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Comparative Analysis of Green and Healthy Building Rating Systems: Integrating Environmental Sustainability and Occupant Well-being

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ABSTRACT:

The increasing focus on sustainability and occupant well-being in building design has led to the development of various green and healthy building rating systems. While these systems aim to promote environmental performance and human health, there is a need to understand how they align and differ in their assessment criteria. This study reviews prominent rating systems such as LEED, WELL, IGBC, and Fitwel, analyzing their approaches to integrating environmental sustainability and occupant health. Previous research indicates that while these systems share common goals, they often emphasize different aspects of building performance. A systematic comparison of the selected rating systems was conducted, evaluating key parameters and assessment methods. The analysis focused on criteria related to energy efficiency, resource conservation, and indoor environmental quality, examining how each system addresses these factors. The study identified synergies and gaps between the rating systems. For example, LEED and IGBC prioritize environmental impacts, while WELL and Fitwel emphasize health and wellness. Key parameters such as air quality, lighting, thermal comfort, and resource efficiency were compared, revealing best practices that enhance both sustainability and occupant well- being. The findings highlight the importance of a holistic approach that balances environmental and health considerations in building design. This comparative analysis provides valuable insights for architects, designers, and policymakers, promoting the creation of built environments that are both sustainable and health-promoting.

Keywords: Healthy Building Rating Systems; Occupant Health; LEED; WELL; IGBC; Fitwel; Indoor Environmental Quality.

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