Description of the project

WHAT WE HAVE DONE UNTIL NOW:

- We have a team of brilliant architecture and civil engineering students.
- We started our training sessions in February 2015.
- We reached an agreement with a family in “Abu-Qarn” district to re-build their house as our first prototype.
- We have a board of advisors, formed from intellectual consultants.

OUR FUTURE PLANS

Once the first prototype is successfully achieved, residents will own the rebuilt homes through offering flexible payment arrangements in addition to a guaranteed income. Together, participants and residents will establish a social business, thus it will create a source of income.

Hand Over Team

Team member working on the design proposal. Photo credit: Hand Over Team

Team members agreeing on the code created by them about how to work efficiently. Photo credit: Hand Over Team

The instructor during “Team Building” session. Photo credit: Hand Over Team

The instructor and team members during designing session. Photo credit: Hand Over Team
Collaboration with disadvantaged people

Hand Over Project was established to address the informal areas that form 60% of Egypt’s housing. With diversity in social, financial, educational, cultural, and religious contexts, the project aims to create sustainable communities. The process of the Human Centered Design (HCD) project starts with a specific design phase: Hear, Create, and Deliver.

The process will guide our team from understanding the needs of the community to creating prototypes and implementing plans. The Hear phase involves gathering data, understanding the community's needs, and identifying opportunities. The Create phase focuses on design, where we work together with the community to develop solutions. The Deliver phase involves implementing the design and measuring its success.

1. Source (Human-Centered Design Toolkit)
Achieving sustainability can be through many different aspects. In Handover Project we chose to build the house with rammed earth, which is in our opinion the most sustainable solution. This choice was made based on many different factors.

Rammed Earth is a sustainable and green method used to build houses of wall bearing type. A mix of sand, clay and gravel are rammed into wooden forms and compacted creating the walls of the house. The roofs consist of main and secondary beams of wood covered with straw and a mix of clay and lime for water protection. Hopefully we would manage to decrease the carbon footprint by using this environmental method of construction.

In Ezbat Abu Qarn, there are many available local materials which are used in the construction of rammed earth like clay, sand, gravel and wood. Using these local materials would benefit the area as well as decreases transportation costs and carbon footprint. Ezbat Abu Qarn has factories that recycle cardboard and paper which we thought would be useful for thermal insulation in roofs since cardboard is a low conductor of heat.

People of Ezbat Abu Qarn are very “handy” people. The people living the house that we hope to rebuild using rammed earth were the ones who built the house they live in. Although they have low experience but they managed to build the house and learned different ways of repair and maintenance. Rammed Earth is a very simple construction method that can be easily taught to anyone and special skills are not a necessity. Teaching the family the technique would be easy so in the future if they wish to build another floor to their house for their children, they would be very capable of doing so. If the family managed to master this technique it might be a future source of income for the family.

Natural methods of ventilation and lighting are a main aspect that we focus on. After knowing the sun and wind directions we decided on having a court in the middle of the house in order to allow a large amount of air to enter into the house. The east-west rammed earth walls are also a very good method of cooling on the inside of the house and provide very high thermal insulation since Egypt is a very hot country. Using plastic bottles on the roofs which capture sunlight will be used in order to provide natural daylight.

After thorough study of the site history and culture we were proven that rammed earth is the most suitable solution since the land is a historic one. Having the exterior design in that way was since many of ancient mosques are located around. Also when we talked to the owners of the house they described designs that are basically Islamic designs of arches and so. Since the technique is very easy we hope that the whole area would start noticing this house in particular. Hopefully, people of Ezbat Abu Qarn would apply this sustainable solution to their houses and have the whole area with rammed earth houses in the future.
When using the context of “human rights,” we are talking about something basic. Every person is entitled to certain fundamental rights, simply by the fact of being human. These are called “human rights” rather than a privilege. Recently with the deterioration of Urbanism the informal places are growing and the houses became Unfit for human life. Thus, comes the Hand Over project, which one of its goals is to provide the basic habitat for the human being, and to help the people living in Ezbet Abu Qarn to live the life which is a minimum basic right for every human being. These basic needs being access to basic sanitation like private toilets and clean running water, access to improved water source, feeling secure in their house hold by having materials that can't be easily bypassed like mud bricks and unlike cardboard, having a durable house that can withstand earthquakes and natural disasters, and having sufficient living space in terms of public and private need. Furthermore, Referring to what was mentioned in “Planet of slum” written by Mike Davis, Lately there has been a revolution in terms of NGOs’ work in the third world cities, and it reshaped the urban development. Therefore, we are trying to train the people living in the slums to build their own houses, thus, giving them the tools to provide the basic human need for themselves.