BARRIERS AND CHALLENGES IN IMPLEMENTING MODULAR CONSTRUCTION METHODS IN SRI LANKAN RESIDENTIAL CONSTRUCTION PROJECTS

N. S. H. Bandaranayake and Hong Xiao

College of Built Environment, Birmingham City University, United Kingdom
niroshanasaliyab@gmail.com

Abstract: Modular construction methods are identified as a green, efficient, and cost-effective approach in the world. This study was conducted with the goal of identifying the factors that prevent the use of modular construction in residential buildings in Sri Lanka. Hence this study was focused to identify the socioeconomic, cultural, and technological barriers to the integration of modular building in this respect. The study employed a qualitative research approach, with in-depth semi-structured interviews conducted on respondents from the Sri Lankan construction sector, including architects, engineers, and project managers. Thematic analysis was used to assess the obtained data to uncover recurring patterns and themes in response to the problems of modular construction. Some of the key issues identified are lack of awareness and enlightenment about the modular construction method among all relevant stakeholders, ranging from building professionals to public, high initial costs, poor/reduced government support, technical constraints such as a poor infrastructure base, insufficient skilled and trained personnel, and others. According to the conclusions of this study, these problems must be solved by a collaborative effort by the Sri Lankan government, industry professionals, and educators, with an emphasis on regulations, awareness, investments in framework, technology, and skills. Practitioners can use these findings to modify policies, implement cutting-edge technologies, and provide workforce training in order to incorporate modular construction methodologies into projects and get around current problems like high initial investment, bureaucratic roadblocks, and a lack of skilled labour.

Keywords: Efficient, Green, Modular, Sustainable