8th ICBR Lisbon | Nov 2018 Building 4Humanity

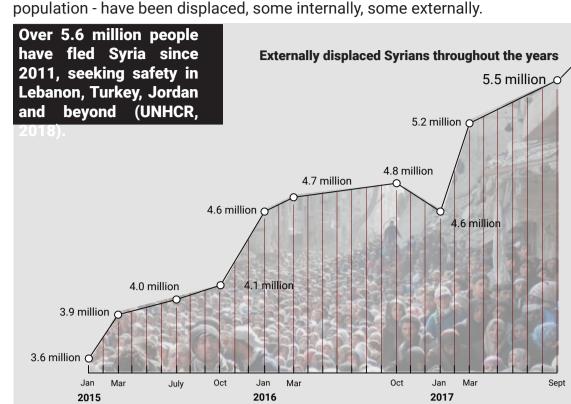
DESIGN COMPETITION Resilient Projects (Student Teams

Team Members: Selin Şahin, Kiyarash Borna, Abdelrahman Ibrahim, Helyaneh Tabrizi, Yıldız Kılınçer

Team Code: **B4H-DC3169** Project Location: Reyhanli, Turkey

REFUGEE CRISIS

Since the beginning of the civil war, over 12 million - half the country's pre-war



TURKEY



Syrians at a refugee camp - a temporary measure for a permanent problem

Turkey alone has welcomed a staggering number of 3.6 million Syrian refugees over this period of time and this number excludes the many more unregistered

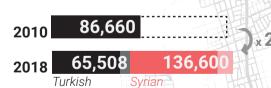
OVER3.6 >90% live outside of camps in urban / peri-urban areas

are women and children (most vulnerable group)

40% OF SYRIAN CHILDREN HAVE NO ACCESS TO EDUCATION

REYHANLI

Reyhanlı, a small border town in the province of Hatay, located on the southeast of Turkey, is the main gate between the two countries. Thus, the town becomes the main entry point for the incoming surge of refugees as the civil war escalates. Over the span of time, a portion of refugees move on to spread to different countries -using Turkey as a bridge-, some move more inward into Turkey settling in different cities, while the majority are still housed in camps and some choose to stay in Hatay, the main burden being on Reyhanlı.



the population has socio-economic more than doubled // problems HIGHEST REFUGEE TO LOCALS RATIO IN TURKEY; SOME STAY IN THE CAMPS, SOME LIVE IN TOWN

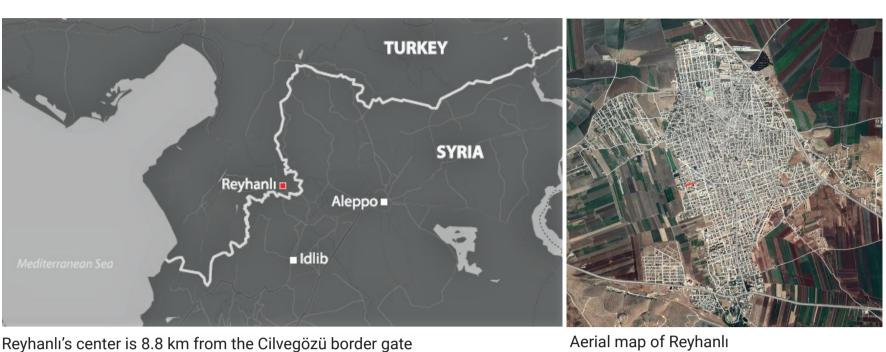
PRIMARY PROBLEMS

~380,000

ACK OF INFRASTRUCTURE & FACILITIES FOR: • EDUCATION • HEALTH • SHELTE



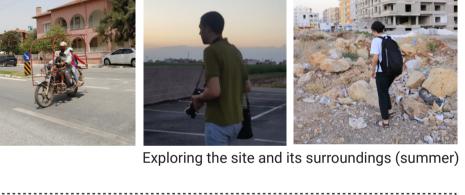
Syrian families living in an old closed down factory

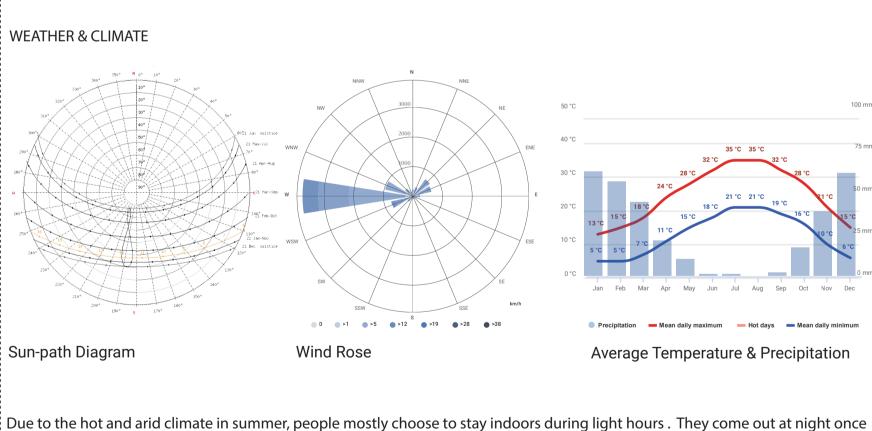




Aerial view of the site and its surroundings (SITE: 30m x 160m)

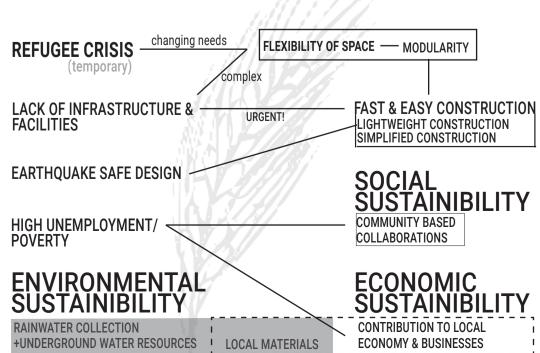






the sun settles as it becomes much cooler in comparison.

STRATEGIES



2/FLEXIBLE PROGRAMME 3/MODULARITY 4/INNER COURTYARDS OF VARIOUS SIZES **5/LIGHT GAUGE STEEL FOR** LIGHTWEIGHT, FAST AND **EASY CONSTRUCTION** 7/SIMPLIFIED JOINT 8/COLLABORATIVE CONSTRUCTION 9/LOCALLY SOURCED MATERIALS 10/TRADITIONAL CRAFTSMANSHIF 1/CREATION OF A NEW INDUSTRY SUPPORTING EXISTING INDUSTRIES 12/RAINWATER COLLECTION + WELL ON SITE

1/PARTICIPATORY DESIGN

PARTICIPATORY DESIGN

The building programme was generated together with refugees, local administrators, NGOs and local communities. Each party had a slightly different perspective which helped us better understand the problem as a

EFUGEES in LOCAL ADMINISTRATIONS ROS LO

BUILDING PROGRAMME

-Classrooms / workshops (either large adaptable or individual smaller class rooms)

for **language courses** among others.

-Multi-purpose hall to be adaptable to seminars, presentations and small performances, public meals, etc. (commercial common kitchen and stage can be added)

-Day care unit for children

-Accommodation for bazaar / retail units or kiosks

-Offices for administration, NGOs, social workers

-Meeting room(s) which can also be used for vocational training -Library with computer lab

-Enclosed outdoor areas for different uses (sheltered area which may reduce because of cost your overall enclosed buildable area)

-Production areas integrated with workshops and sales areas (weaving, cooking, jewelry...etc.) -Sports hall

-Temporary transitional housing units /accommodation units for families,



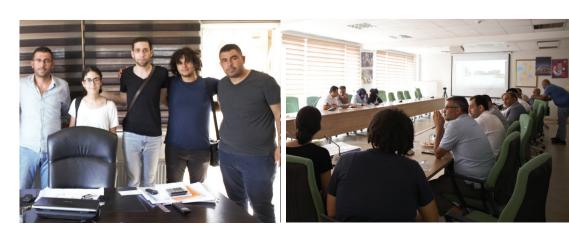






Participatory design was also important in this project in order to involve people in the project and to give them a sense of belonging and ownership.

We first went one by one and talked with people individually. Later, a large meeting was also organised, made up of representative from different groups. The programme and the possible solutions were debated as every party had different ideas and approaches.



Meeting with local architects

Waiting for the general meeting to start

COLLABORATIVE CONSTRUCTION

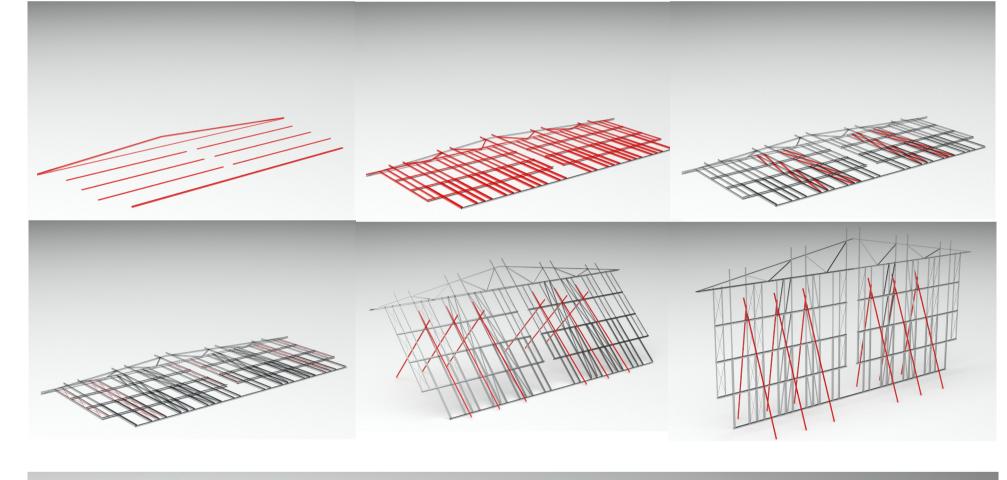
The construction method chosen (lightgauge steel with simplified connections) allows for fast and easy construction. Lightgauge steel is a lightweight material which is strong against forces, can be made fire resistant and is affordable. It's additive, adaptable compatible features increase the time-cost efficiency and stability of the construction. Modularity is provided by using same type of profiles and connections. Simplified connections enable refugees to build easily and encourage them to participate. This way, they can learn something new and make money. Unemployment is lowered. It is also a model as to how they can reconstruct destroyed Syrian cities when they go back to their country. The final details of the building, the internal furnishings, etc. are designed to make use of the local/geographical craftsmanship. Everyone, especially women can also participate by producing these elements (weaving, tapestry, mosaics,etc.) even from their own homes.

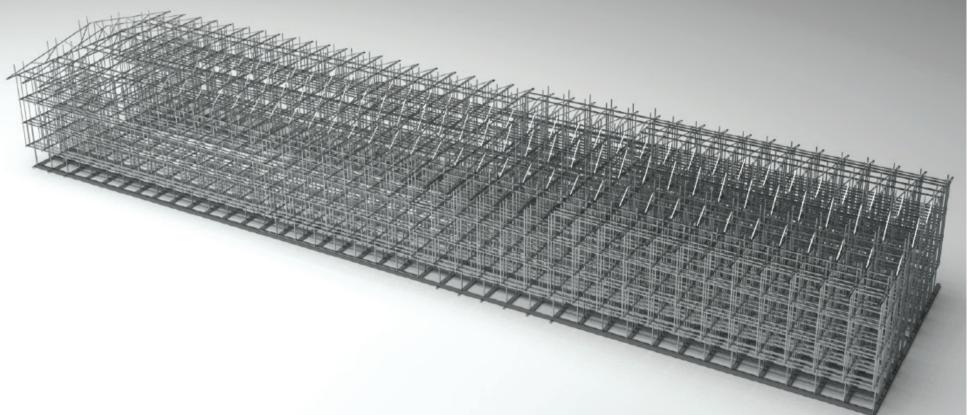
When people participate in the design and construction of the center, a sense of ownership is created. The sense of ownership encourages When people participate in the design and construction of the center, a sense of ownership is created. The sense of ownership encourages helps break the language barrier. Culture clash is reduced by increased common ground for interaction between

Wheat is locally grown, very abundant and cheap; it can be used in one of the layers of the building. Local materials such as straw and mud decrease the cost of construction and the carbon footprint. There is a light gauge steel factory in Iskenderun, which is only 70 km away from Revhanlı.



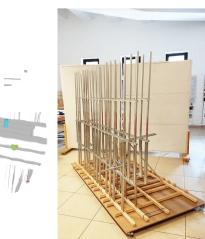
Section assembled on the floor and erected:





Structural Models: Proposed simplified connections:





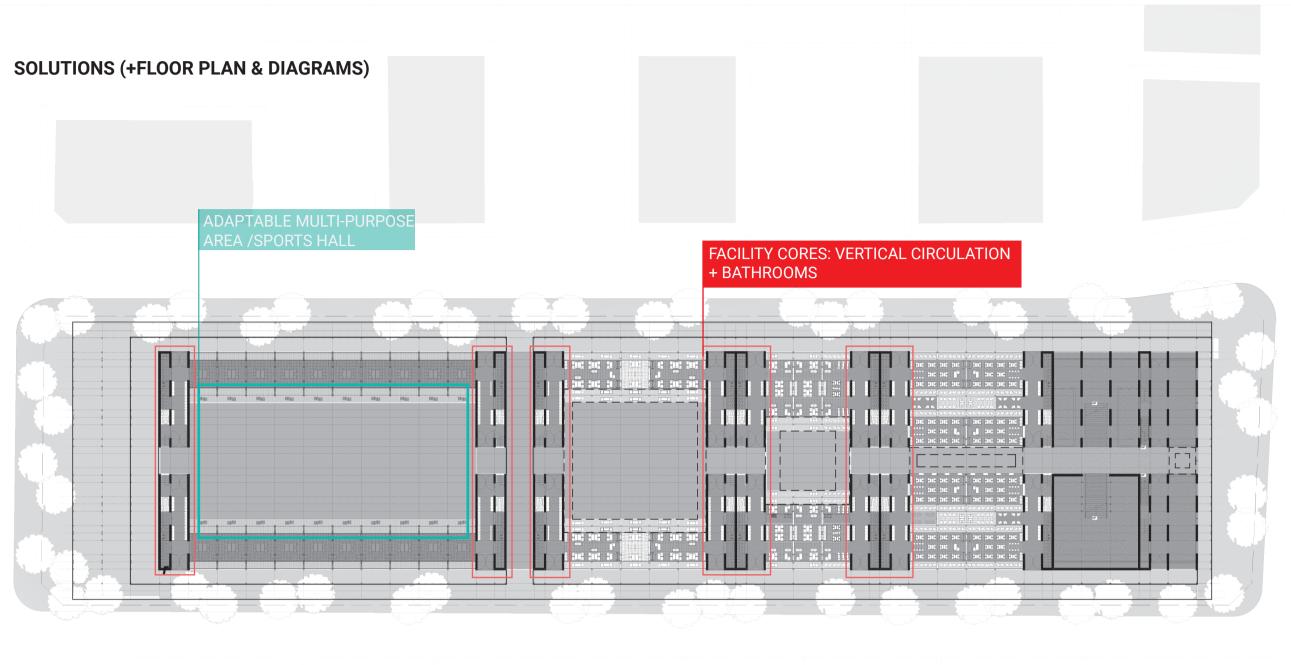
Team Members: Selin Şahin, Kiyarash Borna, Abdelrahman Ibrahim, Helyaneh Tabrizi, Yıldız Kılınçe

Supervisor: Chen-Yu Chiu University/School: Bilkent University, Turkey

Project Location: Reyhanlı, Turkey

Team Code: **B4H-DC3169**









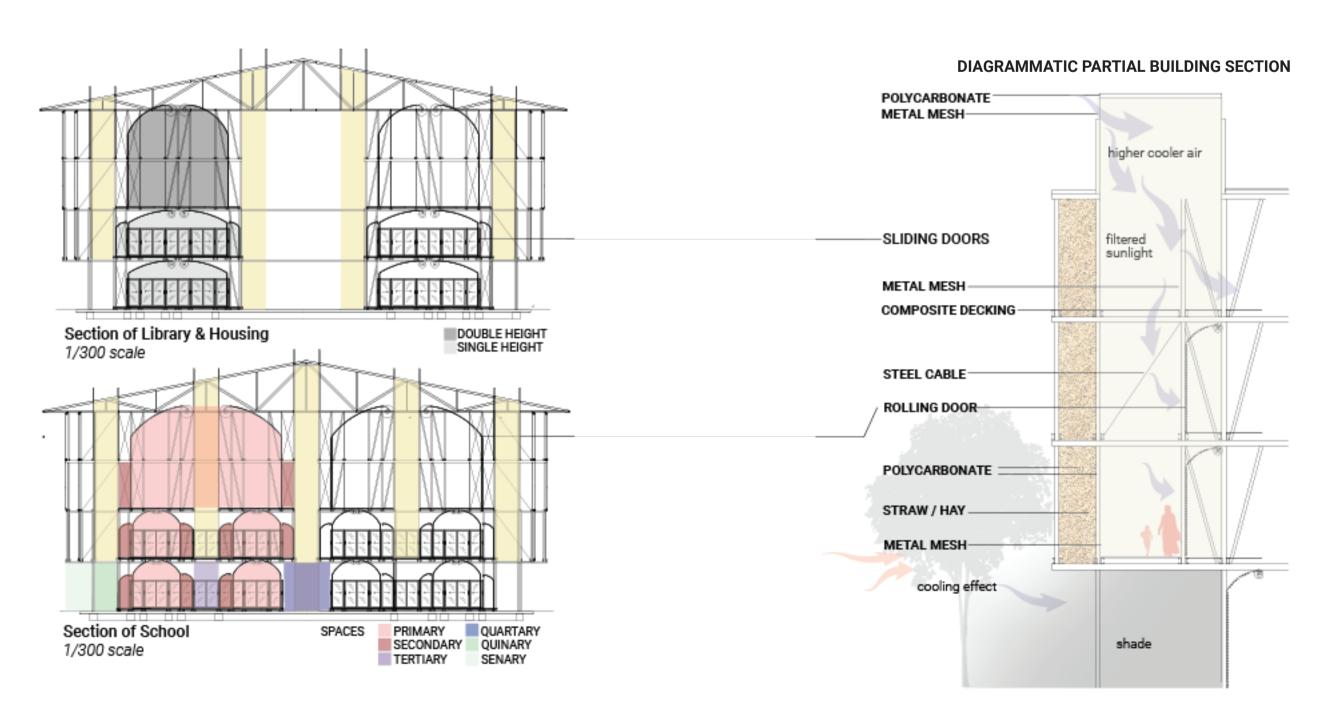


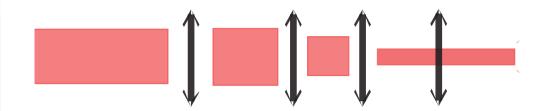
Structural Sections

1/500 scale

OTHER COMPONENTS & MATERIALS







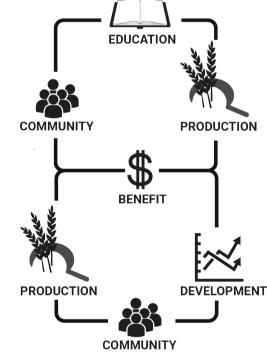
There is a strong axis and progression of movement. Bilateral symmetry is defined by that axis. Internal courtyards are very important in the region's culture: Both for Syrians and the Turkish people. They are also very useful in organizing the space and achieving a more flexible plan.

The facility cores seperate the building into different zones; in each zone the structural section changes, providing diferent sized functional spaces. Each section is bilaterally symmetric within itself, as well as perpendicularly to the main axis. The amenities having been located inside allow for greater flexibility.

The orientation of the vertical movement is a religious/spiritual one- towards Ka'bah, an important factor of the religion of the people the building was designed for.

Through the main axis, one encounters sliding doors as space seperators, while perpendicular to that are rolling doors as seen in the sections. The two rolling doors defining a space make reference to Islamic architecture. Both the sliding doors and the rolling doors can be opened up combinining spaces to achieve a larger volume. Also the building can be thought as being somewhat semi-permeable as by opening the rolling doors on the ground level, access can be arranged from any direction. Again, to achieve higher flexibility throughout the building, some spaces are designed having a double height ceiling.

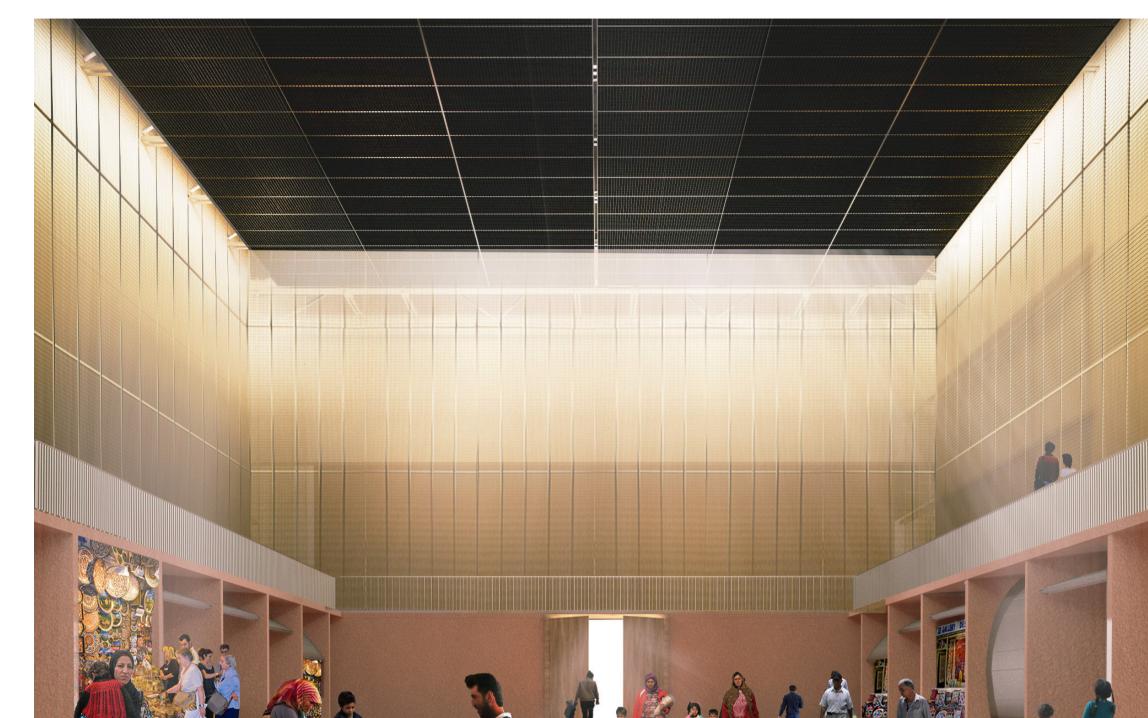
CREATING A NEW INDUSTRY



The program welcomes people from the community. It will provide people with an education that will give them an opportunity to work, earn money and contribute to society. After the education is complete, in the form of a workshop, a place to work and tools for the job will be provided. The results of the workshop will be exhibited and sold in order to gather money, maintain the program of the facility (teachers, maintenance for the building, etc.) and the livelihood of people.

After the system has stabilized itself economically, the exceeding benefit will provide a chance for refugees to build their careers based on their learned abilities. In return they will open their own workshops and spread their knowledge, contributing to society and the economy.

LOCAL CRAFTSMANSHIP & PEOPLE COMMUNICATED WITH



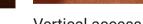
Multi-purpose hall

Classroom

Mosaic

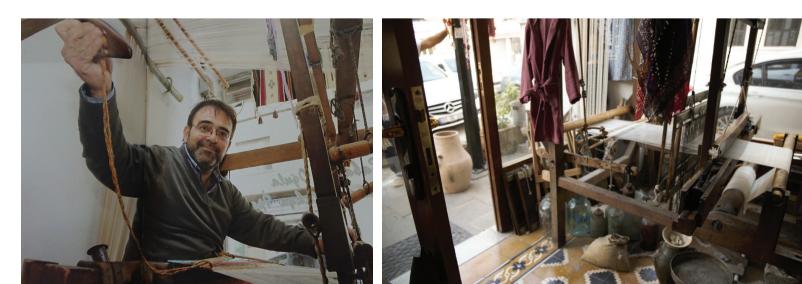
RENDERS







Vertical access







Basket Weaving









Carpentry

Tapestry Weaving