

Oasis of Resilience, healing and empowering Syrian children in Za'atari refugee camp

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A Thesis

Submitted in partial fulfillment of the requirements for the degree of

Master of Landscape Architecture

University of Washington

2014

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Program Authorized to Offer Degree:

College of Built Environments, Department of Landscape Architecture

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Acknowledgments

First, a very special thank you for my thesis committee, Professors Ken Yocom and Ben Spencer, for their guidance, encouragement and feedback throughout the process of my thesis. In addition, I also want to thank Professor Lynne Manzo for her support and encouragement. Special thank you also goes to Professor Julie Johnson for all the time and resources she provided early on and her continuous support and help. Moreover, I would like to thank Professor Daniel Winterbottom for giving me hope and encouragement.

I would like to thank Laura Haddad for being a great friend, a mentor, a source of inspiration, and enhancing my belief in the power of design

I want to thank my friends Ximena Bustamante, Nina Landey and Hiam Akouri for their time and effort in proofreading my writings

I want to thank my parents, for always supporting me and their unconditional love.

I would like to Thank Rita Zawaideh of SCM, Raed Nimri of Mercy Corps and all the great people at the Al-Za'atari camp for facilitating my visit

I would like to thank the children refugees at the Al-Za'atari camp for spending time with me and allowing me to learn about them

I wanna thank the brave people of Syria, hope one day peace and liberty will come

Lastly I want to thank my husband for his huge support, assistance, love and patience. With you I am stronger.

Thesis Statement & Overview of the Situation

Abstract

This thesis, Oasis of Resilience, presents the challenges Syrian refugee children faced during the years of war in Syria and continue to face in Za'atari refugee camp in Jordan. Recasting the physical environment as an opportunity for health improvement in the harsh temporality of refugee camp. The hope is that an increased understanding of child development psychology and the Pedagogy science within the design process of physical setting will create an environment that would support children to withstand or overcome their traumas and to be prepared to enter the education realm in the future. This design thesis illustrates some relationship between children's health and design, identifies needed facilitator parties in creating children places in refugee camp, create a toolkit for designers to better understand the health implications of their design action, and develop a design prototype as an illustration of my finding.

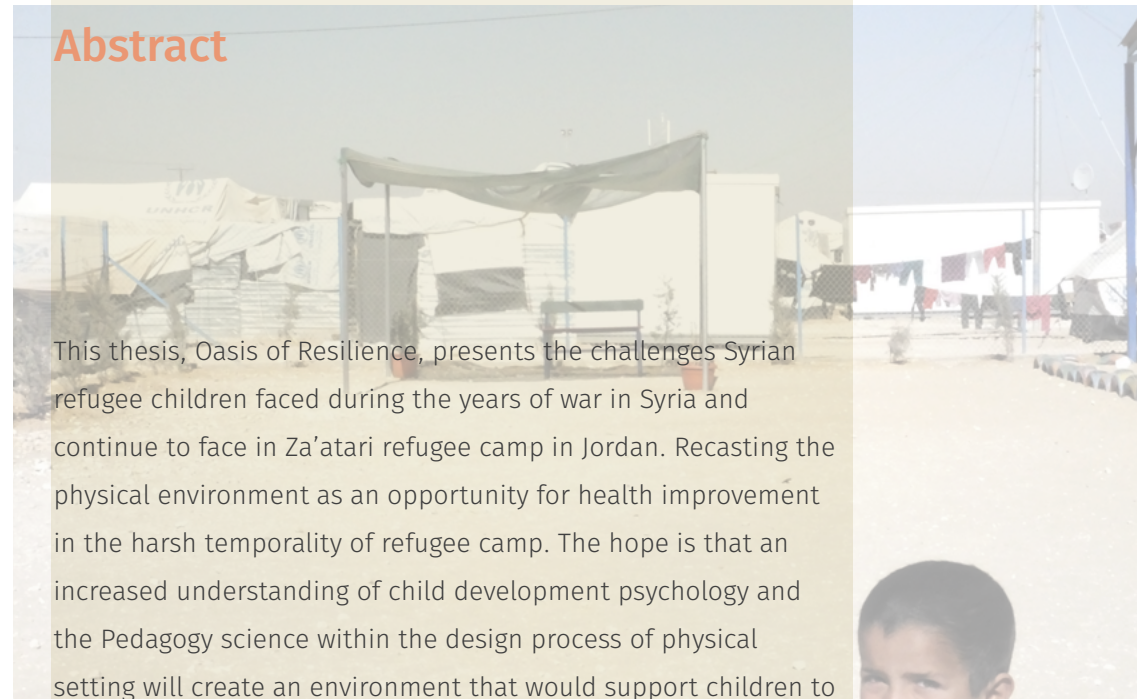


Figure 0: Dream Land, Za'atari Camp, Jordan. @malda_takieddine

Introduction

After nearly three memorable years of graduate studies in the program of Landscape Architecture at the University of Washington, I am a firm believer that landscape architects can design solutions that provide refuge from harsh conditions and help people transition through trauma and periods of great uncertainty. Landscape architects can envision healthy, sustainable environments for refugee populations. Thus, I chose to focus my thesis on the temporary life of refugee camps.

I believe that landscape architects can create a foundation to support people to withstand the suffering and the burden of living in a refugee camp. Furthermore, the knowledge I acquired through coursework and literature taught me that landscape architects could be the engines that support and facilitate social change. Through our profession, we have the ability to understand the landscape, and through this understanding, to suggest solutions for how the landscape can be a foundation that participates in the process of healing people mentally, physically, and spiritually.

In order for this to happen, we need to understand the landscape as the physical response of complex functions and contextual conditions as seen in the deeply embedded relationship between people and their surroundings. How can the landscape be designed to promote and facilitate places for healing? How can we design it to facilitate healthy ways of interaction? An important question drawn from "Small Change" by Nabeel Hamdi, How can we redefining design process and planning as part of the process of enablement? (Hamdi, Small Change, 2004)

For this thesis, I am going to tackle an issue that is dear to my heart; I will focus on developing a framework that serves to improve the lives of the Syrian refugees and their children that reside in the Al-Za'atari refugee camp in Jordan. According to the latest United



Figure 1: Yahya Sweed, 13, is comforted by his father as he lies on a bed in Kfar Nubul on Tuesday, July 16. The boy was injured by shrapnel, resulting in the amputation of his right leg.

Nations High Commissioner for Refugees (UNHCR) report on Syrian refugees, *Children of all ages suffer immensely, both physically and psychologically. Children have been wounded or killed by sniper fire, rockets, missiles and falling debris. They have experienced first-hand conflict, destruction and violence. The psychological effects of such horrific experiences can be far-reaching, affecting their well-being, sleep, speech and social skills.* In addition, they stated that *Educational opportunities for children with disabilities are particularly limited. If the situation does not improve dramatically, Syria risks ending up with a generation disengaged from education and learning* (UNHCR, Refugee Children in crisis, 2013)

My intuition leads me to develop strategies for a setting within the refugee camp that functions as an oasis of healing, productivity, and hope. A framework that supports the cooperative work of parents, children, and aid agencies would create a safe, educational environment for children away from the conflict and calamities they have endured



Figure 2: A Syrian boy, April 2012, Taftanaz, Syria

and continue to face on day-to-day basis in the camp. Interaction with the land and its products would improve the physical, spiritual and mental health of the whole community and, at the same time, the health of the landscape. An outlet for kids to feel at ease, and where the concept of play is encouraged would assist in furthering kids' social development and can be used as an educational tool. A precedent for this approach is the Umubano Primary School, in the Kigali neighborhood, Rwanda. Built and designed by MASS Design Group, it is a clear example of how a school can turn into an innovative system of settlement capable not only of responding to educational needs but of acting as a hub for services and functions of the entire suburb.



Figure 3: © Iwan Baan-Umubano Primary School / MASS Design Group

Background and Problem Definition

Refugee

Refugees are people who have had to flee their homes either because of war, natural disasters, religious and/or ethnic persecution. Refugee status allows people to remain in their host country indefinitely, and provides protection, respect and social rights. The United Nations High Commissioner for Refugees (UNHCR) stated that 10.4 million refugees of concern were identified at the beginning of 2013 (The United Nations High Commissioner for Refugee, UNHCR 2001-2014). Of the 10.4 million refugees under UNHCR's mandate, almost three quarters (7.1 million) have been in exile for at least five years awaiting a solution.

With the escalating number of natural disasters and political crises, many other people are essentially living in refugee-like situations. "A report released by the UN High Commissioner for Refugees shows 2011 to have been a record year for forced



displacement across borders, with more people becoming refugees than at any time since 2000." (UNHCR's 'Global Trends 2011') Worldwide, 42.5 million people ended 2011 either as refugees (15.2 million), internally displaced (26.4 million) or in the process of seeking asylum (895,000) (UNHCR 2012). About half of the world's refugees and displaced people are estimated to be children. (UNHCR 2001-2014).

Resolving the refugee situation is a complex and highly political process. Hosting refugees in camps is one solution that, ideally, provides a place for people to feel safe and respected, and where they are able to recover from their tragedies. However, refugee camps are also places in which people have become undesirables¹ from the rejection that they face globally. In his 2011 book, *Managing the Undesirables*, Michel Agier, a French ethnologist and anthropologist, stated that this fact is turning the camps to detention areas for refugee populations, instead of the real intention of those areas to keep vulnerable people alive (Agier 2011).

Refugee camps regulate the flow of undesirables and are the places that provide people with basic relief for their unknown, temporary life. Aid agencies and local governments help to set up camps with basic service infrastructures and to provide refugees with tents, blankets, sheets, food, and basic health care. Some camps also have specific agencies that protect children's rights by providing places for them to play and learn. Many

¹ "Undesirables" is the word that Michel Agier, in his book *Managing the Undesirables*, gives for refugees to describe the situation that they are facing today.

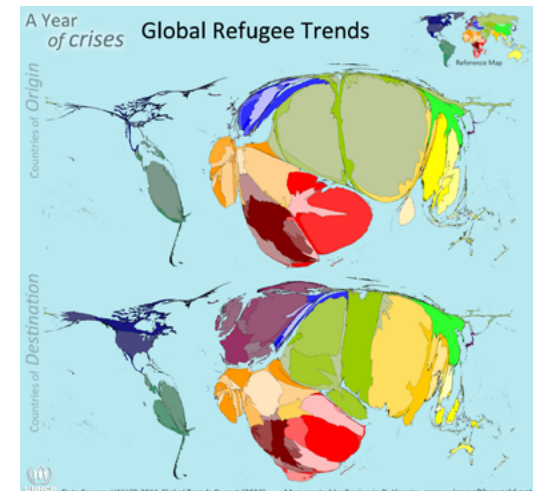


Figure 4 : The following two maps show the updated picture of refugee trends in 2011 as published in UNHCR report in 2012 on the world refugee day. They use the total numbers for 'refugees and people in refugee-like situations' according to their country of origin and destination. Excluded in these maps are those refugees whose origin is unknown or who are stateless.

NGO's who support UNHCR in their mission, provide opportunities for adults to recover and to develop their skills. However, based on my very short and limited experience in a refugee camp as a visitor, many of these practices and opportunities are shaped and controlled by the problem of the temporality of the camp, which in turn affect the way all the emergency practices and responses are addressed. The temporality of the camp, eventually, would create phenomena that shape the decisions of humanitarian aid agencies and the culture of refugees who are living there. Agier, corroborates this view:

A camp is an emergency intervention that has been on 'stand-by' for months or years: Five to ten years, or even more, for the camps in Sudan, Liberia, Guinea; more than fifteen years now for Somalian refugees in Kenya; over thirty years for Sahrawi refugees in Algeria; thirty years again for the Angolan refugees who were in Zambia from the early 1970 to 2002 and beyond; over fifty years for the Palestinian refugees living in the various countries of the middle east, in camp-towns or whose margins other refugees , Iraqi or Sudanese, have now come to settles.... Waiting becomes an eternity an endless present. The common term for all these spaces could well be that of "waiting room". (Agier2011,P.72)



Figure 5: Zamzam Refugee Camp in Darfur @ SUDANPEACENETWORK'S BLOG



Figure 6: A Palestinian-refugee camp after World War II @ Clifford D. May



Figure 7: Darfur refugee camp in Chad, 2005 @ Mark Knobil, Wikipedia

Refugee is the identification that is given to a person who ends up stateless. A refugee's political existence, according to Agier, no longer depends on his origins, but on local contexts of identification, and, particularly, on the camp in which he lives. (Agier 2011, 17). Pierre Bourdieu summarizes refugees in the broader sense as "an individual with no

exercise of citizenship, with no 'right to have right'" (Bourdieu 1990, p. 208). The act of forced displacement and the phenomenon of living in a contained place for an undetermined time can deteriorate a person's sense of identity. They become undesirable everywhere, and the harsh conditions of the camp weakens their sense of personal respect and warmth. As stated by Sennet, *'Respect' is fundamental to our experience of social relations and self, it is an integral part of our social development.* (Hamdi 2004, p. 50). Furthermore, he argues, *self-respect comes when difficulties are mastered, not when something comes easily... Mutual respect develops when we give recognition to someone else who may be doing or thinking something different but still working in unison as an ensemble.* (Hamdi 2004, p. 50). Refugees have no sense of attachment. For they live in a place that doesn't have any identity.

The 10.4 million refugees worldwide in 2013 (The United Nations High Commissioner for Refugee, UNHCR 2001-2014) should drive all professions including the landscape architecture profession to collaborate with international humanitarian organizations to redefine the process of designing and planning refugee camps, and to encourage them to place further attention and care not only to food, shelter and water, but also to the needs of human psychology. Abraham Maslow described this aspect when he said, *The basic psychological needs must be addressed before higher-level needs become a motivator of behavior.* (White, Duncan and Baumle 2010, 34-35)

Overview of the Syrian Revolution

It was a Friday in March 2011, when, for the first time since 1970 when the Assad family took over the government in a military coup, the brave young people of Syria, inspired by the Arab spring, were demonstrating in the street of Daraa, a city situated in the south-western part of Syria. They were demanding the downfall of the Assad Regime. Such protest was unheard of in Syria, as it was forbidden and even frightening to just discuss politics, not to mention to criticize the regime. The government would make sure any Syrian who demanded basic freedom, asked for basic human rights and pleaded for their human dignity, would pay the price.

Sadly, the Revolution, which has now evolved into Civil War, was triggered by young boys, aged 10 to 15 years, who, inspired by what the media were broadcasting on the revolutions of Egypt and Tunisia, were playing and drew graffiti on the wall of their school and called for the downfall of the government. As a result, these boys were arrested. In the beginning, their families begged the authorities of the local political security department of Daraa to free them, but instead the kids were detained and tortured. When the security apparatus refused, the people of Daraa took the streets.



On March 18, 2011, families, young people, and many other Syrians protested in the streets. They called for the release of the boys, greater political freedom, and they accused government officials of corruption. Police forces responded to these peaceful demonstrations with stones, teargas and beatings. Finally, members of the security services appeared and

opened fire on demonstrators. Four people were killed that day, and the demonstrations spread to other Syrian cities. Homs, Damascus, Hama, Latakia and many others followed suit and the country erupted.

For the Syrians, it was now or never; there was no turning back. In Homs thousands gathered in the streets and squares, and faced government oppression and bullets with olive branches and bare chests. In Hama, more than 700,000 people demonstrated, danced and demanded their civil rights and their country back. before the government used heavy weapons, artillery, and helicopters to squash the revolution. As a result, the people took up arms. After three years of bloody war, the country is now destroyed, and millions of refugees, displaced internally and in neighboring countries.

Figure 8: Anti-Syrian regime mourners raising their hands as they carry the coffins of Syrian citizens killed by Syrian troops, in Daraa, Syria. @ Sham News Network, June 9, 2012

One of the greatest humanitarian challenges in this conflict has been the Syrian refugee situation. Violence, horror, uncertainty, and suffering are only a few words that describe

the daily situation in Syria. The escalating pace of the massive number of Syrian refugees fleeing to neighboring countries is scary. An estimated 9 million Syrians have fled their homes since the outbreak of civil war in March 2011. According to the UNHCR, about 2.5 million have fled to Syria's immediate neighbors of Turkey, Lebanon, Jordan, and Iraq. In addition, 6.5 million are displaced internally within Syria. Meanwhile, roughly 100,000 have sought asylum in Europe with a small number offered resettlement by countries such as Germany and Sweden. Of the 9 million, it is estimated that 5.5 million Syrian children have been affected by the brutal, three-year conflict.

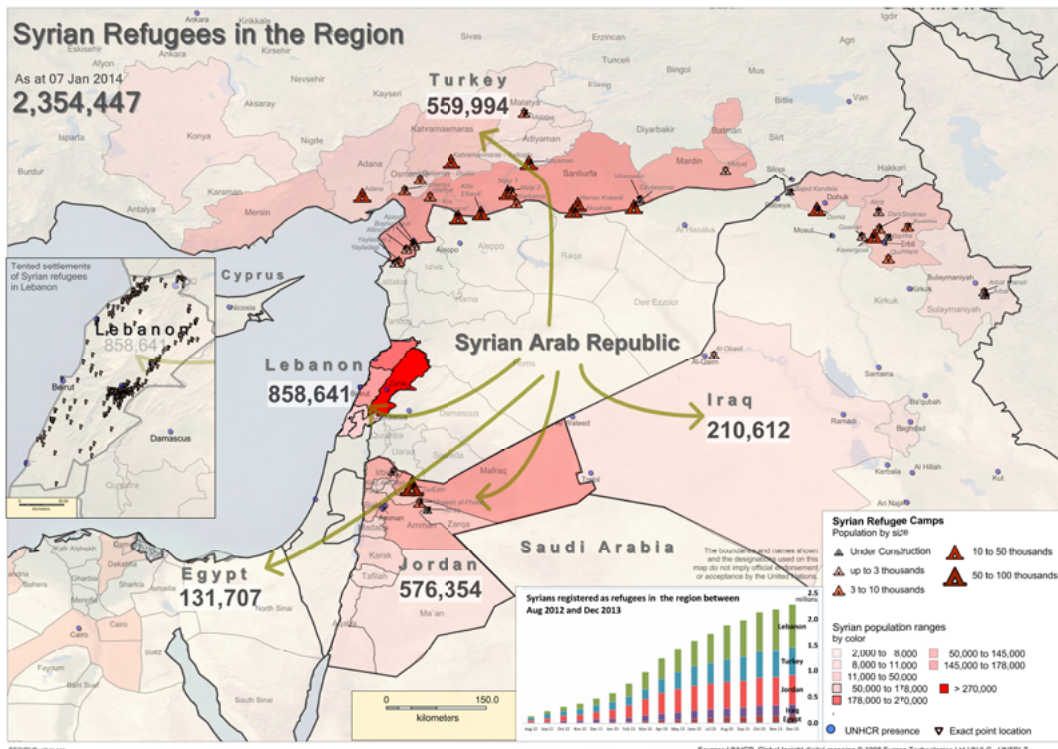


Figure 9: @ UN High Commissioner for Refugees, 07 Jan 2014

Approximately 2.8 million children are no longer in school and more than 1 million are living as refugees in neighboring countries (UNCIEF 2014). One in three children have

been hit, kicked, or shot at, and 7,000 innocent children have been killed. (Save the Children 2014). Individual Stories about the suffering of Syrians are countless and beyond the acceptance of humanity under all norms. The decision to escape in the first place is scary due to security precautions. Some have to hide, or to travel in the middle of the night with children, elderly, and injured people. It often takes days, and sometimes months, to flee and reach neighboring countries.

Syrian Children Refugees

Children are the future. Sadly, UNICEF estimates that *more than 5 million children are affected by the conflict* (UNCIEF 2014) Furthermore, UNCHR warns “more than a million Syrian children are facing catastrophic life in exile, missing out on education, being forced to work and facing loneliness and trauma”. Attention must be paid to tackling the issue of refugee children in current harsh conditions, regardless of whether they end up in a refugee camp or outside it in urban areas. Directing attention into the formulation of the design elements of the places where these



Figure 10: A girl stands on debris next to a damaged building at a besieged area of Homs, August 2, 2012. Picture taken August 2, 2012. REUTERS/Yazen Homsy (SYRIA - Tags: POLITICS CIVIL UNREST)



Figure 11: Children warm themselves around a fire during cold weather in Aleppo, Syria @Reuters



Figure 12: Aleppo on December, 2013

refugee children live could improve their well-being.

Many children are experiencing their childhood in exile and their worlds are limited by the temporary conditions that the war forces them to be in. They spend their time in refugee camps, or in a small room at a relative's home, or in a crowded room with other refugees. There are many restrictions and barriers that limit their interaction with the world around them. Parents fear their children going out, and the traumas and stresses that children hold limit their desire to go out. Other limitations are the discrimination that children who live in urban areas face, and the unwelcoming and harsh environment that children in refugee camps face.

In addition to the immediate conditions which could limit the natural development and growth of children, many studies have shown that early adversarial exposures in can change the development of the brain and can lead to subsequent psychological problems that can make it harder for children to effectively immerse in the education process as they grow up, and can have



Figure 13: A photo shows the condition in Za'atari camp, January 2014.



Figure 14: A photo in Dream Land, Za'atari camp, January 2014



Figure 15: A photo shows the condition in Za'atari camp, January 2014.

effects on their abilities of interaction (R. c. Moore 1999). According to Dr. Kerry Ressler, a psychiatrist specializing in fear, anxiety and trauma, ***Childhood trauma is among the biggest risk factors for mental disorders and depression*** (Fox, 2014).

Children always pay a heavy price during wars. Syria's civil war has left its mark on the Syrian children, who have faced death, destruction and chaos. According to UNHCR data, ***in the first six months of 2013, 741 Syrian refugee children received hospital treatment for physical trauma and other injuries incurred in Syria or Lebanon including burns, bullet wounds and broken bones*** (UNHCR, Refugee Children in crisis 2013). Between October 20, 2012 and October 25, 2013, in Al-Za'atari refugee camp, Jordan, ***doctors had 1,379 consultations with children for weapon or war-related injuries, 58 percent of them were male*** (UNHCR, Refugee Children in crisis 2013). According to the UNHCR, ***there is a high demand for educational opportunities and facilities for children with disabilities.***

Older Syrian refugees have expressed the impact of the conflict on their children. They have reported their children having trouble sleeping, horrifying flashbacks, bed-wetting and even speech problems (UNHCR, Refugee Children in crisis 2013). Moreover, Staff from UNHCR and partner aid organizations said that some displaced children in Jordan and Lebanon have become hyperactive or aggressive, while others have turned unusually quiet and shy. Parents said that constant crying is common (UNHCR, Refugee Children in crisis 2013). Based on the UNHCR report as results of interviewing refugee kids, many of them are withdrawing from their everyday life. Their distress is weakening their desire to play with others, to go to school or even to go out of the tent or house.

In addition, kids are facing isolation from their surroundings because their parents fear for their safety. Isolation, loneliness and boredom were raised as particular problems among girls (UNHCR, Refugee Children in crisis 2013). In Jordan, Al-Za'atari camp, violence, theft, and vandalism occur among Syrian children. One community leader in Al-Za'atari camp mentioned that theft by children had increased in the first half of 2013, sometimes

instigated by adults. Some boys in Al-Za'atari allegedly belong to gangs, which instill fear in other refugees living in the camp. (UNICEF 2013)



Figure 16: Aleppo Media Center via Agence France Presse AFP - Getty Images

limitations and barriers that would also slow their development and growth in Syria before the exile. Parents restricted their children to protect them from the severity of war. They were not able to leave their houses because of the war. They suffered from social deprivation, the fear of traveling to their schools, and stressful environments including loud and constant war noises, According to Robin C. Moore, an architect and planner who has done lot of research on the design of children's play and environmental learning, these barriers would weaken the motivation towards competence and instead could be replaced by a sense of inferiority and inadequacy, especially for school aged children. Not having a sense of competence would weaken children's level of resilience and would make them more vulnerable to the traumatic effects of war (R. C. Moore 1986, 10-16, Fox, Syria's Children 2013).

Context of Za'atari Refugee Camp, Jordan

In 2014, UNHCR estimated that the Za'atari camp population has exceeded 100,000 residents (UNHCR, Za'atari refugee camp 2014). The camp was established in July 2012 as a joint venture between the United Nations High Commissioner for Refugees (UNCHR) and the Jordanian government. It was hastily built in about nine days in order to give temporary shelter to about 100 Syrian refugee families, and eventually it grew to become the fourth largest city in Jordan and the second largest refugee camp in the world. The Jordanian government chose the Mafraq region in the Northern part of the Jordanian desert, about 10 km east of the Mafraq city and about 14km south of the Syrian border to be the camp site. It spans around 9 km² and is located on a degraded rangeland. The campground is compacted and covered with gravel to improve drainage. Parts of the camp are surrounded by soil bunds, each about several meters high to prevent unauthorized vehicles from entering the camp. Sadly, children are often used to smuggle products in and out of the camp. While I was there, I saw many children crossing these bunds with wheelbarrows carrying all sorts of products.

In an attempt to improve the general management of the camp and bring law and order to Za'atari, UNHCR with the help of the Jordanian government, divided the camp to twelve districts, each to be run by a decentralized administration (Aly 2013). However, establishing law and order isn't an easy task. According to aid workers, **part of the problem was the authorities' failure to involve refugees in project development from the start. Overwhelmed, overstretched and underfunded in its early stages, the aid operation focused on providing for the refugees' immediate needs** (Aly 2013), rather than establishing a system or a society and allowing the residents to govern themselves. The camp is divided by two main roads, one stretches from north to south, with the oldest and most crowded part of the camp located west of it (Districts 1, 2), and the newer road sets east of that road. This road created a sort of business district within the camp and it quickly became the central attraction in the camp, as many makeshift shops selling all sorts of



Figure 17: An aerial Photo for Za'atari camp and the nearby city, 5 February 2013 @ le service de santé des armées. Photo was taken from Mercy Corps office in Jordan

goods sprang up which made this place the main artery of activities within the camp. In an interview with the Guardian newspaper, Kilian Kleinschmid, the camp Manager of Za'atari, who is referred to as the "Mayor" by the camp residents, claimed that **some 60% of the Syrian refugees in the camp already have an additional income. This is either originating from the INCREDIBLE energy and business acumen we see throughout the camp, with over 2,000 businesses established, or it's from people working here, employed by the various humanitarian agencies for service provision, skilled jobs (like teaching, medical jobs), etc.** then he added **Per month, some 8 million JD or 12 million USD changes hands here in Za'atari.** (Shearlaw 2013).

Oasis of Resilience Project Statement

The mission for this thesis is not merely to produce a landscape design, instead my aim is to plan and organize the whole process of design, starting from designing the process of the construction and development of the site's phases, and ending with how it will be inhabited and how it can create an impact. The objective of this thesis is to find ways, with the help of adults, NGOs and designers, to integrate kids in design decisions to develop a place that incorporates playful activities and small interventions throughout. It is my hope that this integration will boost children's resilience and imagination in order for them to withstand their stress and be prepared to enter the education realm in the future.

Adverse events that Syrian children have faced during the past three years has left many children with various levels of trauma and, in severe cases, Post Traumatic Disorder. These lead children to a loss of hope and a lack of trust in the future. Moreover, this weakens children's ability to create meaning from their experiences, which can result in delays in growth and development; eventually, those kids would find it hard to keep up with their education in schools. (R. C. Moore 1986, R. c. Moore 1999, Chen 2013).

In addition, Dr. Sebastiano Santostefano, Director of the Institute for Child and Adolescent Development said: ***When the trauma strikes, the child's mind draws a mental boundary between the mind and the body, splitting off bodily meaning from awareness*** (R. c. Moore 1999, P. 338). One of the ways to get children out of their inner life and enable them to interact with the world surrounding them could be designed spaces that would engage kids through playful activities in tasks that would allow them to externalize their inner conflicts and enrich their growth and development. Donald Winnicott, a British child psychiatrist and pediatrician, called these spaces the child's '**potential space.**' Spaces, according to Robin Moore's description, where, through play, children can work through internal conflicts, express fears, and communicate desires nonverbally (R. c. Moore 1999, p. 324).

Oasis of Resilience will be the start of my experience and will hopefully be a prototype to test the ideas and strategies that I come up with during my thesis year. It is going to be the melody of values that would shape my chosen site in Al-Za'atari refugee camp, Jordan. *Oasis of resilience* is the landscape of meaning, inspiration and possibility that will cultivate people's sense of place, give them a source of respect and pride, empower them to endure the challenges and traumas they face, and prepare them to face the unknown future.

In the 2013 Architecture for Humanity's annual conference, "Design as You Give a Damn", resiliency was defined in the Closing Reception, by Michael Berkowitz, the Managing Director of 100 Resilient Cities, Rockefeller Foundation, ***as the ability to withstand chronic stresses and acute shocks while maintaining essential functions and recovering quickly and effectively*** (Berkowitz 2013). Designing a place that would enhance people and kids' resilience could work to save the future generations of Syrians from being lost in the camp life, by giving them opportunities to withstand chronic traumas while maintaining their capacities for learning (Ajdukovic and Ajdukovic 1993, Grotberg 1995, Chen 2013). My objective is to develop a toolkit of potential design elements and strategies to

support and enhance resiliency by encouraging and allowing kids to interact with their environment in such a way that they will develop the needed skills for social and academic growth. Adverse events can leave scars in children that, if they stay untreated as Psychologist Robin Moore suggests, would interfere *with learning and the development of body image, leaving a child unable to regulate feeling, to use fantasy creatively or to give positive meanings to experiences* (R. c. Moore 1999, p.337).

However, according to many studies, these effects would be less overwhelming for children who have the skills and resources of resilience. Dr. Kerry Ressler, a psychiatrist specializing in fear, anxiety and trauma, said in an interview *some kids in fact seem to be made stronger by their survival* (Fox, Syria's Children 2014). The key for him is the level of resilience that those kids have. With resilience, *children can triumph over trauma; without it, trauma triumphs* (Grotberg 1995). Children who have higher levels of resilience are more able to withstand and overcome traumas (Grotberg 1995). My approach is to examine the factors that enhance children's resilience and accordingly identify and develop design strategies to enhance that resilience.

The second component of my research lies in the word *Oasis*. An oasis is defined as *a fertile patch in a desert occurring where the water table approaches or reaches the ground surface*. Yet the meaning also extends to *a place of peace, safety, or happiness in the midst of trouble or difficulty* (Dictionary.com 2014). I want to propose a design prototype of an oasis, a place of healing and tranquility for Syrian children to reconcile their emotional and physical scars. Moreover, my aim is to make the place a tool to stimulate children's imagination and to reward the struggles that they have been through. My objective is to generate ideas that would let children enter the world of fantasy that would pull them out from the harsh reality of the refugee camp. At the same time, the world of fantasy would engender hope in children by introducing the possibilities of dreams and achievements in the midst of adversaries. As a landscape architect and designer, I want to design spaces that attract children's curiosity to wonder and to discover and stimulate

their imagination and creativity. Clair Anna Watson, a curator, artist and arts writer, when writing about Rowena Martinich's work in her website, explained my intention in the realm of cities:

Today, the role of the public artist is to inject our cities, our urban and public spaces, with imaginative and creative possibilities. Public authorities realize that creativity has its place in enlivening spaces and encouraging community members to imagine – to be inspired, to feel reawakened. Indeed, within such initiatives there is recognition that successful urban centers offer more than just functionality. In recent projects supported by the Department of Transport, bus stops and railway stations are purposefully used as blank canvases for artists to transform into sites of expression. (Watson 2009).

Travel Log: Za'atari Refugee Camp, Jordan.

With the help of a local charity (Salaam Culture Museum- SCM), which plans and facilitates medical missions from the US to treat refugees in camps and urban areas in Syria's neighboring countries, I was able to visit Jordan's biggest Syrian refugee camp, Al za'atari. I went with SCM on their medical mission in January. I arrived in Jordan on January 16, 2014 and stayed there until January 23, 2014. Jordan borders Syria from the south, and it hosts more than 500,000 Syrian refugees. The country's total population is about 6 million. About 135,708 of these refugees live in various camps across Jordan; the Al -Zaatari Camp is the largest. SCM's medical mission consisted of twenty US based physicians, psychiatrists, and humanitarians, whom, along with SCM team on the ground, treated more than a hundred patients a day, of all ages and conditions, throughout Jordan.

I spent my first two days in Jordan embedded with the SCM team, while I was waiting for Mercy Corps Staff to arrange for my visit to the Al-Zaatari camp. During my time with the SCM team, I visited two centers that the SCM established and operates in Jordan. These clinics offer free medical help and programs for children to the Syrian refugees. In

particular, one center called, Malki Children's Center, has special programs for children, and is now supporting 16 children. Children come to the center outside of their school hours where they get psychological help and get to be in a healthy, supportive environment. These two days proved invaluable to me. I was able to shadow Dr. Hugh Pettigew, a child psychiatrist, and observe the techniques and exercises that he uses to treat children suffering from post-traumatic stress disorder (PTSD) and the horrors of war.

This visit to the children's center opened my eyes to the importance of place in treating children from their traumas and I learned from Shafik Amer, a Syrian psychologist, how the organization of a place helped to establish the children back into some kind of routine. Children who were in the center were excited to describe to me the structure of their day, and they were delighted to show me the places where they hang their belonging and where they put their shoes before entering the class. Moreover, they showed me the places of all their toys and games. Looking at their enthusiasm when they were talking and hearing the staff's opinion about the kids' physiological improvement illustrated to me the reality of what Dr.

Kerry Ressler, a psychiatrist specializing in fear, anxiety and trauma at Emory and the Howard Hughes Medical Institute, once said in a conference that was held for Syrian children refugees: *What helps most is giving children structure — predictable routines, places, activities, chores. This can happen even in the chaos of a refugee camp...There is something about that sense*

of stability, that sense of predictability, that can add a lot to an otherwise difficult world he said (Fox, Syria's Children 2013).

In order to visit the Al-Zataari camp and get inside, I needed special access. Luckily, through SCM 's help, I reached out to Mercy Corps, a global aid agency, based in Portland,OR. Mercy Corps is focused on operating in disaster areas and currently operates in Jordan to help Syrians with their adversity. Mercy Corps' connections in the US connected me with their staff on the ground in Jordan, who arranged for my visit and got me the necessary permits from the Jordanian authorities in order to visit and enter the camp. For each of the next 3 days, I drove up with Mercy corps staff, from their office in Amman, Jordan, about an hour north toward the camp.

The moment that I arrived at Al-Za'atari camp was a moment I will never forget. All my preconceived ideas, which I developed over many weeks in an attempt to understand and study the camp started to fade in the presence of the overwhelming situation I found there. However, they helped me to be aware of things that were going around me. Dust was everywhere; I saw sadness and suffering printed on everyone's faces. Tents and caravans were placed very close to each other, especially around the camp entrance, which is considered to be the earliest established area in the camp. However, newly established areas, far from the entrance, seem somewhat more organized mainly because UNHCR is playing an active role in planning these areas. It seems the Al-Za'tari experience has changed the way UNHCR looks at refugee camps. Lessons learned here are being applied by UNHCR while it establishes a new refugee camp called Azraq that has the capacity to host 130,000 Syrian refugees. The plan in Azraq is to limit the number of settlement tents



Figure 18: One of the kids is performing a sketch with Psychologist Shafik Amer, January 2014



Figure 19: A souvenir photo with the kids and the one of the trainer in Malki children's center, January 2014



Figure 20: The entrance of the Za'atari Camp. The picture shows people waiting, children working, and two trucks of water going in and out the camp, January 2014.

per specific square footage to create a more home-like feeling.

Al-Za'atari is defined by flat land covered by coarse gravel with a heavy texture and ponds of swage scattered in many places. The camp is in an open arid area that is vulnerable to all the desert toughness with less than 200mm annual rainfall. The Jordanian year could be classified into three major seasons; summer, which starts from June to mid-September, rainy season in the cold half of the year from November to January, and a transitional season for the rest of the year, when sometimes long, extremely dry winds called "Khamasin" rip across the desert land.

While I was visiting the camp, the air quality was poor and unbreathable. I had a severe allergic reaction to this. I can only imagine how hard it must be for camp residents when they have to face these elements around the year. Even though I visited the camp in winter, the desert sun was very strong with little shade around, which made me think about how hot and intolerable it can get in the summer, where temperatures are 30° Celsius with more



Figure 21: Za'atari camp, Photo of the earlier established areas, January 2014



Figure 22: a child play in his Kite, Za'atari camp,2014



Figure 23: Zaatari camp in the new established areas in the south west of the camp. January 2014.



Figure 24: Two women next to one of the WASH areas in Za'atari camp and a truck in a back is filling the tanks,2014

perpendicular sun. Some of the summer days can reach more than 40°C, with the hot, Sirocco winds blowing very strongly, causing sandstorms. In addition, the past two years have had some of the coldest recorded winters in the region. Jordan was hit by snowstorms and a couple of extremely rare floods and the refugees had to face all this with little cover from the heat, rain and cold.

Being in Za'atari was like being in a small city. Camp life had everything an urban city life has to offer. However, I was shocked by the living conditions of the refugees. People are crammed into small tents or studio-sized caravans, with no private bathrooms nor basic sanitary tools. Children have to walk a long way, on gravel and mud, and face the harsh elements to reach their school. Furthermore, ambulances are only used for emergencies. Parents have to carry their sick children and walk long distances to reach a clinic. A sick person has to walk long distances to get to a clinic in the very hot weather of the summer, and in the severe cold of the winter.



Figure 25: one of the shop areas in Za'atari camp,2014



Figure 26: Picture shows the condition of Za'atari camp, 2014

After all these initial observations, my feelings settled and I began to analyze things. I put on my designer hat and used what I saw as a motivation to find the unseen in the land that could help me to create a landscape for kids. Interestingly, despite all this hardship, I saw that people were trying to adapt. Through my observations, I found they were trying to duplicate, as much as they could, the life that they had back home. Every family is provided with one tent, and lately there has been a distribution of caravans as a better

solution for living. I saw people putting their old tent together with the new caravan to extend the living area. With the new demand for caravans, a “black market” has emerged. Refugees have become more creative in creating better physical environments with the ability of having extra caravans. For example, some families put three caravans in a U shape with a central yard and sheltered their yard with an old tent. Another merged two caravans to create a longer area. One refugee told me that his neighbor had put two caravans one above the other and built stairs inside. Moreover, with these caravans and some other reinforcement materials, people formed structures for shops and started to sell goods. Touring the camp, I saw rows of shops with all kinds of things for sale (mobile phones, food, wedding dress, etc.).



Figure 27: Tailor boutique assembled by refugees in Za'atari camp, January 2014.



Figure 28: one of the shops assembled by refugees in Za'atari camp, January 2014

Over the next two days, Mercy Corps staff allowed me to accompany them on their trips to the camp. We visited the camp between 9am – 3 pm, during which time they allowed me to tour designated areas of the camp with their staff. We would visit many infrastructure projects, playgrounds, and other special areas within the camp, many of which were established, designed and run by Mercy Corps and other NGO's. During these stops I was able to play and do some exercises with kids. In addition, I talked at length to many adults and older Syrian refugees who are living in Al-Za'atari. I was amazed by the capability of people to adapt, plus their abilities, under these harsh conditions, to create a kind of urbanized system, a holistic society. The trip definitely, nurtured my work and made me more determined to complete my thesis. It significantly raised my awareness of the important role the profession of landscape architecture can play in increasing the

positive aspects of these kind of places.

Because the vast majority of the camp residents are kids, you see them everywhere. They are either moving stuff around, running between tents and caravans, playing soccer anywhere and with anything, collecting stones, wandering with friends and alone, or working in shops. When our car was entering the camp, I got scared because so many of them were running and playing in the same areas that the car could move in. From my observations and different media outlets, children are vulnerable to child labor, abuse, poverty, violence, and even early marriages for girls. Moreover, some children are getting involved in vandalism and theft.

Fortunately, many organizations have observed these worrisome trends and are acting to change it. Wajahat Ali Farooqi, a Mercy Corps director of child protection, told me that, in order to tackle this problem, one of the initiatives they are working on is to develop places for children and adults that are interesting enough to create better, alternative options for them to spend their time. UNHCR calls these places “child friendly places”. They are areas that provide safe places where young kids can play and gather in healthy environments along with trainers to help cope with their challenges and to provide some normalcy in their lives. At the same time, they are trying to select, educate and train some older Syrian refugees to be mentors and help in the younger kids' facilities so they can feel good about themselves by contributing to their communities. Also, by helping in these facilities, adults can earn a small income that may assist in supporting them and their family. Moreover, Wajahat talked about the places that were being developed for adult facilities, where adults can engage in activities that can help them recover from war traumas and to cope with their daily life struggles.

One of these children friendly places, for which I proposed a design prototype is called “Dream Land”. It is part of the child protection program led by Mercy Corps to support Syrian children and to help them with their traumas. Dream Land is located in the

southwest of district four of Al-Zaa'tari camp. A metal mesh fences the area approximately 2 meters high. When I arrived there with Mercy Corps staff, we were welcomed by a guard, who then let us in to a wide, open area for play. The guard himself was Syrian refugee living in Za'atari. The site consists of two big tents of approximately 80 by 40 feet, which surround a sheltered playground and an open flexible area for play. One of the tents has an area in which children can read, with lots of colored seating and a small library. Next to this area, a small tent was put up and filled with small balls for children under 3 years old to play in. In front of main tent entrance, there was a long, colored table on which children could draw, and multiple other tables on which to do crafts, and there was a big open area in the middle of the tent. The tent had a high ceiling with lots of colored crafts hanging from above. The ground was green and the walls have the kids' crafts and drawings displayed all around. The tent has a very lovely atmosphere. When I entered it, I felt relieved that children have a place to get out from the harsh reality of the camp.



Figure 29: Dream Land, Za'atari camp, January 2014



Figure 30: Inside one of Dream Land tents, Za'atari camp, 2014



Figure 31: Inside one of Dream Land tents, Za'atari camp, 2014



Figure 32: Inside one of Dream Land tents, Za'atari camp, 2014

Inside Dreamland, children were divided in small groups. A group of them, between 5-7 years old, were drawing with two trainers. Another group, ages 7-12, were making crafts alongside their trainers. In addition there were children who were three years old and under were playing in the small camping tent with another two trainers. First, I sat down with the kids who were drawing; some of them approached me to present their drawings but over all they were focused on their drawings. While the kids were drawing, a member of the staff, a young lady named Jana, gave me an overview of all the activities and things that the center provides for kids. They provide kids with many varieties of crafts and drawing exercises. All staff that worked there, both Jordanians and Syrians, were trained with professional physiologists that deal with children and they were introduced to the methods and tools that would help them support children in their situations. Jana told me that she had noticed an improvement in the kids' behavior over time since they began these activities. In addition, the kids who had been coming here on regular basis seemed more focused now. She told me that when they started, most of them used to draw very aggressive images of war, but now that had dropped off as the mental state of the kids has improved.

Dreamland is an active facility that provides a shelter and an oasis for the kids. When the exercises finished, most of the kids were smiling, and as visitor, they swarmed me and began to interact with me to show me their drawings. Jana also indicated that children were behaving less aggressively than before. While we were talking, a young girl named Hasna, who looked between 5-8 years old, approached us and began talking. She told me that her uncle had died back in Syria. Jana informed me that Hasna had been a very aggressive girl when she first attended Dreamland and she always told people about her uncle's death.

In March 2014, Mercy Corps made many changes to the site. They exchanged the two big tents for four smaller caravans to allow kids to focus more and to make it easier for staff members to deal with them. Each caravan is 27 feet wide by 33 feet long, and has specific

use: one is for kids from 5- 7 years old; the other is for kids from 7-12 years old, and the third, as the master plan suggests, is to watch movies. The last one wasn't yet designated. They added three restrooms and they kept the small office caravan next to the entrance. Mercy Corps also kept the playground in the same place, but they put the shelter that was above it in a different area, next to the small caravans. Moreover, they added a big, fenced, rectangular unsheltered area that is filled with soft sand (65 feet by 114 feet) next to the playground. The changes were done in response to the difficulties that staff were having in dealing with the kids, and to make the place more comfortable and welcoming. All the changes happened within two weeks.

After being introduced, the staff helped me gather the children together. My goal was to do a drawing exercise with the children to understand Za'atari based on their perspectives. There were more than 40 kids that day, so I asked children to form a circle. This turned out to be harder than I thought, as the kids were very enthusiastic and energetic to do a new activity with me. They weren't focused on hearing or listening to instructions, so, in order to get their attention, I tried to do some sports exercises. I started with some stretching moves to get them physically connected with the place and with each other. At the beginning, they followed me, but quickly they lost their focus again. I asked them to sit down, and asked the two kids who were sitting next to me to help me distribute white paper and crayons. When everyone sat, I asked them to introduce themselves: their names, their ages, where they were originally from and how long they had been in Al-Za'atari.

I began to get to know this wonderful group of kids, ranging between 3-13 years old. Most of them were from the city of Daraa in Syria. Daraa is a semi-urban, border city, which at the beginning of the revolution was home to about 300,000 residents, most of whom worked in agriculture and trading. Many of them mentioned that they fled to Al-Za'atari because their homes were destroyed. Many had been in the camp for few months but some had been for more than a year. I could not get to all the kids because the colors

and paper were already distributed and the kids eagerly started drawing even before I had told them to begin.

My aim for the drawing exercise was to get a peek inside these children's inner souls and allow them to express themselves without me asking too many questions, because ***drawing consists in externalizing a previously internalized mental image*** (Piaget, Inhelder and Bovet 1997, p.4). Therefore, drawing was a tool for me to understand the needs of children and to know what they like. In addition, as Joseph H. Di Leo states in his book, *Interpreting Children's Drawing*, a child ***seems to project a desire or, perhaps, an attempt to possess the object; if not actually having it, at least having an image of it*** (Di Leo 1983, p. 14). Thus, I came to believe that in order to design a landscape for children, and to pursue my goal of creating a therapeutic place for them to heal from the various traumas of war, I needed to find an easy way for them to communicate their desires and needs. Yet, it needed to be an indirect way, in order to understand their struggles and things that they need the most while they are living in the camp. Drawing was a great experience that allowed me to talk to kids through the medium of the images, which they produced. More importantly, having their stories with all the emotions and colors archived would help me later with the design process.

However, my objective for this drawing exercise was not to burden the children and take them through an unpleasant journey down memory lane. I wanted this exercise to be positive, and I was only interested in things that would make them feel happy. Moreover, my plan was to investigate how landscape architects would be able to improve the built environment for children of trauma, creating spaces that can protect childhood's natural growth. By understanding how children interact and perceive the world around them, landscape architects can enhance the physical place in order to encourage children to play and learn by playing. I wanted to learn how these kids view Zaa'tari and how they conceptualize the life in the camp. As United Nations Committee on the rights of the Child, United Nations Children Fund and the Bernard van Leer Foundation declared:

Young children are acutely sensitive to their surroundings and very rapidly acquire understanding of the people, places and routines in their lives, along with awareness of their own unique identity. They make choices and communicate their feelings, ideas and wishes in numerous ways, long before they are able to communicate through the conventions of spoken or written language (UNITED NATIONS 2006).

The high capability of children to acquire clear awareness of their surroundings makes them great candidates to help in the process of design making. Therefore, I asked them to draw their favorite places inside Al-Za'atari camp. To my surprise, immediately the kids started drawing and in few minutes they started to approach me to present the images they produced. Drawings made bridges that allowed kids to communicate some of their stories with me, and few of them expressed their feelings while they were talking about their drawings. Almost all of them drew their houses back home; very few drew things that were related to Za'atari camp. Most elaborated on their drawings by commenting: "This is at home". I collected 32 drawings, but due to the large number of kids I wasn't able to talk to them all.

Later in my hotel room, I began to observe these drawings. About twenty children drew houses, and half of those drew their houses surrounded by flowers and trees. One boy drew his house in detail and pointed out a specific tree next to his house where, according to his description, his friend and he used to gather and play. One of the girls drew a big house with orange, green, and red colors, and wrote "My Home" on it. It seems that as Joseph H. Di Leo wrote in his book *Interpreting Children's Drawings*,



Figure 33: A boy's drawing from the drawing exercise,2014



Figure 34: A Kid's drawing from the drawing exercise,2014



Figure 35: A girl's drawing from the drawing exercise,2014

these young children tend to ignore or transform reality into a subjective world rich in fantasy (Di Leo 1983). Drawing for them was a way to possess the unreachable reality. *Children draw to represent not to reproduce the reality and they draw the known not the seeing reality* (Di 1973). This would explain, why children who live in temporary shelters, would draw their yearning for the warmth and affection of family life which eludes them without a home of their own.

Other drawings I collected were more cheerful and more advanced, kids drew green valleys, big mountains, and sun in the background, probably a setting they are familiar with from their childhood in Daraa, since Daraa is a green valley with Mount Hermon in the background. Two kids drew their houses with a fireplace inside. One drawing had a person sitting next to the fireplace and extending his hands toward it for warmth. In addition, outside the house there was a tree, a sun and a bus. I guess that the fireplace represents the desire for a warm life; these two kids were trying to possess warmth in the images they drew. In addition, it may symbolize the cold nights these kids had experienced during the past winters. On the other hand, the bus is an element that occurred



Figure 36: From the drawing exercise,2014



Figure 37: From the drawing exercise,2014



Figure 38: From the drawing exercise,2014

in three other drawings as well. The staff and some kids told me that many had escaped Syria and had arrived at the camp by bus. As for the other drawings, about five of them had butterflies and three of them have happy colorful hearts; two of those heart drawings seems to represent the love that the two girls have for their home; they drew their houses with the revolutionary flag above them and a heart surrounded by trees and flowers.

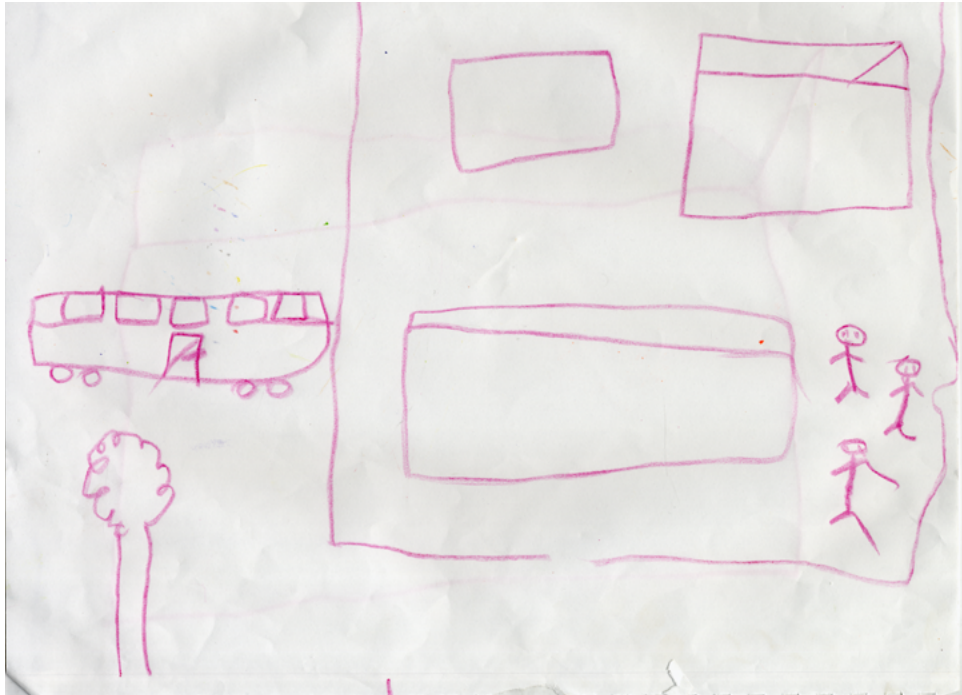


Figure 39: From the drawing exercise,2014



Figure 40: From the drawing exercise,2014



Figure 41: From the drawing exercise,2014

I noticed that the kids who drew a flag all used the revolutionary flag, representing the freedom of Syria. Moreover, in many of the photos that I took of kids in Za'atari, many made the sign of peace with their hands.

Surprisingly, only two drawings addressed Al-Za'tari camp; these drawings featured Dreamland's big tents. One of them captured the area within Dreamland where they watch movies. The other displayed the playground area surrounded by the fence. These two kids also managed to draw a banner with "Mercy Corps" and their logo on it. Another drawing depicted a shelter that looked like a tent with scattered elements around it: a smiley apple, a butterfly, and two other elements that I didn't really understand. One of the girls drew a girl in a purple dress, standing on grass and surrounded by butterflies under blue skies.

Only one of the drawings that I collected represents a very clear and real war. A boy drew a mosque in the middle of the page with two helicopters shooting down rockets. He drew a tree on the right side of the mosque with a flag above it. In front of the mosque, there were two tanks with "tanks of the criminal Assad" written on them. The two tanks were shooting to the right side of the paper where



Figure 43: From the drawing exercise, 2014



Figure 44: From the drawing exercise, 2014



Figure 45: From the drawing exercise, 2014



Figure 46: From the drawing exercise, 2014

the boy had drawn three fighters, who he called them "the free army", which means the opposition side in the Syrian revolution. He drew one of the fighters behind a cinderblock wall and on the opposite side of the paper there was a dead man.

From the kids who drew houses, almost all of the ones who I had chance to talk to told me that their houses had been destroyed. All of the kids that I asked allowed me to take their drawing. While I was sitting there, I noticed that all the places in the big tent opened onto each other. Because the number of kids is very large. I felt that the organization of the place contributed to the children's inability to, or brevity of, focus. In addition, the tent that we were in was a little bit dark and many kids may have been very distracted by that.



Figure 47: From the drawing exercise, 2014

After finishing the exercise, I sat with one of the staff, a Syrian refugee, who lives in Za'atari. She told me that she's been in the camp for one and a half years and that only in the past two months has she started to go out from her tents because she started her work with Mercy Corps. Her family believes that girls should always be protected and safe from their surroundings. She told me that she was feeling ashamed by the fact that she is a girl who has to work to earn a living, but at the same time she told me that her job is the only thing that lessens her pain and the constant crying from being away from home. She told me that her mother felt that her new job lessens her challenge of being away from home. The other staff member that I met was also a Syrian refugee of Za'atari. She was pregnant. She married a person who she met in Za'atari. Jana, the staff member that I talked to from the beginning, is Jordanian and only came to the camp from 9:00am in the morning to 4:00pm. Jana thinks the place needs to be comfortable for staff members in order for them to work more easily with children. Mercy Corps is planning for many changes to be done on Dream Land.

After finishing the drawing exercise and talking to the staff and kids, I went to see and talk to the kids who were playing outside. While I was taking pictures, five of the children approached me and wanted me to take pictures of them. While taking their pictures, I took the opportunity to learn from them about what they would like to have in the camp, or what things they would like to see. One boy who looked like he was around 11 years old, told me after thinking a little bit " I wish we can plant carrots" then all the other kids started to add that they wanted to plant apple trees



Figure 48: Next to the sand tent in Dream Land, 2014



Figure 49: inside the sand tent Dream Land, 2014

and walnut trees. Another boy told me that he liked to build stuff. He mentioned that he had helped his father once in building something. When we finished talking, they wanted me to take more pictures for them, so I asked them to show me the places that they like, in order to take a picture for them in them. Two of them walked me to the other tent. It was a big tent like the first one, and filled with soft sand. The five children told me that this was one of their favorite places. The tour became another way for me to enter the environment of children based on their own perspectives. By talking to them about their preferences, they were able to indicate what they considered the important elements that they would like to experience in their environment. This method is one of the mosaic approaches that Alison Clark in her book *Transforming Children's Spaces*, 2010, used in order to integrate children into the design decisions of a place. Clark declares that researchers can never experience the world in exactly the same way that others do, but this method may provide some opportunities to edge closer in this direction (Clark 2010, p.31-42)

I left Dream Land at 2:00pm to visit the adult area. Attendance of men and women is separated by days. It was the male's day when I visited the area. The site consists of two big tents, one has a gym and the other is for martial arts activities. In addition, there were three small caravans organized in a U shape. One has around 12 computers, the other is for drawing and crafts activities and the last one was the office. Around those facilities, there was a big, open, empty, gravel area with two restrooms on the back corner of the site. While I was there, Mercy Corps was planning to do some planting and to define an area as a small soccer field. I took the opportunity and offered to help the staff by taking the measurements of the site. By doing this, I had the chance to talk with the Syrian men who were responsible on taking care of the site. Ahmad, who I was helping, would like to see more colors in the area. He shared this with me after I asked about the improvements that he could imagine for the site. While we were working, he brainstormed with me about the way plants should be organized in the area.

I also had the opportunity to meet more of the Syrian men who were helping in the adult center called “Shabab liltaghir”, which means “the youth who will bring change”. Sammy, 23 years old, told me that this place had become the area where one pours one’s heart. Sammy, a very kind and calm man, came with his parents more than a year ago, but his parents left for Turkey to seek a better life and to find work. He was the only one from his family who couldn’t leave because he needed to renew his passport, which remains impossible because he can’t reenter Syria. Sammy seemed like a patient man, but, in his case, hope was something too hard to have as a refugee. As the case with Sammy, most of the men were hopeless. It seemed to me that for life is frozen for them because of how restrictive refugee status is. However, it is admirable that the refugees I met seemed to fill their days in various, productive ways. The Syrian men I met have built very nice relationships with Mercy Corps and they were responsible for various tasks in Shabib litaghir and other centers.



Figure 50: Adult center in Za'atari camp, 2014

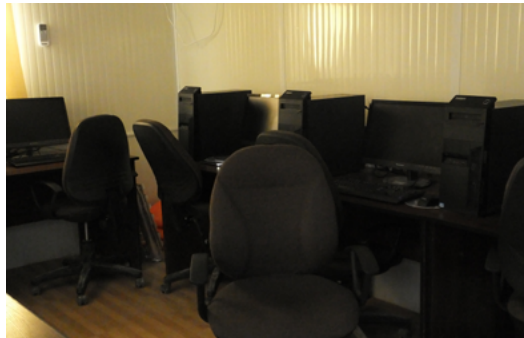


Figure 51: Inside the coputer caravan in the adult center, 2014

The second day, I visited several playgrounds that Mercy Corps established. They were very nice and colorful, with a variety of play structures. Children seemed to be very happy there. Many wanted me to take pictures of them while they were playing. Their smiles were amazing. The entire playground was sheltered and fenced with at least two trainers who were responsible for the children’s safety. Most of the trainers were Syrian refugees living in Za’atari.

That same day, I visited a soccer field that had been established by Mercy Corps. It was unsheltered, paved with green concrete and had two bathrooms. I played a little bit with the boys and then I sat with three of them with the trainer. Two of them are living alone. Their parents left Za’atari because they didn’t like the life there. One of them went out with his parents but he didn’t feel comfortable living in the cities of Jordan. He felt discriminated against and different from other kids so he decided to go back to Za’atri.



Figure 52: A soccer feild in Za'atari camp, 2014



Figure 53: A Playground in Za'atari, 2014

The last day I decided that I wanted to go back to Dream Land. Kids who I played with the first day recognized me. This time I wanted them to express what they would like to have in the camp by creating 3 dimensional structures. I went to the big tent that had soft sand in it with ten children. I drew a rectangle on the ground using my feet. As an independent act, children formed a train and followed me. When we finished, I asked them to construct what they would like to have in a garden from the sand inside the rectangular 2 dimensional shapes that we drew. In less than five minutes, more than 30 children joined us. In groups of two or three, they started to construct their own places. More than half of them built dome houses with paths and yards around them while some integrated tunnels in their buildings. Many built the shape of a tree or of flowers. And some of them just made mounds. I was impressed by the amount of detail and reality that some of the structures had. The kids were very creative and they built beautiful structures.



Figure 54: From the sand exercise,2014



Figure 55: From the sand exercise,2014



Figure 56: From the sand exercise,2014



Figure 57: From the sand exercise,2014



Figure 58: From the sand exercise,2014

The role of landscape architect is very important in a refugee camp setting. I believe that by working with the land, we can be the catalyst that facilitates the making of healthy, dynamic and efficient society. We can translate the science of psychology to physical elements that would allow for needed healing experiences to occur. Moreover, we can amplify the voices of children by designing places that reflect their imagination. Observing children's interaction with Dream Land, touring the place with them, and analyzing their drawings enriched my perspective. The experience enriched my work because I was able to familiarize myself with the children's environment. Therefore I am going to emphasize in my thesis the important role that kids can play in shaping the design decisions. We've been trained as landscape architect candidates to be able to read and understand the site, and from this understanding to imagine the possibilities that the land can have to create better opportunities. As children do, we designers represent the imaginary reality that the land can have through drawing a concept. We then try to achieve the possibility by creating a landscape. To enrich my imagination, I hoped to be able to perceive the representation of reality that kids have in their minds. I hoped to be inspired by their imaginations.

Literature review



Figure 60: The diagram on the left shows the content and guides for designing healthy places for children refugees.

The psychology of child development

To increase the healing qualities of a place, and to empower children's growth, I believe that first, it is important for landscape architects to really understand the conditions and situation that govern their users' lives. In order to prepare a place to heal and empower children in Al-Za'atari camp, an understanding about those children's psychological situation should be understood. In addition, knowledge of child psychology should be perused to direct the design decisions to support the sought-after activities. These include design elements that encourage children's experiences, which in turn would improve children psychological health and support their growth. They can be addressed in a physical settings that encourage children to interact with a place, to have creativity through their play experiences, to spend desired time alone, to explore, to feel loved, to hide, to choose being in the sun or shade, and so on. This supportive knowledge sets the stage for me to delve deeply first into the condition of Syrian children and second into the psychological literature about ways children heal from traumas.

Dean Ajdukovic specifies three factors when tailoring specific interventions to the needs of displaced groups and refugees. By interventions, he means the ways that would help to alleviate sources of stress and to strengthen a group's and individual's capacity to cope with stressors.

1. **The character and intensity of both past and current stressors need to be accounted for** [Discussion of this subject can be found in the chapter 'Syrian Children Refugees'.]
2. **The factors that moderate success of coping with stressors (i.e., personal characteristics, coping style, and available resources) should be considered.** [(I will elaborate on this in this chapter.)]
3. **The manifestations of stress and difficulties in psychosocial adaptation should be evaluated (i.e., behavioral, psychological, social, and physical health aspects.** [Information about this can be found in 'Syrian Children Refugees' chapter.] (Ajdukovic and Ajdukovic 1993)

Some of the keys that make some kids stronger than others in surviving traumas are having a sense of control over their lives, having strong family support, having a sense of mastery, or having a sense of positive emotions (Fox 2013, Dr. Ressler,). Dr. Ressler suggests these key elements are factors of boosting the resilience of children and to increase their abilities to withstand and overcome traumas. It turns out that the level of resilience that a person has can support him or her in mitigating the impact of traumatic exposures (Cornor 2006, Wrenn, et al. 2011). Moreover, the results of the International Resilience Project, which 589 children from 30 countries joined and which was done to examine the factors that promote resilience, suggests that resilience is an important factor for clinicians to consider when evaluating a patient's risk for Post traumatic stress disorder (PTSD) when exposed to a significant trauma. The study emphasizes the importance of human resilience to face, overcome and be strengthened by or even transformed by the adversities of life (E. H. Grotberg 1995). As a result of the international Resilience Project, resilience was defined as **a basic human capacity, nascent in all children. Parents and other caregivers promote resilience in children through their words, actions, and the environment they provide** (E. H. Grotberg 1995). Dr. Ressler said: **One can go through a lot of trauma but still come out and feel some level of control over one's survival.** (Fox 2013) Given the importance of resilience in enabling people to recover from and overcome traumas, I am going to design the site in a way that would enhance the factors that would boost children's resilience. Can the place enhance the resilience of children? To answer my question and to feel confident that a place can really enhance resilience in children, I started researching how children build resilience. In so doing, I believe I can know which designed interventions can best support children in building their resiliency.

» Place in responses to the psychology of child development

How do children build resilience and what are the necessary skills that they have to acquire in order to enhance their resilience? How can a place accommodate these needs?

In the Guide to promote resilience in Children, (E. Grotberg 1995) Edith Grotberg summarizes the research that has been done on promoting resilience by identifying specific factors, such as *trusting relationships, emotional support outside the family, self-esteem, encouragement of autonomy, hope, responsible risk taking, a sense of being lovable, school achievement, belief in God, morality, and unconditional love* (E. H. Grotberg 1995). Building from the International Resilience Project, Grotberg groups the main factors that make up resilience in three categories. I will use his structure to categorize the needed element in a place in order for that place to promote children’s resilience.

I Have	I am	I can
<p>-People around me I trust and who love me, no matter what.</p> <p>-People who set limits for me so I know when to stop before there is danger or trouble.</p> <p>-People who show me how to do things right by the way they do things.</p> <p>-People who help me when I am sick, in danger or need to learn.</p>	<p>-A person people can like and love.</p> <p>-Respectful of myself and others.</p> <p>-Willing to be responsible for what I do.</p>	<p>-Talk to others about things that frighten me or bother me.</p> <p>-Find ways to solve problems that I face.</p> <p>-Control myself when I feel like doing something not right or dangerous.</p> <p>-Figure out when it is a good time to talk to someone or to take action.</p> <p>-Find someone to help me when I need it</p>

I HAVE

I have people around me I trust and who love me, no matter what (E. Grotberg 1995).

A helpful environment at home can reduce the psychological problems that Syrian children are enduring. For children, their primary relationships are their families, so if their family is together, it can mitigate the risks of having traumas (E. H. Grotberg 1995, Fox 2013, D. Russler). However, parents or caregivers are themselves suffering from traumas and are struggling from their own scars, and may be what prevents them from providing the necessary care to support the children psychologically. A refugee child’s vulnerability to stress is greatly increased by losses, but not all children will be traumatized by their experiences. ***The triad of “protective” factors that make children more resilient is: a positive personality disposition, a supportive family milieu, and a supportive family community*** (Eisenbruch, 1988; Garbarino et al, 1992). A place and the interaction with the place could, I believe, either support these factors or compensate for them in order to strengthen children resilience.

Children’s experience of having people whom they can trust and of having people who love them is essential for their ability to withstand traumas and enhance their resilience. However it would be hard given the scope of my thesis and my position as a landscape architect living far away from the site to ensure that the design would provide children with this experience. However, creating a place can otherwise offer opportunities for children and adults to develop relationships that eventually would provide children with the feeling of love from and trust in their community. As an attempt to achieve this, I suggest that landscape architects should put as much emphasis on how the design proposal is going to be constructed as to what the design decisions should be.

The stated intention of my thesis is to design the process that would make the place. By this, I mean to integrate the process into the place by using the community’s ideas and needs as a catalyst for designers, and to fully involve the community that inhabits the place by inviting them to participate in establishing the place to its full value. The role of

design, in this case, is to unify and energize people by creating the first action. Hamdi defines this in his book *Small Change* by saying ***Action in order to introduce others to act*** ...which suggests ***offering impulses rather than instructions, and cultivating an environment for change from within, starts on the ground and often with small beginning, which have 'emergent' potential*** (Hamdi 2004). This first action is to create and help in assembling a design that show people that they deserve respect. A landscape architect can achieve this by designing a vision for a beautiful place. By beautiful I mean, a design that has uniqueness that can tell people, they are as equal in dignity and rights. This can be the first incentive that would show children and adults that they have people that they can trust. And the design would be the message of love.

As Garrett Eckbo Said in the Nature of Theory in Landscape Architecture: ***A good theory of landscape design must be a theory of form as well as function. It must be artistic as well as practical, in order to produce the maximum for those who will experience work influenced by it*** (Swaffield 2002, p.10). For me, the design of a landscape is our artistic and practical form of theory that can stimulate human interaction with the land in order to nourish the soul, mind and body. Design is our tool to maximize children's experiences out from crucial practical activities that can support their healthy growth.

The role of a designer is to achieve beauty through the efficiency of the project. In the case of refugee camps, beauty should be accomplished in affordable ways. To really improve children's and people's wellbeing, I believe beauty and affordability should be the incentive for those people's participation in the process of making the site. In order for my theory to become reality, I am suggesting cooperation in this project that brings together aid agencies, designers, Syrian adults refugees, and refugee children. My role as designer is to present a design that motivates action and bring out ideas from the cultural, spiritual, and physical assess of the space. With the designer part and the productive participation of people in collaboration with aid agencies, policies could be changed to accommodate the healthy cooperation that would be formed. If the design has the ability

to drive the other factors, then a sense of trust can be built in the people who are participating in making the site.

To summarize, my approach to the challenges of creating high value qualities in children's places starts with the principle of integrating a community in the making of the site in playful and fun ways. At the same time, I will identify design strategies that make it easier for the aid agencies to believe in the participation process.

I have people who set limits for me so I know when to stop before there is danger or trouble.

(E. Grotberg 1995).

This can be partly achieved by designating zones in a place that would help adults and trainers to set rules and provide daily routine for children. The place should be designed to facilitate the process of organizing children's days into activities and tasks. According to Dr. Ressler, ***what helps most is giving children structure — predictable routines, places, activities, chores. This can happen even in the chaos of a refugee camp... there is something about that sense of stability, that sense of predictability that can add a lot to an otherwise difficult world*** (Fox 2013). In addition, creating routine in children's lives will provide children with consistency, confidence, security, trust, and a sense of safety, because routine allows them to identify patterns that help them predict what is going to happen next (Salmon 2012). Moreover, constructing a routine will stimulate their imagination and give them incentive to predict what their day will hold by creating real and imaginary places, and constantly engaging in a thinking process to construct their world (Salmon 2012). To enhance the process of thinking through the medium of designing places, we can establish a journey of exploration for children, and create flexible play interventions that provide layers and endless discoveries for kids to explore.

By allowing the places to be flexible, we can provide children with the opportunity to express their imaginative world onto a real setting. Beside flexibility, ***children's places***

should be inspirational and designed in an abstract and magical ways that stimulate the creativity of children while they are trying to interpret them (Brosterman, *Inventing Kindergarten* 1997, Moore and Young 1978, R. C. Moore, *Childhood's Domain* 1986). When I visited the urban areas in Jordan that host Syrian children who had been in traumatic events, the importance of creating routine in the lives of these children was demonstrated. Organizing children's days into routine activities was one of the strategies the psychiatrist who I met in Jordan used to treat Syrian children from the various traumas that they have. It was really interesting to hear the enthusiasm of the children when they described the sequence of activities that they do every day.

Routine and the consistency of an established schedule is a very important feature in the learning process. The normalization of a child's life depends, to a large extent, on their security of knowing what to expect (Salmon 2012). When children know the plan, they feel secure and are subsequently free to concentrate. If landscape architects provide these predictable patterns, the children will become more self-confident and inner-directed, leading to normalization (J. M. Jacobs 2014). These skills are important to promote the resilience of children and to help them cope with their adversaries.

I have people who show me how to do things right by the way they do things. (E. Grotberg 1995).

Places and outdoor learning experiences can provide children with the opportunity to feel that they have people who care to show them how to do things right. Designing and planning small activities and tasks that would contribute to building the whole project would provide the environment that could boost kids' self-esteem and enhance their senses of autonomy (Brosterman, *Inventing Kindergarten* 1997, R. C. Moore, *Childhood's Domain* 1986, Piaget, Inhelder and Bovet, *Mental Imagery in the Child* 1997, Scherler 1979). Moreover, by engaging children with playful small interventions, landscape architects can provide them with the experiences needed to engender hope. Creating a system under

which children and adults can work together to accomplish fulfilling a bigger dream can give children the message that there are people who can show them how to do things right. At the same time, such a system could create meaning in the lives of adult refugees. This can be illustrated in the words of the psychologist Urie Bronfenbrenner's, who is known for his ecological systems theory of child development. Bronfenbrenner wrote ***Positive development is said to take place when a child engages in increasingly more complex activities on a regular basis with one or more persons with whom the child develops a strong, mutual, emotional attachment*** (Bronfenbrenner and Morris 1998).

My idea is to create small moments of magic and wonder that kids can participate in which would be overlaid, with the help of adults, onto a more pragmatic garden structure. The relationship can nurture hope, but in order for this relationship to be established, a plan and organization for day to day activities should be established. Landscape architects would open new possibilities and enhance communication between children and adults in different roles within early childhood services and development by creating places and processes. The cooperation between landscape architects and adults with the support of NGOs can create an enabling environment for children to develop their skills and establish good foundations for their lives.

In addition, engaging kids in small interventions that boost their creativities and use what they have made as part of a bigger project would make children aware of their capabilities. Their engagement would be rewarded by a sense of competence. Moore emphasizes Sorenson and Lady Allen of Hurtwood's understanding that environments for children must be designed in a ways that liberate children's freedom of engagement with their surrounding (R. C. Moore, *Childhood's Domain* 1986). ***Through playful interactions with people, natural objects, and materials, a child learns in a special, boundless way that stimulates the development of mind, body, and spirit*** (R. c. Moore 1999).

I have People who want me to learn to do things on my own (E. Grotberg 1995).

Part of UNHCR roles in Za'atari is to provide safe and healthy places for children, where children can develop healthy relationships. These places have great potential, if designed well, to contribute to the growth and development of children. One of my thesis objectives is to provide design solutions that would engage kids in the process of establishing one of those places by engaging them in play activities that allow them to learn the needed skills to nurture personal growth and development. The aim is to design for education, and with education, to teach children how to learn. The participatory relationship between adults and children would give children a sense that there are people who would support their development and growth. The place itself should teach children about their capabilities and let them discover new skills by providing opportunities for creative play activities. Edith Cobb writes, (Play is) ***a sort of fingering over the environment in sensory terms, a questioning of the power of materials as a preliminary to the creation of higher organization of meaning*** (Cobb 1977, p. 46-48). The place should be designed in an attractive way to stimulate children's curiosity and to encourage them to discover and explore. Children's places should be designed to cultivate children's innate abilities to observe, to make reason from things, to express their thoughts through play, and to create by reflecting their understanding of the surrounding environment. Jean Piaget, a Swiss developmental psychologist and philosopher known for his epistemological studies with children, states:

Children should be able to do their own experimenting, their own research... in order for a child to understand something he must construct it for himself, he must reinvent it... if in the future individuals are to be formed who are capable of creativity and not simply reputation (Piaget, Inhelder and Bovet, Mental Imagery in the Child 1997, p.27)

According to the theories of Swiss pedagogue and educational reformer Johann Heinrich Pestalozzi, in order for the education to be meaningful, all human activities should be self-generated (Brosterman, Inventing Kindergarten 1997).

I have People who help me when I am sick, in danger or need to learn (E. Grotberg 1995).

The place should have the potential to become a welcoming and a safe area that children can go to whenever they feel lonely, depressed, or simply want to explore and play. A garden created for an elementary school in Berkeley, California was described as becoming the ***'special friend' to individual children and giving the children as a whole a sense of identity and belonging*** (R. c. Moore 1999). To emphasize this point, Alexandra Chen, a specialist in childhood trauma who works with Mercy Corps to train teachers and volunteers on how to assist with refugee children who've been affected by the Syrian civil war, said that there have been some children who sneak into Dream Land in the middle of the night. She continued by saying ***There was a little boy who would come at 3AM.... He would hide in the corner of the tent and shake. The stress that he was expressing was too much in his own little mind. He was unable to sleep. So, this is where he came to find refuge*** (Chen 2013). This is a perfect illustration of the power of place in creating difference in children's lives.

I Am

I am: a person people can like and love.

Respectful of myself and others.

Willing to be responsible for what I do (E. Grotberg 1995)

Urie Bronfenbrenner's research of the ecology of child development intertwines social, cultural, and physical factors with the growth and development of children (R. C. Moore, Childhood's Domain 1986). I believe that the process of enhancing the physical factor can enhance the overall ecological development of children. Enhancing the physical factors can start with the landscape architect's efforts to bring children's and adult's ideas to

life, while simultaneously boosting human experiences throughout the needed activities. At the same time, they can accommodate people's needs by creating a language that can relate the people to the place. These efforts can be the first step toward a better physical environment. This step won't be complete until the designer identifies a way to share their ideas with the users of the site, Syrian refugee children and adults in this case. The process of sharing the idea with the children and adults and helping them to achieve it can enhance the social cohesion in a community.

Moreover, the participatory design-build process that includes children in a playful way would provide the opportunity for children to interact in productive and positive engagement with adults, the materials, the space, and with the spirit of the emerging institution that governs the process. This quality of children's relationships with the living environments, and the particular knowledge and development support that can be acquired through playful interaction with natural materials and phenomena, would help children acquire creative intelligence (R. C. Moore, *Childhood's Domain* 1986). As Bronfenbrenner suggested, the use of the place by children and adults could eventually enhance or create the cultural factor (Bronfenbrenner 1977). Moreover, Pia Björklid stated: ***individuals learn to behave in social consciousness*** (Bjorklid 1982, p.64)

In the process of making the site, there are opportunities to enhance childhood development. The way in which children would inhabit the place could be another important influence on children's development. Harold Searles, one of the pioneers of psychiatric medicine specializing in psychoanalytic treatments of schizophrenia, believes that it is easier for children to effect the physical environment than the social environment. He writes:

the nonhuman environment is relatively simple and stable, rather than overwhelmingly complex and ever shifting... and generally available rather than walled off by parental injunctions. (Searles 1959, p.82).

It is important to allow the place to give freedom for children to experiment, create and express their needs. This was one of the principles of the postwar architecture of childhood. The movement wanted children to establish a self-regulating social order out of their own agency and free will (Kozlovsky 2013).

In an adventure playground, for example, children were given tools and building materials and the liberty to use them... after a period of havoc, players developed collaborative building projects (what use to be built by children was often destroyed by them) and in that process, formed a community (Kozlovsky 2013, p.11).

One of the aims from the adventure playground was ***to constitute children as agents invested in the project of self-improvement through their self-initiated activity*** (Kozlovsky 2013).

Physical and emotional factors are bound together in early childhood spaces (Clark 2010, p.13). According to Alison Clark, this relationship enables an environment for young children (Clark 2010). Children can be involved in their own learning through play. They make meaning and develop their personalities through their experiences. According to Jerome Bruner, meaning making for children is their way to grow and to make sense of things, not to produce and report. Bruner wrote about meaning making in relation to language acquisition:

She was not simply reporting, she was trying to make sense of everyday life. She seemed to be in search for her own integral structure that could encompass what she had done with what she felt with what she believed. (Bruner 1990, P. 89)

I CAN

I can: Talk to others about things that frighten me or bother me

Find ways to solve problems that I face

Control myself when I feel like doing something not right or dangerous

Figure out when it is a good time to talk to someone or to take action

Find someone to help me when I need it (E. Grotberg 1995)

In his book, Robin C. Moore, (1986) talked about the role of play in helping kids deal with their social and physical surroundings and he introduced Erikson and Piaget's view that *Play has a healing or cathartic value ... (through which) the child is able to relive and possibly resolve earlier (social) conflicts* (Bjorklid 1982, p.67). Moore suggested as a reflection on his studies *that particular qualities, elements and characteristics of live environments could stimulate and support the acquisition of manual dexterity and sensory psychomotor, social-emotion, perceptive, imaginative, affective, cognitive and verbal skills* (R. C. Moore, Childhood's Domain 1986). By creating specific design settings for children in Za'artari, competence skills can be developed in children. Developing these skills, according to Mary Reilly (Reilly 1974), would motivate interaction, which in turn would stimulate the learning of skills. In addition, *through interaction, intelligence grows in its ability to interact* (Chilton Pearce 1992, p.25-28). Through this ability, people can interact with catastrophic events in stronger and more effective ways.

Place can be an instrument to boost children's self-esteem by letting them discover their capabilities by playing and doing. My plan through a designed site is to engage children in the environment to express, through play, their inner fears. I want the place to provide opportunities for their bodies, minds and spirits to come together and face the barriers that the effects of untreated traumas can create. *Untreated*, (the behaviors that trauma develop in the life of children) *interfere with learning and the development of body image, leaving a child unable to regulate feeling, to use fantasy creatively or to give positive meanings to experiences* (R. C. Moore, Childhood's Domain 1990). Moore also emphasizes that the quality of the outdoor environment in child development can critically affect the range and depth of play environment.

In his book Childhood's Domain, Moore presents the findings of Karl Scherler, a German educator, about the relationship between children's competence and play (Moore 1990).

Scherler defines six development functions that children's play activities can develop:

- **The adaptive function:** *the biological adjustment of the child, development of strength, stamina, speed and pliancy.*
- **The expressive function:** *evoking such emotions of tension, inquisitiveness, fury, hate, pleasure, joy and annoyance.*
- **The explorative function:** *learning how to distinguish high, low, small, large, before, behind, soft and hard; to distinguish social roles and to learn how the adult world works.*
- **The productive function:** *leaning how to make things and how to alter things.*
- **The communication function:** *learning how to behave in relation to other people, to cooperate, to accept rules, to protect the weak, to empathize and relate to the points of view of other people.*
- **The comparative function:** *leaning to measure one's strength against others and to win and lose.* (Scherler 1979, p. 16-25)

These functions can help landscape architects shape the elements of a place. Moreover, they can direct how a place can be organized and structured. It is important for a place to provide a variety of exploration opportunities for children. In designing a place, landscape architects should consider how one place could hold many layers of opportunities for interaction that allow children to experience and discover new things with every interaction. It is also important in the planning process to consider designing elements that enrich children's senses. All these elements and others that I suggest in my thesis would be enablement tools for children to withstand their pasts and improve their psychological perspectives.

One of my ideas to empower children through their activities in a place is to engage children through playful activities in the process of making the site. In order to do that, the role of designer is to generate a process that would illustrate how the accumulation of children's activities and some events during a specific period of time together would

construct the site. This would teach children the process of design, and prepare them to learn how to think by encouraging them to imagine, to create with the help of adult, to play in order to shape things, and to interact and reflect with their friends on their interventions. By experiencing how small elements can come together to create a big project and how there are always people who are willing to help, children will develop pride in themselves, hope, a sense of autonomy, and, at the very least, the capability to imagine.

Max Lock, a British postwar urban planner, reflected on his contributions to planning the reconstruction of Middleborough by writing about human need for creative action, and for satisfaction of the deep-lying desire for significance, dignity, and freedom (Lock 1947). Lock satisfied this human desire by opening the planning process to the participation of the population, including children, who helped in carrying out the preliminary survey. In another example, according to the kindergarten system, **allowing children to create small tasks would develop one's artistic faculties which give them flexibilities in dealing in their problems later in life** (Brosterman, 1997). Moreover, according to Pestalozzi and Froebel, allowing children to handle materials and to examine things would develop originality in thinking and problem solving (Brosterman, 1997). All these characteristics are steps to promote resiliency and to give strength to human spirit.

Pedagogy science

Many child development theories discuss the importance of children interacting with their surroundings. The experiences that children formulate from their interaction help develop the needed skills that support their growth. Robin C. Moore emphasized the importance of place in children's lives when he **wrote** Garden settings are important for children because they live through their senses, as they explore their surroundings through play, they engage in development processes that can be extended, enhanced, and facilitated by adult professionals (R. c. Moore 1999). This chapter focuses on the needed educational systems that support the growth and development of children. My

purpose is to establish the knowledge that can support structuring the design, to develop an understanding of which experiences would develop children's needed skills for growth, and to direct the process of shaping the place.

Friedrich Froebel's pedagogical theories can be a great inspiration for landscape architects in designing the childhood environment. Froebel is a German pedagogue (April 1782-June 1852), who was the inventor of kindergarten and one of the founders of modern education. Norman Brosterman referred to his educational system as **the pearl of the modern era and the seed for cultural advances that were impossible to anticipate** (Brosterman, Intervening Kindergarten 1997, p. 6). Froebel based all his theories on the concept of unity. Inspired by the interconnectedness that he found in nature, he designed his educational system to direct children toward the understanding of this unity and interconnectedness (Brosterman, Inventing Kindergarten 1997, p.32).

Kindergarten educational methods were directed toward nourishing the children's physical, intellectual, and spiritual elements that together, Froebel believed, make the unity of individuals and create their characters. What unique about this kindergarten method is the twenty educational gifts. The gifts are the materials that kindergarten uses to integrate the education methods in a form of play. The gifts are play objects that resemble balls, blocks, sticks, paper, pencils, and clay. They are visual physical examples of the pedagogical system of unity that Froebel believed in. The sequences of activities that the gifts stimulate in children, as they experience them, will eventually manifest the idea of unity and interconnectedness. Froebel was only able to provide a comprehensive writing and graphic directions for the use of the first 5 gifts, then his followers helped to define the rest. Von Marenholtz beautifully describes the effects the gifts sequences create in a child when he wrote:

If he (the child who is playing with the gifts) ***learns to see the connection of all things, and nothing comes broken and isolated before his senses; if things, from the simplest up to the most complex, appear to him fixedly***

arranged in their natural, logical succession, from unity up to manifoldness or plurality, and his own handling of material leads to plastic formation, starting from simple fundamental forms and rising to ever high(sic) linking together of the same; and if his own formations are shaped according to one and the same law,-- this child's mind must, in later stages of development , arrive at the consciousness of the organic life imitated by his own hand, and will find it again in nature in its most original life state of existence. And thus he recognizes the agreement between the intellectually organic linking of his own being with that in the material world. (Brosterman, Inventing Kindergarten 1997, p. 36)

Kindergarten utilizes play as a way to naturally educate young children. **For Froebel, Play is not idle behavior but a biological imperative to discover how things work** (Froebel's Kindergarten Curriculum Method & Educational Philosophy 2003-2013). Playing with geometry was one of the activities that is connected to many other activities such as singing, gardening, dancing, and storytelling. Many remarkable people in the nineteenth century who trained in his kindergarten created a revolution at their time.

Frank Lloyd Wright is one of the people that Froebel gifts inspired. His architecture, according to him, was very much influenced by Froebel's child education system (Brosterman, Inventing Kindergarten 1997). In 1957, Wright wrote: *Encouraged by my early training at the Kindergarten table and subsequent work on the farm in the valley, I came to feel that in the nature of Nature- if from within outward- I would come upon nothing not sacred. Nature had become my Bible* (Brosterman, Inventing Kindergarten 1997, p. 145). Le Corbusier, one of the most influential architects of the 20th century, also was influenced from his childhood training under the Froebel education system (Brosterman, Inventing Kindergarten 1997). Froebel's philosophy can be seen manifested in many of Le Corbusier's buildings and theories. Others like, Wassily Kandinsky, one of the first champions of non-Objective Art, and Walter Gropius, Josef Albers, and Johannes Itten , founder

and masters , respectively , of the Bauhaus movement were also influenced from their early childhood education with the Froebel system.

My goal in discussing all the above literature and research is to show how early childhood educational systems are capable of preparing and empowering a child's imagination and abilities. By learning about this system's principles and by understanding how this system works, I believe as designers we can design with the same intention. Froebel simply, and sophisticatedly, materialized his educational philosophy by his design intervention of the gridded table and the gifts. **Froebel sought to harness... and focus a child's play energy on specific activities designed to lead them to create meaning from their experiences** (Froebel's Kindergarten Curriculum Method & Educational Philosophy 2003-2013). His knowledge of what experiences a child should have in the early stages enabled him to patent a design intervention. Kindergarten is a system that nourishes a child's flexibility and develops their understanding of the universe in a conceptual way at the level of a child's. The aim of the kindergarten system as Von Marenholtz summarizes it, is to satisfy:

- **The need for physical movement**, through gymnastic games that develop the limbs.
- A child's need to **occupy oneself in a plastic fashion**, through exercises that produce manual dexterity and develop the senses.
- A child's need to **create through small tasks** that develop one's artistic facilities.
- A child's need to **know**, or natural curiosity, engaging in observing, examining, comparing.
- A child's tendencies to **cultivate and care** for, through gardening and carrying out small tasks, which result in the development of the heart and conscience.
- **The need to sing**, through games and songs, which produce the development of feeling and aesthetic taste.
- **The need to live in society**, through life in the Kindergarten community: the mode of existence produce social virtues.
- **The deepest need of the soul: to find the reason behind things, to find God.** (J. F. Jacobs 1859)

These eight goals can formalize a systematic approach for planning the designated children places in Al-Za'atari camp. The place can be designed to encourage kids to engage in such activities. Moreover, the meaning and reasoning behind the Froebel gifts can inspire the design foundation for children places. In my proposed design, I used these eight principles as a guide to program the site. I tried to shape the place in order to provide the opportunity for children to engage in the activities specified in them. Understanding the effects and philosophy of the educational system would allow designers to develop special characteristics that would serve similar purposes. The design of the Froebel gifts and his illustrations on how to use them are the best examples of how to translate the pedagogical theories into a design that kids can interact with.

In addition, as Rudolf Arnheim suggested: *Early stages of development produce highly abstract shapes because high contact with the complexities of the physical world is not, or not yet, pertinent to the task of picture making.* (Arnheim 1974, p.146). By recognizing how children comprehend the world around them, we can create design elements in a place that can enrich, through their engagement with the place, their perspective. As landscape architects, we can also give them the opportunity to engage with the landscape in order to freely conceptualize their surrounding environment. Robin Moore sees that by *forging connections with plants, rocks and water, the child gains a deeper sense of self within the surrounding physical and spiritual universe* (R. c. Moore 1999, p.338). When Moore was describing the Therapeutic Garden at the Institute for Child and Adolescent Development in Wellesley, he stated: *within the dunes in the garden, there is a powerful sense of being embraced and protected by the earth.* (R. c. Moore 1999, p.338)

Many modern child development approaches such as Montessori, Reggio Emilia, kindergarten, and Pestalozzi encourage children to learn from playing, exploration and experimenting. For example, Pestalozzi believed in the importance of natural education, where the innate desire to learn is nourished and curiosity is unfettered (Brosterman, Inventing

Kindergarten 1997). Johann Heinrich Pestalozzi (1746-1827) is a Swiss pedagogue, whose work was revolutionary and contributes to the establishment of modern education. His motto was "Learning by head, hand, and heart". He fought corruption and inequality through education. His schools in Yverdon, Switzerland, were the first to open their doors to orphans and peasants (Brosterman, Inventing Kindergarten 1997). He wrote *the beginning and end of my politics is education* (Brühlmeier 2010, P. 6). Pestalozzi favored more active, hands on activities, which he called "object lessons", and are based on direct, concrete observation (Brosterman, Inventing Kindergarten 1997). He emphasized the personal experience of the child supported by loving encouragement, which I believe, a place that is designed and organized carefully, can provide.

The role of design in this case, is to attract children and encourage interaction. We can

design for the experiences of children to happen. Moreover, the place can be a loving one if we design it with beauty. Beauty, in my opinion would make children take pride in belonging to and identifying with a place. As a consequence, they will develop a sense of place, which is good for their growth. For me, beauty can be achieved through the

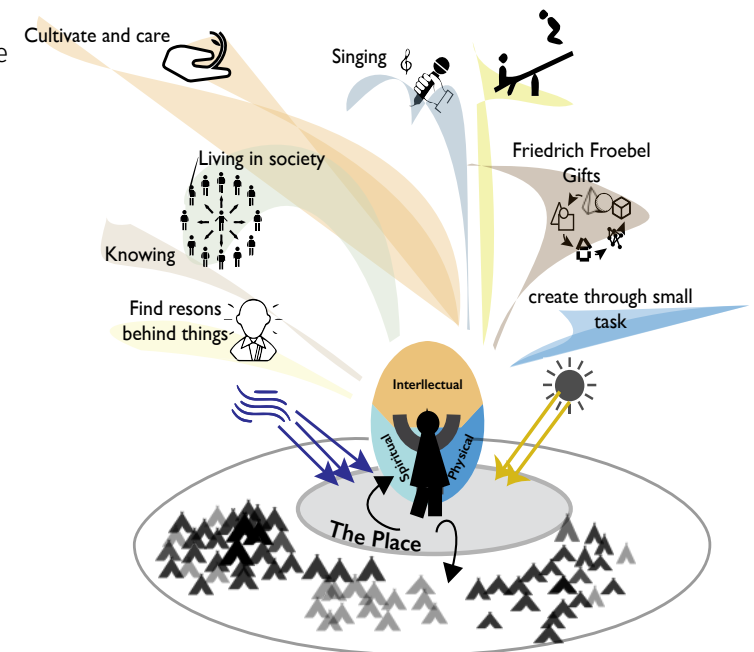


Figure 61: A diagram summarizes the lesson learned from child development theories and Pedagogy.

care and respect a designer place in the design, beauty, is to make the design matter. A design matters when it becomes a symbol of love, care and uniqueness. Beauty in a design can enrich children's life with pleasure, give them a sense of safety, and comfort their lives with love. Beside, beauty is an abstract phenomenon and design can achieve it in an abstract way; this abstraction and conceptualization in turn can be an incentive for children creativity.

Landscape and Place

Landscape can be understood through its particular characteristics and patterns beyond which the space or particular area can be imagined and inhabited. A landscape can be a representation of the policy that administrates the lives of people and it can become, over time, the medium that shapes the meaning and identity of a place and, as a consequence, a creator of culture for the society that inhabits it. Landscape architect James Corner, , writes:

*The meaning of **landschaft** [landscape] comprises a deep and intimate mode of relationship not only among buildings and fields, but also among patterns of occupation, activity, and space, each often bound into calendrical time....landschaft.... refers to those forms and ideas that structure society in general. Whereas the scenery of landschaft may be picturable, its deeper, existential aspects circle more socially cognitive, eidetic processes. Spatial, material, and ambient characteristics are still here, but their essence is not necessarily that of Cartesian objecthood; they are present in something foggy and multiplicitous ways, structured but not immediately visible- structured, in fact, more through use and habit in time than through any prior schematization.* (Corner 1999, p.154)

The landscape can be a powerful medium of change. Through observation and assessment of the landscape's strengths and phenomena, landscape architects can make designs that can be catalyst for change. Landscape Architecture as a profession is based on

the understanding of landscape formation and situations, and can, through the power of design, give a place the ability to enable its visitors to add their perspective. Landscape architects have the ability to illustrate their visions and to facilitate change. Corner writes:

The landscape imagination is a power of consciousness that transcends visualization.... the future of landscape as culturally significant practice is dependent on the capacity of its inventors to image the world in new ways and to body forth those images in richly phenomenal and efficacious terms. (Corner 1999, p. 167)

Edward Relph, in *Dwelling, Place & Environment* book, 1985, used Joseph Fell's description for place as the following: *the being of the human being, his essential nature, is place, the ground or clearing within which there can be disclosure of beings as what they are* (Relph 1993, p. 27). As an illustration of human growth and wellbeing and its association with the phenomenological relationship between human and place, Joseph Grange, a professor of Emeritus philosophy argues: *'Where', is always part of us and we part of it. It mingles with our being, so much so that place and human being are enmeshed, forming a fabric that is particular, concrete and dense. Without place, there would be neither language, nor action nor being as they have come to consciousness through time* (Grange 2000, p. 71). As an attempt to describe this phenomenology, Grange wrote: *Every human being is already situated in a body. This personal environment receives what is outside and echoes its qualities. Through posture, orientation, feel and comprehension, human beings record the significance of this world.* (Grange 2000, p. 82).

To understand the phenomenology of the relationship between human being and place, we need to look at it from the perspective of Grange, where it is a process of parts (Posture, orientation, feel) that initiate the unity (the comprehension act of understanding our existence and forming our value and our places)[Figure 62 illustrates this theory]. This can be a tool that allows landscape architects to shape, based on this phenomenological relationship, the place and let the place in turn supports a healthy growth

and development for the children's well-being. By understanding how people perceive the place and how their perceptions affect their well-being, we can start to think about design elements that will nourish them. In addition to the planning and designing of children's places, acquiring knowledge of pedagogy science and the science of childhood development would help to program and to shape the needed design elements to support this nourishment.

How our body articulates the value of its environment
by Joseph Grange

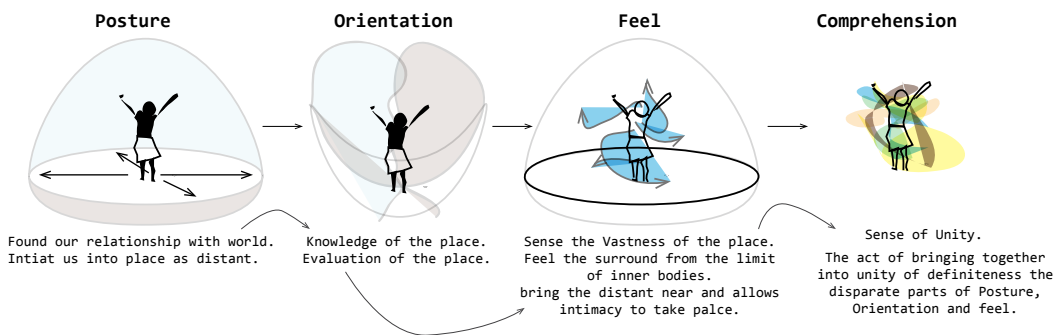


Figure 62: Joseph Grange description of how human bodies articulate the value of the surrounding environment.

» The situation's context

Before getting to Al-Za'atari refugee camp in Jordan, I started to read about refugee camps' emergency responses. To understand the context of refugee camps and to really use my time efficiently in my field trip to Al-Za'atari camp, a review of the literature made me aware of the bigger context and directed me to how, what and where the role of landscape architect could be. However, nothing I read allowed me to trust myself to present something that would really create a positive difference in Syrian's lives. Opportunities for change exist in every place and within every community; in order to find and develop these opportunities a person should be in that place and learn from those communities.

Each community is unique and has its own strengths, and discovering those strengths would allow for opportunities to develop change in the communities' life.

Michel Agier posed the question: *what difference does it make to be in a camp?* (Agier 2011, p. 64). To understand this, we need to look into how these people became refugee's in the first place, this will allow us to understand their transition and the scope of the hardship they are living. This question, as per Agier, is what drives lots of anthropologists' research to find out the meaning of escaping death and struggling to establish a lost soul, and the transformation of society and culture (Agier 2011). His study aims to bring out *the swing from life to death, from chaos to social creation* (Agier 2011, p. 64). The research that Agier shared in his book *Managing the Undesirables* highlights the experiences of humans who end up stateless and their interactions with the terrain that is transformed by the humanitarian organization to place them. His writing tries to capture the life of refugees in those lands. Understanding the phenomenological experiences that happen in a refugee camp will tremendously help landscape architects support the process of planning camps and help them come up with design interventions that support the life of the people and the aid agencies in a refugee camp.

From the beginning of his book, Agier posed the questions that he wants his book to answer and he wants readers, from other professions to keep in mind such as,

What is the future for 'emergency' interventions and the spaces they create moving towards? Can other utopias be opposed to that which, paradoxically, is in the process of shifting international solidarity after having wanted to reinvent it? Beyond the end of the camps, will we be able to create the conditions for a reinvention of asylum and refuge, a reinvention of city and solidarity (Agier 2011, p. 8).

These questions help direct my research, and encouraged me to seek new ways to investigate and really understand emergency responses, in order to figure out how to immerse our profession to fill the gap, and support the process of creating healthier emergency responses by taking a larger part in drawing the new strategies for future emergency

interventions.

Agier believes that there is a refugee culture that emerges gradually from the everyday exceptional experiences of the endless emergency situation that each new arrival discovers and adds to from the moment he or she enter the camp (Agier 2011, p. 70). This culture is formed from a life of waiting that simplifies the meaning of refugee existence. In addition, Agier wrote that *by waiting, what they experience here, in the camp where they have ended up, has no meaning, no legible existence, if not to justify the demand for return by the suffering that this interminable insomnia provokes* (Agier 2011, P. 72-73).

When I was in Al-Za'atari almost every Syrian who I talked to described the things that he or she was spending time on as a way to kill time until the return happens. Even though there were opportunities provided by the Jordanian government allowing adults to go outside the camp to take the 12th grade exam, the "Tawjihi", to get certification, many Syrians didn't want to peruse it either because they are hopeless or because they are afraid it won't be recognized when they get back to Syria. Nour, a Syrian man living in Za'atari who was attending courses and studying for the Tawjihi exam, told me that he is not certain that his effort is going to do him any favors in the future. He also told me that, even if he got the certification, it would be hard for him as a refugee to attend university. In addition, the certification wouldn't be recognizable in Syria, in case he goes back.

The management and the spatial organization of the camp are complex challenges and based on many theories. They dramatically affect the psychology of the people and the ways they interact with each other in the place. In his book *Managing the Sense of Region*; Kevin Lynch argues:

Access and territory are aspects of mental image of space, considered as potential movement and action. But the identification of places, as well as their organization into mental structures, not only allows people to function effectively but also to be

a source of emotional security, pleasure and understanding. Orientation in space (and time) is the framework of cognition." (Lynch 1980).

It is the objective of my thesis to find the strategies that create meaning and identity for the chosen place in Al-Za'atari camp in the mind of its residents. These two elements would raise people's attachment to the community and develop the social senses, which in turn would raise the sense of safety, happiness and support.

Moreover, by letting the place have its identity, the place can add some meaning to the lives of the people who are living there. For the place to have this ability, our role as landscape architects is to suggest initial design solutions that would allow the place to encourage interactions. When interactions with the designated place would happen, new experiences will form. With these experiences, the site will evolve in the mind of its users and its meaning will be shaped. Our initial design solution should be derived from the place and inspired by the community that inhabits the place. Those initial design ideas should be shaped from our deep understanding of how people perceive a place, so that the design enriches this perception.

Children grow and develop from their experiences. How can the place enrich these experiences? Design solutions can encourage children to interact with a place which happens by landscape architects developing an understanding of the kids' perspective of the surrounding. Landscape architects should also consider what would help the kids get over their traumas and recover. In designing places for children who have experienced war and the challenges of exile, design interventions should be directed in ways that would allow the experiences of kids in the place to enrich their resilience.

The other component that I am going to be focusing on is how we can design for the interaction to develop the place. I think by doing so the place would have the power to enable children to form their identities, to believe in their abilities and to develop the flexibilities to be creative in dealing with the challenges of life.

» THE DESIGNED PROCESS OF SITE DEVELOPMENT

“Quality is not a thing it is an event”, (irsig 1974, p. 233)

As stated earlier in the project statement, the objective of this project is not merely to find the theory behind making a good design. It is also to set the strategies and design the events and the processes that underneath it the site would be developed and inhabited. The design would be an accumulation of ideas and efforts that, if overlaid together, would create a programmatic place where kids can explore, discover and make through play. My objective is to suggest that in the case of refugee camps, the designer should design the evolution process of a designed place starting from designing **the Process of Making the Place**, thinking about the **Experiences of Inhabiting the Place** and putting into consideration **the Impact of the experiences that would happened on the designed place.**

> The Process of making the place:

I aspire this Oasis to be an opportunity where the refugee children can be integrated in the development of the site through prepared activities and play, which will support their own mental, physical and spiritual growth. In addition, integrating children will teach them the concepts of the process of design; where they will learn how an initial, small idea can be transformed into a fully functioning project. In this process, they will learn how to imagine ideas, experiment with them, create them and then persist in developing them and collaborating with their peers to achieve the final product. To illustrate my idea, I am going to refer to Jean Piaget’s claim that:

Children should be able to do their own experimenting, their own research... in order for a child to understand something he must construct it for himself, he must reinvent it... if in the future individuals are to be formed who are capable of creativity and not simply repletion (Piaget, Some Aspects of Operations 1972, p. 27)

Therefore, by integrating the children in the process of establishing this oasis in the camp, we can enrich children’s life experience, boost their self-esteem, and provide them with sense of pride where they can see the fruits of their work coming together. According to Alison Clark’s book, *Transforming Children’s Spaces*, she draws from the work of Moss to articulate the idea of children’s spaces rather than children’s services. She states, *Children’s spaces refers not only to physical environments, but also to a range of different contexts for engagement* (Clark, transforming children’s spaces 2010, p.14).

Furthermore, Mitch Resnick, LEGO Professor of Learning Research and head of the Lifelong Kindergarten group at the MIT Media Lab, argues in a TED talk “Let’s teach Kids to code, 2012” that when kids learn something meaningful and learn how to apply their learned knowledge, they will learn it better and deeper. In addition, he thinks that this process of learning would develop many skills that they can use when they grow up which will enable them to be flexible and adjust to the different challenges they face in their lives.

Moreover, kids participation in the decision-making process and the process of construction has the potential to bring together the community and to create a positive livable environment in the camp. In his presentation “Post-Disaster Rebuilding: Children’s Lost Landscape after 3.11” at University of Washington, Dr. Isami Kinoshita detailed how youth participation in reconstruction and recovery after disasters built up youth’s resilience in coping with the effects of disaster, and empowered them to plan for the future. At the same time, it helped adults and older people to come out of their sadness and to integrate them in the rebuilding process. Kinoshita said “Youth could become a clamp to bind the people at deep disappointment by the disaster”(Nov 6th 2013).

> The experience of inhabiting the site:

Design has the ability to alternate and to encourage experiences that can happen in a site. According to Kevin Lynch, *most social behavior is territorial; that is, it is spatially defined and changes according to place* (Lynch 1980). My objective is to suggest techniques and ideas throughout the landscape that would direct the process of children's participation with the help of adults in shaping places where children can play to learn. Reflecting on her experiences with children's participation, Clark believes that *Working with architects has in turn opened up new possibilities for improving communication between young children and a range of adults in different roles within early childhood services and beyond* (Clark, transforming children's spaces 2010, p.17). This project would provide tools and methods of how to encourage the interaction with a place to help children heal from their traumas and to help them develop the ability to learn how to learn.

> The future impacts of the site:

Refugee camp life is meant to be temporary. It can be short lived, like in the cases of natural disasters. However, due to political unrest and war, it may last for generations, as in the case of Palestinian refugees in Jordan, Lebanon and Syria. The response to these kinds of long-term situations should be thorough, especially for children, in order for the younger generations not to be lost. In this project, as the landscape architect, I want to suggest design responses that will allow the temporary place to have permanent impact, and through this thesis I will provide a site design as a prototype for my ideas.

EMERGENCY DESIGN SOLUTION – CASE STUDIES

One part of my investigation journey was in San Francisco. I attended the Architecture for Humanity, Design Like you Give Damn conference in November of 2013. The conference was about designing for more resilient world. The lectures were directed toward the idea of preparing a resilient, built environment. The aim from the lectures was to present and

to share examples and research that architects and planners have done in preparing our physical environment to enable people to withstand, easily recover from, and efficiently adapt to the adversarial events that are happening around the world. Also, there was a push toward the ways we can manage to make our physical environment resilient to natural disasters. At the same time, there was an emphasis on design solutions that strengthen people's resilience in adapting to the world's challenges.

Lectures were very successful in showing the importance of resiliency in meeting the challenges of our 21st century. While listening to the experiences of other architects, I learned that empowering any community to survive crises always comes from that community and the places they inhabit. I also learned that we architects, landscape architects, and designers are only facilitators who encourage the transformation and recovery to happen in an organized, beautiful, and healthy way.

» BHUJ India, Hunnarshala-first case study-

In the opening ceremony, The Curry Stone Prize committee announced its 2013 Winners. The Curry Stone Design Prize honors an individual or group for developing and implementing a visionary design innovation. Their aim is to honor breakthrough design solutions with the power and potential to improve our world. They believe in the power of design as a force to improve lives and strengthen communities. One of this year's winners was Hunnarshala, a group of architects, engineers, and environmental activists based in India. This group came together with an objective to enable people for the reconstruction of their habitat in response to the Gujarat earthquake in 2001, (Foundation, Hunnarshala 2001-2014).

Hunnarshala's works *facilitate artisan-led reconstruction in post disaster, as well as Long-term redevelopment for cities and informal settlements* (Curry Stone Design Prize 2013). Their work is focused on legitimizing and understanding the beauty that is held in each community. Sandeep Virani, the managing Director of Hunnarshala said: *Our work is*

based on legitimizing the artisan community that is the repository of so much knowledge. When we work with artisans, we take tradition forward. (Curry Stone Design Prize 2013).



Figure 63: The Sham-e-sarhad Eco-Resort in Hodka features traditional bhungas built by local artisans. It employs 64 local families. Photo by Hunnarshala.

In his presentation, Kiran Vaghela, the managing director of Hunnarshala, shared with us the messages that he got from working with communities. He is a believer that if architects put faith in communities that they are supporting, if they give them light and if they are ready to respond to the issues that communities bring, communities have the power to solve their own problems. Hunnarshala believes that architects should listen to the knowledge that each community has, and to enhance it through their contemporary knowledge to help the community effectively face future disasters.

Hunnarshala also believes that the collaboration of architects, engineers, and communities can bring to life a lot of creative solutions. After the massive earthquake that left

half a million people homeless in Gujarat, Hunnarshala helped local villages build hundreds of earthquake resistant homes. Their conversations with local communities led “to the revival of the bhunga, a traditional dwelling with a rounded shape that makes it naturally more quake-resistant than a boxy concrete building. Hunnarshala worked with artisans to further reinforce the bhunga’s rammed-earth construction by adding steel rings at various levels” (Curry Stone Design Prize 2013).

In addition to building homes, Virani said that Hunnarshala facilitated the dialogue between government and communities and emphasized the advocacy work of communities. They helped communities after the earthquake build the vision for their villages and worked with them on developing a master plan for drinking water and solid waste management. In addition, **Hunnarshala runs a training program to help rural artisans understand urban business practices, and how they can apply their skills in an urban context. Participants get a two-year education in entrepreneurship during which Hunnarshala diverts business to them as they learn how to**



Figure 64: Residents of Bhuj work with Hunnarshala’s team to plan the redevelopment of the city’s informal settlements. Photo by Hunnarshala.

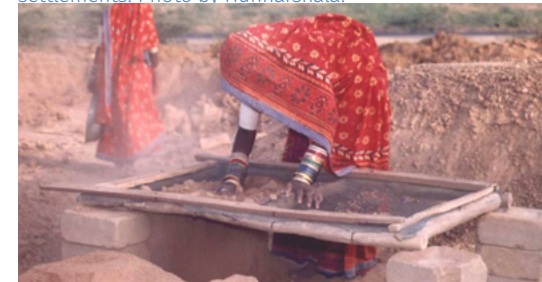


Figure 65: A woman preparing earth material for building, 2011 @ Hunnarshala.



Figure 66: Community work, 2011 @ Hunnarshala.
Figure 65-66: In 2001, after the earthquake in Bhuj, Abhiyan, Hunnarshala provided technical guidelines and manual that enabled more than 100 villages to rebuild using earth technologies.



Figure 67: Community participation in the extension of Junavada villages.

manage their own enterprises. Today, two hundred Hunnarshala-trained artisans are using their own knowledge systems to help build cities (Curry Stone Design Prize 2013). Their systematic work with communities can form a great foundation for my thesis, and can be a great inspiration for architects and landscape architects who want to work with community.



Figure 68: In Bhuj, recycled water from a decentralized wastewater treatment system is used to create a green-belt. Photo from Hunnarshala.

» Salam Center for Cardiac Surgery' in Sudan,2004 – second case study-

The Salam Center for Cardiac Surgery in Sudan is another example from the Curry Stone Design Prize presented at the conference. The hospital, located in an arid area in Sudan that is torn by civil war, became like an oasis of peace and tranquility. It is the only hospital in the region providing highly specialized care to patients affected by heart diseases free-of-charge.

Studio Tamassociati, a nonprofit Italian architecture firm recognized for designing healthcare facilities in war-torn areas, teamed up with local communities to build this hospital. In the lecture, Raul Pantaleo, an architect and the founder of Studio Tamassociati, said: *When you're at the table with different stakeholders in the Project --surgeons, nurses, administrators- you're part of the larger mission. It's not just about a building.* Architects learned from the local artisan's knowledge and used their experience to engage creatively to incorporate local culture, and medical and social needs into the design. At the same time, they worked to find solutions to get away from the political conflict, to read the



Figure 69: One of the center courtyards corners,@ TAMassociati



Figure 70: A series of shipping containers make up the accommodation block for staff, @ TAMassociati



Figure 71: making of the bamboo blinds @ TAMassociati



Figure 72: open patios between the shipping container units @ TAMassociati

context of the land in order to position the building in a healthy way. Additionally, they tried their best to make the place look beautiful without sacrificing their vision for excellence and function.

TAM designs beautiful, sustainable, and modern buildings in some of the poorest and most dangerous places on earth. The firm's pragmatic approach to design makes maximum use of local materials and knowledge, resulting in culturally relevant details and the invention of unique solutions to keep energy costs low in extreme climates. (Curry stone Deisgn Prize 2013)

Studio Tamassociati was very passionate about creating values through architecture. They wanted the architecture to be a means of social transformation. The priority for them was to create beautiful architecture. Paul Pantaleo emphasized “*Beauty becomes sort of the first message you give to the patient you consider as equal*” and later he said “*Beauty is part of the process of taking care of people*”. Design for beauty can make people feel



Figure 73: Salam Centre for Cardiac Surgery in Khartoum, Sudan, @ TAMassociati.

respected and that can bring back dignity. This was a great lesson for me to think about as designer designing places for refugee children. Beauty not only shows respect for the people that we are designing for, but it can also create meaning and identity. This would be even stronger when people are integrated into the design decision and making. Raul Pantaleo, wrote of the project:

To build an outstanding hospital in the heart of Africa has meaning. For us it was an extraordinary opportunity to reflect on the profound sense of the word right, starting with the right to health.... But there should also be a reflection on the more ample front of rights, and particularly on the right to the environment, to what is beautiful, and to memory, as the necessary premises for a sustainable and pacific coexistence at local and global scales. With these principles in mind, we imagined the Salam Centre as a place that is hospitable, domestic, and beautiful, where the convalescent patient, almost always a victim of poverty and war, could feel what it's like to receive treatment as a true subject of care, entitled to the fundamental rights that are too often denied on this continent.(Curry stone Deisgn Prize 2013).

» METI- Handmade school and DESI Training center in Rudrapur, Bangladesh

Another great project I would like to draw some ideas from is a school in Rudrapur, Bangladesh. The METI Handmade School is home to about 200 students, and is a great example of a cooperative system between humans and nature that brings dignity and hope to people and sustainability to the environment. Anna Heringer, a German architect whose passion for architecture and development work brought her to Bangladesh to participate in a workshop for building a school, learned from her participation and from the work of the ordinary people, how architecture and development work can be related. Heringer helped the residents of the impoverished northern village of Rudrapur, to build a local school with their own raw materials. She utilized the local resident's tradition of



Figure 74: The METI Handmade School in Bangladesh. Image by Kurt Hörbst

using earthen walls in building structures, and she strengthened it by adding local sand, straw, and clay, which allowed her to treat the architecture of the building as a sculpture and form a series of play caves within the building for children to play in.

Heringer's suggestion of the idea about the pride that people would have by building their own development can serve the situation in Za'atari. Investing in developing the children's future is something that would bring back the hope to the Syrian people in Za'atari camp. By providing good conditions for themselves, they would feel proud. I believe that even if the land that Syrians ended up in doesn't relate by any means to them, the connection with the land as a source of life would bring people therapeutic energy in healing their fears.

Another inspiration from Anna Heringer is the concept that people bring more feeling and responsibility to the energy that constitute the walls of a building, and they know better how to deal with the energy, if they build these walls by their own hands. By bringing her beliefs to Bangladesh, she brought back dignity for people and pride in their traditions.

These ideas that Anne holds which encouraged people to want to participate in developing their conditions remind me about one of the Permaculture ideas that Bill Mollison mentioned in his book, *Permaculture A Designer's Manual*. He wrote, "I deeply believe that people are the only critical resource needed by people. We ourselves, if we organize our talents, are sufficient to each other." The energy that cooperative work brings to architecture is an important principle of permaculture, Life is cooperative rather than competitive, and life forms of very different qualities may interact beneficially with one another and with their physical environment.

Maybe by providing the Syrian people who are living in the Za'atari camp with the opportunity to build places for children using the material available in the environment that they are staying in and giving them support and education with the modern construction techniques would bring back some hope to the communities who are living in the camp. Because of the temporary status of any refugee camp, but the long periods that refugees have to live in this temporarily, the earthen material that Ann Heringer used in her design potentially could be a great material to be used in Za'atari. Earth buildings are very durable and can last for hundred of years if they are maintained; however, when there is no maintenance, and they are not in use, these buildings decompose and go back to nature.



Figure 75: the 'Hand Made' construction



Figure 76: Anna Heringer, METI – Handmade School. Rudrapur, Bangladesh. 2004-06, Image: Kurt Hörbst.



Figure 77: Students in a "play cave," one of the inventive indoor recess areas at the METI Handmade School in Bangladesh. Image by Kurt Hörbst.



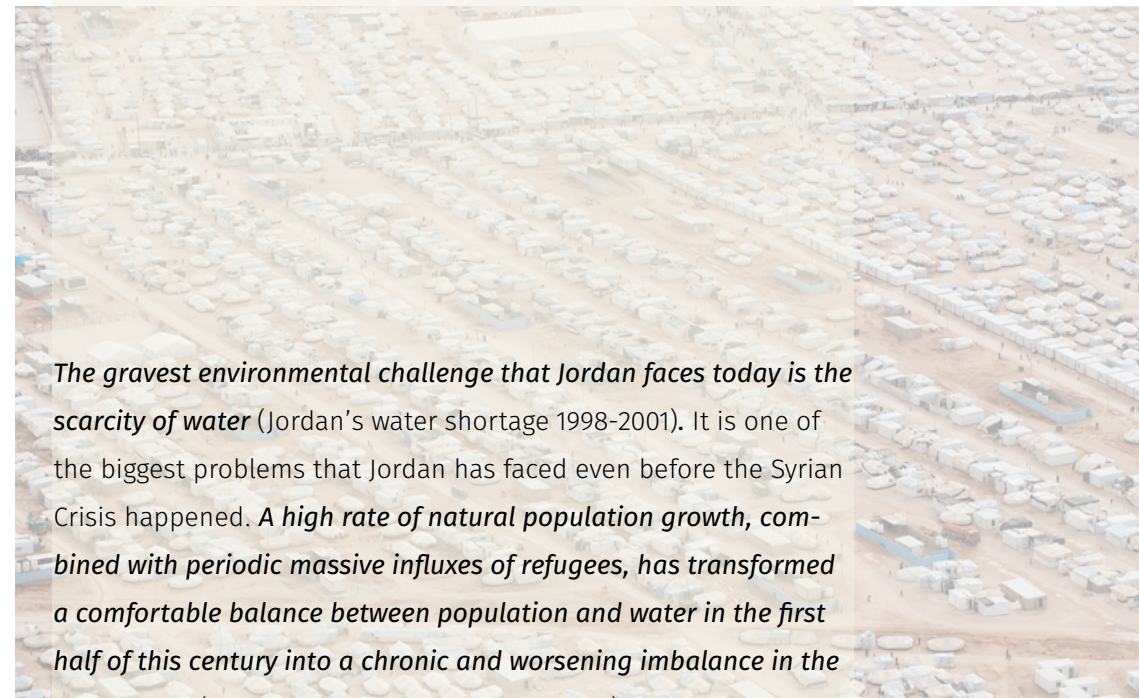
Figure 78: In the afternoon “school construction” was part of the curriculum. The METI students were helping to build their own school - preparing the lintel for example or drying the sand. In the end every student subscribed with the name on the front doors of the school. A yearly expanding school-cronicle. Photos: construction team.



Figure 79: Ground floor: on the lower floor are three classrooms with caves - photo by Kurt Hoerbst.

Context and Site Analysis

Environmental context



The gravest environmental challenge that Jordan faces today is the scarcity of water (Jordan's water shortage 1998-2001). It is one of the biggest problems that Jordan has faced even before the Syrian Crisis happened. *A high rate of natural population growth, combined with periodic massive influxes of refugees, has transformed a comfortable balance between population and water in the first half of this century into a chronic and worsening imbalance in the second half* (Jordan's water shortage 1998-2001). More than 85% of Jordan land is arid or semi-arid (Al-Jawarneh 2008, p. 1). This applies to the Za'atari Camp, as it is located in the transition zone between arid and semi-arid areas of Jordanian desert. This zone, according to Rana AlJawarneh, is facing drastic shifts and environmental degradations (Al-Jawarneh 2008).

The area is characterized by a very sparse vegetation cover and an annual rainfall of less than 200mm (Saad Al-Ayyash 2012). The Al Mafraq governorate, where Za'ateri camp is located, used to depend mainly on herding camels, sheep, and goats as the main economic activity for its primarily nomadic population, who moved from one place to another in response to water and forage availability (Al-Jawarneh 2008). However, the new policy of Jordan has formed to sedentarize Bedouins by providing them with the basic infrastructures to help them settle down (Al-Jawarneh 2008). This changed the lifestyle of Bedouins, which in turn, changed the environmental condition of the area, resulting in land degradation.

» Water

The camp location is judged to have moderate negative effect on the environment since it is in a degraded agricultural land and with small ecological values (Palo 2014). However, the huge influx of refugees in the past two years has placed extra pressure on the water problems that Jordan faces. In order to provide water for the camp, the authorities drilled two boreholes near the camp that provide up to 75% of the camp's water demands; the rest is trucked in from nearby locations (Zaatari Water Network Technical Working Group 2014). To accommodate the daily needs of refugees, 255 truck journeys with water move in the camp daily (Palo 2014). For desludging, 22 trucks of different sizes work three times a day, and they require 66 trips a day (Open hands, December 08, 2013).

» Climate

Jordan is located between the subtropical aridity of the Arabian Desert areas and the



Figure 81: Za'atari camp, 05 January 2013, @ SSA

subtropical humidity of the eastern Mediterranean area (Jordan n.d.). This location influences its very hot and dry climate in the summer (where the temperature can reach mid 40s °C) and cold climate in winter (with temperature from 5°C to 10°C). Although drought is very common throughout the region, a short rainy season from November to April (Briney, 2013) may bring lots of surprises; in the past two years, Jordan witnessed two heavy rain and snow storms that caused floods in many of its cities. In November 2013, some 300 Syrian refugees had to leave their tents after heavy rainfall in northern Jordan's Za'atari camp. (Planning for winter in Jordan's Za'atari camp 2013).

These storms highlighted the lack of proper drainage systems within the camp. Although a base course was built to provide drainage in za'atari, it's not enough, as much of the camp soil is not well covered. **The soil is exposed in the camp its fine clay like structure gives very low infiltration rate which makes water standing in low areas of the camp** (Palo 2014). This water exposure, in addition to the spill of private sanitation that some refugees are establishing, increases the risk for diseases such as diarrhea and leaves an unpleasant muddy ground during rains (Palo 2014). Moreover, the runoff from the camp and other surrounding areas during the rainy season may have an impact on some agricultural land in the west of the camp. An improved drainage is under construction and a pipe system connected to the drainage leading to a collection tank is planned (THW, OXFAM).

» Waste production

The camp produces about 500 kg of solid waste per day, or 15 tons per month of compressed waste (Palo 2014). The waste production of the camp contributes to around 23% of the waste production in the northern regions of Jordan (Palo 2014). In the camp 700 bins are distributed in the different districts, 12 small trucks and 2 lorries regularly empty the bins and 6 larger trucks at transit area take waste to the land fill, which located 7km away from the camp, twice a day. Most of the waste is composed of paper, wrapping materials, plastics, cans and organic waste (Palo 2014).

Educational context, Syrian Children refugee's facilities

There have been many services provided to support children who have psychological effects from the war. In Jordan, which houses close to 1 million Syrian refugees, more than 96,368 children have been supported in the first nine months of 2013 (UNHCR 2013). This can take many forms, such as counseling and follow-up for individual children and their families provided by UNHCR case managers, psychosocial support in schools from teachers who have received specific training, and recreational activities and more specialized psychosocial support provided by UNICEF and partners at child- and adolescent-friendly spaces (UNHCR 2013). Between October 20, 2012 and October 25, 2013 in Za'atari camp, 304 children, 162 boys and 142 girls, were treated for post-traumatic stress disorder or severe emotional disorders (UNHCR 2013).

In the Syrian emergency situation over the past three years, aid agencies have provided basic education equipment and material, promoted recreation and play opportunities, and organized communication campaigns and training sessions (UNICEF 2014). In Za'atari, many efforts were directed to create places for children where they might seek tranquility. UNHCR call these places child friendly places. They are places where children can feel safe and where they can establish healthy relationships. Some of the child friendly places are playgrounds where children can participate in some informal learning activities, ranging from crafts, music, drawing, learning languages, and other different activities. Moreover, Za'atari has a couple of soccer fields and daily recreation courses.

However, the overwhelming situation with the fast influx of refugees and the huge number of children in the camp made agencies ignore the role of design in addressing the needs of this kind of complex situation and focused on building makeshift playgrounds. In my visit to Za'atari, I felt the immense need to offer more academic assistance to these types of psychological and educational efforts. Moreover, I felt the duty and opportunity, we as designers have to participate with and help the aid agencies in their mission.

Therefore, I wanted my thesis to advocate for the importance of "design of the place" in dealing with this kind of situation. Through the effort of designers, we can transform a place to support aid agencies in their mission of helping the refugee children.

In March 2014, UNICEF with the support of REACH provided a Multi-Sector Child- Focused Assessment. The assessment indicated that the 5-11 age group had the highest number of reported children with disabilities including mental, auditory, visual, physical disabilities¹ (REACH; IMPACT; ACTED; UNOSAT 2014). Moreover the report indicates a huge number of children, under age 18, with disabilities across the camp. UNICEF encourages aid agencies to incorporate those children's needs in designing their programs. I want to suggest ways to address the needs of children's mental and intellectual disabilities by engaging those children in specific kind of experiences.

UNICEF has been leading the development of a strategy entitled "No Lost Generation". The strategy aims to improve children's access to quality education and to strengthen the protective environment for children (UNHCR 2013). Many Syrian refugee children did not attend school after they escaped from Syria due to many reasons, such as the need to work in order to support their families, the expenses of perusing education in urban areas, the overcrowded public schools of the host countries, the stress that followed the families into the exile, the discrimination that Syrian refugee children face in schools, the lack of parental encouragement, and the weak belief in the importance of education (UNHCR 2013). For many refugee children, school is a safe place where they can learn new things and make friends. It helps them to restore some normalcy in their lives, and to develop future goals (UNHCR 2013) "Our lives are destroyed," said 14-year-old Nadia in Irbid. "We're not being educated, and without education there is nothing. We're heading toward destruction." (UNHCR 2013). In Za'atari, UNICEF, with the help of many aid agencies and the ministry of education in Jordan, was able to provide formal and informal educational

¹ The United Nations Convention on the Rights of Persons with Disabilities states in its 1st article: "Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others".

services to Syrian refugee school-aged children.

Za'atari's children facilities

» Schools

School-age children between 4-17 years old count for 49,304 children (Za'atri/Jordan, Detailed indicator Report week 13, 29 March- 4 april 2014). Based on the March 2014 assessment conducted by REACH to assist in the planning of children's humanitarian aid, 60% (15,359) of school age children in Al Za'atari Camp were said to be attending school full time (REACH; IMPACT; ACTED; UNOSAT 2014). **The most commonly reported reason for non-attendance**, which cited as 16%, **was that the child had household responsibilities**. Other reasons included that children had never attended school prior to arriving in Jordan (15.6% of households), followed by general reluctance by parents toward schooling (13.1%) and the distance to school (11.4%) (REACH; IMPACT; ACTED; UNOSAT 2014).

There are six schools in Za'atari. Schools operate on double shift basis; morning sessions are for girls while the afternoon are for boys (UNICEF 2014). The capacity of each school is around 5000 children on double shift (UNICEF 2014). Bahraini school between

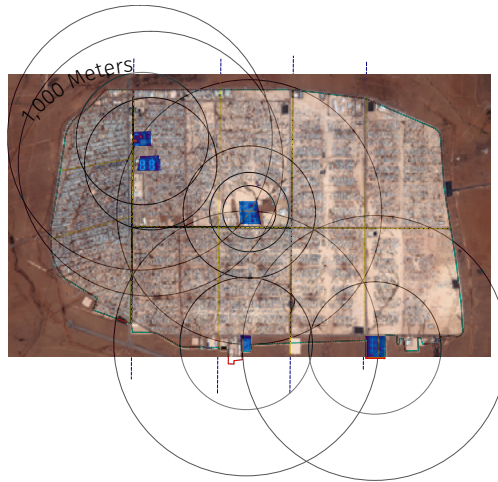


Figure 84: Location of school in Za'atari, satellite image DigitalGlobe via Getty Images. Diagram @ malda



Figure 83: A young girl going to school, January 2014

districts 3-4 has 5283 children, Saudi School in district 5 has 4147 children and Qatari school in district 8 has 1556 children. The other three new schools in 2014 are the NRC (Norwegian Refugee Council), The American School, and the Kuwaiti school. Moreover, there are a number of tents scattered around the camp that provide school classes. While the above statistics are encouraging, the other challenge is that a quarter of children were reported to have missed more than one year of education, and 5% were said to have missed three or more years, thus making them ineligible for formal schooling in Al Za'atari Camp. As a result, some aid agencies, including NRC, are providing catch-up classes for children aged 7-15, who have been out of school for a protracted period to ensure that they can rejoin formal schooling at their appropriate grade.

» Kindergarten

There are only two kindergartens in Za'atari camp. They are located in district 3 and 9 and enroll 2,000 young children. Both of them are supported by Save the Children charity. The first (opened in December 2012) can host about 640 children and the other (opened in March 2013) can host 320. However, the two kindergartens are working in four shifts; One in the morning and one in the afternoon, with each group of children attending 3 days a week to be able to maximize the number of children to 1,000 in each (Education Sector Working Group 2013).

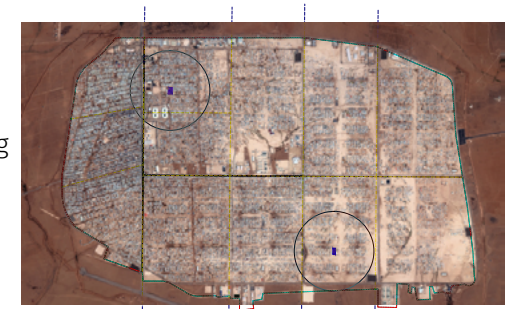


Figure 84: Location of the two Kindergarten, satellite image DigitalGlobe via Getty Images. Diagram @ malda



Figure 85: Rainbow Kindergarten in Za'atari @ Save the children International

» Playgrounds

There are seven playgrounds around the camp. They are places where kids can play, gather together, and socialize. The purpose

is to provide opportunities for children to enjoy their childhood again. When I was in Za'atari, I visited three playgrounds. They are nice, colorful areas with decent playground structures (swing sets, slides, etc.) and are fenced with metal mesh. In each Playground, there were two to three volunteers who are responsible for watching the safety of children.

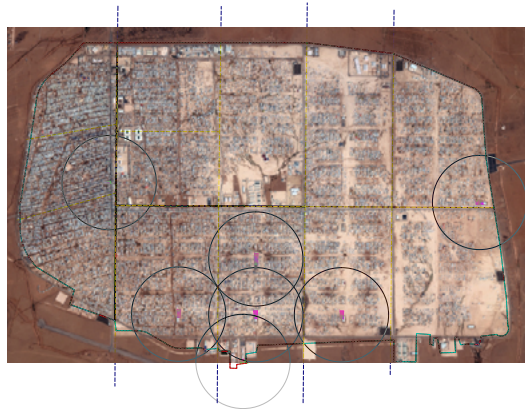


Figure 86: Location of the two Kindergarten, satellite image DigitalGlobe via Getty Images. Diagram @ malda



Figure 87: One of Mercy Corps playground, Za'atari, 2014

» Youth Center

There are five youth centers in the camps, offering youth safe environments to be productive and socialize. The objective of these centers is to fill the gaps in education and work experiences. Those centers provide the opportunity for youth to train in skills that can support their life in the camp and later in life. In these centers, youth can find various programs, including vocational training, awareness-raising activities, and more. Furthermore, the youth

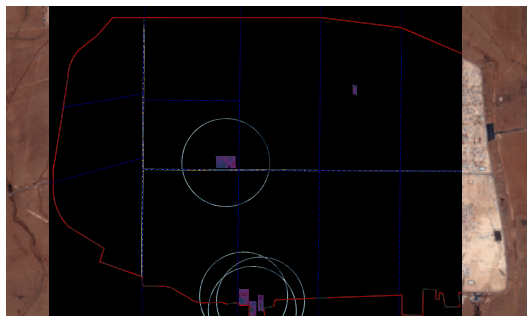


Figure 88: Location of youth center, satellite image DigitalGlobe via Getty Images. Diagram @ malda

can learn through specific courses to be a barber, therapist, photographer, welder, or artist. NRC tries to combine their vocational courses with literacy, numeracy, civic engagement, and other critical skills. These courses are opportunities for youth to become active members of the community and to give them hope that they can help to rebuild Syria in the future. Moreover, the International Medical Corps, with support from UNICEF support youth centers to serve teenagers' social and psychological needs (JORDAN: Youth centre inside the Zaatari Refugee Camp provides support to homesick Syrian teenagers. 2013).

» Child friendly places

Child friendly places are places that children can go to in order to feel some tranquility and to play. They are safe places that provide the opportunity for children to have safe relationships, and to recover from their traumas. In these places, there are specially trained trainers that deal with children with stress and emotional traumas. Sometimes children would be integrated into some activities under the supervision of trainers. Aid agencies are trying to distribute these places around the camps equally to provide all children with a place to go to as much as possible if they feel the need. 33% of the shelters in Za'atari are located at a distance of 100-200



Figure 89: Adult center by Mercy Corps, 2014

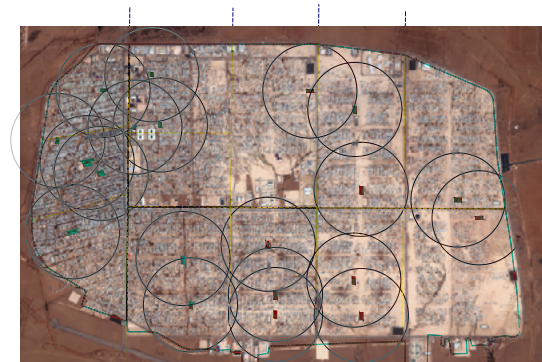


Figure 90: Location of CFP, satellite image DigitalGlobe via Getty Images. Diagram @ malda



Figure 91: Dream Land, Za'atari, 2014

meters from a child friendly place; only 6% from Za’atari shelters are more than 500-700 meters (0.5 miles) away from a child friendly place. It’s worth mentioning that (Gehl 2010) In the case of Za’atari camp, the extreme weather of summer and winter will drop the desire for any walk on the flat, gravel roads. This is something that should be addressed in Za’atari to encourage children to go out and interact with their surroundings.

» Recreation

Several Recreation areas range from soccer fields, places to learn music, performance, mosaic, dancing, and many other activities. In these places, children can enjoy competitive play activities, develop social skills, and just enjoy a sense of normality.

All the activities, services, and centers that aid agencies are building and operating are essential to add some kind of normality to children’s life. The facilities that Za’atari have are great places to lessen the effects of the harsh life of the camp, and could provide ways to protect Syrian children from engaging in illegal activities and other harmful practices (child labor, etc.). These places allow children to be children; they give children the opportunity to rediscover their childhoods that were lost due to the war.

While I was in Za’atari, I had first-hand experience witnessing the good work and dedication of one aid agency, Mercy Corps, who are working constantly to provide a better setting for children to enjoy. While all aid agencies are working hard to protect children’s

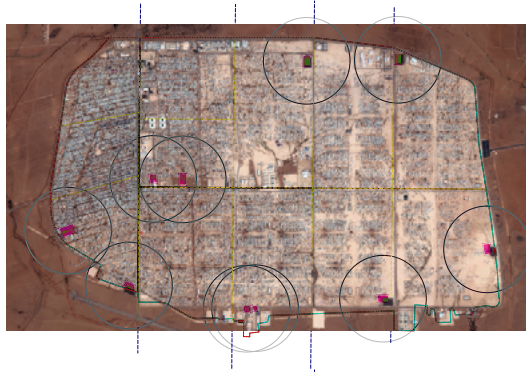


Figure 92: Location of Recreation centers, satellite image DigitalGlobe via Getty Images. Diagram @ malda



Figure 93: Soccer field , za’atari, 2014

rights and provide better places², the majority of their efforts are more of “immediate responses”, which to a great extent, succeed in creating safe places for children to seek refuge in, but not in providing an environment to develop children’s skills. All the activities that exist in the camp are great ones to develop children’s skills, however, more thought should be put into how to design those places to fully engage children and to enrich their experiences in order for them to be able to reap the benefits from their engagement. Here, I believe comes the duty of designers to reshape the way those places have been established for children to heal and grow, and for aid agencies to be prepared and educated on how to deal better with the situations and achieve their missions.

² Children’s rights in the CRC treaty (Convention on the Rights of the Child) cover almost every aspect of a child’s life in order for them to have the right to grow up safe, happy and healthy. CRC put emphasis on three rights particularly that are so fundamental that they can be thought of as underlying the entire CRC: the “best interests” rule, non-discrimination, and the right to participate. These three rights are so important and so interrelated that it is helpful to think of them as a “triangle of rights”. The three rights of the triangle reinforce each other to reach the objective: “the survival and development” of children

'Well I think as designers we realize that design is a signal of intention but it also has to occur within a world and we have to understand that world in order to imbue our designs with inherent intelligence.'
(William McDonough,2004)

Proposed design strategies and design prototype



Figure 94 : Overview of the design proposal site

My intention for this project from the beginning was to find ways that allow landscape architects to facilitate a healthier lifestyle for all refugees in the Za'atari camp. The World Health Organization (WHO) defined health in its broader sense in 1946 as ***“a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”*** (World Health Organization 2006)”. From the above statement I found myself meandering around the questions of how and what could be done to provide refugees their fundamental rights. And where the design can be powerful enough to create changes in refugee’s life that prompt the healthy life that they deserve.

The above questions, case studies and research all lead the focus on developing a better habitat for the children. Since over half of the population of the Za'atari camp is children, I believe, they could be the engine for motivation and promotion of a social life in a community and enhance its culture. Additionally, given that the brain functions for human being is established early on in life concludes that the childhood period is extremely important and must be supported.

To figure out where should I focus my design thesis and what can I bring to the life of children in Za'tari. I researched so far, the child development literature, I learned about the methods and philosophy of pedagogy. I traveled to observe, sense and experience Za'atari refugee camp. I listened and worked with children refugee in order to understand their needs. I strengths my knowledge of landscape architecture and researched how human perceive a place and how a place can effects behavior and support the growth of children. I searched and learned about the elements that make healing places. And I learned about the effects of wars and exile on children. I looked for the assessment that UNHCR and aid agencies produced on children in Za'atari. My aim was to enrich the content of my design, and to formulate strategies that help designers to design placers for children in refugee camp. Design, in my thesis becomes the catalyst for change.

Design Methodology

The design strategies and proposal encourage and based on collaboration between refugees, aid agencies and designers. The collaboration will allow the project to be a transformation from the way projects are executed now.

Earlier, a place was defined as; the catalyst of the community's ideas and needs imagined by designers and established to its full value by the participation and use of the community that inhabits that place. Then I argued that designers have the power to initiate the

processes of collaboration and placemaking by designing and illustrating the vision of the community. Also described was how the result of the design becomes a message of trust and respect encouraging communities to participate in the building process ensuring a safe and happy place for everyone.

Incorporated in the proposal are the desires and needs of trainers, aid agencies and the children, that were first hand witnessed during the trip to Za'atari camp. My thesis is a proposal on enhancing the quality of the site. Quality, in this project definition, is to provide healthy environment for children and opportunity for them to develop the needed skills that boost their resilience, inspire their imagination and empower them to move forward. On the other hand, creating a comfortable and supportive place that would help trainers and aid agencies in children's assistance. My idea is to propose my design and share it with the community and an aid agency. By sharing and participating in the process of making the site, I believe designers can encourage more participation. As a result, this process enhances or establishes a social factor in the participated community. Once the site would be established based on the collaboration and inhabited by the children and the community the culture factor would be enhanced.

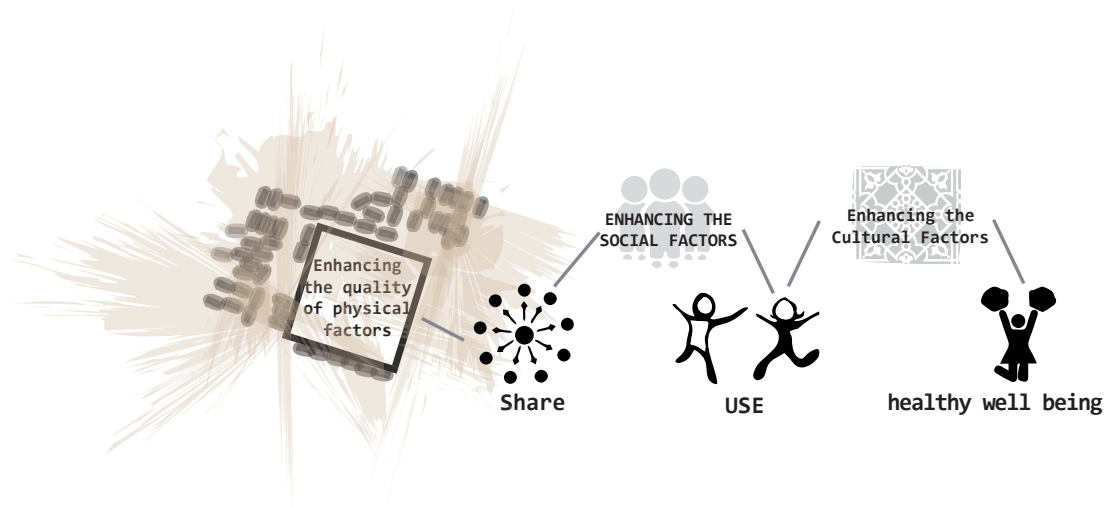


Figure 95: The design methodology that would encourage collaboration

Strategies and Toolkit

I developed a matrix of strategies and a toolkit that equip fellow designers and myself with the needed processes and methods to design places for children who have been in war and exile. I established the physical, mental and community health as a proxy to understand how design actions change the quality of life for refugee children and the community in general. The developed toolkit recognizes the importance of the build environment as a determinant of health outcomes. Using it as a guide for designers to assess a healthy growth and development for refugee children of war and identifies opportunities for improvement through the build environment in refugee camp enhancement projects. It could be a framework that practitioners and myself can use to integrate design in the process of developing and implementing solutions for refugee camp's challenges that related to children. My developed toolkit and strategies is the summarization of what I have learned from reviewing literatures and case studies.

Much of the research was devoted to identify the health issues on children caused by war, The diagram below summarizes the potential effects of war on children. This categorization enabled me to tailor specific design interventions to the needs of the children and to develop the toolkit, which practitioners and designers may use to address the challenges those children are facing.

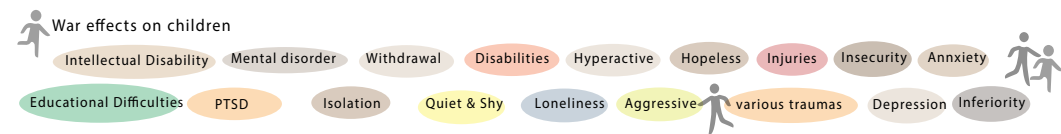


Figure 96: War effects on children

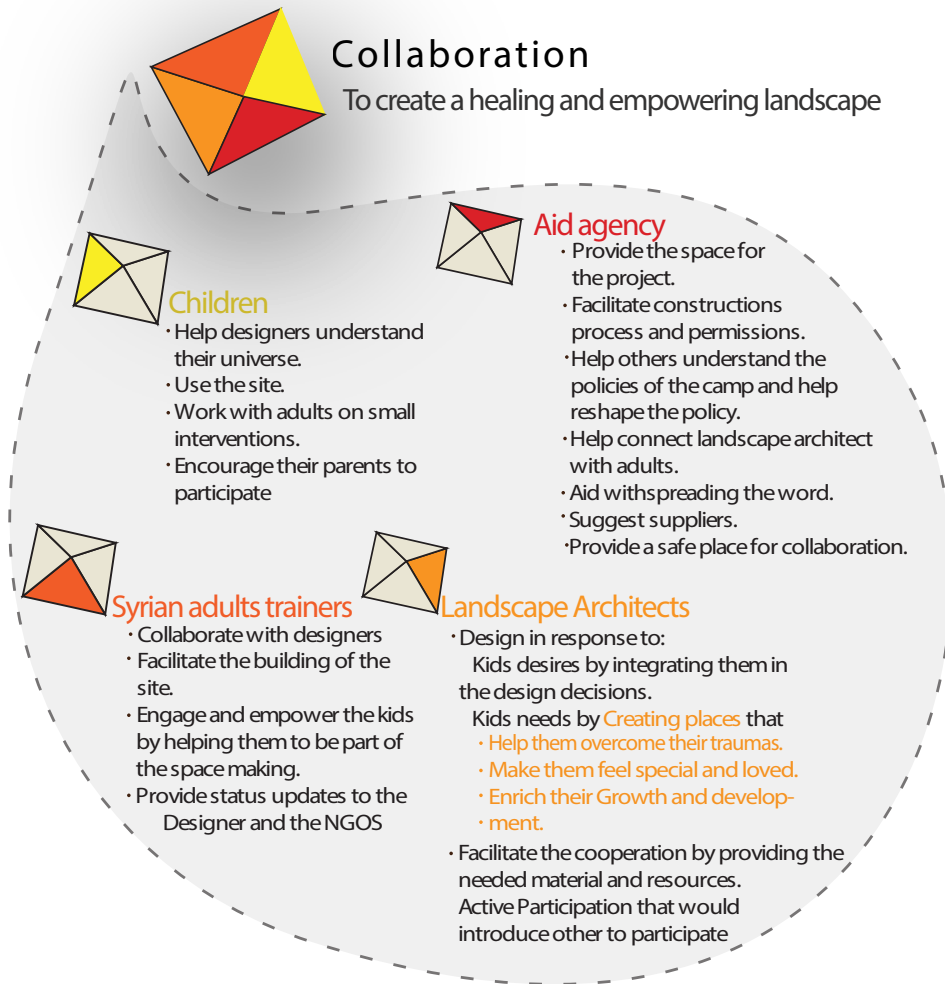


Figure 95: The Process of Collaboration

There were several elements used as a resource to identify priority issues including: psychology of childhood development, learned methods of assisting children from the impact of war and finally the status of health determinants of Syrian refugee children. The priority issues are: strengthen children resilience, enrich children imagination, and empower children to move forward.



Figure 97: Priority issues for refugee children's places

Strengthen children resilience, as the research clearly indicates, is very essential to mitigate the effects of war and exile. In summary, children with high level of resilience would be more capable to withstand the stress they faced during the war and continue to face as long as they are living in exile. These children are also capable of faster recovery from traumas and in many cases some children, even with high exposure to adversity, do not develop any traumatic symptoms (Luthar, Cicchetti and Becker 2000). Traumatic affects that children develop, take too much energy from them, which would decrease their capacities and as a result slow their overall development. Adversary events in childhood would increase children vulnerability, if later expose to adversary, to develop post traumatic stress disorder (PTSD).

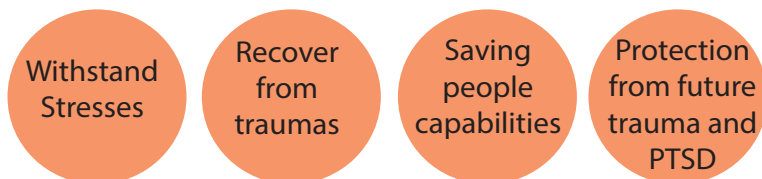


Figure 98: The reasons of why to enhance children's resilience

Enrich Children's imagination: Imagination allows the children to make sense of their surroundings and understand reality. Therefore, light should also be shed on the importance of fostering the children's imagination allowing them to deal with the challenges of growth and development. Highlighted earlier was the usefulness of the child's interaction with their surroundings. Child development theories emphasizes the significance of providing children the opportunity to form a relationship with the landscape, climate and surroundings context in order to discover their capabilities and form their identity. The experiences that they acquire from their interaction with the place, other children and people are an incentive for their imagination to always engage in a thinking process that would allow them to make sense of certain situations, solve problems and construct their reality. Emile Pestalozzi's philosophy states, *children's own empirical explorations are the engine of the expanding mind* " (Brosterman, 1997, p.20). Fostering routine, create beauty in place, allow children the opportunity to play, integrate them in the design decisions, engage them in small tasks, teach them to plant seeds and care and engage them in performance and singing activities are all actions stimulate children mind to always imagining, create, make sense of things. Moreover, as enhancement for the imagination skills the site should also give children the opportunity to freely shape, create, share and reflect their imagination.

Empower children to move forward

The first two priorities discussed earlier established the grounds for the third and final priority the place should accomplish. Developing the resilience level in children, and design for children experiences to happen capacitate children to develop new skills and accordingly grow healthy. The following quote is very powerful and thus will be referenced again, *through interaction, intelligence grows in its ability to interact*. (Chilton 1977, p. 25-28). To empower children to move forward, the place should be interesting enough to drive children over and over to it. Moreover, it should be rich of layers that provide endless opportunities for explorations and discoveries, where children are able to discover new ways of interaction everyday. The process of the design should be extracted

from education and designed for education. In other words, the site should be designed to encourage specific experiences to help children mature the skills and support their development. Additionally, the place should facilitate some flexibilities and directions for children to grow their learning ability and improve their design thinking process.

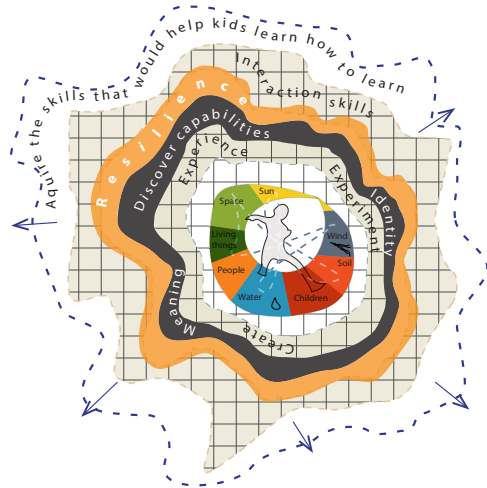
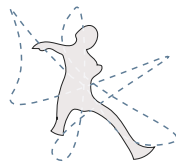


Figure 99: Toolkit

It is important for the designers to incorporate the children's perspective by interacting with them. Discovering how children understand their surrounding and allowing their perspectives to lead the designer's direction is very useful when designing a place for children. Integrating children in the design decisions prepares designers to shape the facility in a way that encourages interaction and needed experiences that will be discussed later in the next section of the toolkit. Many methods help designers formulate the image of the world of children for example, **observing the children's interaction with the place**, other children and trainers. This method immerses designers in a new environment or allows them to reconsider a familiar landscape in different way (Clark 2010, p. 32-33). Another helpful method, is **asking children to lead tours** guiding designers around a particular environment. This method offers designers the opportunity to indicate important features according to children's perspectives. Moreover, this method provides designers with the opportunity to experience the world the way children do, and construct a deeper understanding about the local knowledge that children formulate from living in a place (Clark 2010, p.36-37). Providing children the opportunity to visually describe their environment using the medium such as, **drawing, crafting, building with clay or sand** can be a very

» The Toolkit

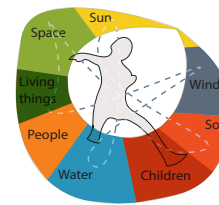


Firstly, the design should commence from deep empathy for needs and motivation of children. It is

important for the designers to incorporate the children's perspective by interacting with them. Discovering how children understand their surrounding and allowing their perspectives

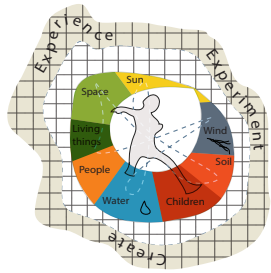
important method. It provides designers with a live illustration of children's spatial cognition. Another basic yet effective method is simply **talking to children** especially during the child led-tour or even in a form of an interview.

Section one of the toolkit helps designers formulate the foundation that would direct the preparation of research. This section coupled with the research that the designer executes accordingly helps gather inspirations for children's places.



Section two of the toolkit illustrates the elements and characteristics of the living environment that stimulate and support the human ecological growth and development. The theoretical foundation gathered in the literature review, demonstrates the significance of children interaction with their surrounding. There are endless opportunities designers are capable of creating to increase the effects of physical environment on the child's overall development, such as enrich children sensation and develop their social consciousness that would eventually support their growth and development.

As conclusion of my research, children gain a deeper sense of self within the surrounding physical, cultural, and spiritual environment that they live in. The child's connection with soil, water, rocks, sand, wind and sun is a key element for surrounding familiarity, solutions to life's unanswered questions and instinctively through the experiences they gain, nourish their mind, body and soul. The topography and organization of places expand the abilities of children to develop their explorative, expressive and adaptive functions that help them discover their strengths, train their limbs, evoke emotions, and improve their abilities to compare. Children also need to engage with others in order to develop their social virtues. Moreover, introducing children to the force expressed in all living things by gardening and caring help them obtain permanent comprehension and respect for the spirituality of existence and help them build their morality.



The design of the physical environment

The following part of the toolkit presents the practical issues involved in refugee children’s physical environment and how to address the needs of those children to heal and develop.

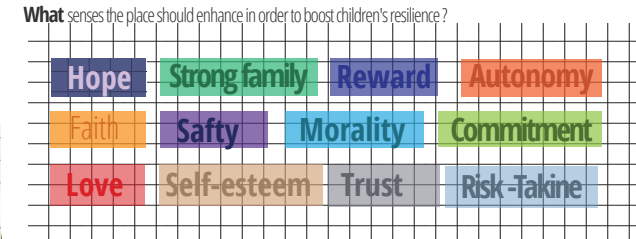
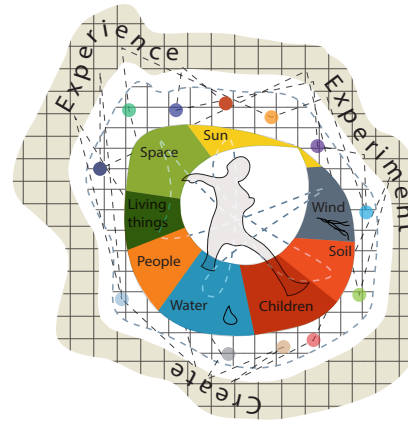
This section is an illustration of how designers can interweave the process of healing and growth that children need, and the development of a place. It points out the importance of

designer’s sensitivity to what affects a created place have on children’s feeling, and what type of experiences they will have when they occupy and interact with that place.

Elements such as; wind, soil, sun, water, people, living things, space and other children are all elements that nourish the children’s body, mind, spirit and support the development of their well-being. Designers should acquire an understanding of the system that interplay the real, observed and perceived environment by users for these elements to be part of the process of healing, and development of children (Barnes and Marcus 1999, p. 89). This understanding of interactions, which can be acquired in the first part of the toolkit, directs the design thinking and implementation of children’s places in refugee camp in this part of the toolkit.

Since refugee children after war have developed multiple traumas from adversaries, designers should prepare children to face the challenges of the process of growth and development that every children passes through. The status of health determinants of Syrian refugee children was discussed earlier in (figure: [War effects on children](#)). In the literature review chapter, sources of the clinical practice was presented, based on specific diagnoses that is raised from psychological and development criteria. Based on the results of the clinical practices I defined senses that children should develop to enhance and boost the level of their resilience (one of the priority that I specify refugee children places should do). In summary, children should acquire these sensory factors to face their adversaries and move forward: hope, autonomy, faith, safety, morality, commitment,

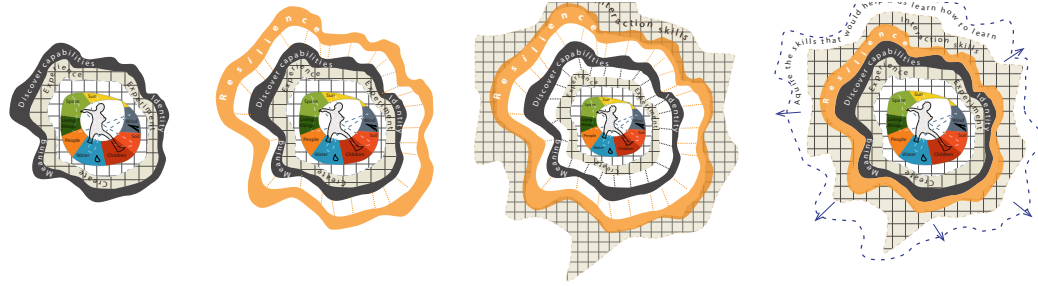
strong family support, reward, love, self- esteem, trust and risk-taking.



The method in this sections of the toolkit is for designers to apply the knowledge gained from the child development theories, the results of clinical practices and the awareness of health determinants of Syrian refugee children into the process of landscape design and to allow the knowledge to direct the vocabulary and implementation of the design. In other words, designers should shape the site to allow children to experiment with the specified elements that have been introduced in the second part of the toolkit. Provide them the freedom to create and express their inner feelings and struggles to enhance their senses and boost the factors needed for the process of children healing and development.

By designing the site in ways that offers children opportunities to play and engage with the surrounding, children would have the ability to discover their capabilities, develop meaning, and establish their identify. At that level and based on the child’s interaction and recovery pace, children’s resilience would be enhanced by the senses and characteristics gained from their interaction with the designed place (more description can be found in Literature Review chapter). When children build or enhance the resilience level based on their actions they would be more powerful in fighting their inner fears, more

capable of protecting themselves from future adversaries and they would learn how to acquire new skills. As a result, children would learn how to educate themselves and eventually easily continue their education.



Site Selection

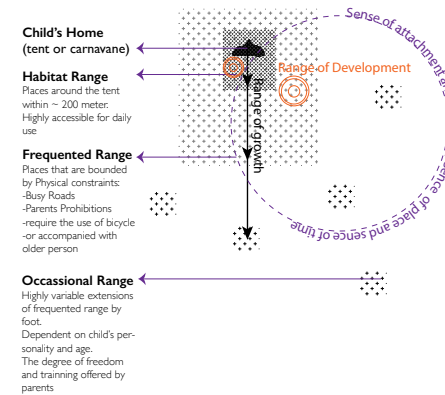


Figure 100: Territorial range

The Sociospatial¹ systems influence and impact the growth and development of children. It is important to understand the meaning and effects of exploring territories on children development and how the geography and social life of a particular space can enhance or limit children's development. A helpful concept that directed my focused area in this project was **territorial range** (Moore and Young 1978, R. C. Moore 1986, Hart 1979). It is a concept that covers

children play and leisure places and the pathways connecting them. (Moore and Young 1978). Territorial range development encompasses three ranges that describe the evolution of children's growth and development: **The Habitual Range**, represents the space right around the child's home, accessible on daily basis (Moore 1986). **The Frequented Range**, less accessible spaces that are bounded with some physical or social constraints, more likely can be used on weekends and vacations (Moore 1986). **The Occasional Range**, of more distance places that can be visited occasionally (Moore 1986). Within those three ranges, according to Moore, there are two interlocking processes.

The first is range growth, which occurs in spurts as new lumps of territory are discovered for the first time (assimilated) and mark new range boundaries. The second is range development. With every visit to the same place, with every repeated 'play episode', new possibilities are discovered, tested and verified, and provide an accumulation of experience, Knowledge and understanding of the environment that builds with time (Moore 1986).

¹ The socio-spatial perspective in urbanism research addresses how built infrastructure and society interact. It assumes that social space operates as both a product and a producer of changes in the metropolitan environment (Gottdiener and Hutchison 2011).

My project emphasizes on what Moore defined, as the Range of Development by selecting a site in district four of Za'atari camp. In order to enhance children range of development, I defined set of activities and experiences that children needs to be engaged in to recover from their traumas and develop skills that capacitate them to continue in their life. Additionally, I proposed design to be a prototype that illustrates a place with a variety of activities for children. Moreover, as indicated earlier, the proposed design is aimed to encourage children to interact with the place and provide them with the opportunity to experiment, create, and experience activities that support their growth. The objective is to develop the child's skills allowing them to be more resilient and support their development. The target is eventually converting the designed place to become the workplace or children center. Through their acquired skills, they would be able to develop and design interventions that will be distributed within the camp. Another suggestion, beyond the scope of the thesis, is to designate events during specific holidays that may be held onsite. Allowing children to create temporary interventions that bring life and excitement to the camp. These temporary interventions can be distributed around the camp to make the walkability of children friendlier. The idea is to provide safety, pleasure and pride for the children while they are meandering around the camp.

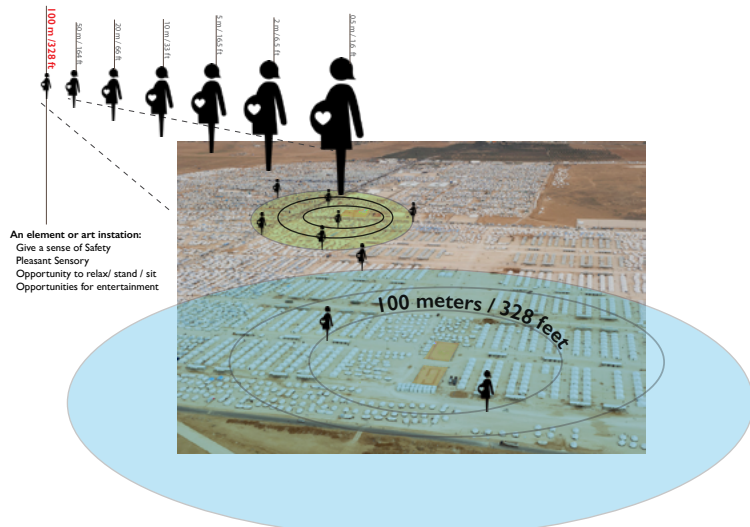


Figure 101: Mobility and the quality of the landscape

The Site

The site that I have selected is located in district 04 in the Za'atari camp. It populates approximately 2614 children between 0-17 years old (REACH; IMPACT; ACTED; UNOSAT 2014). The site has the area of 3,000m² / 0.7 acre and it is run by Mercy Corps. It is known as 'Dream Land' and considered to be a child friendly location in Za'atari. I selected this site for several reasons including: my familiarity with it and because my ability to gather the needed information from Mercy Corps.

There are 6459 tents and caravans with an approximately 10 minute walk from Dream Land. This area is considered to be within the Frequented Range development for some of the children, where the accessibility would be bounded with some difficulty and barriers (shops and busy roads on the south and west of the site causing fear for parents on their children's safety) and within the habitat rang for other kids. In the situation of the camp, where the road is paved with coarse gravel and the conditions aren't pleasant, a walk of only 200 to 300 m/ 0.12 to .018 mile will seem like

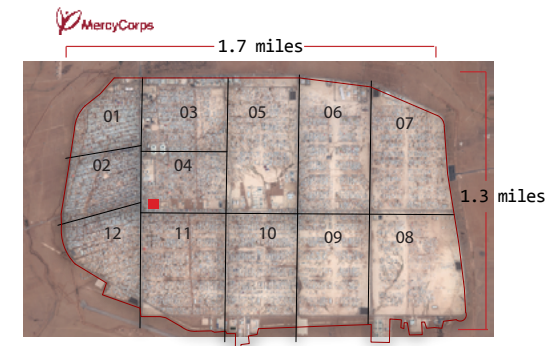


Figure 102: Dream Land Location



Figure 103: Aerial photo for Dream Land @Mercy Corps



Figure 105: GIS data for Za'atari camp @UNHCR

a long way, even if it only takes less than five minutes on foot (Bosselmann 1998) I feel that this analogy is extremely true in Za’atari. The longest walk (approximately 2 km) can take an average person in the camp approximately 20 minute. Yet, when I was talking to a trainer in Za’atari, she indicated that her travel walking distance to work is an hour every day. The unpleasant walk situation made her feel that she is spending an hour everyday walking.

Mercy Corps redesign the site in March 2014. The changes were done in order to make it easier for staff member to work with children and to provide better environment for children. The time span of the changes, including designing phases and implementation that Mercy Corps did, happened in one month.

The site currently consists of four caravans (each caravan is 8.2 m X 10 m). The first caravan is used for children between the ages of 5 and 7. The second section of the site is used for children between the ages of 8 and 12. The third caravan is setup as a movie theatre for entertaining children with a variety of cartoons and movies. The fourth and final section of the site consists of a large open fenced in area covered with soft sand, playground equipment and two sheltered sections.

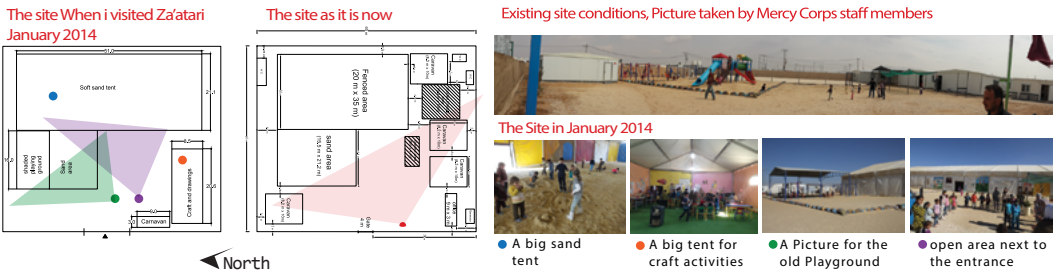


Figure 106: The conditions in Dream Land

The Design Proposal

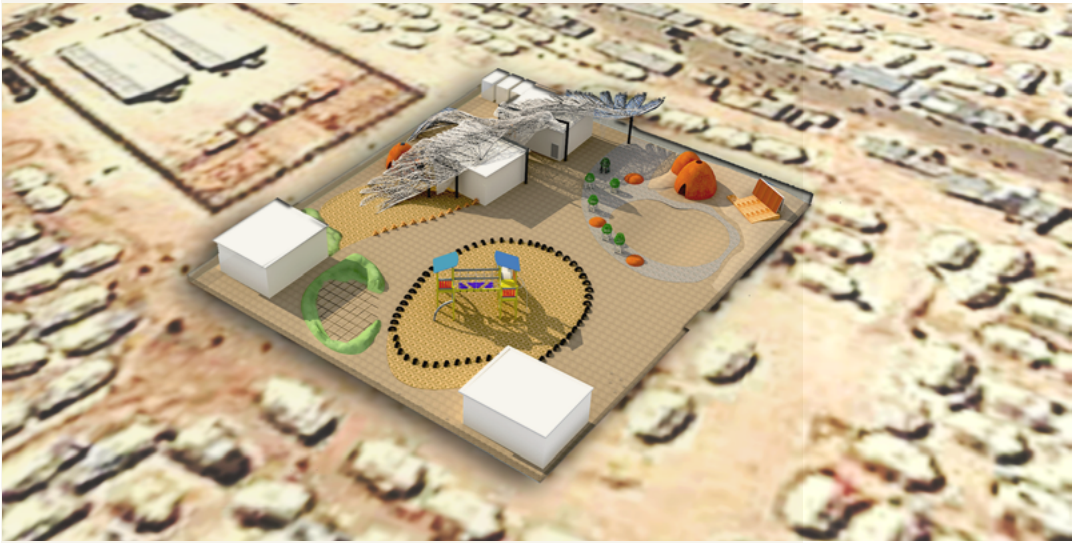


Figure 107: Aerial photo for the proposed design

The proposal envisages a landscape that evolves overtime, and throughout the process it provides a sequence of inspirational events in the life of a child. The project is a collection of small interventions that would come together and create a more pragmatic place for children as it is envisioned by the design proposal

Oasis of resilience functions as a place for children to foster imagination and creativite skills by exploring different activities. The expectancy of each section in the design is to strike a balance between play and effect, where the child experiences joy and is rewarded with an enchanted experience.

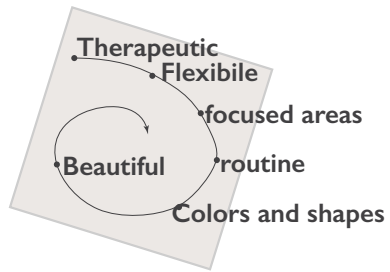


Figure 108: Guide to design children refugee places

Summarized from the literature, are the main features children refugee place should incorporate to satisfy the three priorities mentioned earlier. First and most important, it must be beautiful to inspire children imagination, gain self-respect and identity establishment. Secondly, help trainers establish a daily routine for children. Thirdly, it should

be rich of colors and shapes to help children develop senses and abilities to compare and think. fourthly, the place should be therapeutic to heal children from traumas and to provide them with the opportunities to express inner conflicts. Lastly, based on observations obtained during my visit to the Za'atari camp, the place should include different techniques to teach children attention skills.

The site layout is structured based on the children's psychological theories and the installations were oriented based on the sun's path analysis. The place emphasizes no separation between function, shape, symbol and relation to nature. Typically, the sun is an area of concern for an aired environment, specifically during the summer season. However, I considered the sun as one of the factors that enriches the spatial experience of children. This can be achieved by scheduling children's activities based

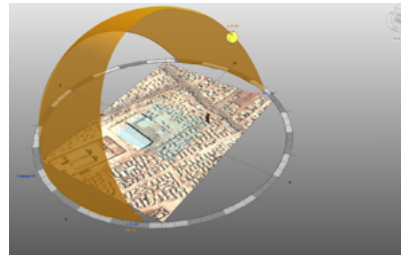


Figure 109: Year-round sun analysis

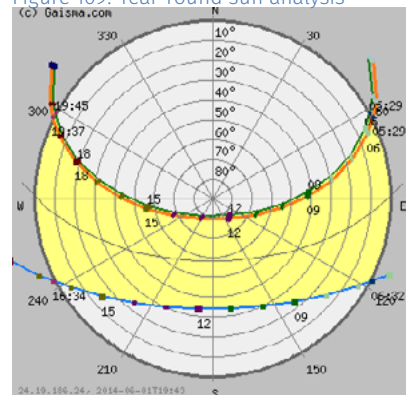


Figure 110: Year-round sun analysis for the Al-Mafraq city

on the sun altitude during the seasons and the time of the day. In the winter days, as well as morning and afternoon, the sun is low in the sky. On the other hand, in the summer and around the middle of the day, the sun is directly overhead. To protect children from the maximum power of the sun, and yet gives them its positives effects such as improving child's mood, I organized the daily activities into three zones:

Structured program Zone: In this region children commence the day with music and singing lessons followed by acting classes scheduled in the theater.

Therapeutic Zone: Between 11:30AM and 1:30PM the children are moved to the therapeutic zone. In this area they are divided into groups, some activities are held outdoors under a translucent structure defusing strong sunrays. While other groups

would engage in similar activities indoor in the caravan. Activities in this zone include: planting, drawing, group play, story telling and crafting.

Flexible Zone: Finally, the children end the day in the flexible zone. The purpose of this area is to have the children individually involved in a variety of activities to discover their skills and form their identity. This section is arranged for children to explore, interact with one another and experiment with provided material.

Dividing the site into these three sections not only protect the children from the heat, but it also helps establish a routine for children. As discussed earlier in the chapter: *Place in responses to the psychology of child development*; routine provides the children a sense of safety, confidence, and trust. Furthermore, it offers consistency, stability, security and stimulation of the child's imagination. By establishing a routine in the life

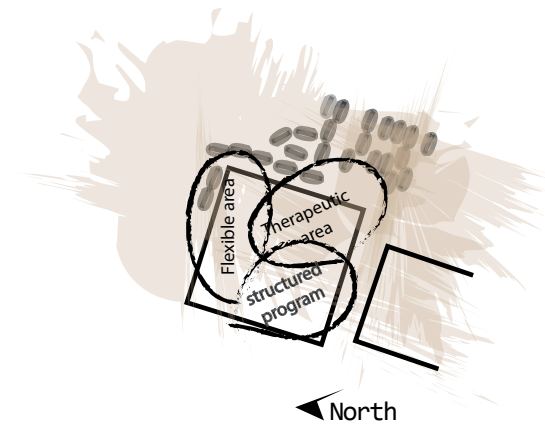


Figure 111: The site proposed zones

of a child, the design would become the tool that facilitates the enhancement of their resilience.

The design is the catalyst of the research and is a prototype that represents the strategies and toolkit that have been established. Design inspiration and decisions will be explained in the following section highlighting all units of the site and health implications. In order to contribute to the healing and development of refugee children, the site offers different opportunities for children to play and learn.

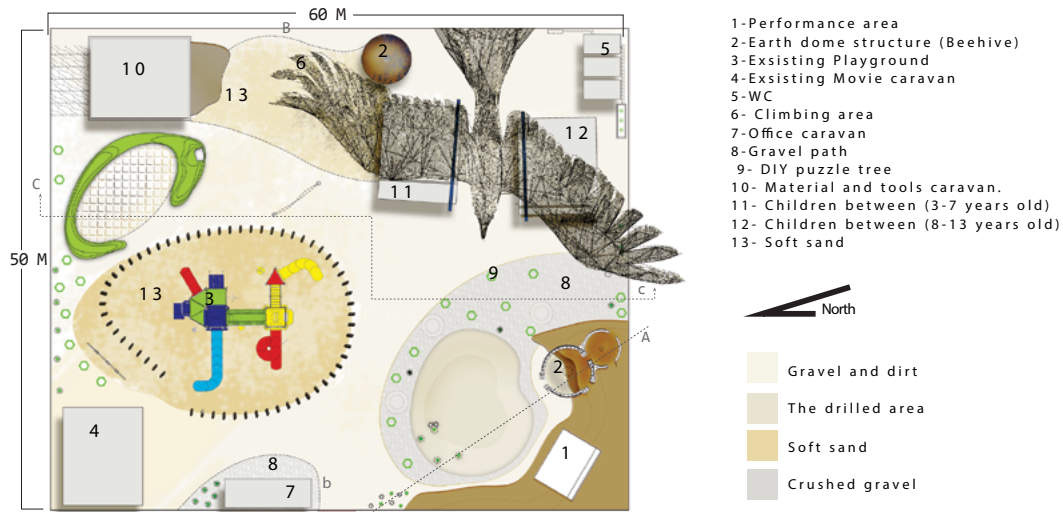


Figure 112: The first photo above is the Proposed master plan for the site

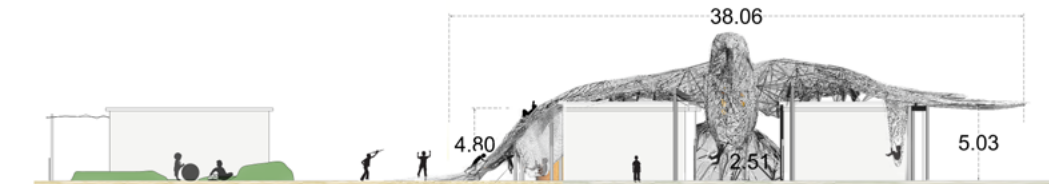


Figure 113: Section Cc

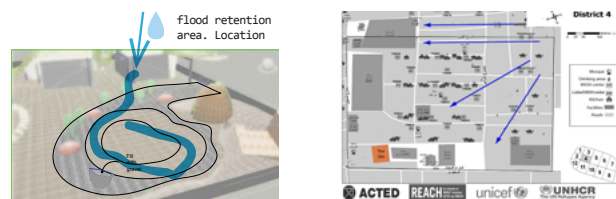


Figure 114-115: On the left, the camp's water flow diagram and next to it the design solution.



The Earth area

Based on my visit to the Za'atari camp, the children expressed their creative side while playing and constructing shapes with soft sand available inside the Dreamland tent. A specific exercise they were engaged in, revealed their deep passion for construction. They worked very hard and seemed extremely proud of their work once pictures were captured. Some of the children explained the excitement they felt while helping adults perform some simple construction tasks. Most of the children constructed domes, tunnels and walkways.



Figure 116: Children's creative work from soft sand



Figure 117: Children's creative work from soft sand

Interestingly, the most common structure children produced were domes that resemble the traditional Syrian beehive houses. The beehives are common in the desert and rural areas of Syria. *These Syrian domes are an expression of earthen building culture and of semi-nomadic people living in the arid region* (Sentieri Saperi Progetti 2009). The beehive houses are earthen small round buildings that are topped with a dome shape. Beehive dome



Figure 118: Two beehives joined together, Sarouj village, Syria

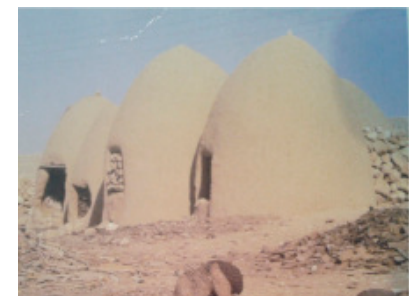


Figure 119: traditional Syrian Beehive.

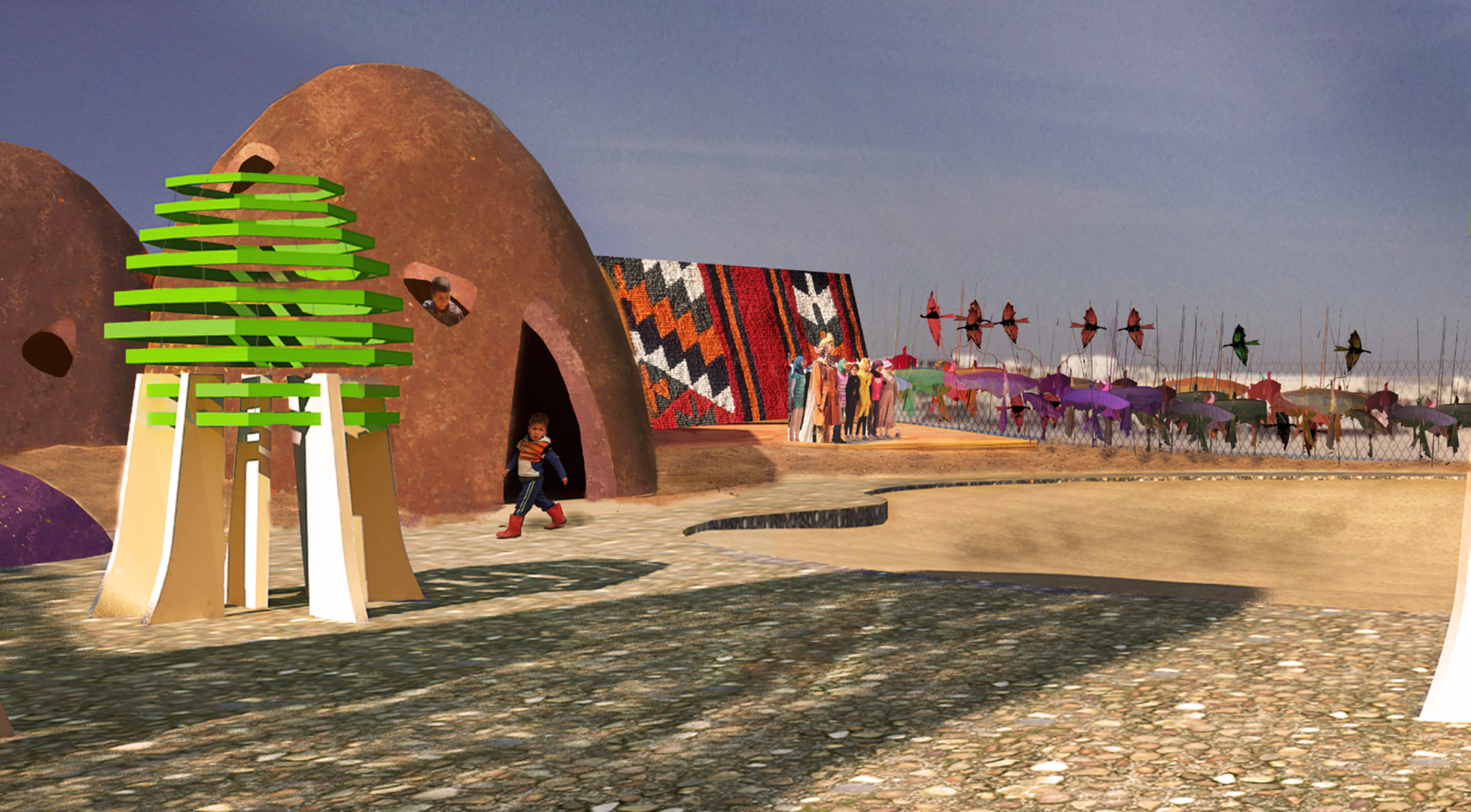


Figure 120: vignette for the earth area

existed in Syria thousands of years ago and exist until this day in specific areas. They are built of natural local materials that help keep the interior warm in the winter and cool in the summer, and act as a thick insulation against the strong wind of the desert. The walls are made from mud bricks and stacked in a great circle. Then the interior and exterior walls are packed with straw and mud. Since the houses are built in arid desert, the mud walls dry to a hard and durable finish. The top of the beehive dwellings contain an oculus – a hole that provides light to the interior and pulls hot air up and out of the beehive. The shape and material contribute in preserving the interior temperatures between 75° F and 85° F.

The children’s creations were very inspiring and symbolized the deep roots of earthen architecture in the Syrian tradition. Therefore, the design proposal integrates these traditional techniques into site design and construction. As explained earlier, the objective of this project is not merely to produce a landscape design, but also to synthesize and prepare for the participatory community driven building process. For example, in the *earth section*, the design proposal suggests specific roles for children and adults to take part of with the support of the aid agencies. The dry earth (gravel) of the site can be used as construction material. A specific area would be drilled by adults, and the dirt from this area would be used to fill the foundation of the stage. The foundation that forms the mound under the stage consists of 150 recycled tires filled with the dirt coming from the drilled area and piled on top of one another to create a heavy stable structure, then plastered from the outside.

Integrated in the mound there are two domes. I wanted the children and their parents to help construct two beehive dome structures. From time to time, and depending on the donation that aid agencies get, they distribute gifts for children in Za’atari. My suggestion for aid agencies is to distribute the gifts in folded waxed cardboard boxes to the children. The children would reuse the waxed cardboard boxes in the construction of the two domes by filling the boxes with the dirt from the site. While the adults stack them on

top of one another. The boxes will be arranged in respective successive rows to build the wall of the dome. The walls are then coated with earth plaster. NASA utilized the use of cardboard boxes in 1971, where boxes filled with earth were used to construct walls on the moon (Houben and Guillaud 1994, p. 171).

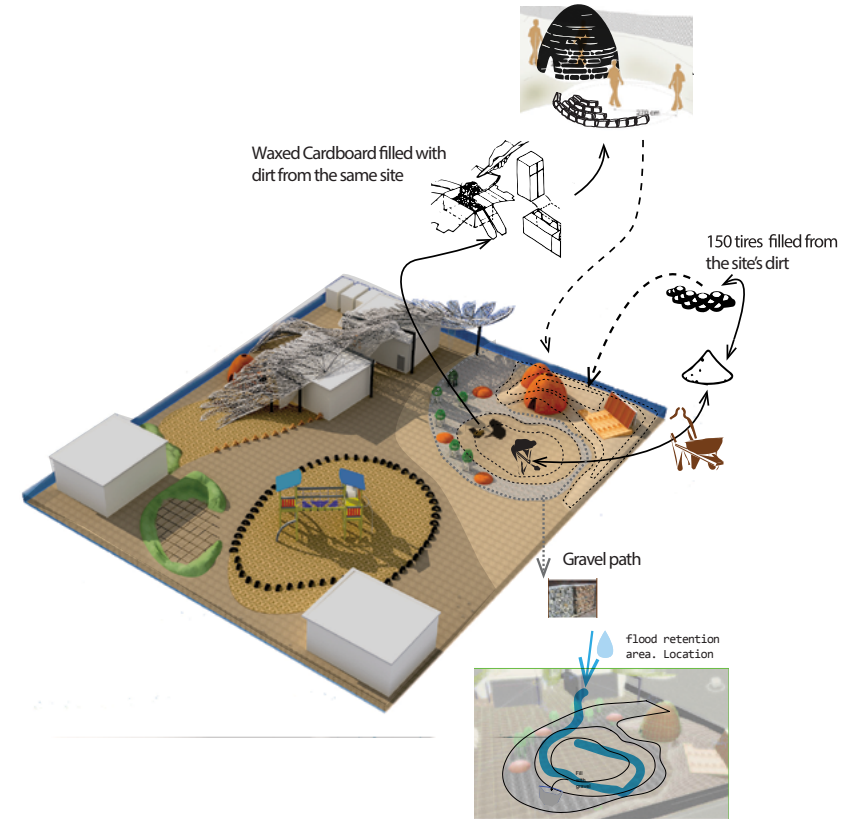


Figure 121: Diagram for the earth area’s elements and the process of construction

The preparation of earth plaster involves many steps that are enjoyable and beneficial for the child’s mind, spirit and body. The plaster may be made of sand, clay, straw and water to form the mix known as cob. Adults and children mix the cob by stomping with their bare feet on top of the mix until it becomes homogenous. Afterwards, children and

adults use the mix to plaster the inside and outside of the dome walls and form a layer of thickness between 3/8" to 1/2".

The most rewarding aspect of this process, is allowing children and adults to participate in the construction of the place, so they can form a connection with it. Working with earth material is about building community. The process of **working hand in hand** would create an opportunity for conversation, discovery and friendships within the camp. Moreover, it can have a healing role, as playing with **dirt** is healthy for the brain of a child for several reasons including: happiness it carries to the child and also because dirt contains a bacteria stimulating the neurons that produce serotonin - which can act as natural anti-depressant and is responsible for activating many body functions (Lowry 2007). The **sensation** of mixing and feelings the cob contributes to the nourishment of the soul. Moreover, the **physical work** can develop children's bones and improve the overall mood.



Figure 122: A young girl mixing cob in her bare feet.



Figure 123: A young girl plastering the wall with earth material

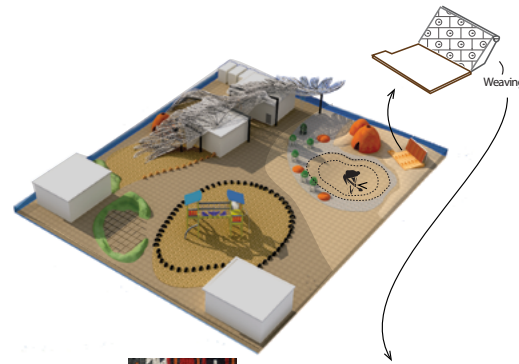


Figure 124: A diagram show the process of integrating women in the process of construction

The stage above the mound is created from wooden pallets. The back stage would be a woven rug, as for centuries, Syrian women have used vertical loom to weave cloth and

rugs, and some workshops in the camp already have some weaving shops. Arranging for vertical loom in the site on the stage floor and asking the mothers and sisters of these children to come and weave a rug, thus further adding something from the Syrian tradition. Once the rug is finalized, it will add beauty and color to the place.

The entire process of digging, plastering the walls, **engaging with other kids and adults** offer children a sense of safety, trust, love, faith and feeling of strong family support. The child's self-esteem, autonomy and sense of commitment will also be enhanced due to participation. Additionally, when completing the construction of the site, the children will feel rewarded. Finally, working as a community enhances the social bonding and help kids develop sense of morality. Especially while building a traditional element from their culture. This process would engage children and adults in discussions about the history of Syria and would help raise pride in the community. As mentioned earlier, culture plays an important role in the moral development, contribute to enhancing the resilience of refugee specifically the children. **Culture and ethnicity can play in the etiology and manifestation of psychological distress. Culture interacts with psychological development and adversity so that people experience risk differently** (Cohler, Scott, Musick 1995).

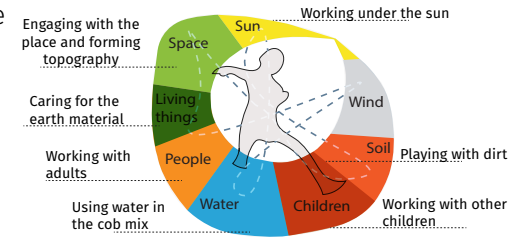
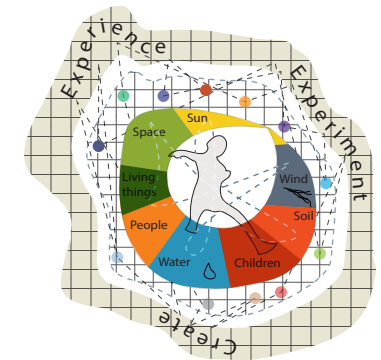


Figure 125: Diagram show the relationship between the design and children health according to the toolkit



Hope	Strong family	Reward	Autonomy
Family	Safety	Morality	Commitment
Love	Self-esteem	Trust	Risk-taking

Figure 126: Toolkit in relation to the process of design

The design of the *earth area* landscaped mound and valley in natural material making

the ground plane itself part of the play. The designed proposal has places for children to hide; the areas inside the dome and behind the stag; and places for children to have opportunity to express their thoughts. Moreover, the design offers children the pleasure of adventure by tunneling from the drilled area to the mound entering from one dome and going out from the other in different level. These design elements create the incentive to enhance senses and expend the mind. In addition provide children with tools to test their capabilities and capture their imagination

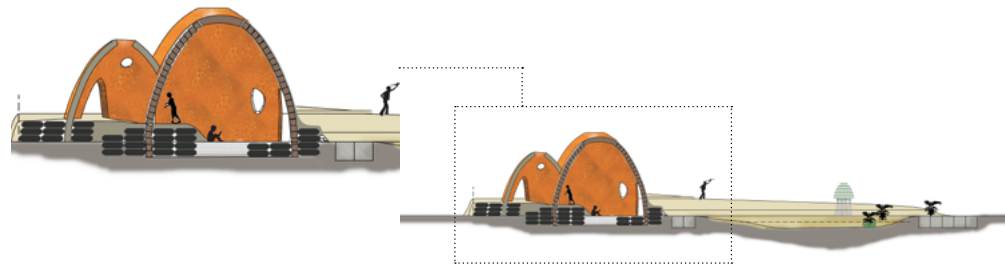
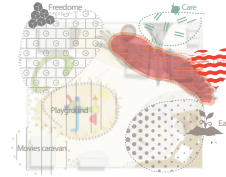


Figure 127: Section A-a



Figure 128: Section B-b



» **The Dignity Area**

Design is a form of thoughtfulness. In essence it's about consideration for others—their needs, their surroundings, their aspirations.

To design is to be generous. (sinclair 2013)

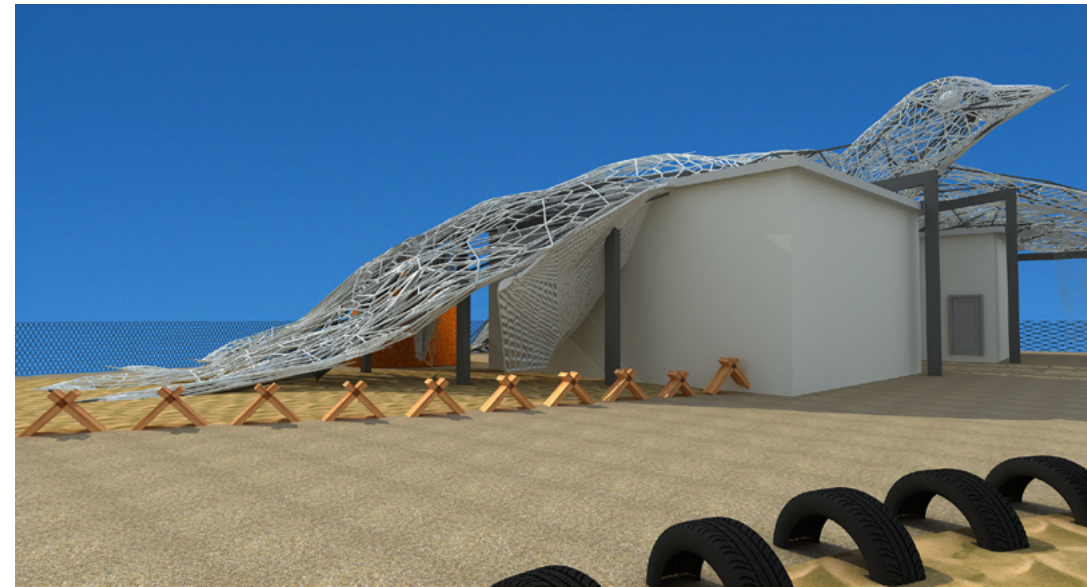


Figure 129: vignette for the bid structure

The objective of the *dignity area* is to create an iconic and unique zone that evokes a message of love, dignity and respect. The goal is for the design to inspire children's creativity and imagination. The overwhelming hardship of Syrian refugees kept aid agencies busy raising funds, building shelters and providing basic necessities for life as food and water. Aid agencies' efforts are more reactive rather than proactive. As a result, design principles and best practices are overlooked. The designer's responsibility is supporting aid agencies with the mission and adding meaning and emotion to the constructed places. Since, the bar of the emergency responses and places have been set really low, it is decreasing the dignity of refugee community inhabiting the camps. Furthermore, it is creating a place with no identity. Camps are established as a temporary solution for refugees, therefore not allowing any kind of implementation that creates a sense of attachment to the place. All these factors create barriers for the child's growth and devel-

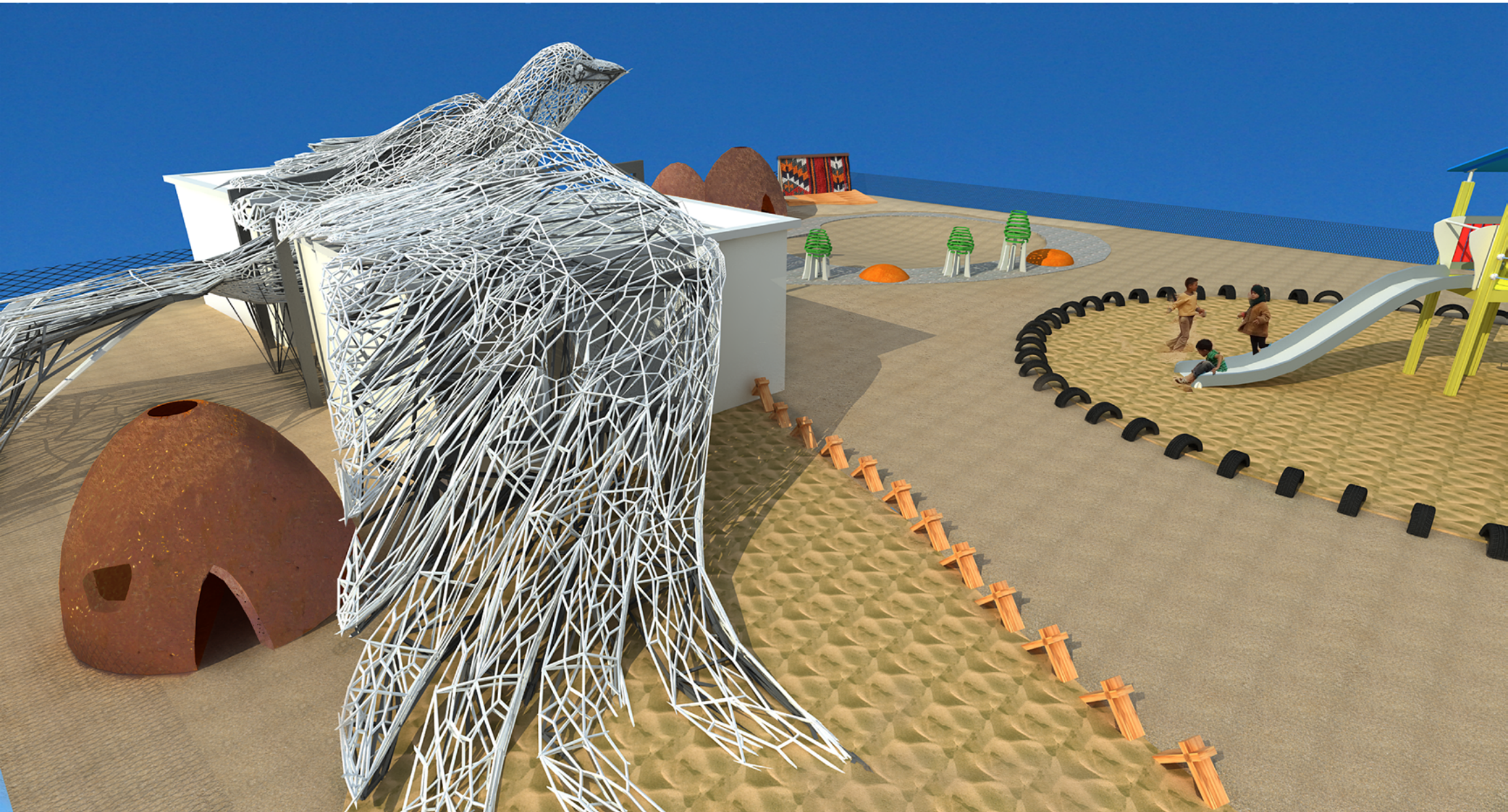


Figure 130: vignette for the bid structure

opment and decrease their resilience. The design proposal tackles this head-on and aims to act as bold visual in order to raise the children’s spirit and mindset.

Therefore, the bird installation was an outlet to achieve this. This installation serves as a dual purpose; art and playground. The large-scale white plastic net, installed on top of the two existing caravans will be used for children to climb on and hide underneath. The white bird is meant to resemble a white dove, a symbolic meaning of peace and love. The bird installation requires a metal frame, the metal frame would be covered with weaved plastic sacks thus creating a web-like structure supporting people’s weight. Plastic sacks were selected because they are easy to find, good material to reuse and easy and flexible to modify. The bird art structure creates a translucent ceiling around the two caravans, therefore allowing a diffused, magical light to shine through the area. The net would also swing by the wind. These natural effects can attract children’s to the natural surrounding.

In addition, the bird construction offers another opportunity for children, parents and trainers to work together on weaving



Figure 131: diagram to describe the bird structure

Figure 132: “White” Book Show Installation 2011, Courtesy of Cal Poly San Luis Obispo Studio 400.

the plastic sacks for one of the bird skin sections. Adults will educate children on the weaving process, since weaving is deeply rooted into the Syrian culture. While the rest of the bird would be assembled and woven outside of the camp, weaving the bird presents an opportunity for other volunteers outside of the camp, including Syrians the war effects scattered them around the world, to take part in this process and work with NGO’s to deliver their work to the camp. The bird will eventually become an iconic symbol of peace and collaboration in the camp. Optimistically the bird construction project offers children a sense of pride and reward due to their involvement of constructing a beautiful and meaningful icon. Furthermore, children will feel safe, love, trust, faith, commitment, morality, and strong family support from working alongside their parents and other volunteers outside the camp. Lastly, developing a sense of autonomy, self-esteem and risk-taking while discovering their capabilities by climbing, hiding and playing in the structure.

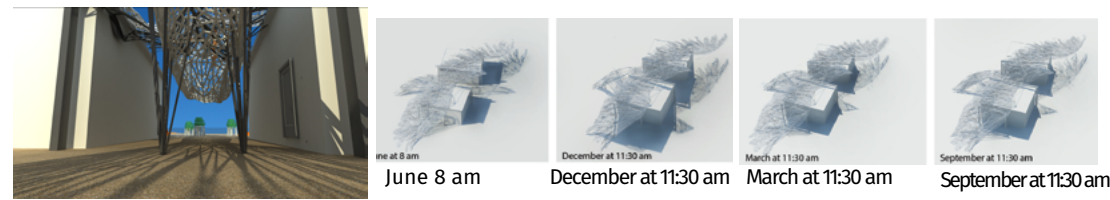
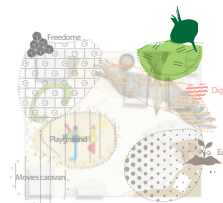


Figure 33: Sun analysis



» The Care Area

This section of the project is located underneath the bird’s tail. It is used to educate children on gardening, starting with planting and watering the seeds then monitoring their growth and ending by maintaining a healthy plant.

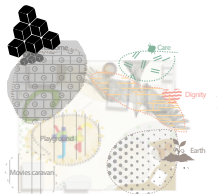
The web of patterns tail constructed from woven plastic sacks casts a shadow on the ground. The shadow effect along with the planting activity connects children with plants and soil, causing a pleasant therapeutic experience for children. Planting may include vegetables: lettuce, a variety of herbs, tomatoes or plants such as flowers. Engagement in



Figure 134: vignette for the care area

this activity develops a sense of commitment, love, and reward by caring and monitoring the plants life cycle.

However, since planting in Za'atari is not desirable by the UNHCR and camp authorities (Mercy Corps, 2014) due to water shortages, I am proposing a vertical hydroponic system that can be hanged on to the woven plastic or the metal structure of the tail. This system will use the greywater of the hand wash sinks in this area, so the greywater would be combined and directed using a large pipe and emitted to the tail structure. The flow then would be divided into multiple branches to be spread to various outlets in the hydrolytic plant system.



» The Freedom Area

Frederick Froebel design's philosophy and the post-war architecture of childhood movement were the main inspiration for the freedom area, advocated for Self-Regulated Learning (SLR)¹ for children. They believed in the child's freedom to explore, discover, experiment, create, share and reflect through the medium of play. Froebel's philosophy was to integrate children in meaningful play activities, to train them about the natural world through programed play activities. He invented the system of gifts and



Figure 135: Stick Laying. Chromolithograph from Froebel's Kindergarten Occupation for the Family, a kindergarten teaching set for home use. E. Steiger & Company, New York, 1977

¹ Self-Regulated describes a process of taking control of and evaluating one's own learning and behavior. (Ormrod and Ellis 2009, p. 109) Self-regulated learning emphasizes autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement" (Paris and Paris 2001).

supplemented it with other children group activities to awaken children consciousness for their surroundings and develop children's skills. Alternatively, the post-war architecture movement aims to establish playful anarchy to constitute children as agents invested in the project of self-improvement through their self initiated activity, while making their interiority observable to experts (Kozlovsky 2013, p. 11).



Figure 136: Lollard Adventure Playground, on the site of a bombed school. The House of Parliament can be seen across the river (Kozlovsky, 2007: 2).

Inspired from Froebel's gridded wooden table (chapter Pedagogy science of this thesis), similar grids in the *freedom area* was created. Children will bring the tools, geometric blocks and other building material that located in the close caravan, and commence the design based on the grids. Children will have the freedom to experiment and create their desire. They can play alone or with other. The entire area will be surrounded by a green earthen structure, inspired by children's interact with one another. It will accommodate various activities including sections for: climbing, sliding, sitting and hiding.

After a full play day, children are responsible for maintaining the caravan's cleanliness and organization by returning the tools used. The vision behind engaging children with one another and self-expression is enhancing the child's capability of self-esteem development. Moreover, through organized group activities, children enhance a sense of trust, therefore improving the child's resilience level.

Finally, while the site design proposal contains a variety of components that refugees and aid agencies may select for implementation. However, I advocate for implementing the entire design in phases, because it allows children to have a better daily routine and



Figure 137: vignette for the care area

opens up possibilities for rewarding events. The designer's task is assisting aid agencies in creating a curriculum for the daily activities; work breakdown and eventually contribute in the design implementation.

Conclusion

» Original Goals

When I set off this journey, my original goal was to find a way to alleviate the Syrian refugee hardship because I was feeling guilty of being far from Syria, enjoying peace and life in a great place and not going through the same suffering people back home were going through. Yet, these past three years that I have spent at the University of Washington, opened my eyes, gave me new perspective and became the driver that allowed me to believe that I can make a difference in this world and create landscape with meaning. The questions I was trying to answer in my thesis, was how can Landscape Architects, positively contribute to the Syria refugee Situation. My research aimed to support and enrich the design with proper mental and psychological health studies and theories, which in turn shaped my design decisions in order to create health improvements for the Syrian children refugees through the physical environment. My research of the Syrian refugee situation led me to focus on children as a foundation and engine for change while paying attention to the role of the physical environment in their healthy growth and development.

» Reflection On The Process

This topic of Refugees and physical environment was totally new to me, while searching for ideas, I came across lot of interesting theories and studies that enriched my design tools and content. In addition, the decision to visit the Za'atari camp in Jordan allowed me to see the facts on the ground and bestowed upon me a responsibility toward the

children and people I met, in addition, it made me determined to continue my study in order to create a healthier life for these children. Moreover, the trip illustrated the huge need for designers and landscape architects in refugee camps settings. The process and my discoveries highlighted the need for better strategies that would give design a larger role in the humanitarian work.

Struggles I faced throughout the research period of the proposal were: conflict between the realities on the ground, the responsibility toward the Syrian refugee children, and remaining true to the requirements and scope of the thesis. To find a balance and with the help of the advising professors, I decided to create a toolkit to equip myself and fellow designers with implementing healthy designs through the physical environment. The thesis was structured as a resource of knowledge and strategies for designers and landscape architects while dealing with children that experienced war and trauma. The toolkit used the childhood psychological theories, Pedagogy science as inspiration and identified ways that design can help both children's health and the community as a whole.

» Further Explorations

The toolkit and the established strategies are a good initial step serving the scope of the thesis. However, further research should be perused for the toolkit to offer designers and practitioners new ways to add value, meaning, emotion and collaboration when designing solution for children places in refugee camps.

The design proposal of the project enhanced my creativity skills and pushed the boundary of realities on the ground and what is really achievable in refugee camp. I believe that by engaging art and design with other disciplines, designers and landscape architects promote healthier solutions and foster the next generation for creativity. Therefore, to construct a stronger message, I seek to collaborate with aid agencies in the Za'atari camp to create a yearlong curriculum illustrating in small steps, my design ideas. In addition, collaborate with designers and fellow landscape architects to assist with the proposed design.

The future step will be collaborating with designers and landscape architects to create a design aid agency. Creating the agency will preserve the design thinking process alive in the humanitarian work. Moreover, aim to add value, meaning and emotion to functional and emergency solution.

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