

Chapter 2

Literature Review

The chapter is divided into three sections. First is the discussion on the *Tu Giac* Housing Type concerning the reflections of traditional and French architecture. Second is the reviewing to the studies on conservation work of historic buildings in Hue city, from the Nguyen Citadel architecture down to the *Ruong* houses (*the most numerous and common traditional houses of Hue city*) to attain the causes of decays and destructions and conservation techniques for each decayed parts. The second section focuses on the related Articles of international Charters and national Laws and Principles.

2.1 The Citadel and the *Ruong* House in Hue City

2.1.1 The Citadel

The owner of the Citadel in Hue city is the Nguyen dynasty (1802-1945), the last feudalism of Vietnam. The most representative of the Citadel is the wood architecture with the contribution of two main types of building, palaces and rampart.

The royal palaces is no longer seen in any region in Vietnam, especially the Thai Hoa Palace (1833) and Long An Palace (1845) which are known as two biggest timber structures in the legacy of Vietnamese traditional architecture¹ and the Hien Lam Pavilion (1821) which is seen as the highest timber structures of the Citadel zone

¹ Hoang Dao Kinh, 2003

within 3 stories up to 16.25m-high.² Thai Hoa Palace where the Nguyen Kings celebrated meetings with his mandarins formerly has seven compartments divided by the timber columns with two main sloping roofs alongside the length of the building. In Hien Lam Pavilion, all 24 wooden columns which divide the building into three compartments and carry all building loads are made of *Lim* and *Kien Kien* wood³, two of four hardest species of wood in Vietnam. Four center columns which are made of four single trunks have the length of three stories. All of them have reached the pinnacle of Vietnamese traditional wood architecture. The Citadel was surrounded by three ramparts, called Kinh Thanh, Hoang Thanh, and Tu Cam Thanh. All three ramparts were made of Hue local bricks so-called *Vo* bricks, the only solid brick for construction in Hue Citadel at that time.

Historically, the Citadel architecture of Hue city is classified into two certain periods. The first period (1802-1883) under the reign of four initial Nguyen kings is the development of absolutely Vietnamese traditional architecture. It has reflected the important roles of traditional timber structures in load bearing and interior decoration by carved-motifs of Vietnamese folk-images. The good examples for this period are the Ngo Mon Gate (1833), Thai Hoa Palace (1805), and Hien Lam Pavilion (1821) (Fig.2.1). The second period (1884-1945) under the last nine kings, the same time of French domination in Hue city (1885-1954), is the development of Vietnamese traditional architecture in the blending with the Western influences.⁴ Typically for the Citadel architecture in this period is the Tinh Minh Lau building, a good mixing of

² Institute of Science Technology Construction of Central Vietnam, 2003

³ Institute of Science Technology Construction of Central Vietnam, 2003

⁴ Hoang Dao Kinh, 2002

Vietnamese traditional royal architecture with the French architecture which was built in 1926.⁵ Its traditional characteristics are reflected in the traditional column-truss connection on the roof (called *giao nguyen-tru doi*), the traditional motifs of the phoenix on the roof ridges, the corridor supported by wooden columns surrounding the building, and the folk-images carved on timber elements. The French influences here are revealed through the participation of load bearing walls in supporting four corners of the roof and the integration of reinforced concrete pillars, steel beams, and wooden planks in creating the floor structure⁶. Besides, in Thai Binh Lau building of the Citadel constructed in 1919, the French architectural exposition of shutter windows combined with the traditional timber structure and decorative motifs has proven itself as the good Vietnamese-French architecture in the Citadel architecture of Hue city (Fig.2.1).

The retention of many historic buildings which have contained the values of Vietnamese and Hue traditional architecture and the harmonious blending with the French influences led to the recognition of Hue Citadel as the world heritage in 1993. The conservation and preservation on the Citadel, therefore, have been carried out and got some achievements, such as the successful conservation of Hien Lam Pavilion in 1990s, the finding and recreating of traditional mortar, and the provision of adequate conservation techniques for all decayed timber and masonry parts (Fig.2.2).

⁵ Institute of Science Technology Construction of Central Vietnam, 2003

⁶ Ibid

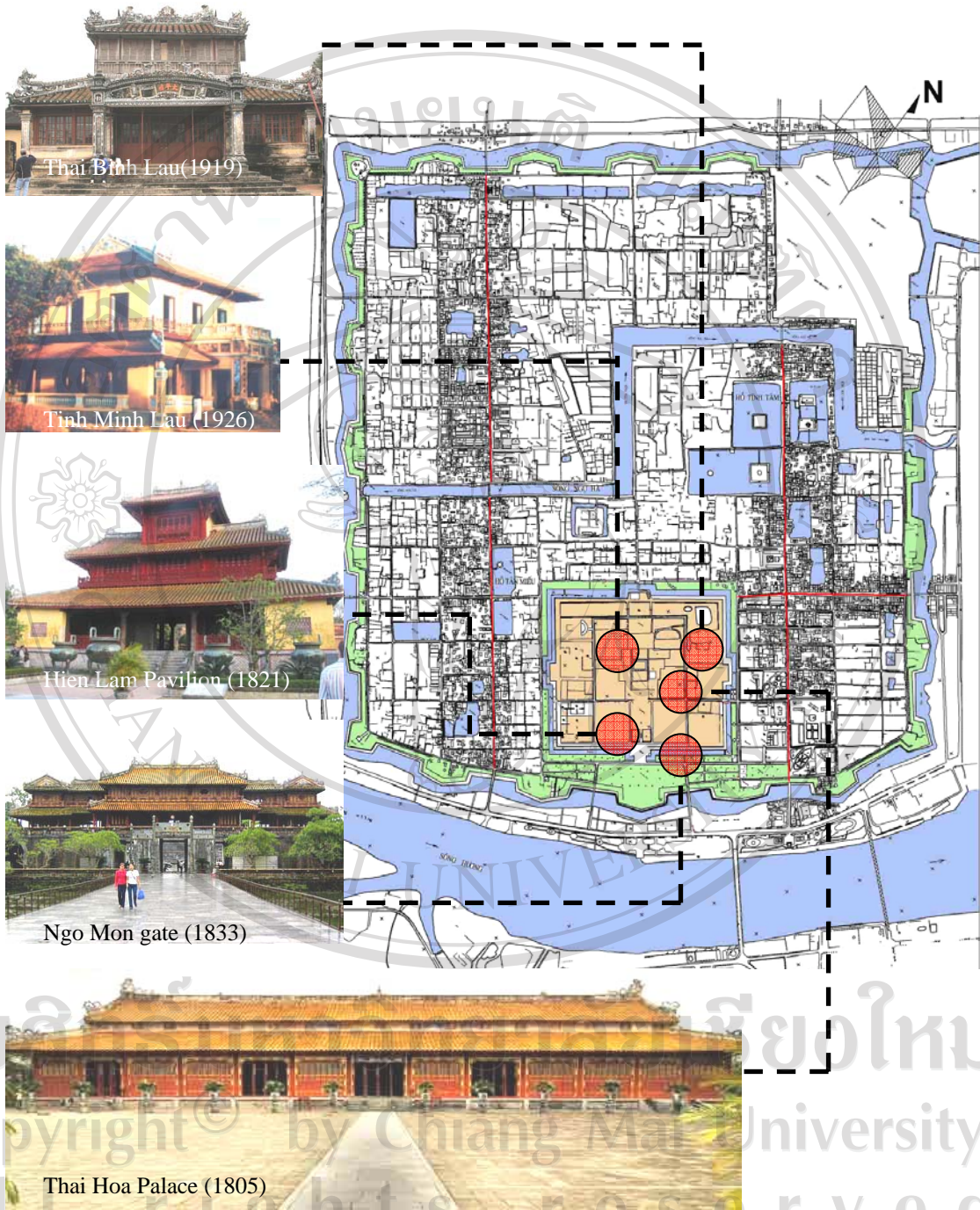


Fig.2.1 The Citadel of Nguyen Dynasty (1802-1945) with the outstanding royal buildings.



Sprinkle protective liquid for maintaining the decorative colors on palace roof

Repair the drainage system for palace roofs

Consolidate the serious decayed timber elements by adding the new timber core

Maintain the timber elements by chemical substances for fungi- and pest- resistance

Fig.2.2 Some examples of the conservation work on the Citadel.⁷

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⁷ Institute of Science Technology Construction of Central Vietnam

2.1.2 *Ruong* House Map and its commonly application of Architecture in Hue City

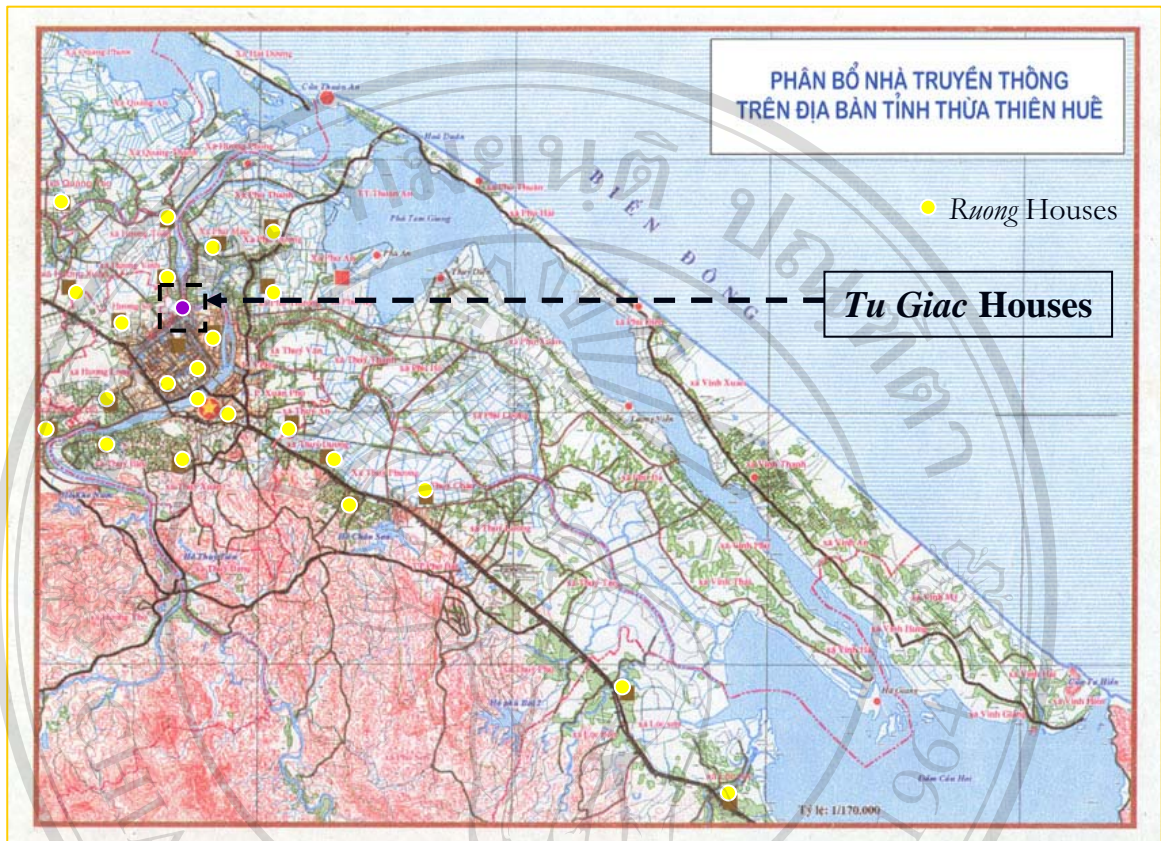


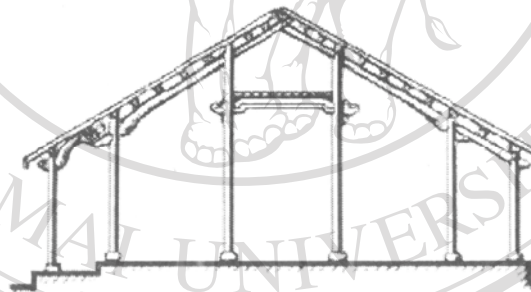
Fig.2.3 The overall map of Hue city addressing the common distribution of *Ruong* house in Hue City in comparison with the location of *Tu Giac* houses only in the Bao Vinh Village.

In the source of Hue traditional architecture, the local *Ruong* houses with the number of more than 1.000 houses⁸ have played the important part in preserving the traditional architectural values of Hue city. They become the most common traditional housing type of Hue city mostly built in the 19th and 20th century. From the map (Fig.2.3) showing the distribution of *Ruong* houses in almost all parts of Hue city, it emphasizes the domination of *Ruong* houses in Hue traditional local architecture, and in other words, it reveals the rareness of the *Tu Giac* houses (only found in Bao Vinh

⁸ Tran Ba Tinh, 2004

village) with the modest number of 8 houses in comparison with more than 1.000 *Ruong* houses.

The *Ruong* houses are known as the smaller versions of the Nguyen royal buildings with smaller sizes and less details and decorations. The most representative of *Ruong* houses is the one-story timber structures with two main gable roofs along the length of the house (Fig.2.4) and the carved motifs of folk-images on timber elements. The wooden columns of the timber structure divide the house into 1, 2, 3, or 5 compartments,⁹ fewer than 7 or 9 of the royal buildings¹⁰ in the Citadel. The higher position in society, the more compartment houses they lived in. It helped to define which houses were belonged to local people and which were of royal persons or mandarins.



Section of *Ruong* houses showing the exposure of Hue traditional timber structures and 2 gable roofs



Façade of a 3-compartment *Ruong* house: the most common type of *Ruong* houses in all *Ruong* houses
 Fig.2.4 The Section and Façade of a typical 3-compartment *Ruong* house in Hue City.

⁹ Hoang Huu An, 2003

¹⁰ Phan Thuan An, 2005

At present, several studies have been done on the conservation of *Ruong* houses and gotten some certain achievements in practice, especially the conservation of *Ruong* houses in the Citadel zone and Kim Long precinct, the two most famous tourist places of Hue city nowadays (Fig.2.5).

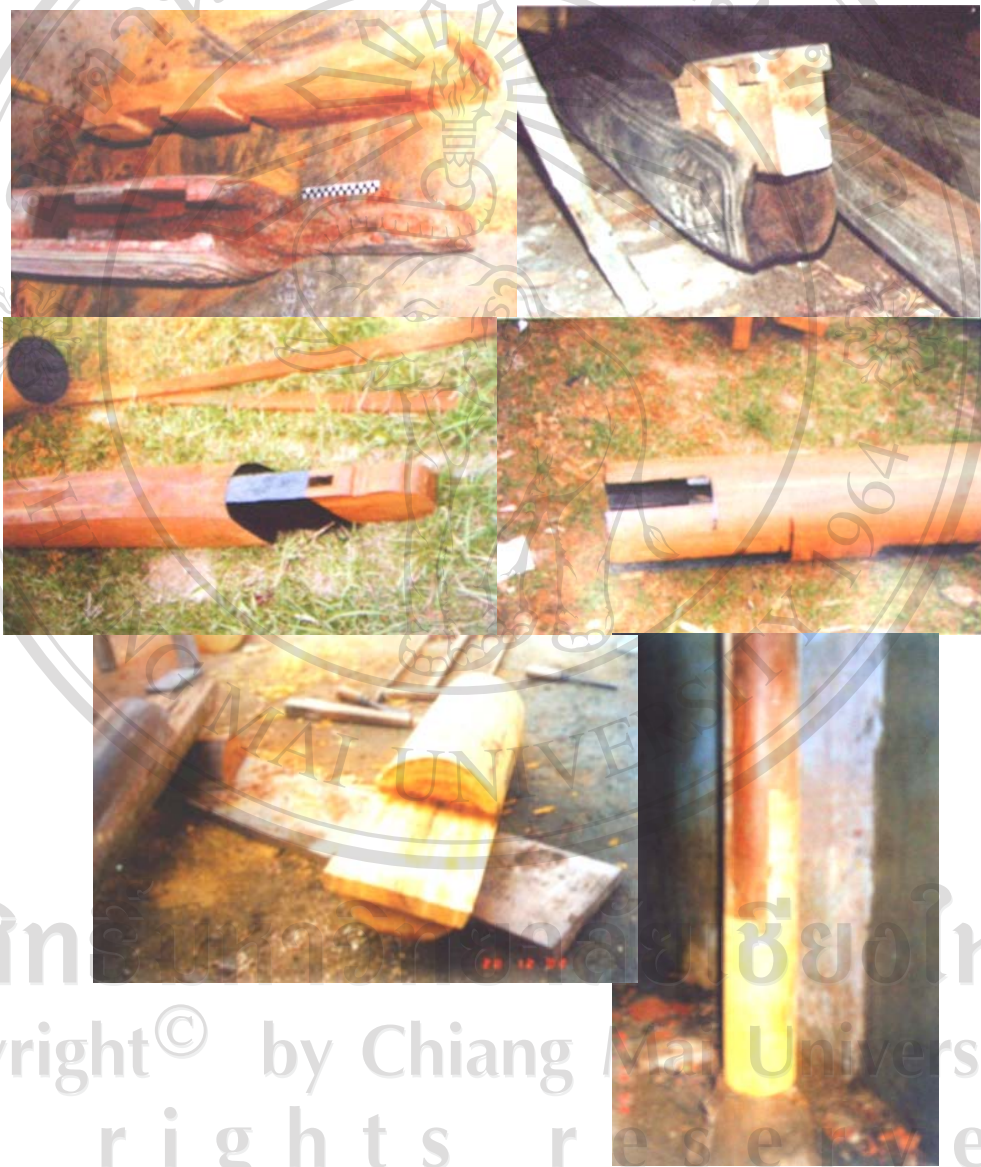
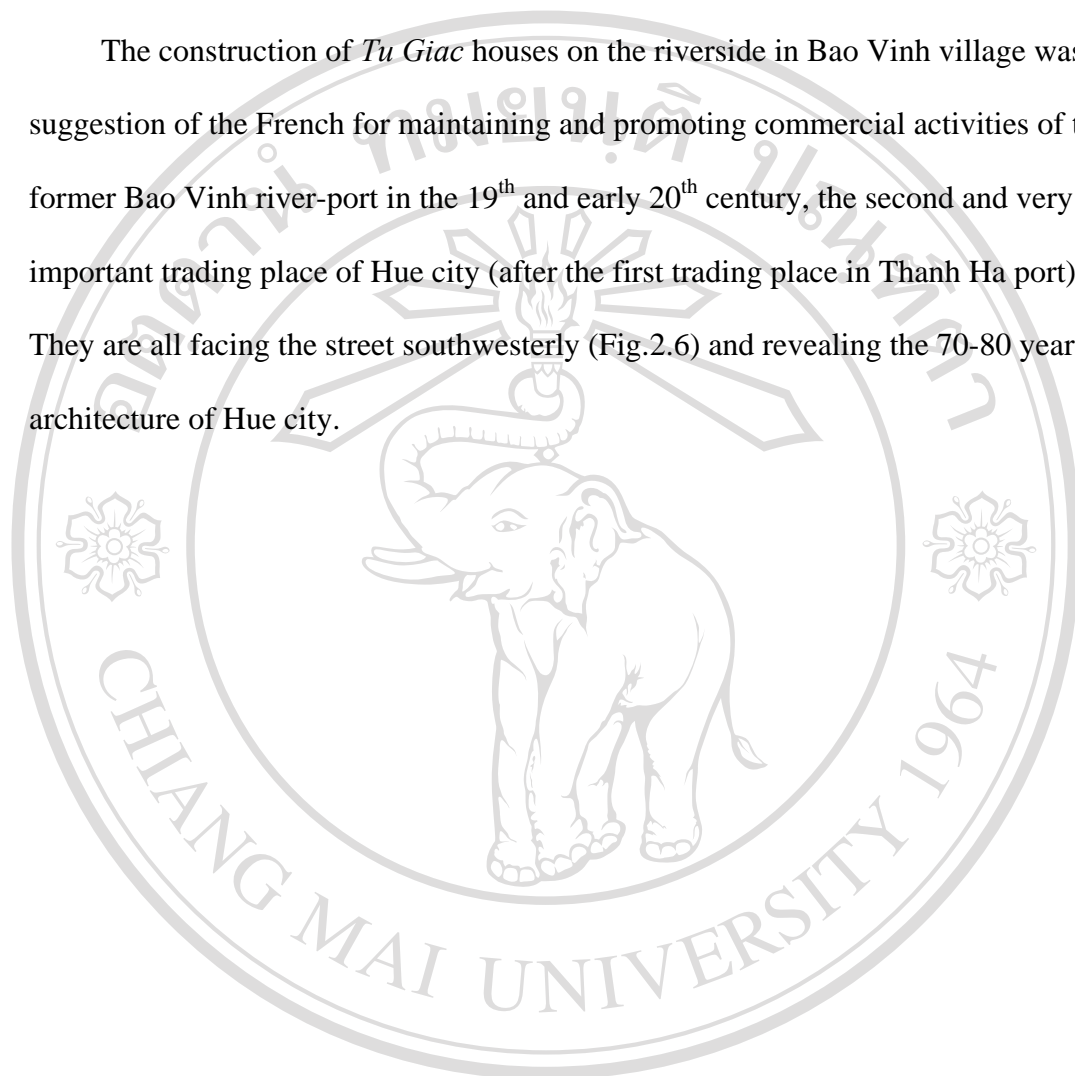


Fig.2.5 Some examples of the conservation work on *Ruong* houses - The conservation techniques for repairing decayed timber elements of *Ruong* houses (Hue Heritage House Organization, 2003).

2.2 *Tu Giac* Housing Type - The harmonious mixing of Hue traditional and French-influenced architecture

The construction of *Tu Giac* houses on the riverside in Bao Vinh village was the suggestion of the French for maintaining and promoting commercial activities of the former Bao Vinh river-port in the 19th and early 20th century, the second and very important trading place of Hue city (after the first trading place in Thanh Ha port). They are all facing the street southwesterly (Fig.2.6) and revealing the 70-80 year old architecture of Hue city.



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Fig.2.6 The 9 *Tu Giac* houses on the riverside in Bao Vinh village. House No.5 had been demolished in September of 2007.

Prior to *Tu Giac* houses in the 19th century, a series of thatch-cottages and then stone-houses with one story were built on *Tu Giac* sites to serve commerciality of Bao Vinh river-port. However, fire burned thatch-cottages down several times and floods made the one-story stone houses impossible to store goods and commodities. In order

to avoid flood and fire, the original structure of *Tu Giac* houses suggested by the French¹¹ comprises two stories with solid brick walls to support the 2nd floor and the hip roof, accompanied by two functions: commodity-storage upstairs and shop downstairs¹² (Fig.2.7). It is the load bearing walls which reflect the historical inheritance of previous structures to respond to the site in harmony with the architectural development from flammable materials (thatch) into more sustainable ones (brick) and from the one-storey into two-storey structure on the riverside of Bao Vinh village (19th - early 20th century).

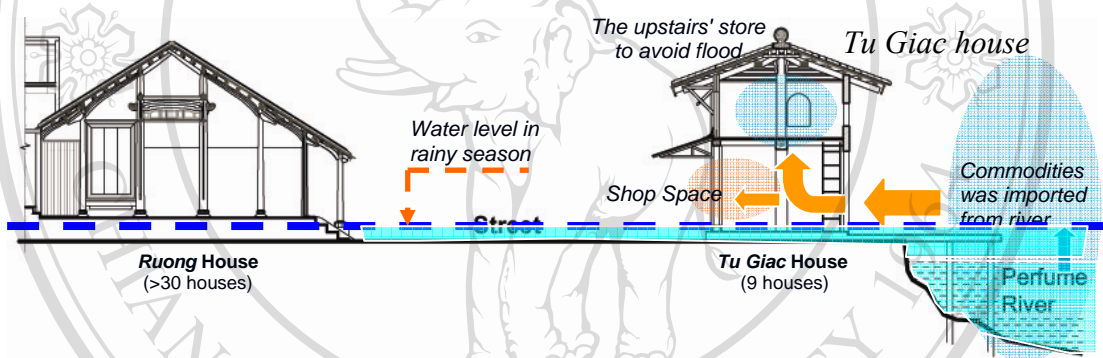


Fig.2.7 The functional significance of *Tu Giac* House for Bao Vinh is the storage space on the 2nd level when the water tide is high.

In the traditional one-storey *Ruong* houses of Hue city, due to high mean humidity over 80%, one of their outstanding features is the wooden ceiling on the 2nd level under the roof to store and protect rice, grains, foods, or valuable objects from moisture (or flood-water) originated from the ground.¹³ In broader view to Vietnamese traditional local houses, the best solution to avoid moisture on the ground is the separated floor from the ground, found in Vietnamese traditional stilt houses

¹¹ According to the information from the original documents in French version of the *Tu Giac* house No.9.

¹² Nguyen Thien Binh. Bao Vinh commercial town – The foundation process & cultural economic activities under the Nguyen dynasty (1802-1945). BA thesis. Hue University, 1998.

¹³ Architecture Research Institute. *Architecture and Tropical Climate in Vietnam*. Hanoi: Xay Dung Publisher., 1997, p. 88.

dating back the Dong Son culture in the 3rd century.¹⁴ It can be inferred that the floor on the 2nd level of *Tu Giac* houses is the significant development from the wooden ceiling in Hue traditional one-storey architecture and the separated floor of Vietnamese traditional stilt houses (Fig.2.8).

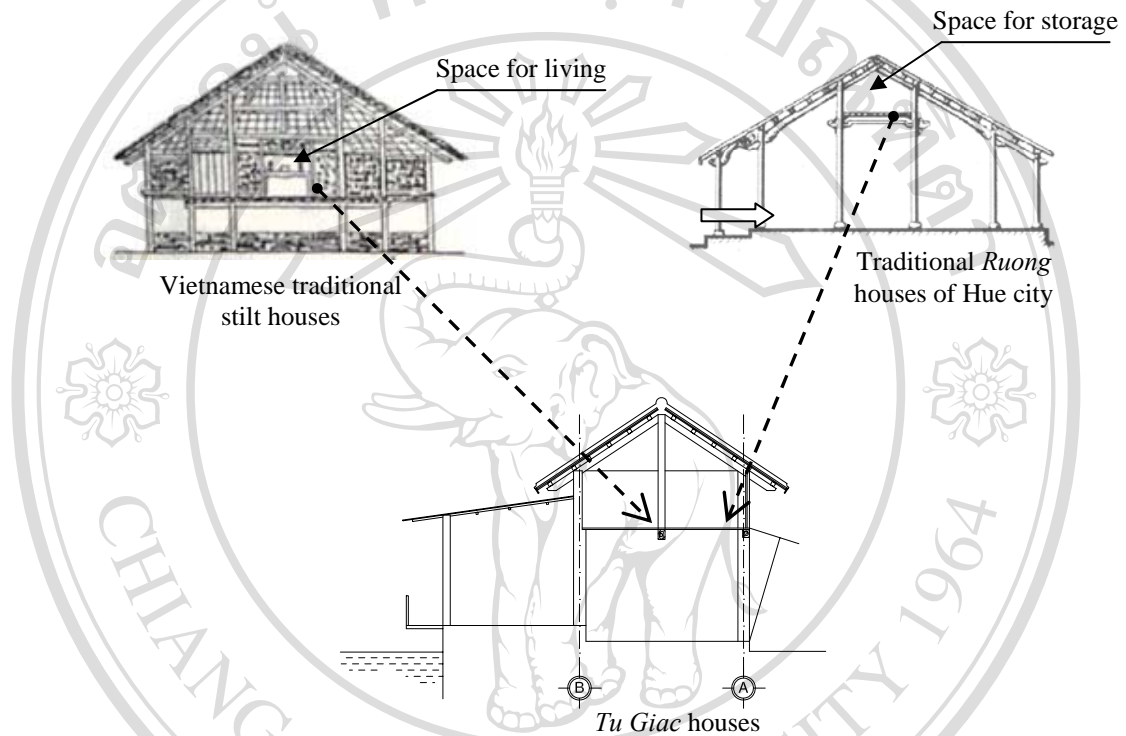


Fig2.8 The development of the 2nd floor of *Tu Giac* houses from the wooden ceiling of *Ruong* house and from Vietnamese traditional stilt-houses to store and protect things from moisture on the ground.

The sloping roof is one of the most representatives of Hue traditional architecture to respond to hot and humid climate of Hue city. It helps to drain rain-water quickly in rainy seasons and intensify air-circulation inside the house in hot seasons. It appears not only in all the royal buildings of Nguyen dynasty (1802-1945) but also in all *Ruong* houses, the most common traditional houses of Hue city. Therefore, the sloping of the hip roofs on *Tu Giac* houses has reflected the Hue traditional characteristics (Fig.2.9).

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Architecture Research Institute. *Architecture and Tropical Climate in Vietnam*. Hanoi: Xay Dung Publisher., 1997, p. 94.

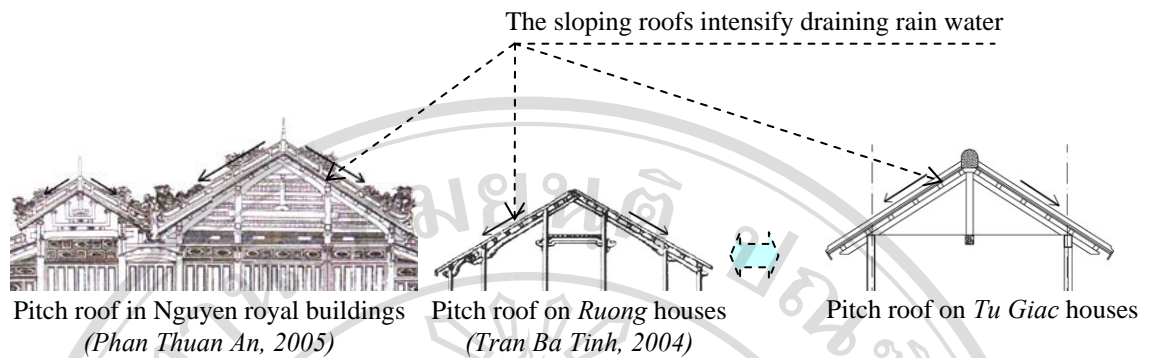


Fig.2.9 The similarity of sloping roof in Hue traditional architecture and *Tu Giac* houses.

The *Liet* tiles (*Ngói liệt*) made from fired-clay in Hue city were selected for covering the hip roofs of *Tu Giac* houses. In all six types of roof-tile in Hue traditional architecture, five of them with more decorations and details, i.e. *Ngói âm dương* (Ying and Yang tiles) or *Ngói Vô Quế* (cinnamon tiles), were used for major royal buildings of Nguyen dynasty. Only *Liet* tile, the simplest tile without any decoration, was used for less important buildings of Nguyen royal architecture as well as for most Hue local houses¹⁵, especially in all *Ruong* houses. It becomes the most common tile in Hue traditional houses¹⁶ and makes the *Tu Giac* houses be seen as Hue traditional houses since their hip roofs were covered by those *Liet* tiles (Fig.2.10).

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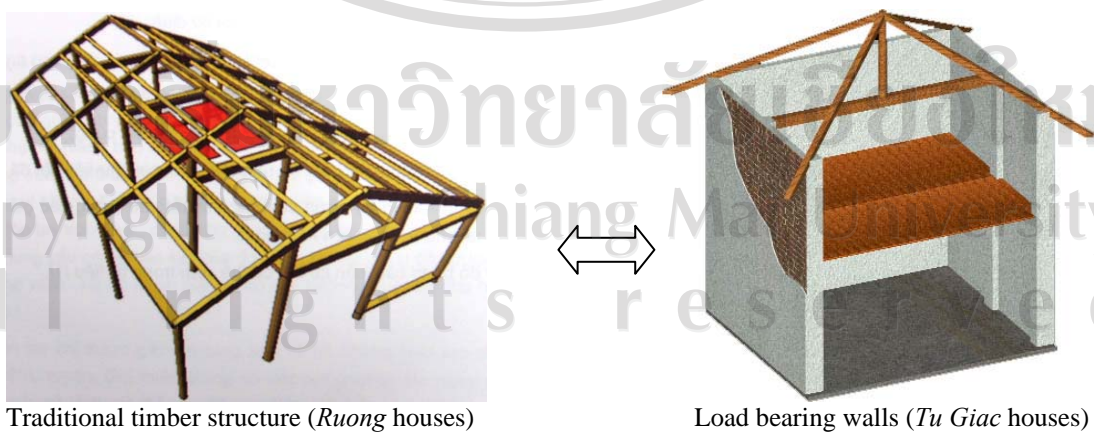
¹⁵ Phan Thanh Hai. *Bricks, tiles, and system of characters in the Nguyen Dynasty*. Vietnamese Architecture Magazine., 2006, p. 54

¹⁶ Tran Ba Tinh. *Research and Establish the Overall Map of Hue Traditional Houses*. Architectural Department of Hue University., 2004.



Fig.2.10 The *Liet* tiles on *Ruong* houses (left) and on *Tu Giac* houses (right).

As soon as reaching Hue, the French allowed constructing a series of multi-storey buildings (2-3 stories) on the south bank of Huong River (4km from Bao Vinh northeasterly) for housing their administrative powers. In those buildings, they applied the new structure of load bearing walls distinguishable from the timber structures of Hue traditional architecture as seen in the Nguyen royal buildings and all *Ruong* houses. The load bearing walls of *Tu Giac* houses is a good evidence of the French influences which make them outstanding among Hue traditional houses, mostly *Ruong* houses (Fig.2.11).



Traditional timber structure (*Ruong* houses)

Load bearing walls (*Tu Giac* houses)

Fig.2.11 The difference of Hue traditional timber structure and French-influenced load bearing walls.

In the Nguyen feudal period before French coming (1802-1885), the built environment of Hue city was strictly ruled by the feudal laws in which there was a regulation to prohibit local houses from constructing two floors (or two-storey buildings) for the safety of the King¹⁷ when he traveled outside. The one-storey buildings became the most representative of Hue local traditional architecture, i.e. a vast number of more than 1.000 thousands one-storey *Ruong* houses of Hue city. However, in the next period under the French domination (1885-1945), this regulation was canceled and, thus, constructions of multi-storey buildings¹⁸ within 2 or 3 floors were allowed. The two-storey *Tu Giac* houses is the good evidence for that change which reflect the strong French influences in the history of Hue traditional architecture (Fig.2.12).



Fig.2.12 The common one-storey *Ruong* house (left) in Hue traditional architecture and the two-storey *Tu Giac* houses as the French influence (right).

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¹⁷ Institute of History. *Ancient towns of Vietnam*. Hanoi., 1989., p.322.

¹⁸ Nguyen Thien Binh. Bao Vinh commercial town – The foundation process & cultural economic activities under the Nguyen dynasty (1802-1945). BA thesis. Hue University, 1998, p. 46.

2.3 Literatures on Architectural Conservation of the Hue City

2.3.1 Science, Technology, Conservation, and Restoration of Architectural Monuments (2003 and 2007)

Almost all aspects of the architectural conservation of Hue city are included in those two books written by the Institute of Science Technology Construction of Central Vietnam¹⁹ in 2003 and 2007, especially the conservation and restoration of Hue historic monuments such as the Hue Citadel, Nguyen royal mausoleums, Buddhist Pagodas, traditional *Ruong* houses, French-influenced buildings including the *Tu Giac* houses with regard to practical orientations and guidelines from national and international charters and laws like Venice Charter (1964), Conservation Concerning the Protection of the World Cultural and Natural Heritage (1972), the Nara Document on Authenticity (1994), or Principles for the Preservation of Historic Timber Structures (1999). The destructive causes vulnerable to all of Hue historic monuments and *Tu Giac* houses are given in details for the understanding and application of appropriate conservation methods and techniques. Particularly, causes of destructions and degradations in Hue traditional timber structures and the French-influenced load bearing walls structure, according to the literatures, generally come from Hue natural environments like seasonal temperature changes with high fluctuations, high mean humidity over 80%, heavy rains, fungi and pests growth, aging process of materials, biological corrosion. The attacks of similar fungi and pests in the same region of Hue city also result in the same fungal and pest decays in materials of both *Tu Giac* houses and other Hue historic buildings. Cracks happened in the timber elements of *Tu Giac* houses are completely similar to those occurred in

¹⁹ Belonged to Ministry of Construction of Vietnam

Hue traditional timber structures due to affected by similar impacts of Hue seasonal temperature and humidity. The study has referred to those destructive causes in the literature because they are actually the vulnerabilities to *Tu Giac* houses whose structures are made from similar materials of Hue traditional architecture like *Kien Kien* wood, clay-originated materials of *Vo* bricks and *Liet* tiles, and traditional mortar.

In general, despite belonging to different buildings, the remedial treatments are almost the same among decayed parts once their destructive causes are similar. Therefore, the conservation methods and techniques for decayed parts of Hue historic monuments given in the literatures can be applied for the cases of *Tu Giac* houses. It encompasses the methods for repairs or replacements of severe decayed timber elements, the repairing techniques for decayed brick-walls like cracks of walls or decayed plaster, and the ways of maintenance for timber structures in slowing down aging process of wood and resisting fungal and pest attacks.

2.3.2 Hue Cultural Heritage – The Promotion of *Tu Giac* House Conservation (2002)

This literature mainly focuses on the historic monuments of Nguyen Dynasty²⁰

which were adopted as the world heritage in 1993. It aims to, first, introduce the cultural and architectural values of Nguyen historical architecture typical only for Hue natural and social environments, and then provide the philosophy and theory as the aims of conservation for them along with some conservation techniques. Due to being adopted as the world heritage, the conservation of Nguyen royal buildings must be

harmonized with not only national but international charters and principles like

Venice Charter or Principles for the Preservation of Historic Timber Structure which

²⁰

The last feudalism of Vietnam situated in Hue city during 1802 – 1945

are also referred in the conservation of *Tu Giac* houses. In other words, as discussed in 2.1, some characteristics of Nguyen royal architecture are also reflected into Hue local architecture, especially *Tu Giac* houses and *Ruong* houses, in using Hue traditional local materials such as *Vo* bricks for walls, *Kien Kien* wood for floors, and *Liet* tiles for roofs. The same geographical location in Hue city among Nguyen historic monuments and *Tu Giac* houses is also important since their causes and decays come from the same sources which require the same treatments for protection and conservation. Therefore, the reference to the related conservation methods and techniques in the literature is necessary to come up with the conservation methods for the decayed parts of *Tu Giac* houses.

2.3.3 The Guideline for Conserving Hue Traditional House (2003)

Hue Heritage House Organization conducted this research on *Ruong* houses in 2003 with the purpose of providing a comprehensive guideline for protection and conservation of Hue traditional houses wholly or partially similar to *Ruong* houses. Again, the literature first comes up with the causes of decays and destructions in Hue traditional houses in which it emphasizes the natural impacts as the most vulnerability.

However, in section of conservation techniques, it introduces in more details the specific solutions for decayed parts according to their deterioration levels, especially in the timber structures, which can be applied in the conservation of decayed timber elements of *Tu Giac* houses such as stairs, second floors, and truss frames of hip roofs.

For examples, three steps for repairing the decayed timber pillar: (1) cutting the decayed part, (2) make the new part with the same species of wood with some requirements in moisture content and sizes, and (3) assemble the new part to the

column; or four steps for decayed endpoints of truss frames on the roof: (1) cut the decayed endpoints, (2) make the new timber elements according to the size of cut part, (3) fix it by iron bolts covered by rust-resistant paint, (4) fix small timber pieces to hide the iron bolts. Besides, the ways of maintenance for timber structures and the formulas of traditional mortars given in the literature is also necessary for the conservation of *Tu Giac* houses since their structures encompasses the timber elements and the use of traditional mortar on their hip roofs.

2.3.4 The source of Hue Traditional Houses as references to *Tu Giac* Houses (2004)

Tran Ba Tinh²¹ did this research in 2004 in order to clarify the current overall situation of traditional houses in Hue region (Hue city and surrounding areas). Importantly, he has proved that with the number of 1042 houses built from the 18th until 20th century, *Ruong* houses become the most numerous and common traditional houses of Hue region during that time which result in the rareness of only 8 *Tu Giac* houses (built in early 20th century) in the source of Hue traditional houses. In addition, the number of only 11 two-storey *Ruong* houses in 1042 houses as in the research indicates that, the two-storey buildings were very rare in Hue traditional architecture and, again, proving the 8 two-storey *Tu Giac* houses as the very rare type of housing in Hue traditional architecture.

From the determination of 1042 *Ruong* houses as in the literature, almost all characteristics of Hue traditional architecture are revealed, such as, the timber structures with the odd numbers of bays or house-compartments (1, 3, 5), the use of Hue local materials like *Vo* bricks or *Liet* tiles, the two-sloping roofs along the length

²¹
The former Dean of Faculty of Architecture of Hue University

of the house, the traditional roof-composition by *Liet* tiles, and the special techniques of roofing *Liet* tiles. Some traditional characteristics found in the *Tu Giac* houses are the good evidences to prove them as one part of Hue traditional architecture, such as, the use of Hue local materials, but some unfound in *Tu Giac* houses are used for comparison to indicate the differences between the *Tu Giac* houses and Hue traditional architecture in which *Tu Giac* houses represent only for the period of French domination (1858 – 1954) within their manifestation of French influences, for examples, the differences of Hue traditional timber structures and the load bearing walls in *Tu Giac* houses, or the Hue traditional two-sloping roofs and the four-sloping roofs on the *Tu Giac*'s hip roofs.

In summary, the conservation of *Tu Giac* houses are mostly referred to the current conservation works of historic buildings in Hue city which are provided in those literatures and being applied successfully in practice. Besides, the reference to other literatures on architectural conservation such as two studies *Conservation of Historic Buildings* and *Conserving Buildings – Guide to Techniques and Materials* are needed to give more explanations of definite decays or deteriorations which are not mentioned in the referred Vietnamese literatures above.

2.4 Related Charters, Laws, and Principles of Conservation

This section refers in general the meaning and the aim of each Charter, Law, and Principle in terms of architectural conservation, and gives the reasons for their applications into the circumstance of *Tu Giac* houses as seen in Fig.2.13. The detailed Articles in all of them with specific indications and guidelines in harmony with each type of decays and deteriorations of building parts will be referred to in Chapter 3.

2.4.1 Venice Charter (1964):

The realization of the unity of human values and the perception of historic monuments and buildings as cultural heritages was first generated in the Congress of Athens in 1931. However, the 2nd World War later with its awful destructions to historic monuments and buildings led to the re-determination of the conservation aims and principles at the international level to protect historical and cultural values of human being. The Venice Charter came into existence as the fulfillment which points directly to those employed in the practical and physical work of conservation.

The important points of the Charter are the respect to the original building fabric and its authenticity. The definition of historic monuments is emphasized in the beginning of the charter in which the architectural works must contain “the evidence of a particular civilization, a significant development, or a historic event”.²² The evidence of history is necessary for the recognizing of a historic monument which can be found in original building fabric according to the statement “the intention in conserving and restoring monuments is to safeguard them no less as work of art than as historical evidence”.²³

The original fabrics of *Tu Giac* houses were built from the Hue local materials such as *Vo* bricks, *Kien Kien* wood, *Liet* tiles, and traditional mortar, representing the historically traditional architectural values of Hue city during the 18th and 19th century which are very rare in other regions of Vietnam. Besides, the harmonious blending of such Hue traditional architectural characteristics with the French influences (*during the French domination period 1885-1954*) like two-storey buildings, the load bearing

²² Venice Charter, Article 1

²³ Venice Charter, Article 3

walls, and the ‘hybrid’ or hip roofs are reflected in the *Tu Giac* original fabrics. They are all considered as the historical evidences which have proven the *Tu Giac* houses as the historic monuments.

Articles 1 to 8 (in 2 sections: Definitions and Conservation) are concerned with the philosophy and theory equal to the aims and objectives of conservation. For examples, “the conservation and restoration of monuments must have recourse to all the sciences and techniques which can contribute to the study and safeguarding of the architectural heritage”²⁴ or “The moving of all or part of a monument cannot be allowed except where the safeguarding of that monument demands it”.²⁵ Article 3 and 7 are applied the most in the conservation of *Tu Giac* houses because it highlights the non-separation of the original building fabrics from the history and emphasizes the keeping as many original building parts as possible.

Articles 9 to 13 of the Charter (in Restoration section) provide various guidelines for practical application in accordance with the aims and objectives of conservation. The Articles 12 and 13 are much concentrated in the study since they give the due respect to the original fabrics of *Tu Giac* houses and recommend that, the replacement of missing parts or additions in them is not allowed if they “falsify the artistic or historic evidence”.²⁶

²⁴ Venice Charter. Article 2

²⁵ Venice Charter. Article 7

²⁶ Venice Charter. Article 12

2.4.2 ICOMOS Charter – Principles for the analysis, conservation and structural restoration of architectural heritage (2003)

The Charter is considered as the instruction for the conservation of *Tu Giac* houses due to its detailed guidelines in remedial treatments for the decayed and deteriorated parts with respect to the original building fabric. The section 3 *Remedial Measures and Controls* which provides specific guidelines for physical interventions or actions of conservation is the main concern of the study for the provision of appropriate conservation methods and techniques for decayed parts of *Tu Giac* houses. For examples, “the best therapy is the preventive maintenance” or “each intervention should, as far as possible, respect the concept, techniques, and historical values of the original” or “the removal or alteration of any historical material or distinctive architectural features should be avoided whenever possible” or “deteriorated structures whenever possible should be repaired rather than replaced”.²⁷

2.4.3 Principles for the Preservation of Historic Timber Structures (1999)

Historic timber structures here include all types of buildings wholly or partially in timber. The document aims to define basic and universally applicable principles and practices for the protection and conservation of historic timber structures.

The *Tu Giac* houses are partially in timber with the participation of 4 timber parts: 2nd floor, high-pitch stair, truss bars of the hip roof, and doors and windows.

The application of the document into the study is essential to guideline the conservation methods for decayed timber parts of the *Tu Giac* houses. Specifically, two sections in the document: *Interventions and Repair & Replacement* are much

²⁷ ICOMOS Charter 2003. Remedial Measures and Controls

emphasized since they clarify the meaning of intervention in conserving timber parts with the high respect to the original building fabric and highlight the using of similar species of woods in replacing the seriously decayed timber elements.

2.4.4 Law on Cultural Heritage of Vietnam (2001)

As referred in section 2.1, the *Tu Giac* houses are containing the architectural values representative for the period of French domination (1858 – 1954) of Hue and Vietnam with the harmonious blending of the French influences with the traditional architectural characteristics. They are thus the “architectural works with typical architectural values for one historical period” which can be seen as the historical-cultural relics²⁸, one of tangible cultural heritages of Vietnam.²⁹ In addition, the conservation of *Tu Giac* houses is more important since they contain both domestic and foreign origins according to Article 8: “all cultural heritages on the Vietnamese territory, which have domestic or foreign origin and are under the ownership in various forms, shall be protected and have their values promoted.”

2.4.5 *Ruong* house Conservation Principles, Hue City – Vietnam (2003)

The document provides three principles for the conservation and restoration of *Ruong* houses, the most popular traditional houses of Hue city with the total of 1042 houses. The Principle 1 is concerned with the houses having highest historical values in which it gives the due respect to the original building fabrics. Because it refers to Venice Charter in terms of respecting and considering the original fabrics as historic

²⁸ The Law on Cultural Heritage of Vietnam. Article 28

²⁹ The Law on Cultural Heritage of Vietnam. Article 4

evidences but in more details, it is greatly applied in the study for the conservation of *Tu Giac* houses to meet the requirement of keeping their original materials, forms, and sizes as many as possible.³⁰ Principles 2 and 3 dealing with the houses having medium and low historical values due to getting several or many physical changes and repairs, with less respect to the original building fabric than Principle 1, is not taken into consideration in the study.

In brief, the reviewing to the literatures on historical and traditional architecture of Hue city and Vietnam as in section 2.1 of this chapter has indicated the *Tu Giac* houses as the genuine Vietnamese-French historical architecture as early as the 20th century. It helps to come up with the outstanding architectural characteristics which represent for the *Tu Giac* Housing in Bao Vinh village, Hue city- Vietnam (Chapter 3). The literatures on architectural conservation and restoration in Hue city, the same city which has gotten some successful accomplishments in conserving the Nguyen royal architectural system, and in Vietnam are already referred in section 2.2 for the outcomes of the destructive causes (Chapter 3) and the remedial physical treatments of decayed parts of *Tu Giac* houses (Chapter 4) in harmony with the related

Vietnamese and international Charters and Laws of conservation mentioned in section 2.3 of this chapter.

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Ruong House Conservation Principles. Principle 1

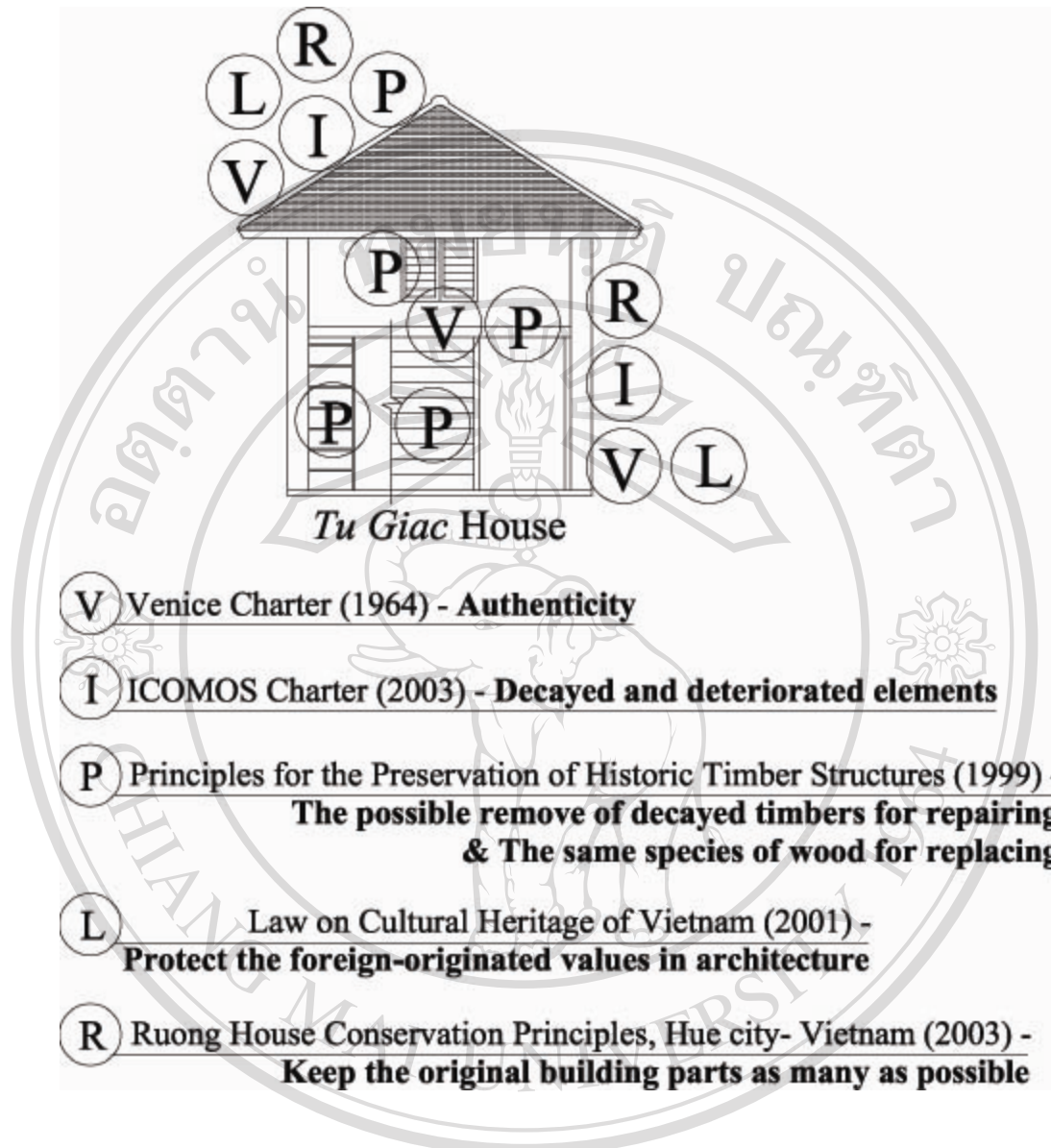


Fig.2.13 The correlation of Conservation Charters, Laws and Principles into parts of *Tu Giac House*.

2.5 Conclusions of Chapter 2

The changing of politics from communist-ruling to more international approach has help lifting the economics of Vietnam. As a result, the Hue City Heritage House Organization received budgets to conserve the most popular type of housing, the *Ruong* houses built since the last feudalism of Vietnam (548 houses in 1920 but only 85 houses left in 1975).

This research is to prove the significances and the historical values of *Tu Giac* houses (only 8 houses left as seen in Fig.2.6) to call attention from the Hue Heritage House Organization to pay attention and support the proposed “Conservation Prototype Method”. A number of literatures related to *Ruong* House had been carefully reviewed to learn and understand the conservation principles and methods. Venice Charter was introduced to support the authenticity of the *Tu Giac* houses, where the ICOMOS Charter was utilized to support the techniques to conserve decayed and deteriorated elements of the *Tu Giac* houses. The Law on Cultural Heritage of Vietnam and *Ruong* House Conservation Principles were deployed, as well as the Principles for the Preservation of Historic Timber, to generate the conservation methods and techniques for the remaining 8 *Tu Giac* houses.