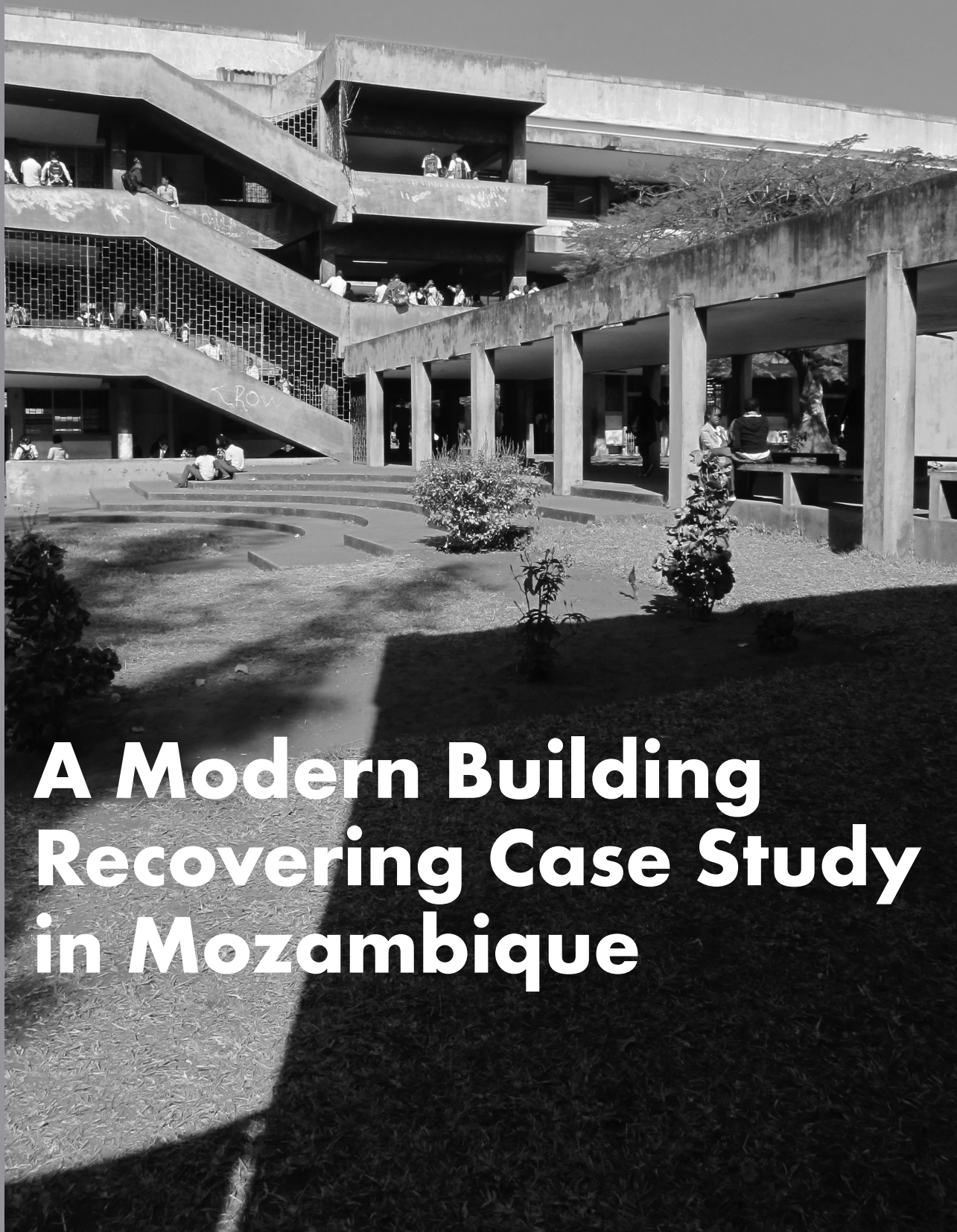


Polana High School.



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A Modern Building Recovering Case Study in Mozambique

The Polana High School in Maputo, designed by José João Tinoco and José Forjaz around 1970, is a plain functional building both as regards to the spatial organization of its composing pavilions and as to its construction that is mostly made of exposed reinforced concrete structures and elements. After decades of heavy duty use and an almost absolute lack of maintenance, it recently went through some urgent repair operations. In this sense, it exemplifies what could be today effective conditions regarding economic possibilities and cultural problems to recover Modern heritage in Africa.

By Vincenzo Riso

Among African contemporary city capitals the Mozambican Maputo has a straightaway recognizable characteristic which corresponds to a remarkably high density of Modern buildings, originating from the colonial occupation of the country. In fact during the 1950s and 1960s the Portuguese authorities, so as in the necessity to justify their belated presence, made large efforts to Modernize Lourenço Marques (former name of Maputo) and, differently from what was happening in their mother country, a new generation of Portuguese architects found here a huge ground for applying and experiencing some of the Modern architecture issues. Needless to say, all the contradictions inherent to the application of Modern Movement ideas in a colonial context are (especially today) equally evident in the resulting works. Following the finally obtained independence of Mozambique, those buildings continued to be fully used in the given configuration of housing blocks and infrastructural buildings such as schools, hospitals, administration offices and transportation, cultural or sports facilities. That is to say this series of 1950–60s buildings was somehow capable to positively react to the appropriation processes that naturally underwent after 1974. This, in turn, gave way to a locally familiar living with Modern architecture heritage, that (*si parva licet componere magnis*) recalls the integration between everyday life and Modern architecture experienced in the Netherlands after World War II. But sorrowfully such significant practice of use of the buildings could not materially correspond to an adequate maintenance exercise. Moreover the city has recently been going through a real economic explosion and buildings are indifferently requested to perform according to international standards; and this finally place sMaputo's Modern Movement legacy in front of the com-

elling alternative between reparation/adaptation on one hand and substitution/cancellation on the other.

As regards the whole of those problems, the Polana High School in Maputo constitutes an exemplary case study. Within the general plan of the city, this building is located on the East side of the reference axial road called Avenida Kim Il Sung, but differently from the correspondent square urban grid, that lays parallel to the coastal line, the building assumes a north/south direction to organize the sequence of volumes, which constitutes the school. Anyway due to the extent of its pertinent plot, looking at the area map, what initially appears only as a manifest indifference to the surrounding urban fabric, it can then also be interpreted as a way to take hold of the ground as if the building had been freely placed upon it.

The school was designed by José João Tinoco and José Forjaz around 1970 and its construction started in 1973. At the arrival of independence, the building was short of completion, with the sports centre yet to be built.

The structure can be described as a series of classroom blocks that are placed and connected on both sides of a central corridor, which terminates on the north side with the auditorium, the library and the special canteen volume. On the top south side, where the entrance is placed, the administration wing is to be found. The central corridor is an open portico that acts as a shading protection for the path linking the various classroom pavilions, where the same portico motif is extended as a side extension to shape the north side elevations of the pavilions. In this way, a full and multilevel comb network of servicing spaces has been defined to maintain a constant relationship with the open spaces, taking advantage of the above mentioned free disposition of the building within its isolated plot of land.

It is also worth mentioning that at the middle of its extension, the central corridor roof spans largely from the pillar support lines so as to generate a covered square; again a privileged relationship between the construction and its pertinent ground is here affirmed, creating in this case, a special social space within the functional organization of the school.

< José João Tinoco and José Forjaz, Polana High School, Maputo, 1970–73. The intersection between the central corridor and one of the classroom pavilions. Photo by Vincenzo Riso, June 23 2010.



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The building is mostly made of exposed reinforced concrete structures and elements—the load bearing system but also some accessorial parts that protrude out of the structure, such as the benches along the corridor or other very significant elements for the classrooms blocks such as the vertical sun breaker elements placed all over the south side elevations to protect the fully operable glazing surfaces from direct light in the morning and afternoon. The veranda-like extension of the service stairs and ramp spaces on the north side elevations of the blocks assumes the same function.

The inclined roofs of the blocks were covered with undulated asbestos cement plates so that the only differing color parts within the whole are the infill wall parts that are whitewashed.

The simple and efficient organization as well as its material roughness served the school well for several decades, but in recent years the concrete structure has begun to show some serious decomposition problems, some of which are a result of the corrosion caused by the prevailing coastal winds, others being caused by internal percolations of effluent waters. Severe corrosion problems concerned also the metallic operable sashes of the glazing surfaces and more dangerously even the steel fitting supports of the heavy vertical sun-breaker concrete panels.

At the beginning of 2012, a Chinese building firm, within a cooperation program, proposed to the Mozambican Ministry of Education to execute some restoration work on the building.



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Figure 1. The north side elevation of one of the classroom pavilions.

Figure 2. The south side elevation of one of the classroom pavilions.

Figure 3. Detail of the south side elevation with vertical sunbreakers to protect the underneath fully operable glazing surface.

Figure 4. Detail of steel corrosion on the fitting supports of the vertical sunbreakers

Figure 5. Detail of the steel fitting supports of the vertical sunbreakers that have been replaced by similar but larger ones.



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To give the reader an idea of the nature of these interventions we can relate that they consist, for instance, in filling the concrete splits with proper epoxy resin; exchanging the steel fitting supports of the vertical sun-breakers for similar but bigger ones; and finally safely replacing the asbestos cement undulated plates covering the roof with *IBR* (metallic and polyethylene) sheets colored in red (though also available in grey).

Of a strictly pragmatic nature, such interventions were exclusively aimed at maintaining the building in use, within a short term perspective. Beyond the possible criticism that could be advanced regarding the single and specific repair solutions, it can be observed that the real problem of the rehabilitation operation as a whole has been the lack of a general plan. The work had been defined and organized as a list of isolated interventions (tender specifications). And it is possible that some of the causes of the degradation problems might not have been recognized, and that therefore their solution could be only temporary due to the remaining presence of the original problem.

In this sense, within the global context of our case studies, the Polana High School is of particular importance, not solely due to the quality of the building itself, but also to show the financial as well as cultural issues that might hinder the recovery of buildings of heritage value, which, notwithstanding the quality of their construction, have been constantly exposed to heavy duty use and that have suffered from a severe lack of maintenance.

In this sense, the story of the Polana High School also embodies the common condition of the large amount of Modern Movement architectural works that can be seen in Maputo. Beyond the shabby condition of the finishes

and in spite of the manifest alterations, nevertheless those buildings sustained up to now the weight of social and time changes. This could be the evidence that also Modern architecture can grow old and proudly be maintained in the state which its history shows. Moreover the urgency of material conditions to guarantee the continuous use of such buildings, if they simply undergo proper maintenance, could be the occasion to skip the 'old problem', which often emerges in the restoration operations in wealthier countries, of remaining true to the spirit of Modern when literal conservation of buildings can become a subtle way to betray its original design concept.

Figure 6. **José João Tinoco** and **José Forjaz**, Polana High School, Maputo, 1970–73. Detail of the decomposition of concrete due to internal percolation.

Figure 7. Detail of frequent concrete break up areas

Figure 8. The central open corridor, view from the south side top.

Figure 9. The covered square along the central corridor.

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