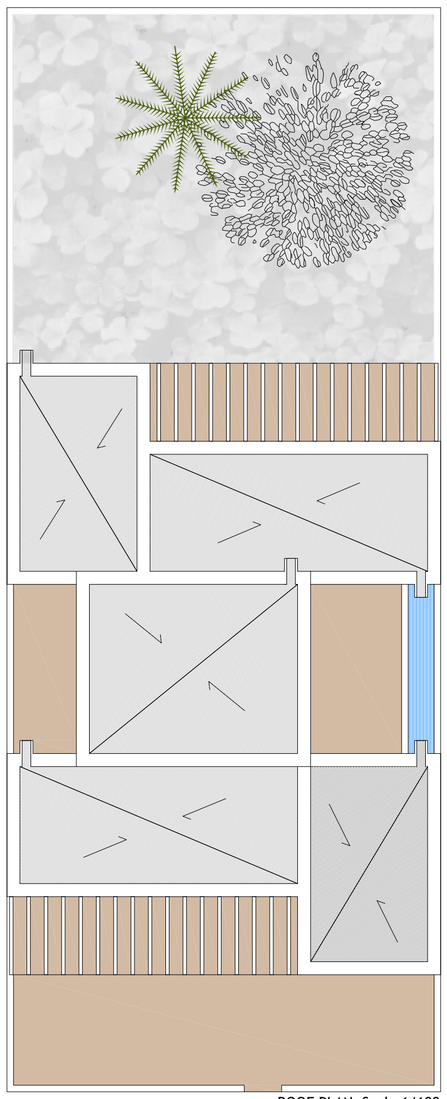
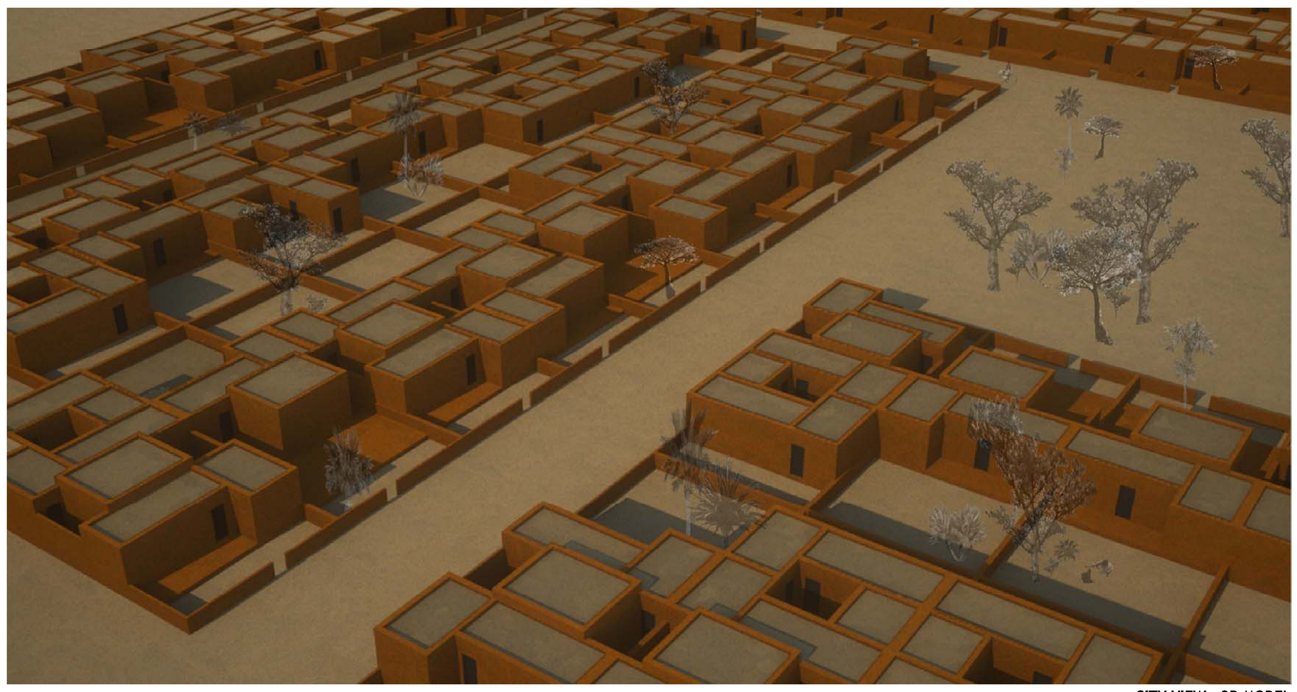


ROOF PLAN Scale 1/100

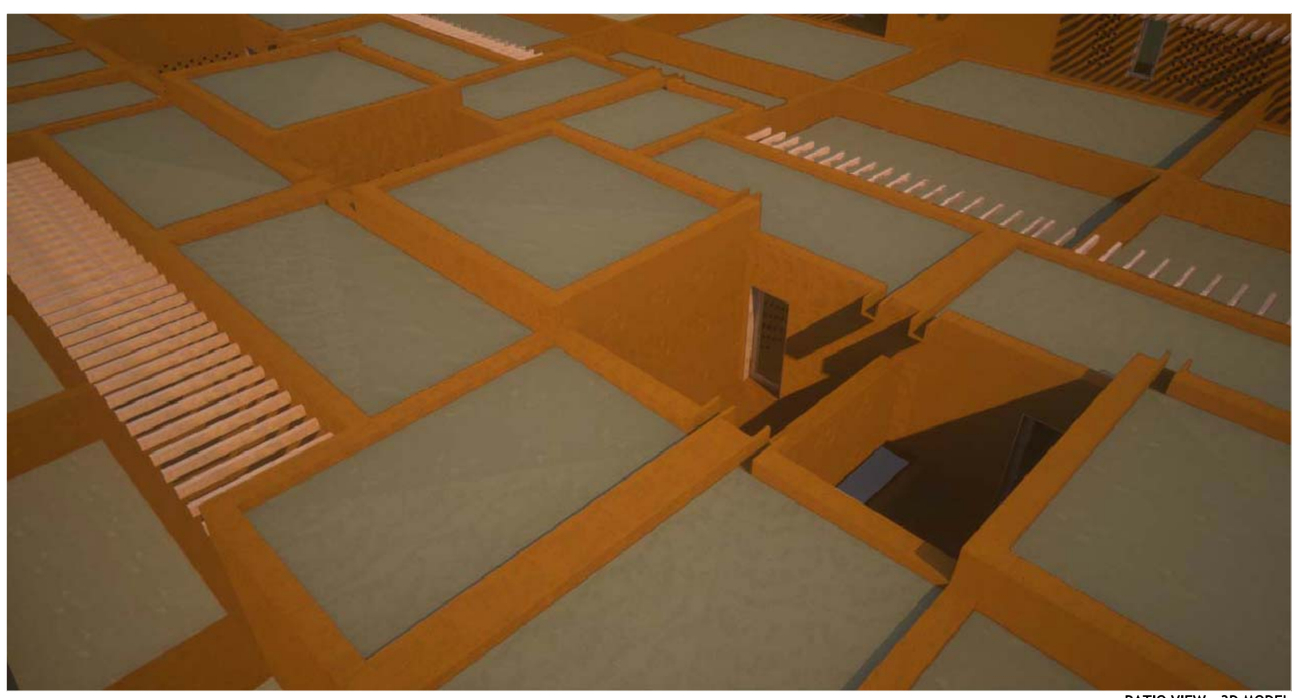
CITY MODULE PLAN Scale 1/1000

HOUSE VIEW - ENTRANCE - 3D MODEL

HOUSE VIEW - KITCHEN - 3D MODEL



CITY VIEW - 3D MODEL



PATIO VIEW - 3D MODEL

STREET VIEW - 3D MODEL

BASIC STRATEGIES

Our project aims the recognition of how natural, historic, and community cycles work, and uses these aspects to emphasize our design and the technical solutions we have chosen.

The house is positioned on the lot in a way that allows every resident to have a small front yard, acting as a buffer between the street and the private space, as well as a backyard, which can be used as a vegetable garden or for the expansion of the building.

In this project, the whole is made of smaller parts, which can be added or subtracted according to the needs of each of the inhabitants. Each of these parts is connected to a courtyard - "patio", as the whole is organized around a main one, be it a traditional "patio", or a covered "patio". Patios and building geometry are crucial to aspects to achieve efficient natural ventilation and healthy indoor conditions.

There are no corridors in this house. As we can find in a large set of examples that use the "patio" as distribution space, in this project, it is the living room, which plays this role. With its perforated walls, the living room works as a covered "patio", deeply connected to the exterior and interior, at the same time. The living room is at the crossing of the two main axis, that guide the spatial distribution: outside "patio" - inside "patio" - outside "patio", and entrance - inside "patio" - kitchen, creating an *enfilade*, or visual sequence, going from the front porch to the backyard. As we can also find in many examples, this house encloses itself regarding the outside, by having openings only towards the patios, as a way to keep the intimacy of the most private spaces.

ECOSISTEM / COMMUNITY / ECONOMY

A responsible design is not only about incorporating the latest green technology into the buildings. Environmental sustainability is getting the most of design with what nature has to offer, considering the effects the new buildings will have on the environment.

Our design tries to maximize the use of natural resources on site in order to allow the "do it yourself" techniques, minimizing costs and reducing the environmental impact.

The house is to be built in compressed earth blocks, commonly know as adobe, as well as all the mortars and plasters are to be earth based. Adobe is one of the oldest building materials in use, and is a good thermal mass holding heat and cool quite well.

By having a small number of openings combined with the use of perforated walls, allows the house to be fresher during the summer. During the mild winter, the fact that the building is made of several modules increases the area of the wall exposed to the sun, thus providing natural heating to the house. Additionally, by turning the modules into volumes with different heights, we were able to design a system that allows the re-usage of rainwater for the gardens and backyards.

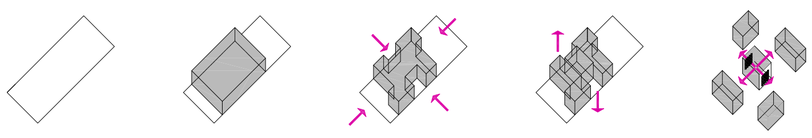
This combination of traditional construction techniques, with materials that exist on-site, and simple strategies to obtain from nature what is necessary to satisfy basic needs, while trying to produce a minor impact on the environment, is something that our ancestors have done for a long time, and we seem to have put aside for the latest "flavor/technology of the moment". Yet, these ways are proved worthy by experience, and we are convinced they could be part of the solution for the rapid transformations happening in Luanda nowadays.

According to the construction techniques we believe are most suitable for this project, we estimate a construction cost of 18500€.

SHAPPING THE HOUSE

BASE FOR DESIGN

We are given two constraints: a 250m2 lot measuring 10mx25m, and an area that must not go over 100m2 to design a house for a family of 7 or 9 people.



1 DESIGNING THE HOUSE AS A WHOLE MASS

The first gesture is to design a pavilion with 100 m2 and lay it on the lot. The basic four walls and a ceiling are the prototype of the house as a shelter. Nevertheless, this form needs to be sculpted in order to originate the requested "patios", and in order to comply with the possibility of growth.

2 DEFORMING THE MASS

The initial block is molded so that the spatial modules can be perceived throughout the house. In fact, each module is to be quite autonomous regarding the whole, since this autonomy is what makes the growth of the house possible. If there wasn't a lot to be used as a boundary, the house could grow up to infinity with the addition of the various spatial modules, according to the needs to be fulfilled.

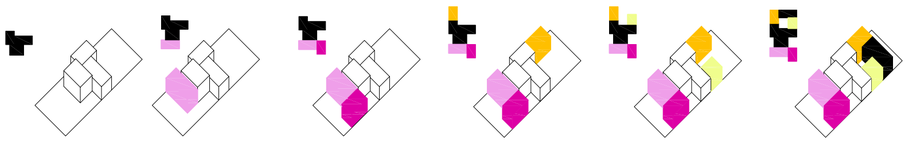
3 DEMATERIALIZING THE SPACES

To maximize the reading of the different spaces, volumes are given different heights. This option emphasizes the role of the central space as a distribution space, as it supports the strategies for responsible design regarding the environment.

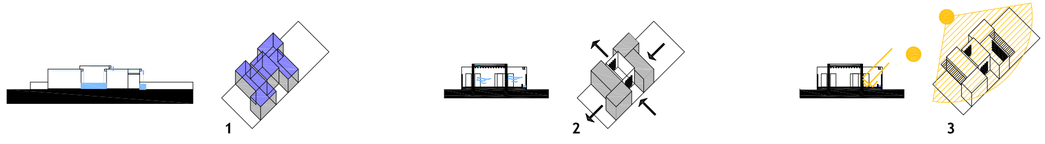
4 SPATIAL ORGANIZATION

All the spatial modules that compose the house are organized in order to originate "patios" with different characters. At the same time, these spaces are also organized around one central space - the living room - that ends up working as a covered "patio", for its strong relation to outside and inside.

GROWING HOUSE



SIMPLE STRATEGIES FOR RESPONSIBLE DESIGN



1 RAINWATER USAGE

The way the rooftops are designed and connected between each other allows for the rainwater to be collected in to tanks, and then to have secondary usages as, for instance in the vegetable garden.

2 COOLING / VENTILATIONS STRATEGIES

We have designed perforated walls for the two main axes that guide the visual and spatial sequences, to maximize the air movement inside the house and to maintain it fresh.

3 INSOLATION / SHADING STRATEGIES

Adobe holds heat and cool quite well. Thus, the extended area of wall is to guarantee a mild temperature inside during the winter, as the small number of openings is to guarantee that the house is not totally overheated in summer. Nevertheless, the areas with the bigger openings are protected with shading devices, such as canvas or palm leaves that can be placed over the extension of the beams to the outside