A comparative analysis of site planning and design among green building rating tools

Xiaosen Huo¹, Ann T.W. Yu²*, Zezhou Wu³

¹PhD Student, Department of Building and Real Estate, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, China; Email: xiaosen.huo@connect.polyu.hk

²*Associate Professor, Department of Building and Real Estate, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, China; Email: bsannyu@polyu.edu.hk

³Assistant Professor, Department of Construction Management and Real Estate, School of Civil Engineering, Shenzhen University, Shen Zhen, China; Email: wuzhifan@szu.edu.cn

Abstract

Appropriate site planning and design (SPD) is a key solution for effective land use on construction sites. A Green Building Rating Tool (GBRT) includes systematic assessment criteria to evaluate whether a building is “green” or not. The effectiveness of GBRTs have been explored in energy use, waste management, and indoor air quality in green buildings. However, no investigation has been made to evaluate the effectiveness of GBRTs in site planning and design aspects. In this research, five international GBRTs were selected for a comparative analysis, to better understand the measures that help improve SPD in green buildings. Content analysis was applied to record and compare the relevant significance of SPD-related items in the selected GBRTs. The comparative study revealed that in terms of SPD, Building Environmental Assessment Method (BEAM) Plus allocates the highest importance while Green Mark (GM) allocates the lowest. Each GBRT emphasizes different aspects of SPD in green buildings, and BEAM Plus involves the most SPD related items. In addition, the main variables for effective SPD were identified and a theoretical framework was further proposed. The proposed theoretical framework can serve as a foundation for successful SPD in green buildings. The application and potential limitations of the theoretical framework were also discussed.

Keywords: Construction site, Green building rating tool, Site planning and design, Theoretical framework
دریافت فوری
متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات