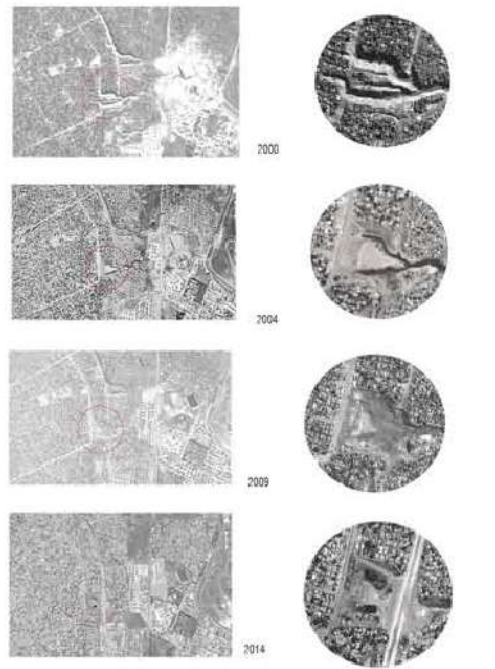


AGRIPUNCTURE COMMUNITY CENTER IN MAPUTO'S INFORMAL SETTLEMENTS

A disaster risk reduction strategy for flood prone areas

MARTINA RUBINO



site model: hypothesis for an intervention. How to transform the urban void into a public productive area able to act as a buffer zone within the neighborhood?



site model: situation before the flood that hit the site in february 2000



site model: situation after the flood. More than 100 houses were destroyed and a huge gravine opened up

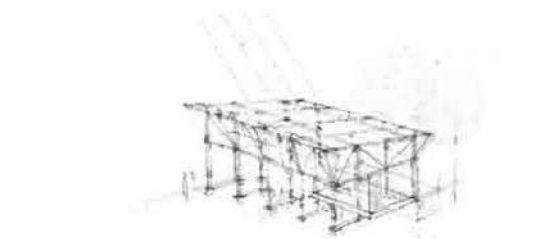
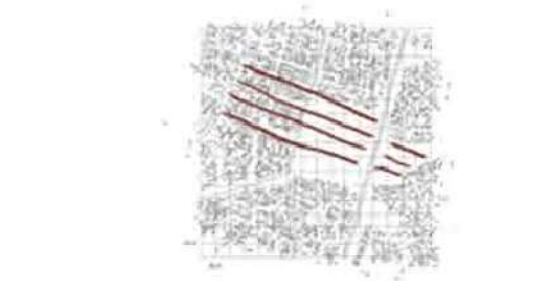
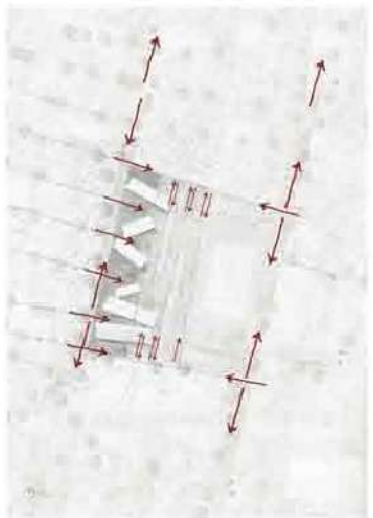
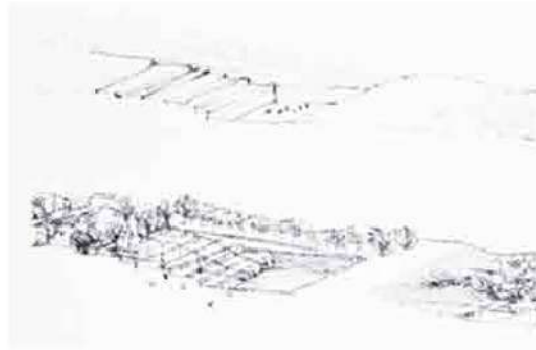
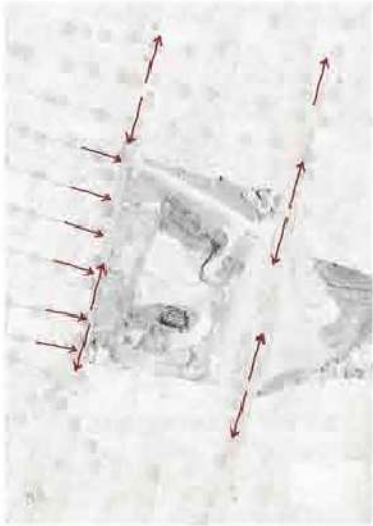
INTRODUCTION

In February 2000 a very heavy rain hit the city of Maputo for three days in a row dramatically affecting the neighborhood of Polana Canico: a massive gravine opened up provoking the destruction of more than 100 houses and creating a void still representing today an High Risk Zone severely affecting the surrounding urban fabric.

The satellite images above show how the gravine kept on enlarging due to the continuous soil erosion in the last decade, reaching today gigantic proportions (15 m deep and 164 m wide).

The aim of the project has been to reactivate this vulnerable urban void turning it into a productive pole in the informal neighborhood of Polana Canico, today among the most densely populated, underserved and poverty stricken zones of the city of Maputo.





Endorse the integration of post-emergency relief interventions into long-term sustainable development strategies

The Intervention aims to open the edges of the existing High-Risk urban void to re-establish connections with the surrounding urban fabric. Introducing social programs and creating an open public area within the very dense informal tissue of Polana Canico.

The strategy starts from the landscape exploiting the existing slope of the ground to create a system of urban agricultural terraces, transforming the urban void into a productive zone and flexible public space.

The project implies the combination of several different localized elements, all simultaneously connected to the boundaries of the area:

- urban agricultural terraces
- new open public spaces
- social community infrastructure
- sports field
- hygienical facilities
- community cooker (using the locally produced garbage as fuel instead of charcoal)
- community water storage system

The analysis of the floodwater was crucial to define the new landscape:

The terraces are designed in a way that allows the water coming from the upper part of the neighborhood to flow down, being partially absorbed by the vegetation of the agricultural terraces and, in extreme cases, collected at the bottom of the ravine which will be kept as an artificial water basin acting as a buffer element in the area.

The sloping aluminium roofs work together with an underground system of watertanks providing water collection on site for both domestic and agricultural purposes.

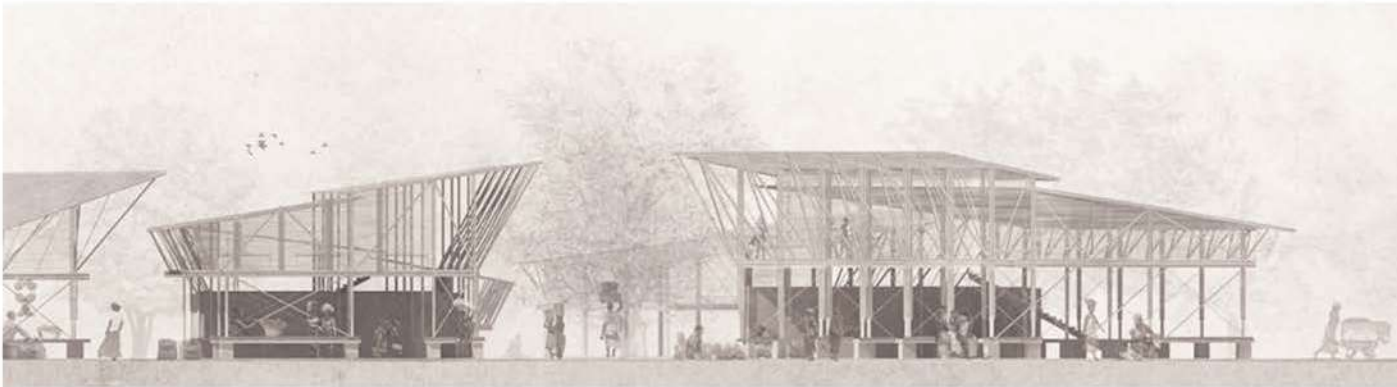
The buildings and the landscape work as one system that can effectively handle the varying conditions of the wet/dry season cycle. The single units are all lifted from the ground in order not to be affected by the floodwater.

The sloping roofs work together with a system of on-site underground water tanks collecting rainwater for both agricultural and domestic purposes. The excess of water is distributed to the terraces during the wet season and stored for later use during the dry season.

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

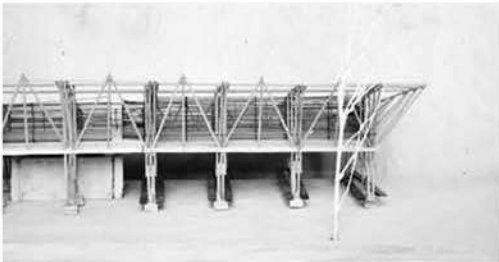
LOCAL MATERIALS

The nine buildings have identical skeleton, only varying in the dimensions, defined by very light structures lifted from the ground.

The materials are mostly bamboo and canico, being local sustainable materials able to grow extremely fast in the same time naturally draining the ground. Bamboo also represents a much cheaper solution and better in terms of climatic response comparing with concrete and aluminium sheets usually adopted in the area.

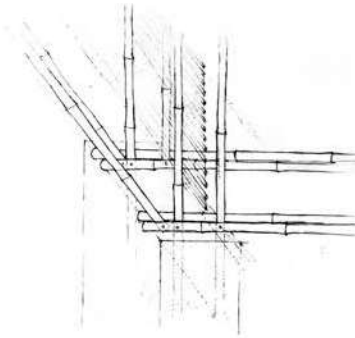
The use of concrete is limited to the foundations and to the single "boxes" inserted behind each building on the ground floor hosting the hygienic facilities and the kitchen.

The concrete foundations act as a support for a system of benches on the ground floor, left almost totally free allowing a gradual appropriation process from the local communities with different commercial and social activities activating the street level and stimulating the local micro-economy.

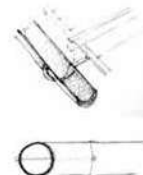
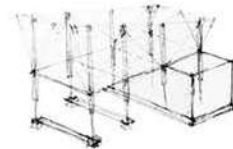


The groundfloor is almost completely left free in order to allow a gradual process of APPROPRIATION from local communities.

Informal commercial activities and social gatherings will take place in the shadowed area under the buildings and the trees.



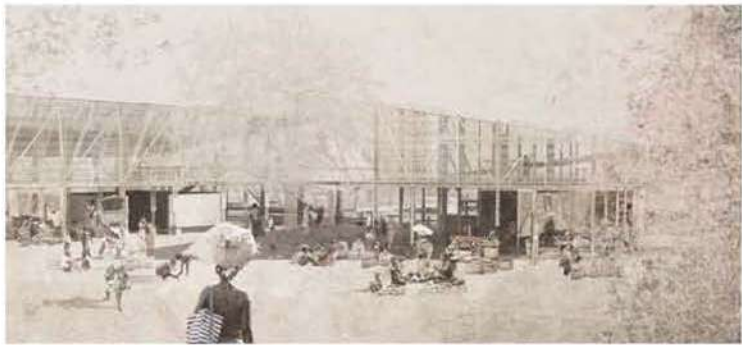
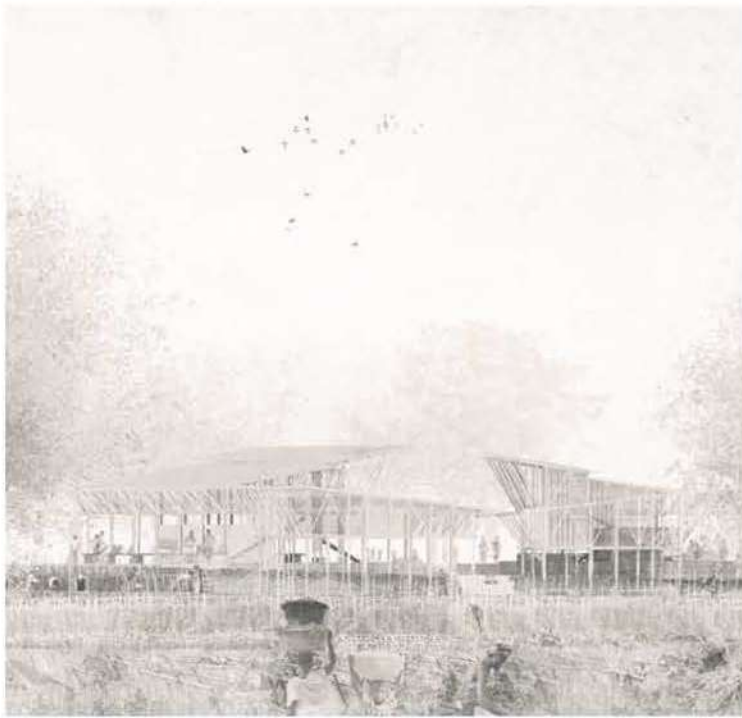
A horizontal beam is inserted between the two ends of bamboo poles supporting the walls and the roof



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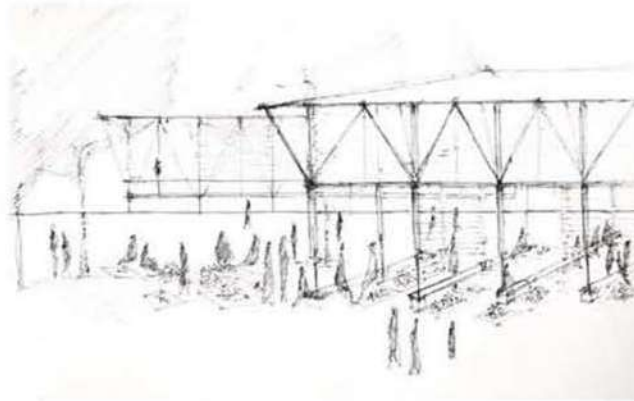
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Support participatory, democratic, multicultural and interdisciplinary processes and approaches in strengthening community solidarity as a factor of rural and urban social development

Due to the progressive informal occupation of the land in the last decades all the buildable land is filled with houses, with only exception of the minimal space necessary for circulation. The only available open spaces overlap with the areas defined as High-Risk zones.

The project aims to deal with this fundamental problem, creating a public social platform in the most vulnerable among the High-Risk zones identified in the neighborhood of Polana Canico.

The groundfloor is almost completely left free in order to allow a gradual process of appropriation from local communities.

Informal commercial activities and social gathering can take place in the shadowed area under the buildings and the trees, defining a continuous public open space in the otherwise dramatically dense tissue of the neighborhood of Polana Canico: it is meant to act as an extension of the street running along the upper party of the site, offering a shadowed and equipped place for all the activities usually taking place in the street.

The Community Center offers primarily education and shelter to local street children, still representing today the weakest component of mozambican society, but also represents a reference point for the extended community, providing people with training workshops, a library, a football field, agricultural fields and a community cooker, which uses as fuel locally produced garbage.