POLITECNICO DI TORINO
SECOND SCHOOL OF ARCHITECTURE
Master of Science in Sustainable Architecture
Honors theses

“LOW COST” ARCHITECTURE IN KENYA
DIY Project for a school in Siongiroi, (Rift valley)
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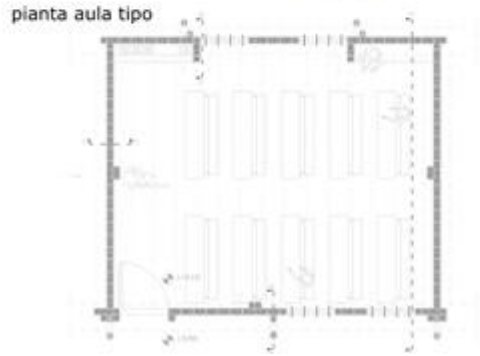
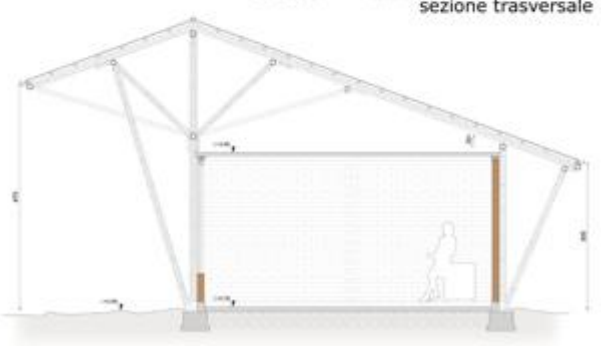
The object of this presented project is a design about educative spaces in a rural village of Siongiroi, in Kenya, and more particularly in the school 'Holy Family Siongiroi'. It took place in three phases and will make its own contribution about: the use and organization of space, the use of traditional building technologies and local resources, and the introduction of passive technologies, construction techniques improved, encouraging participation.

A first phase of research was necessary because the project is located in a context of a **developing country.** So the research is made to understand the issues related to cooperation and development, to non-governmental and international organizations working in this sector and the strategies implemented in recent years .

The second phase concerns the general approach that we wanted to give to the project. In fact, considering important the personal presence on the field, has been implemented with a **study period of two months in Kenya**. This allowed the collection of information and material that is otherwise difficult to find, and made it possible to address the design with a **real prospect of realization**. The opportunity to live in contact with the reality of the place, and live sites and aspects of daily life and customs, took careful observation of the perceptions of space and context; experimental teaching in the classroom has helped to better understand life in the school and know the subjects that would benefit the project. The information obtained concerning the organization of the school in Kenya, the building materials used , methods and manufacturing techniques of traditional and contemporary place , the costs of materials and labor , and resources of the place. A further contribution was made by the visit of a large number of schools, for a more realistic picture of the school's inclusion in the project. The journey has finally allowed us to identify an existing reality that has a real need for an extension , and then locate the site where the work place , and make a relief.

The research work and the inspection, led to the third phase of the project. Were carried out first a series of design considerations, up to planimetric level and implementation stages. Consequently, the design of educational spaces was made with particular attention to issues of environmental sustainability, social, functional-spatial and economic development. In this regard we have conducted studies on the local materials available on site and the construction techniques and low cost, adaptable to the context. In particular, the research has led to the choice of **clay** (‘brick block’) **and bamboo**. Thanks to the **work of experimentation and field trials** it was possible to understand any limits and potential of the materials, to be able to apply to the school project.





The final project presented, covering educational spaces in a developing country, it is a development project of the local community, and focuses not only on the actual "needs" of the users, especially the need for architectures that are faced with shortages of economic and technological resources. A project that does not require organizational models from foreign to local culture, but at the same time innovative solutions compared to the existing individuals.
The primary objective of this work is therefore the creation of school space, in harmony with the environment, which is an example of sustainable design at low cost, using local materials and techniques in a contemporary key, which develops high-tech ideas realizing them with means low tech but with high added value, with a focus on environmental comfort and the relationship between architecture and education.

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