

POLITECNICO DI TORINO
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Master of Science in Architecture
Honors theses

Professional school of constructions and self-constructions in La Paz de Carazo

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The requirement to propose a plan in a country so far away, is born from the desire to improve the constructive technologies whereas it is constructed traditionally in the same way with the passing of the centuries. Nicaragua finds itself in Central America and it comes from a positive cultural period, carried out from the recent Sandinista revolution in the eighties, that has given an innovative push to the educational development of the country. From here, observing that the constructive techniques are always the same ones I began a small surveying that made me discover that the same companies of workers are familiar enterprises, handing down knowledge from father to son. My idea is to propose a school in order to form a new class of buildings' workers.

In the first chapter there is an analysis of the climate of Nicaragua with particular attention on the natural disasters this country is going through periodically; to improve the constructive technologies means also to help this country defending itself from earthquakes, volcanoes, sea-quakes and hurricanes.



In the second chapter there is instead a detailed analysis of the scholastic cycle, evidencing the differences with that western one or the possible likenesses and similarities, emphasizing particular attention towards new educational proposals, as those of Don Milani and Summerville school. The third chapter is the most technical one where it's explained in detail the plan of the school.

From the first time I have been in Nicaragua I've been hit from how people built their own house from a day to the other, demonstrating how high it was their practice in self-construction. Sure that if they had some wider acquaintances on the argument, they could have used in a better way the resources that the earth gives and could defend themselves from the catastrophic events that hit, in particular, this country more than others.



But how to supply these acquaintances to the more possible people? Not only about acquaintances but also having the manufactures and the instruments possibly already semi-finished, that is quite difficult for a family that constructs its own house with newspapers and refusals of every kind. The more convincing solution has seemed to me to propose a technical school, a school where it was taught to construct in an enduring, economic way, focusing on the aspects of relation with nature. The analysis started choosing the plan area, a zone close to the capital approximately 70 km, close to a Mombacho volcano, famous in order to receive to its inside a natural park.

The first step has been to study a structure that can be evolutionary, therefore either able to grow, or to be repeated in other zones of the country, after which it has been a careful analysis on: distribution, bio-climatic, self-construction, maintenance and management.



Therefore, considering the climate, the system wants to be the more possible opened and to be delimited from green zones; naturally closed zones can be provided, where will be held equipments, which everybody will be allowed to use. The classrooms become therefore opened sheds, where the dividing walls can be moved in order of the various requirements of the course during the year. The laboratory will be closed, but the most possible inserted in the open structure of the classroom. The two stratum of the roof want to converge through a valley enough wide towards the point where the distance of reutilization of the water begins, which, depending on the objective, it could be a simple recycling of the water or a system of "fito-depurazione". The circular classrooms circulars want in some way to maintain the traditional shape of many of "the ancient" Nicaraguans houses; the dormitory will be detached from the school; both the constructions want to be "evolutionary". A particular attention has been dedicated to the materials, in fact the school is particularly planned for the use of three materials: wood, ground and bamboo.

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