

Rejuvenate the Countryside:
An Urbanization Strategy for Rural Hancheng

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Abstract

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In the process of China's rural urbanization, each day hundreds of villages are being assimilated by cities and towns nearby. Along with that is the quick vanishing of former prosperous countryside life and rural culture. Meanwhile, the overbuilding of new high-density residential buildings in the rural of China results in a great number of 'ghost towns'.

This thesis examines the current rural area development in China from the urban planning scale to the architectural scale. This thesis proposes an urban planning strategy as well as a new village typology which takes consideration of new economic patterns (rapid growing countryside tourism and countryside E-commerce), environmental friendly agriculture, traditional countryside spaces, vernacular materials. The aim of the thesis is to revitalize the rural area in China and make "the countryside more like the countryside".

This thesis uses south Hancheng (capital of Hanshan county) in Southeast China as a design subject.

Acknowledgements

First of all, I would like to present this thesis to all the villagers who lived in the old Xizhanglou. Without their consciousness of caring everyone in the village as one family member, I might not be able to appreciate the social structure of the traditional villages thus would not start this thesis when I saw such aspect was in danger. The way they used to live forms the soul of this thesis. Me, as one of them, just represent what they have taught me about countryside life from an architect's point of view.

I would like to express my gratitude to my thesis committees, David Strauss and Jeffrey Hou. David constantly encouraged me to explore more about the countryside life in China and apply the findings to my design. His interest in the topic from the beginning also provided lots of confidence for me to accomplish this thesis. Jeffrey provided me with a great amount of knowledge on landscape design and ecology system design in the process. I also want to thank Daniel Abramson from urban planning department. Daniel shared his experience of rural design in China and provided me lots of references at the beginning of the thesis, which definitely helped me greatly.

I want to thank my parents for being such open-minded. In a circumstance where few people take education serious, they kept on pushing me to acquire higher education and pursue a better life. They also have been so supportive throughout my life, especially when I made my decision to study aboard after working several years.

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CHAPTER ONE: INTRODUCTION

1.1 Problem Statement

1.2 Thesis Rationale

1.3 Project Overview

1.1 Problem Statement

1.1.1 Unbalanced development between rural and urban

In 1978, Deng Xiaoping introduced the “Reform and Opening-up” policy by which he shifted from previous closed-door economic policy that Mao’s government insisted for 30 years to a market-oriented economic system (the socialist market economy system with Chinese characteristics). Deng hoped, by reform and opening-up, to accelerate the development of the economy and improve the living conditions of all Chinese people. No one would deny the remarkable achievement that China has made in social, culture, economy and science since 1978. In the past four decades, China has maintained an averaging 10% GDP growth annually. China has overtaken Japan and became the second largest economy in 2010 and by 2016 the country’s GDP accounts for 17.7% of global GDP compared with 1.8% in 1978. China has also made a nearly 70% increase in grain production and pulled 680 million people out of poverty from 1978 to 2010.

However, many scholars pointed out that the economy growth of China was unhealthy. Policy priority to some regions aggravates the unequal development among different regions and widen the gap between rich and poor. Deng himself mentioned that to develop some areas first in several meetings and occasions at the beginning of the “reform and opening-up” policy. When he was conducting an inspection in Tianjin in August 1986, after listening to the presentation from local officials about Tianjin’s economic reform, he said “I always advocate that let some people and some regions become prosperous first. The principle is to achieve common prosperity. However, to allow some regions develop first and let

them drive the development of other regions is the shortcut to quicken economic growth and then to achieve common prosperity”.¹ Accordingly, the central government has established the first four Special Economic Zones (SEZs) in Guangdong and Fujian Province and designated the entire province of Hainan as SEZ. After seeing the success of the experiment within these SEZs, the central government gradually promoted this model to other coastal cities or inland province capital cities from 1980 to 2010.

The result of this development mode is the concentrated investment on the major eastern coastal cities and important hinterland cities. The non-equivalence attention on different areas resulted in non-equivalence development representatively. Cities such as Beijing, Shanghai, Guangzhou, and Shenzhen have grown rapidly while many other hinterland cities remained undeveloped for years.

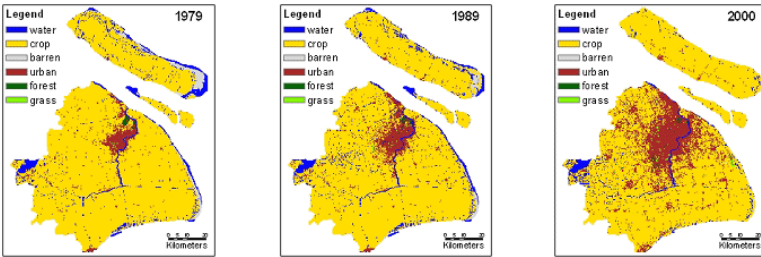


Figure 1. The rapid expansion of Shanghai since 1978

In the process, three of the most important metropolitan areas have formed. They are Beijing-Tianjin-Hebei metropolitan, Yangtze River Delta Metropolitan, and Pearl River Delta Metropolitan. Due to plentiful jobs in these areas, an incredible number of peasants from rural areas have flown into cities in these areas. In the Press Conference on New Urbanization Plan, Xu Xianping, Vice-Minister of the National Development and Reform Commission reminded us that “the three city clusters in eastern China account for only 2.8 percent of the country’s total land area, but they are home to 18 percent of its total population and contribute 36 percent of its total GDP”²

“Nationwide, the number of migrant peasant workers has increased considerably over the four decades and have become a huge part of the urban labor force. Before 1990, the number of migrant peasant workers was estimated at about 25 million. This number increased substantially after 1990 and was estimated to be 94 million in 1995 and 200 million in 2004 (State Council Research Office, 2006; Li & Li, 2007). The number in 2004 represented 40% of the total labor force. Among the migrant peasant workers, most of them are aging from 20 to 40. In 2004, the average age of migrant peasant workers was 28, the majority had a junior-high-school education, and they mainly worked in the manufacturing, construction, and service industries (State Council Research Office, 2006).”³

To conclude, China has been going through a tremendous urbanization of human history in the past four decades. The urban propor-

tion of urban population has grown from about 18% in 1978 to 53.7% in 2006. The government plans to achieve it to 60% by 2020. Whereas, as stated previously, since there was an influx of peasant into more developed cities, the dominant resource of growing population during previous urbanization was peasant-workers. Thus, the proportion of registered as living in cities has grown much slower. The proportion of that in 2013 is only 36% (Figure 2). The 17.7% of the unregistered urban inhabitant are peasant-workers whose population is about 250 million.

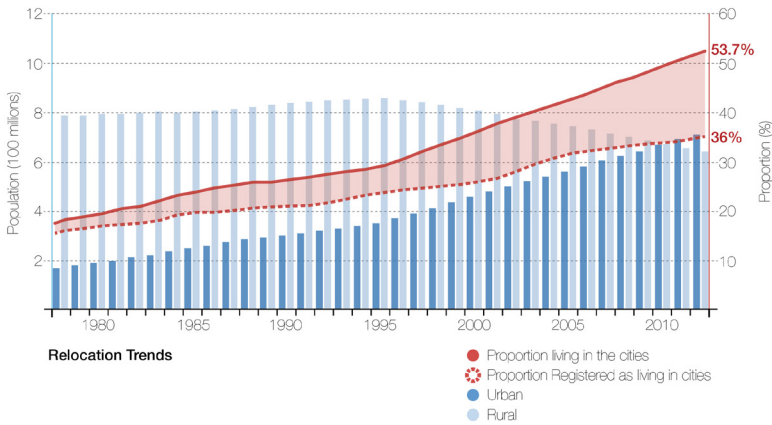


Figure 2. Relocation trends in China, 1978-2013

Due to the Hukou system (an inner passport system in China), the peasant-workers, although living and working in the cities, are still tightly related to the rural area where they come from. "A Hukou is a record in a government system of household registration required by law in mainland China, and determines where citizens are allowed to live."⁴ Hukou system was first announced in 1958 to control the migration between rural and urban areas in China. While unable to stop migration from rural to urban areas, the system only restrains the rights of rural residents in the cities. Peasant-workers, thus, have no right to enjoy basic social security such as public healthcare, education right for their children in cities. Director of Publications at University of Washington Nancy Joseph criticizes the system that "The surprise is that the Hukou system still exists today despite the stunning changes that have taken place in China over the past few decades. Some migratory controls were lifted in the late 1970s, in response to a demand for cheap labor in urban factories, but the basic structure remains intact. Rural-hukou Chinese who migrate to cities are not eligible for basic urban welfare and social service programs, including public education. To receive an education beyond middle school, they must return to their home village, despite a lack of funding for schools in the countryside and a bias against admitting students from rural schools to Chinese universities"⁵

The fact that peasant-workers have to live in cities for higher income while having no right to social housing in cities and no right to

the education for their children generate many social problems from urban to rural. Let alone the miserable living conditions of these peasant-workers, a huge number of children are left behind. The data provided by All-China Women's Federation in 2013 shows that there are nearly 61 millions (twice the population of Canada) left-behind children in the rural areas of China. Most of them live with grandparents who have limited ability to care for young children. And about one million of these left-behind children live entirely on their own.⁶ Children who are left behind by migrant peasant worker suffer the burdens of separation (Figure 3). Many see their parents rarely – often only once a year. Both the physical and mental wellness of these left-behind children is worrying. News about left-behind children suicide themselves or commit crimes can be seen frequently on media.



Figure 3. Zhang Shengui, Zhang Jianfang and their left-behind children. The couple only returned to see their children four times in ten years.

1.1.2 “Building a new socialist countryside”

Realizing the severity of peasant workers’ issues and aiming to distribute the pressure of big cities and improve the rural residents’ living standards, the central government encourages the rural urbanization in recent years. In 2006, China’s central government began implementing the policy “building a new socialist countryside,” which in many aspects is rural urbanization or townization.

As the policy states “China must step up efforts in coordinating the development of urban and rural areas, developing modern agriculture, boosting farmers’ incomes, enhancing rural infrastructure, promoting social causes in rural areas and deepening rural reforms”.⁷ The policy has succeeded on multiple levels. Firstly, it stopped the trend of decreasing grain production and ensure the food security . By consolidating the farmland to improve the land use efficiency in carrying out the policy, China’s grain production has gradually increased since 2006. Moreover, rural residents’ living standards have also improved greatly since then in public healthcare, education, public transportation and so on.

To archive the goal of a neat and clean countryside, multi-storied buildings were built for farmers throughout the countryside, replacing the scattered single story houses and turning the previously occupied land back into farmland. Consequently, many existing ‘poor condition’ villages were either combined into new towns or assimilated as parts of the nearby cities.

1.1.3 Emergence of ghost towns and the unrest of countryside

From the point of architecture, it turns out that the “building a new socialist countryside” did not resolve the problems of the countryside and instead created new problems. One of them is the overbuilding of residential and thus the emergence of ghost towns in those newly built areas (Figure 5). Central government’s encouragement on constructing bigger and better housing for rural residents led to the result that lots of local governments heavily relied on the revenue from selling land to residential developers. This does not only put local governments’ finance in danger but also involves universal waste, overdraft, and efficient and immoderate development of urban land, resources, and environment. “From 2000-2011, the building area of cities and towns has grown 76.4% which is much quicker than the 50.5% growth of urban residents.” What is even worse, among the growing rural population, a great number of them are rural residents who bought apartments in these newly built areas while still flow into big cities for that jobs remain there. China has tried to offer rural residents Urban Hukou to encourage them to stay in new towns and small cities and thus to popularize them. However, “There was not much success because of the limited employment opportunities and poor public services in small cities,” said Tao Ran, an economist at Renmin University in Beijing.⁸

The overbuilt residential in the rural area happened in almost in every newly developed third, fourth or fifth-tier cities during the process of “building a new socialist countryside”. Recently, it has drawn great at-

tention from media. Zhou Jun, a taxi driver, told Reuters reporters “If everyone moved into the county seat, they still couldn’t fill all these homes,” as she drove past acres of unoccupied and neglected apartments. Zhou says she can tell which apartments are empty by looking for the air conditioner units outside windows. If they are missing, no one is living inside. Her car passes one building block with 72 windows, just two with air conditioners.⁹

In the article “The Unreal, Eerie Emptiness of China’s ‘Ghost Cities’” by Laura Mallonee, she writes “But it’s hard to start a city from scratch. Most people don’t want to live somewhere that feels dead, and these new cities sometimes lack the jobs and commerce needed to support those who would live there. In Kangbashi, the government used some administrative tricks to address this, relocating bureaucratic buildings and schools, then trying to convince people in surrounding villages to move in. It had minor success. Today, a city designed for at least 500,000 has around 100,000 inhabitants”¹⁰



Figure 4. Newly built residential in Ordos, Inner Mongolia

Even for these who chose to stay in their hometown and eventually moved into the newly built towns, they often found their maladjustment to new urban space and lifestyles designed for them (Figure 6). They are struggling in cities. Zhang Tiejun, a well-known scholar who studies the rural area of China published in his article “Dilemma and Breakthrough: A Study on Urban Adaptation of Landless Peasants” in 2010. In the article, he points out the difficult of peasants accommodating city life: 1, they cannot find the suitable job; 2, the social structure changes result in a lack of social activities for them, 3, the impossibility to conduct farming and rural customs causes their phycological discomfort. While being overlooked by government and urban planners, these new urban residents adaptive re-use urban spaces to maintain their preferred countryside life by themselves.



Figure 5. A farmer leading his goat herd past newly constructed residential buildings in the town of Gushi in Henan province, March 28, 2010. REUTERS/David Gray

Meanwhile, villages are vanishing quickly while carrying out of “building a new socialist countryside”. “That is happening at a stunning rate. In 2000, China had 3.7 million villages, according to research by Tianjin University. By 2010, that figure had dropped to 2.6 million, a loss of about 300 villages a day”, reported in New York Times.¹¹

During the movement of “devouring villages by cities” in the urban development enclosure process, some peasants had to reside in settlements after the “movement and merger of villages” or even storied houses. Some villages could not be temporarily demolished, and some rural areas became urban “enclaves” (or “villages in the cities”) as a result of the excessive development speed. These problems continue to be the difficulties in today’s urban transformation and renovation in China (Wang, 2012).

“The hometown that we cannot return to” reflects a serious problem in villages. Today, the traditional mode of construction generated by convention, effectiveness, and regional disparity (i.e., as implied in “local cultures/customs vary even across small geographical distances”) is rapidly vanishing. Moreover, such disparity is caused by different lifestyles and aesthetic customs in the life circles of different regions (Wang et al., 2012). Unclear urban identity, traffic accessibility, lifestyle changes, and the decline in traditional construction technology are the primary causes (Wang, 2012).¹²

The assimilation of villages into towns or cities has also resulted in many cultural and social issues that policy makers had not foreseen. To begin with, as China's countryside is the bedrock of various folk cultures, replacing the countryside with mechanized farmland and high-density housing will ultimately lead to the extinction of them (Figure 6). "China's culture has traditionally been rural-based, once the villages are gone, the culture is gone," said Feng Jicai (Jan 2014), a well-known author and scholar in China.¹³ Secondly, the settlement pattern of traditional villages and the hierarchy among buildings are indications of kinship and social structure. Government's uniform master plans (Figure 7) for the new villages or towns eliminate the previous relationship among villagers.



Figure 6. The musicians used to live in Lei Family Bridge now practice once a week under an express way bridge.

“It’s ironic that some villages survived thousands of years of war and disasters but have disappeared in peacetime through demolition or people’s short-term views,” Prof Li Huadong said in an interview with state media. Prof Li, whose group was founded in June this year to draw attention to the disappearing communities, told *The Telegraph* protecting Chinese villages was about far more than preserving “old houses and folk art”. It was, he said, about facing up to the “spiritual and moral crisis” that China’s rush towards modernity and materialism had created. “In our old rural society, we had moral standards, ancestral halls and family discipline based on close-knit relationships. All this has been wiped out,” he said. “The DNA of our culture is in the villages. If our villages are destroyed, Chinese people will cease to be Chinese people.”

What is more, buildings in traditional villages are designed to correspond with local environments and climates. Materials of these buildings are often locally produced and environment-friendly. Thus, buildings’ characteristics in traditional villages have great diversity in different regions (figure 9). However, buildings in new villages or towns were constructed from uniform design prepared by the local governments. Often, they are built with the same materials that mass produced by certain manufacturers. Ultimately, villages and towns all over China are gradually becoming identical.

The intention of “building a New Socialist Countryside” is good, but its implementation was carried out without a systematic study of countryside cultures, economies, and lifestyles. Therefore, the policy is gradually eliminating the old villages and the scale of interaction with surrounding farmland with all its aesthetics and vitality.



Figure 7. Rural housing development Lingshui county in Hainan Island

1.1.4 New Urbanization Plan

In 2012, Prime Minister Li Keqiang announced the implementation of the “National Plan on New Urbanization,” which aims to coordinate development of cities and small towns and further withdraw the problems happens in new built towns and cities.

Vice-Minister of the National Development and Reform Commission, Xu Xianping stated in Press Conference on New Urbanization Plan that *“we have to gradually settle the former agricultural population who have migrated to the cities, optimize urbanization, and increase the sustainability of cities to eventually achieve unified urban and rural development.”**“the plan requires us to intensify the integration of transportation and information networks, promote the distribution of key industries and public resources, and shift away some of the megacities’ economic and other functions, so as to help small and medium-sized cities and small towns to develop industries and attract residents to city clusters. While tapping the full potential of major cities to drive the development of their surrounding areas, we must accelerate the development of small and medium-sized cities, and promote the development of small towns with special focuses.”*¹⁴

Whether the new urbanization plan will succeed or lead to more problems in the rural area is still unclear. As Dexter Roberts writes in his article “China wants its people in the cities” for Bloomberg. “The urbanization plan appears to face several big challenges. First, the government wants to maintain restrictions on migration to China’s biggest cities, which

also happen to be its most popular. Instead, the plan calls for liberalizing migration to small and midsize cities, or those with less than 5 million. Whether migrants will willingly flock to designated smaller cities, rather than the megacities including Beijing, Shanghai, Guangzhou, and Shenzhen, is an unanswered question.”¹⁵

1.2 Thesis Rationale

Both ‘building a new socialist countryside’ and ‘new urbanization plan’ are designed to withdraw the current “SanNong” (three issues that related to the countryside) problems: villages, peasants, and agriculture by urbanizing the rural area. However, the results prove that it created new problems as stated previously. This thesis tries to explore an alternative possibility to resolve the current rural problems and achieve the prosperity of countryside.

This thesis focuses on the advantages of the countryside that were disregarded during China’s recent rural urbanization. Based on the principle of promoting land use efficiency and improving the living conditions of peasants, it proposes a strategy for the future of countryside development. From urban planning scale, this thesis proposes multiple agriculture-related programs which provide multiple other income sources to attract peasant back to live in the countryside. On the architectural level, this thesis investigates traditional villages in this area by the means of their social structures, master plans, building forms, building materials and the relationship between villages and nature and applies these factors’ in the design. Considering the new economy patterns that are happening in China’s countryside and their impacts on countryside spaces, the thesis proposes a village design typology that maintains traditional villages’ aesthetics while simultaneously serving as the container of traditional culture and new economic patterns.

This thesis proposes a rural planning that integrates with the local government's current rural development so that the proposed facilities and new villages will have easy access to public facilities such as schools, hospitals and markets which have been greatly promoted during the "building a new socialist countryside". Based upon an analysis of the historical rural villages in Anhui Province, this thesis will propose a typology of villages and then create planning and design guidelines for village spaces, architecture, and relationships with farmland for one village type considering, in particular, new forms of tourism in this area. It will result in the design of a neighborhood and building in a particular village.

The aim of the thesis is to develop a project that on one hand promotes the living conditions of peasant and the land use efficiency while on the other hand still maintain the spatial qualities and social structures of old villages.

1.3 Project Overview

This thesis focuses on South Hancheng (Capital of Hanshan County) as an urban scale study area and Xizhanglou Village as a site for the new village typology. The thesis re-examines the current government's urban planning design for South Hancheng and points out its neglect to problems that have already occurred in other rural urbanization projects. This thesis proposes an ecological farming area for south Hancheng and a village design for Xizhanglou. The thesis design utilizes the existing countryside road and non-arable land along the road as building sites for the new villages and other facilities so that it avoids occupying the arable land as much as possible. For the ecological farming area, the thesis proposes bike rentals, farmers market, handicrafts workshop, tea house, fishing huts and duck farms. For the two villages (Xiaojian and Xizhanglou) design, the thesis design proposes a village typology that elevates the houses above the existing farmland and layout them along the rural road. By doing so, the design allows easy accessibility to city facilities through rural roads to city roads. Meanwhile, it responds to the government's policy of land consolidation.

The design of new Xizhanglou Village contains 18 houses for 14 families (taking the consideration of future expansion of some families), an ancestral hall, a hostel building. Houses are divided into five groups according to the intimacy of different families. A common space on the third floor of the hostel building is a multi-functional interior space which can be used for practicing and performing traditional folk art, local hand-

ircraft production or even a playground for kids. The second floor of the hostel contains eight guest rooms to host the possible incoming tourists from nearby cities. This thesis offers three kinds of outdoor spaces within the villages: family courtyard, families shared open space and village common space for family activities, relatives' activities and village activities respectively. The master plan of the village, as well as the layout of each house, follows the philosophy of Fengshui: understand nature, respect nature, utilize nature. The linear arrangement of the design following the direction of rural road enables the possibility of future expansion. The steel frame structure of the village design is an imitation of the traditional wood frame structure which has great flexibility and stability. As for the building materials, the design uses local materials such as bamboo, adobe, stone, and traditional roof tiles.

This thesis is neither a simple imitation of a traditional village nor a total rejection of the government's designs. The master plan and the typology of the thesis design is a product of studying the social structure changes and an extraction of traditional spaces. It is designed to resist the homogenization trend of the countryside to Hancheng and thus to identify Hancheng.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1 Literature Review

2.2 Precedent Analysis

2.3 Conclusions

2.1 Literature Review

2.1.1 Modernization, Westernization and Tradition

“Constructing a new socialist countryside is an important historic task in the process of China’s modernization,” stated in the policy “building a new socialist countryside”.

China had a years-long debate on whether China should modernize since the Opium War when China was defeated by Western Countries in 1840. While agreement on military modernization was achieved, many other aspects of China remained the same for a long period. When China Communist Party won the civil war and established the People’s Republic of China in 1949, in order to enter the Soviet orbit, the focus of the debate about modernization altered from whether to modernize to how to implement modernization. Whereas, in all the ages, the voice of anti-modernization has never stopped in China. Most opponents worry that since most modernization follows the steps of modernized western countries, the modernization of China would be a process of westernization which eventually would eliminate already eligible traditional cultures. “One group of people feels more keenly the obstacles to the reform arising from Chinese feudalistic legacies, While the other is more worried about China losing its national identity if modernization should be wrongly regarded as equivalent to ‘westernization.’”¹⁷

“If one inquired further into the relation between modernization and Westernization, one finds that, although they are contemporaneous in the process, modernization and the Westernization are not equivalent. Since the model of modernization in Western countries cannot necessarily be

rapidly realized in other countries which can take other models, while westernization remains an important model for the achievement of modernization it is not universally applicable. The choice of proper model is conditioned by concrete national conditions and cannot be pumped together.”¹⁸

China’s modernization has already turned out to be westernization. It is equally true from urban to rural. Since Deng Xiaoping’s economic reform, China’s economy has gradually shifted from socialism to capitalism. The flow of western products and idealisms has played a great role in shaping Chinese people’s concept of modern life (figure 8). The yearning for modern life eventually was structured as a coarse copy of western lives, particularly American life. The copy happened in every aspect of Chinese people’s life: clothing, food, housing, and transportation. The result of the yearning for western housing was the spread of constructing every style of European classic architecture (figure 9). The modernization of rural houses has been following the steps of this western ideal as well since the “reform and opening” policy. Without criticizing the phenomenon, the recent implementation of “Building a New Socialist Countryside” only speeds this kind of modernization nationally. The differences of countryside houses in various regions disappeared, replaced by a uniform, simplified European style.

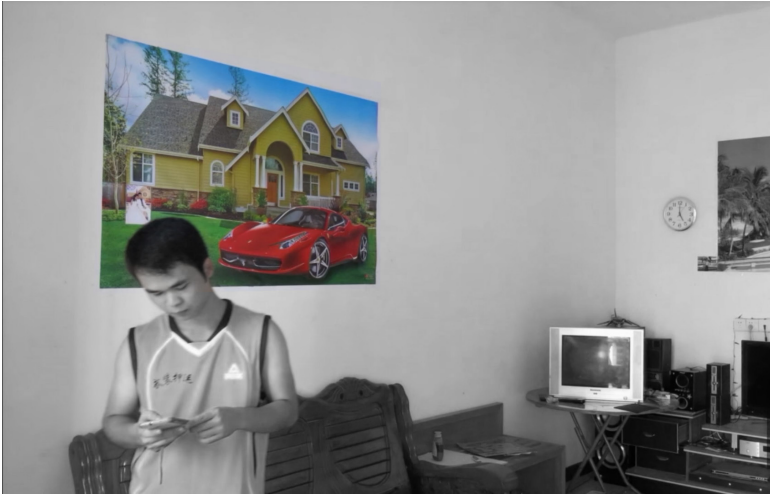


Figure 8. Chinese people's concept of modern life



Figure 9. A copy of White House: the government office building in Fuyang, Anhui

Nevertheless, traditions as the direct reflection of history in our daily life demand more attention in all fields. Preserving traditions is one way of protecting history itself but also a way of pursuing cultural identification.

“Tradition is the product of the practice of human existence in which human beings transform nature, society and themselves. It is the unity of the various elements of culture created by human being, which is handed down through the continuity of history. As the product of human existence, tradition is subordinated to the needs of this existence and the activities in meeting such needs. All traditions present or past are created in the activities by which human beings meet their needs for existence. Therefore, it can gain energy and vitality for its existence and development only from the needs of human existence.”¹⁹

As one important part of traditions, traditional architectures are the best result of our ancestors’ adaption to particular regions. They are the accumulation of our ancestor’s understanding of the specific geographies, cultures, climate and life. Thus, the styles of traditional buildings in China differentiate greatly from region to region. Meanwhile, they share the common idea of pursuing harmony between nature and human.

The development of science and technology in the 21st century has greatly improved our life on multiple levels, it is unnecessary and unrealistic to go back to live like our ancestors entirely. How to utilize traditions correctly so that they can facilitate our lives instead of putting

constraints on our design is one keen question all architect should consider.

“Many Architect since the modern era have relied heavily on modernism. The most typical attitude holds that modernism is no longer suited to this era and that resolving this problem calls for something contemporary. Thus, a lot of things have been created out of this energy to develop a transcendent historical perspective. But in many cases, the word modernism now seems to denote content that is stunted or much reduced.

It isn't necessary to whither before our forebears, but there is a need for a respectful approach to history and a sense of humility toward what has gone before as part of a temporal axis. Rather than seeing history as something that expresses limits, I try as much as possible to see it as something that enables us to discover possibilities.”²⁰

In recent years, as the urbanization speed in the eastern coastal province has slowed down. Both governments of these regions and socialists, architects start to realize the problems generated by previous rural urbanization. They are seeking solutions for the future of their rural areas. Learning from traditional village to revitalize the countryside has thus become a heated topic. Wang Shu, 2012 Pritzker Architecture Prize winner, one of the most famous architects in China in his TED shanghai lecture mentioned that “as for protecting traditions, there is no going back for China's big cities now, but China's big cities now, but I still hold a hope for China's countryside.”²¹ He and his office had spent 12 years in studying

traditional villages in rural area of Zhejiang Province and recently built a prototype for future villages in Fuyang County.

Wang Shu displayed his study of Zhejiang traditional materials and building techniques (figure 11) inside the Arsenal at the Venice Architecture Biennale. This is one of the first 'reporting from the front' exhibitions. Designboom Magazine mentioned that "as urbanization continues to affect traditional villages, with replicas of suburban commercial villas replacing the historic home and culture, Wang Shu's Amateur Architecture Studio was particularly interested in learning about the history, materials, craft and construction techniques of these villages"²². At the same time, the exhibition also showed the application of these handmade materials used in the restoration project of the village of Wencun in Zhejiang province. "Traditional villages and historic buildings have always been a valid and useful source of knowledge and the use of ancient techniques is environmentally, socially, and culturally sustainable"²².

Both the exhibition and the village project was a huge success. Scholars and medias complimented Wang for his effort in trying to achieve China's rural modernization without losing its uniqueness. As the architect said, "in fact, we think Chinese villages represent the most important value in modern Chinese cities with their more natural and traditional way of living and working"²².



Figure 10. Wang Shu's study on traditional building materials

2.1.2 Marketization of countryside

In most part of China's countryside, agriculture is becoming increasingly mechanized. This tendency requires less manual labor. A huge number of former farmers move to cities to become migrant workers or stay in villages to seek jobs with higher returns. The limit assigned farmland area makes impossible to earn the same amount of as their counterpart in the cities from farming. Countryside tourism and E-commerce of traditional handicrafts and food are two most popular fields for those who choose to stay.

Countryside tourism:

Urban citizens are increasingly curious and looking forward to countryside life. Thus, in many western countries, urban farming has become popular in recent years. People grow rice and vegetable in their office; P-patch can be seen in many city blocks. The good thing for the urban residents in China is that, although our urban planners did not include such urban farming space in their planning, the majority of China's cities are surrounded by countryside. Thus, people can drive one hour or even less to villages near the cities they live on weekends to experience the countryside life.

The market of countryside tourism booms in recent years. According to the data released by the China National Tourism Administration, China has more than 1.9 million village hotels, where city dwellers can have a taste of rural life, such as feeding livestock, picking pumpkins(fig-

“About 70 percent of tourist trips on the weekends are now made to the countryside around cities,” says CNTA (China National Tourism Administration) director Li Jinzao. “Through rural tourism, farmers can reinvigorate their idle agricultural resources. The economic structure in the countryside will also improve,” says Li. International hotel giants, including Hilton, Four Seasons and Banyan Tree, have entered China’s rural tourism market to grab a share of the lucrative business. “Rural tourism has helped to change the backwardness of many remote rural areas,” says Li, adding that over 10 million people have emerged from poverty in the last five years thanks to rural tourism. According to him, at least 50 percent of China’s 128,000 impoverished villages have the potential to develop rural tourism, and the industry will be “one of the government’s main approaches for poverty alleviation”.²⁴

China aims to increase the number of village hotels nationwide to 3 million by 2020, and lift 2 million people out of poverty every year, according to guidelines released by the central government in August. “Rural tourism can provide new business opportunities, help preserve beautiful scenery and push forward urbanization,” says Dai Bin, head of the China Tourism Academy.²⁵

E-commerce:

After years of consuming goods from western countries, nowadays, a growing number of people especially people of young generation are seeking for individual characteristics. Instead of purchasing mass produced products they become increasingly interested in buying local produced traditional products. The demand of traditional handicrafts and food has driven a great number of young rural residents to return to their hometown to engage into the industry (Figure 13). Along with this tendency, rural E-commerce has been growing rapidly. Recently, “E-commerce giant Alibaba reached a deal with the National Development and Reform Commission to work together in more than 300 rural areas to help develop e-commerce(Figure 14).”²⁶

“While rural Chinese are willing to spend online, many of them are still relatively poor, which limits their purchasing power and the resources they can invest to build businesses.” National political adviser, Liang Weihua is one of the strongest promoters of introducing E-commerce into the countryside. “During our field trips to the remote rural areas, we have found that many of them were rich in agricultural resources, and products that are natural and organic. But they were limited by inaccessibility and transport hurdles, and the lack of an information communication platform. E-commerce will largely shorten the distance between companies, customers, and farmers.” as Liang said. He also points out that the success of E-commerce will help China realize its goal to lift 70 million of people in rural areas out of poverty by 2020.²⁷



Figure 11. Experience the countryside life



Figure 12. Enjoy the fresh air in the countryside



Figure 13. Handicraft workshop in the countryside



Figure 14. Countryside Taobao

2.2 Precedent Analysis

2.2.1 Wang Shu and Wencun

Wang Shu and his wife Lu Wenyu have been studying traditional villages, traditional building forms and materials in Zhejiang Province for years. After years of documenting the rural area in Zhejiang Province, Wang and Lu found out that both the countryside life and countryside traditional buildings are vanishing at a worrying speed. In aim to stop the tendency, Wang, Lu and their firm Amaterur Architecture studio has been experimenting prototypes for future village development which based on traditional forms. The first experiment of their idea is an extension project for Wencun. They hope this new development will be the starting point of rejuvenating the rural area of Zhejiang and will be able to attract migrant workers back to their hometown. In 2016, the extension of Wencun was finished and open to the public.

Like other rural areas in China, Wencun is also on the edge of vanishing. “Wencun has over 500 registered households and around 1,800 residences. The problems of an aging population and the ‘hollowing out’ of villages are the norms in Chinese rural society, and this village is one of the most remote in Fuyang.”²⁸ Since Wencun is at the relatively remote area of Zhejiang, Wangshu stated that if his approach is successful here, it should be replicable in other better-connected countryside.

For the master plan, instead of building the new part of Wencun on a separate piece of land, Wangshu proposed a plan which extends out from the old village. The new part of Wencun totally has 14 three- and four-story buildings which host 30 families. In the old part of the village,

Wang Shu also suggested to renovate several concrete buildings with ceramic tiles so that the village would appear as one.

Architecturally, Wang Shu considers the courtyard to be the one of the most important parts in the building of this area. Thus, every of the new houses has a courtyard. The courtyards allow every room to have decent day lighting while enhance the natural ventilation of each room. The wood facades around the courtyards remind inhabitants of their traditional houses (Figure 21). Vernacular Materials have been used a lot in this project. Instead of using concrete and bricks, Wang's houses are constructed in concrete frames and infill local materials such as stone, rammed earth and bamboo.

Although the project has succeeded in many ways and received great compliment, the villagers themselves are not as content as architects. Among the 30 houses, only 18 of them are occupied by villagers, and the other 12 are being used as an inn. The present situation definitely conflicts the primary goal which was to help Wencun to remain a thriving rural village. Lu herself said: "What is important is that it does not become a theme park." Lu also expressed her concern about the prototype being built identically. The hope is that this intervention can serve as a model for other such villages, but, she argues, it cannot simply be copied. "The most critical point is how to maintain the rich diversity of Chinese rural culture," she says. "This work is complicated."²⁹

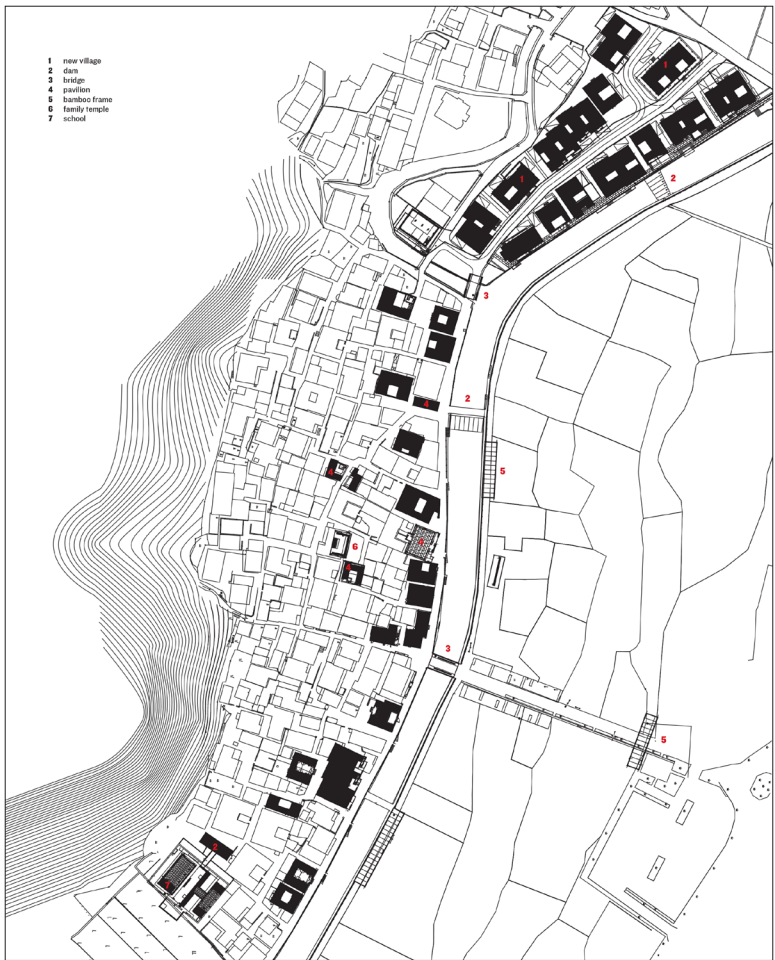


Figure 16. Master plan of Wencun, New and renovated houses are in black

“The ‘new village’ designed by Wang infills the original field between the lower village and two ancient ginkgo trees that stand at the edge of the historic settlement. Connected by a concrete bridge (Figure 19), the trees form an entrance piazza to the ‘new village’.”³³⁰



Figure 17. Viewing new Wencun from farmland



Figure 18. New Wencun is laying out along the stream



Figure 19. The bridge that connects new Wencun and old Wencun



Figure 20. Ground floor plan of new Wencun



Some villagers also complain about the lack of front courtyard where they can conduct agricultural production activities. (Figure 22)

The houses maintain not only the traditional forms and materials but also provide spaces for future adjustment. Wang in his design intentionally leaves some extra space in the kitchen. After being occupied, almost all the villagers choose to build the local stove in the extra spaces left by the designer(Figure 23). “I am so happy to see this, it is a revival of traditional life.” says Wang.



Figure 21. Courtyard inside the new houses



Figure 22. Street view of the new Wencun, only few families have open space in front of their houses.



Figure 23. Kitchen in the new houses

2.2.2 Bishan Project

Bishan is a rural area of Yi county in Anhui province. Yi county is well-known for its Hui style buildings and its two World Heritages: Xidi and Hongcun. Bishan, although is the neighbor of the Xidi and Hongcun, due to the lack of attention and investment from the local government has remained as an agriculture township for years. Many of the residents work in cities and only visit back a couple of times each year. It is almost another copy of all the other rural area in China until 2011 when the Bishan Project started.

The founder of Bishan project, Ou Ning, was an underground publisher in Beijing. Ou Ning went to Bishan in 2011 for the first time. After that visit, he sold his apartment in Beijing and settled down in Bishan with his family. He established Bishan Project in the same year. Ou Ning's concept of rejuvenating the countryside by artists has been strongly supported by Bishan government for they have been eager to promote Bishan tourism for years. Since 2011, a number of seminars and exhibitions were held in Bishan which greatly improve its popularity due the media's extensive cover. An increasing number of investors along with the tourists are gradually coming to Bishan to run hotels or other business. Bishan thus has become a popular tourist destination just like its neighbors Xidi and Hongcun.

The positive side of this project is, since most tourists who come to Bishan want to see what is there, more attention is put on protecting existing buildings and developing the traditional building techniques. What is more, Yi county also relocates more of its revenue on the infrastructure development of Bishan which promotes the life conditions of locals.



Figure 25. Previous condition of old houses in Bishan

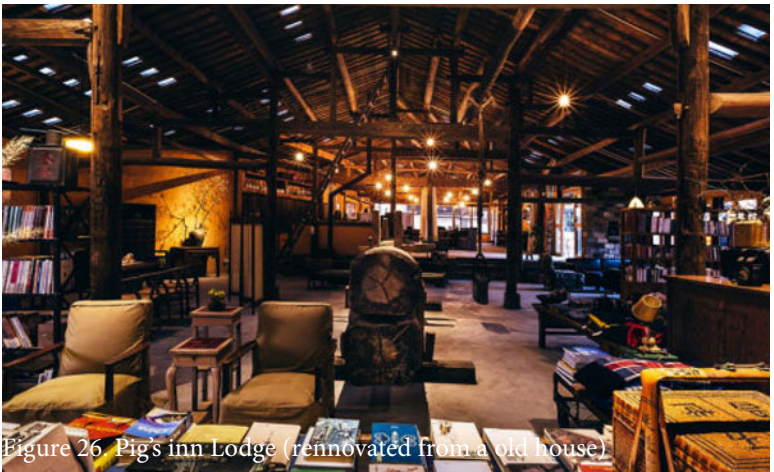


Figure 26. Pig's Inn Lodge (renovated from a old house)



Figure 27. Local bamboo weaving handicrafts



Figure 28. Traditional building techniques in Bishan

However, the operation of the project by elites from cities also results in many problems. Zhou Yun, a PhD student of sociology in Harvard University criticizes the project in her article “whose countryside, whose community” that the project divides intellectuals and peasant further more in countryside. The project as Zhou said “has nothing to do with the local residents”.³¹ Indeed, the renovation of the old houses and new built



Figure 29. Renovated ancestral hall as a new bookstore



Figure 30. Renovated houses as hostel

“traditional’ houses cater the aesthetic taste of these artists or intellectuals(Figure 30). Whether this kind of “protection” will transform Bishan’s traditions is a question. Another issue is that the inflation that comes with the growing number of tourists will place a lot of stress on the local residents who benefit little from the project. Whether the local residents could afford to live in their hometown is another question.



Figure 31. The living condition of Bishan residents remains the same



Figure 32. The living condition of Bishan residents remains the same

2.3 Conclusion

China's rural urbanization is still in progress, which provides experts in different fields chances to engage into it and to investigate on better solutions for the revitalization of China's countryside. As for architects, the most urgent part is to seek solutions for these villages which locate on the edge of towns or cities. They are more readily to be torn down during the progress.

Countryside infrastructures have already been well developed which provide preconditions for new village developments around towns or cities. Use of traditional building materials and forms has been encouraged for its cultural and environmental advantages. The rapid development of countryside tourism and countryside E-commerce demands more space in the rural area.

CHAPTER THREE: METHODOLOGY

3.1 Site Selection

3.2 Typology

3.3 Application

3.1 Site Selection

3.1.1 Hanshan County

Hanshan County locates in the central east of Anhui province (figure 34), has an area of 1036 square kilometers, a population of 445,000. Hanshan County consists of 8 townships in total. According to Hanshan County Annals, Hanshan has a history of 1380 years. It is the birthplace of China's jade culture. The name of Hanshan means embedded in the mountains which clearly identify the geographic characteristic of the county. Over 70% of Hanshan's land is mountains and the left less than 30% land is rivers, lakes, and farmland. About 20% of the county's GDP is from agriculture, about 53% of the GDP is from industries such as wine, beer, vegetable oil, concrete and gypsum board.

Hancheng, the capital of Hanshan County locates in Huanfeng township which is in the center of the county. Hancheng has a population of about 100,000. It locates among Hefei (capital of Anhui province), Nanjing (capital of Jiangsu province), Wuhu and Ma'anshan metropolitan area. The direct distances to the four main cities are all less than 100 kilometers and the driving distances are all less than 90 minutes. (figure 35) In recent years, the rapid development of the four main cities around Hancheng has brought plenty of opportunities to the town and resulted in a rapid development and expansion the county capital as well.

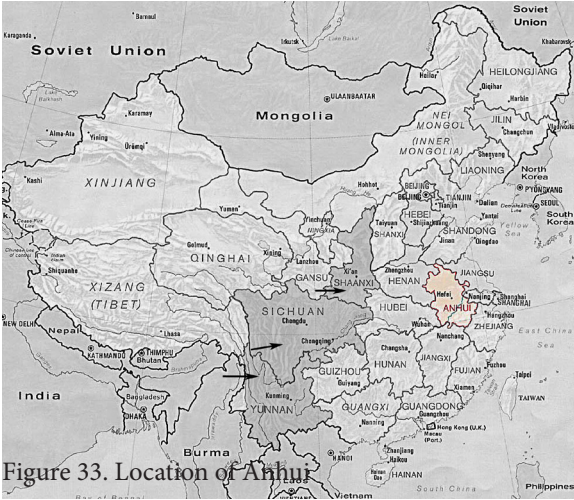


Figure 33. Location of Anhui

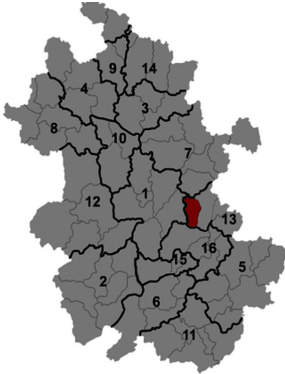


Figure 34. Location of Hanshan in Anhui

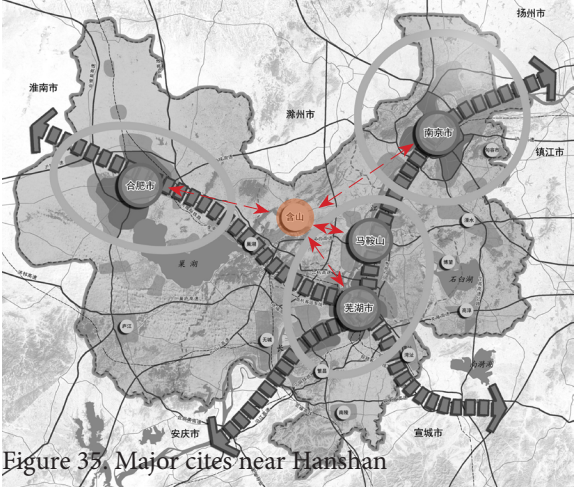


Figure 35. Major cites near Hanshan

3.1.2 Hancheng Urban Planning (2014-2030)

The urban area of Hancheng has expanded greatly in the 15 years (figure 36). As the urban plan for 2030 Hancheng (Figure 38) shows, the town is almost 4 times as big as its old town. Most of the planning area has already been constructed or are under construction (figure 37). The last left piece of unconstructed land is the South Hancheng. However, the design of this part has already gone through several rounds. The final design (Figure 39) from government's website demonstrates that the area will be divided into several separate zones which are: residential, government buildings, shopping area, and farmland.

Considering that the population of the county has been dropping since 2005, government's planning of building denser residential should be reconsidered. This thesis considers South Hancheng to be an applicable area to study the revitalization of the countryside near cities.

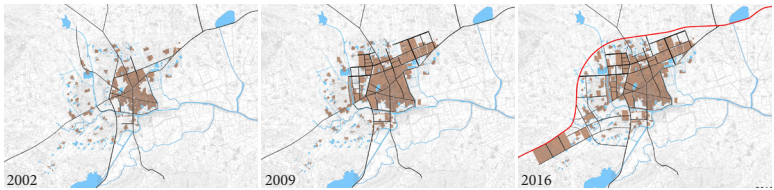


Figure 36. Hancheng's development in the past 15 years



Figure 37. Satellite map of Hancheng, 2016

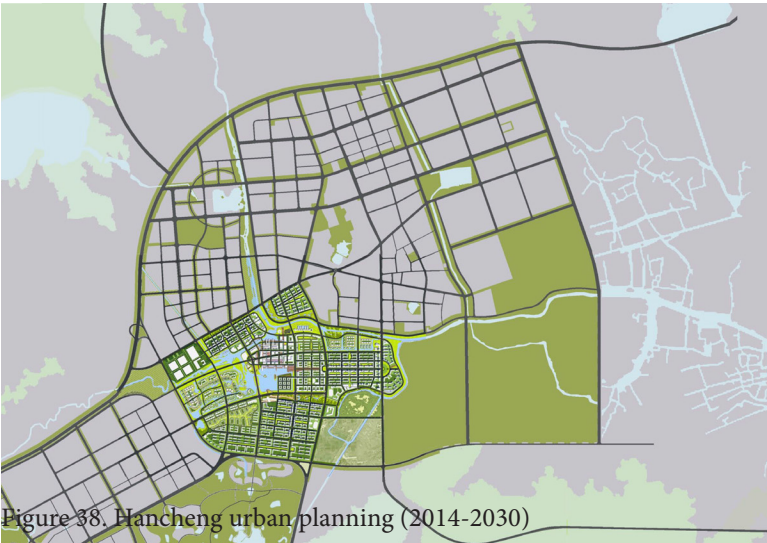


Figure 38. Hancheng urban planning (2014-2030)

3.1.3 Project Site: South Hancheng

This thesis chooses south Hancheng as urban planning area and the village Xizhanglou within this area as architecture design project.

Xizhanglou Village locates on the edge of new South Hancheng. It has 14 families and a population of 43. Since the village locates in the middle of farmland, the former easy access to farmland nowadays becomes the barrier for mechanical farming. Besides, locating at the downside of Dongshan reservoir, part of the village is easy to be flooded during the rainy season. Thus, for land consolidation and live condition improvement reasons, the village faces the same destiny as many other villages in China. This thesis chooses Xizhanglou as the site for building typology in studying countryside revitalization.



Figure 39. South Hancheng Urban Planning (2014-2030)



Figure 40. Site Location



Figure 41. Old Xizhanglou plan

Figure 42: Site Photos



The rural road that connects Xizhanglou with



Village Xizhanglou 2014



Village Xizhanglou 2017



Village Xizhanglou in rain reason

3.2 Typology

3.2.1 Overview

This thesis recognizes the fact that in many of the area around cities the transportation systems have already been formed. Villages and farmland are already cut into urban blocks by roads. On studying the satellite maps of several cities and also by traveling in the countryside near Hancheng, the thesis discovered that among these city roads are the secondary existing countryside roads. These countryside roads connect existing villages to city roads and thus the nearby cities. It is sure that these countryside roads will be torn down in the blocks for buildings. However, for these in farmland area, their destination is unclear.

Instead of concentrating on land for farming and land for housing separately, on the planning level the thesis explores the possibility of distributing buildings into the farming area without occupying too much farmland. Existing countryside roads and the non-arable land along the roads thus serve as the sites for housing and other facilities in this area. On one hand, they connect the future villages and other facilities to city roads which provide farmers easy access to public facilities such as schools, hospitals, and market; On the other hand, using these existing roads as building sites minimizes the invasion to arable land.

This thesis design maintains the current relationship between peasants and farmland while suggests two kinds of farming. For the land that is adjacent to houses, the thesis design proposes small pieces of land for each family in the village. This kind of farmland serves as villagers and tourists' access to farmland for experiencing countryside life. The other kind of farmland is mechanized farmland for massive grain production.

3.2.2 Master Plan

Fengshui:

“Fengshui theory, a Chinese concept of living environment, was an application of Daoist philosophical ideology to housing in practice. It was concerned with the relationship between man, house, and the universe, providing builders with theoretical guidance, helping inhabitants to find a good living environment to build their ideal home. In Fengshui theory, it was believed that an ideal site should be surrounded on three sides by higher land or mountains, like the crook of the elbow in a curved arm, to provide protection from inclement weather or an enemy.”³² Fengshui, is a Chinese philosophical system of harmonizing everyone with the surrounding environment. The Fengshui practice discusses architecture in metaphoric terms of “invisible forces” that bind the universe, earth, and humanity together, known as *qi*.”

Historically, Fengshui was widely used to orient buildings—often spiritually significant structures such as tombs, but also dwellings and other structures—in an auspicious manner. Depending on the particular style of Fengshui being used, an auspicious site could be determined by reference to local features such as bodies of water, stars, or a compass”

Architecturally, Fengshui plans an important role in two aspects. Firstly, as for site selection, Fengshui suggests sites for villages or houses that are surrounded by mountains and faces lake or river (figure 43). This allows natural protection from invasion and access to the water resource. Then, as for the layout of buildings, it suggests facing south or southeast,

which is based on consideration of sunlight and natural ventilation.

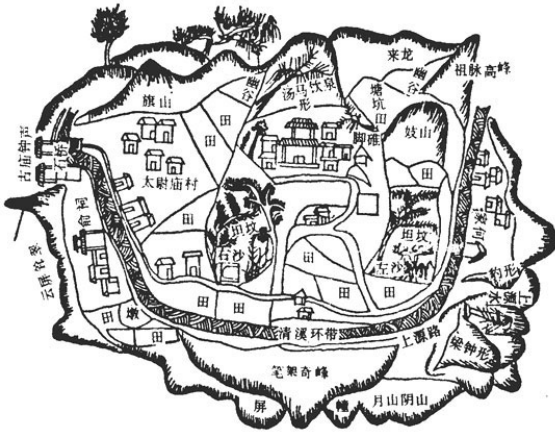


Figure 43. Fengshui Analysis of Hongcun

Kinship:

For most villages in Anhui province, families in one same village normally have one common ancestor. The intimacy level between all the families shapes the villages into different cluster of houses (figure 44).



Figure 44. Houses clusters within one village

Common Open spaces:

Open spaces in traditional Anhui villages serve for agriculture production and communication. Grain drying field (figure 45) and washing pond (figure46) are perfect examples to demonstrate the double functions of such open spaces.



Figure 45. Grain drying field in old villages



Figure 46. Washing pond in old villages

3.2.2 Buildings

The architectural design of the Xizhanglou follows the concept of countryside planning concept. The major part of the building in the design are elevated above the farmland level and laid out along the road which goes by current Xizhanglou Village. This approach realizes the goal of minimizing the use of arable land while keeping access to public facilities. The linear typology of the buildings layout is capable for future expansion of the village. More importantly, it allows each family a direct access to their farmland.

Structure and Materials:

The structure of the design is steel frame structure in standard modules. The steel frame structure which imitates traditional wood frame structure (figure 47) allows the future adjustments of interior spaces. Standard modules enable quick construction. The thesis chooses traditional materials as filling material in the steel frame, such as bamboo, stone, and adobe. Comparing to the massive use of concrete in many other village reconstruction, steel, and vernacular materials are more sustainable. They can be designed well to reflect the regional characteristics.



Figure 47. Wood frame structure of Hui Zhou architecture

Forms and Spaces:

1, Courtyard House. Courtyard plays an important role in facilitating natural ventilation and bringing in day light (figure 48). It is also the extension of living room, used greatly for family activities (figure 49). Other key feature of the design. The need of courtyard is influence by Chinese philosophy. In countryside, Courtyard also a place for production, communication and big part of daily life.

“Scholars such as Darlow (1996) and Wheelwright (2000) have observed that sustainable development is largely a cultural task that seeks a change in attitudes and lifestyles. Housing is where people’s daily lives take place. The author’s research findings indicate that courtyard housing is congruent with traditional Chinese philosophy to promote health and happiness at home, with the four recurring themes: health as balancing Yin Yang, health as gathering qi, happiness as attaining oneness, and happiness as knowing the Dao.

The courtyard form is associated with all the four themes, and incorporating the courtyard feature when planning and designing Chinese cities could contribute to cultural sustainability, and foster residents’ physical and psychological health and happiness.”²³³



Figure 48. Courtyard in Hui Zhou houses



Figure 49. Courtyards are extension of family activities in rural area

2, Pitched roof is very important for the local houses design due to the great amount of precipitation in this area. Pitched roof can facilitate drainage of rain water.

3, Most of rural residents still raise livestock and conduct farming, thus spaces for livestock and storage are essential (preferred to be separated from living space). Detached kitchen building allows villagers to use traditional stove to cook for lots of people.

4, Worship Hall (figure 50). Worship hall can be considered as the most important space in the houses. Although the majority of Chinese people do not believe any religion, we treat our ancestors as our religion. Thus, worship hall is needed in the house for respecting our ancestors. One saying in China “Shame your family and ancestors” is commonly used to criticize people who commit wrongdoing. Ancestors become a lot of people’s behavior and moral constraints instead of religions as for western countries. “The Chinese have always been interested in their past -- worship of ancestors is worship of origins.”³⁴

“Ancestor worshipping is not asking for favors, but to fulfill one’s filial duties. The act is a way to respect, honor and look after ancestors in their afterlives guaranteeing the ancestors’ well-being and positive disposition towards the living, as well as possibly seeking the ancestors’ wisdom, guidance or assistance for their living descendants.”

Worship hall does not only appears in traditional buildings but also maintains in some of the new built houses in Anhui (figure 51).



Figure 50. Worship hall in old Hui Zhou houses



Figure 51. Worship hall in some new built rural houses

3.3 Applications

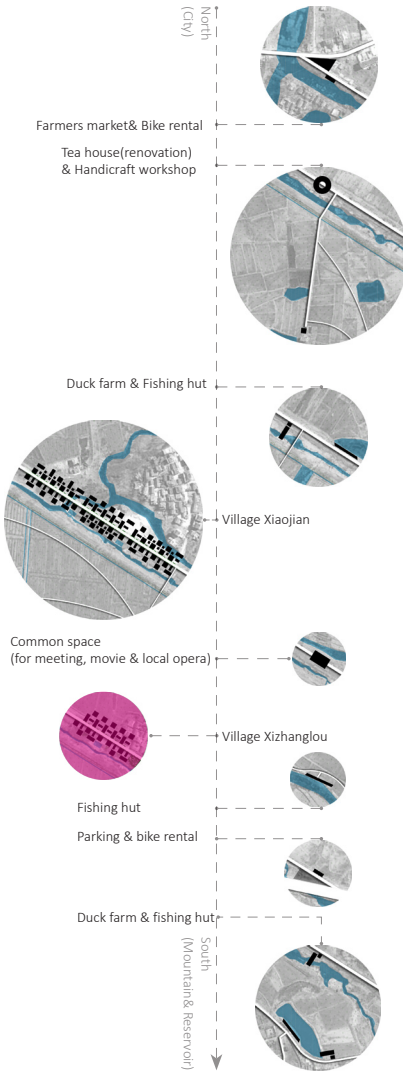


Figure 52. Master plan of South Hancheng: Ecological Farming Area





Figure 53. Axon view of New Xizhanglou

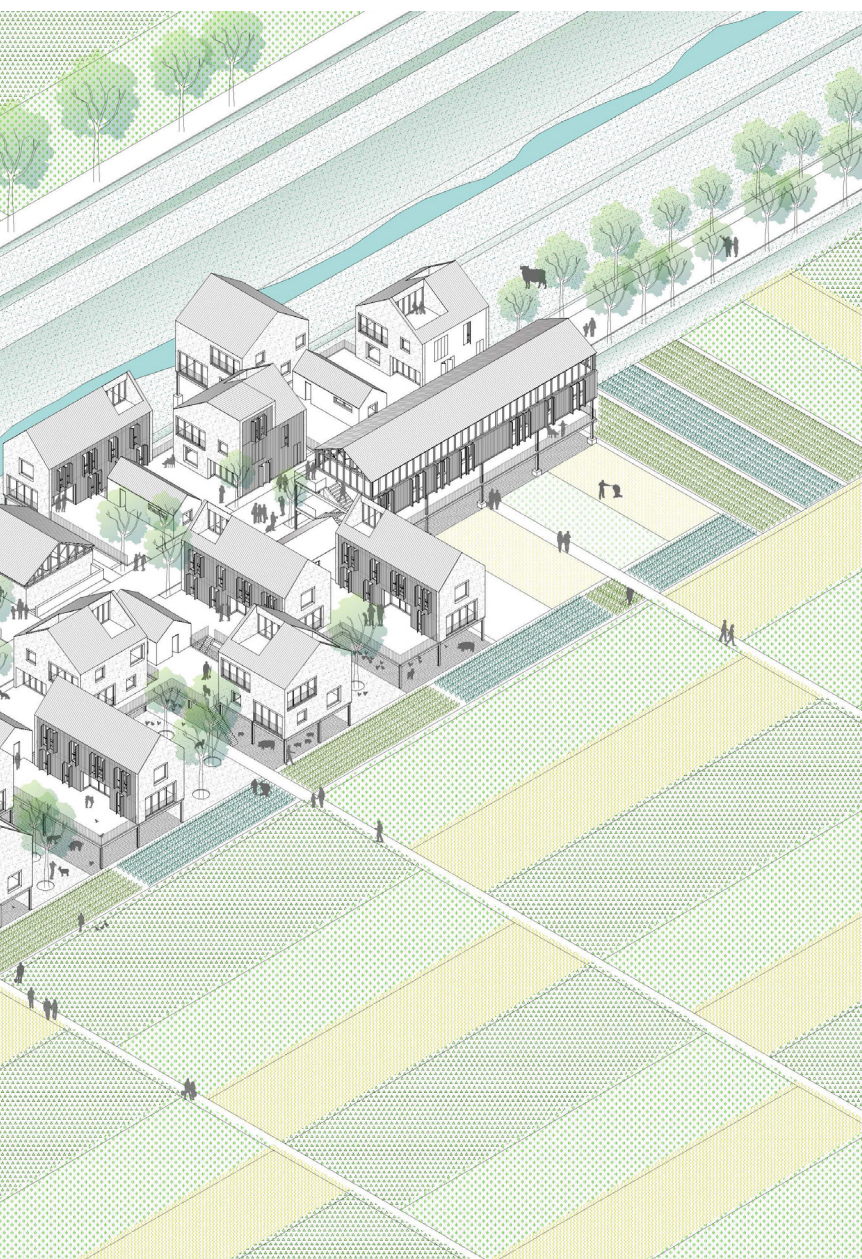




Figure 54. View of New Xizhanglou from Farmland





Figure 55. Master plan of New Xizhanglou



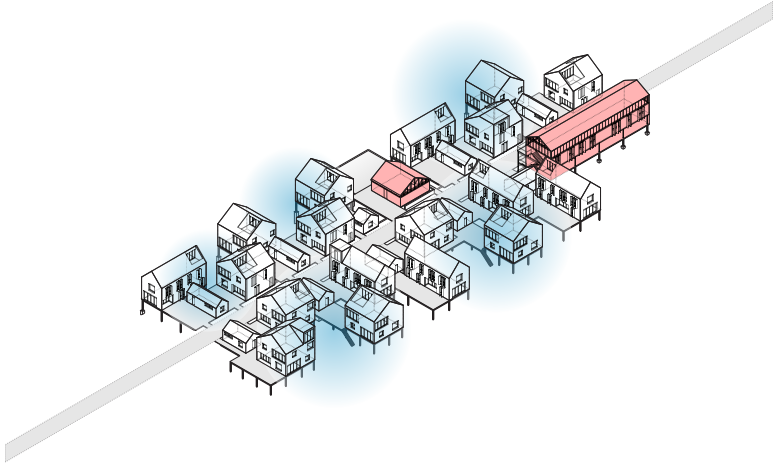


Figure 56. Program Analysis

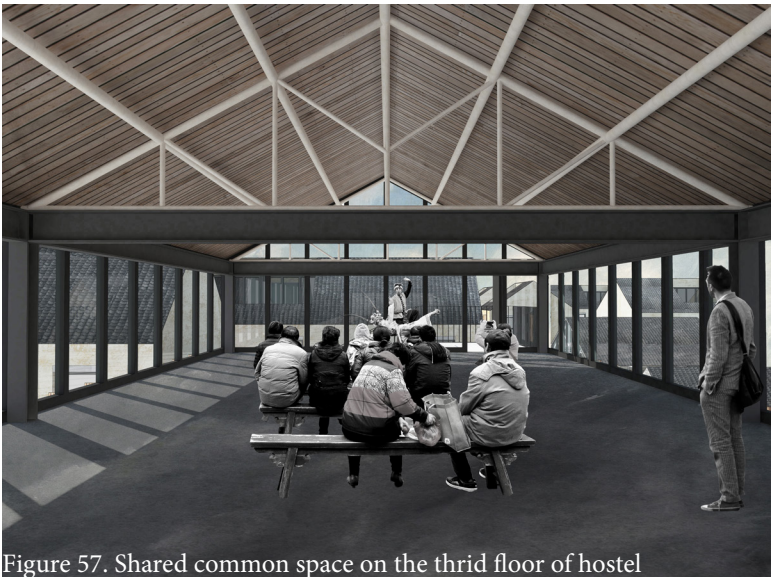


Figure 57. Shared common space on the third floor of hostel

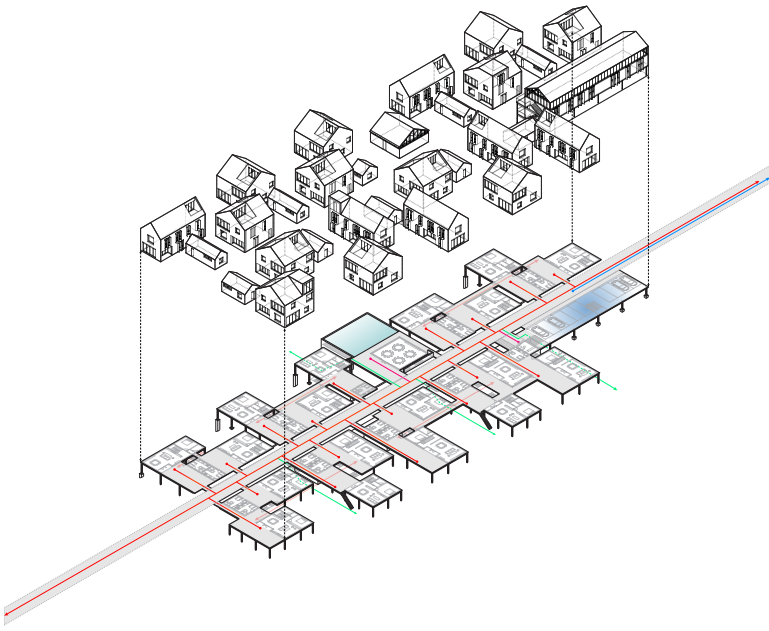


Figure 58. Circulation Analysis



Figure 59. Connection among families within one family group

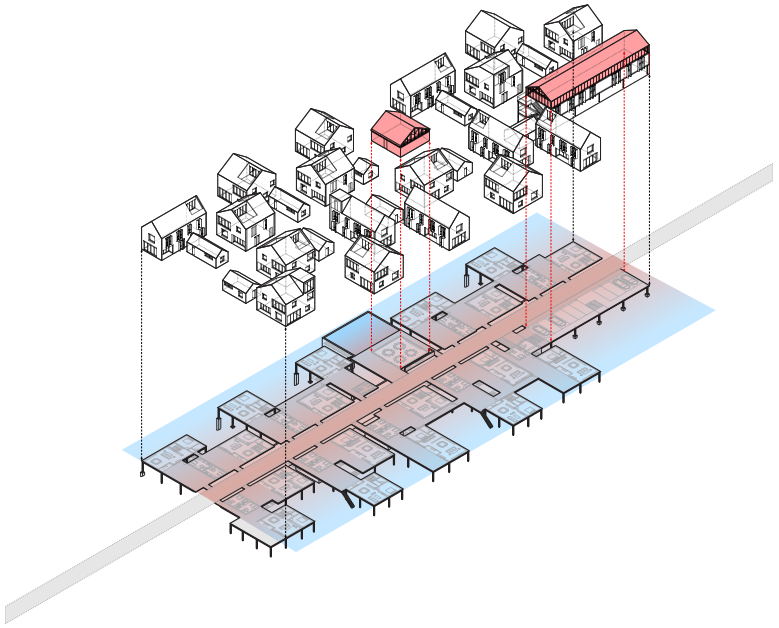


Figure 60. Public Spaces



Figure 61. Road's multi-functional role

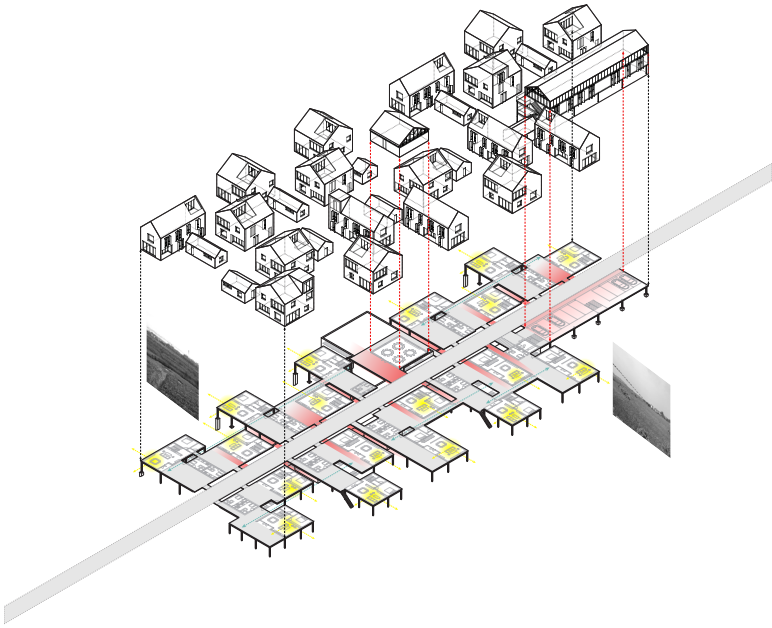


Figure 62. View Analysis



Figure 63. Visual connection within one family group



Figure 64. Cross road section (normal season)



Figure 66. Courtyard Perspective



Figure 65. Cross road section (rain season)



Figure 67. House Type-1 Livingroom Perspective

prototype

need roof terrace

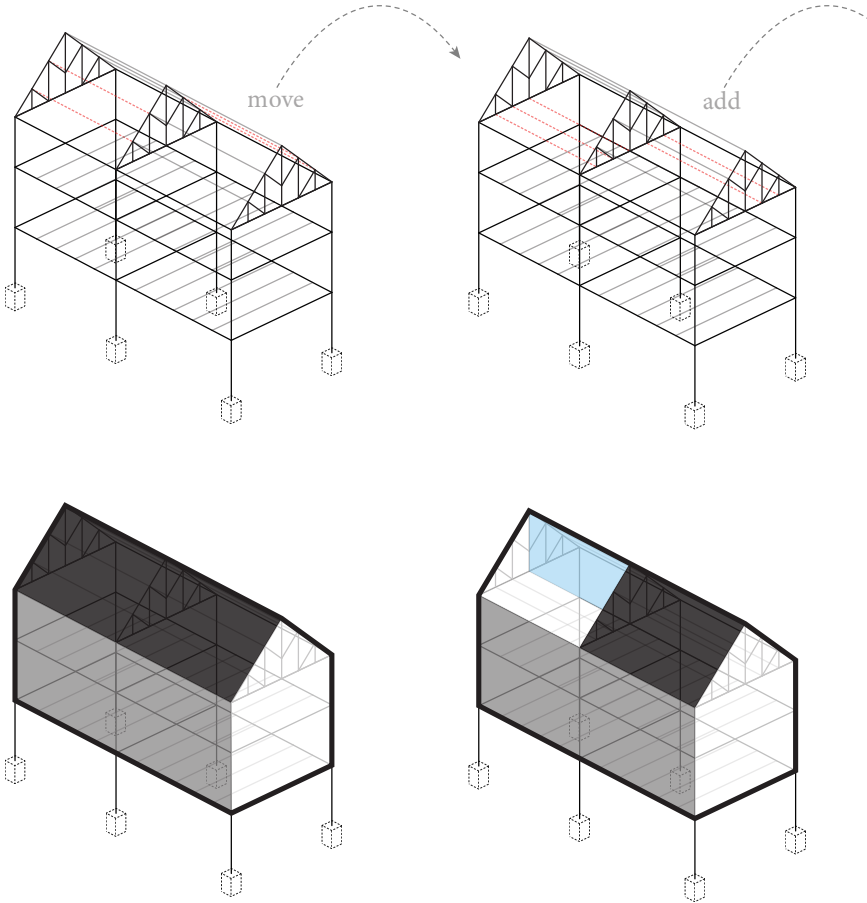
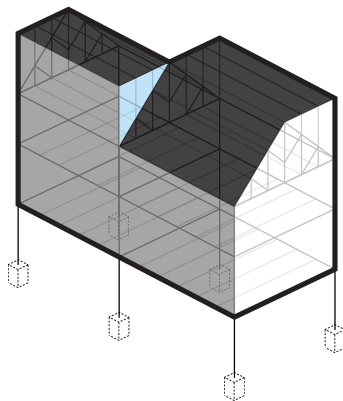
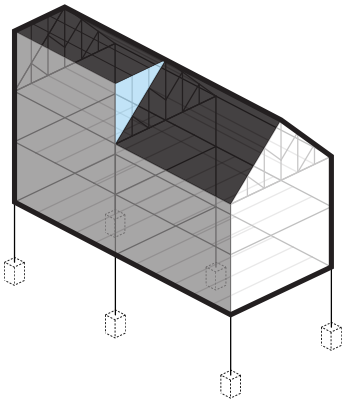
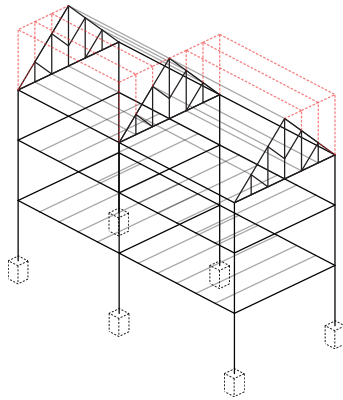
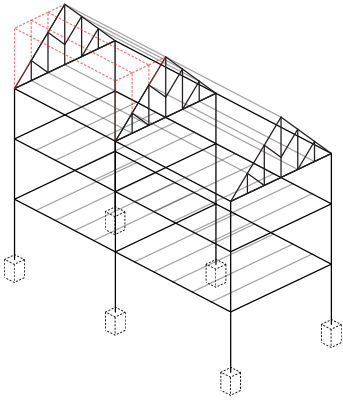


Figure 68. Future extension possibilities

need one more room

need three more rooms



Structure

a: Stone foundation

Stone foundations can be commonly found in this area due to the abundant stone resource.

b: Steel frame

One of four biggest steel factory Maanshan Steel is located nearby. Thus, steel structure can be easily bought.

c: Wood trusses

Wood trusses have been used in traditional buildings in this area for years. Tectnics of producing these wood trusses are very matural in this area.

Materials

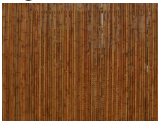
Figure 69. Local made roof tiles



Figure 70. Adobe, made of soil and rice shell



Figure 71. Bamboo can be commonly found in this area



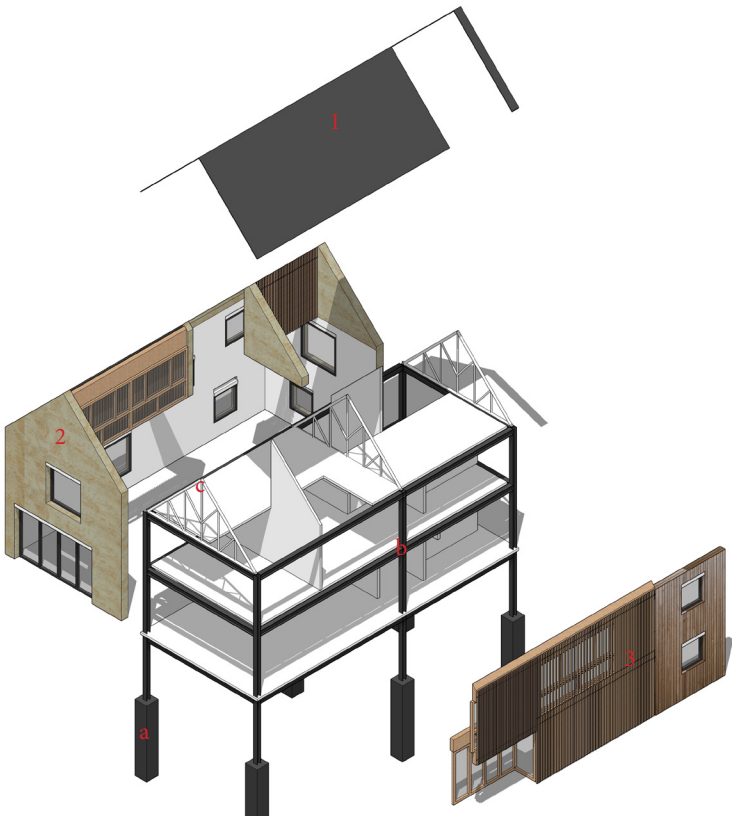
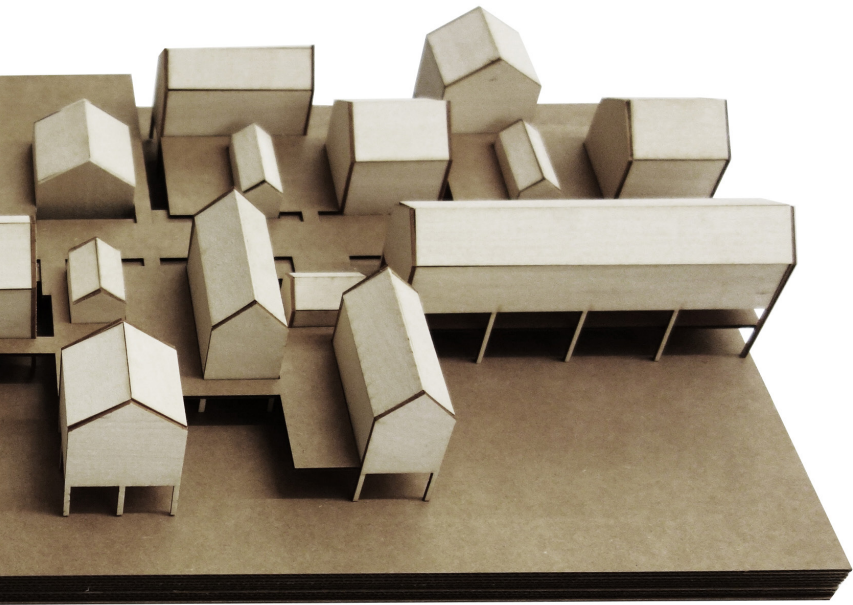


Figure 72. Materials Analysis



Figure 73. Physical Model 1:100



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