

DISSERTATION ABSTRACT

Title of dissertation: **CRITERIA SYSTEM OF SUSTAINABLE ARCHITECTURE FOR DESIGNING HIGH-RISE HOUSING IN HO CHI MINH CITY**

Major: **Architecture**; ID: **62.58.01.02**

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1. SUMMARY OF THE DISSERTATION:

- Literature foundation for the “criteria system of sustainable architecture for designing high-rise housing in Ho Chi Minh City” and evaluating method.
- Proposing the **“Criteria system of sustainable architecture for designing high-rise housing in Ho Chi Minh City”** and the assessing method.
- Proposing guidelines for architectural design that meets requirements of the Criteria system of sustainable architecture.

2. NEW FINDINGS OF THE DISSERTATION:

- **Proposing the “Criteria system of sustainable architecture for designing high-rise housing in Ho Chi Minh City” with 14 main groups of criteria concerning the life cycle of high-rise housing.** The criteria regarding the design works of architects are named “key” criteria – evidence for evaluating the architectural design in conformity with the requirements of sustainable architecture. The research initially provides the “important” criteria which are the scope of research of other fields in design, construction, operation and dismantling of buildings.
- Each group of criteria contains sub-criteria, and such sub-criteria is associated with the three core issues of sustainable development including ecological environment, culture-society, and economics-technology. Each content of the sub-criteria gets a certain value of points, and total point of every core issues (ecological environment, culture-society, and economics-technology) is 100. Aside from the 100 points of every core issues of sustainable development, additional encouraging points (10%) are possible for every core issues within each period of development of the city. Those points are set in the “priority proportion” (Figure

3.1). Thus, the maximum score of each core issue is 110 points, by this way, the equilibrium of each core issue is maintained regarding each stage of development.

- For assessing the quality of architectural design, the research proposes the “Sustainable Chart” which is a triangle model with each side assigned ranging 1-100 points, representing one of the three core issues including the ecological environment, culture-society, and economics-technology that form the concept of sustainable development. Levels in the “Sustainable Chart” are shown by the triangle regions named E, D, C, B, A and certified respectively as unsatisfactory, satisfactory in correspondence to 2-5 white lotus icons (see Figures 3.2 and 3.3).
- The scores attained from the three core issues (ecological environment, culture-society, and economics-technology) represent three points respectively on the three sides of the triangle shaped “Sustainable Chart.” Such triangle area that contains simultaneously the above three points represents the levels of certification of the architectural design achieved. The certification ranges from two to five white lotus icons (see Figure 3.4).
- The findings have proposed a new model that concretizes the arguments of sustainable development in terms of architectural design in general as well as high-rise housing design in Ho Chi Minh City in particular.
- The research has proposed guidelines for architectural design that meets requirements of the Criteria system of sustainable architecture.

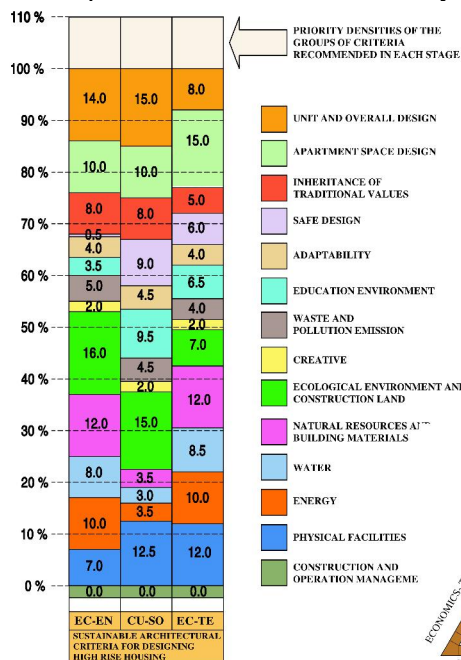


Figure 3.1 Point proportion of the criteria groups in the criteria system

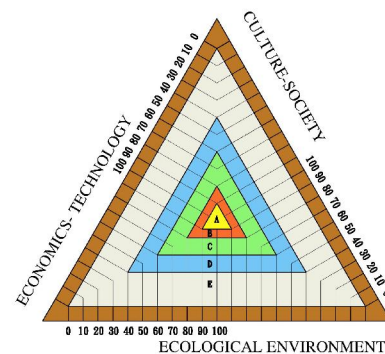


Figure 3.2 Sustainable Chart

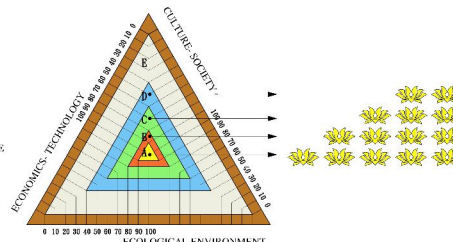


Figure 3.3 Sustainable Chart and levels

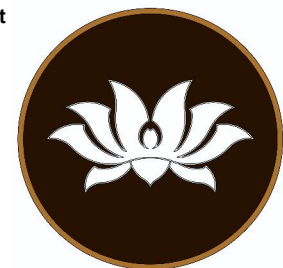


Figure 3.4 “White lotus” icon

3. PRACTICAL APPLICATIONS/ABILITIES AND RECOMMENDATIONS FOR FURTHER WORK

- The “**Criteria system of sustainable architecture for designing high-rise housing in Ho Chi Minh City**” is used as a foundation for proposing strategies, solutions and architectural design proposals of high-rise housing to reach the requirements of the sustainable architecture.
- The criteria system is used as a tool for architectural designers, managers, investors and users to assess design quality in accordance with the requirements of the sustainable architecture.
- Of the system, the “important” criteria provide a great foundation for further research on building a “Criteria system of sustainable architecture for high-rise housing in Ho Chi Minh City.”
- The research findings are merely built on the academic arguments and criticisms. For greater convincing audiences, it requires various pilot experiments on the high-rise housing projects in Ho Chi Minh City for improving the criteria system close to the actual practice.

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**CONFIRMATION OF THE TRAINING INSTITUTION
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