

Approximately one third of the world's population lives in slums. These settlements can be called by different names but they all have a common denominator of urgency and are quickly becoming the norm in our society. A study conducted by the Technical Secretaria Municipalde Habitação, Caixa Economica Federal (CEF) and Habitacional Companhia de Santa Catarina (Cohab) indeed shows an increasing trend in the number of people who live in favelas (21 393 in 1987 and 50 397 in 2000). This project proposal was inspired by an international inter-university co-operation agreement between the School of Architecture of the University of Florence (UNIFI) in Italy and the Universidade Federal de Santa Catarina (UFSC), Florianopolis in Brazil. In line with the requirements of the brief, with regard to the location, a favela in Florianopolis was chosen, the Serrinha , located on the slope of Morro da Cruz, where currently there are about 2,100 inhabitants. In order to meet the needs of the residents of this community, we have tried to propose a model that could be duplicated and adapted in other similar contexts. During a socio- economic and morphological analysis of the area under investigation some issues were identified to which we tried to respond with the following solutions:

§ The Serrinha , as the favela, is an informal city that was not built according to the rules of a PRG or a building code. Here each inhabitant built his own house personally choosing materials and a construction system without following predefined rules. In relation to this critical situation the project

proposal provides an infrastructure that combines buildings, green spaces and roads.

- The local population is averse to any act of inconvenient intervention from formal society. In this case the goal is to engage these same favelados in the creation of their new residences, offering solutions that facilitate the process of self-construction. The type of construction chosen is a supporting structure made of bamboo framed with infill panels consisting of self-manufactured recycled cans .
- The average monthly income of the inhabitants of Serrinha is 600,00 reais (€ 200,00) and unemployment affects 26% of the local population. In accordance with the condition expressly stated in the contract according to which the design solution and the budget should not include public assistance or subsidies, an economically viable design solution has been suggested by the inhabitants of the favela . Bamboo and recycled cans, as local materials which are easily available, are in fact considered as zero-cost, in addition to being eco-friendly. The cost per square meter of an apartment designed by us amounts to € / sq.m. 102,08 (including structures, infill, closures, fixtures and equipment).

BILL OF QUANTITIES		
COST ITEMS	PRICE / sq.m.	INC%
Structures	€ 1,50	1,47%
Infill	€ 27,99	27,42%
Closures	€ 43,63	42,74%
Fixtures	€ 16,25	15,92%
Equipment	€ 12,71	12,45%
TOTAL	€ 102,08	100,00%

- The units in the Serrinha are characterized by poor quality construction techniques and materials. The socio-economic degradation is also expressed by a prevailing absence of external plaster and by unstable foundations , the result of inadequate competence of the local builders. Therefore, particular attention has been paid to technological innovation, preferring the testing of a new construction method consisting of a support structure in bamboo backed by self-built panels made of recycled cans.
- The community in the favela is strongly hierarchical. At the head of the social pyramid , there are those who control the drug trade. Families are numerous and many often live within the same house on different storeys. The answer to the flexibility and instability of households has been provided by offering different types of housing units.

- The site which is under investigation with a population of 2,100 people covers an area of 657,000 square meters and has therefore a high population density. Through the use of a sloped bamboo roof , which can be easily disassembled and reassembled , it was possible to envisage a vertical expansion of the accommodation unit (max. 2 storeys). However, in order to counteract an indiscriminate expansion process, as is currently occurring in the favela, two particular precautions have been taken: the choice of bamboo, which by its static behavior and resistance to loads prevents the development of more than two storeys, and the placement of a metal plate on the ground (on which a concrete casting is placed to which the structure is anchored in elevation) which identifies the building area beyond which construction is not permitted, thus limiting horizontal expansion.
- The land has a high level of sloping. To facilitate traffic a road network was planned that crosses the slope (Morro da Cruz) at an angle, which would represent a compromise between the Brazilian tradition of a connection along the line of maximum slope and the European convention of a path parallel to the contour lines.
- The crumbly texture of the soil creates the risk of landslides. So the current foundations of the wooden stilts were replaced by C.A. plinths with iron screws which are sturdier and of higher quality.