

Site Selection in Adaptive Reuse Architecture for Social Housing in Johannesburg, South Africa

Authors : Setapo Moloi, Jun-Ichiro Giorgos Tsutsumi

Abstract : South Africa's need for the provision of housing within its major city centres, specifically Gauteng Province (GP), is a major concern. Initiatives for converting misused/ unused buildings to suitable housing for residents who work in the city as well as prospective citizens are currently underway, one aspect that is needed currently, is the re-possession of these buildings repurposing, into housing communities for quality low cost mixed density housing and for this process to have minimal strain on existing infrastructure like energy, emission reduction etc. Unfortunately, there are instances in Johannesburg, the country's economic capital, with 2017 estimates claiming that 700 buildings lay unused or misused due to issues that will be discussed in this paper, these then become hubs for illegal activity and are an unacceptable form of shelter. It can be argued that the provision of inner-city social housing is lacking, but not due to the unavailability of funding or usable land and buildings, but that these assets are not being used appropriately nor to their full potential. Currently the GP government has mandated the re-purposing of all buildings that meet their criteria (structural stability, feasibility, adaptability, etc.) with the intention of inviting interested parties to propose conversions of the buildings into densified social housing. Going forward, the proposed focus is creation of social housing communities within existing buildings which may be retrofitted with sustainable technologies, green design strategies and principles, aiming for the finished buildings to achieve 'Net-Zero/Positive' status. A Net-Zero building, according to The Green Building Council of South Africa (GBCSA) is a building which manages to produce resources it needs to function, and reduces wastage, emissions and demand of these resources during its lifespan. The categories which GBCSA includes are carbon, water, waste and ecology, this may include material selection, construction methods, etc.

Keywords : adaptive reuse, conversion, net-zero, social housing, sustainable communities

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