



**Politecnico
di Torino**

Honors Thesis

Master of Science in Sustainable Architecture

Abstract

A design tool for risk reduction in learning facilities: Flood prone areas

Tutor/Correlator

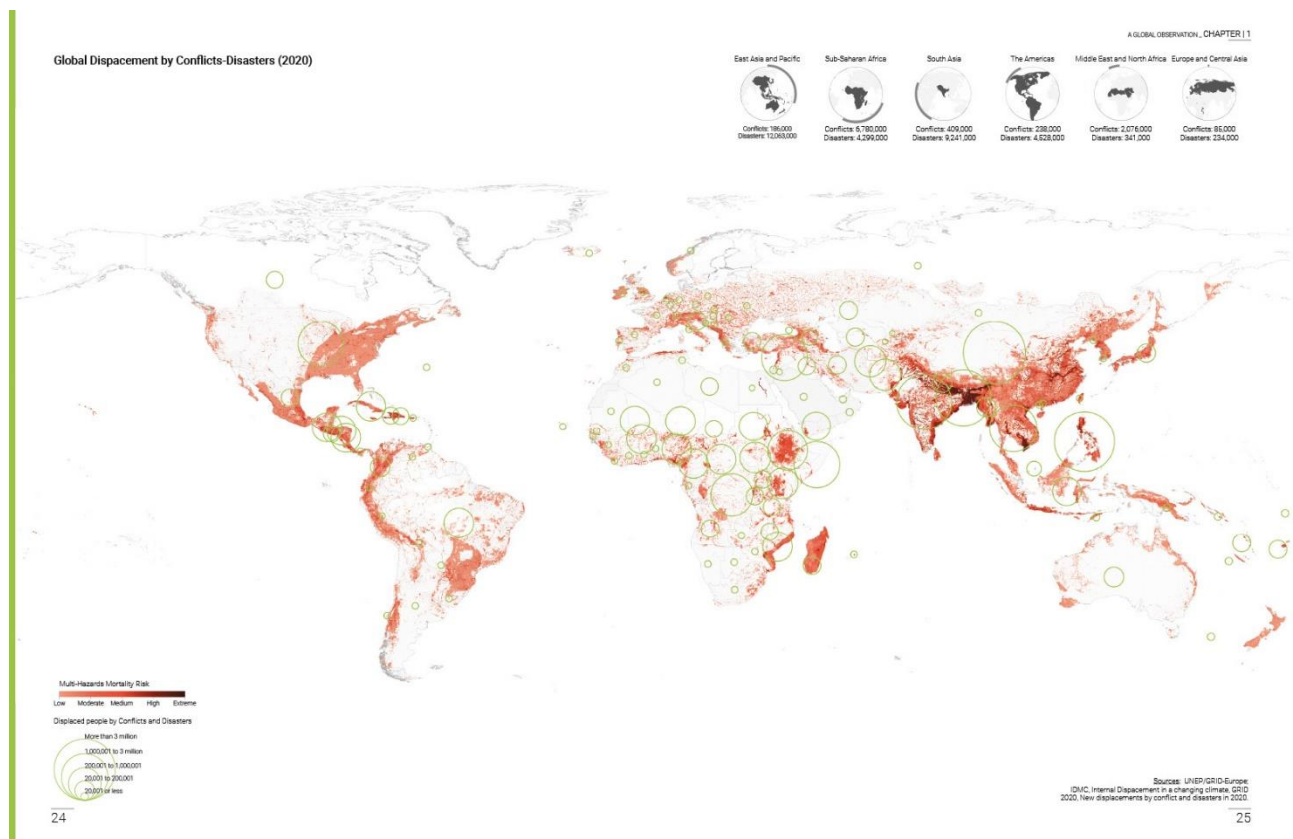
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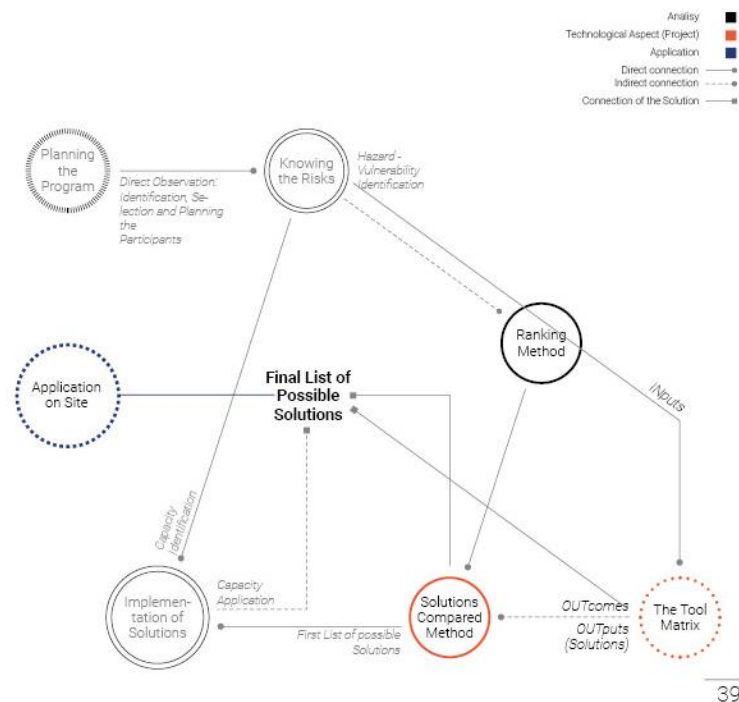
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In a global context full of political, economic and climatic contrasts, the research frames the problems deriving from the observation of these macro-issues, underlining the needs of places with connotations far from an idea of stability and accessibility, in economic and cultural terms and accessibility to primary resources. Within these realities characterized by precarious infrastructures, it can be seen how the population, in a state of physical poverty and socially segregated, is extremely vulnerable to climatic conditions, making it difficult to return to post-disaster normality. This translates into migratory flows and the removal of the younger sections of the population from accessing educational services, in a context in which access to culture is already difficult.



From the observation of the global background arises the desire to develop architectural solutions, which respond to the needs of educational services and climatic problems, such as floods, storms, earthquake and disease, while respecting the architectural and social culture and the economic capacities of the context in which attention is placed. Following this, the research focuses on flood issues affecting vulnerable communities and especially the education system and, how solutions based on vernacular architectural systems can mitigate disastrous events, making society and especially children resilient, from possible flood impacts. The purpose of the thesis is to provide new tools, methodologies and aspects to which the project activity should pay attention, expanding those participatory and

organizational tools already implemented by Red Cross and Plan International that aim at assessing risks, vulnerabilities and capacities of a given community.

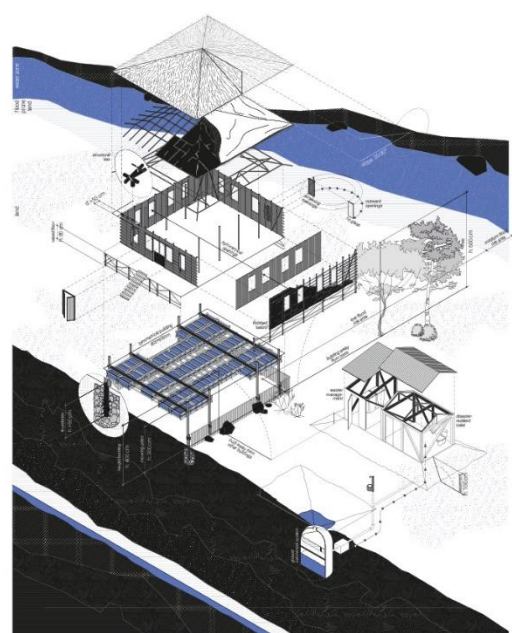


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These new tools help to define, through the use of methodologies, possible architectural solutions, applicable to global contexts, resilient to conflict situations, floods, storms, earthquake and disease, emphasizing, therefore, the value of the support of the participatory process for the application and extension of solutions that adapt and are accessible by the community on which attention is placed.

The theoretical development has a design application in Mozambique, context of multiple social and alluvial problems, the latter due to the tropical climate, which generates heavy rains and cyclones. The design application therefore aims at the architectural development of educational services in a rural area of the Zambezia region, in Mozambique, considered particularly prone to such problems.

MOZAMBIQUE A FRAGILE LAND, CHAPTER 13



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