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A School for an Afghan Village

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A School for an Afghan Village

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Senior Integrative Project
Architectural Studies Program
CISLA
2016**

Independent Study

Architectural Studies Senior Integrative Project

Toor Cummings Center for International Studies and the Liberal Arts

Professor Emily Chace Morash and Professor Joseph Alcherme

2016

In memory of my schools in Afghanistan

Rabia School

Lycée Malalai

Lycée Esteqlal

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Introduction Decades of war in Afghanistan have devastated the country's built and natural environments as well as its educational system. When I came to the United States for schooling here, I left countless innocent families, stranded and despairing for the future. As my education has progressed, I have been taken by a dream of sparking the hopes of my countrymen by working to construct schools and restore education.

Informed people in the United States are aware that my country has been torn apart by armed struggle for more than a generation. Fewer know that in this period Afghanistan has also suffered heavily from a range of natural calamities. Research shows that more than ten severe earthquakes have been recorded since 2000. These seismic disasters are aggravated by adverse atmospheric conditions (air that is both dry and polluted) and grave ecological problems such as soil debasement and drought. Extensive bombardment has destroyed once-productive agricultural areas and tons of unexploded ordnance continue to pose a threat. Afghanistan also faces other environmental challenges largely caused by population shifts: in the decade since the collapse of the Taliban regime, four million Afghan refugees have returned from Pakistan, Iran and elsewhere, swelling the population of Kabul and other cities instead of returning to destroyed villages and fields. In providing housing for those who return, the solution has been to cut down many of the country's already sparse forests. Even under the Taliban, much housing stock in Afghanistan was substandard and inadequate, with flimsy, energy-inefficient buildings constructed with no input from architects or engineers; recently the situation has only gotten worse.

In the recent troubled history of Afghanistan, education has suffered greatly, as children both in remote villages and in the cities have been forced to study in extremely unfavorable conditions. Many, many school buildings have been destroyed or very badly damaged. Most students go to school in tents, with little protection against the harsh climate. It saddens me to see young people deprived of what I am blessed with: an opportunity to learn. I cannot forget an episode I read about in a local paper back home: "I go to school over there," said Khaled, pointing to his destination. But there was nothing there - no building, not even a shack."

In general, the negative psychological effects of living amid crumbling schools and houses cannot be overestimated. Many Afghans suffer from post-traumatic stress, and witnessing the old, ruined building reminds people of the war and the loss of their loved ones. To counteract this psychological harm, we, the younger generation of Afghans have to do all that is within our power to restore the built as well as the natural environment in our country. I believe that radical reconstruction can ease the pain and normalize the experience in the war-torn country.

It is my firm belief that improving education and educational resources in Afghanistan is an essential step toward bringing lasting peace to the country.

The intent of my Senior Integrative Project is that engaging in educational projects like these will equip me and others in the new Afghan generation with the tools needed to make a future for our country, with structures based on progressive attitudes toward the environment.

Project Mission: Enhance the education level in Afghanistan by creating a residential school for a substantial number of Afghan children.

Montessori Education Transmitting information from teacher to children and conversely has always been an important matter. In a traditional school, the teachers are the active givers of information to the children and they decide what children need to learn. However, in a Montessori school it is all about the activity of children. Each child is free to pursue what interests him most at his own pace but in a specially prepared environment. The teachers are expected to self-reflect, to become aware of their role in the energy of the classroom and the work of children, "that is, to provide the right kind of circumstances so that children can be guided to find what they need from what is on offer", (Association Montessori Internationale). This circumstance helps the teachers become more familiar with the child and thus understand the child more fully, and be better equipped to provide for each child's unique educational needs.

Montessori education originated in Italy beginning in the early 1900's by Maria Montessori. Maria Montessori was the first woman in Italy to receive a medical degree. She developed an interest in education, attending classes on pedagogy and immersing herself in educational theory. Eventually, she established a developmental education model based on her own observation and interaction with children. "Her developmental model and the resulting methodology arose out of her scientifically-oriented observations of children and their growth patterns and behavior, based on her training as an experimenter", (Allison Lide, co-founder of the House of Flower). Maria Montessori accepted a new challenge to open a childcare center in San Lorenzo, Italy, a slum area, and this became the first Casa dei Bambini (Children's House). Maria Montessori was given a room to take care of the local children (whose parents were not able to take care of them as they had to work during the day). In this house, Maria Montessori observed children and formed her principles. Her principles were dominated by the principle of individual self-guided activity and children centered approach. "Her ideas generated not only new didactic materials but also valuable concepts for the design and organization of living space for children", (Allison Lide). For instance, she equipped the room in Casa dei Bambini with child sized tables, chairs, and armchairs. News of the school's success spread through Italy and a couple years later Montessori schools were acclaimed worldwide.

Characteristics of Montessori School: Allison Lide, co-founder of the House of Flower, outlines 8 characteristics of Montessori school in her master thesis, entitled "Montessori Education: What is its Relationship with the Emerging Worldview?": a. Mixed age groups: "In a classroom there are mixed age pupils, age range across three years". b. "Specialized educational materials developed by Montessori and her collaborators". c. "Everything which is used by pupils is arranged openly and invitingly". d. "In Montessori System many different activities take place simultaneously". e. "In Montessori philosophy every child is unique, so each child's development is different. Child is allowed to choose activities, child's sensitive periods will guide him to choose the work for which he is ready and needs at the moment". f. "There is a constructivist or "discovery" model, where pupils learn concepts from working with materials, rather than by direct instruction". g. "In Montessori schools it replaces teacher's desk with a help-desk, a teach station or inquiry counter where the children come for help and show their work, classrooms are arranged in rafts to promote individual and small group learning. h. "Work time is uninterrupted blocks".

In a Montessori school, children are moving around the room, some talking to each other, some sitting with a teacher, some gathering materials, some cleaning up, some working alone or in groups. There is no single focus of attention in the classroom. "But in fact, there is a strong sense of order, harmony and pattern. This is the picture of a classroom that is not linear or hierarchical in structure, but rather is a system, a complex and interdependent community".

Montessori Programs For Different Ages: Montessori schools are divided into multi-age classrooms: toddler/infant (ages 0 to 3), Children's House/preschool (ages 3 to 6), elementary classrooms (ages 6 to 12), and middle and high school (12-18)

Montessori Architecture - Based on an analysis of Raquel De Jesus's Thesis, Design Guidelines for Montessori Schools, (University of Wisconsin - Milwaukee, School of Architecture and Urban Planning, 1987)

For my Senior Integrative Project, I am using Raquel De Jesus' design guidelines and these guidelines are crucial to take into consideration as the foundation for my own design. Here is a summary of his design guidelines: The purpose of his thesis is to present guidelines for architects, designers, and teachers in designing Montessori schools and they must be aware of an environment that will complement and enhance the Montessori teaching method. Raquel De Jesus's thesis is based on an analysis of books written by Montessori and her followers, review of methods and settings, and interviews done in Montessori schools.

In his thesis, Raquel De Jesus mentions that the design guidelines are not intended to provide all the information required for the successful preparation of designing a Montessori school. The proposed design guidelines are provided for preparing the many unique environments defined by the Montessori method. The author's intent is to provide design guidelines that may help create and sustain this prepared environment, "hopefully, designers alike can use these guidelines for the design of Montessori schools, and for the understanding of the Montessori philosophy that supports it", (Raquel De Jesus).

Description of the Prepared Environment: Before, defining the six components which the design guidelines for Montessori schools are based upon, it is important to understand the main components of the prepared environment that are:

Director: The person who is guiding the children in a Montessori school is known as a Director. The Montessori teacher, child, and environment may be seen as a learning triangle. The teacher thoughtfully prepares a classroom environment with materials and activities that entice the students to learn. "The teacher does not have a desk or table, but a low chair like the children's, and moves constantly about the classroom", (Raquel De Jesus).

Didactic Materials: Montessori didactic materials (learning games) are designed to be aesthetically pleasing and to teach through the senses. The basic difference between

Montessori and other early learning environments are: "A prepared environment that includes the distress and didactic materials. And the didactic materials are single in matter and are aligned in the same way in all Montessori schools", (Raquel De Jesus). That means that a child visiting a different Montessori school find the same didactic materials arranged in the same order as other Montessori schools. The intention of the materials is that the child teach himself to observe.

In his thesis, Raquel De Jesus divides the didactic materials in four categories: I. Daily Living Exercise (practical life) II. Sensorial materials III. Academic materials IV. Cultural and Artistic materials.

Components: By focusing on the child's environment and the teacher who organizes the environment, Dr. Montessori outlined six basic components of a Montessori environment. These six components are the basis of the prepared environment, "they have been used as the set of issues that the architect must be aware of when designing the prepared environment", (Raquel De Jesus).

1. Freedom
2. Order and Didactic Materials
3. Beauty and Atmosphere
4. Community Life
5. Nature
6. Related Issues.

Design Guidelines for the Prepared Environment: The design guidelines are the above six components that make up the prepared environment. Below, i have summarized the description of Montessori philosophy about each particular component and i have the written and detailed description of the Raquel De Jesus's design guidelines for each component. In addition, the sketches in this paper are drawn by me and it reflects on my understanding of Raquel De Jesus's design guidelines.

1- Freedom: According to Dr. Montessori each child has intellectual capacities that can be developed within an atmosphere encouraging self-paced learning and exploration, allowing children to interact with their environment, adjust to it, and achieve harmony.

- . "Place where child may learn in freedom", (Dr. Montessori).
- . "Freedom to use any didactic material", (Dr. Montessori).
- . "Freedom to socialize, or to retire to a private area", (Dr. Montessori).

According to Raquel De Jesus, the challenging question is how do we provide a free environment in architecture? "What type of layout and spaces will provide for the freedom and the exploration needed, which is the child's method of learning and developing?", (Raquel De Jesus). In order to answer the question, he has looked at the layouts of the six Montessori schools he has visited. In his visits, he observed two basic floor plans: the self contained classroom [Figure 1] and the inter-connected classroom of two rooms [Figure 2].

They are two main issues regarding room arrangements in Montessori schools: 1. "the importance of being able to observe the children", (Raquel De Jesus). 2. "the need for the social and emotional interaction of having the young children observe and work with the older children", (Raquel De Jesus).

Generally, children of different ages are included in the same classrooms in Montessori schools. For instance, children from ages two to six interact in the same classroom. Most importantly, Raquel De Jesus mentions that the fact that the children are not easily observed has proved to be a great asset for children's individuality and it reduces the amount of work from the teacher because it allows the child to develop his or her own desire and interest.

After the interviews and visits, Rael De Jesus discovered that it would be preferable to propose a plan that would have the benefits of an Open and Closed plan facility, "which will enhance the individuality, freedom, privacy, and interaction of the child in the prepared environment", (Raquel De Jesus).

There are controversies "on the impact of Open plan versus Closed plan on the behavior of Children", (Raquel De Jesus):

- . Noise is the most serious problem in the open-plan.

- . The open-plan allows clear visual connections with others which is a fundamental component of the Montessori Philosophy.
- . Closed plan "lacks opportunities for the child's initiative", (Raquel De Jesus).
- . Closed Plan has less destruction.

Room Size (Square Footages): "35 net square feet per child is the minimum, 42 net square feet per child is adequate, and 50 net square feet per child is generous", (Raquel De Jesus).

Here are some of the important suggested Design Guidelines by Raquel De Jesus:

- . "Emphasis must be placed on visibility between activity areas in order to permit observation by the teacher, and between the children", (Raquel De Jesus).
- . "Partial enclosures between activity spaces will provide for freedom and privacy for the child", (Raquel De Jesus).
- . "Modified open plan facility, where the children can observe what is going on from any part of the school", (Raquel De Jesus).
- . "Provide a min. of 50 square feet per child for primary activity spaces", (Raquel De Jesus).
- . "Provide a variety of spaces for the child to retire to", (Raquel De Jesus).
- . "Provide private areas where child can retire to, or from where they can observe other children, and provide them with the freedom to choose the activity they want to participate in", (Raquel De Jesus).

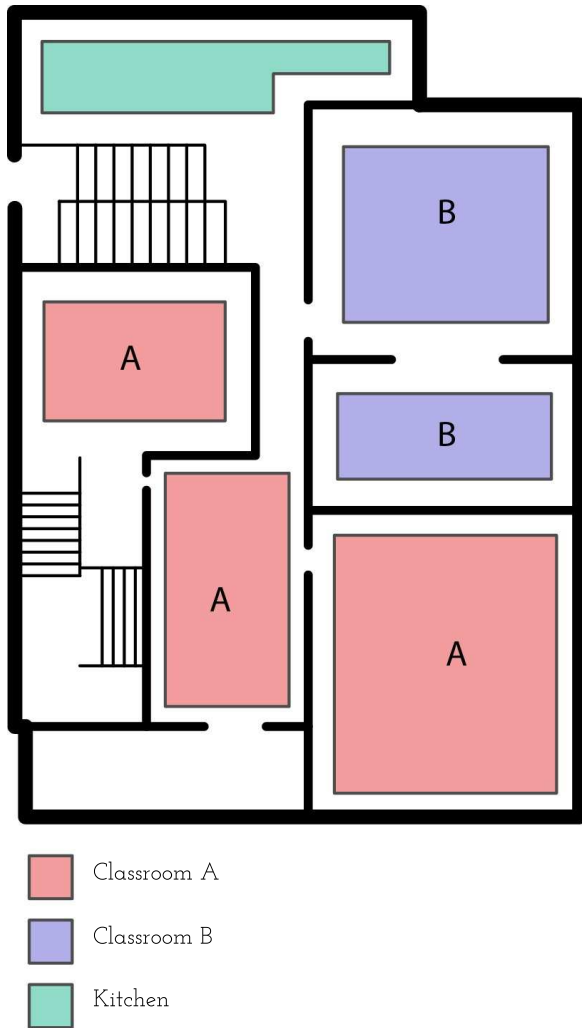


Figure 1 - Highland Community School located in Milwaukee, WI, consists of small inter-connecting rooms. The floor-plan of Highland Community School is made of five separate rooms but are divided into two classrooms, "one with two rooms, and the other with three". In this type of floor-plan, the children are not easily observed. [Illustration by Mesut Sallah].

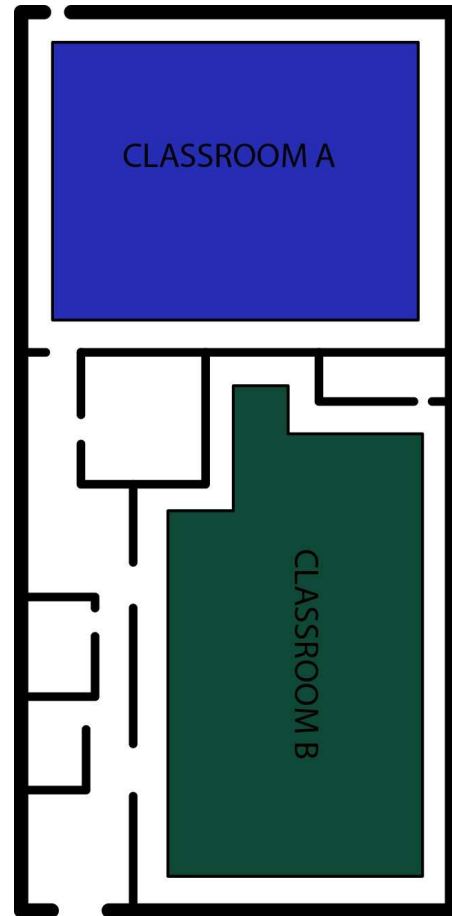


Figure 2 - Family Montessori School in Milwaukee, WI, has self-contained classrooms. The rooms are separated by walls and there is no connection between the rooms. [Illustration by Mesut Sallah].

2- Order and Didactic Materials: As we know, the Didactic Materials are divided into four areas: I. Daily Living Exercise (practical life). II. Sensorial materials. III. Academic materials (includes math, science, geography, language, and reading). IV. Cultural and Artistic materials.

Note: the arrangement of these four areas are depended to the teacher's choice.

3- Beauty and Atmosphere: The beauty and atmosphere of the Montessori schools is achieved through a comfortable, homelike environment [Figure 3, 4].

- . "Must be calm, peaceful, tranquil, and harmonious", (Raquel De Jesus).
- . "Must have discipline, love, and security", (Raquel De Jesus).
- . "Beauty is inspirational and refreshes the spirit", (Raquel De Jesus).

According to the Raquel De Jesus, Dr. Montessori did not explicitly show how to gain beauty, love, and security in an environment. "It is our own attributes, that we can show beauty, love, and security in environment or to have control over them, as architects, and teachers", (Raquel De Jesus). However, Dr. Montessori does identify that there is one important factor that can have a huge impact on the atmosphere of an environment: "the use of artificial or natural lighting, which can affect activity levels and fatigue in children", (Raquel De Jesus). According to Dr. Montessori, the windows of the building should allow light freely and they should be low, so that the child can see what is happening behind the windows.

Important suggested Design Guidelines by Raquel De Jesus:

- . "The new building to be designed should be home-like in appearance, preferably consistent with the architecture of the surrounding community, if residential", (Raquel De Jesus).

- . "Use wood to make the Children's House look warmer and friendlier, rather than concrete and steel which make the building look cold and institutional", (Raquel De Jesus).
- . "Clear paths and an easy to find entry will help decrease any anxiety feelings that parent and child may feel as they approach the building", (Raquel De Jesus).
- . "A porch, overhang, or deck area provides an outdoor waiting space for parent and child", (Raquel De Jesus).
- . "Plants and landscaping should appear residential, not institutional", (Raquel De Jesus).
- . "Low, grilled patterned windows give the building a homier atmosphere, and may help decrease a child's anxious feelings if the child is able to observe activities through the windows as the child approaches the building", (Raquel De Jesus).
- . "Windows permit the child to be in contact with nature when the weather is not favorable for outside activities", (Raquel De Jesus).
- . "Skylights also let light in and give the "Children's House" a sunny, warm atmosphere, especially during winter time", (Raquel De Jesus).
- . "Other factors that may contribute to a homier atmosphere are: warm colors, plants, comfortable furniture, pillows, window seats, and animals in study area", (Raquel De Jesus).



Figure 3 - A Montessori classroom. [Drawing by Mesut Sallah].



Figure 4 - A Montessori classroom. [Drawing by Mesut Sallah].

4- Community Life and Parents: Montessori schools encourage parents to take an active role in their child's education. Montessori Schools intend to offer many opportunities to visit, observe, learn, and volunteer.

"Socialization" is an important aspect of community life in Montessori schools. Raquel De Jesus has defined socialization as a place where the child "may act individually or interact with others", (Raquel De Jesus).

"Age-mixing" is considered to increase motivation and socialization among the children. For instance, the younger children can be motivated to look up to older children and ask for help or observe what they are doing.

Note: All the interviewers from the six schools have opposed the desire of a separate parent-teacher conference room. They prefer to talk to the parents in the same classroom where the children work in, "as to show them the materials their child is using", (Raquel De Jesus).

Important suggested Design Guidelines from the author:

- . "Open plan facilities may increase the amount of receiving and giving help that takes place between teacher and student, and between students", (Raquel De Jesus).
- . "Medium densities of 25-50 square feet per child sustain more social involvement", (Raquel De Jesus).
- . "Architecture may help increase parent participation by providing appropriate entry conditions to encourage parents to enter and linger", (Raquel De Jesus).

5- Nature: Dr. Montessori placed a great emphasis on nature. Dr. Montessori also felt that the outdoor environment should be an extension of the classroom. Natural playgrounds offer settings that encourage children to explore their imagination. It allows for children to explore nature, such looking at the harvest living things.

Note: The outdoor garden should be separated from the playground area. "The nature study area is to be used for more sedentary and quiet activities, such as gardening, reading, observation, etc", (Rauel De Jesus).

Important suggested Design Guidelines from the author:

- . "Place the nature study areas near the classrooms, so that children can both visually and actively enjoy these area", (Raquel De Jesus).
- . "Gardens should be enclosed with walls or fences; not too high so as not to block the sun's rays", (Raquel De Jesus).
- . "Paths should be wide enough for circulation", (Raquel De Jesus).
- . "Shade trees should be provided for shelter, climbing", (Raquel De Jesus).
- . "Use overhangs and natural shading features so that children do not have to look into the sun", (Raquel De Jesus).
- . "Provide smaller windows which still allow contact with nature and still provides a homey environment", (Raquel De Jesus).
- . "Provide for weather resistant furniture, and some hard surfaces such as concrete or asphalt to place them", (Raquel De Jesus).

6- Related Issues: There are two important issues. 1. Playground/Gym. 2. Day Care

1. Playground/Gym: "Dr. Montessori writes extensively about the need for an adequate gymnasium or playground, that will offer a field for the most varied exercises, such as walking, throwing objects, going up and down stairs, kneeling, rising, jumping, etc", (Raquel De Jesus).

Design Guidelines for Gym:

- . "The gymnasias as Montessori refers to it, should accommodate 12-16 children dancing, playing group games, and viewing a special film", (Raquel De Jesus).
- . "Floor, ceiling, and walls should absorb noise", (Raquel De Jesus).

2. Day Care: Dr. Montessori does not refer to "Day Care" but it is an essential part of today's families. Day care is to meet the immediate needs of children, such as safety, and health.

Design Guidelines for Playground:

. According to the interviews, it is necessary to have a separate "Day Care" room.

Precedent There are many innovators who are working to design schools all around the world. One of the great resources to both architects and educators is the findings of those educational innovative schools in other world settings as a reference. While the methods and materials may not directly relate to the needs and opportunities of 21st century Afghanistan, the lessons learned in other places might just provide an idea.

Delft Montessori School (Delft, Netherlands) Maria Montessori, the founder of the Montessori education, had an idea to motivate children to learn by "providing them a wide choice combined with a clear structure", (Herman Hertzberger, Montessori Primary School in Delft, Harvard Educational Review). This idea has been translated into architecture by Herman Hertzberger, considered one the finest Dutch architects designing school buildings. Hertzberger, himself a former Montessori pupil, adheres to the thought that a building should be judged in terms of how people use it, not in terms of its aesthetic design. Among Herzberger's best known building is the Montessori School in Delft, Netherlands (1966).

The Montessori school in Delft is a kindergarten and a primary school and offers education on the principles of Maria Montessori. "This school has been made to answer the specific demands of a non-traditional teaching system, as far as was possible within the framework of the rather strict building regulations for primary schools in this country", (Herman Hertzberger). Initially, the school had five classrooms, but the school has been extended several times by its architect as the need arose [Figure 5].

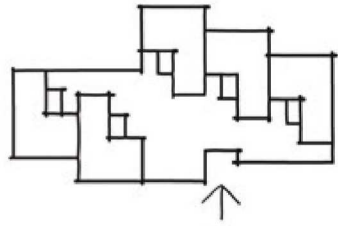
The classrooms, located to the rear of the building, open onto a garden and are surrounded by trees [Figure 6]. These gardens allow children the opportunity for "interactive outdoor learning", (Herman Hertzberger) [Figure 7]. The rest of the classrooms, separated by the central hall, face the front side of the school where the main entrances are located. A small outdoor play area occupies the front side of the building which "creates a zone of interaction that mediates between the school and

community by providing a place for socializing and waiting", (Herman Hertzberger).

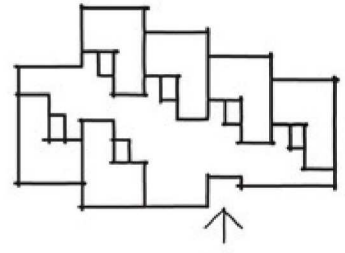
The classrooms are L-shaped and are set up as independent units that are arranged along the central hall [Figure 8]. The classrooms are "given a floor level variation of two steps, so that the child is no longer forced to take in the activities of all the other children at once", (Herman Hertzberger) [Figure 9]. "By suiting the parts of the classroom to the various categories of activity— like the rooms of a house—one achieves a situation where the children disturb each other as little as possible". According to the school's website, the idea behind the floor level variations is that those students who are engaged in less strenuous activities, such as painting, must not disturb the other students for whom more concentration is needed. Meanwhile, the two steps level variations easily allow the teacher to oversee the entire class.

Like many other Montessori schools, Hertzberger has placed the view windows lower, considering the height of the children, which provide controlled visual connections into the classroom [Figure 10].

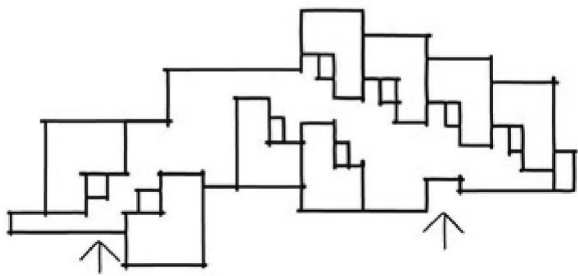
The essential part of the building is the central hall where it is established as a central space or a "common meeting ground", (Herman Hertzberger) for the students and teachers to go through to get to anywhere in the building. "Here perhaps the most important part of school life is centred", (Herman Hertzberger). The hall as well contains various activities. "In the hall specialized lessons in handwork crafts, music, etcetera take place, while at the same time other classes can continue to function normally", (Herman Hertzberger). And the library of the school is located within the open space of the hall [Figure 11].



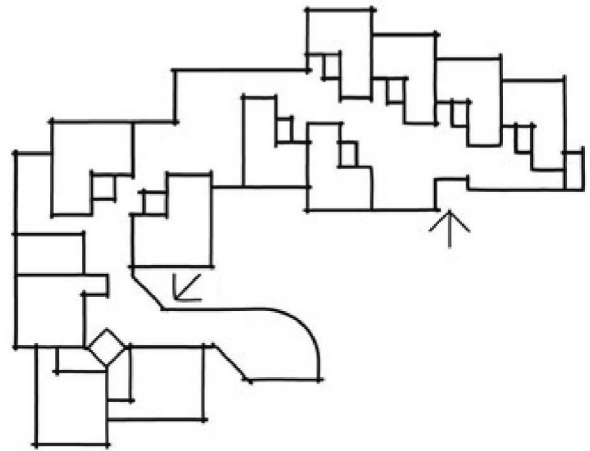
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3



4

Figure 5 - Herman Hertzberger, Montessori School, Delft, Netherlands, 1966. Plan Diagram / Phased Construction: Additional classrooms are added over time.



Figure 6 - Ariel View. Montessori School, Delft, Netherlands, 1966.



Figure 7 - Garden, Montessori School, Delft, Netherlands, 1966.

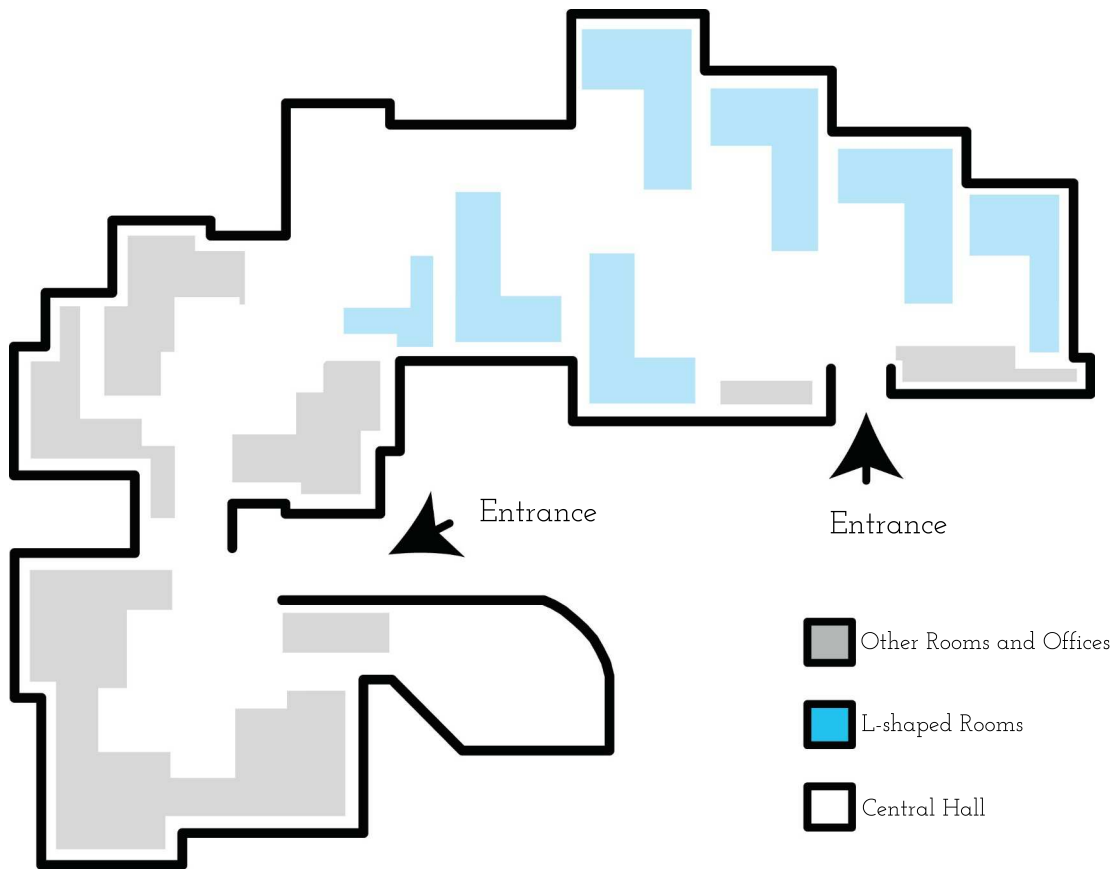


Figure 8 - Plan, Montessori School, Delft, Netherlands, 1966. [Diagram by Mesut Sallah].

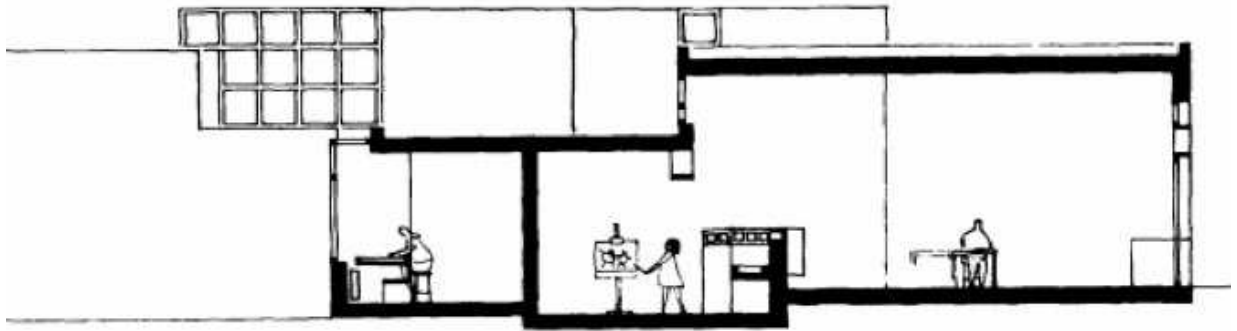


Figure 9 - Section View, Montessori School, Delft, Netherlands, 1966.



Figure 10 - Interior, Montessori School, Delft, Netherlands, 1966.



Figure 11 - Library, Herman Hertzberger, Montessori School, Delft, Netherlands, 1966.

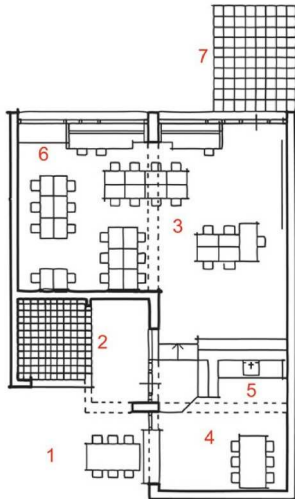


Figure 12 - Classroom's plan, Montessori School, Delft, Netherlands, 1966.



Figure 13 - Hall, Montessori School, Delft, Netherlands, 1966.



Figure 14 - Playground, Montessori School, Delft, Netherlands, 1966.



Figure 15 - Additional Hall, Montessori School, Delft, Netherlands, 1966.

Fuji Montessori Kindergarten (Tokyo, Japan) "We designed the school as a circle, with a kind of endless circulation. When we started, I had no preconceived notions. Studying other kindergartens was like looking in the rearview mirror of a car: Even if you look very closely, you can't see anything in front", Tezuka Architects (Tedtalk, Inside the World's Best Kindergarten).



This multiple award winning and Montessori-inspired design is a single-story oval shape that encloses an open-air central courtyard. This project was completed in 2007 and it is located in Tokyo, Japan. The school is designed such that "it gives the impression of a building with no walls", (Tezuka). The indoor classrooms and outdoor areas merge into one. The circular design was said to be inspired by the idea that "Children love to run in circles", (Tezuka).

In his TED talk, the architect walks through a design process of this kindergarten and shows that this place is a learning environment for children. [The video is published on Youtube , titled "Takaharu Tezuka: The best kindergarten you've ever seen"].

Education Challenges in Afghanistan The people of Afghanistan have been living in a state of conflict for more than three decades. As a consequence, the education system in Afghanistan has suffered tremendously. In 2001, the world witnessed the fall of the Taliban regime in Afghanistan. The international community pledged to rebuild Afghanistan via the establishment of a central government and the construction of critical infrastructure like schools and hospitals. However, many of the problems that confronted Afghanistan and its people in 2001 persist today which make the process of education difficult for many Afghans.

Security: Security in Afghanistan is still fragile after decades of warfare. The Taliban forces are regrouping and launching attacks against the current government, including civilians. The Taliban's insurgency threatens the current situation in Afghanistan. "The number of Afghans in the police and army killed or wounded has increased 70% in the first 15 weeks of 2015, compared to the same period last year", (USAToday newspaper).

My heart felt so heavy when I heard the news about a suicide bombing that took place in 2014 in my secondary school, Lycée Esteqlal, in Kabul, Afghanistan. Several people were killed and as many were injured after a teenage suicide bomber struck. Lycée Esteqlal is heavily guarded by the national army because of its location as it is located next to the Presidential Palace and Ministry of Foreign Affairs. The attack at Lycée Esteqlal demonstrates the Taliban's capability to attack high-value targets in the capital.

Violence: Girls have had acid thrown on their faces while walking to school by the Taliban who object to female education. Enduring conservative Islamic customs prevent millions of Afghan children from going to school.

Facilities: In addition to uncertain security, the number of educational facilities is inadequate, including chairs and chalkboards. "Even though Science subjects are taught in Afghanistan, only 5% of high schools have a science lab for students to use. The lack of science labs is not the only shortage; it is extremely rare for them to have technology (computer or internet) available in high schools", (Mohib Israr, Education in Afghanistan, a local perspective).

Afghanistan's Past and Present Education: In the past there were many education centers built for learning in Afghanistan, known as Madrasa. However, the curriculum was highly dominated by religious studies instead of literature, science and etc. How and why did this happen? According to the Washington Post, in the 1980s the U.S. supported the publication of millions of anti-Soviet textbooks for Afghan children. The books published by the University of Nebraska, taught Afghan children how to read and write but with illustrations of war and Jihad. "Although, today the U.S. has invested heavily in helping modernize Afghanistan's woeful education system, opening it back up to girls and revamping the backward curriculum put in place during the Taliban rule. But despite moderate gains, many challenges remain. These old anti-Soviet textbooks are still in circulation", (Ishaan Tharoor, The Taliban indoctrinates kids with jihadists textbooks paid for by the U.S., The Washington Post). Most of these places are outside the urban areas, places where the Taliban dominates, and it is difficult for the government to replace the books.

Classrooms and Teachers: The teachers are known as the authorized decision makers and leaders. Physical punishment remains a common practice in schools and this is common in Afghanistan from primary schools up to the 12th grade, including universities. "Social learning practices such as peer work, group work, activity-based learning and other useful methods are not used in the teaching process at all. There is very little entertainment for students in Afghan high schools. The lack of sufficient playgrounds combined with the strict behavior of the teachers cause many students to leave school each year", (Mohib Israr).

Separate Education: In conservative Afghanistan, girls and boys are not allowed to go school together. In some areas, it happens to be the same school but they are not in the same class. As a result, "gender segregation in Afghanistan's schools forces the strained Ministry of Education, which is already short

on supplies, funding, and teachers, to recreate the system for each gender”, (Saagar Enjeti, Afghanistan's Separate but Equal' Education System, The Diplomat).

Recruiting qualified teachers: In Afghanistan, there are few qualified teachers, particularly outside the cities. Many of the qualified teachers do not want to go to rural areas because of security concerns.

Post Graduation: 200,000 to 250,000 students graduate from high school each year. But there are only 30,000 to 50,000 openings in public universities, “as well as vocational and teacher training programs”, (Sayd Bahaouddin, Education in Afghanistan Past and Present, Pergamon Journal).

Schools in Afghanistan The Lack of school infrastructure in rural areas of Afghanistan means that classrooms contain no furniture, with the students sitting on mats on the floor [Figure 16]. In other areas, tents are used as classrooms. In Afghanistan, “the delivery of school construction projects to date has been poorly coordinated and managed by the Ministry of Education”, (Afghanistan School Building, e-architect). In urban areas where the government has been able to build a few schools due to the thousands of returning refugees from neighboring countries and the constant increase in interest for education, schools do not have the capacity to accommodate the students and cannot meet the demands of the increasing numbers of students. Initially, the classrooms were built to have the capacity of 20 to 25 students but with the return of the refugees and reopening of the girls schools after the Taliban's collapse, the number of students in each

class jumped from 30 to 60.

Also, “the quality of construction is so poor it's surprising some school buildings can support their own self-weight, and few have any sort of emergency exit from upper storeys. It is not uncommon to see schools where work has entirely stopped as the contractor has walked away from the site as there is no legal obligation for work to be completed”, (Afghanistan School Building, e-architect). The majority of the schools in Afghanistan have failed to provide a safe environment for those attending classes due to poor quality of construction, such that there is no playground for the students to play a sport. According to the research done by the University of Washington: “The school typology (in Afghanistan) does not require a response to community needs or to environmental factors such as local climate. Furthermore, schools constructed for female students are identical to those constructed for males, although the needs of Afghan women are currently quite different than their male counterparts. This “equal” treatment of females ignores privacy, security, and public acceptance-issues critical to the success of female educational institutions in Afghanistan. In short, the Ministry of Education (MOE) schools meet some very basic requirements, while others are not considered”, (Elizabeth Golden, Challenging the Standard: designing schools for women in Afghanistan).



Figure 16 - Lack of school Infrastructure, Afghanistan.

- A - Administration
- B - Hallway
- C - Classroom

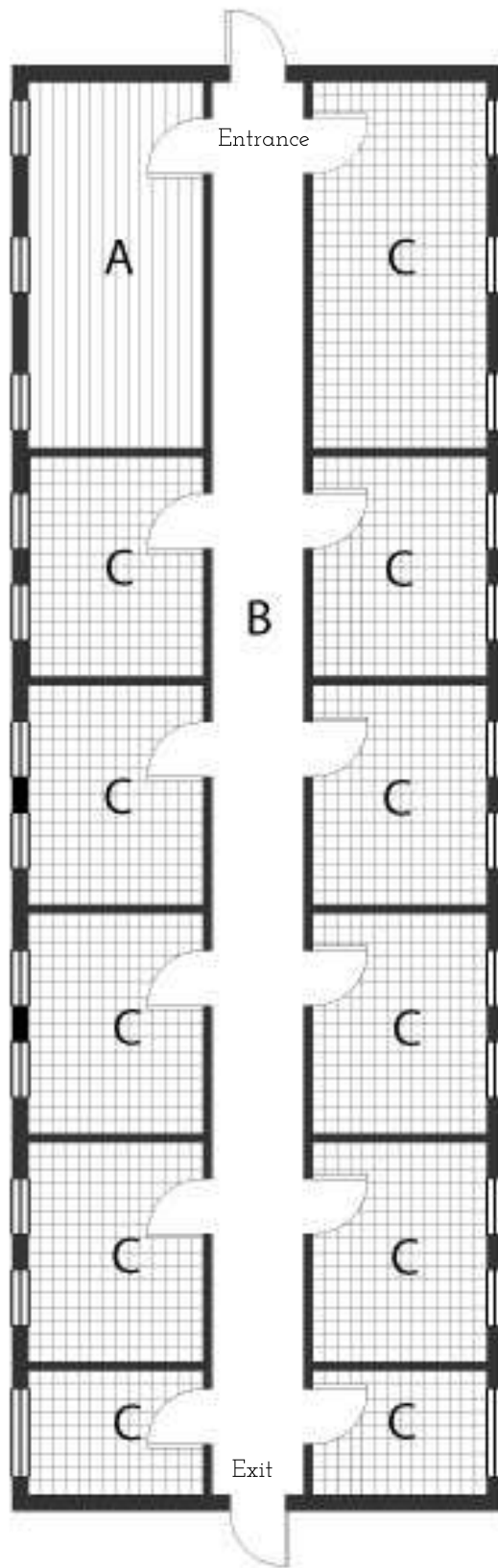


Figure 17 - Floor Plan, Rabia Balkhi School, Kabul, Afghanistan. [Diagram by Mesut Sallah].

Many of the country's schools have the same architectural plan [Figure 2]. There is only one room for the administration that includes all the offices. The central hallway receives less natural light due to its orientation and lack of windows (the classrooms' doors block the light and many schools are still without electricity). Having no electricity means that schools are closed during the three months of winter and the hot summer days. The small classrooms are full of students with no chairs and tables. There is also no capacity to place chairs and tables in those classrooms, considering the number of students in each class. These same schools are not just primary schools or secondary schools but there are students from 1st grade to 12th.

Precedent Schools in Afghanistan Despite the many schools problems in Afghanistan, there are also examples of some newly built schools that are well planned, with many cultural design features, constructed to a high quality, and often done in partnership with local communities: What is strikingly evident in all these schools designs is the sense of community, sustainability, security and a touching sensitivity towards the needs of better education for Afghans.

a. **Maria Grazia Cutuli Primary School (Herat, Afghanistan)** The Maria Grazia Cutuli School is a primary school, commemorating the Italian journalist Maria Grazia Cutuli, who was murdered in Afghanistan in 2001. The school is built in Khushrud Village, a small village outside the city of Herat in Herat province, Afghanistan. The school is designed by 2A + P/A, an architecture firm based in Rome, Italy, like a small "walled village", enclosed by boundary walls that provides safety. At the present time, boundary walls are necessary for any schools in Afghanistan and it is required by the Ministry of Education, (Afghanistan's Ministry of Education, School Design).



Figure 18 - 2A + P/A, The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.

The Maria Grazia Cutuli Primary School has been listed as an incredible example of school design in a war-torn area, and it was shortlisted for the 2013 Aga Khan Award for Architecture, (Aga Khan Award for Architecture). According to a paper published on Archnet.org, "perhaps the architects had not visited Herat before, nor had much interaction with local architects. Whatever the case, one of the key points of this project was stated to be a search for an innovative educational space as an alternative to those models related to post-war reconstruction emergencies, as well as the design of the outside space as a green classroom", (The Maria Grazia Cutuli Primary School, Archnet). Also, the architects have said that the "the beauty of the landscape, described in Maria Grazia's articles, gave us initial suggestions for developing the concept", (The Maria Grazia Cutuli Primary School, Archnet).

The blue color of the exterior walls is a reference to the rich culture of lapis lazuli artifact in the northern and western areas of Afghanistan which includes Herat province. The school stands in an agricultural landscape and contrasts strongly with the mud walls of the nearby houses. The school accommodates eight classrooms, a couple of staff rooms, a guard's house, a two-story library and a garden which serves as a green classroom. It is built with a reinforced-concrete frame covered with brick cladding, "to keep costs down, while also insulating the interior of the hot temperatures", (The Maria Grazia Cutuli School Provides a Safe Haven for Children in Afghanistan, Inhabitat).

Areas and Surfaces: Area enclosed by property walls: 2,000 m² (21527.8 ft²) / Ground-floor area (office, classrooms and corridors): 650 m² (6996.54 ft²), (Abdul Wassay Najimi, Maria Grazia Cutuli Primary School, Archnet).

The second story of the library has dozens of windows which allows more natural light to filter within through. The windows frames of the classrooms are made of steel profiles while the door panels are made of wood.



Figure 19 - Library's Hall, The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Figure 20 - Library, The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.

What was the challenge for this school? ArchDaily reports: "The first challenge has been the research of a layout able to match functional needs and evocative spaces. After several meetings supported by lots of sketches and study models, the workgroup chose an articulated layout: a series of linked boxes containing both the classrooms and the connection corridors", (Maria Grazia Cutuli Primary School / 2A+P/A + IaN+ + MaO, Archdaily).

Project critics: According to Archnet.org paper: "The blue painted exterior brickwork facades are a new idea. But people do not understand them other than as marking the existence of such a building. The blue does not work with the green of the cultivated fields. Three different shades of blue draw attention to the complex layout of the building, very much in contrast to the surroundings. Although criticized by the architectural community locally, it has been common recently for donor-funded school buildings, especially those built by foreign army establishments, to mark their products with bright colors. The blue color used in this school, though praised by reviewers (published articles), is actually not a school color at all but one often used in shrine buildings. In any case, the color may well be washed away and faded by rain and sun - and concealed when the trees behind the classrooms grow taller", (Abdul Wassay Najimi, Maria Grazia Cutuli Primary School).

Popular reaction to the project? "The villagers are happy at least to have the school, so their children can get some education in a nearby facility", (Abdul Wassay Najimi, Maria Grazia Cutuli Primary School).



Figure 22 - The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Figure 21 - The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Figure 23 - The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Figure 24 - Rendered aerial view, The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Figure 25 - The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Figure 26 - The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Figure 27 - The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.

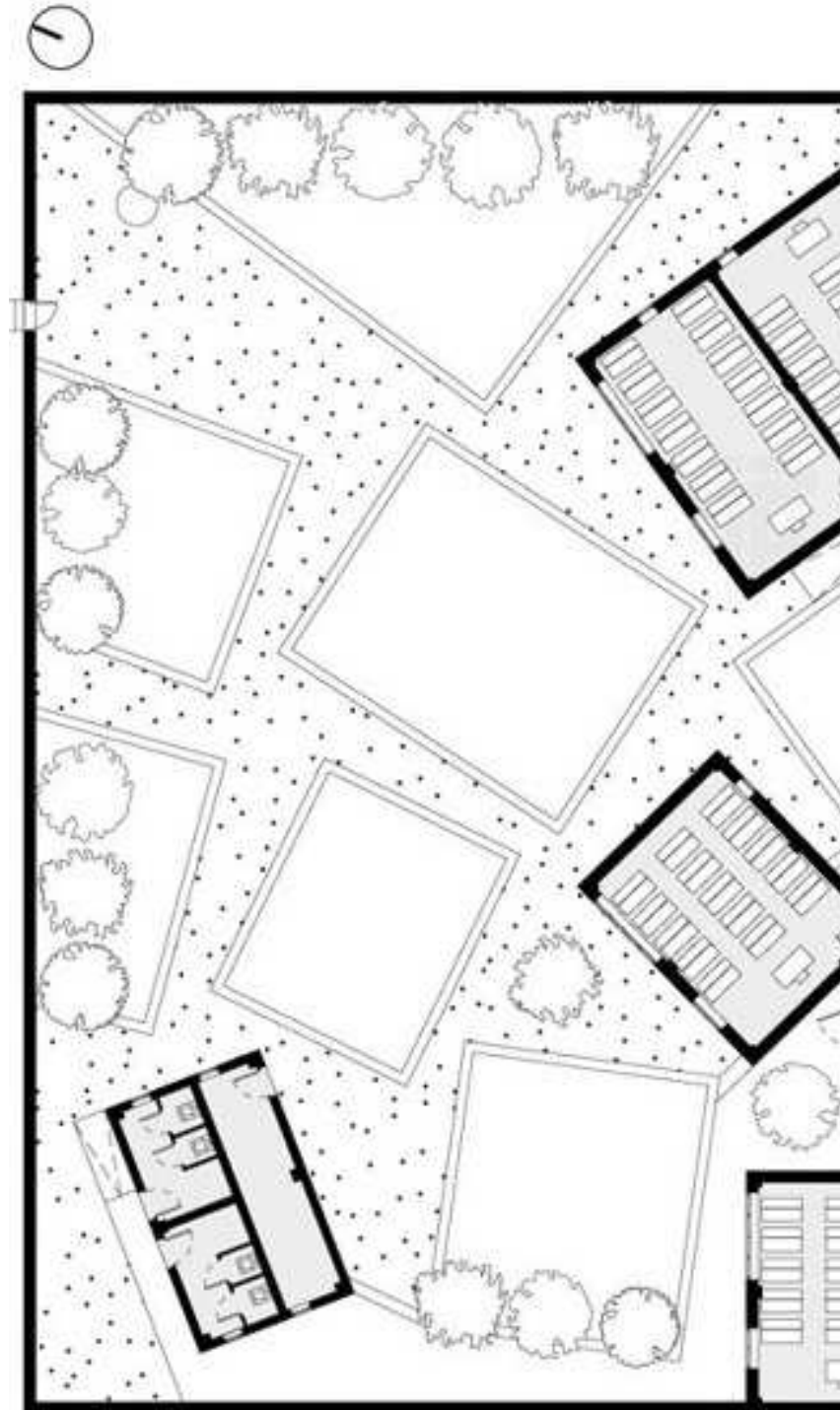
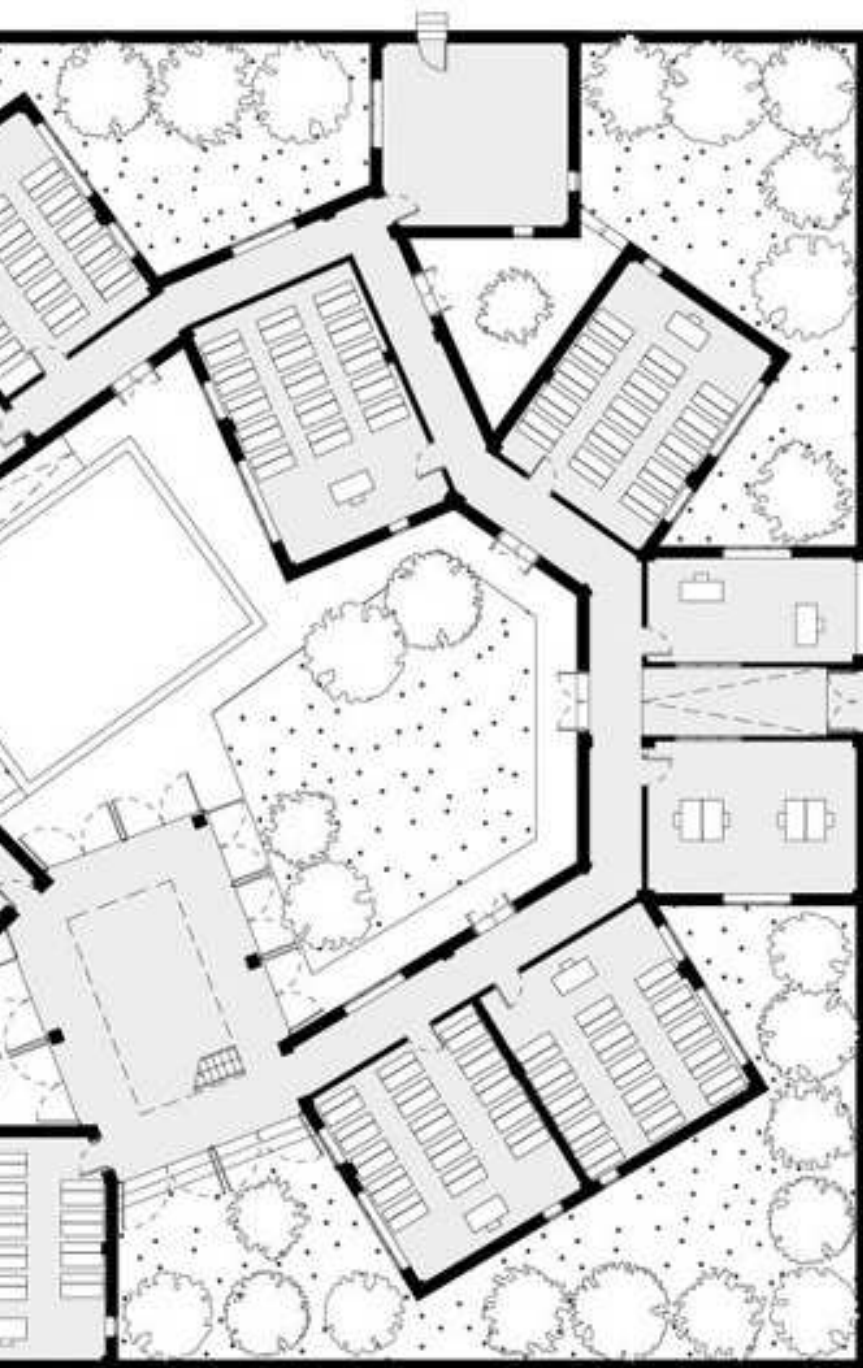


Figure 28 - Floor-Plan, The Maria Grazia Cutuli Primary School, Herat, Afghanistan, 2011.



Gohar Khaton Girls' School (Balkh, Afghanistan) is a public school administered by the Ministry of Education. The school is named after the wife of a famous Persian poet, Rumi, and it is located in the Balkh Province of Afghanistan, the birthplace of Rumi. The original building of the school was badly damaged. In the fall of 2012, a group of graduate architecture students spent six weeks at a design studio class at University of Washington to develop design proposals for the renovation of Gohar Khaton Girls' School. The students were asked to consider how to create an architecturally significant and beautiful school that "responds to the local culture and climate in new and imaginative ways. In addition to developing meaningful and functional spaces for the girls, issues of cost, constructibility, and durability are also being considered by the students", (Elizabeth Golden, Challenging the Standard: designing schools for women in Afghanistan, Department of Architecture, University of Washington).

Problem of the old building: "The school was in a complete and desperate state of disrepair [Figure 30]. Walls had crumbled away, ceilings were leaking, and of the nine latrines, which serve all the girls, two were unusable", (Elizabeth Golden).



Figure 29 - Final Design, Rendered, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 30 - Old Building, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

Challenge: The Gohar Khaton girls' school calls for twenty-eight classrooms to house 3500 girls over three daily shifts.

Security: The Taliban actively destroy girls' schools all over Afghanistan.

Design Studio at University of Washington: Throughout the semester, the students were divided into groups. Each team submitted their "project statement" with a design. Projects like these have promising future for the education of Afghanistan, particularly for girls. The following designs provide a system of spaces that can grow, change, shift, expand, and contract in conjunction with the future of women's education.

1. Mariam Kamara and Yasaman Haji Esmaili: Thesis statement: "This project takes its queues from an awareness of the city's urban fabric as a cultural expression—characterized by subtle spatial transitions. These transitions are manifested within the school grounds as a journey that unfolds through the way spaces are connected, and the opportunities to create beauty are exploited", (Yasaman Esmaili and Mariam Kamara, Gohar Khaton Girls' School, Goharkhaton.org).



Figure 31 - Mariam Kamara and Yasaman Haji Esmaili's Design, Playground, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 32 - Mariam Kamara and Yasaman Haji Esmaili's Design, Outdoor classroom, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

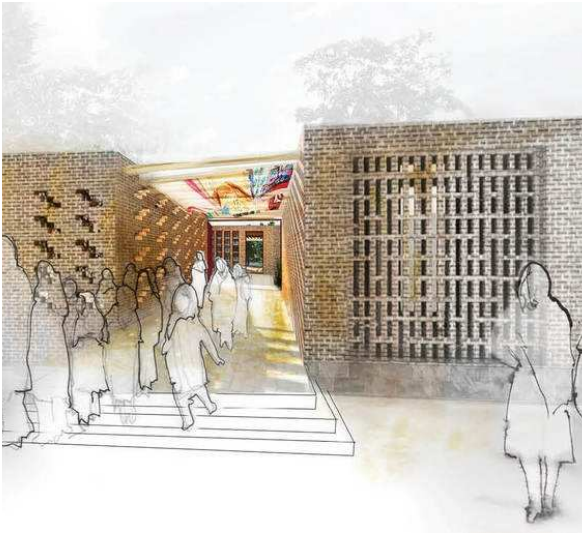


Figure 33 - Mariam Kamara and Yasaman Haji Esmaili's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 34 - Mariam Kamara and Yasaman Haji Esmaili's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 35 - Mariam Kamara and Yasaman Haji Esmaili's Final Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

2. Ben Maestas and Sarah Eddy: Thesis statement: "Two elements of contemporary Afghan culture have been influential in our the design of the school. First, the understanding of privacy as seen in traditional Afghan qalats-or dwellings-serves as departure point for the school master plan. Second, our inclusion of a poplar grove on the school grounds addresses the problem of deforestation and the lack of green space that characterizes Afghan cities-Mazar-i-Sharif in particular", (Ben Maestas and Sarah Eddy, Gohar Khaton Girls' School, Goharkhaton.org).



Figure 36 - Ben Maestas and Sarah Eddy's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 37 - Ben Maestas and Sarah Eddy's Design, Classroom, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

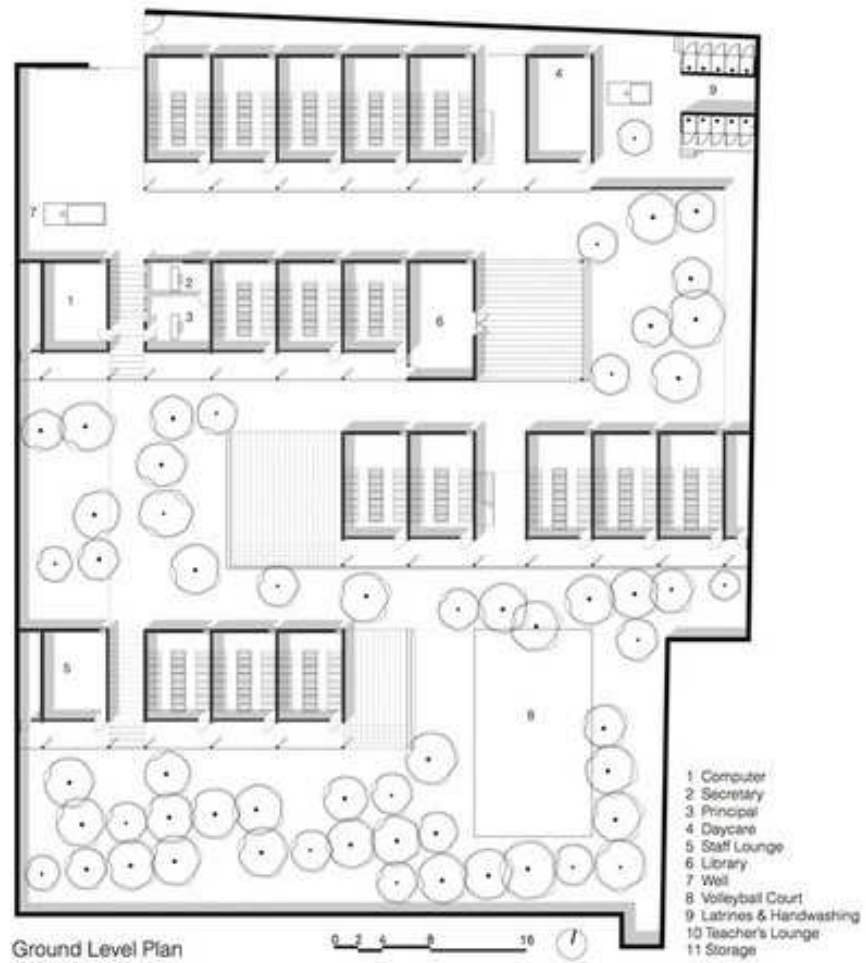


Figure 38 - Ben Maestas and Sarah Eddy's Design, Ground Level Plan, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

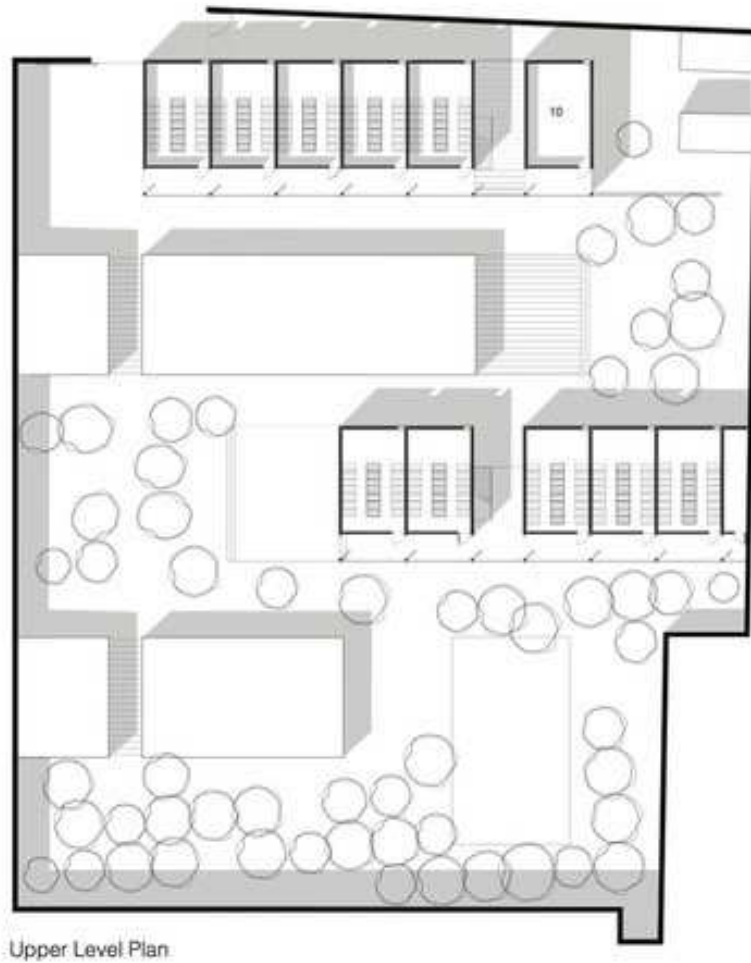


Figure 39 - Ben Maestas and Sarah Eddy's Design, Upper Level Plan, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

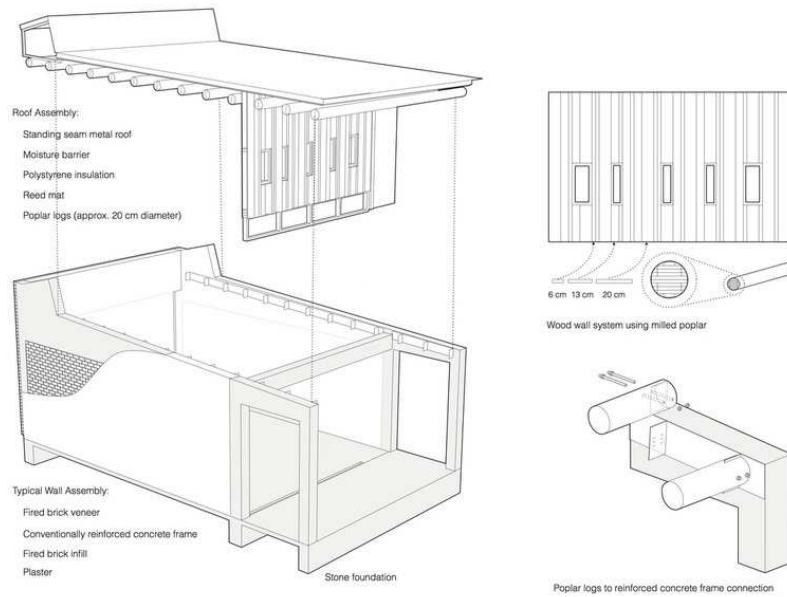


Figure 40 - Ben Maestas and Sarah Eddy's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 41 - Ben Maestas and Sarah Eddy's Design, Outdoor classroom, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

3- Marcus Crider and Carolyn Lecompte: Thesis statement: "Our school proposal recognizes the need for development, while also acknowledging the value of traditional culture. The scheme is organized by taking cues from traditional Afghan houses, which typically place public areas near the street, and private spaces towards the back of the compound. This strategy allows the school to connect with the neighborhood at the street, and provides protection and respite when desired- the students can retreat to the garden courtyard located deep within the school compound", (Marcus Crider and Carolyn Lecompte, Gohar Khaton Girls' School, Goharkhaton.org).

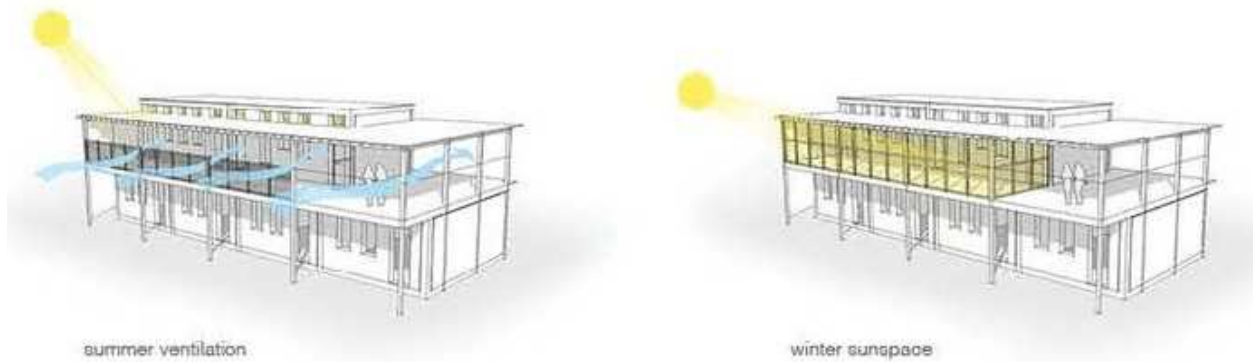


Figure 42 - Marcus Crider and Carolyn Lecompte's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

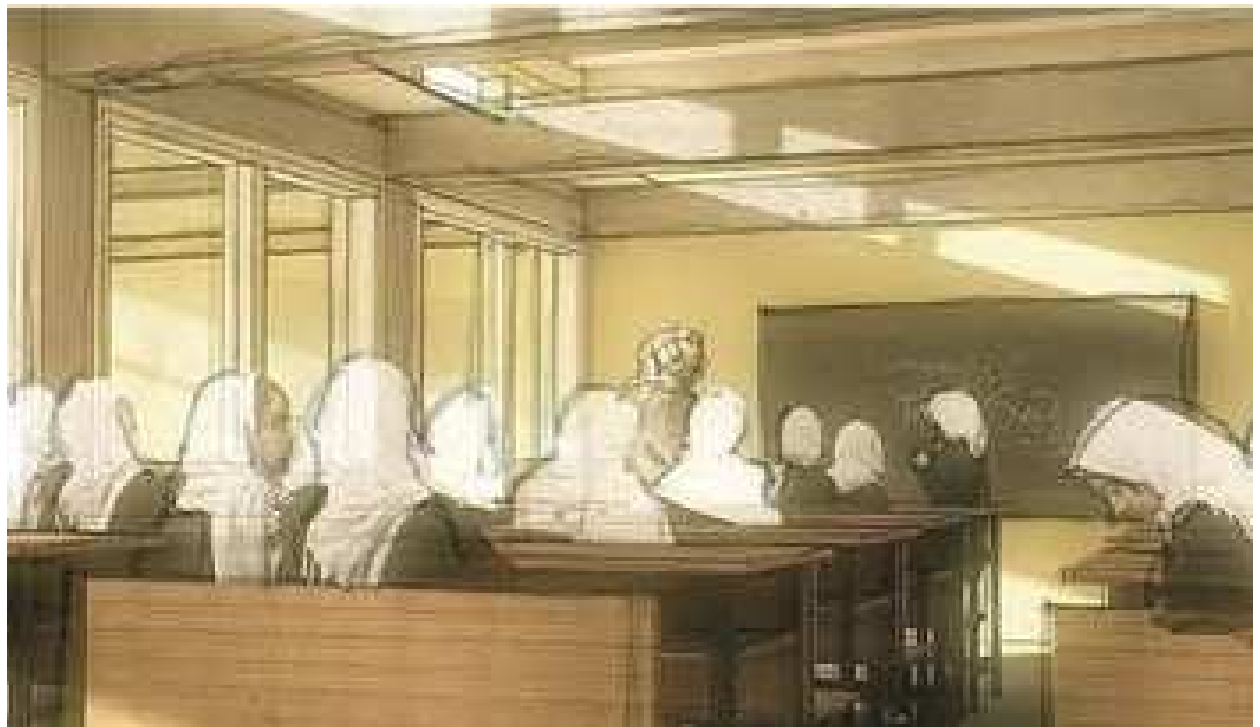


Figure 43 - Marcus Crider and Carolyn Lecompte's Design, Classroom, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

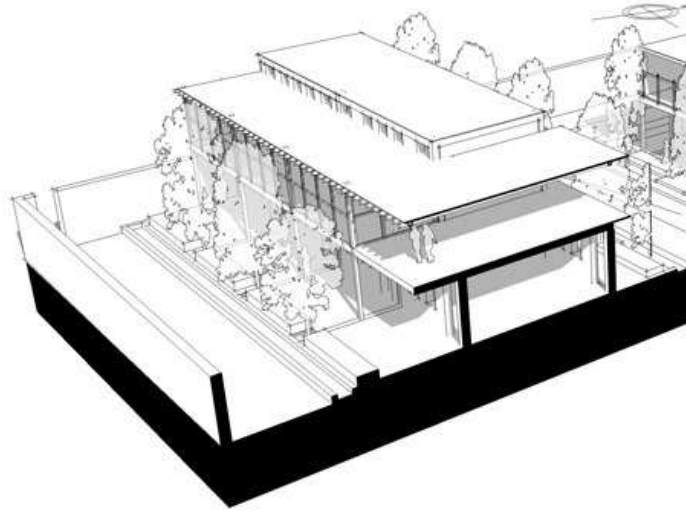


Figure 44 - Marcus Crider and Carolyn Lecompte's Design, 3D view, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 45 - Marcus Crider and Carolyn Lecompte's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

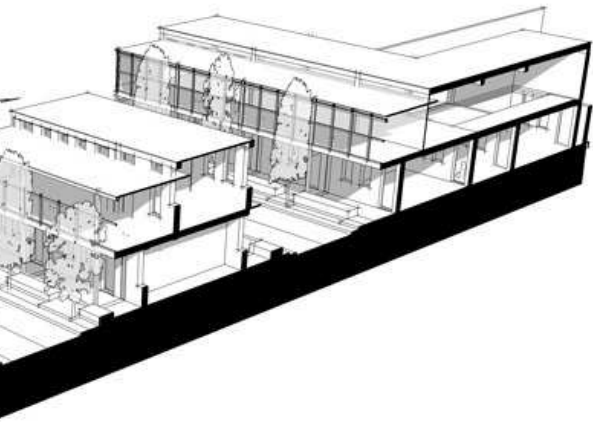


Figure 46 - Marcus Crider and Carolyn Lecompte's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 47 - Marcus Crider and Carolyn Lecompte's Design, Floor-plan, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

4. Andrew Thies and Chris Garland: Thesis statement: "This project combines two different building systems and capitalizes on the strengths of each to create a new model for Afghan schools. The first system-using vernacular masonry techniques typical to the region-accommodates the classrooms; the second system-using contemporary wood framing salvaged from decommissioned NATO bases-creates "sunspaces" for the classroom buildings, passively heating the school in winter. The sunspaces also bring added value to the school curriculum by offering a place for students to learn skills such as calligraphy, textile crafts, and greenhouse gardening. These new extracurricular activities promote a greater social role for the school within the community", (Andrew Thies and Chris Garland, Gohar Khaton Girls' School, Goharkhaton.org).



Figure 48 - Andrew Thies and Chris Garland's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 49 -Andrew Thies and Chris Garland's Design, Central Hall, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

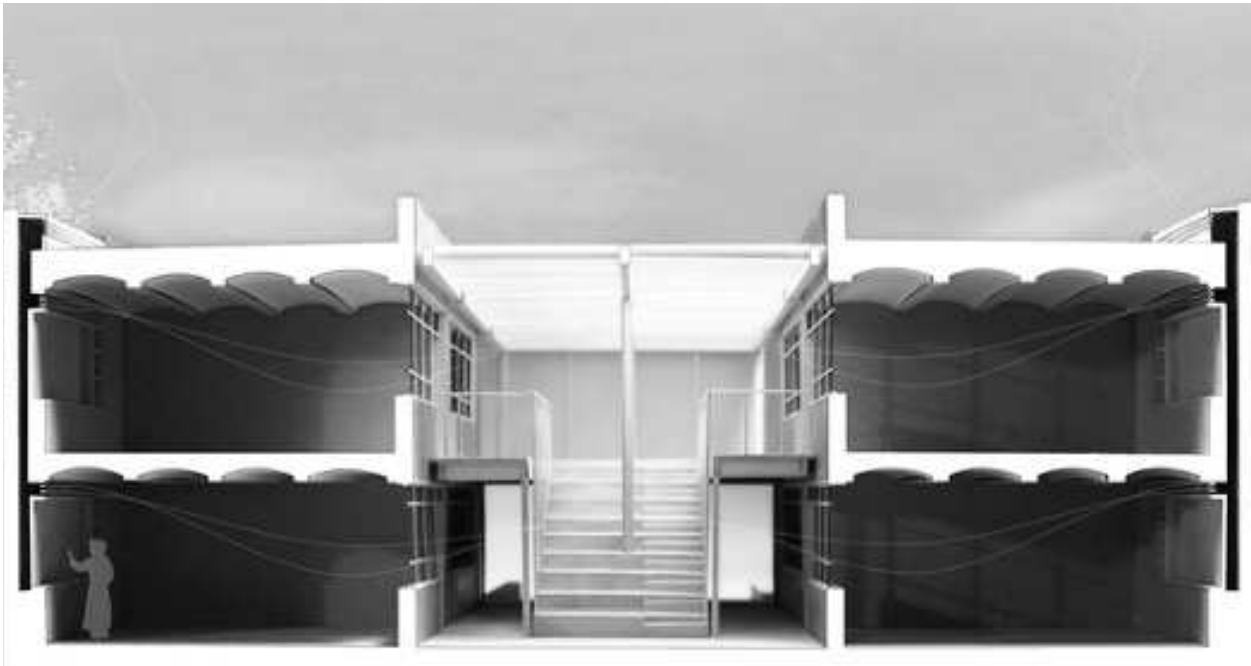


Figure 50 - Andrew Thies and Chris Garland's Design, Classrooms' section, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

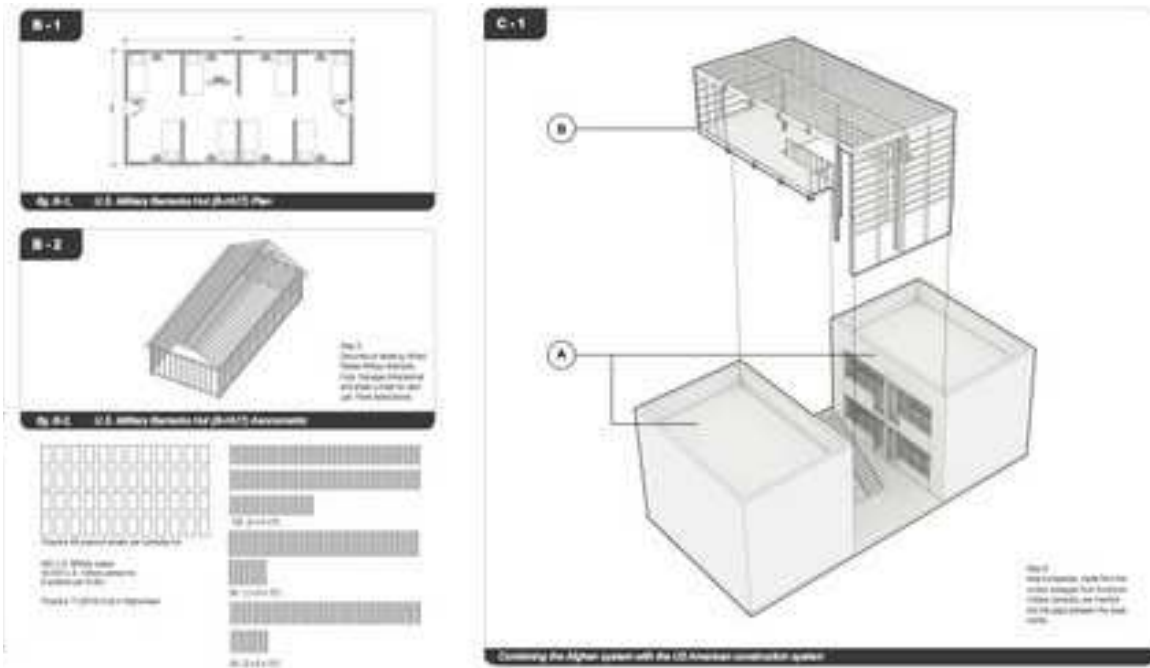


Figure 51 - Andrew Thies and Chris Garland's Diagram, Classrooms' Section, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

5. Jaclyn Merlet and Holly Schwarz: Thesis statement: "Social interaction is very restricted for girls living in Afghanistan, with most personal communication limited to their family network. Our school proposal recognizes that Afghan schools can play a significant role in fostering friendship and camaraderie between girls. To encourage socializing among the students, our classrooms are planned around several courtyard spaces", (Jaclyn Merlet and Holly Schwarz, Gohar Khaton Girls' School, Goharkhaton.org).



Figure 52 - Jaclyn Merlet and Holly Schwarz's Design, Playground, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 53 - Jaclyn Merlet and Holly Schwarz's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

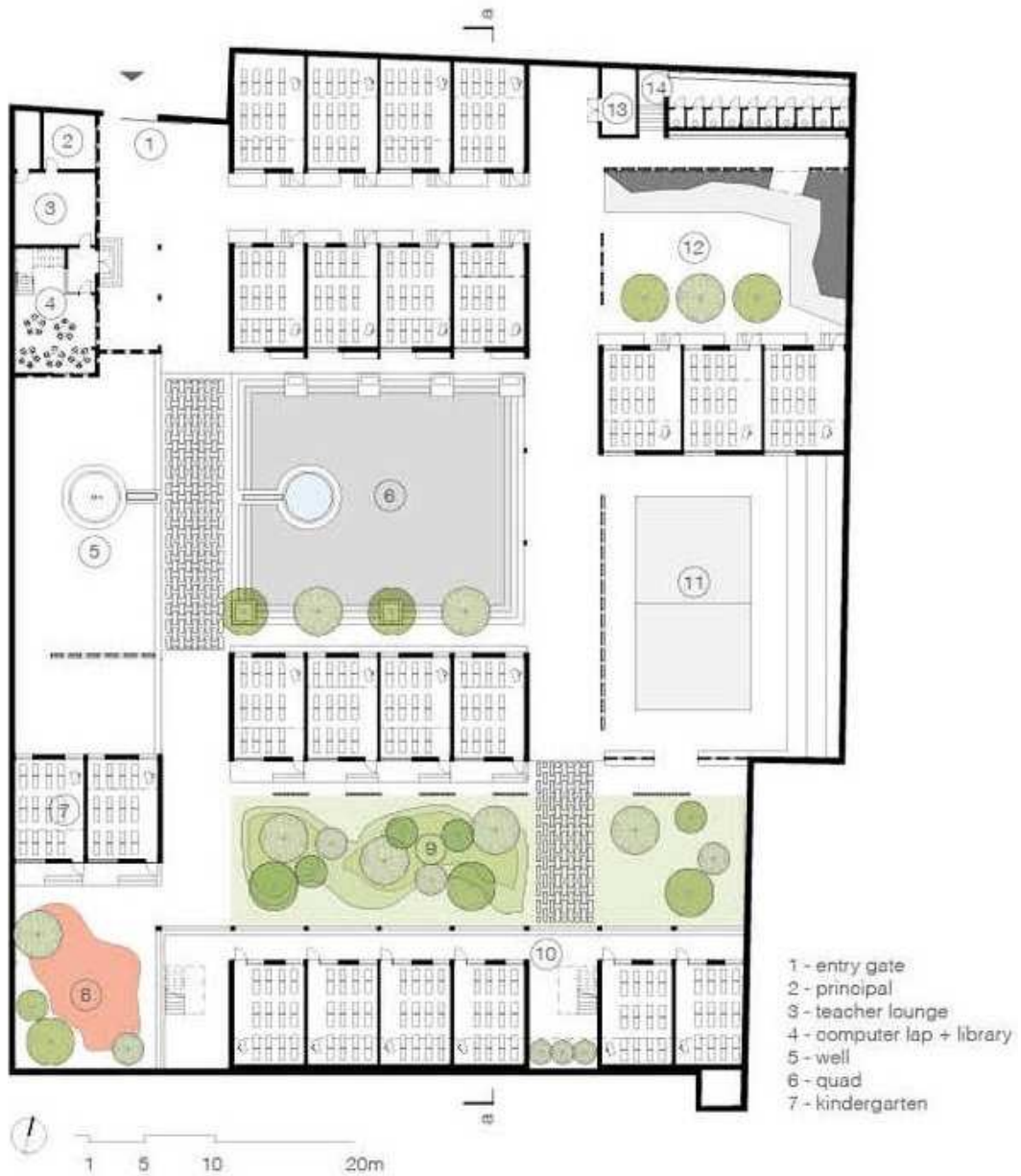


Figure 54 - Jaclyn Merlet and Holly Schwarz's Design, Floor-plan, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 55 - Jaelyn Merlet and Holly Schwarz's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 56 - Jaelyn Merlet and Holly Schwarz's Design, Classrooms' section, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

6. Mackenzie Waller, Michelle Kang, and Mazohra Thami: Thesis statement: "In a city where informal encounters are rare or even dangerous, our project fosters not only knowledge, but connections between people- Gohar Khaton Girls' School, Goharkhaton.org).creating an environment resembling the intimate and discoverable spaces of the urban bazaar. Functioning as more than a school, our proposal brings girls of all backgrounds together, providing spaces for learning, as well as exploration, play, and discovery", (Mackenzie Waller, Michelle Kang and Mazohra Thami, Gohar Khaton Girls' School, Goharkhaton.org).

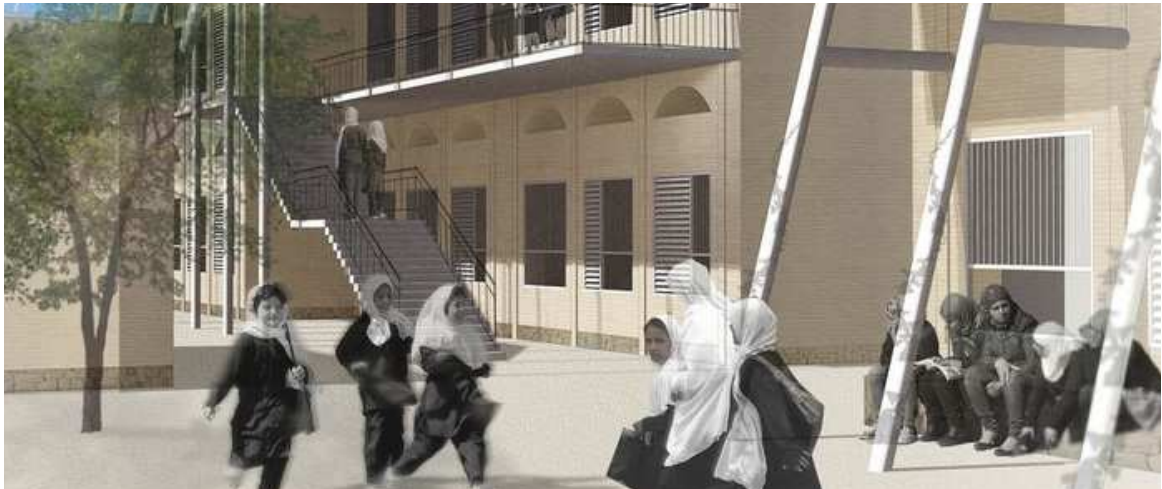


Figure 57 - Mackenzie Waller, Michelle Kang and Mazohra Thami's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

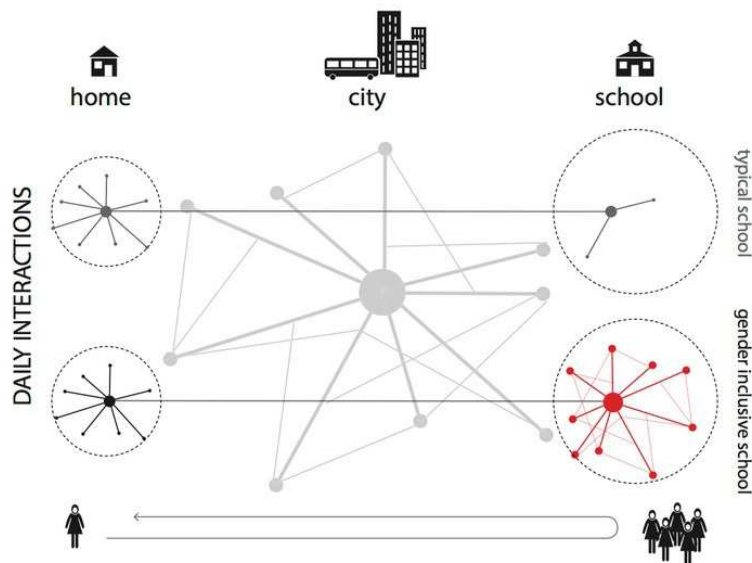


Figure 58 - Mackenzie Waller, Michelle Kang and Mazohra Thami's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 59 - Mackenzie Waller, Michelle Kang and Mazohra Thami's Design, Rendered 3D view, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 60 - Mackenzie Waller, Michelle Kang and Mazohra Thami's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

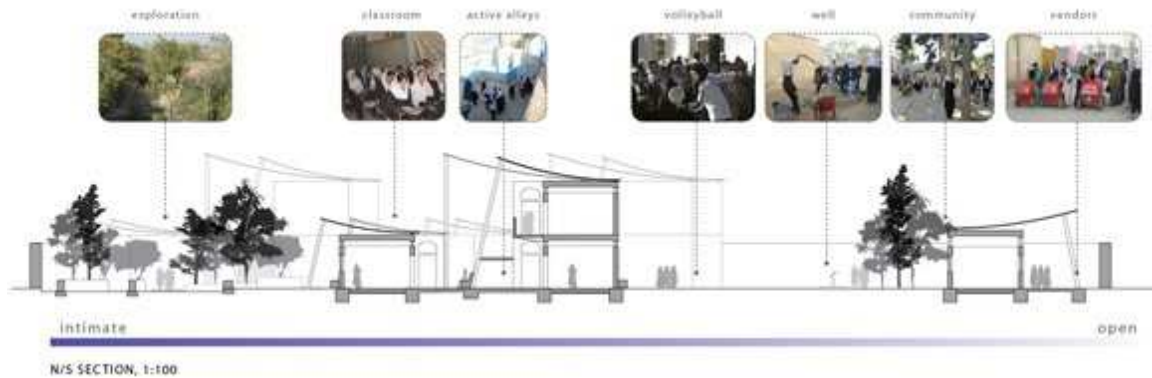


Figure 61 - Mackenzie Waller, Michelle Kang and Mazohra Thami's Diagram, Classrooms' section, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

7. Grace Crofoot and Kevin Lang: Thesis statement: "This project makes use of the existing site conditions—the current school organization, local building practices and materials, and the mature trees—and elevates these assets to a higher level of functionality and beauty. The new site layout takes its cues from the city fabric, embracing the compound and courtyard typologies, or qalats. As in the traditional qalat, the compound wall acts as a veil between the girls and the public, allowing them complete freedom within the school grounds. The subtle upward slope at the school entrance signifies the transition between public and private, as one enters through a small greeting courtyard typical to traditional Afghan compounds", (Grace Crofoot and Kevin Lang, Gohar Khatoon Girls' School, Goharkhaton.org).



Figure 62 - Grace Crofoot and Kevin Lang's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 63 - Grace Crofoot and Kevin Lang's Design, Classroom, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

courtyard activity zones

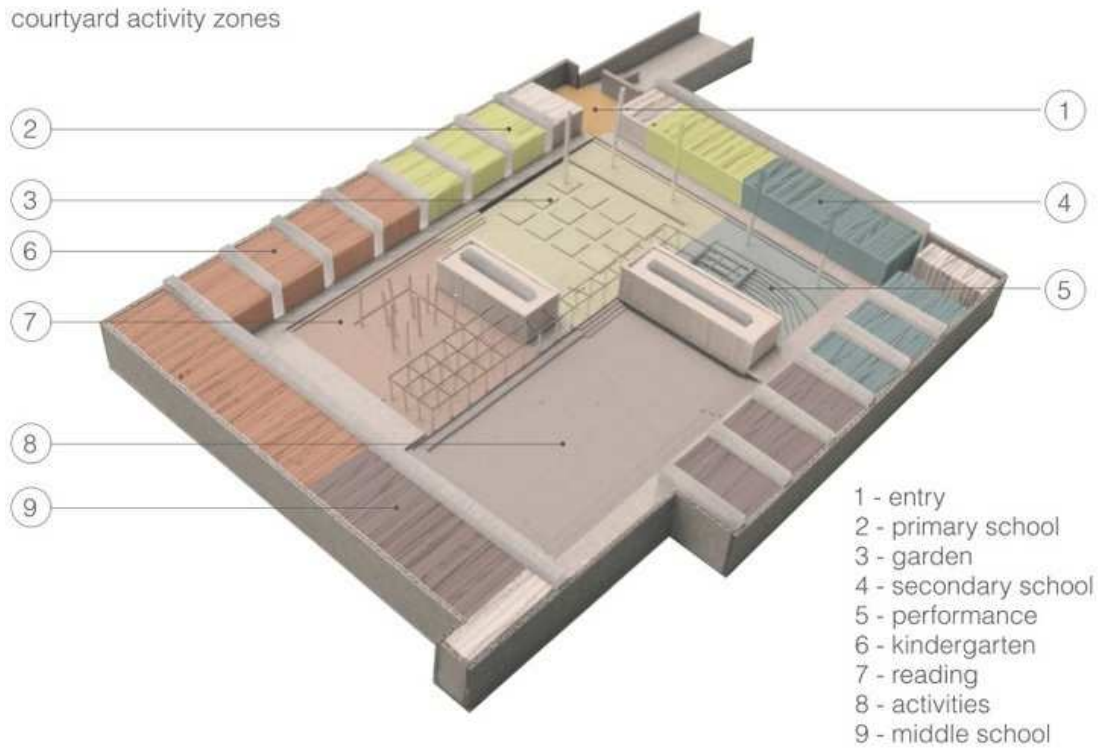


Figure 64 - Grace Crofoot and Kevin Lang's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 65 - Grace Crofoot and Kevin Lang's Design, Classroom section, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

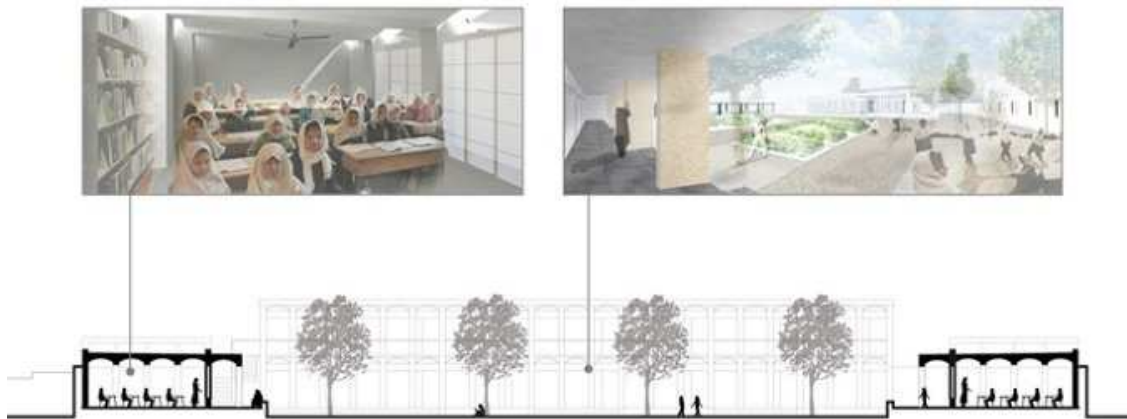


Figure 66 - Grace Crofoot and Kevin Lang's Diagram, Classrooms' section, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

8. Patricia Wilhelm and Bryan Brooks: Thesis statement: "During the Taliban regime, many girls' schools around the country were shut down or destroyed. Since the end of the regime, development in the area of women's education has been both encouraging and frustratingly slow. While the amount of women and girls attending school continues to grow, enough facilities currently do not exist to adequately house them. Our proposal for the the Gohar Khaton Girls' School takes on this challenge of a rapidly growing school population by planning for future expansion", (Patricia Wilhelm and Bryan Brooks, Gohar Khaton Girls' School, Goharkhaton.org).



Figure 67 - Patricia Wilhelm and Bryan Brooks's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 68 - Patricia Wilhelm and Bryan Brooks's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

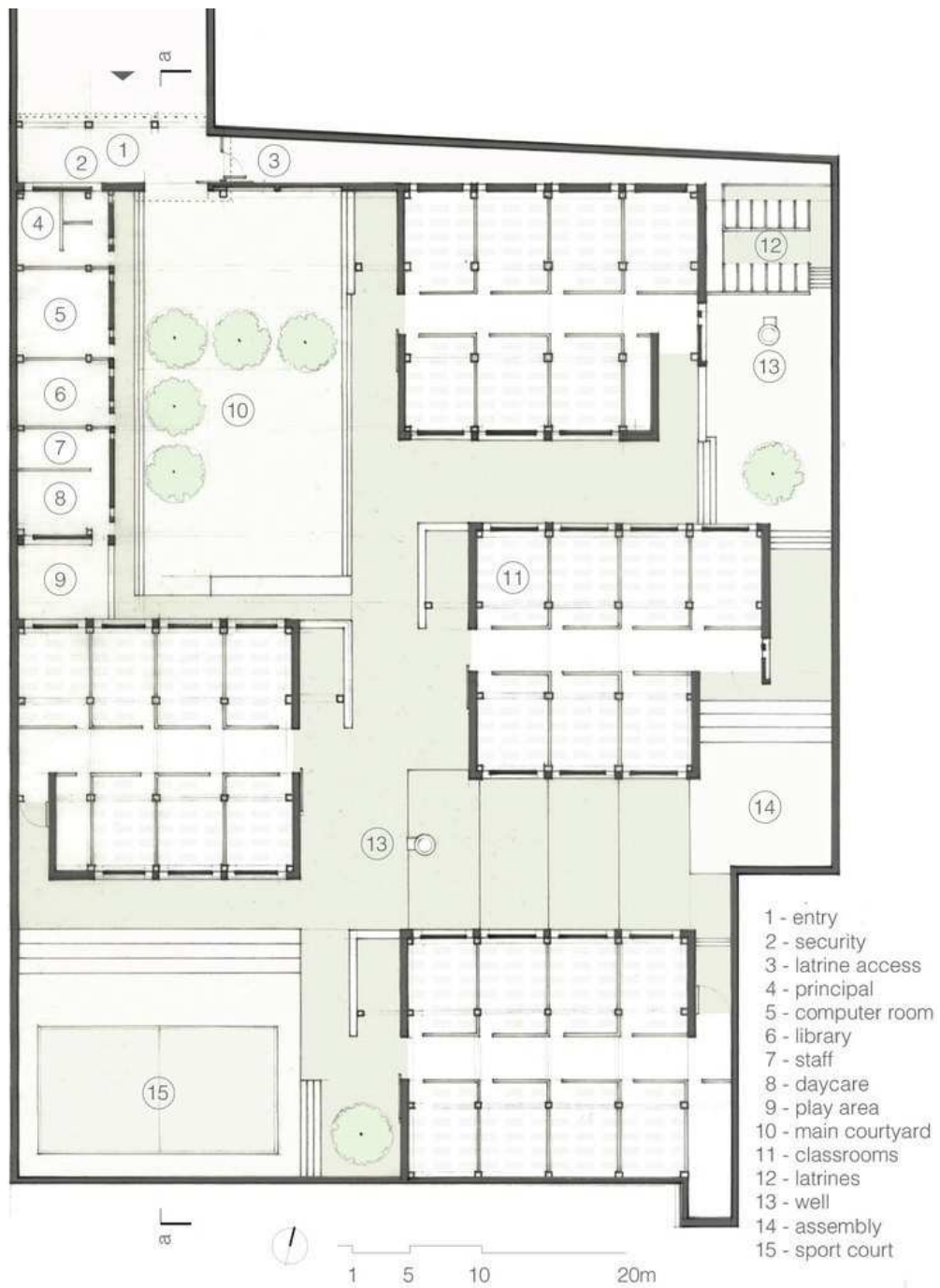


Figure 69 - Patricia Wilhelm and Bryan Brooks's Design, Floor-plan, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

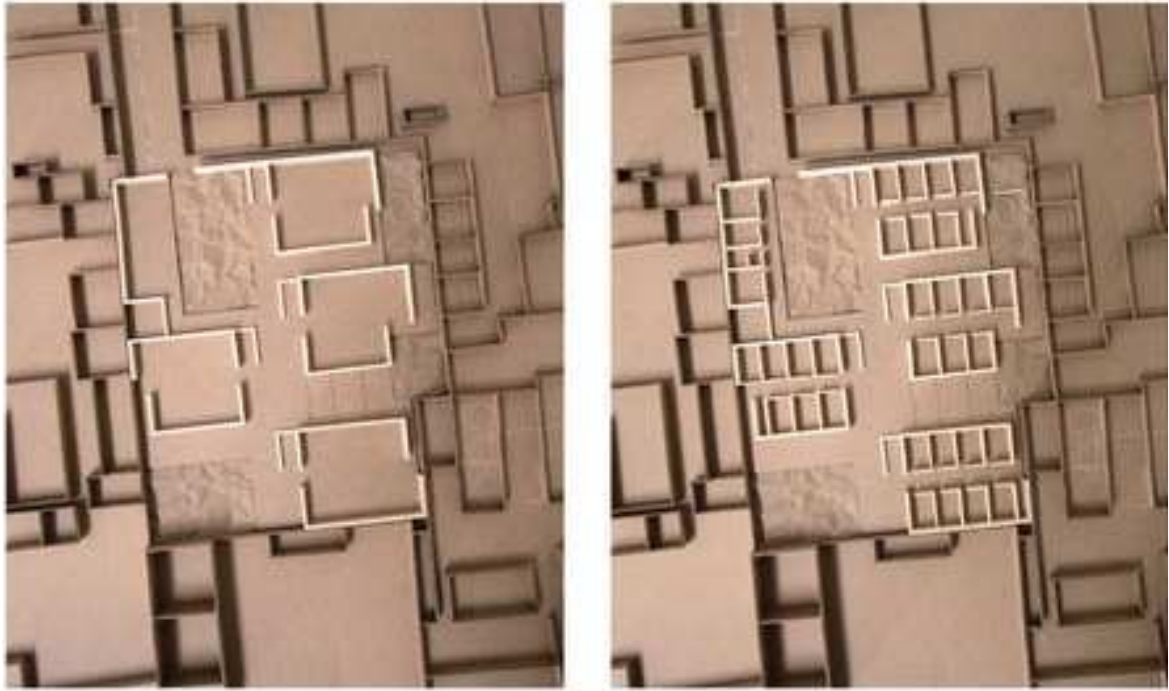


Figure 70 - Patricia Wilhelm and Bryan Brooks's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

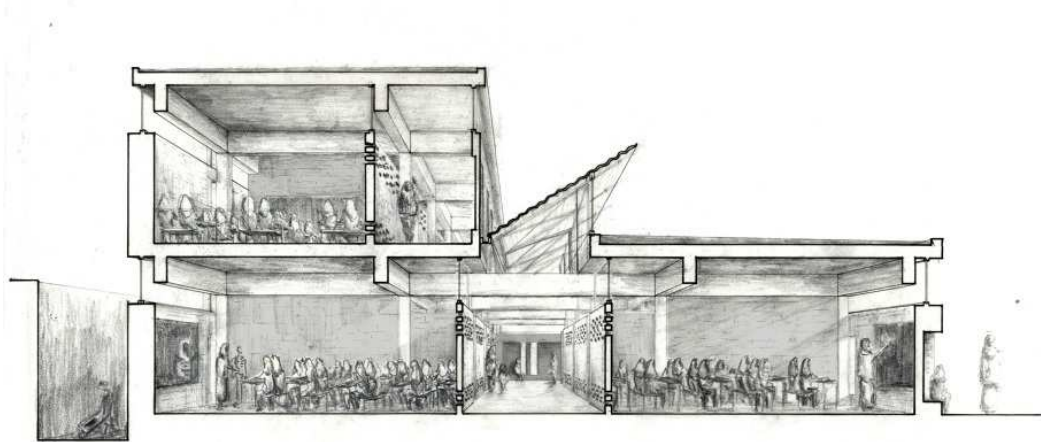


Figure 71 - Patricia Wilhelm and Bryan Brooks's Design, Classrooms' section, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

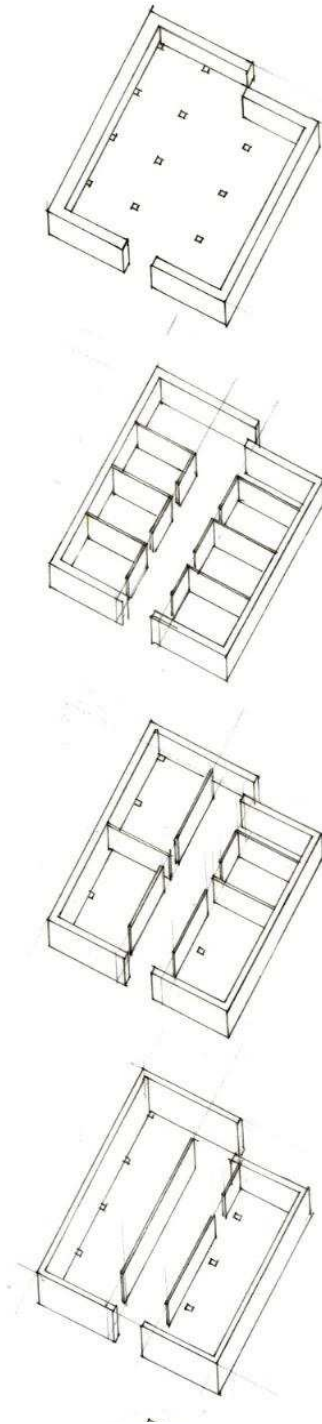


Figure 72 - Patricia Wilhelm and Bryan Brooks's Diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 73 - Patricia Wilhelm and Bryan Brooks's Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

Gohar Khaton Girls' School - Final Design: The school reopened on 2 June 2015. It is a 2,000 m² (21527.82 ft²) complex. It begins with kindergarten through grade 12 classes, serving 3500 students a day. The project's aim is to create "an urban oasis for children" and provide "comfort, sustainability, and self-sufficiency to students", (Elizabeth Golden). The school's new infrastructure is built to meet international building code standards and can accommodate for the growing number of students. According to Sahar, "this building will be exemplary, and is setting a standard for sustainable design quality, both in aesthetics and construction of girls' schools throughout Afghanistan", (Sahar Education, Building and Supplying Schools in Afghanistan). Additionally, the construction of such schools provided jobs for the community thus it helps increasing the local economy. The officials from the Afghan Ministry of Education have considered the design and noted that "the Gohar Khaton Girls' School can set a precedent for innovative design techniques that use of solar power, local products and local labor", (Sahar Education). The renovation of Gohar Khaton Girls' School is considered to be the most innovative and sustainably-designed building in Afghanistan.



Figure 74 - Final Design, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

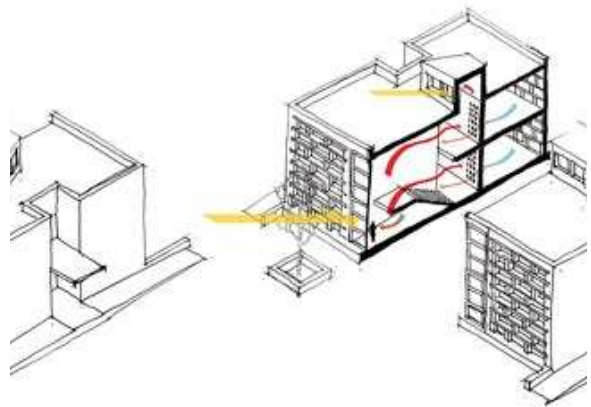
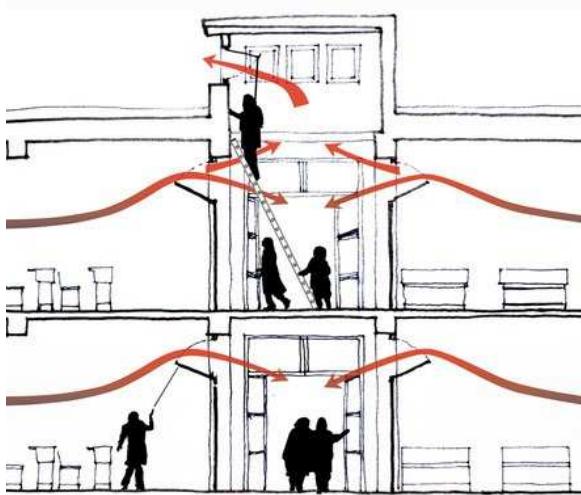
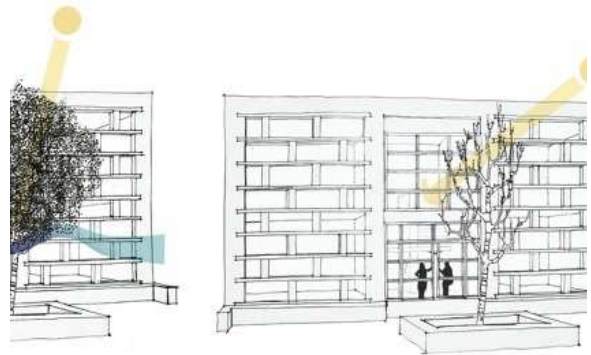
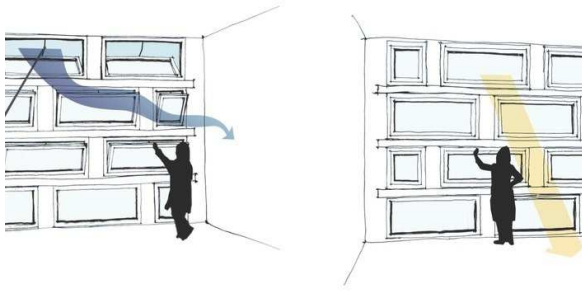


Figure 75 - Final Design, Ventilation diagram, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 76 - Final Design, South Elevation, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.



Figure 77 - Final Design, Sketch, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

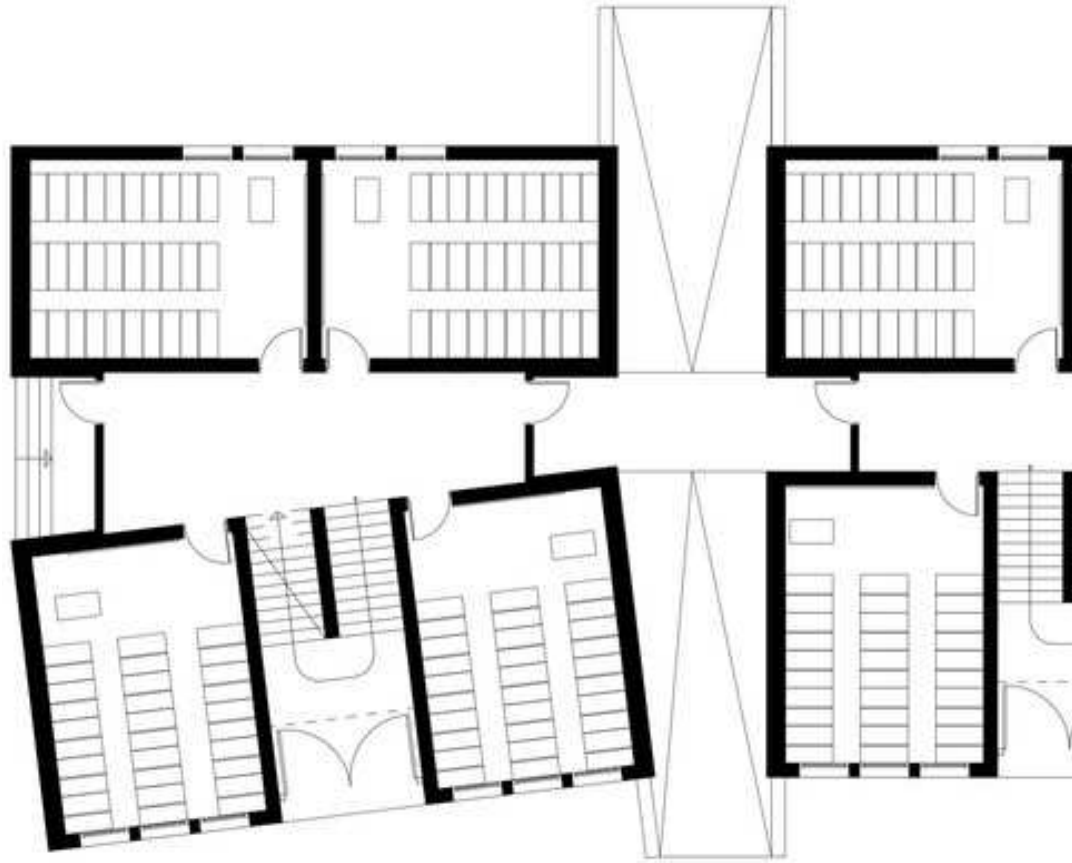


Figure 78 - Final Design, Floor-plan, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

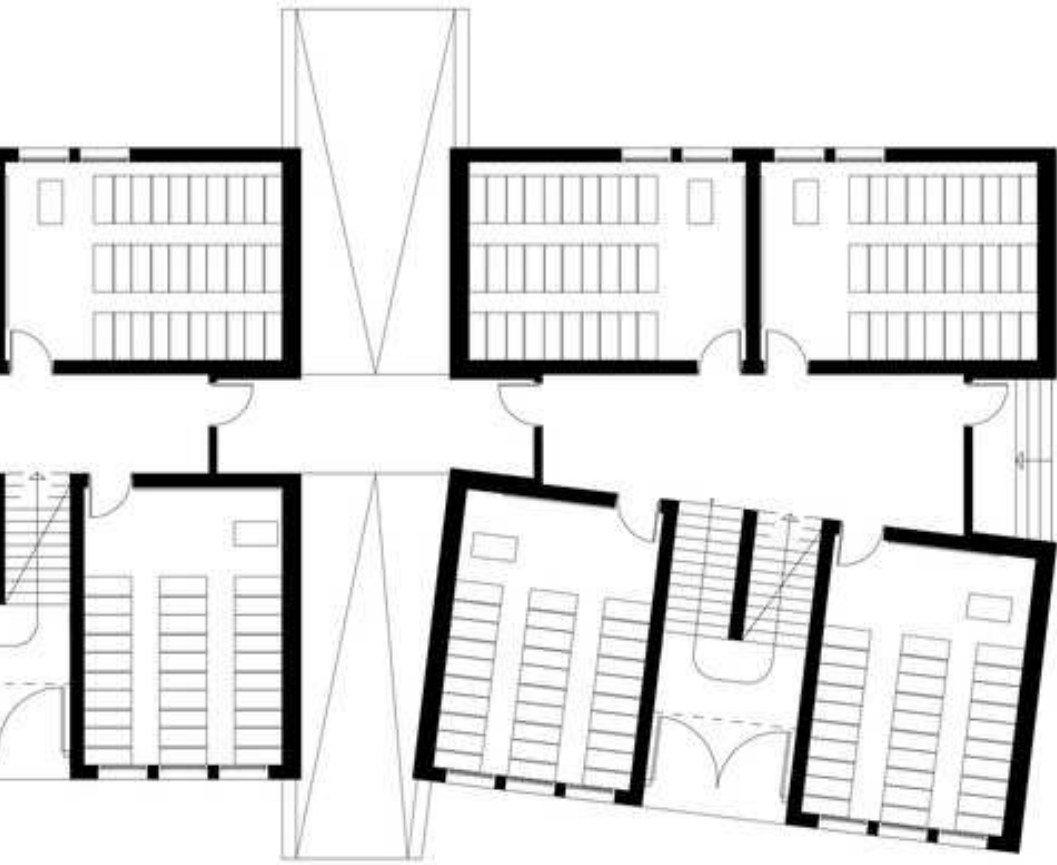




Figure 79 - Final Design, Rendered 3D view, Gohar Khaton Girls' School, Balkh, Afghanistan, 2015.

The House of Flower (Kabul, Afghanistan) It is the first Montessori School in Afghanistan. Afghanistan has about two million orphans, and government of Afghanistan struggles to deal with this. The conditions are not at all good in the government orphanages, as there is a lack of security, teachers, academic materials, heat, and overcrowding. However, some international agencies have responded to a small group of these children. One inspirational orphanage is The House of Flowers in Kabul.

The House of Flower is a Montessori-based orphanage in the city of Kabul and the first of its kind in Afghanistan. The House of Flowers was designed to follow the philosophical principles of Montessori education. The House of Flower is home to 30 children, aged 5 to 18. The House of Flowers provides a safe home for these orphaned children, "and unique educational program for these children, giving them the chance to grow up in a developmentally healthy environment and also to recover from the traumas many of them had experienced", (Canadian Women for Women in Afghanistan, House of Flowers, cw4wafghan.ca).

The staff at the House of Flower are instructed in Montessori philosophy. According to the book, *Healing Afghanistan*, the critical importance of the Montessori five freedoms is stressed to the staff at the House of Flower: a. "Children should be given the freedom to do as much as they can by themselves", (Judy Duchesne-Peckham, *Healing Afghanistan*). b. "A Child who is deeply engaged in a task should not be interrupted, not even with praise", (Judy Duchesne-Peckham, *Healing Afghanistan*). c. "Children should have freedom to choose their work and activities, within appropriate boundaries", (Judy Duchesne-Peckham, *Healing Afghanistan*). d. "Children should be free to try things and make mistakes", (Judy Duchesne-Peckham, *Healing Afghanistan*). e. "Children are inspired by beauty, grace and courtesy. This means an emphasis on quality and respect", (Judy Duchesne-Peckham, *Healing Afghanistan*). At the House of Flowers children are involved in the running of the House, such as cleaning up and helping in the kitchen. This has lots of benefits to the children and this aspect of the House of Flower is called Practical Life in a Montessori classroom. "But here isn't just a classroom; it is the children's home", (Judy Duchesne-Peckham, *Healing Afghanistan*).

Problem: One of its major challenges is that the House of Flower is not a permanent house, instead they have rented a house in Kabul. Aside from renting, the architectural design and interior spaces of the house does not match the design criteria for a Montessori school. The House of Flower is "very much like a home, with a kitchen and other home resources. Primarily the problem is the small size of the rooms which mean the classrooms are smaller than they would be in a school", (Allison Lide, co-founder of the House of Flower, The House of Flower, mepoonline.org).

The story behind the Montessori school in Afghanistan: In 2000 and 2001, Allison Lide and her partner, Mostafa Vaziri M.D., traveled to Pakistan and Afghanistan and "visited refugee camps where thousands of Afghan refugees lived wretchedly in plastic tents. There were no schools, but more than academics, these children needed the opportunity to develop, to strengthen their hearts and minds to overcome the trauma of their lives. I was reading Montessori's work by then, and felt Montessori education could serve that role like no other school; an intriguing idea but apparently impossible. In 2002 due to civil war in Nepal, we relocated to Afghanistan. I found a job in Kabul with UNICEF, and we began settling in to that wonderful Afghan culture in a destroyed yet hopeful city. One day Mostafa came home with a new idea: we could start an orphanage where I could share Montessori principles with the teachers - a refugee camp school. We collaborated with an Afghan NGO to get government approval and immediately rented a house. We bought bunk beds and household necessities. I began sharing what I understood of the Montessori principles with our new young teacher who, to my relief, got it" (Allison Lide, *The House of Flower*, mepoonline.org).

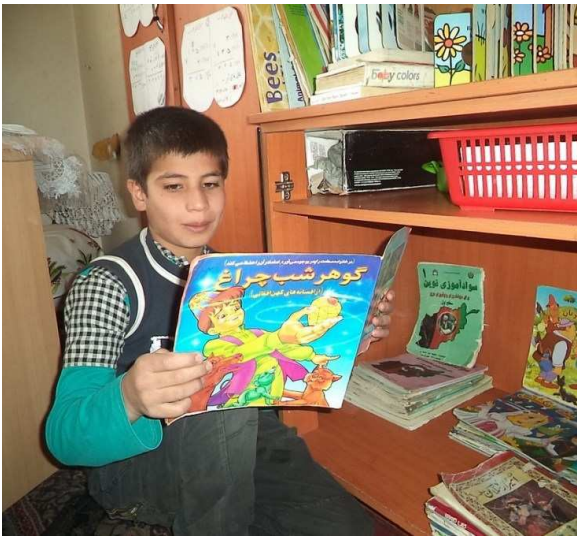


Figure 80 - The House of Flower, Classroom, Kabul, Afghanistan, 2002.



Figure 81 - The House of Flower, Classroom, Kabul, Afghanistan, 2002.



Figure 82 - The House of Flower, Classroom, Kabul, Afghanistan, 2002.



Figure 83 - The House of Flower, Classroom, Kabul, Afghanistan, 2002.



Figure 84 - The House of Flower, Kabul, Afghanistan, 2002.



Figure 85 - The House of Flower, Kabul, Afghanistan, 2002.



Figure 86 - The House of Flower, Kabul, Afghanistan, 2002.



Figure 87 - The House of Flower, Dinning room, Classrooms, Kabul, Afghanistan, 2002.



Figure 88 - The House of Flower, Student's art work, Classrooms, Kabul, Afghanistan, 2002.

A letter to co-founder of the House of Flower For my project, I wanted to reachout to Allison Lide, co-founder of the House of Flower, to learn more about the House of Flower as well as getting advice for my design. I was able to find her email contact and here is the content of my letter:

Dear Ms. Lide,

I am writing to ask for more in-depth information about the House of Flower, as described in the book *Healing Afghanistan*. My name is Mesut Sallah, and I am from Kabul, Afghanistan. Currently, I am a fourth-year Architectural Studies major at Connecticut College.

As an Architectural Studies major, I am conducting research on the architecture of Montessori Schools. I will fulfill my Senior Integrative project by designing a Montessori school in my hometown, Kabul. My experiences at home and at Connecticut College have made me decide to make the establishment of quality education for all Afghan youth my most important long-term goal.

I hope you and the Medical, Educational and Peace Organization will be able to make an important contribution into my Senior Integrative Project by providing me with information and advice. I am particularly interested in learning more about the site of the House of Flower, the building that now houses the school, and to what degree the structure was adapted in order to make it function in ways similar to Montessori Schools here in the United States and elsewhere.

I am very excited about the possibility of discussing my work with you and I thank you in advance for your time and consideration. I can be contacted directly at ssallah@conncoll.edu. I look forward to speaking with you.

Respectfully,
Mesut Sallah

My Interview with Mrs. Alison Lide (co-founder of the House of Flower in Kabul, Afghanistan), February 16, 2015.

1- Why did you decide to open a Montessori school in Afghanistan? In particular, why in Afghanistan? I felt that the Montessori approach offered an education that also addressed inner needs, not just academic learning, and that the children coming from a place of turmoil such as Afghanistan, could benefit greatly from a more holistic education to help them develop and recover from traumatic childhoods (the original idea was to start Montessori schools in refugee camps).

2- How does a Montessori school work in a conflict country such as Afghanistan in comparison to those countries that are not in conflict, such as those in Europe and the United States? The hands-on activities of Montessori education benefit the children of conflict countries profoundly, engaging their whole bodies and hands rather than just their intellectual minds. But all children benefit from such an education.

3- What difficulties are there at the "House of Flower" in Kabul, considering the fact that the city of Kabul is large, rather dangerous, and busy? The main difficulty is in the challenge of keeping 30 children safe in taking them to and from their local school (they go to the local school for basic topics and then get additional topics through the Montessori approach in the HoF.) and giving them chances

to play outside while staying safe.

4- How is the "House of Flower" different from other Montessori schools abroad, particularly, the Montessori school in Norwalk, CT? The Afghan teachers are not fully trained in Montessori techniques and so they use the basic principles but don't have all the Montessori materials and techniques since it is also hard to get materials all the way to Kabul.

But the major way is that the HoF is a home, so the Montessori principles are used 24 hours a day, not just during the school day. This means that the children have a consistent and solid environment for their development.

5- How do the Afghan children adjust to a traditional school after being in a Montessori school? They seem to do great! Most of them have skipped 1-2 grades, and the local teachers tell the House staff that the children do very well. The inner development that the Montessori approach provides, and the healthy and safe home environment, means that the HoF children are confident and calm.

6- Does the House of Flower's architectural design and interior space match the design criteria for a Montessori school? What are the problems? It's not bad! It is a home, and a Montessori classroom is very much like a home, with a kitchen and other home resources. Primarily the problem is the small size of the rooms

which mean the classrooms are smaller than they would be in a school.

7- How do you see the future of a Montessori school in Afghanistan? I see great potential! Especially in terms of reaching out more to other orphanages, so it's not just about academic education but is also about supporting children's healthy development through an environment that follows Montessori principles.

8- I am hoping to design a school for the rural areas of Afghanistan. Assuming that the curriculum could be met, do you feel that it would be possible to open a Montessori school in the rural areas of Afghanistan? (I mean to say that assuming that teachers would be provided that have the proper Montessori education, do you feel that a school in rural Afghanistan could work?) Do you feel that this would be problematic? I think the main problem, and this is also true in more developed countries, is that the approach does not look like a regular school, and so sometimes families/parents do not think the children are learning. But they ARE learning, just in a different way and at their own pace instead of all the children of one class doing the same thing at the same time. I think there is also a belief that Afghan children will not behave unless they are punished or bribed, so they may not think a Montessori approach will work. But the HoF has proven that it will!

9- Any ideas, comments or suggestions for designing a Montessori school in Afghanistan?

Incorporate the traditional aspects of culture as much as possible, especially the arts. Make classrooms large with lots of shelves, space to work on the floor on carpets as well as at desks. Windows, good natural light, and a good outdoor environment for playing, etc. It should be beautiful and inspiring; children deserve a quality environment!

A School for an Afghan Village: The aim of this design is to set an example for innovative educational space and construction techniques, considering the education challenges of Afghanistan, sustainable architecture, the use of local materials and cost. This Montessori-Inspired design can set a precedent to the government orphanages and schools. The design of this school aims merely to meet the needs of the moment.

Design: "Educational reforms always take place at the margins of a society or culture", (Robert McCoy). Schools are usually the means of retaining and cementing the current status quo. This project seeks to create a Montessori-inspired school, taking into consideration key aspects of the Montessori methodology, cost effectiveness, locally available materials, climate and efficiency. Uncertainties of the larger socio-political context require innovators to think in terms of "sustainability" as one of the key values of any such project. The history of educational development in Afghanistan is replete with projects begun with great visions but which lay abandoned or in despair because they could not be sustained by the local culture and economy. In a country such as Afghanistan, every resource needs to be treated sustainably and locally, particularly in remote villages, where the presence of electricity and water must be presumed unavailable (Vanessa Quirk, 4 Things Afghanistan Can Teach Us About Healthcare, Archdaily), and the availability of construction materials in the country is affected by conflict on the borders that cause the material's availability and price to fluctuate dramatically (Gohar Khaton Girls' School, united4design.com). Therefore, my proposal for this school tries to integrate an environmentally conscious design, incorporating the traditional aspects of culture. The structural design of the schools takes its cues from the Afghan Kuchi's tent (a tensile structure), locally known as *Khaima* in Persian or *Kezhdey* in Pashto [Figure 89].

The design of the school intends to create a fun and engaging learning environment. The school takes its circular layout design layout from Fuji Montessori Kindergarten in Japan. According to Takaharu, architect of Fuji Kindergarten, "children love to run in circles", (Teditalk, Inside the World's Best Kindergarten). In addition, the Ministry of Education in Afghanistan requires that a school complex should comprise of a compound wall for privacy and security. Instead of compound wall, the circular layout of Fuji Kindergarten embodies notions of security, playgrounds and privacy. A circular layout with continuous *Khaimas/Kezhdeys* around the entire circle maximizes the space available for an enclosed and secure courtyard. *Khaimas/Kezhdeys* act as compound wall, allowing the pupils complete freedom within the school courtyard [Figure 92, 93].



Figure 89 - Traditional kuchi tent, Afghanistan.

The courtyard includes gardening and activity space. Building playgrounds in a war-torn country brings satisfaction and contentment. Greening of school compounds is highly recommended for a school design by the Ministry of Education. The courtyard would be enriched with local plants and trees. The trees around the courtyard provide shade during the hot days of summer. Studying under these tensile structures is not new to students in Afghanistan. It has been a familiar educational model in Afghanistan in the past decade. Many Afghan refugees have also used these tensile structures for living inside and outside the country. However, the problem with those tensile structure schools are that they do not have any foundation (floors) for students to sit, there are no playgrounds or any gardens. The Ministry of Education have failed to satisfy its own requirement to provide a safe environment for the students (there are no compound walls or any other secure source to provide a safe environment). The quality of the tent materials are not good as well. Most importantly, these tensile structures are not set according to an architectural program considering the site and weather. Each individual tensile structure is placed randomly, instead of having an order.

In my design, the circular layout allows for the creation of a continuous and connected Khaima/Kezhdey. The benefit of connecting the Khaima/Kezhdey is that it would be all one structure and it would provide clearance within the Khaimas/Kezhdeys to move and observe other spaces.

In this circular layout, other programs of the schools such as offices and restrooms would also be placed. To create secure areas for the offices and restrooms, brick walls must be built up to the height of the Khaima/Kezhdey on all sides.

The interior of Khaima/Kezhdey provides a home-like environment and it is better on the interior of such a structure to embody the "home-away-from -home" atmosphere that would welcome both students and staff. The design of this school also takes into consideration safety of the building against earthquakes. Khaimas/Kezhdeys are safe in earthquake areas.

Location: The project also intends to define a sense of place and community for remote villages in Afghanistan. Locating the school within the villages would provide more security for the school and it would reduce the distance children must walk to school each day. A better school structure in Afghanistan is one that is adopted and maintained by the people who surround it.

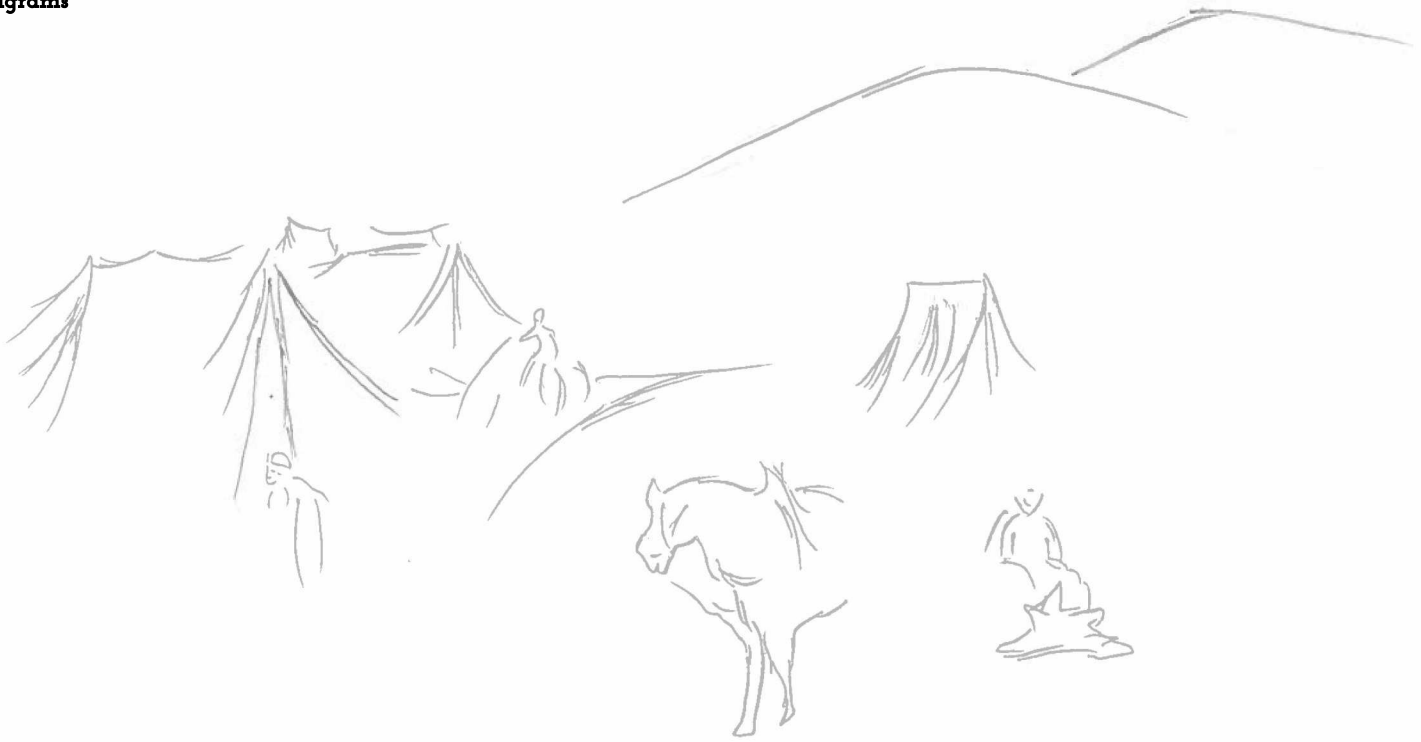


Figure 90 - A small Afghan village with Khaima/Kezhdey. [Drawing by Mesut Sallah].

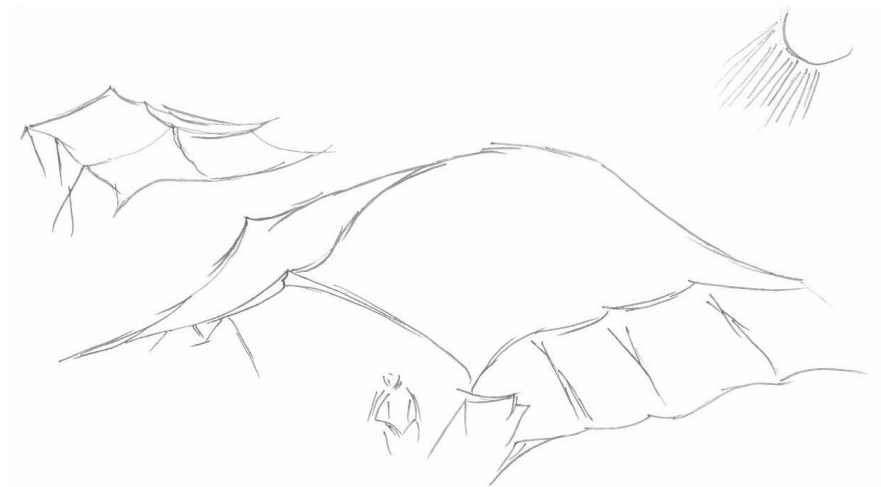
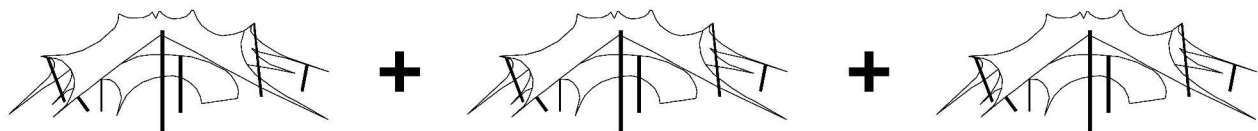


Figure 91 - Kuchi Khaima/Kezhdey. [Drawing by Mesut Sallah].



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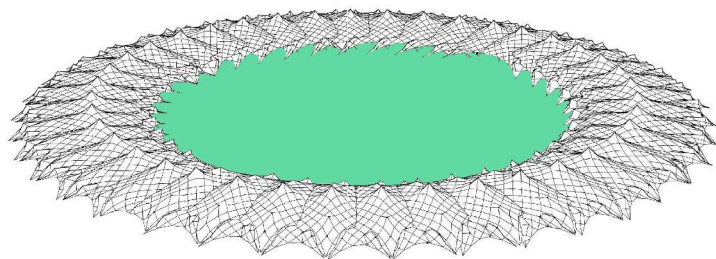
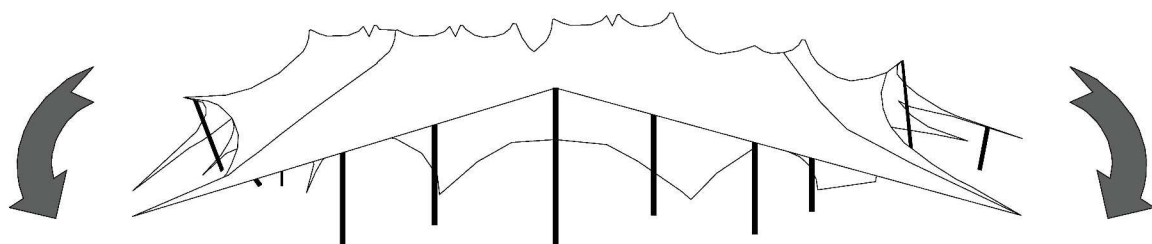
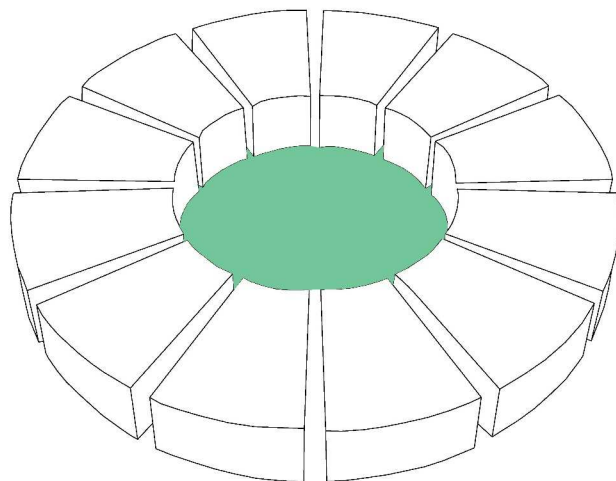


Figure 92 - Mesut Sallah's Final design diagram..

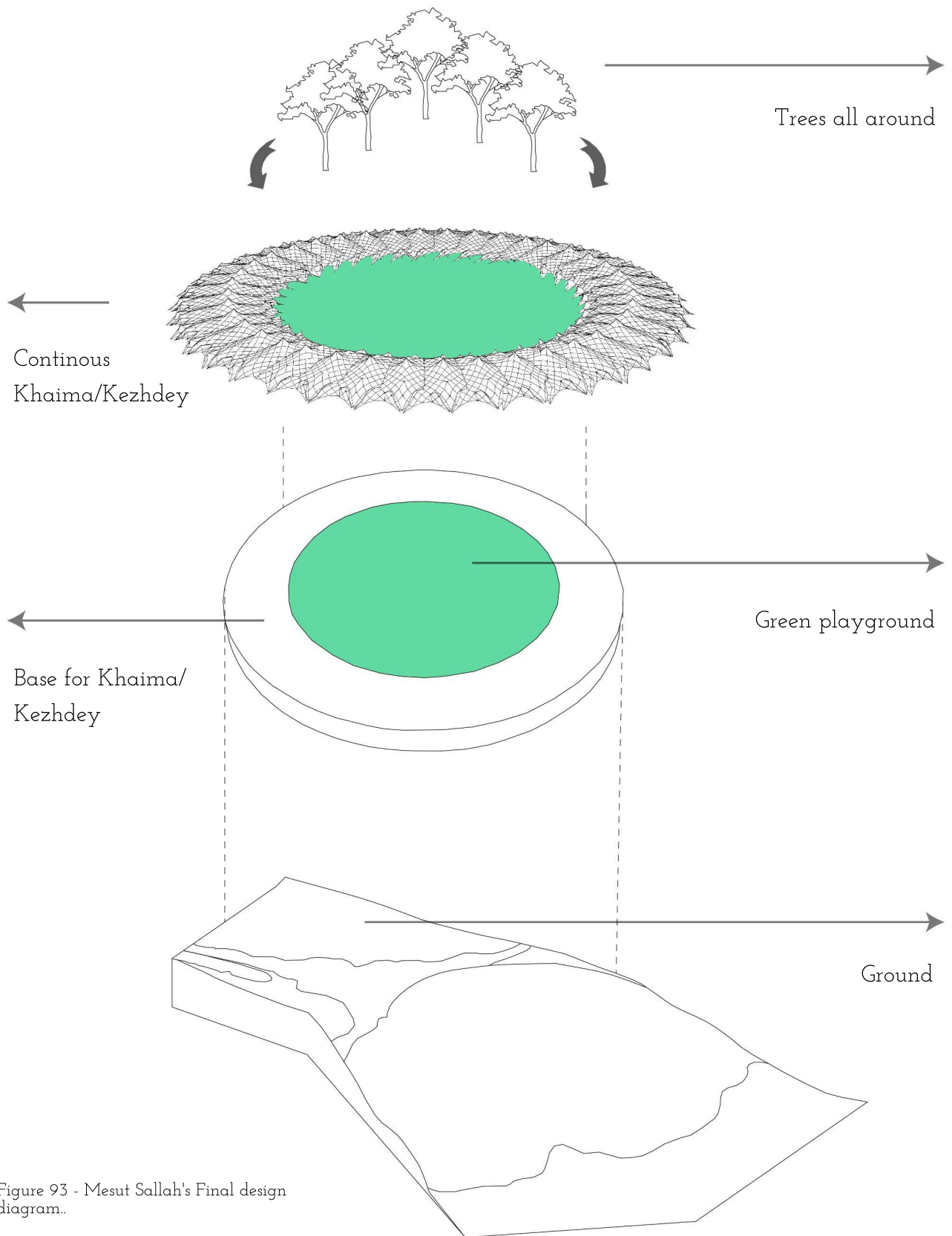


Figure 93 - Mesut Sallah's Final design diagram..

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