

Study on Spatial Transformation of Traditional Garden Houses in Hue Citadel, Vietnam

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ABSTRACT: The purpose of this paper is to clarify the unique characteristics of Hue Traditional Garden Houses (HTGHs), one of integral elements of Hue cultural assets. Then, the paper considers factors influencing on transformation process of those houses located in Hue Citadel area, Vietnam by the survey of 56 houses. As result of the study, it is important to note that a standard layout of a HTGH is normally composed of *Nha Chinh* (main house), *Nha Phu* (sub-house), garden and other elements. Regarding spatial organization, the transformation of HTGHs can be caused by either business occasion, growth of family members, space requirement for clan worship, flood prevention, public usage and living purpose, or the combination of various causes. Besides, three directions of the transformations can be identified as well – horizontal plane, vertical plane and combined plane (both horizontal and vertical planes). In terms of living style, the functional usages in HTGHs have been complicatedly altered due to the modern life. However, the trend of transformation that living room, guestroom and spaces for daily living activities from *Nha Chinh* to *Nha Phu* can occur in many houses at present. It means that *Nha Chinh* have become spaces for clan worship, while living activities of family members are concentrating in *Nha Phu*.

1 BACKGROUND

1.1 Current condition of Hue Traditional Garden Houses

Hue Traditional Garden Houses (HTGHs) are integral to the hidden charm and cultural heritage of Hue garden city, Vietnam. At present, many of HTGHs, especially those located in the Citadel area, are being demolished and reconfigured in response to urbanization, economic development, natural disasters and population growth (Nguyen et al. 2010a). The number of HTGHs in Hue city dropped from more than 1000 houses in the period of Nguyen Dynasty (1802-1945) to 331 houses in 1998, to 318 houses in 2004 (Trần, 2005: 21), and it has still been continuously decreasing.

In the Citadel area, with around 100 HTGHs in 1998, at least three houses were converted into modern house type until 2007 (Nguyen, 2007b: 237-240), and other seven houses were disappeared up to 2011. In terms of inestimable value, historical data, religious belief, and social and cultural characteristics of Hue people also disappear with these conditions of HTGHs. This is really an unrecoverable loss of Hue architectural heritage.

1.2 Research purposes

It is necessary to focus on an approach for sustainable conservation of these houses for contemporary use. Thus, the purposes of this paper specially are: to identify unique characteristics of HTGHs in terms of spatial organization and typology; and to explore factors influencing transformation process of HTGHs and their living space. Due to these purpose, 84 HTGHs were surveyed by taking photographs and among them, detailed survey of 56 HTGHs began in 2009 incorporating interviews with residents, measurements (house layout, plan and section) and photographs of interiors and exteriors (fig. 1).

1.3 Standard layout of housing elements

Based on 56 surveyed HTGHs, standard layout of them can be divided into 4 parts: *Nha Chinh* (main house), *Nha Phu* (sub-house), garden and other elements¹. *Nha Chinh* can be divided into two parts: *Gian* (chamber) and *Chai* (lean-to). The surveyed HTGHs can be classified into 3 types according to the number of *Gian* and *Chai* as shown in figure 2: 1 *gian*-2 *chai* (A type), 3 *gian*-2 *chai* (B type), and 3 *gian* (C type). The structure of *Nha Chinh* is normally made of timber. *Nha Phu* is usually laid perpen-

dicularly to *Nha Chinh*. From the survey, there exist four layouts of arrangement between *Nha Chinh* and *Nha Phu* as illustrated in table 1.

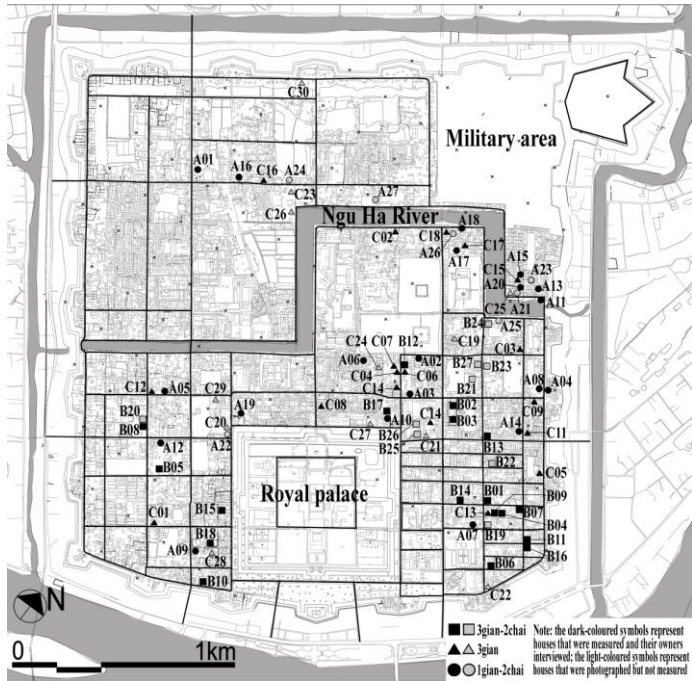


Figure 1. Caption of a typical figure. Photographs will be scanned by the printer. Always supply original photographs.

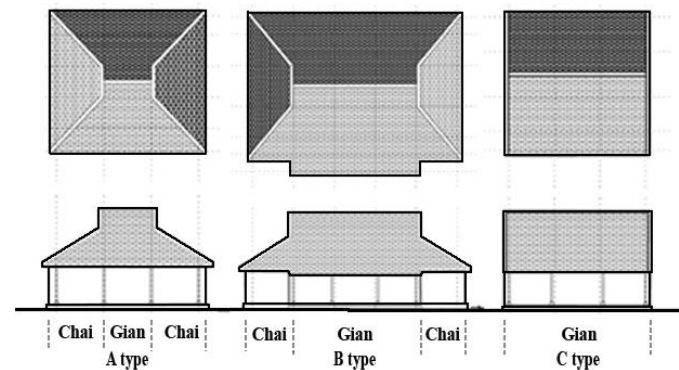


Figure 2. Classification of HTGHs based on number of Gian and Chai in *Nha Chinh*.

Table 1. Arrangement between *Nha Chinh* and *Nha Phu*

Arrangement between <i>Nha Chinh</i> (1) and <i>Nha Phu</i> (2)	Layout I	Layout II	Layout III	Layout IV
Number (%)	35 (62.5%)	9 (16.1%)	9 (16.1%)	3 (5.3%)

Inside *Nha Chinh*, the rear middle Gian is normally used as worship space (fig. 3). The left Chai is spaces for men, while the right Chai abutting on *Nha Phu*, serve as storage and bedroom for women for their convenience in daily activities. Space in front of worship space is flexible. It is multifunctional space servicing as guest room, living room, sometimes dining room or space for taking a nap during the noon time. Kitchen, dining room, and

storage are usually laid in *Nha Phu*, while bathroom, toilet, and space for washing are normally placed outside at the rear of the building. Besides, part of *Nha Phu* was originally used as bedroom for woman as well.

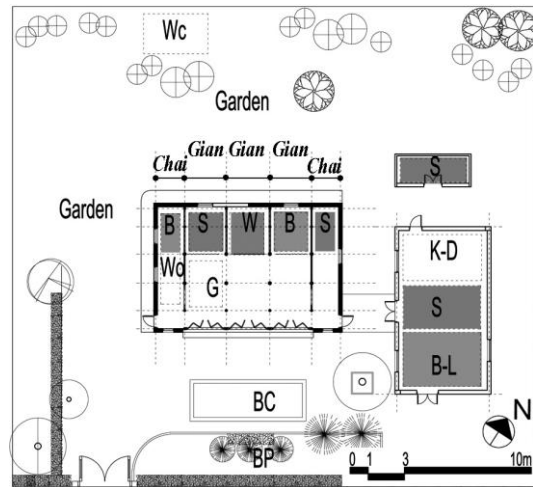


Figure 3. Functional space of a HTGH in B type (Notes: W – Worship; B – Bedroom; S – Storage; D – Dining room; G/L – Guestroom/Living room; R – Recreation; K – Kitchen; Wo – Working space; Ba/Wc – Bathroom/Toilet).

2 SPATIAL TRANSFORMATION OF “HTGHs”

2.1 Transformation pattern of HTGHs

Various factors have caused the alterations of HTGHs such as the growth of family members, business occasion, space requirement for clan worship and flood prevention. Table 2 demonstrates that business occasion was the most influential factor for the transformation of HTGHs in the Citadel area in 2007 with 33%. However, flooding currently is the main factor for transformation of HTGHs’ in the Citadel area with 31%. This implies that flooding is the greatest threat to the living environment of HTGHs over the last five years.

Table 2. Causing factors of HTGHs’ alterations

Factors	Percent in 2007	Percent in 2012
Flood prevention	17%	31%
Business occasion	33%	27%
Population growth	21%	25%
Clan worship	14%	11%
Present living style/ public usage/ war	15%	6%
Total	100%	100%

It is found that there are many cases of transformations affected by co-factors. It means that, the transformation of HTGHs can be caused by either business occasion, population growth, requirement of space for clan worship, flood prevention, public usage (P), war consequence (W) and living purpose (L), or the combination of various causes (fig. 4).

Besides, three possible directions of transformation can be identified as well - horizontal plane (be altered by adding another one-story annex), vertical plane (be altered into 2-story house or add a mezzanine) and combined plane (be altered into both horizontal and vertical planes). As can be seen in Fig. 4, for flood shelter, HTGHs are always altered following vertical plane (35 HTGHs) except for HTGH C12 (*Nha Chinh* was extended to 2-story structure for worship). The number of HTGHs transformed by combined causes is the most with 32 houses and among them, 23 HTGHs are transformed both in vertical and horizontal directions.

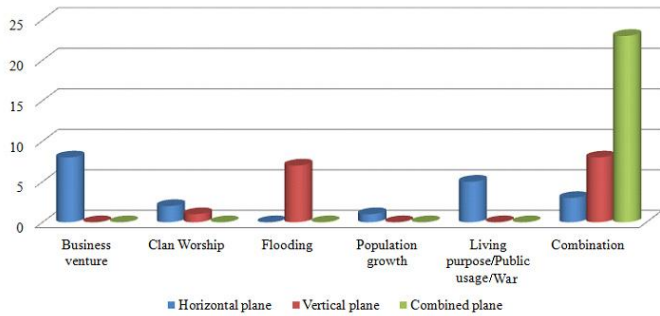


Figure 4. Factors and transformation directions of HTGHs

To analyze how the above causing factors influence the transformation of HTGHs, the study raises a transformation of house B03 as an example for the illustration. The house was built in around 1910. Up to 1999, the land of this house was divided into several parts for sale due to financial purpose (left picture of Fig. 5). At that time, *Nha Chinh* had two bedrooms (B) located in two *Chai*, worship space (W), storage space (S), guestroom (G) and recreation space (R). Kitchen (K), storage space, guestroom that also functioned as living room (L), working space (Wo) and bedroom were in *Nha Phu*. After the historic flood in 1999 (known as the biggest flood in Hue), part of *Nha Phu* was extended to 2-story house. The owner built two annexes in the rear part of the house for rent in 2002 (right picture of Fig. 5). Up till now, the function of the house has not changed so much. However, it seems that that all daily activities are concentrated in *Nha Phu* at present, while *Nha Chinh* serves for worship and it becomes vacant. Thus, the transformation of HTGH B03 is due to the need of business venture (rental rooms) and flood shelter (2-story house).

Actually, the surveyed HTGHs are transformed into various complicated configurations. Thus, to make it easy to illustrate their transformation, layout 1 of arrangement between *Nha Chinh* and *Nha Phu* in table 1 will be used as a representative for the other arrangements. The original spatial organization of a HTGH could be illustrated as picture i in Fig. 6. Under the impact of a factor, part of *Nha Phu*, *Nha Phu*, new building abutting on *Nha Phu*, separating

from *Nha Phu*, or both could be altered (pictures ii to vi in Fig. 6, respectively).

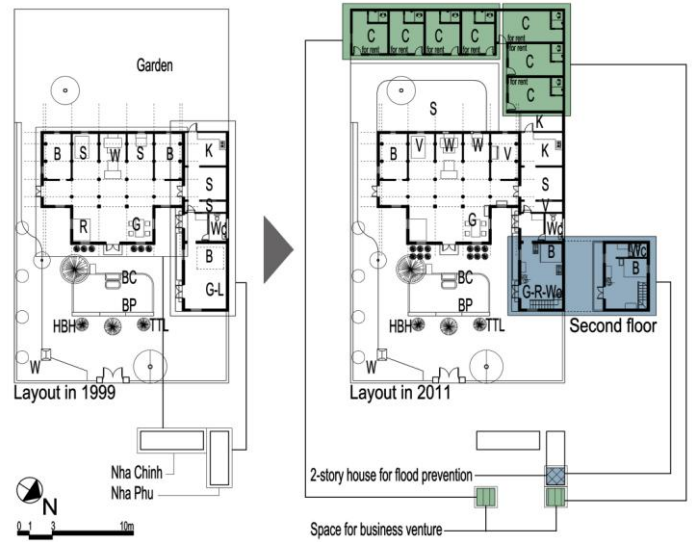


Figure 5. Transformation process of HTGH B03

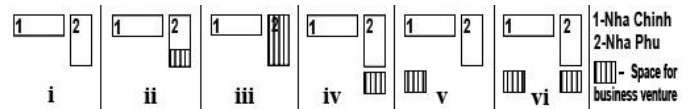


Figure 6. Transformation of HTGH under the impact of a factor

Similar to the other HTGHs, the transformation of 56 houses can be illustrated in Fig. 7. The figure shows that there are 18 variations of HTGHs' transformation according to three directions (horizontal, vertical and combination of them) and the impacts of six causing factors as mentioned above (business occasion, clan worship, flooding, population growth, living purpose/public usage/war and the combination of more than two causing factors). Among those 18 variations, there is no case of transformation in nine variations of H-3, V-1, V-4, V-5, HV-1, HV-2, HV-3, HV-4 and HV-5.

In each variation, HTGHs can also be split into different types. For example in variation H-1, eight HTGHs are transformed into four types based on the location of space for the need of business venture, such as part of *Nha Phu* (A11, C01 and C13 in H-12), part of *Nha Chinh* (B06 in H-13), a new separating building (A06 and C05 in H-14) and previous solutions (A16 and B01 in H-11).

The most complicated transformation of HTGHs is variation HV-6 with 20 types. All surveyed HTGHs transform into vertical plane for flood prevention or sometimes for both flood prevention and population growth. Business occasion is the main cause for horizontal transformation of them. In terms of living purpose, it is seemingly that this factor has influenced living environment of almost all of HTGHs. However, the impact by this factor is quite invisible and hard to recognize because the transformations of HTGHs under the impact of this factor are gradually changing.

It is found that the transformation of HTGHs mainly occurs in *Nha Phu*. Most of *Nha Chinh* are transformed for clan worship except four houses (HTGHs A12, A14, A18 and B06) where the owners use part of or all *Nha Chinh* for business venture. This demonstrates that *Nha Chinh* has an important role in the owners' spiritual life. Due to adaptation for contemporary use, transformation, alteration and renovation in *Nha Phu* are the first priority of the owners.

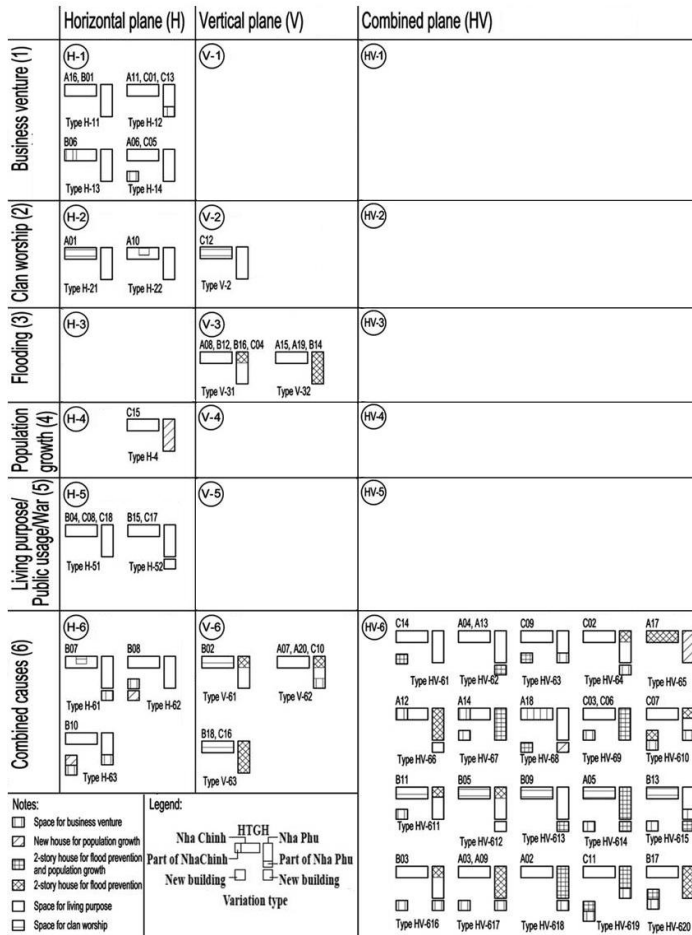


Figure 7. Physical transformation of HTGHs in the Citadel area

2.2 Transformation of space usage

Regarding living style in HTGHs, this paper mainly discusses each functional space in *Nha Chinh* of the surveyed HTGHs. Information about functional usage in the past are collected by interviewing the owners, while their current functions can be observed during the surveys. Figures 8, 9 and 10 gradually illustrate functions of each space in *Nha Chinh* in the past and present of the surveyed HTGHs of A type, B type and C type, respectively.

Interior of *Nha Chinh* of these houses can be divided based on the separation between *Gian* and *Chai* and between the front and back spaces. Thus, *Nha Chinh* of HTGHs in A and C types can be divided into six spaces, while 10 spaces can be calculated in B type. The description of functional usage in past and present of each house type is as follows.

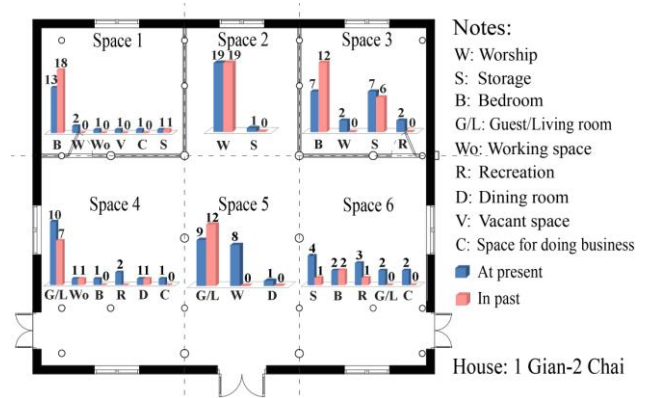


Figure 8. Functional usage of each space in *Nha Chinh* of A type (1 *Gian*-2 *Chai*)

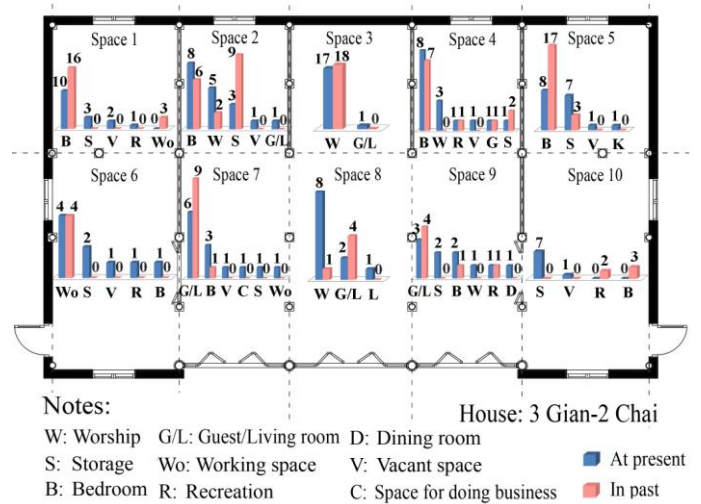


Figure 9. Functional usage of each space in *Nha Chinh* of B type (3 *Gian*-2 *Chai*)

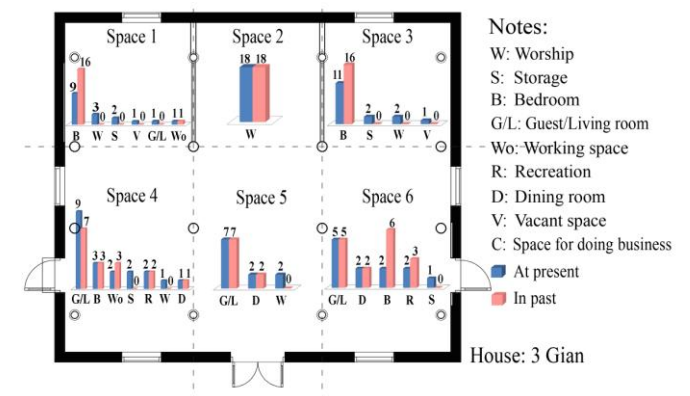


Figure 10. Functional usage of each space in *Nha Chinh* of C type (3 *Gian*)

For A type, all HTGHs formerly placed worship space in the rear *Gian* (space 2) and bedrooms in the rear *Chai* (spaces 1 and 3). However, the right *Chai* of six houses was originally incorporated with storage. Spaces 4 and 5 were formerly used as guest room incorporating with living room, while space 6 could be used as storage (1 house), bedroom (2 houses) and recreation (1 house). At present, the functional usage of the original worship space still remains unchanged and it can be extended to its front space and two *Chai* if *Nha Chinh* becomes

place for clan worship. Spaces in two *Chai* (spaces 1 and 3) mainly serve for bedroom but they sometimes cover with other functions such as storage, working space, commercial purpose and recreation. Generally, spaces 4 and 5 are mainly guestroom and living room in many A-type HTGHs at present. Space 4 can also be worship space if the house becomes clan worship. Space 6 is quite flexible when it can serve as storage (4 houses), bedroom (2 houses), commercial purpose (2 houses), recreation (3 houses) and guestroom (2 houses).

For B type, space for worship is always in the rear middle *Gian* from the past to present except the case of HTGH B04, where the original worship space was altered into guestroom and living room at present. In the past, spaces 1 and 6 usually served as bedroom for male incorporating with working place but these spaces currently collaborate with other functions such as storage, recreation and vacant space as well. Space 2 was formerly used as storage such as a small book library for the owner, but it had been altered into bedroom or worship space if the house serves for clan worship. The functional usages of spaces 4 and 5 have not changed so much as they are still used as bedrooms. However, they can become vacant spaces, which can be observed in two houses. Spaces 7, 8 and 9 mainly served as guestroom incorporating with living room but they now undertake more functions due to the needs of present lifestyle such as worship space, dining room, bedroom, recreation and commercial purpose

Regarding C type, the functional usages of *Nha Chinh* of HTGHs in this type from the past to present are quite similar to the case of HTGHs in A type. However, it is seemingly that the functional usages of the spaces 4, 5 and 6 are currently more flexible when many functions can be observed in these spaces.

Based on the discussion above, the recommendation of functional usage in *Nha Chinh* of HTGHs due to present living style can be illustrated in Fig. 11. It is found that some spaces in *Nha Chinh* of all HTGHs have been altered for adaptation of the present living style. However, spaces in the middle *Gian*, especially worship space still maintain in many houses. According to the interview, 93% of the owners claimed that the most important and solemn space in their houses is worship space². Vietnamese people have custom and belief to respect their ancestors and remember their origins. Thus, this is the space to connect the linkage between living family members and their ancestors. This is the reason why the space for worship has been maintained. If *Nha Chinh* becomes space for clan worship, the original worship space can be extended to its flanking or front spaces for this purpose. Spaces for guestroom and living room also remain in their original place as observed in many houses. Two *Chai* usually serve as bedroom and storage, while the rest is flexible and

they can be used for other functions such as working space, storage and recreation.

With regard to the functional usages in *Nha Phu* of the surveyed HTGHs, it is hard to discuss the functional usage of each space because *Nha Phu* of these houses have been converted into various configurations and the ways of their transformations are complicated. Generally, the functional usages of *Nha Phu* are for kitchen, storage and bedroom as their original functions in the past. However, the trend of transformation that living room, guestroom and spaces for daily living activities from *Nha Chinh* to *Nha Phu* can occur in many houses at present. It means that *Nha Chinh* have become spaces for clan worship, while living activities of family members are concentrating in *Nha Phu*.

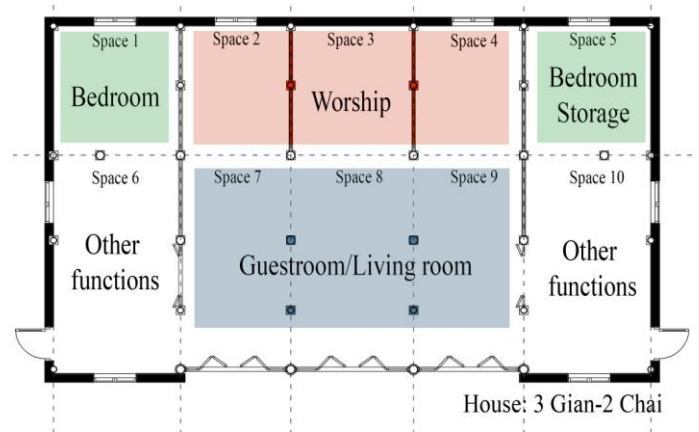


Figure 11. Recommendation for functional usage in *Nha Chinh* due to contemporary use

3 CONCLUSION AND SUGGESTION FOR FURTHER CONSERVATION OF “HTGHs”

The transformation of HTGHs located in the Citadel can be caused by either business occasion, growth of family members, requirement of space for clan worship, flood prevention, public usage/ living purpose/ war, or the combination of various causes. Besides, three directions of the transformations can be identified as well – horizontal plane, vertical plane and combined plane. With these three directions and the impacts of six causing factors, 18 variations of HTGHs’ transformation are found. However, there is no case of transformation in half of those 18 variations. Generally, HTGHs are transformed from simple to complex forms and spaces. These transformations mainly occur in *Nha Phu*, while their *Nha Chinh* have not changed so much.

In terms of living style, the functional usages in HTGHs have been altered due to the modern life. According to the field surveys, most of the owners still use space in the rear middle *Gian* of *Nha Chinh* for worship. This space can be extended to its flanking and/or front spaces if the houses become space for clan worship. Guestroom incorporating living

room is usually placed in front of worship space, and two *Chai* serve for bedroom and storage. The rest of the space will be used for other functions. *Nha Phu* is where kitchen, storage, bedroom and other functions can be arranged.

As mentioned above, HTGHs have been transformed into various forms and it is hard to conserve these houses for contemporary use. Obviously, the destiny of HTGH is in the hands of the owner, who lives in the house. If he does not want to live in HTGH, he can sell and build a modern house for his living purpose or he can make changes to the house based on his aesthetic sense. This is one of the main reasons for the decreasing number of HTGHs in recent years. Fortunately, the owners of most surveyed HTGHs have awareness to conserve and preserve their houses, at least in present life. However, awareness is not enough for the task of HTGHs' conservation. The owner should not only play the role of an owner, but he has to play also the role of a protector to the values of the house. Meanwhile, the government sector that has responsibility to enact conservation regulations should understand the role of the owner as the principal stakeholder for HTGHs' conservation. Thus, the government sector should not only provide a motivation for the owners to have a good treatment to their houses, but it also needs to promulgate effective policies and guidelines for the owners to have a relevant conservation and preservation of their houses.

Conservation of HTGHs does not mean mere physical work that makes the houses look like "museum structures" or "museum pieces". These HTGHs are not only physical containers but also invisible embodiments of activities of family members, cultural milieu and religious belief, which are more fundamentally rooted in life than the visible architectural form. Thus, further conservation of HTGHs means to conserve both visible architectural form and invisible embodiments such as living environment and lifestyle. For this discussion, it needs a comprehensive study about those houses. Besides, some successful references about conservation of traditional houses in other regions should be learnt such as a method of community-based conservation³. Everybody including the government, the owners, Hue people and other organizations should play the role in HTGHs' conservation. This is the goal of the Community-Based Conservation of HTGHs that this paper would like to refer.

4 NOTE

1 The study about layout of HTGHs can be seen in some previous researches such as Hoàng, T. T. (1999), Lê, K. A. (2007), , Nguyen, N. T. (2007) and Nguyễn, H. T. (2008).

2 From the interview with 42 Hue experts about their attitude towards the important space in *Nha Chinh*, 42,4% of them selected the worship space that is the most important space.

3 This method has been widely applied for many cultural heritages in the world such as conservation of Shirakawa Gassho house in Gifu prefecture, Japan (Nobu, 2010). In this case, villagers play an important role for conservation of Gassho house. The villagers provided method, conservation rules, and implemented everything. They only reported to the government for legal ratification as the conservation village. The government did not (and could not) deeply interfere with the conservation process of the village.

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