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## Achieving Sustainable Development: Accessibility of green buildings in Malaysia

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### Abstract

Both Universal Design (UD) and Green Building Design (GBD) aim to achieve sustainability in the built environment. In Malaysia, the introduction of Green Building Index (GBI) is a reinforcement of GBD agenda although not made mandatory to comply. At the same time, the Persons With Disabilities Act 2008 Malaysia (PWD Act) promotes strongly UD. Both the GBI and PWD Act are in support of Sustainable Development (SD) in terms of environmental protection and social equity, respectively. This study provides a critical analysis of how these two SD instruments are either being corroborated or compromised or complemented through the practice of providing accessibility to PWDs in green buildings.

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*Keywords:* Accessibility; green building; sustainable development; universal design

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### 1. Introduction

For more than forty years, SD has dominated the global environmental discourse and guiding ecosystem protection (Walsh, 2004; EPA, 2008). SD is interpreted and promoted by the initiatives of Health Building, Green Building Congress, Sustainable Building International Conference and Sustainable City International Conference, where SD and human health are the global development goal, with the consideration of "healthiness" and "comfortability", to construct a balance between "sustainability", "green" and "healthy" SD environment (Chiang, 2005). It can be problematic, however, if there is no connection between a sustainable building and its accessibility, including safety

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and usability by all people (Walsh, 2004; Tay, 2011). The study focuses on the accessibility of the built environment in green buildings in order to achieve the goal of SD in Malaysia's National Five-Year Development Plans. A review of Malaysia legislative, regulative mechanisms and policies in the literature review showed gaps identifying the lack of designing and constructing accessibility for human needs and an imbalance in adopting policies separating accessibility from sustainability. Using case studies, the results showed that disabled users' needs are not accounted for satisfactorily.

## 2. Literature review

### 2.1. Sustainable Development (SD): national plans, legislation and policies

SD ensures the well-being of humans by integrating social equity, economic viability, and environmental conservation and protection. According to Agyeman (2000), Pinfield (1997), Redclift (1987) and Campbell (1996), SD addresses three vital areas:

- People living today are entitled to justice and equal rights
- Environmental degeneration must be eliminated
- Future generations must not be impoverished as a result of current actions

SD concept was adopted in Malaysia during the 1992 NGO Forum for Rio C10 Malaysia - Chapter of 40 of Agenda 21. Planning by Malaysia constitutes a National Plan where SD was outlined as one of the goals (see Tables 1 and 2). Table 1 shows that accessibility was introduced much later in the Tenth Malaysian Plan where it refers to 'the quality of life'. In the Ninth Malaysian Plan accessibility was mentioned only in general regarding infrastructure. The Town and Country Planning Act included sustainable development as shown in Table 2.

Table 1. Malaysia's National Five Year Development Plans showing SD concepts

Malaysian Plan	Key Emphasis
Seventh Malaysia Plan (1996-2000)	SD
Eighth Malaysia Plan (2001-2005)	SD of energy resources and renewable.
Ninth Malaysia Plan (2006-2010)	SD covering social, economic and environmental aspects. Improving <i>accessibility</i> to and within the country, enhancing transportation links and communication services and internet at entry points.
Tenth Malaysia Plan (2011-2015)	Improving the standard and sustainability of quality of life through better <i>access</i> to healthcare, public transport, electricity and water. AFFIRM framework (Awareness, Faculty, Finance, Infrastructure, Research and Marketing) was established to promote the implementation of SD in the construction industry. Green building as part of SD is government's consideration to achieve a better future for next generations (Sood et al., 2011).

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