <p>Cluster 47</p> <p>Cluster 48</p> <p>Cluster 49</p> <p>Cluster 50</p> <p>Cluster 51</p> <p>Cluster 52</p> <p>Cluster 53</p> <p>Cluster 54</p> <p>Cluster 55</p> <p>Cluster 56</p> <p>Cluster 57</p> <p>Cluster 58</p> <p>Cluster 59</p> <p>Cluster 60</p> <p>Cluster 61</p> <p>Cluster 62</p> <p>Cluster 63</p> <p>Cluster 64</p> <p>Cluster 65</p> <p>Cluster 66</p> <p>Cluster 67</p> <p>Cluster 68</p> <p>Cluster 69</p> <p>Cluster 70</p> <p>Cluster 71</p> <p>Cluster 72</p> <p>Cluster 73</p> <p>Cluster 74</p> <p>Cluster 75</p> <p>Cluster 76</p> <p>Cluster 77</p> <p>Cluster 78</p> <p>Cluster 79</p> <p>Cluster 80</p> <p>Cluster 81</p> <p>Cluster 82</p> <p>Cluster 83</p> <p>Cluster 84</p> <p>Cluster 85</p> <p>Cluster 86</p> <p>Cluster 87</p> <p>Cluster 88</p> <p>Cluster 89</p> <p>Cluster 90</p> <p>Cluster 91</p> <p>Cluster 92</p> <p>Cluster 93</p> <p>Cluster 94</p> <p>Cluster 95</p> <p>Cluster 96</p> <p>Cluster 97</p> <p>Cluster 98</p> <p>Cluster 99</p> <p>Cluster 100</p>	<p>Cluster 1</p> <p>Cluster 2</p> <p>Cluster 3</p> <p>Cluster 4</p> <p>Cluster 5</p> <p>Cluster 6</p> <p>Cluster 7</p> <p>Cluster 8</p> <p>Cluster 9</p> <p>Cluster 10</p> <p>Cluster 11</p> <p>Cluster 12</p> <p>Cluster 13</p> <p>Cluster 14</p> <p>Cluster 15</p> <p>Cluster 16</p> <p>Cluster 17</p> <p>Cluster 18</p> <p>Cluster 19</p> <p>Cluster 20</p> <p>Cluster 21</p> <p>Cluster 22</p> <p>Cluster 23</p> <p>Cluster 24</p> <p>Cluster 25</p> <p>Cluster 26</p> <p>Cluster 27</p> <p>Cluster 28</p> <p>Cluster 29</p> <p>Cluster 30</p> <p>Cluster 31</p> <p>Cluster 32</p> <p>Cluster 33</p> <p>Cluster 34</p> <p>Cluster 35</p> <p>Cluster 36</p> <p>Cluster 37</p> <p>Cluster 38</p> <p>Cluster 39</p> <p>Cluster 40</p> <p>Cluster 41</p> <p>Cluster 42</p> <p>Cluster 43</p> <p>Cluster 44</p> <p>Cluster 45</p> <p>Cluster 46</p> <p>Cluster 47</p> <p>Cluster 48</p> <p>Cluster 49</p> <p>Cluster 50</p> <p>Cluster 51</p> <p>Cluster 52</p> <p>Cluster 53</p> <p>Cluster 54</p> <p>Cluster 55</p> <p>Cluster 56</p> <p>Cluster 57</p> <p>Cluster 58</p> <p>Cluster 59</p> <p>Cluster 60</p> <p>Cluster 61</p> <p>Cluster 62</p> <p>Cluster 63</p> <p>Cluster 64</p> <p>Cluster 65</p> <p>Cluster 66</p> <p>Cluster 67</p> <p>Cluster 68</p> <p>Cluster 69</p> <p>Cluster 70</p> <p>Cluster 71</p> <p>Cluster 72</p> <p>Cluster 73</p> <p>Cluster 74</p> <p>Cluster 75</p> <p>Cluster 76</p> <p>Cluster 77</p> <p>Cluster 78</p> <p>Cluster 79</p> <p>Cluster 80</p> <p>Cluster 81</p> <p>Cluster 82</p> <p>Cluster 83</p> <p>Cluster 84</p> <p>Cluster 85</p> <p>Cluster 86</p> <p>Cluster 87</p> <p>Cluster 88</p> <p>Cluster 89</p> <p>Cluster 90</p> <p>Cluster 91</p> <p>Cluster 92</p> <p>Cluster 93</p> <p>Cluster 94</p> <p>Cluster 95</p> <p>Cluster 96</p> <p>Cluster 97</p> <p>Cluster 98</p> <p>Cluster 99</p> <p>Cluster 100</p>

