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Entitled

*DESIGN WITH, NOT FOR, LOCAL COMMUNITY: UTILIZING E-PARTICIPATION TOOLS IN THE DESIGN OF
SOCIALLY SUSTAINABLE VERTICAL EMIRATI PUBLIC HOUSING*

By

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Abstract

Few years ago, local and federal governments in the UAE started to design and develop vertical public housing for Emirati residents as a new public housing typology that is believed to be more environmentally sustainable. Dibba Al-Hisn Housing Scheme in Sharjah and Al-Ghurfa Project in Al-Fujairah, are two recently developed vertical Emirati public housing projects developed by Sharjah Housing Directorate and Sheikh Zayed Housing Program (SZHP) respectively. Both projects, have been professionally designed, however, the residents' opinions were not considered in the design process. Therefore, the main objective of this research is to explore the potentials of utilizing the advanced e-Participation tools of Virtual Reality (VR), to genuinely involve Emirati citizens in the design process of the vertical public housing in the UAE. A Qualitative Case Study research method was adopted to achieve this goal. The research steps of this thesis started with, first, initiating a conceptual framework from relevant literature review and global case studies in developed and developing countries, as well as in-depth interviews with Emirati residents about the anticipated design measures of the social sustainability principles in vertical housing. Next, the conceptual framework was utilized to examine the 'professional' design of Al-Ghurfa vertical housing project, as a case study, through three investigation tools: pre-e-Participation interviews, e-Participation interviews through the advanced Meta Quest Pro VR tool, and post-e-Participation interviews. A sample of 32 Emirati young citizens were interviewed after developing Al-Ghurfa project design into BIM and VR-ready model through Revit and Prospect Iris VR software packages. This advanced e-Participatory tool managed to successfully explore the opinions of the interviewees regarding the professional top-down design of Al-Ghurfa vertical housing project, as almost all of them have found this immersive tool to be beneficial for understanding and visualizing apartment designs. The obtained detailed opinions revealed the social sustainability-related shortcomings of the current vertical public housing design, and hence, new design guidelines for achieving social sustainability principles have been recommended when designing vertical public housing for Emirate residents in the future.

Keywords: Public Housing, e-Participation, Vertical Public Housing, Virtual Reality, UAE.