

MELAKU CENTER

MEKELLE, TIGRAY, ETHIOPIA



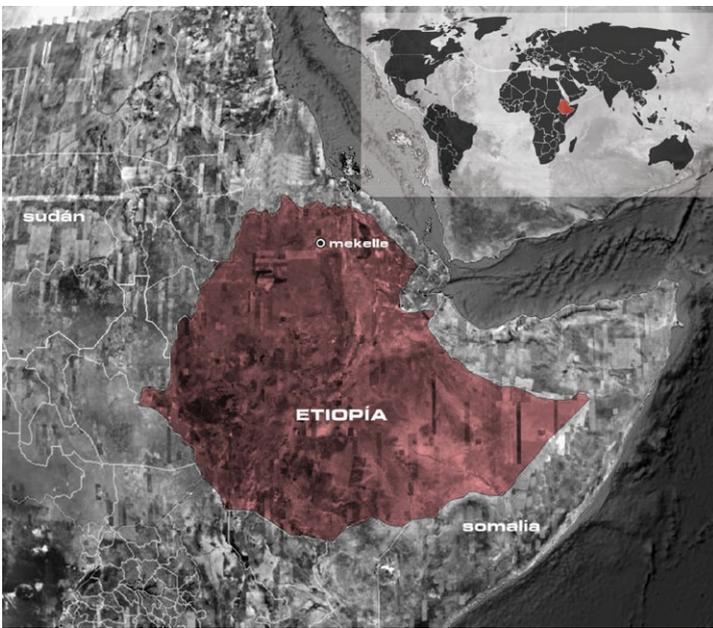
1 .- THE LOCATION

The Melaku Center will be a new learning center, and projection work in Ethiopia.

Mekelle in Ethiopia

Mek'ele, capital of Tigray region of northern Ethiopia. It is situated 650 km north of Addis Ababa and has 280,000 inhabitants

The site of the project at Mekelle is located in a privileged place. It is very near the University of Mekelle airport. The site has a size of 42,647,11 m2.



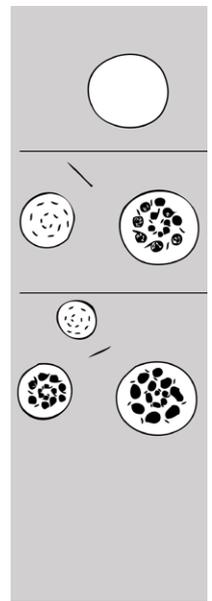
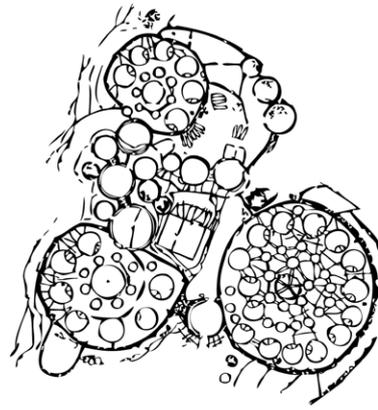
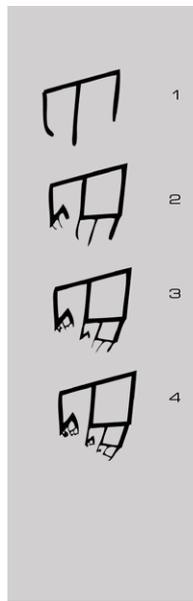
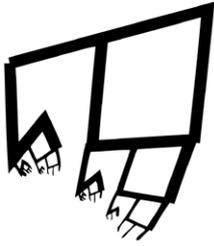
2 .- DESIGN

The first thing we considered was thinking of a general strategy for the project because the required dimensions.

When thinking about the overall project strategy we were researching about the local African culture. We found that a common theme in most of the traditional African architecture is the use of fractal scale: We found in tapestries and patterns where we see small parts of a design look similar to the majors. small parts of the structure tend to look similar to larger parts.

For example, the construction of small towns where the houses are circular as the surrounding walls and streets or other types of geometries with angular forms and the streets of Cairo where we see a smaller area resembles the bigger scale pattern.



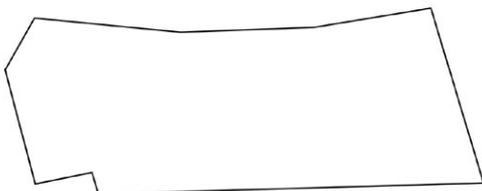
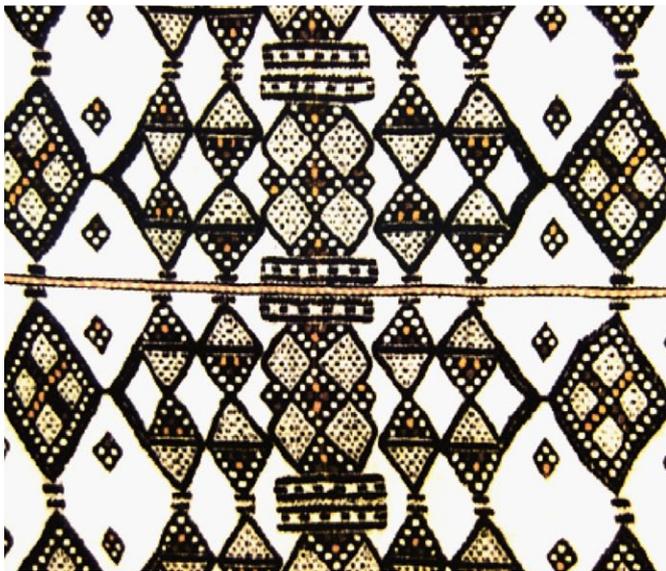


The geometry of the overall project organization is based on a hexagonal grid that supports the various measures of the classrooms and services.

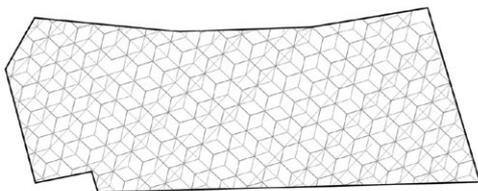
The classrooms are organized in small groups of 3 or 4 volumes to create small educational centers. Behind these forms there is a will to have the African culture the basis of the project.

The workshops volumes complement a room for each specialty and are of different dimensions.

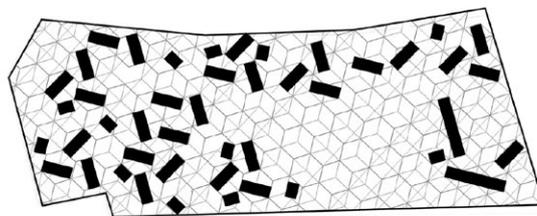
The school services: offices and staff rooms and library next to the main entrance of the center and the volumes of dining and kitchen in the center of every classroom.



Site



Grid



Concept

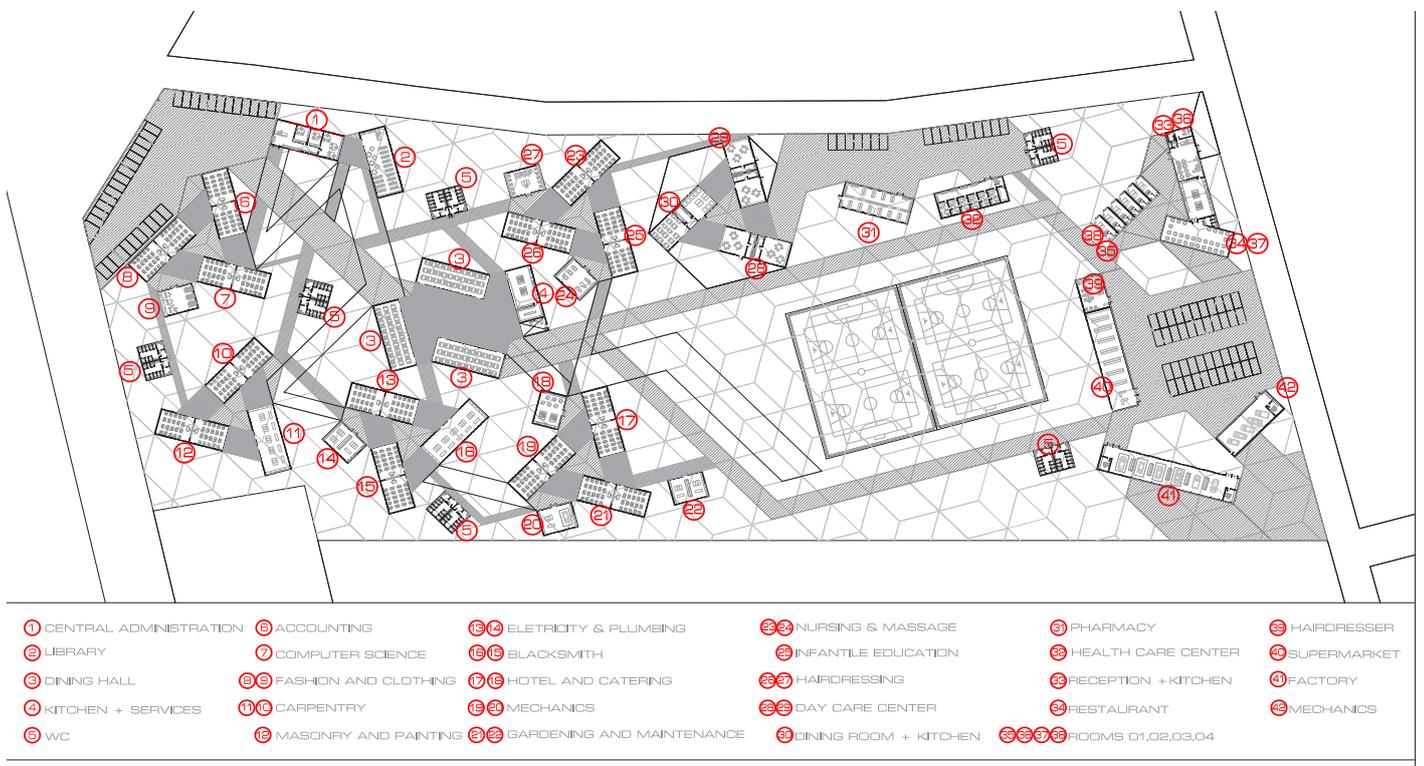


3 .- PROGRAM

The classrooms are located on the west side of the site. The specialties are:
 -Administration, Computer science, Library, Dining, Kitchen, Restaurant, Fashion and clothes, Electricity and plumbing, Accounting, Apparel, Construction, Painting, Carpentry, Gardening, Catering, Maintenance, Pharmacy, Health care center, Nursing and Massage, Hotels, Hairdresser, Supermarket.

The WC are placed outside.

Within the same site is located a nursery that serves mothers-students that will attend to the school and infantile education students that will practice there. Besides this, a small pharmacy and a primary care center will have a similar use. On the top right corner a boarding house, a hairdresser, a supermarket and a garage that will serve for individual students to do practical and give service to the city.



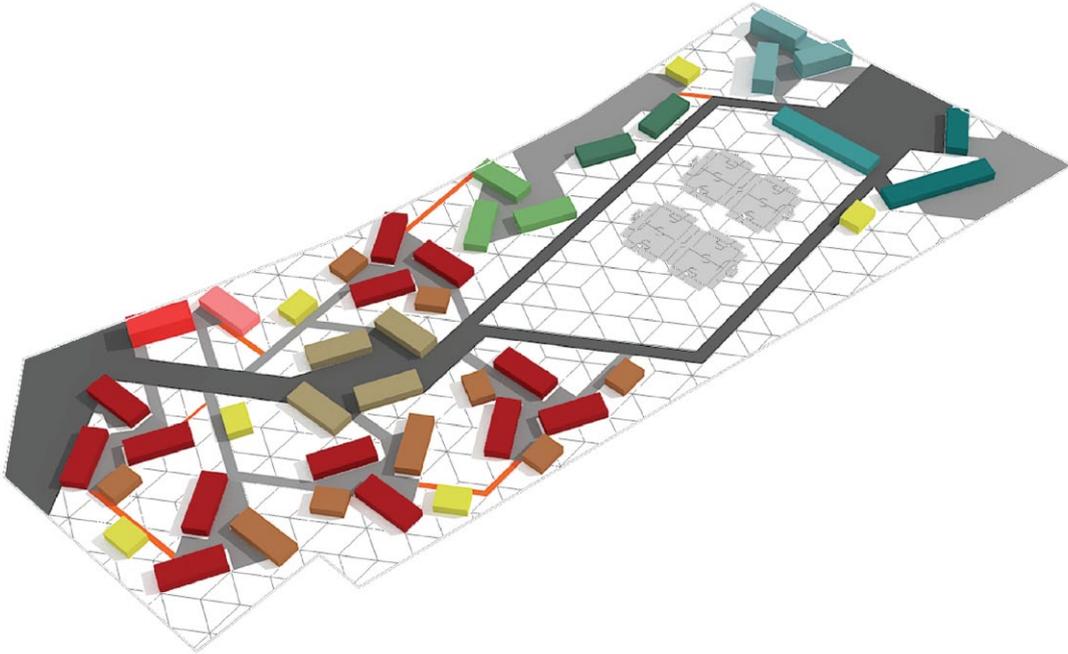
4 .- CIRCULATION

Understanding the climate and African vernacular architecture, outdoor spaces become the school corridors.

4.1 .- Main Circulation: entrance, porch dining rooms, sports area and practice area.

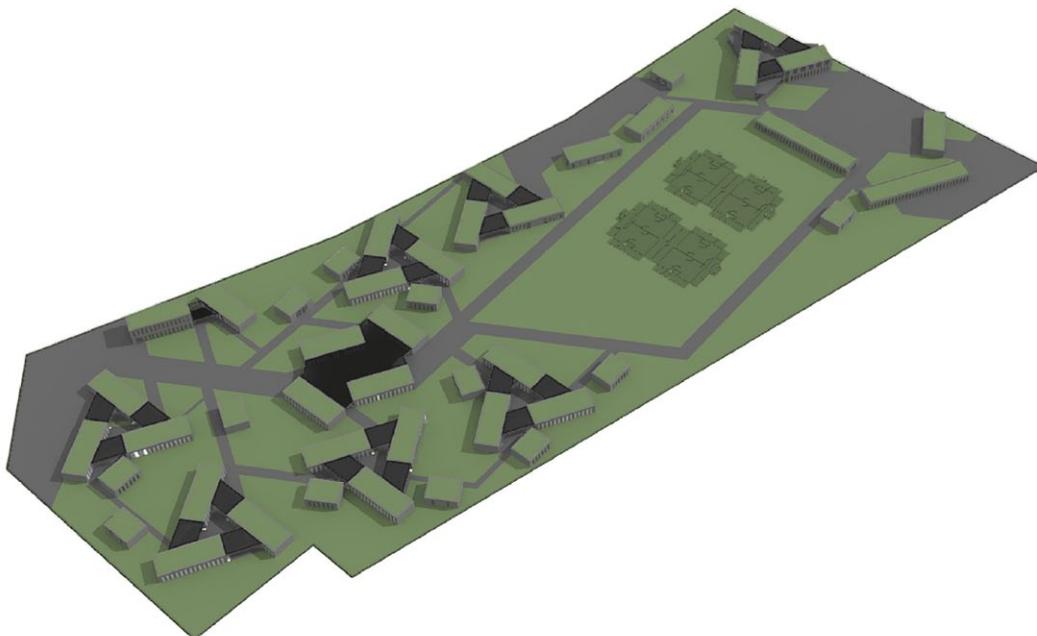
4.2 .- Secondary Circulation: Access to classrooms and other areas of practice

4.3 .- Tertiary Circulation: Relation between the pieces.



5 .- LANDSCAPE

The green areas of the center will integrate local species and the students will practice gardening and agriculture within the same site.





Circulations inside the school



Sports areas



The main entrance



6 .- LOCAL CONSTRUCTION SYSTEMS ON THE PROJECT

During our visit to Ethiopia, Angel Olaran guide us through some villages around Wukro where we could observe the architecture of the region of Tigray.



We saw that how the ancestors houses where placed on the sites.

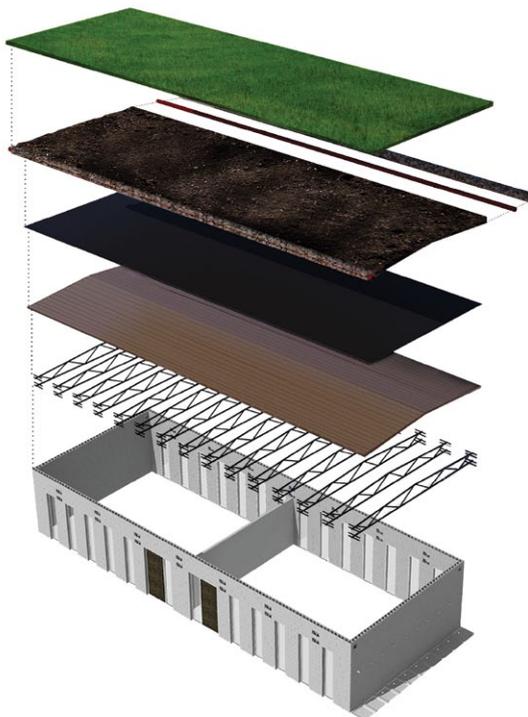
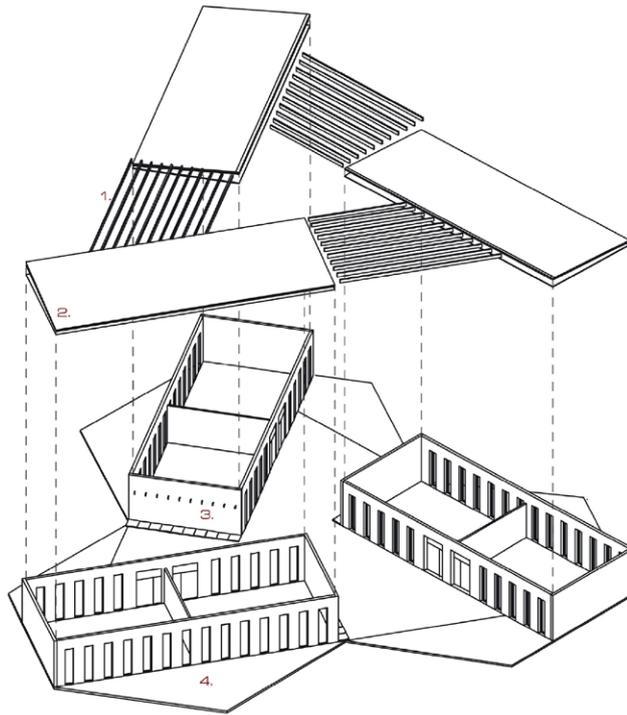


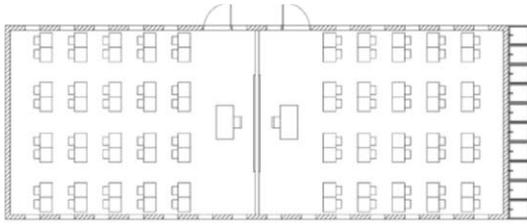
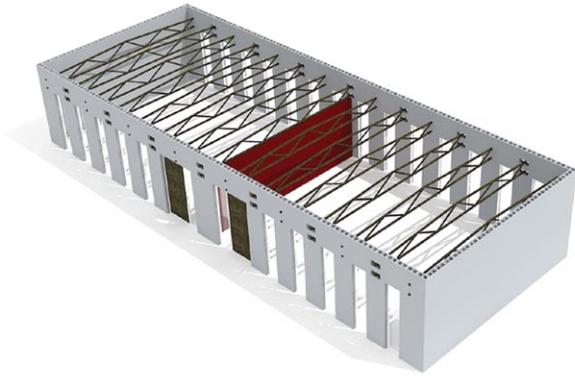
Construction of stone and wood is the common use and cover crops with straw and sealing of animal excrement.

7 .- BUILDING AND SUSTAINABILITY

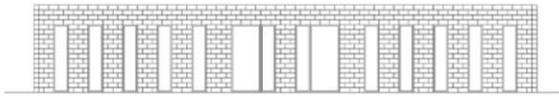
The classrooms are organized into groups of 3 or 4 volumes that are joined by the porches of access. All classrooms have natural ventilation from both sides.

The building structure is concrete block and the roof from of eucalyptus structure.

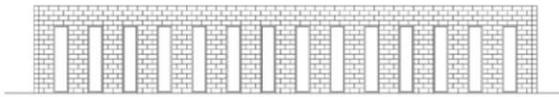




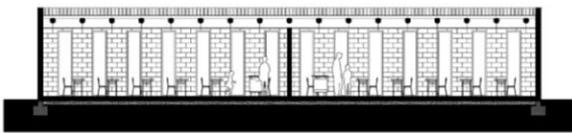
GROUND FLOOR



ELEVATION 01



ELEVATION 03



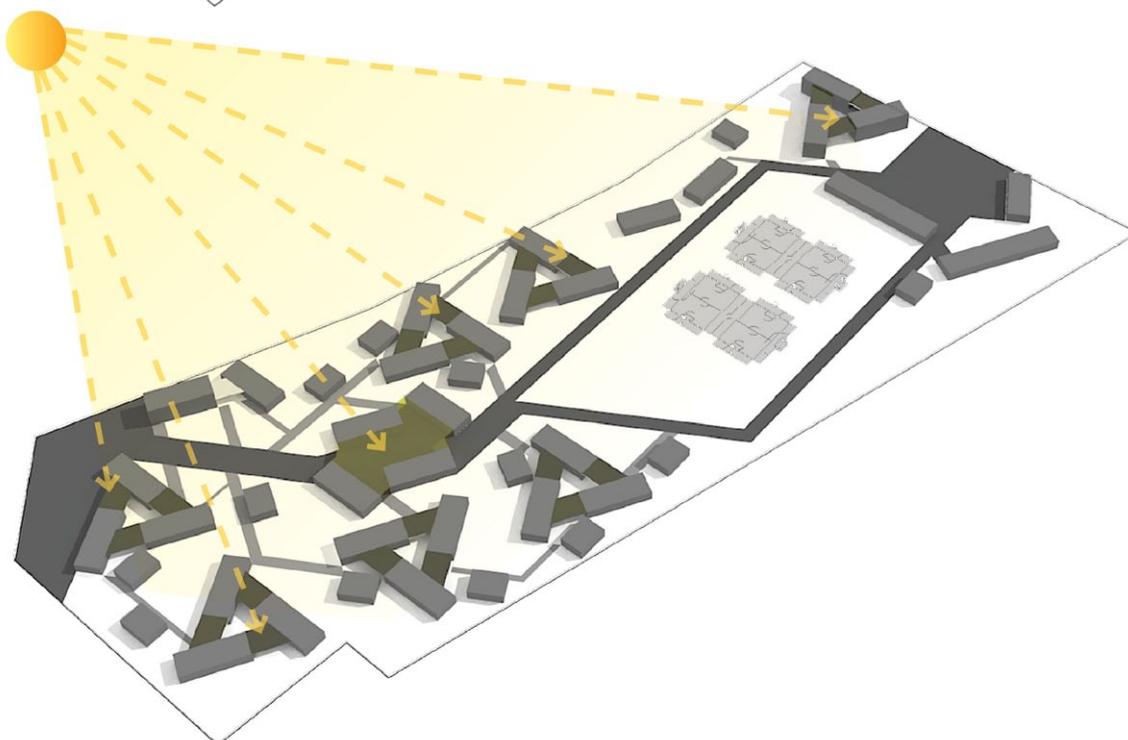
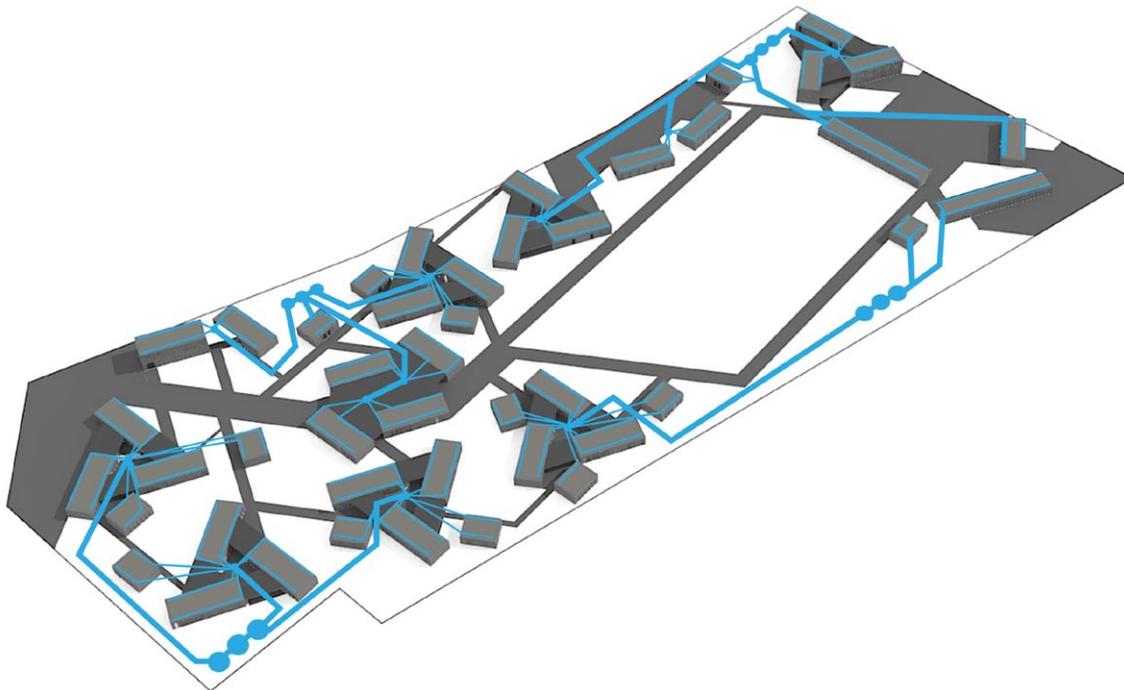
SECTION AA



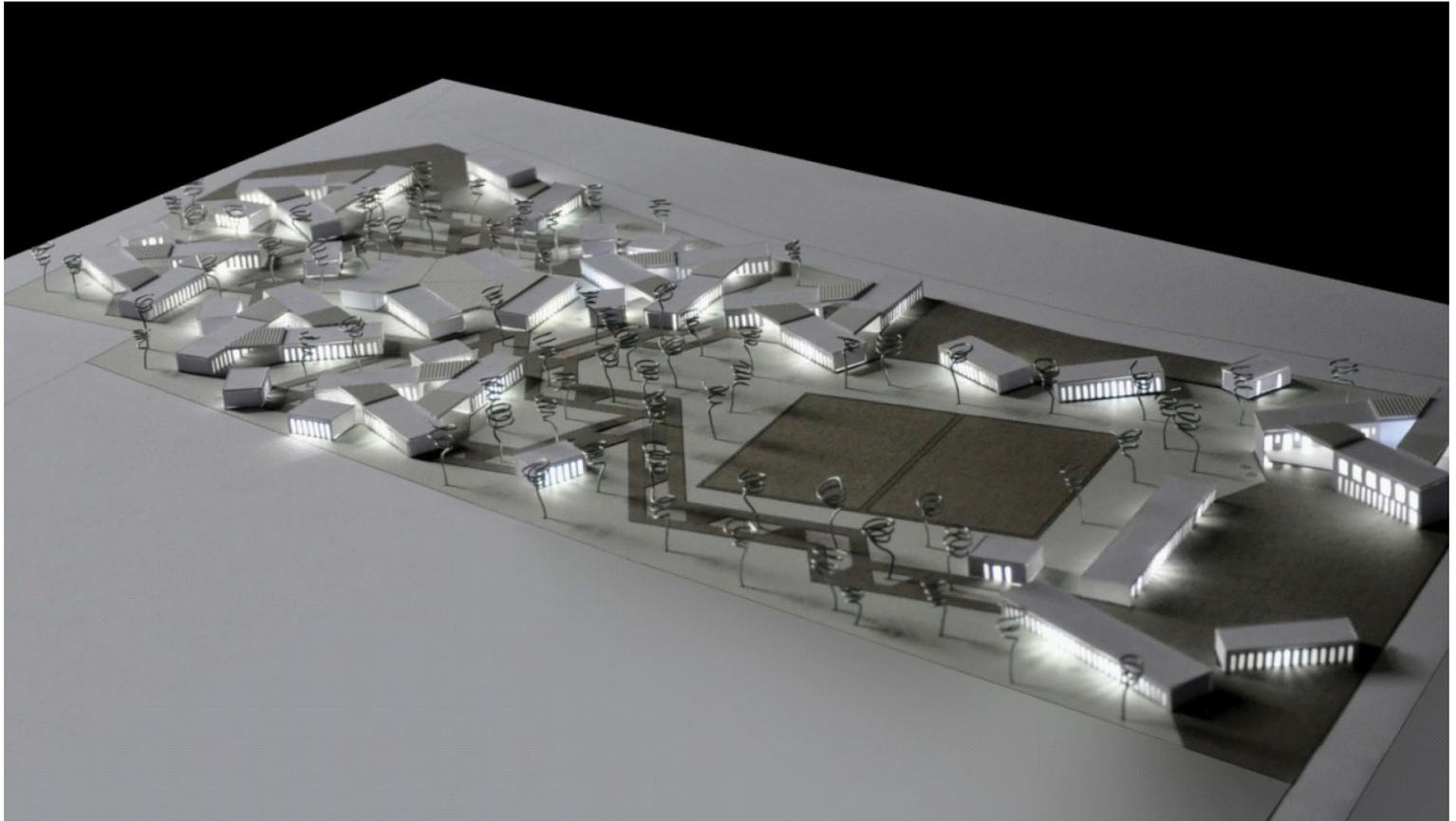
The roofs of the classrooms have green roof systems that collect water from rain and natural reservoirs leading up to then reuse for gardening and greywater.

On the porches there is a network of solar panels to produce energy through the center and the city of Mekelle.

In so doing, we reaffirm our desire that the Melaku Center is a reference model for sustainable development in Africa, from project design to the program it contains.



The entire project is an ecosystem of knowledge, development and natural resources.



CV

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Xavier Vilalta [Mollerussa, Spain, 1980] is a practicing architect and educator. He was educated between Barcelona and the United States where he moves with an international student scholarship and obtains the “named to the Dean List” in the Illinois Institute of Technology in Chicago. He has taught as a professor in the ETSA Barcelona School of Architecture and the Lleida University. Currently Xavier Vilalta is a research professional and an Associate Professor in ETSAB of the Polytechnic University of Catalonia. There he teaches final year design studios and mentoring diploma projects. Xavier Vilalta is a recipient of many national and international prizes, among which the 2008 LEAF Award Young Architect of the year and the SAIE Selection of the BolognaFiere in Italy in 2009. His work has been featured in many Spanish, European and international magazines and media. He successfully integrates research, practice, and teaching of contemporary architecture.

Xavier Vilalta Studio [XVSTUDIO] is based in Barcelona and operates in the fields of architecture, urbanism, landscape, interior and industrial design. The bases of the studio are the innovative design, precise control of the program and budget, professional management, and high quality architecture.

The multidisciplinary and multicultural team at XVSTUDIO works as a laboratory for design and ideas. Our profession demands a continuous interaction of a large variety of skills and knowledge. We constantly push the boundaries and integrate architecture, urbanism, landscape, geometry, innovation, technology, and sustainability from the first drawings to the final details of the project. We use advanced skills and construction techniques to make innovative and fully buildable, realistic proposals.

Architecture is a mixture of cultural, social, economic, and environmental values. At XVSTUDIO, we create systems that integrate these multiple inputs. The projects, both in the public and private are generated through a continuity of process of work and dialogue with our clients, consultants, contractors and final users. We believe that the good projects are generated with the union of the beauty, functionality and utility. Our positive approach and vision turn the constraints into opportunities for creating innovative designs. With the combination of original thinking and efficient production, we are able to generate ways of developing the project combining parameters of geometry, industry, and sustainability.