

Using Beimen Street in Hsinchu of Taiwan as an Example: Study on Current Renovation of Traditional Shop Houses

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Abstract. This study treated Beimen Street in Hsinchu of Taiwan as the subject and explores the renovation of main buildings of traditional shop houses. According to the findings, most of the traditional shop houses are not designated as the culturally preserved buildings. There are many problems due to oldness of the buildings. Because of the concern of funds and lack of professional assistance, the renovation of traditional shop houses is not as effective as expected. The development of the traditional shop houses around Taiwan should be based on the communication among the government, the public and experts of architecture. The information exchange platform of the renovation of shop houses should be constructed in order to lead to proper local development.

Keywords: Traditional Shop Houses, Renovation, Taiwan

1. Introduction

1.1. Background

Shop house is an important factor of street development. Traditional shop houses directly reflect the historic development of the towns. At the end of March 2012, 11 traditional shop houses on Beimen Street of Hsinchu in Taiwan were torn down. By the persuasion of construction firm for 15 years, shop house owners sold their property rights. The shop houses were planed to be rebuilt as a 24-floor commercial building. The project was criticized by the public opinions. The experts and scholars commented on the harsh execution. However, some residents agreed with the demolition. In Taiwan, there are about 70 historic streets formed by traditional shop houses [1][2]. Less than 10 of them are significantly renovated with the subsidies of the central government and become the important spots. However, the rest old streets are managed by the residents. Most of the studies focused the preserved cases supported by central government[3][4]. The old streets which are neglected might have the precious historic appearance. However, the old structures and traditional patterns cause the inconvenience for the residents in modern lives. From the perspective of cultural assets, the public expect the preservation of traditional shop houses. However, they have never concerned about the obstacles of users and all people. Therefore, using Beimen Street of Hsinchu in Taiwan as an example, this study probes into the issue related to traditional shop house renovation.

1.2. History of Beimen Street

The length of Beimen Street in Hsinchu City of Taiwan is about 0.76 km. The street was launched from Ching Dynasty and it was the most important commercial center in Hsinchu City from Ching Dynasty to the Japanese Colonial Period. When traditional shop houses were constructed, in order to demonstrate the unique images, the shops made efforts on the appearance of shop houses. The building styles of different times were found on the façade of the shops. They not only attracted the customers, but also represented the finance and power of the shops. There are four characteristics of elevation of traditional shop houses on Beimen Street in Hsinchu: Ching Dynasty —traditional Minnan style; the Japanese Colonial Period -the Early Taisho Period; the Japanese Colonial Period —the Late Taisho Period; the Japanese Colonial Period —the Showa Period [5] [6]. Regarding all preserved traditional shop houses, the ages are from the 19th century to the present. They are at least 70 years old and nearly 100 years at most.

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1.3. Research Method

This study collected data by picture taking, interview and observation record. The interview included three stages. First, the researcher conducted total visit to recognize the shop house renovation on the old street. At the second stage, the researcher selected 6~8 shops which have used traditional shop houses before 1960s for at least 5 years. The researcher entered the said shop houses, carefully recorded the oldness, damage and difficulties of use as well as the hardware renovation. At the third stage, from the said 6~8 cases, the researcher selected 3-5 from them with more significant renovation difference and investigated their shop house renovation and obstacles, the process and situation after use by in-depth interview. Finally, data were analyzed and reorganized.

Style of elevation	Ching Dynasty - traditional Minnan style (1880s~1895s)	The Japanese Colonial Period-the Early Taisho Period (red brick building) (1912s~1922s)	The Japanese Colonial Period-the Late Taisho Period (Baroque building) (1920s~1930s)	The Japanese Colonial Period -the Showa Period (Modernism building) (1926s~1945s)
Representatives				

2. Renovation of traditional shop houses

2.1. Shop House Users' Attitude

The owners of traditional shop houses were mostly the rich businessmen in early times. Some still lived on Beimen Street. Most of them moved to other places with sufficient financial support. Therefore, they were not active about the reconstruction of shop houses, even thought that “the prices of the land are more than those of the buildings”. Shop houses were used “temporarily”. Some of them waited for the combined construction with the neighbourhood. Besides oldness and damage, shop houses also revealed the risk of structures. The reconstruction was expected for the sake of safety. However, they were uncertain about the time of the reconstruction.

Since some owners “did not have the money nor the intention of reconstruction” or “thought that the visitors or money might not increase after the reconstruction”, they were forced to continue using the shop houses. However, the business of traditional streets was not vigorous and the owners might not successfully rent out the houses after the increase of rents. Therefore, the reconstruction has been risky and the owners were mostly conservative [7].

According to the statistics compiled by this study, using Beimen Street of Hsinchu as an example, in 2000, among 221 shops, 98 users rebuilt the shop houses as new buildings and 123 remained as traditional shop house. Based on the statistics in 2011, the previous 123 traditional shop houses were torn down and 26 users rebuilt the houses. 97 traditional shop houses remained. After a decade, 4/5 traditional shop houses still remained. The renovation and adjustment of these traditional shop houses were decided by the users “uncertainty. The tenants or owners did not have long-term plan about the use of traditional shop houses. All the works of renovation were “temporary” and they were accomplished by the most convenient and economic measures.

2.2. Obstacles of Current Use of Shop House

After the use for years, the hardware of old shop houses was damaged. Besides, because of the difference between past and modern lives, the building patterns were improper. Many aspects should be adjusted, such as building structure, materials of surface, facilities and electric lines.

- Structure is the most important factor of security and it is the most difficult part for the renovation. There are three common obstacles, including heavy and fragile bearing wall, aging and damaged materials and the limit of the surface of long buildings.

- Traditional shop houses are constructed by common walls and the main structure system is connected. The damage of one wall will usually influence two houses. Due to earthquake and construction, there can be potential risk. Wood and brick are the main materials of shop houses. The aging, humidity and external damage will influence the living security.
- Surface material of the building: surface material is the important factor of users' vision and touching. Long-term use and humidity will influence the quality of life. The problems include old surface materials, peeling off, wall mold, mold on wall paint, bad sound insulation of old materials, damaged roof, leaking, aging of materials of doors and windows and deformation.
- Facilities and electric lines: the details and convenience valued by modern people in lives can no longer be satisfied by past traditional shop houses. In physical environment, there are usually bad ventilation and natural light, concerns about security and prevention against disasters, old electric lines or low power.

3. Implementation of shop house renovation

Renovation is different according to shop house states (damage) and users' thoughts (funds, use time and importance). There are currently three categories: 1. DIY, 2. Searching for building mechanics of renovation, 3. Total dependency on the experts. The users will certainly not have renovation by single measure and they will adopt multiple approaches.

3.1. DIY

DIY renovation is usually based on "users' expectation of DIY" or "the compulsory situations".

- Renovation of "main building" of shop house: it aims to improve the shop houses by their own techniques or simple measures. "Main building" means the large component or hardware instead of partial or small component. The renovation includes internal fixing, interior construction and dismantling of the damaged parts.
- Partial repair is in the situation when building mechanics are not available, their work hours are less than one day and the construction expenditure is low. People usually use the "ready-made" materials. Elevation means "wood board", "shutters" and "plastic board" are used when glass windows are broken and window frames are deformed. In fact, it is not repair and it can only be regarded as a kind of "careless" solution.
- Original problems of shop house: when hardware does not function, the facilities will usually be added. The "ready-made" products are the easiest ways to solve the problems, including the adding of facilities and installation of lines. The common facilities are fire extinguisher and household appliance. In shop houses, the electric lines can be aging or insufficient. It is difficult to change the hidden lines. In modern lives, power, telecommunication and internet are the necessities and DIY of the installation of lines is the rapid and easy approach.
- Daily maintenance: it is difficult to fix the hardware or facilities or search for building mechanics. Besides the problems of renovation, people have to worry about the life stress caused by the unexpected disasters. In fact, daily maintenance can be the solution and people can indirectly learn the hardware of the shop houses. For instance, they can ask for regular examination of old electric wires in shop houses by the power company; regular maintenance and cleaning of the environment and facilities of shop houses; frequent use of shop houses can lower the speed of damage and replace the security system. Therefore, "daily maintenance" is the solution to lower the renovation expenditure of shop houses.

3.2. Searching for Building Mechanics of Renovation

Searching for building mechanics renovation includes three categories: 1. technical construction of hardware; 2. Renewal and adding of facilities; 3. extra reconstruction of shop houses. There are three characteristics of the construction: 1. large construction requires higher manpower; 2. it is dangerous; 3. it is technical. In addition, the most convenient measure is the ready labor and materials.

- Construction of hardware: it is the external and the main renovation of shop houses. Common external renovation refers to the roofs and elevation. It is usually highly technical and dangerous. Besides, interior repair is usually the interior decoration in clothing stores and food stores to create eth atmosphere.
- Renewal and adding of facilities: because of the lack of repair and old appearance (darkening and moss), the internal facilities in shop houses should be renewed. Some of them are the necessary facilities in modern lives and they do not exist in early times. Facilities renewed include kitchen equipment, steel roll-up doors, bathroom equipment, aluminum doors and windows, lines, etc. The adding of facilities includes security system, air conditioning, iron windows, heater, etc.
- Extra reconstruction of shop houses: it includes arcades, courtyards, roofs and the illegal construction behind the shop houses and the internal adjustment of the houses.

3.3. Total Dependency on the Experts

The cases are few since they consume great amount of funds and the repair is not necessarily effective. The communication before the design and construction and delay of the construction period are also the problems for the users. The users can be hesitant simply by “imagining the possible difficulties” (the experts include architects, the designers or legal construction firms, such as construction plants, construction companies, design companies, etc.)

- Motive to rely on “the experts”: when encountering additional building and the construction which influences the structure, people will ask for the help from the experts. In addition, it also includes the “interior design” when the shops and consumers highly require the interior quality.
- Main renovation content: it is usually complicated and difficult and it refers to additional building and total renovation of shop houses. Additional building of shop houses is the most difficult. The only case required the following, 1. Additional building of shop house from 3 to 5 floors, 2. enhancement of the structure, 3. improvement of land subsidence of the shop house and 4. interior design.
- The experts deal with most of the following architecture issues. After the cooperation, there are some underlying problems. As to communication, some designers are not willing to spend time carefully designing the space since the houses are old and narrow. The users feel deceived when the designers create the interior effect by exaggerated pictures. Many problems in shop houses cannot be solved by “repair”. Therefore, the expenditure of additional building is higher than total reconstruction.

4. Renovation of Traditional Shop Houses under Informal Department from the Users’ Perspectives

Shop house renovation mostly refers to DIY or building mechanics. As to DIY, the users’ ideas will be more likely to match the reality. As to renovation by building mechanics, there can be gap between the expectation and reality. The discussion on the problems and frustration in traditional shop house renovation from the users’ perspective can demonstrate the key points in renovation.

4.1. Early Preparation

In early renovation, the problems at any points can result in significantly different results and they are the keys in renovation.

- Hesitation to search for the support: the sources of building mechanics are from the neighbors, introduction by relatives and friends, past partners and searching in the neighborhood. As to the past partners and the introduction by the neighbors, since they are “similar”, there can be fewer problems. The introduction by relatives and friends and searching in the neighborhood can be the most problematic since people expect “reliability” and “good bargain”. However, they have different standards and since they feel embarrassed about “cutting the prices down” and requiring the construction quality, they usually end up with extreme outcomes.
- On-site investigation and price assessment: they assess the prices and try to deal with the related construction; in early renovation, “estimate list” is necessary as the criterion for the future.
- Protection in advance: the protection in common construction usually includes two parts: 1) In internal renovation, users try to avoid the damage on the furniture and electric appliance; 2) In

external renovation, building mechanics protect the pedestrians and control the dust by the net of elevation and plastic canvas..

4.2. Execution and Communication of the Ideas

- Lack of understanding of the buildings of shop houses: characteristics of shop houses include structure, type of elevation, space function, construction technique, construction material, distribution of electric lines, etc. For users, they have difficulty to select the bearing wall, tear down the walls, use the long and narrow space, repair the elevation, change the materials and install the electric lines. The preparation for the ideas usually takes more time than the construction period.
- Communication with building mechanics: users are helpless with the description of the sizes. They cannot draw the interior pictures. They usually rely on body language, magazines or other cases in the communication and design. It is simultaneous with the construction. The hesitation of design and stop of construction are certain outcomes. Without good building mechanics' proper suggestions and time, the construction period will be long and difficult.
- Importance of contract: in shop house renovation, some users neglect this step since they think that "it is introduced by the acquaintance", "it is embarrassing" or "the small construction should be cheap". For building mechanics, it is not necessary to make too many efforts on the small construction. Therefore, renovation is usually based on verbal agreement instead of contracts. "Estimate list" is necessary in early renovation and it can be the criterion for two parties.

4.3. Practice of the Construction

- The construction cannot be integrated: because of the change of construction technique, currently, the housing construction is based on work division. The techniques are practiced by different laborers, such as carpenters, concreters electricians, paint worker, etc. When they are a team and they can finish the construction by work division; otherwise, the construction is usually unfinished.
- It is difficult to require the construction quality: They usually complain about the building mechanics: "they are careless with the small construction", "the construction and techniques are bad and they finish it roughly", "the laborers never listen" and "they do not work with the planned materials". Building mechanics usually think that the users are ignorant and they do not understand the materials. They try to make the little money (by saving the time or materials). Two parties do not trust each other and thus renovation becomes stressful.

4.4. Funds

In renovation of traditional shop houses, funds are the most critical issues and it is the main factor of the construction and is related to construction quality. Shop house owners and users have different positions: "the house is not mine", "you are the one who use the house" and "renovation funds are higher than reconstruction". Finally, they use the least funds. However, it is difficult to hire the labourers by small case of construction. The quality of construction, selection of materials and the states of shop houses will be influenced.

5. Conclusions

5.1. Difficulties of Shop House Renovation

- Difficulty of renovation: The practice of techniques is the key. With the changes of construction environment, machines, methods, materials and craftsmen, the importance is not as before. Therefore, there can be various obstacles in renovation. The problems are reflected on the funds and the expenditure of renovation is higher than reconstruction.
- New and old materials: Modernization changes people's living style. The invention and use of new construction materials gradually replace the traditional ones. The gap between new and old materials will certainly influence the outcome of construction.

Regarding current shop house renovation by traditional techniques, the practicability and feasibility should be relatively concerned. By abandoning the "traditional appearance" and adopting new and old

construction materials, it might result in featured and practical buildings. Therefore, although it seems that shop house renovation is similar to common buildings; it is actually more restricted and difficult.

5.2. Possibility of Future Renovation

As to shop house renovation, besides the users' identification with the buildings, the society and the related architecture should also be concerned. Three directions are suggested:

- Construction of information network: Nowadays, with approachable information, we can construct information network to serve traditional shop house users and thus, the technicians' basic information, source of materials, maintenance experience and result sharing around Taiwan can be shown on the platform of information network. When the information is transparent, traditional shop house renovation will not be a difficult construction.
- Related experts' cooperation: preservation and renovation of traditional shop houses in Taiwan should be assessed from different dimensions, including "renovation techniques of shop houses", "textual research of elevation", "characteristic development of local industry", "overall development of urban policy", "the public's participation and community construction", etc.. The related issues rely on the discussion among the government, the public and experts in order to lead to successful and complete policy of preservation of historic district.
- Cooperation of the environment: Complete preservation of historic district not only demonstrates local characteristics, but also triggers the business opportunities of tourism. However, the resource distribution in the cities and towns is significantly different. For instance, Bopiliao in Taipei City is subsidized with USD\$ 10 million, Minquan Street, Sanxia of New Taipei City has USD\$ 12.6 million, Shengkeng Street has NTD\$17 million, Hukout Old Street of Hsinchu has USD\$1.6 million (USD\$1=NTD\$30). However, some historic districts are totally neglected. Besides the issue of funds, the preservation of historic district is more difficult than single historic spot since it should deal with the public's opinions and offer the practical assistance by coordination and planning.

6. References

- [1] Shen, W. T., *Map of Old Streets in Taiwan*, Mao Tou Yin Press, 2002
- [2] Huang, C. Y., *Old Streets in Taiwan*, Yuan Tze Culture Press, 2010,
- [3] Chen Yun-Yung. *Research on Conservation of Historic Districts – A Case Study of Lukang*. Shute University 2005.
- [4] Wan-Lin Shih. *Carefully examines the historical block and the shop room preservation from the modern life viewpoint--Take the Taipei Dihua street as the example*. Graduate Institute of Architecture, Tamkang University 2007
- [5] Hua, Ying - ru. The style of elevations form preliminary — the example is Hsin-chu Northgate old street. 2010. *The fifth Presentation Conference Inferior Design Essays and design*.
- [6] Zhang, de- nan. *Beimen Street*. Cultural Center of Hsinchu City Press. 1998.
- [7] Hou, Shun-Yao. *Space Utilization and Readjustment of Traditional Shop-house in Modern Life--A Case Study of Shop House in Pei-men Old Street, Hsin-chu*. Master's thesis, Graduate Institute of Architecture, Tamkang University 1998.
- [8] Tang, chin. *Study on Living Space Adjustment of Completed Housing Unit*. Master's thesis, Graduate Institute of Architecture, Tamkang University. 1998.