



The preschool of Aknaibich is only 1 classroom, nevertheless a holistic architectural design, incorporating community dynamics, bioclimatics and a new vernacular style.

Aknaibich is a town in transition: the eastern old town is made of earthen constructions, sinusoid roads and narrow alleys, while the western part exists of modern, plot-based concrete houses built by rural-urban emigrants. In need of educational infrastructure, Goodplanet foundation presided by French photographer Yann-Arthus Bertrand aims to install a preschool with bioclimatic functioning, as an extension to the existing concrete school building in the modern part of town.

After a workshop with the Aknaibich community, it seemed appropriate to inspire the project on the old town, and hence to create a dialogue with the existing modern school infrastructure. Its style could be called a new vernacular, inspired on local typologies, materials and techniques, while at the same time having a contemporary look, performant bio-climatic functioning and earthquake proof design.





Foster the socially responsible role of built environment professionals by stimulating social modes of practice before speculative economic profitability;

We try to perceive the architect as in the pre-industrialized concept of a master-builder, in which social skills, technical knowhow and design vision come together.

The project aims at keeping a short supply chain of expertise, labour, and materials.

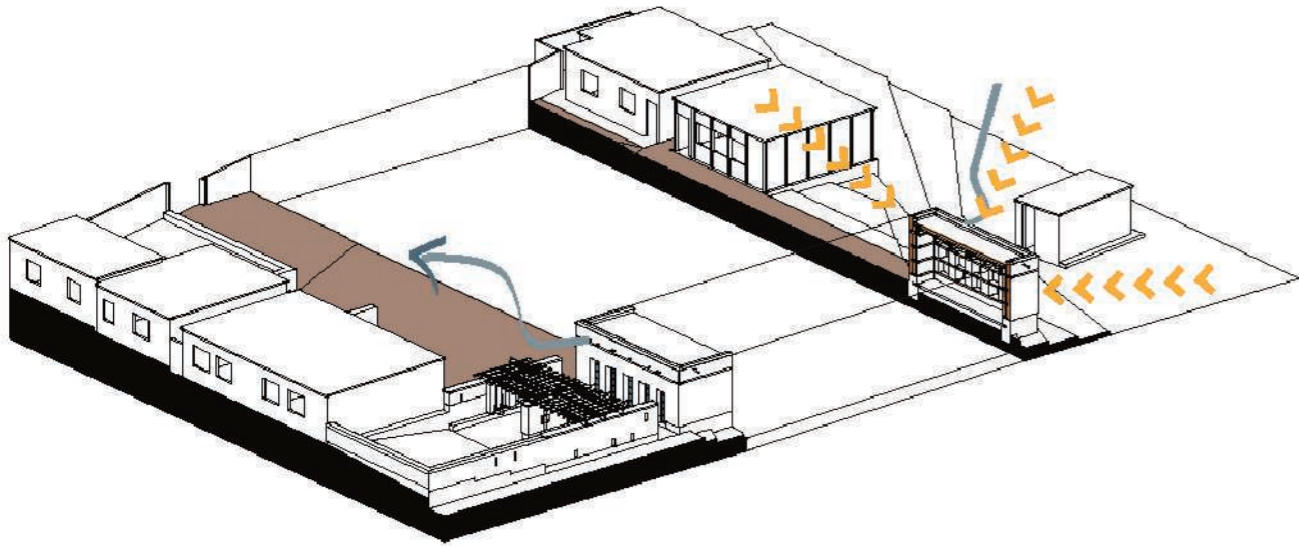
We chose for hand labour, local laborers, a local foreman and technicians to avoid the interference of an external contractor; local materials such as earth, clay, sisal and eucalyptus. A minimum use of cement was achieved and bought in the local shop.

We try to create knowledge transfer in all directions. The laborers master adobe production, construction and earth plaster, through input of our architects. We master nous-nouss (plastering) through input of the local builders, and so on.

The construction process aims to have an ongoing built capacity. The project is to be extended with the same building techniques now that the laborers manage them; we continue learning how to act as architects in a globalizing world; the architecture students and interns have learned design with short-chain materials, to be also applied in a Western construction context.







Exploded axonometrie of the preschool, with bioclimatic scheme.



Facilitate the use of appropriate technologies, materials and labour adequate to local values, to the cultural specificity and responsive to the natural environment;

The preschool of Aknaibich is constructed out of unbaked earth like the old 'kasbahs' and 'ksars' in Morocco. The roof is made of small-sectioned wooden beams and woven matting, with relative heavy earth load on top to protect from zenital sun. The compact building orients itself towards the North with big glass doors for generous indirect sun light, while avoiding the harsh Moroccan sun. The South façade is pierced with small and deep windows to avoid direct sunlight and thus overheating of the room, while the south wall takes the sun all day and heats up, slowly, radiating heat into the classroom when most needed - during the evening and night and subsequently resulting in a pleasant morning temperature. The east and west walls of the school are double walls without openings. This insulates the interior climate against the low and strong east and west sun, while having a beneficial effect on acoustics from outside the classroom. The clay renderings on the outside are 'fat' and thick, reinforced with straw fibers. They protect the buildings structure of frequent winds and sporadic rains. To guarantee para-seismic stability, the construction system incorporates a system of ringbeams vertically connected by reinforcement bars.





Share knowledge, promote discussion, reflection and awareness, and collaborate in the advancement of the 'social production of habitat';

BC studies organized an international research and design week, for to the International Master of Science in Architecture of the KU Leuven faculty of architecture. This explorative week held in Aknaibiche (Morocco) aimed to develop hands-on and practical experience of vernacular building techniques and to apply this knowledge in collaboration with local community members on several punctual designs for the sustainable development of the village of Aknaibiche. This five-day workshop challenged 25 students, academic instructors and local community members to understand the logic and strength of traditional earth materials as well as their possible contribution to the challenges of contemporary architecture.

The workshop set-up focused on the interaction between action and research. The first part was the hands-on experience where the students were physically working with the local materials to discover the potential of the vernacular techniques. A second part was the application of this practical experience on a site-specific project where the student had to creatively and instinctively work out a feasible project. These explorations were intended to bridge the existing gap between architectural education and the craftsmanship of architecture.

5 intense days of open debate, physical work and research resulted in 8 projects, which were presented and given to the village community of Aknaibiche.