



POLITECNICO  
DI TORINO

# Honors thesis

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COURSE OF:  
ARCHITECTURE CONSTRUCTION CITY

*Abstract*

**HORMA. Build a hole.  
Project for Gaza City North.**

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## ABSTRACT

The thesis work concerns the design of a new expansion neighborhood for Gaza City North.

The request was received as a result of the lack of housing and public functions in Gaza due to the frequent destruction and damage caused by the continuation of the Israeli-Palestinian conflict. The willingness of the municipality was to create a district with a high density of population equal to 4500-5000 people per km<sup>2</sup>, providing residences of different sizes depending on the economic availability of the occupants in addition to various public functions. The area, characterized by a large urban void, is located in the northern part of the Gaza Strip and covers a surface area of approximately 650,000 m<sup>2</sup>.

For the structuring of the project it was investigated in depth and reinterpreted the Middle Eastern urban and social tradition as well as the study of the socio-political context of the place.

Attention was focused in particular on the principles of privacy inherent in Arab culture and on issues directly related to the conflict such as water scarcity, food difficulties or the coverage of electricity needs.

An overall masterplan of the area is drawn up, deepening the structuring of a school and in particular of the housing model which was divided into different aspects according to the different categories of population for which it is intended.

Attention to the principles of bioclimatics is a fundamental part of the project, as its composition matrix. The section and orientation of the road influence the sunshine of the surfaces and influence the urban microclimate. The entire area was divided according to the diagonal axes facing north-west. This orientation, which laid the foundations for the roadway structure, was adopted as a privileged route along which the only fresh breezes of the Gaza Strip from the Mediterranean Sea blow.

The most important study of the thesis project concerned the housing model. An important component of the housing model was aimed at self-supporting food for which cultivation tanks were designed for use as urban gardens located on the southern face of the building. Taking into account water scarcity, a rainwater collection system and a waste water recycling system have been implemented through phyto-purification tanks. Thanks to these systems, water requirements for watering gardens and toilet flushing will be met at least in part. Working with a very introverted geometry, the lighting problem resulted in a pivotal theme solved by the insertion of skylights and some double-height spaces.

Restrictions on the import of construction materials impose to use a material that can be sourced and processed on site: earth, a material that has a strong tradition of use in the Middle East context.

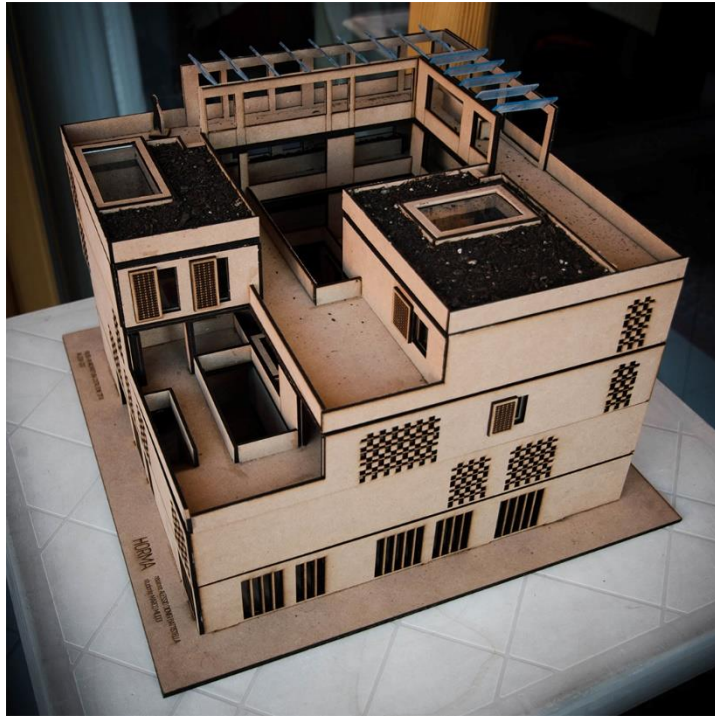
In order to learn empirically about construction techniques in raw earth, a part of the thesis was carried out abroad, in Portugal, where a one-month workshop was held to build a small building made of pressed earth bricks.

The knowledge acquired during the workshop was subsequently integrated into the composition of the housing model of the thesis project.

The last part of the work concerns the creation of a graphic manual of instructions useful for understanding the steps needed to undertake the self-construction of a small dwelling. The regulation of this practice is aimed at mitigating the problem of slums and referring to that section of people which does not have the economic capacity to build their shelter.



Masterplan



Maquette



Portuguese workshop

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