

DOCTORAL DISSERTATION'S NEW CONTRIBUTIONS

Title:

CONSERVATION OF ARCHITECTONIC STRUCTURE OF THE FRENCH COLONIAL BUILDINGS IN HISTORIC INNER CITY OF HANOI

Specialization: **Architecture** - Code: **9580101**

PhD Candidate's Name: **Lê Duy Thanh**

Doctoral Supervisors: **Prof. PhD Nguyen Vu Phuong**

Training Institution: **Hanoi Architectural University**

----- SUMMARY OF DOCTORAL DISSERTATION'S NEW CONTRIBUTIONS

This dissertation concentrates on studying the characteristics, value identification, and proposes conservation procedures and solutions for the conservation of Architectonic Structure of the French Colonial Buildings in the Historic Inner city of Hanoi. The dissertation has achieved four research outcomes:

1. Identify and clarify the 4 values in the Architectonic structure of French colonial building in historic inner city of Hanoi, including:

- *Technical Scientific Value:* demonstrated through the integration of Western materials/construction techniques with the local context to serve functional purposes and adapt harmoniously to the climate
- *Aesthetic Value Expression:* Determines the mechanisms forming the value. This value is manifested through conformity to the development trends of societal aesthetics while being a typical representation of the societal regime (government representative).
- *Value in Establishing Identity for historic inner city of Hanoi:* In urban planning, they play as key nodes linking urban components, creating harmony for the urban landscape of Hanoi. In the subconscious of residents, they carry the historical significance of the transformation process from feudal urbanization to European-style urbanization
- *Utilization and Promotion Value:* Construction techniques with cost-effective advantages and expressive qualities can be used in the contemporary architecture

suitable with the native architecture and sustainable architecture trends. In addition, with numbers of French colonial building in Hanoi, heritage tourism will bring economic benefits and promote the image of historic inner city of Hanoi.

2. Proposing *a set of 8 criteria along with 20 indicators* to assess the value and conservation potential of the transportation infrastructure project in the Hanoi metropolitan area. The evaluation results also provide guidance for suggesting improvement/enhancement options

3. Establishing conservation procedures of Architectonic structure of French colonial building in historic inner city of Hanoi

- *3-step survey and assessment Procedure of Architectonic structure of French colonial building in historic inner city of Hanoi.* The focus is on elucidating the characteristics and values of Architectonic structure of French colonial building in historic inner city of Hanoi, so the output products of the process is very clear in terms of each element and value. Special attention is given to the demolition survey method to clarify the original value characteristics.

- *3- step design-conservation procedure for Architectonic structure of French colonial building in historic inner city of Hanoi.* The conservation design process is the subsequent stage following the survey and investigation process. The design of conservation plans and construction measures must be assessed based on the impact on the 4 elements and 4 values of Architectonic structure of French colonial building by an interdisciplinary expert group through specialized methods.

4. The dissertation has proposed specific conservation solutions for Architectonic structure of French colonial building in historic inner city of Hanoi.

- *Proposed material conservation solutions* based on the characteristics of materials and the contextual conditions of historic inner city of Hanoi bricks, mortar, metals, wood, and reinforced concrete.

- *Suggested component conservation solutions* based on the principle of minimizing impact to preserve its external appearance. The focus is primarily on reinforcement to extend the lifespan of component such as foundation, wall, arch, floor, roof, and door.

- *Recommended conservation of connections solutions* are grounded in original

techniques to ensure consistency and, most importantly, the authenticity of Architectonic structure of French colonial building

- *Proposed conservation of space*: Adaptation of both external and internal landscape spaces to new functional uses, aiming to integrate with the historic inner city of Hanoi while preserving the distinct features of Architectonic structure of French colonial building and promoting their inherent values.

The new contributions of this dissertation's research results go hand in hand with its content & match the set-out research aims.

PhD CANDIDATE

Lê Duy Thanh