

Seaweed House Interior Design in Promoting a Contemporary Habitat and Promoting Tourism in Yandunjiao Village in Rongcheng City (Shandong Region, China)

(Reka Bentuk Dalaman Rumah Rumpai Laut dalam Mempromosikan Habitat Kontemporari dan Mempromosikan Pelancongan di Kampung Yandunjiao di Bandar Rongcheng (Wilayah Shandong, China))

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ABSTRACT

In the process of developing cities and regions, traditional Chinese architecture has been destroyed to a certain extent and the existing traditional architecture has become particularly precious. There is a contradiction within the modernization development phases and the protection of traditional architecture. To find a sustainable development way for the traditional villages is a problem that needs to be considered. The purpose of this study is to investigate how to preserve and redesign traditional architecture such as Seaweed House to adapt them to contemporary life and to promote tourism and economy of the region. The methods of fieldwork, participant observation and interview were used in the study. The findings indicated that the local residents have no initiative for the protection of traditional buildings. There are also certain deficiencies in the building, including a lack of space for modern equipment and leisure spaces in the Seaweed House. There is a lack of privacy in these dwellings due to the wooden structure and poor sound insulation between the rooms. The owner of the house used new and inappropriate materials when they renovated their house in recent years, resulting in a chaotic style and aesthetic. Some solutions are provided for these issues throughout this research study. It was also found that many traditional buildings have a lot of common problems in the process of protection and development. Once these problems are solved, the protection and development of traditional Chinese architecture will have progress.

Keywords: Seaweed house; heritage protection; interior design

INTRODUCTION

Villages have always been the basic environment for the life of the Chinese people for thousands of years. There are a large number of traditional villages and a variety of architecture that represent the development of the entire village and the living conditions of the local residents. This is the result of the long history and culture of China (Liang 2001). However, with the development of the society and the improvement of urbanization, the inhabitants of traditional villages have entered the urban labor force in

order to increase their income and divorced from their original labor practices (Lan 2018). In addition, the number of traditional dwellings also dropped sharply. The Chinese government has recently begun to attach importance to the protection of traditional villages and dwellings. (Zhang 2018) Therefore, how to reasonably protect, plan and rebuild them is a question that needs to be considered and paid attention.

This research focuses on Seaweed House in Yandunjiao Village, a coastal village with about 600 households. The villagers depend mainly on fishing and tourism in this typical traditional Chinese village (Huang 2014). The

Seaweed House (Figure 1) uses special building materials to create a unique architectural space. The architectural skills to build the Seaweed House were listed as part of

Shandong Province intangible cultural heritage in 2016. It is representative of the study of traditional villages and traditional residential buildings.



FIGURE 1. Seaweed House

The Seaweed House was built more than a hundred years ago and it shows the lifestyle of previous generations. So, it is not suitable for the everyday life of modern people. For example, the Seaweed House cannot meet people's basic needs since it is difficult to get water and electricity into the house. So, how can the interior design of the Seaweed House be developed to promote contemporary living and maintain heritage? As part of this research, the researcher has proposed several design approaches of the interior of the Seaweed House to make it suitable for contemporary life. At the same time, the development of local tourism has been fully considered, the researcher proposing a design of the Seaweed House as a homestay, attracting more tourists to experience the traditional dwelling.

There is a large amount of literature on the Seaweed House. Many studies in the past literature focus on areas associated with ecological characteristics of the houses. Widera (2014), Zhenyu (2013) and Yang (2012) analyzed the ecological characteristics of the Seaweed House from the historical origin, building layout, building form and building space to reveal the contribution of seaweed materials on the Seaweed House. But, the limitation of those projects is that the researchers mainly focused on the Seaweed House so that they did not realize that the environment of the area would have a significant influence on the building materials. There are also some researchers focused on the historical and cultural value of the Seaweed House (Liu 2008) (Kuang 2013) (Yajing 2021) (Liu 2019). Chen (2002) had similar aims to this research project, which is to protect the Seaweed House and learn from it. However, the difference is that for this study, after the data

collection and analysis, the researchers redesigned a Seaweed House that is suitable for contemporary life to inherit traditional dwellings.

The research focuses on the natural environment, geographical location, history, population, customs and layout of Yandunjiao Village, and the building materials, architectural structures, architectural skills, architectural decoration, and indoor function division of the Seaweed House (Yin 2011). Through a literature review, field work, and interviews, the researcher gained an understanding of the villagers and tourists who use the Seaweed House. It exposed the problems of the Seaweed House, and find solutions and measures to solve the problems. It not only improves the living conditions of the villagers, but also the local economy. The researcher can only provide detailed design solutions for interior design at the end of this project. The research on villages and buildings is not only to support proposed interior space layout, but researchers also hope to provide accurate information to researchers in related projects.

METHODOLOGY

The methods employed in this study are fieldwork, participant observation and interview. The research process has extensively collected data, detailed understanding, collation, and analysis of the process of research object production and development, internal and external factors and their interrelationship, in order to form an in-depth and comprehensive understanding of the research object. That is consistent with the methodology of case study which is in-depth and specific research on a single research object (Li 2010).

METHODS OF DATA COLLECTION

The fieldwork was conducted between 22nd June and 26th June in 2018 in Yandunjiao Village on the aspects of history of the village and architecture, architectural layout, construction skills and the local people and tourists' thoughts on the Seaweed House. During this period, researchers stayed in the local residents' home to experience local country life and collected first-hand information by mapping, observation, interviewing, recording, photographing and video. (Zumahiran 2015) Related articles and reports from experts and scholars would be gathered as secondary sources of data.

Before conducting field work, the local government was contacted via internet and telephone to request their assistance to be interviewed and observed in the village. They facilitated the specific work of entering the village to communicate. They also gave some suggestions for this field work and made researcher better prepared. offering to stay in touch in case the data needs to be double checked.

The researchers interviewed 6 people including 3 villagers (2 managers who manage Seaweed House homestay in the village), 2 tourists and a builder of the Seaweed House. The interview took a semi structured approach. Interview questions included interviewees' basic information and income, their thoughts about the Seaweed House and some open discussion. All interviewees signed the information consent sheet before being interviewed. They gave consent to being photographed and recorded during the interview process. The researcher also observed the daily life of the interviewees while they visited in Yandunjiao Village. This is overt observation. The limitation of overt observation is that participants who

know that they are observed may alter their behavior. Researchers lived in their homes as normal tourists to reduce their inadaptability.

In addition, different types of residential buildings, transportation, public facilities were investigated and two building exterior and interior dimensions were measured. Different types of dwellings were recorded and analyzed in the form of interview texts, photographs, mapping and etc. The industries that Yandunjiao Village relied on including tourist attractions, Seaweed House homestays and public facilities were recorded. The economic situation of the village, the impact of economic levels on the development of villages and the skills of residential construction are further analyzed. On the last day of the field research, the researcher's plan was to use a drone to take photos of the entire village and to fill in the gaps in the information.

METHODS OF DATA ANALYSIS

The data was analyzed using textual content analysis and visual analysis to help understand the current state of the research topic. Literature was grouped into themes relevant to this research topic followed by an analysis of concepts, arguments, and conclusion of the literature, comparing the relevance of this information with researcher's research. All interview recordings and observations were translated into text and analyzed using Excel software. The useful information was extracted and clearly presented through visual methods (FIGURE 2). All images were used for environmental analysis, architectural analysis, indoor analysis and analysis of traditional elements etc. Mapping information was used as the basis of design.

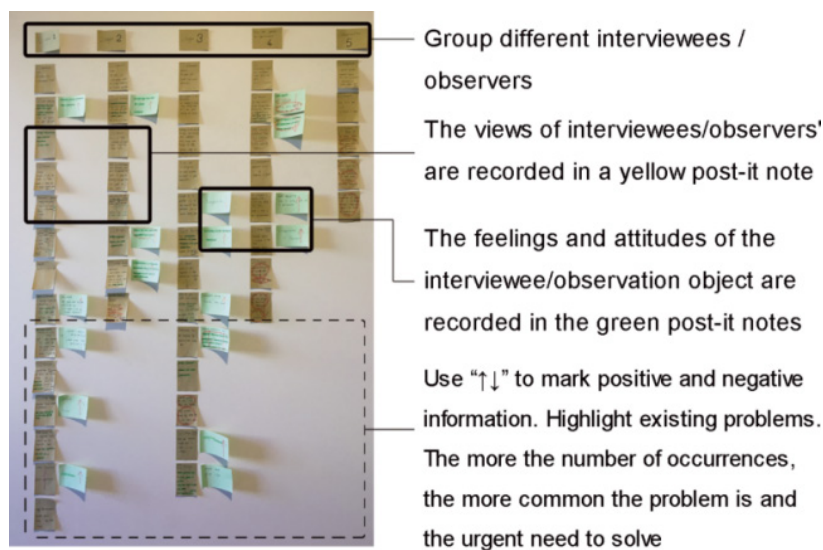


FIGURE 2. Data analysis process

At the end of research, the new interior design of the Seaweed House was proposed to solve the problems found in fieldwork. Some design software was used in the practical project, for example, AutoCAD, Autodesk 3ds Max, Sketch Up, Adobe Photoshop etc. Design concepts were hand drawing at the beginning of the design process. AutoCAD was used to represent the master layout plan and size drawing. 3D renderings were made by using Sketch up and Autodesk 3ds Max. Sketch Up was used to make the larger building appearance renderings because it is easy to operate and can handle large scenes, while Autodesk 3ds Max was used to make interior renderings due to the fact that realistic renderings can be presented. In addition, Adobe Photoshop is a strong raster graphics editor, so it was used to make post production of all the design drawings that present the whole project.

YANDUNJIAO VILLAGE

GEOGRAPHIC LOCATION

Yandunjiao Village is located in Rongcheng City, Shandong Province, China, where is a warm temperate monsoon humid climate zone with four distinct seasons. The annual average temperature is about 12°C, the highest temperature is 36.8°C and the lowest temperature is -13.5°C (Huang, 2014). The village is quite small with a total of about 600 households. The people have lived in the Seaweed House that is warm in winter and cool in summer for almost thousands of years. The Seaweed House is one of the characteristics of Yandunjiao Village. The reason why they are called Seaweed House is their roofs are made by the special material seaweed. It is representative of the study of traditional villages and traditional residential buildings (Fei 2005). Another feature is that swans migrate here to spend the winter every year, which has become an attraction that many tourists come here on their holidays. Local people consciously protect the swans and birds, they have established strong feelings and become a harmonious home where people and birds live together.

HISTORY

According to the records of the village monument, Qu's ancestors moved from the Weiwei Village, Gangxi Town, Rongcheng City during the Chongzhen Period of the Ming Dynasty (AD 1628~1644) to establish Yandunjiao village. In the early Ming Dynasty, a Yandun (fire pier) was built on the top of mountain in the east of the village in order to resist the shackles (Lou 1997). This mountain is called the Yandun Mountain. The village is in the northwest corner

of the Yandun Mountain, so it is called Yandunjiao Village (The meaning of "jiao" is "corner"). In addition, some historical sites, for example, office, training ground, pier are remained around the village. When the village was established, the villagers lived by the sea and sold seafood for a living. The villagers raised funds to build a temple in the north of the village to pray where local people worship for peace and good harvest.

Currently, the Yandunjiao Village has 700,000m² of cultivated land, 9,000,000m² of seafood farming area, 200,000m² of forest land, and 300,000m² of land for villagers. Economically, the resource advantages of Yandunjiao Village are continuously exploited to increase the overall income of the village. On the one hand, a number of seafood companies have been set up, mainly engaged in fishing, processing and marketing of seafood. On the other hand, tourist attractions have been developed. Tourism is being developed with original natural resources such as the Seaweed House homestay, sea fishing, snow viewing and swan migration, has brought in 15,000 tourists a year (Liu 2019).

TRANSPORT

Although the coastal Yandunjiao Village is located at the easternmost part of the Shandong Peninsula, it is close to the 301 Provincial Highway and has convenient transportation. It is 48 kilometers away from Dashuibo International Airport and 50 kilometers away from Weihai City Bus Station. It is also an hour's drive from other tourist attractions such as Xixiakou Village, Chishan Mountain and Weide Mountain. There are two buses, 223 and 228, that connect village and downtown every hour during the day. The roads in the village are well-connected for cars and there are many paths between the buildings available for pedestrians and bicycles. The advantageous geographical location and convenient transportation are one of the reasons for rapid development of Yandunjiao Village in recent years (Chen, 2002).

PUBLIC FACILITIES

Yandunjiao Village was a poor and backward village 15 years ago. Basically, there is no leisure facility that meet the spiritual needs nor any public facility. In 2008, the government invested 10 million yuan (1.45 million dollars) to develop local economy and standardize the management of the village. Including cleaning up the environment, building more useful public facilities, dismantling the disordered buildings and improving the garbage disposal system. A supermarket, a public toilet and three parking areas were also built in order to adapt to the development

of the tourism industry. The living conditions of villagers and the appearance of villages have been greatly improved. The basic needs of villagers and tourists can be met. (FIGURE 3) However, overly unified standards and policies have affected the freedom of villagers. For example, the local government requires that food and vegetables should not be grown in front of the Seaweed

House where tourists always visit or located near the sea. Only flowers can be planted so that visitors can have beautiful scenery when they visit. The reality is that the local residents have to buy vegetables at high prices on the market or go to hill a few kilometers away to plant. This is the disadvantage of over-uniformization and standardization.

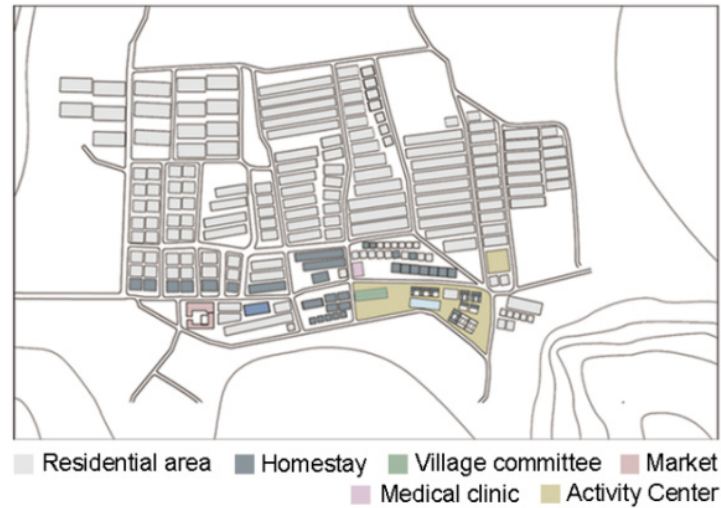


FIGURE 3. Facilities in Yandunjiao Village

DWELLING

The Yandunjiao Village can be divided into 8 areas, including a swan viewing area, colored stone scenic area, forest area, residential area, dock area, the shipyard factory and aquatic factory. Residential area as the main part of the village is located on the north side and can be divided into 5 areas according to different types of dwelling,

including Seaweed House area, mixed area of Seaweed House and tile-roofed house, tile-roofed house area, townhouse area and apartment area (Figure 4). However, it is the Seaweed house with hundreds of years' history that attracts more and more tourists to Yandunjiao Village rather than modern houses. It resembles a fishing boat that integrates architecture with production and life and an interpretation of the happy life of local villagers.



FIGURE 4. Dwelling in residential area

In 1970, the villagers gradually replaced seagrass houses with tile houses, general buildings and apartment buildings. However, in recent years, people have gradually realized the value of the Seaweed House and began to repair and rebuild it. The construction of Seaweed Houses requires four craftsmen: tilers, carpenters, stonemasons, and the craftsmen who build seaweed roof. Huang (2014) explained that the wooden structure is equivalent to the role of “skeleton”, linking all functions and structures. The carpenters need to determine the size of the house, prepare the wood materials, frame the beams, install the doors and windows, etc. Sea stone as the load-bearing structure of the building accounts for a large proportion of the entire building material. A Stonemason needs to mine and carve

the stone. The tilers build the stone carved by the stonemasons into a wall and smear yellow mud. The manual technique of building seaweed roofs is called “Shan roof”, which is the most complicated step in building a whole Seaweed House. Basically, a seaweed house requires about 1500 kg for its roof (Figure 5). 50,000 kg of seaweed was used in building the oldest seaweed house (4 buildings) in Yandunjiao Village. In 2006, the construction skills of Seaweed House were listed as part of Shandong province intangible cultural heritage. However, the decreasing number of Seaweed Houses has become an irreversible trend due to increase in construction cost and the lack of natural resources such as seaweed.



FIGURE 5. Seaweed material on roof

RESULT AND DISCUSSION

TARGET POPULATION

At present, Yandunjiao Village has about 600 residents and a population of 1,500. Ten years ago, villagers who lived in the Seaweed House could exchange for a townhouse or apartment that the local government newly built for a certain proportion. Or they could sell the seaweed house by themselves and buy the townhouse and apartment at a lower price than the people who are not local villagers. Because of this barter, the government acquired a lot of seaweed houses, and then repaired them and rented them to the people who come here to work. Some of the seaweed houses were sold to tourists by the owners. These tourists

usually live in the city and come here to enjoy the country life during their holiday. In addition, some locals with Seaweed House operate homestays in their own homes to provide local food and accommodation for tourists, which are the target people for this project. The tourist market is an emerging and growing area in this region. When designers redesign the house for people, they are not only preserving the traditional lifestyle of the locals, but also considering the modern lifestyle of tourists from the city, which is the trend of the development of the Seaweed House. On the other hand, most Chinese people attach great importance to the living environment of their tourist locations. If the Seaweed House can be a reason to attract tourists, local tourism will be developed and the local economy will be improved in way of promoting traditional dwelling.

TRADITIONAL ELEMENTS

Traditional elements should be protected and inherited by way of taking the core essence and discarding dregs. In this design proposal, some traditional elements are preserved as an important component.

The Seaweed House in Yandunjiao Village is a visual representation of the history and culture of Shandong fishing villages. It has obvious marine cultural characteristics, including seaweed roof (Figure 5), sea stone wall (Figure 6) and local wood made beams. All of them are blended with the regional folk culture such as fishing in the sea and worshiping the sea god, reflecting the concept of life in the coastal village. The “Shan roof” skill of using

seaweed material as the core construction skills of building Seaweed House shows the design concept of local craftsmen. All materials and construction skills not only have artistic value and technical value, but also reflect the construction concept of building houses by obtaining local materials and using different methods in different conditions (Yang, 2012). Therefore, the aesthetics formed by the shape and structure of the Seaweed House meet the “Form follows function” of 20th-century modernist architecture (Davies 2007). In general, the building materials and construction skills of the Seaweed House provide a reference for the original ecological concept pursued by modern architectural design, which should be preserved.



FIGURE 6. Sea stone wall

The second traditional element that be preserved is Kang (Figure 7), which is a 1.3m-1.6m wide bed and its length depends on the length of the bedroom. Its material is brick and there is a flue below it, connecting the traditional stove and chimney. The upper part of the flue is a flat slate, and the slate is covered with mud which is the yellow mud mixed by loess, broken wheat straw and lime. After the mud has dried up, it will be covered with a mat which is made of Chinese sorghum straw. Some people also put a thick wool felt and a special tarpaulin on the top, then it can be used. It is not only a bed for sleeping, but also a heating equipment. And people who lived in the north of China used to eat on the Kang with a small table.

Children write homework or play on the Kang. And when guests come to home, it is also necessary to let them sit on the Kang. Kang plays a very important role in the daily life of northern Chinese. It was the most important part in the home of the people who live in the north of China before the 1980s. Kang still be used until now because it does have great function that meet people daily needs. The hot smoke generated by people using the stove to boil water or cook is discharged outside the room through the flue below the Kang, which can meet the daily needs of cooking and heating, and can solve the problem of smoke emission in the room.

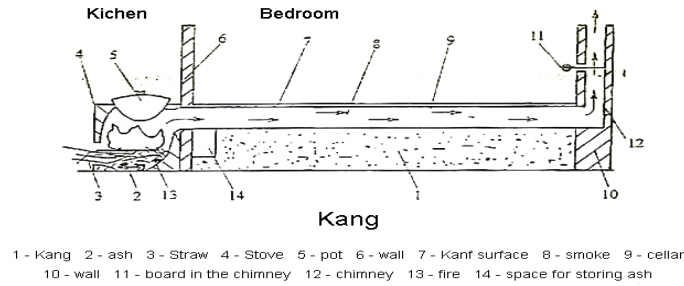


FIGURE 7. Kang (Huang 2014)

The third traditional element that be preserved is a square cellar under the Kang (Figure 8). Its size is the same as the Kang and height is less than half a meter. It is a storage space used to store sweet potatoes in winter to prevent them from freezing. It is very cold in northern China and there is no fresh food in winter. Therefore, sweet potatoes, as the main food for local residents in winter, need a warm place to store. The entrance of the cellar is on the ground next to the Kang. It is usually covered with a board and only allows one person to enter and exit. The sweet potato cellar can also store other things, such as some

food that cannot be frozen like taro, plants and seeds etc. Currently, most people still have the sweet potato cellar in their home. But few people use it to store sweet potatoes, because now they can buy fresh food all year round. Many people use it as a shoe cabinet or a storage space. In this project, the sweet potato cellar was preserved. On the one hand, it cannot be replaced as part of the Kang. On the other hand, it is also a shift from a traditional way of life to a modern way of life, from being used to store sweet potatoes before to being used to store the items that are used less frequently.

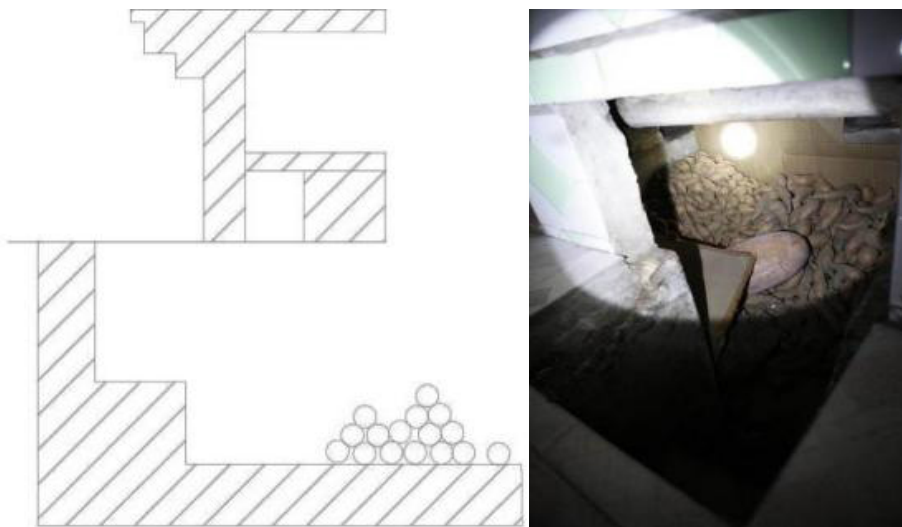


FIGURE 8. Cellar under Kang

The fourth traditional element to be preserved is the drainage system in the courtyard (Figure 9). In the seaweed house redesigned through this research, the owner of the house drilled a well in the courtyard and built a sink. The sink has two outlets, one for tap water and the other for well water. The hostess usually washes clothes and vegetables here. The used water flows out through the water outlet of the sink and is drained through a drainage ditch

to the river outside the seaweed house. This small drainage ditch is the main drainage system for the open courtyard. It not only discharges the waste water used in the sink, but also discharges the rainwater from the courtyard on rainy days, solving the drainage problem of the courtyard surrounded by the four-sided room. Therefore, the drainage system in the courtyard was retained in this redesigned.



FIGURE 9. Drainage system in the courtyard

The local government has introduced policies to protect the Seaweed House in its village. Firstly, existing seaweed houses cannot be expanded or demolished. Secondly, traditional materials such as seaweed on the roof and sea stones on the exterior of the building cannot be changed, while other spaces in courtyard can be planned on their own, building new bungalows on both sides of the courtyard for example. Lastly, the newly built room should not be higher than the height of the seaweed house, which is no more than about 3 meters. Moreover, whether it is repairing or rebuilding the Seaweed House or building a new room in the courtyard, the design drawings must be taken to the village government for approval before the craftsmen can start construction. Therefore, the researcher followed the government's policy to redesign the Seaweed House in this research.

NEW DESIGN

In the new design, materials, spatial function and light are three aspects that are mainly considered. The problems found in the previous data collection and data analysis are also tried to be solved in these three aspects.

Firstly, building materials are the most basic constituents of a building, and it determines the characteristics, style and effects of the building (Alexander et al. 1977). When selecting the interior materials for this project, a "less is more" approach was taken. Wood, seaweed of roof and the sea stone of wall were preserved as traditional elements (Figure 10). However, from the interview data, the abuse of some modern materials seems to show local people wealth and advancement. This trend has led to confusion in interior and exterior styles and affected aesthetics. It is undeniable that modern materials have more advantages than traditional building materials due to advances in technology and increasing demands for architecture and interior. (Xu 2002) However, the

protection of traditional architecture and the inheritance of traditional culture can not only use modern materials instead of traditional materials. Some modern materials such as glass, black steel, etc. were used in order to adapt to modern life and to allow traditional buildings to be inherited in a way that modern people can accept. But traditional materials are still used more to unify the style indoor and outdoor (Figure 11).

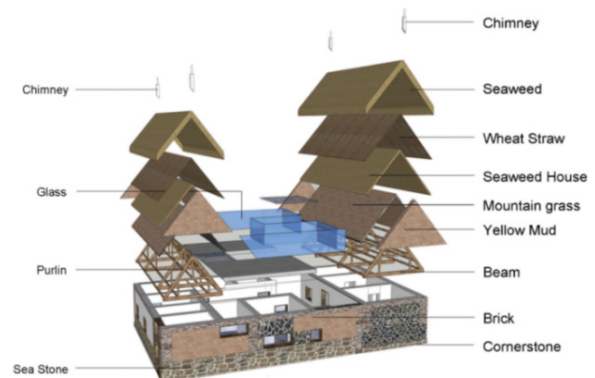


FIGURE 10. Building materials



FIGURE 11. Interior materials

The exterior wall material of the Seaweed House is still the sea stone and brick. But the difference is that the decorative treatment was carried out. The staggered use of

the two materials formed a wall with irregular changes (Figure 12 & 13). Some white pebbles were placed under the wall of the south side of the building. There are light strips placed under the pebbles, which are illuminated from the bottom up. The lights illuminate the sea stones and bricks at night, highlighting the texture of the materials. The bungalows on both sides of the east and west are kept in the courtyard and the middle of the two roofs is connected by a 1.8m wide frosted glass corridor. The roof area is used to store items and allow visitors to view the

scene, adding a 1.1m frosted glass fence to ensure safety. The material of frosted glass meets aesthetic requirements and maximizes the use of natural light. The modern materials that existed indoors such as grey stainless steel, colored wallpaper and aluminum gusset were removed. Natural materials such as stone, wood and fabric were selected as replacements to ensure the comfort and aesthetic of the architecture, while unifying architecture interior and exterior style.



FIGURE 12. Exterior wall 1



FIGURE 13. Exterior wall 2

The sound insulation between the rooms was poor due to the wooden structure, which affected the life, work, study and rest of the residents. The researchers changed the structure of the partition wall, installing the soundproof splint and putting a wooden keel about 1 cm thick on the wall and sound-absorbing materials such as sound-absorbing cotton in the gap between the wooden wall and the wooden board to reduce noise. In addition, the villagers usually cook in the house with fire stoves and the wooden structure in the room is exposed, which is easy to cause fire. Therefore, these woods were fire-treated. A high temperature resistant transparent anti-oxidation coating was used, which achieved fire protection while retaining the original wood texture.

Secondly, the traditional seaweed spatial function can only meet the most basic needs of life, including bedrooms, living room, kitchen, toilet and guest rooms. During the

interview, one visitor said, “We are willing to experience or see the seaweed house, but we prefer to live in a ‘hotel’ that is more comfortable.” It revealed that visitors would like to enjoy the beauty of the countryside, while they prefer to enjoy a modern living environment. However, with the improvement of the living standards of local residents and the increasing number of tourists, more functional space and areas meeting spiritual needs need to be added including a reception space, recreation spaces and storage spaces.

In the redesign, a new seaweed house is built in the south, called Daozuo House or South House. It is a house in the traditional Chinese building that is opposite to the main house and facing north. Therefore, the gate is changed from the center of the south wall to the east of the South House. When people enter the house, the first thing to see is the spirit wall, which is the wall used to block views in

traditional Chinese architecture. There are 3 rooms in the South House, from west to east, tourists room, reception space and toilet. The reception space is mainly used to receive tourists and check in for tourists, where tourists can also chat and enjoy the view. Another leisure space is in the area between the west wing and the main house on the west side of the courtyard. The area was originally open-air and it is covered with frosted glass ceilings after being redesigned, which do not affect the light and shelter. The area is also a shared space with a sofa and tea table, mainly used by the owner of the house to chat with

neighbors and relatives. Visitors can also chat or relax with tea here. Finally, the area between the east wing and the seagrass room was reorganized and the shelves were placed for firewood. The area under the stairs has also been redesigned to store space to meet the storage needs. The roof area, known as the second floor, also has storage space for items that are not used frequently and for drying firewood. Part of the first floor area can be seen on the second floor and the space connection adds interactive fun (Figure 14 & 15).

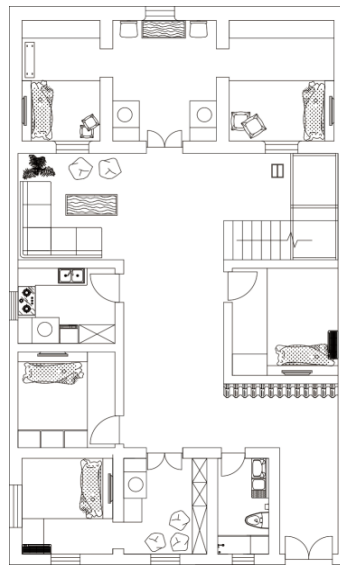


FIGURE 14. Master plan layout

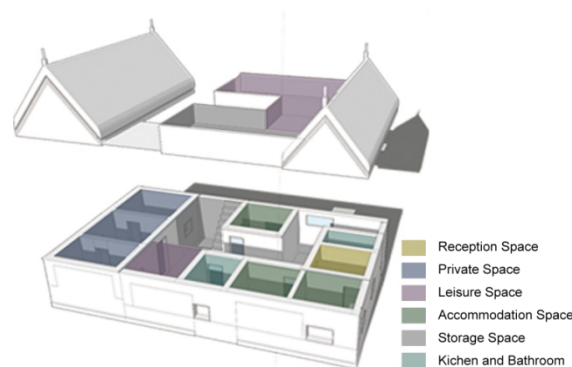


FIGURE 15. Building spaces

Finally, limited light is also one of the problems of the Seaweed House. Many years ago, the traditional Seaweed House has only one courtyard and the Seaweed House. Nowadays, basically all the residents have added rooms (flat-roofed rooms) due to the increasing demand for living space no matter what size of their courtyard. Some residents have also covered the courtyard by using materials of glass and gray stainless steel. Moreover, the Seaweed House is

large with the small doors and window so the indoor lighting is poor. It is necessary to turn on the lights all day and that is not good for the residents' health. Therefore, natural lighting is maximized assisted with artificial lighting in the redesign. In the case of ensuring the lighting of daily life, artificial lighting is used as little as possible to ensure residents live more comfortably and save resources (Fuller, 2009). In terms of natural lighting,

natural light is guided to illuminate some places due to the fact that the angle and intensity of sunlight entering the room in different seasons are different. White latex paint is used on the walls of the room to increase the reflection of the walls. In addition, the yard is semi-covered. Frosted glass is used as a flooring material in corridor junctions and overhead area, while the roof of a flat house is made

of cement. The use of the second-floor space is ensured and the natural light and fresh air are maximized for the courtyard area and the Seaweed House (Figure 16). Generally, this traditional dwelling is rooted in a historical background and environment with their own urbanization in a special way after redesigning, which is how researchers protect the heritage of traditional Chinese architecture.



FIGURE 16. Lighting in the Seaweed House

CONCLUSION

With the development of modernization, traveling has become more and more popular, which has led to the development of tourism. The tourism industry in Yandunjiao Village has begun to develop therefore we must understand any pending problems in the area. In this project, the researchers first conducted in-depth research on the natural landscape, customs, culture and tradition dwelling of the Yandunjiao Village. During the field work phase of collecting data, the researcher identified some problem areas that would require solutions. On the one hand, the local residents are not aware of the value of the Seaweed House, and they have no initiative for the protection of traditional buildings.

On the other hand, there are certain deficiencies in the building. First, there is no space for modern equipment in the Seaweed House. Exposed wires, the moisture of the socket and other issues have endangered health and safety. Second, the local residents do not have many entertainment facilities. Going to neighbors to chat is the only way for them to entertain, spending most time in their daily life. But there is no suitable space at home. Third, local people's daily life is not private due to the wooden house and the poor sound insulation between the rooms. What's more, when tourists who are used to urban life come here to live, they attach great importance to the sound insulation and privacy of their rooms. Another problem about materials is the owner of the house blindly used new materials when they renovated their house in recent years, resulting in a

chaotic style and aesthetic. These form the basis for the redesign. Thus, researchers proposed solutions in terms of materials, spatial function and light. These were provided from the perspective of interior design to protect the traditional dwelling Seaweed House in the village, improve the living standards of the local residents and attract more tourists to develop tourism to improve the local economy.

The topic of traditional architecture and traditional villages covers a wide range, including history, culture, geography, humanities and etc. This paper only analyzed the future development direction of the Seaweed House from the perspective of interior design and provided feasible solutions. There are many inadequacies that need further research.

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