Abstract

Under the current circumstances, competition intensity in the real estate market have escalated due to new emerging factors such as environmental issues and changing social structures. Ubiquitous access to information has led to demand of quicker decisions, yet with more prudence and systematic checking and balance. Decisions in the real estate sector and architectural design have also been affected, especially whether or not to develop green, ecologically friendly, and energy saving projects.

This thesis aims to unravel the decision making process and provide guidance for the selection of green design concepts for middle-tier housing projects by taking into account the various views from multiple stakeholders through an analytic hierarchy process (AHP). The primary stakeholders in this research are the land developer companies which represent the final decision makers and their shareholders; the residents and the buyers of the property; neighbouring communities; the natural environment. The researcher studied the demands and priorities of each decision criteria of the four primary stakeholder groups in order to prioritize the significance of each green design concepts leading to final decision that would satisfy all four stakeholder groups.

The results showed that all primary stakeholders (the developers, residents, neighbouring communities, and the natural environment) feel that environmental issue is important in their design decisions for green middle-tier housing developments. Yet the No. 1 decision criteria for these four groups are different. The criteria which was given the highest priority for the developers and the neighbouring communities was environmental responsibility. For the residents it was the pricing of land and house. For the environment it was the degree of energy conservation. By taking into accounts the different criteria from different stakeholders the researcher found that the green design concepts with the highest priorities are landscaping design, water conservation system design, passive cooling design, protection of heat gain from wall openings design, and layout planning design, respectively.

In conclusion, this paper confirms that the process of selecting green design concepts for middle-tier green housing project, is efficient and can be verified taking into account the various requirements of multiple stakeholders through an analytic hierarchy process.