Yu Wang

How Do We Rebuild a Disaster-damaged Heritage Settlement

A study of the Post- Earthquake Reconstruction of the Village of Taoping. A Traditional Qiang Settlement in Sichuan China

Thesis for the degree of Philosophiae Doctor

Trondheim, June 2015

Norwegian University of Science and Technology
Faculty of Architecture and Fine Art
Department of Urban Design and Planning

NTNU – Trondheim
Norwegian University of
Science and Technology

NTNU
Norwegian University of Science and Technology

Thesis for the degree of Philosophiae Doctor

Faculty of Architecture and Fine Art
Department of Urban Design and Planning

ISBN 978-82-326-1028-0 (print)
ISBN 978-82-326-1029-7 (digital)
ISSN 1503-8181

Doctoral theses at NTNU, 2015:186

Printed by NTNU Grafisk senter

To those who lost their lives during 2008 Sichuan Earthquake

Abstract

This research is about post-disaster reconstruction of culture heritage settlements, not as an activity but conceptually, by addressing the question of how do we preserve a heritage settlement damaged by disaster? Underpinning that issue is a case study of Taoping Qiang Village. Taoping is a Qiang Minority's traditional settlement which went through a post-earthquake reconstruction from 2008 to 2011 in Sichuan, China.

In my thesis heritage settlement is understood as "lived-in cultural heritage settlements". The "lived-in" situation refers to heritage settlements which suspends the natural coherence between inhabitants and dwellings. This coherence refers to settlements renovate and maintenance according to their needs and wills of their inhabitants. Which in turn are driven by their livelihoods, social practices and living habitus etc. "Lived-in" heritage illustrates a state in which the protected old dwellings host a present-day mode of living. "Lived-in" heritage also displays the coexistence of habitation and conservation. Furthermore it implies a complicated relationship between those two actives.

To rebuild a heritage settlement after disaster is not only to rescue the damaged historical buildings but also to reestablish the homes of the inhabitants. This research is built on that recognition and regards the local community as a key player in the reconstruction of heritage settlements. To understand possible behavior and reaction of the community to the reconstruction we need to know its social context. Hence my research employs "modernity" and "citizenship" in order to set up a "reference frame". The extent of modernity and state of citizenship substantially impact the underlying attitude and reactions of the community.

I employ a three-stage investigation in the Taoping case, those of past, present, future. Phase one covers the two uncoordinated "reconstructions" of Taoping, the official reconstruction and the subsequent self-restoration. The reason for the latter was the failure of the first to recognize the key role of the community. They focused on rebuilding homes rather than saving heritage. In stage two I focus on the reconstruction's impact on the present-day life of the community. (Re)building on agricultural land forced the local community to alter their means of livelihood, from

agricultural to tourism. Hence the village of Taoping was converted from an old village into a tourist attraction, a showcase of traditional Qiang life. Consequently those activities devalued the heritage settlement. In stage three I discuss the resilience of the reconstructed Taoping and how they can meet natural hazards in the future. The models of testing the resilience of Taoping show that Taoping is still vulnerable to seismic hazards and extreme-weather-caused floods and landslides.

My study shows that the Taoping community was not to take part in the official reconstruction because of the top-down policymaking regime and current state of citizenship, inhabiting the inhabitants to wield their rights. Livelihood shifts may benefit the social modernization and enhance the community's economic citizenship, however, it neglects the development of a culture of modernity and the responsibility of citizenship. The fact that Taoping remains vulnerable to hazards is the consequence of a reconstruction that did not recognize the complexity of a "lived-in" state.

The insights gained through this research highlight that heritage settlement conservation after disaster inevitably have to consider the interaction between habitation and conservation. To clarify the relationship between community and the historical dwellings is crucial. So is the risk assessment in order to enhance the resilience and thus secure the future of rebuilt heritage settlement.

Acknowledgements

First, I would like to show my sincere appreciation to my supervisor, Professor Hans Skotte, for his brilliant guidance and tremendous supports throughout this PhD study. Without his encouragements I couldn't come this far. I also express my gratitude to my co-supervisors, Professor Lisbet Sauarlia and Professor Rohit Jigyasu, whose academic helps have always been highly valued. In turn Department of Urban Design and Planning, AB faculty and NTNU are acknowledged for providing a dynamic academic environment and excellent working facilities.

I am specially grateful to Professor Harald Høyem from Department of Architecture Design, History and Technology, NTNU who introduced me to the China-Norway corporation program and gave me the generous helps during my PhD study. Special thanks are also extended to Professor Rolee Aranya, Professor Hans Bjønness Professor Hans Skotte and the other members of UEP Master's Program who inspired me to look at my research in a new perspective. Further I would like to thank those who have been helpful in various ways during my fieldwork in Beijing and Sichuan Province, including Professor Kecheng Liu, Professor Li Xiao Mr. Feng Yu, Mr. Xiaonan Zhu, Mr. Buyi Yang, and the inhabitants of Taoping, whose assistance have been highly credited in this PhD research.

I am also would like to thank my friend and colleague Dongming Xu whose sharp sensibility to the academic research generated plenty of intellectual moments during my study. Special thanks go to my friends Yi Wang, Xiaoxi Tan, Xue Yang, Jianying He, Hui Jin and Xiaoqing Hou.

Last but by no mean the least, I am deeply grateful to my parents for their patience, love and encouragement.

Contents

List of Figures

Part I

Part I Introduction

Chapter 1
Research Introduction

1. Research Introduction

1.1. Research About

Disasters caused by natural hazards have risen in scope and numbers in recent decades. These sudden events have brought havoc upon man, the environment and their properties, including cultural properties, volatile as they are against the forces of nature. This takes place while heritage conservation itself faces conceptual and practical challenges in restoring disaster-damaged cultural heritage sites. This research is about this very issue as it focuses on the phenomenon of rebuilding vernacular heritage settlements damaged or destroyed by natural disaster.

1.2. Perspectives of Interpretation

Investigating post-disaster recovery of cultural heritage can be done by applying various perspectives. Natural disasters can be seen as an urgent public affair, whereby the reconstruction plan is seen as a 'product' of governmental administration, and its quality measured on the merit of policy-making and management of governmental agencies. Thus some academic research on post-disaster recovery is focusing on the issue of administration and management linked to the launching and implementation of a sustainable reconstruction plan. Reconstruction projects also involve technical supports not least when dealing with the rebuilding and repair of cultural heritage. Therefore many scholars focus on how we can develop advanced and appropriated technical solutions to the challenge. Post-disaster reconstruction is an elaborated process with multiple participating groups and many different procedures releasing considerable impacts on the disaster-effected society in almost every dimension. Investigating the reconstruction processes and uncovering their impacts have become another research hotspot.

My PhD study belongs to the last research area. This research thus begins with investigating the practice of reconstruction of a heritage settlement. Then I attempt to uncover the impacts this holds on its social practices and means of livelihoods for then to test the sustainability of the reconstruction in the face of future hazards. The

aim of my research is to contribute to the knowledge of how we can rebuild a sustainable and resilient vernacular heritage settlement after natural disaster.

1.3 Research Investigation

Throughout history the physical transformation of vernacular settlements has followed the changing 'ways of living' or social practices of its dwellers. This coherence runs only until the settlement is identified as a heritage entity, then this coherence is broken, i.e. maintenance, adjustments, renovations et al are no longer linked to 'ways of living' but to principles of heritage conservation. But vernacular heritage conservation cannot work without habitation. As the International Council on Monuments and Sites (ICOMOS) claims, the appreciation and successful protection of the vernacular heritage depend on the involvement and support of the community's continued use and maintenance. However the activity of conservation may no longer reflect the former coherent transformation and thus no longer respond to new and changing 'ways of living'. But still it is the living space for the inhabitants. In these circumstances the settlement has become a 'lived-in cultural heritage'. Lived-in cultural heritage is a self-created term referring to the discrepancy between ways of living and the heritage environment. ICOMOS features heritage settlements as 'living heritage', which signifies habitation remaining in heritage environments. Defining this as a 'lived-in cultural heritage' seems more appropriate.

The lack of coherence between the heritage environment and present day 'ways of living' becomes all the more apparent when facing the challenges of post-disaster reconstruction. For the inhabitants this phase actually represents a historical opportunity to adjust the environment to their current social practices and aspirations. The heritage conservation ideal, however, is to have the physical environment rebuilt to its original state. This represents a profound conflict of interest between conservation and habitation. Not only during the reconstruction, but long thereafter in as much as the inhabitants will have to live with the consequences also in the future. The conflict remains a conflict between heritage dwelling and home. A central rebuilding challenge emerges: the balance of saving heritage values while providing an appropriate living environment for its people.

1.4 Research Question

My research aims to answer this over arching question: ***how do we preserve a cultural heritage settlement damaged by disaster?***
In order to answer that question I investigate what happened to and with the village of Taoping, a historical Qiang Minority settlement damaged by the 2008 earthquake in Sichuan, China. All my academic deliberations are built around this case study. So also are the necessary sub-questions.

The main research question embeds three sub-questions whose relationship are all linked to 'time' as divided into three phases. Phase one, the past, refers to the period of post-quake reconstruction. Phase two is the present state of post-reconstruction. Phase three is the unknown future forged from the past and developed by the present.

Dealing with the past: *How did the inhabitants of Taoping respond to the official reconstruction, why and to what consequence?*

The presence: *How does the present-day rebuilt environment affect livelihoods and social practices of villagers and to what consequence?*

The future: *How may the reconstructed heritage settlement respond to future hazards?*

1.5 Framing the Thesis

My PhD thesis consists of ten chapters constituting five parts titled: *Introduction, Theory, Method, Case Study, and Conclusions*. Five of the chapters are individual papers, already published as book chapters, articles in academic journals, or as conference papers. The main body of my thesis is Part IV, chapter 5-8, *Case Study*, consisting of three individual articles plus an overarching introduction. Here I examine the reconstruction of Taoping Case 'through time'. The preceding four chapters cover the preparation for the case study including research introduction, research theories & practice, research methodology. The last two chapters hold conclusions and implications of my research.

Part I Introduction

Chapter 1, *'Research Introduction'*, is the general introduction of my research. A few issues are posed in this chapter in which research topic, and research questions make up the main body.

Part II Theory

Chapter 2 '*Modernity and Heritage Conservation'* (published paper), Theory and Concepts, is a discussion of key theory references underpinning the research. Three key conceptions are applied. They are 'modernity', 'heritage conservation', and 'citizenship'. The interrelationship of these three key concepts is also discussed in the chapter.

Chapter 3, '*Principles of Practice'*, investigates the measures & methods of international organizations (UNESCO, ICOMOS etc.) in saving cultural heritage from disasters. This also shows the evolution of practice in this field which again stands as a critical reference for this research.

Part III Method

Chapter 4, '*Research Methodology'*, is the interpretation of how I did my PhD research. The reasoning behind the case study and data collection are the major part of chapter. The lessons learnt from my fieldwork experience are also presented.

Part IV Case Study

Chapter 5, '*Bridging my Triple-Phase Research'*, is an overarching discussion linking the three following individual articles (chapter 6, 7, 8). However this discussion is divided into two parts in this dissertation. Chapter 5 makes up part one where I explain the legitimate linkage of these three individual papers within the perspective of 'time'. Chapter 9 makes up the second part.

Chapter 6 (published paper), '*Reconstruction after Reconstruction'*, is based on the investigation of the post-Sichuan-Earthquake reconstruction of Taoping. It is the study of past events and inquiries into the official and subsequent 'private' reconstruction.

Chapter 7 (published paper), *'Reshaping Place, Reshaping People?'*, studies the shift in modes of livelihood and their consequences in Taoping Village. It focuses on the impacts of the reconstruction on present social practices

Chapter 8 (published paper), '*Still at Risk? after Reconstruction'*, is a discussion of the disaster risk facing the heritage settlement of Taoping. Using the research tools and models developed by the disaster risk reduction (DRR) community I test the resilience of Taoping in the in the face of future hazards.

Part V Conclusions

Chapter 9 (published paper), *'A Sustainable Approach for Post-Disaster Rehabitation of Rural Settlement heritage'* is my revisiting the theory underpinning my case study. This chapter is thus an extension to the overarching deliberation, re chapter 5. It is a discussion basing on the insights gained from my study of the Taoping reconstruction, about rural settlement heritage in the situation of post-disaster reconstruction.

Chapter 10, '*Implication for Practice and Future Research'*, is a normative interpretation of my conclusions from my case study related to future practice and research.

Part II

Part II Theory

Chapter 2
Modernity and Cultural Heritage Conservation[1]

[1] Part of this chapter is published in the Chinese journal, *Community Design* (住区) 03/2014 (61), see appendix I.

2. Modernity and Cultural Heritage Conservation

2.1. Heritage Conservation, Social Modernity and Cultural Modernity

Some scholars claim that since the Age of Enlightenment, the Western World had experienced two types of modernity, social modernity and cultural modernity. J. Habermas (1983) named those two processes as cultural modernity and societal modernization[2]. M. Calinescu (1987, p.41) in his book '*Five Faces of Modernity – Modernism Avant-Garde Decadence Kitsch Postmodernism'* also pointed out that:

> What is certain is that at some point during the first half of the nineteenth century an irreversible split occurred between modernity as a stage in the history of Western civilization – a product of scientific and technological progress, of the industrial revolution, of the sweeping economic and social changes brought about by capitalism - modernity as an aesthetic concept.

In that book, he regarded those two processes as 'bourgeois idea of modernity' and aesthetic modernity. The latter one holds a clear position of antibourgeois. He features the bourgeois modernity as (ibid):

> (T)he doctrine of progress, the confidence in the beneficial possibilities of science and technology, the concern with time (a measurable time, a time that can be bought and sold therefore has, like any other commodity, a calculable equivalent in money), the cult of reason, and the ideal of freedom defined within the framework of an abstract humanism, but also the orientation toward pragmatism and the cult of action and success[…]

Those features have become the key principles of the middle class that founded the civilization of modern society. However, aesthetic modernity stands opposite bourgeois modernity. It strongly criticized bourgeois modernity even expressed a hostile attitude[3]. Some artists using their works had shown this attitude, a criticism towards social modernity. Since the 19th century, social modernity and cultural

2 This idea comes from his essay *'Modernity- An incomplete Project'*.
3 This attitude Calinescu pointing out accompanied with diverse means, ranging from rebellion, anarchy, and apocalypticism to aristocratic self-exile.

modernity have split. This separation of the two types of modernity can be sensed in the romanticism movement of the 19th century. C. Baudelaire (1873), for example, had concluded that for the poet Edgar Allan Poe[4] America at that time was a vast prison and a wild barbarous country. In his works he tried to escape a pathetical atmosphere. Poe (1840) depicted a scene of a street in London[5]. This scene was translated by Baudelaire and commended by Benjamin (1940, p.174) as "Fear, revulsion and horror were the emotions which the big-city crowd aroused in those who first observed it. For Poe, it has something barbaric about it; discipline barely manages to tame it." Romanticism had announced breaking the linkage towards past and in the meantime it expressed his hatred to the social modernity just as Calinescu (1987, p.41) commended they are "two distinct and bitterly conflicting modernities."

The movement of cultural heritage conservation had benefited from both modernities. The social-modernity-created achievements provided a profound groundwork for the birth of modern conservation movement. The Age of Enlightenment is an important period for the movement. Kant's (2009, p.1) interpretation of Enlightenment is widely accepted. He notes enlightenment is "man's release from his self-incurred tutelage" in which tutelage refers to "man's inability to make use of his understanding without direction from another" (ibid).[6] This statement represented that Enlightenment asserted the reason and individualism rather than tradition. This tradition just as Peter Gay (1995) notes as 'the Sacred Circle' that is a term by Gay means interdependent relationship between the hereditary aristocracy, the leader of the church, and the text of the Bible.[7]

With the power of reason and scientific methods, scholars of Western Europe stated a series of new principles, which constructed a cornerstone for the modern society. As J.

4 In Baudelaire article *'Edgar Allan Poe: his life and work'*, he said that 'A lamentable tragedy this life of Edgar Poe! His death a horrible unraveling of the drama, where honor is mismatched with trivialities! All the documents I have studied strength me in the conviction that the United States was for Poe only a vast prison through which he ran, hither and thither, with the feverish agitation of a being created to breathe in a purer world – only a wild barbarous country – barbarous and gas-lit – and that his interior life, spiritual as a poet, spiritual even as a drunkard, was but one perpetual effort to escape the influence of this anti pathetical atmosphere.'

5 This description is from his short story *'The Man of the Crowd'*.

6 In 1783, Kant made his response for an essay contest of a Berlin Newspaper (*Berlinische Monatsschrift*) about Enlightenment in which he wrote an essay titled as '*What is Enlightenment*?'

7 This assert from Gay's book '*The Enlightenment: An interpretation*' W. W. Norton & Company, 1995

Jokilehto (1999, p.47) wrote that the Age of Enlightenment "was significant to the history of the conservation of cultural heritage in that it introduced cultural paradigms, and formulated concepts which effectively founded the modern conservation movement." For instance "the new concept of historicity led to consideration of works of art and historic buildings as unique, and worthy of conservation as an expression of a particular culture and a reflection of national identity."[8] (ibid, p.17) Along with a new recognition of history, the new aesthetic appreciation helped the public to be aware of the 'beauty' of historical remains. In the 18th century the England landscape garden was inspired by the English painting which had been gradually common in European countries. One of key elements in England gardens is the ancient ruins e.g. gothic church ruin or ancient temple even the imitated Chinese Pagoda. The England landscape garden attempted to create a scene of picturesque and sublime. Uvedale Price (1747-1828) gave a more precise definition of 'Picturesque' that is the one on roughness, on that of age and even decay.[9] During the Enlightenment it was also a peak of archaeological excavation in European counties. The new massive archaeological discoveries challenged the area of conservation and restoration of antiquities. And the new discoveries of work of art, which most were from ancient Greece and Rome, also provided a new reference to the late Baroque. Winckelmann the father of archaeology highly praised the sculpture of ancient Greece that represented the 'ideal beauty'. This 'ideal beauty' we find in the ancient statues and is worth being identified and preserved. Therefore a study and evaluation towards ancient objects become important. Restoration thus is no longer as the artistic 'improving' the beauty of ancient work of art. Winckelmann's the essential of originality of antiquity and scientific method to study and evaluate the antiquity profoundly benefited the modern movement of cultural heritage conservation.

Social modernity also involved political reforms and even revolution in order to form a political regime that is suitable for development of modern society. In this transformation of political system, managing historical remains had become a government agenda, which engaged the government established the relative

8 In this context, Jokilehto refers the works by Viovanni Battista Vico and Johann Gottfried Herder whose efforts for writing cultural history. They inspired the people to accept the cultural pluralism rather than single 'ideal Society'.
9 In 1794, Price wrote an article '*Essay on Picturesque'* with distinguishing the difference among the terms of beauty, picturesque and sublime

administrations and policies for heritage management. During the French Revolution, for example, the French government in 1790 had founded a government agency titling as *Commission des monuments* which was responsible for caring and inventorying works of art. Soon after, *Comité d'instruction publique* was set up in 1793. This agency claimed that past objects that could contribute to the public education should belong to the whole nation. Therefore *Comité d'instruction publique* had made a survey and an inventory towards work of arts, antiquities, and historical monuments in the country. This assignment was carried on by the successor of *Commission des monuments – Commission temporaire des arts.* A series of regulations and law documents in the meantime were issued in order to protect the historical buildings from vandalism. E.g. in 1793 a few months later this *document* was approved. Here the French authority stressed the monuments' function of public education and why it was important to protect them and handle them to the next generation.

The spirit of reason and individualism had made the efforts for 'enhancing' the confidence of man. In the field of heritage conservation, profound knowledge of history and archeology had favored to improve this confidence. Moreover, this confidence increased further, due to the considerable science and technology development. Therefore social-modernity-generated full-filled confidence had produced the prevailing method of treatment towards historical buildings in the 19th century. As a result of social modernity, in the second half of the 19th century, 'stylistic restoration'[10] a movement derived from France and then waved to the other European countries. In this movement the most discussed figure is French architect Eugène Emmanuel Viollet-le-Duc (1814-79). His idea and ideal of historical building restoration was sourced from the confidence of man of his time. His definition to restoration is that (Viollet-le-Duc, 1854-68, in Jokilehto, J. 1999, p.151)

> The term of restoration and the thing itself are both modern. To restore a building is not to preserve it, to repair, or to rebuild it; it is to reinstate it in a condition of completeness which may never have existed at any given time.

[10] England and Prussia initiated to pay attention on their historical mediaeval buildings in the purpose of highlighting their nation's identity. However the French method of repairing Gothic buildings restoration was more popular in 19th century.

In his eyes the ancient architecture is a logical consequence of structure and material. The unity is the key feature of work of art of architecture. Therefore he thought the style "is the illustration of an ideal based on a principle" (ibid). His comments on architecture can be regarded as the outputs of the spirit of reason. In fact his superior Prosper Mérimée commented Viollet-le-Duc as a person "he knows how to reason, which is a great point in architecture […]" (Mérimée, 1864, in Jokilehto, J. 1999, p.140) The pursuit of unity of architecture made Violler-le-Duc not only to conserve the historical buildings from dangerous situations but also to 'improve' the beauty of historical buildings. This confidence of course came from a better understanding of the knowledge of history and archeology. This knowledge even empowered him to regard himself as the original designer of building when he did the restoration towards the historical building[11]. He aimed the aesthetic coherence rather than the historical evidences conservation in the project of total restoration. Underpinning those ideas for instance, he replaced the Gothic vaults at the east end of nave with Romanesque style vaults in the restoration of Church of La Madeleine of Vézelay[12]. In the name of unity he even accepted to utilize modern technology and material to his works of restoration. To keep the ideal aesthetic pursuit, e.g. in the Notre-Dame he applied the steel structure roof to replace the timber structure of new sacristy in order to achieve the style coherence with the cathedral. His creative theory towards the historical buildings restoration was stem from social-modernity-caused confidence in the 19th century. And it made a strong impact on the community of heritage conservation substantially in both a bad and a good way.

Social modernity had equipped heritage conservation with necessary theories, principles, methods and approaches etc. The movement of modern conservation nevertheless along with cultural modernity held a critic attitude towards bourgeois modernity. In fact the movement of Romanticism had caused the split between cultural modernity and social modernity. This movement emerged in the end of the 18th until the first half of the 19th century. In the eyes of some scholars Romanticism was the reaction towards the Industrial Revolution. It was also believed to be a

[11] In his article '*Ecole des arts et métiers'* he said that 'In such circumstance the best plan is to supposed one's self in the position of the original architect, and to imagine what he would do if he came back to the world and were commissioned with the same programme that we have to deal with.'
[12] The restoration of La Madeleine of Vézelay is an outstanding example of stylistic restoration operated by Viollet-le-Duc in 1840s-1860s. This project manifested his critical thoughts about restoration.

movement of counter-enlightenment in which Romanticism maintained a status against the reason and order with the aim of achieving the 'inner goals'. As Baudelaire (1846, p.52) gave a definition of "Romanticism is precisely situated neither in choice of subject nor exact truth but in a way of feeling."[13] Romanticism[14] asserted to close the nature that could be the expression of 'anxiety' of the great change caused by the industrial revolution. This 'anxiety' located in such as the disconnection with tradition, the blast urbanization, population growth, and industrialism. Consequently in the movement of Romanticism searching and preserving the national customs and traditions had become another theme, which fueled the growth of nationalism.

Heritage conservation movement was built on the movement of Romanticism. The ideas & asserts of conservation had absorbed the achievements of Romanticism. Conservation movement has realized the power of destruction of industrialism-armed social modernity. This destruction was directly towards the natural environment & resource, tradition as well as historical buildings. Heritage conservation movement in this article refers in the middle of the 19th century in England leaded by John Ruskin a criticism towards the stylistic restoration. Due to the efforts of John Ruskin and his supporters such as William Morris, restoration has gradually become a caution approach in the community of heritage conservation and conservative repair turns to be the mainstreamed treatments towards heritage properties.

Ruskin didn't write a specific theory for heritage conservation. But lots of key concepts of heritage conservation were promoted or derived from Ruskin. The movement of Romanticism was made an impact on those Ruskin's principle thoughts which appeared in his love of nature, admiration of Gothic Style, respect to the tradition, and standing against the industrialism. Ruskin is the pioneer of identifying the values of historical buildings. And the values of historical buildings were in accordance with his exploration of the concept of 'beauty'. Ruskin believed nature reflecting the "ground perfect beauty". He praised the natural landscape of England in

[13] Original in French 'Le romantisme n'est précisément ni dans le choix des sujets ni dans la vérité exacte, mais dans la manière de sentir' in *Salon de 1846*

[14] The term of romantic in the 18th century was adjective for the admired expression of natural phenomenon.

his book ‘Modern Painters’ in which he indicated his love to the rural housings. That was the consequence of influence from the British writer William Wordsworth (1810, p.237), a critical writer in the Romanticism period in England. In his work *‘Guide To The Lakes’* Wordsworth depicted rural dwellings as:

> As these houses have been, from father to son, inhabited by persons engaged in the same occupations, yet necessarily with changes in their circumstances, they have received without incongruity additions and accommodations adapted to the needs of each successive occupant, who, being for the most part proprietor, was at liberty to follow his own fancy: so that these humble dwellings remind the contemplative spectator of a production of Nature, and may (using a strong expression) rather be said to have grown than to have been erected; "

Ruskin (1837) in his book *‘The Poetry of Architecture’* shared the same feeling with Wordsworth and developed the character of rural housing into the concept of ‘age value’, which refers to time can enhance the quality of beauty of architecture. In the explanation of beauty Ruskin pointed out the beauty of architecture derived from nature. Gothic unlike Classical and Renaissance was based on natural forms. He concluded that Gothic architecture achieved a good combination both ‘external forms’ and the ‘internal elements’. The external forms Ruskin referred to pointed arches and vaulted roofs which were the imitation of natural forms. And the internal elements referred to “mental tendencies of the builders, legibly expressed in it; as fancifulness, love of variety, love of richness, and such others”. (Ruskin, 1851) Moreover he persuaded the public to re-appreciate the gothic cathedral in his book ‘*The Stones of Venice’*:

> (D)o not mock at them, for they are signs of the life and liberty of every workman who struck the stone; a freedom of thought, and rank in scale of being, such as no laws, no charters, no charities can secure; but which it must be the first aim of all Europe at this day to regain for her children.

The Gothic style research highlighted the importance of authenticity of historical buildings, which contains the truth of material and the historical context of workmanship. The original form and material as well as the historical workmanship was impossible to replicate in the stylistic restoration. That is the reason why Ruskin disagreed the method of stylistic restoration. With the beauty discussion Ruskin

asserted that historical architecture was embodied with age values (time), historical values, and aesthetic values. Ruskin's contribution for modern heritage conservation was not only through the study of beauty but also lying in his critical thinking about architecture. His principle thoughts were mainly collected in his most famous book *'The Seven Lamps of Architecture'*. In the 'lamp of memory' he asserted that the importance of memory which was a source of learning from the past and the connection to the future. Meanwhile he pointed out that architecture could be the 'conquerors' of time. Historical buildings therefore, contained the past message and people could learn the past through the study of monuments. It is worth protecting those monuments in their authentic look and handle them to the future generations. Ruskin identified the social historical value of monuments. Moreover due to those memories imbued in the historic buildings that is hard to consider which style and which part should prior to protect. Ruskin (1849, p.221) thus concluded that restoration towards historical building was the action of devaluing the heritage properties, just like he wrote in 'Lamp of Memory':

> Neither by the public, nor by those who have the care of public monuments, is the true meaning of the word restoration understood. It means the most total destruction which a building can suffer: a destruction out of which no remnants can be gathered: a destruction of the thing destroyed […] it is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture. That which I have above insisted upon as the life of the whole, the spirit of which is given only by the hand and eye of the workman, can never be recalled […] Do not let us talk then of restoration. The thing is a Lie from beginning to end.

Ruskin found those critical values of historical buildings and disproved the restoration by his work related to beauty and architecture. Furthermore he also realized that industrialism had threated the conservation of historical buildings. This threat was in two aspects. One was the destruction of fabric of historical town due to urban development[15]. Another was the industrialization distanced the workmanship that made architecture lack of essential quality – internal elements.

[15] Ruskin stressed that historical town's protection was enough by just conserving the few 'palaces' it should also pay attention to 'the cherished and exquisite decoration of even the smallest tenements of their proud periods'.

Ruskin's works inspired England scholars who eventually associated with Ruskin to develop the movement of heritage conservation in order to criticize the stylistic restoration and promote the conservative treatment. Among those scholars William Morris was the most famous supporter of Ruskin. He and Ruskin are the co-founders of the Society for Protection of Ancient Buildings (SPAB) an institute concentrated to provide the approaches to historical buildings reparation and maintenance. Morris agreed Ruskin's ideas about historical buildings and brought those ideas in the draft of *Manifesto* of SPAB, which became the critical reference of heritage conservation policy making. In this *Manifesto* (1877) stressed that historic architecture as well as the other type of heritage embodied with picturesque, artistic, historical, antique and other substantial (values) needed to be regarded as an integrated whole. And the aim of protection was for remaining the truth of materials and to deliver them to the future generations. This *Manifesto* emphasized his attitude against restoration. *Manifesto* meant historical buildings could not represent its historical period if the material's authenticity was disrupted and restoration only can decrease the authenticity of historic buildings by creating fake.

2.2. Time Consciousness in Modernity and its Influence on the Theory of Heritage Conservation

Modern as a term got a different meaning after the Age of Enlightenment. This new meaning related to the new time of consciousness while human was on the threshold of modern society. Before Enlightenment, 'modern' had not referred to absolute 'new' but had been bonding deeply with the past. The purpose of using word 'modern' was for differing from the past. Habermas (1980, p.3, 4) explained the old meaning of 'modern':

> The term 'modern' again and again expresses the consciousness of an epoch that relates itself to the past of antiquity, in order to view itself as the result of a transition from the old to new […] the term 'modern' appeared and reappeared exactly during those period in Europe when the consciousness of a new epoch formed itself through a renewed relationship to the ancients – whenever, moreover, antiquity was considered a model to be recovered through some kind of imitation.

The old ‘modern’ thus is not brand ‘new’ but is a repeat of a certain period of the past. Consequently, societies before the Enlightenment held their time consciously as placing themselves in the ‘coordinates’ of past history. Under the old consciousness of time people sensed present and future was retrieving the past. However since the French Enlightenment the word of ‘modern’ has been endowed with the new meaning. ‘Modern’ has become being the ideal ‘new’. The state of new ‘modern’ is a result from being “inspired by modern science, in the infinite progress of knowledge and in the infinite advance towards social and moral betterment.” (ibid) Social modernity empowered the society in a state of newness, which never appeared in the past of human history. That made ‘modern’ total disconnected with the past history. This absolute new ‘modern’ brought the new experience of time. People fulfilled confidence at present and dreamed about future. Consequently new time consciousness associated with the change of the meaning of modern. According to Habermas this consciousness was clearly expressed for the first time in the works of Baudelaire.

Romanticism-formed aesthetic modernity in fact was featured by this new time consciousness. Furthermore new time experiences inspired the artists of Romanticism to explore a new awareness of aesthetic in which they disproved the permanent beauty but asserted that the beauty itself is a sensation of present and modern life. This awareness echoed in Baudelaire’s art criticism about the romanticism. His sharp insights caught the essence of the movement of French Romanticism. In his works he built the bridge between beauty and time. He insisted that the beauty belongs to its age just as his work *‘The Salon of 1846: On the Heroism of Modern life’* said: (Baudelaire, 1946)

> Before trying to distinguish the epic side of modern life, and before bringing examples to prove that our age is no less fertile in sublime themes than past ages, we may assert that since all centuries and all people have had their own form of beauty, so inevitably we have ours. That is in the order of things.

After claiming the beauty is framed by time, he continued to discuss the impossibility of pursuing the cross-age permanent beauty (ibid):

> All forms of beauty, like all possible phenomena, contain an element of the eternal and an element of the transitory – of the absolute and of the particular. Absolute and eternal beauty does not exist or rather it is only an abstraction skimmed from the general surface of different beauties. The particular element in each manifestation comes from the emotions: and just as we have our own particular emotions. So we have our own beauty.

He emphasized the importance of emotion that is a sensation of age in the artistic activities. The emotion and internal inquiry of artists are the principle features of Romanticism movement. Baudelaire noticed that the new time of consciousness had forced artists of Romanticism to stop seeking out the inspirations from past but to concentrate on the present social phenomenon. In his article of *'The Painter of Modern Life'* Baudelaire (1863, in Mayne, J. 1995, p.12, 13) pointed out

> Every old master has had his own modernity; the great majority of fine portraits that have come down to us from former generations are clothed in the costume of their own period […] It is doubtless an excellent thing to study the old masters in order to learn how to paint; but it can ne no more than a waste of labour if your aim is to understand the specific nature of present-day beauty […] Finally the gesture and the bearing of the woman of today give to her dress a life and a special character which are not those of the women of the past. In short, for any 'modernity' to be worthy of one day taking its place as 'antiquity', it is necessary for the mysterious beauty which human life accidentally puts into it to be distilled from it.

Baudelaire engaged to give a better understanding of beauty in which the main method is to put the beauty into its period to sense the present due to "Time imprints on our sensations". (ibid)

The new interpretation of beauty and new consciousness of time[16] had also an impact on the development of heritage conservation theories in the 20th century. Undertaking those critical thoughts, Alois Riegl (1857-1905) initiated the study of heritage values and relevant conceptions. He also analyzed the attribute of values of heritage and explored the interactions and conflicts between those values in the circumstance of

[16] Of course this new conceptions relating to time feeling and beauty were not only the efforts made by romanticism and Baudelaire but were refined and reinforced by the other scholars e.g. Nietzsche's famous announcement 'God is dead!' indicates that the formal absolute universal standard to evaluate values did not work due to the modern society's new awareness and cultural diversity; therefore art in the eyes of Nietzsche and Heidegger becomes the measurement of the values.

conservation and restoration. According to Riegl in the modern society monuments have two categories: intended monuments and unintended monuments. In his opinion an intended monument is "a human product erected for the specific purpose of keeping human deeds and fates ever alive and present in the consciousness of successive generations" (Riegl, A. in Bacher, E. 1995, p.55) And unintended monument can be understood as "a modern concept referring to buildings that were primarily built to satisfy contemporary practical and ideal needs, and that only afterwards have been taken as having historic value therefore depending on modern perception." (Jokilehto, 1999, p.216) In *'The Modern Cult of Monuments: its Character and its Origin'* Riegl (1903) interpreted the values of monuments[17] as two groups: memorial values and present-day values. Memorial values of monuments contain age value, historical value, and intended memorial value. Present-day values are consisted by use value, art value, newness value, and relative art value. Historical value Riegl defined is in a certain period of history the monument held a status which may represent the original style of the monument. Age value here likewise Ruskin refers to the traces of time leaving on or in the buildings such as the phenomenon of patina. Meanwhile Riegl regarded the process of accumulating the age value is the process to dissolve the original form and colour, a tendency of being ruins. Age value of course is a product of modernism which is built on the new time consciousness since the 19th century. Art value Riegl classified it into group of present-day value is due to he conceived that there is no universal principle to define beauty but the perception of beauty is related to its own period. Therefore art value is always contemporary.

Among those values of monuments Riegl claimed in fact some are in a relationship of conflict when present-day people attempted to protect those values. E.g. the use value and memorial values are sometime in a situation of contradiction when conserving the memorial values constrains the maintenance of use value. When that situation happens use value generally needs to compromise the memorial values. This principle had been accepted in the 19th century and in the beginning of the 20th century. However Riegl showed that in his period protecting the age value and historical value are in conflict when conservation is prior to protect the historical value it should take

[17] Monuments here include intended monuments and unintended monuments according to Riegl.

all the additions. But those changes may contain age value which may be worth protecting. The same situation also appears in the conservation between age value and newness value in which unity of monument cannot bear the extra additions through time and newness value requires to retrieve the original form, material, and colour.

Likewise Cesare Brandi's theory of restoration illustrated time's relation to work of art (heritage) and to its restoration. In his book *'Teoria del restauro'* (Theory of Restoration) Brandi illustrated what restoration is towards work of art: (Brandi, 1963 in Price, S. N. et eds. 1996, p.231)

> Restoration is the methodological moment in which the work of art is appreciated in its material form and in its historical and aesthetic duality, with a view to transmitting it to the future […] Only the material form of the work of art is restored […] Restoration must aim to reestablish the potential unity of the work of art, as long as this is possible without producing an artistic or historical forgery and without erasing every trace of the passage of time left on the work of art.

Brandi claimed the first step of restoration is a process of appreciation of work of art. This appreciation is the recognition of its potential unity, the aesthetic, and historical aspects. Brandi along with Ruskin and Riegl stressed the ageing effects on works of art. The historical aspect changes all the time therefore it must do the appreciation towards the work of art every time restoration. This appreciation is the present individual consciousness of object in which Brandi set a time line for the work of art. A time line is divided into three phases, stage one was duration that artist formed his/her 'image'[18] as a material realization. After the phase one this work of art is independent from the artist. Phase two is the period from the moment of work of art being independent from the artist till the present. Phase three is the moment of restoration of work of art which is based on the present consciousness. Brandi pointed out restoration must depend on the present appreciation, the third phase. That is an investigation of leaning the present situation of aesthetic and historical in work of art. Restoration only locates at the third phase that can achieve the aim of reestablishing

[18] Brandi regarded the essence of work of art is an image which as artist's won product through the creative process. A creative process is a transformation from existential reality to pure reality then the pure reality will be formed as a symbol or form which artist materialized as physical existence.

the 'potential unity'[19] and in the meantime balancing the aesthetic and historical demands. If the restoration is not in the present appreciation and sets its unity pursuits in some certain period of history, that could interfere the historical aspect of a work of art. The French stylistic restoration only aims on the original potential unity which neglected the action of time and created a inauthentic reality. Brandi also pointed out the conflict between aesthetic and historical aspects in the process of restoration which Riegl has illustrated. But Brandi tended to save the aesthetic value rather than historical. This tendency is based on his own context in which he referred to Italian painting restorations. In order to reestablish the potential unity sometime reintegration is necessary in restoration. Brandi thus gave three critical principles (ibid, p.341):

> The first one is that any integration must always be easily recognizable, but without interfering with the unity that the one is trying to reestablish. […] The second principle pertains to material and related image. Materials cannot be substituted only if they directly contribute to the figurative aspect of the image and not to the structure. […] The third principle concerns the future: that every restoration should not prevent but rather, facilitate possible future restorations.

Brandi's theory of restoration is in a time line, which stated from past and focuses on the present individual consciousness and takes a responsibility for the future. This time line is modernity caused new perceptions towards time. Brandi emphasized the present consciousness is a result of being aware of the variation of taste on the aesthetic aspect and the ageing effects. Therefore he asserted the present restoration scheme represents the current opinion, which should be recognizable and leave the space for the future generation's efforts.

[19] This potential unity Brandi refers to the materials or components of work of art are the elements to consist the whole to present the 'image'. Brandi explained this concept as: 'let us consider a work of art that is effectively made up of several components. Take individually, the components do not have any particular aesthetic significance; they might only possess a generic value in terms of the beauty of the material, the purity of craftsmanship, and so on. … We need not dwell now on the problem, which is a side issue for us here, of the value of the rhythm an artist can achieve when composing the individual parts into the image the image he is creating. … In the first we deduce that if a work of art, which is not composed of parts, is physically fragmented, it will continue to exist as a potential whole in each of its fragments. … For the second corollary, we infer that if the 'form' if each work of art is indivisible, where the world of art is materially split up, we will have to attempt to develop the original potential unity contained within each fragment. This is proportional to the extent that the original form is still preserved within the fragments themselves.'

2.3. Modernity, Citizenship, and Modern Heritage Conservation

Anthony Giddens (1998, p.94) in a conversation defined modernity is

> (A) shorthand term for modern society, or industrial civilization. Portrayed in more detail, it is associated with
> (1) a certain set of attitudes towards the world, the idea of the world as open to transformation, by human intervention;
> (2) a complex of economic institutions, especially industrial production and a market economy;
> (3) a certain range of political institutions, including the nation-state and mass democracy.
> Largely as a result of these characteristics, modernity is vastly more dynamic than any previous type of social order. It is a society—more technically, a complex of institutions—which, unlike any preceding culture, lives in the future, rather than the past.

Mr. Giddens's description displays the modernity's political aspect in which 'mass democracy' and 'complex institutions' are the key features. In fact citizenship is the result of mass democracy and complex institutions of modern society. Citizenship is a concept that I borrow for exploring the political modernity's impact on heritage conservation.

'Citizenship' is derived from Tomas H. Marshall's sociological research in 1950s. In Marshall's idea citizenship is divided into tree parts or elements, civil, political and social rights. Through three or four centuries of development a comprehensive citizenship emerged while a modern welfare state appeared. The evolution of citizenship is accompanied with the political development of institutions. Civil rights stand for individual freedom, freedom of speech, thought, faith, the right to own property and to conclude valid contracts, and the right to justice. In England civil rights were the first part of citizenship received by the people who held full membership of community in the 17th century. The formulation of civil rights associated with the development of law system and thus court has become the corresponding institution. Political right is "to participate in the exercise of political power as a member of a body invested with political authority or as an elector of the members of such a body." (Marshall, 1950) Political rights were operated into

practice in parliament since the 19th century in England. Social rights in Marshall's definition mean "the whole range from the right to a modicum of economic welfare and security to the right to share to the full in the social heritage and to live of a civilized being according to the standards prevailing in the society." (ibid) And the institutions which ensure the social rights are the educational system and the social services. Although the later research of citizenship criticized Marshall's theory e.g. Michael Mann pointed out that Marshall's citizenship theory is only available for British history, but is failed to be a more general interpretation of citizenship. (Mann, M. in Turner S. B. ed. 1993) Citizenship echoes the features of modernity especially in the political aspect. Present-day citizenship manifested the growing of democracy against the capitalism. Meanwhile citizenship also was reinforced through the construction of institutions.

Citizenship made an impact on the movement of modern cultural heritage conservation on various perspectives. One of influences appeared in the process of recognition of cultural heritage. In the previous part of this essay I illustrate the values of cultural heritage. Cultural heritage is not just holding historical and aesthetic values but also has become the joint asset of society with function of education while the majority received its citizenship. In the Age of Enlightenment Emmerich de Vattel (1714-67) a Swiss jurist had already regarded the works of art as the common heritage of human in the circumstance of warfare. He stressed that (Vattel, 1844, in Jokilehto, 1999, p.281-282)

> (F)or whatever cause a country is ravaged, we ought to spare those edifices, which do honor to human society, and do not contribute to increase the enemy's strength, such as temples, tombs, public buildings, and all works of remarkable beauty.

The function of education from heritage was uncovered through the development of citizenship. E.g. as vandalism widely occurred during the French Revolution, French government thus decreed a convention

> (T)o forbid to remove, destroy, mutilate or alter in any way with the excuse of eliminating traces of feudalism or royalty from libraries, collections, private galleries, public museums […] books, manuscripts, engravings, drawing, paintings, relieves, status, antiquities […] that interest arts, history and education.

in Decree of 24 October 1793. This convention was based on an understanding of cultural heritage having the function of education to French people. The *document*[20] claimed that

> (T)he people will not forget that intellect is strengthened through solid and real education. Already, education has become for the people the best means toward rebirth and glory. It places within their grasp a lever of great force which they use to uplift their nations, to overthrow thrones and to reject for ever the monuments to error. […] It was now their heritage, and it was their responsibility to learn from the lessons of the past that were imprint on those objects and to hand them down to posterity along with new pages.

This recognition of heritage remains as a principle in the international collaboration of heritage conservation. It echoes in the important international charters and documents e.g. in the beginning of *Venice Charter* (1964, p.1) it says

> Imbued with a message from the past, the historic monuments of generations of people remain to the present day as living witnesses of their age-old traditions. People are becoming more and more conscious of the unity of human values and regard ancient monuments as a common heritage.

Venice Charter apparently supports the idea that cultural heritage is the common social resource and needs to share it with all social members.

The impact of citizenship on heritage conservation also appeared on the evolution of institutions and organizations, which was corresponding heritage conservation and management. Marshall defined citizenship as a kind of "status bestowed on those who are full members of a community. All who posses the status are equal with respect to the rights and duties with which the status is endowed". (Marshall, 1950) In order to secure the equality of rights and duties in full members of society Marshall stressed the importance of administration institutions, which assure the citizenship at national level[21]. During the French Revolution bourgeoisies replaced the monarchy regime and founded their political system. The new government also took control of the king's

[20] The detail of this document seeing note 9

[21] He pointed out in middle age some medieval towns has examples of equal citizenship to all town dwellers however what he wanted to study is the citizenship in the scale of whole county i.e. the UK.

assets which included his collection of works of art and royal palaces etc. The massive assets of former feudal-lords turned to the national properties, which became the common heritage of society. In fact the French authorities were in urge of safeguarding the monuments from vandalism during the Revolution. In October 1790 the *Commission des monuments*[22] thus established a national institution to take care of works of art. In the meantime museums initiated to play the leading roles as the shelters for protecting moveable objects, and a place for public education e.g. the palace of Louvre was reopened to the public in 1793 as *Musée des Monuments Français* while Louvre initially only collected the works of arts from Paris and its surroundings but later extended its scope to the whole country. Since then a series of national institutions had been established in order to respond for heritage's inventory, management, maintenance (restoration) and other related programs.

However the progress of administrations of heritage conservation can be constrained by poor-developed citizenship. According to Marshall at least in England that the civil, political and social rights became three key elements of citizenship in a long step-by-step journey. In the 19th century citizenship only had civil rights, which was growing up with the erection of bourgeoisies. When all members of the society received civil rights citizenship in the 19th century, it did not conflict with the capitalism. On the contrary it favored the development of bourgeoisies due to the civil rights supported individual status and spirit of contract which benefited the free-market economy. Political rights joined the citizenship. Political rights "unlike the civil rights, were full of potential danger to the capitalist system" (Marshall, 1950). Nevertheless in fact Marshall research showed that political rights did not positively change the social inequality. Social rights were the last to attend the citizenship. Social rights becoming citizenship has (ibid)

> (A)ssumed the guise of action modifying the whole pattern of social inequality. It is no longer content to raise the floor-level in the basement of social edifice, leaving the superstructure as it was. It has begun to remodel the whole building, and it might even end by converting a skyscraper into a bungalow.'

[22] In 1793 *Commission des monuments* was replaced by *commission des arts which* later changed its name as *commission temporaire des arts*. The new institute in fact launched a serious of policies such as the famous *document* in order to protect the heritage properties of the country.

Without social rights, some social members could not efficiently wield their civil and political rights. Just like Marshall pointed out “a property right is not a right to possess property, but a right to acquire it.” (ibid) Without social rights citizenship they were in lack of education. A large group of uneducated people hardly used their right of free speech due to they did not know how to express their ideas. Likewise when they wield the right of vote because lack of education, the consequence of election is not clear. At the same time heritage conservation administrations cannot serve the whole society when social rights are absent in the citizenship. That is because lots of people were unable of appreciating the values of heritage. Only when the three elements of citizenship complete cultural heritage eventually become the joint social resource of all members of the society. In the meantime a vast majority can realize the importance and values, which heritage properties represent and hold.

The ongoing practice of cultural heritage conservation also needs to pay attention to citizenship. The first reason is that in the era of welfare state the majority of people in western countries are required to appreciate cultural heritage. In fact it becomes a popular phenomenon that famous heritage sites and museums have a great problem with over-loading tourism. The boom of tourists meets the necessary scheme of conservation which may constrain the stream of tourists. The practice of cultural heritage conservation and management thus needs to find a balance between requests of heritage conservation and rights for the public. However finding this balance remains as a challenge for the community of heritage conservation. The second reason is in the developing countries the practice of cultural heritage conservation is facing a challenge of economy. The economic issues in some developing countries may appear as a shortage of financial support for the cultural heritage conservation such as maintenance and restorations of monuments. Or they may appear as the economical effect of cultural heritage properties becomes the dominated pursuit, which converts the heritage properties as tourist attractions and neglects the consideration of future of the past. All this unsustainable approaches in the developing countries is a result from the fact that economic citizenship is the dominating factor in the rights of citizenship. Economic citizenship in this essay refers to the status of economy of a social member. In fact the economic citizenship didn’t get sufficient attention in the research of Marshall. But the later research indicates that economic citizenship substantially influences the other rights of citizenship just like Turner (1993, p.153) pointed out “he

(Marshall) failed to perceive that the development of economic citizenship may be the most crucial limitation on modern social rights". This point of view can interpret that in developing countries the pressure of economy limits the practice of cultural heritage conservation. Without social rights people only focus on the economic rights. They hardly appreciate the values of heritage. Thus they refuse to take responsibility to protect those human's joint assets. The last reason is that conservation practice now is very close to the public of society. This close relationship between heritage conservation and the public is due to the extension of realm of cultural heritage. For example in 1999 ICOMOS addressed *Charter on the Built Vernacular Heritage* in which vernacular heritage is "a focus of contemporary life and at the same time a record of the history of society." (ICOMOS, 1999) Furthermore ICOMOS also admitted that "the appreciation and successful protection of the vernacular heritage depend on the involvement and support of the community, continuing use and maintenance." (ibid) Likewise another category of cultural heritage - intangible cultural heritage does not have physical form but exists in the community. UNESCO also stressed the key role of communities and individuals in safeguarding the intangible cultural heritage[23]. This close relationship with the public of society thus requires the present-day practice of cultural heritage conservation to know the status, character and tendency of citizenship of community. As UNESCO World Heritage Convention (WHC) recently holds that "heritage protection without community involvement and commitment is an invitation to failure." (WHC 2007)

2.4. Summary

The above discussion indicates that the modern cultural heritage conservation movement together with cultural (aesthetic) modernity stood against social modernity although it received the benefits from social modernity. The new consciousness of time, derived from aesthetic modernity, profoundly enriched the theory of cultural heritage conservation. Modernity-caused development of citizenship closes the distance between cultural heritage conservation and the public of society. This discussion also illustrated the impact of modernity on cultural heritage conservation is remaining strong. Cultural heritage preservation plays a role of bridging the modern

[23] In *Convention for the Safeguarding of the Intangible Cultural Heritage* UNESCO asserts that 'communities, in particular indigenous communities, groups and, in some cases, individuals, play an important role in the production, safeguarding, maintenance and recreation of the intangible cultural heritage, thus helping to enrich cultural diversity and human creativity'.

society and the pre-modern era. Nevertheless how to play this role relies on the understating the modernity and its impacts.

Chapter 3
Principles of Practice

3. Principles of Practice

Warfare, vandalism and the other manmade hazards were the starting point to urge the modern society to protect cultural properties from disasters. In the Age of Enlightenment Emmerich de Vattel (1714-67) a Swiss jurist had regarded the works of art as the common heritage of mankind in the circumstance of warfare. He stressed that "for whatever cause a country is ravaged, we ought to spare those edifices, which do honor to human society, and do not contribute to increase the enemy's strength, such as temples, tombs, public buildings, and all works of remarkable beauty." (Vattel, 1844, in Jokilehto, J. 1999, p.281-282) The international society has been aware of the enormous destruction to cultural properties during World War I & II. Therefore in 1954 UNESCO was commissioned to draft an international treaty titling as *The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict*.[24] After reviewing the post World War II reconstruction in Europe ICOMOS addressed '*The Declaration of Dresden*' in which ICOMOS (1982) asserted "the task of social development after war, the reconstruction of towns and villages, and the resulting task of protection of monuments constitutes a single entity."[25]

The community of heritage conservation keeps a cautious attitude[26] towards reconstruction. This attitude can be found in some key documents about heritage conservation. In the *Venice Charter* it indicates that "All reconstruction work should however be ruled out a priori. Only anastylosis, that is to say, the re-assembling of existing but dismembered parts can be permitted". And WHC stands the similar position in its *Operational Guidelines for the Implementation of the World Heritage Convention* when someone wants to reconstruct a cultural property he should follow the principles as (WHC, 2013, p.22)

> (T)he reconstruction of archeological ruins or historical buildings or districts is justifiable only exceptional circumstance. Reconstruction is acceptable only on the basis of complete and detailed documentation and no extent on conjecture.

[24] It was signed on May 14th 1954 and entered into force in 1956, so far 124 countries has ratified the *Convention*.
[25] The full version of this declaration seeing http://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/184-the-declaration-of-dresden
[26] This attitude derived from the discussion about heritage restoration and conservation in 19th century in heritage community. I gave more detail about this discussion in Chapter 2.

Declaring such statements is also partly due to the reconsideration of post-WWII reconstruction. Nowadays, Warsaw is the only post-war reconstruction case successfully on the list of World Heritage however just like Jokilehto pointed out that WHC accepts Warsaw case but "taken as an exception and it should not be taken as a precedent for reconstruction of the properties". (Jokilehto, J. 2013, p.2)

After WWII the major loss of cultural properties is from natural hazards. The study of cultural heritage restoration and conservation after natural disasters initially focused on the technological perspective. In 1981, ICOMOS had its 6th general assembly in Rome, Italy[27]. During that meeting, ICOMOS also hosted an International Scientific Symposium with four main topics, which attempted to engage a close relationship between community of heritage and scientific and technical institutes. This symposium had also submitted a general report naming as '*Conservation of Materials and Practical Applications of Scientific Research in Restoration Work'* in which regarding the natural disasters along with climate and biological is the main cause of decay and damage to cultural property (Feilden, M. B. 1981).

On the scientific and technical perspective, academic discussions follow several angles. Some researches are focused on one specific type of natural hazard, which threats heritage properties. According to the characters of hazard, those researches aim to provide the appropriate emergency measures and accurate restoration plans. In 1977, UNESCO and ICOMOS hosted a conference of 'Meeting of Experts on the Protection of Monuments in Seismic Areas'. After that conference, they also organized training courses and seminars[28], which were coping with the similar issue. Through those events community of heritage in the early 1980s gradually realized that the heritage conservation in seismic areas "ought to be carried out according to the *Venice Charter*" (Bowman, I. 1988, p129). Furthermore Bowman said "preparation of seismic hazard maps for each building or structure" (ibid) was necessary, and that an important conclusion was: "existing building codes and legislations should not be applied to historical buildings" (ibid). Based on that awareness, P. Pierre wrote a

[27] The more detail of this meeting seeing http://www.international.icomos.org/publications/JS5_6.pdf
[28] Those events I mentioned here refer to in 1979 '*seminar-cum-training course on the protection of monuments in seismic areas*' and in 1983 '*international meeting of experts on the protection of cultural heritage against violent phenomena and their consequences*'.

handbook for UNESCO[29] in which he introduced the several emergency measures to curators' offices and local agencies in the seismic zone. Those measures are for the case of after earthquake when "long-term activities generally are not dealt with here." (P. Pierre, 1985, P.1)

Likewise, in the 1980s and 1990s, heritage communities had similar discussions of how to protect cultural properties from other types of natural hazards i.e. fire, flood, infestation. E.g. fire protection of historical structure has become an international agenda since the 1980s. The US National Fire Protection Association (NFPA) has launched two specific codes for cultural heritage, NFPA909, NFPA914 in which NFPA 909 is the code for protecting the cultural properties in museums and libraries; and NFPA 914 is for protecting historical structure.[30] In EU counties COST (European Cooperation in Science and Technology) founded a research project titled as Action C17 'fire loss to historical buildings' that established the European Heritage Fire Network.[31] In the UK, the government had learned the lesson from the Windsor Castle Fire in 1992. The British government commissioned a report the 'Bailey Report' which is for assessing the fire protection at royal palaces. Through this report, Historical Building Fire Research Coordinating Committee has been founded and under this agency's leading a fire protection of historical structure research network has been established in the UK.

On the scientific and technical perspective another research approach is concentrating on only one single type of heritage against several natural hazards. In the eyes of civil engineering sorting heritage doesn't follow the standards of WHC's definition of heritage[32], but based on its physical attributes. Based on the material and structure that heritage buildings as unenforced wood structure, masonry buildings and earth buildings etc. Engineers identified out the vulnerability[33] of heritage buildings by

[29] The name of the hand book is '*emergency measures and damage assessment after an earthquake'* online reading is at http://unesdoc.unesco.org/images/0006/000632/063242eb.pdf
[30] More detail of these codes see http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=914
[31] Further information about C17 Action see http://www.cost.eu/domains_actions/tud/Actions/C17
[32] World Heritage Convention (WHC) has defined what the world heritage is and how many types of it are in its '*Operational Guidelines for Implementation of World Heritage Convention'*. More information locates in paragraphs 45-53 in the 2013 version.
[33] In this case the variation of vulnerability is related to the hazards which heritage may encounter. Different hazard may hit the different vulnerability of heritage. For instance, earthquake may not

analyzing its material and structure. Coping with vulnerability, engineers suggested the effective prevention measures and the appropriate emergency rescuing measures e.g. provisional stabilization project of the tower of Pisa[34]. However modern technology-oriented heritage restoration approach had become controversial in the community of heritage. "The choice of strengthening interventions (towards heritage) raises an important question: should we privilege traditional or modern techniques?" said by chairman of scientific committee of ICOMOS in a UNESCO conference (G. Croci, 2003, p.31). In the same conference ICOMOS president asserted (Petzent, M. 2003, p.23)

> (I)n spite of all the accomplishments of a 'science'-oriented conservation profession we must be aware that in the majority of cases it is traditional maintenance and traditional repair methods that are the most appropriate science one of our basic concerns, the prevention of authentic historical evidence, is in fact best served by limitation of truly necessary.

Apparently ICOMOS believes that keeping the "authentic historical evidence" is the core mission of heritage conservation. That is due to authenticity of heritage is "a fundamental reference for qualification of justification of cultural sites" (Jokilehto, J. 2013, p.3). Therefore some scholars consider utilizing the modern techniques and materials has interrupted the authenticity of heritage i.e. the authenticity of material. As matter of fact authenticity as a conception has been redefined since the '*Nara Document on Authenticity'* was released. This document has highlighted cultural diversity and is crucial for the business of cultural conservation. The community of heritage admits "all cultures and societies are rooted in the particular forms and means of tangible and intangible expression which constitute their heritage, and theses should be respected" (ICOMOS, 1994, p. 46). Meanwhile cultural context has been regarded as the key issue when consider the authenticity of heritage. ICOMOS asserts that (ibid)

> […] it is thus not possible to base judgments of values and authenticity within fixed criteria. On the contrary, the respect due to all cultures requires that heritage

destroy the traditional China's wood structure building however the earthquake-caused fire may damage the wood building.

[34] More information about this project seeing http://news.bbc.co.uk/2/hi/7423957.stm

properties must be considered and judged within the cultural contexts to which they belong.

Yet the '*Nara Document'* may give an academic explanation of the phenomenon of rebuilding Ise Shire in Japan. Ise Shire consists of two sanctuary areas, each with some twenty shire buildings. Here the religious cult requires the periodic renovation of the shires every twenty years. Consequently, every shire has two sites next to each other, one occupied by the current building. At established intervals, a new shire is built on the vacant site, and the previous building is dismantled. The timber material originally comes from a reserved sacred forest. The case of Ise Shire is unique because it implies that physical historical buildings and materials are not the whole body of heritage, but the skill of traditional maintenance is also embedded within the heritage especially in the cultural context of east Asian countries. That is due to most of the historical buildings of China, Japan and Korea are made by timber, a material which needs more maintenance than masonry buildings. The maintenance techniques were accompanied with buildings for many centuries and became the part of the heritage. Therefore it is necessary to regard it as another subject to protect. In such sense, reconstruction towards heritage properties sometimes requires more traditional techniques rather than modern tech due to the traditional way of reconstruction which is a part of preserving the authenticity of a heritage.

In the 1990s, especially in the second half of the decade, communities of conservation have gradually acknowledged that it is not sufficient to only make efforts for repairing a disaster-damaged heritage. That is due to disasters which have already damaged the values of the heritage while the reaction started. Consequently, it was needed to shift the method of dealing with risks from curative to preventive. In 1998, ICOMOS admitted, "Risk preparedness is a critical part of a wiser use of out cultural environments. Risk analysis and mitigation ensure better use of scarce resource, and optimal conditions for extending the life of cultural property." (Stovel, H. 1998, p.11) Introducing the risk preparedness is derived from several practices during the 1990s. In October 1992, ICOMOS launched a movement titling as 'Blue Shield'[35] in order to safeguard the cultural properties from disasters. One of the tasks is that the 'Blue Shield' program initiated to build a tunnel of communication among the international agencies. As a result an Inter-Agency Task Force (IATF) was founded in 1997. This

[35] More information seeing http://www.ancbs.org/cms/en/

force is assembled by ICOMOS, UNESCO, ICOROM, etc. The Force asserted that there are five key areas that need international organizations to contribute in order to build a risk preparedness paradigm for heritage. They are funding; emergency response; training and guidelines; documentation; and awareness. The major effort of the Force is founded by the International Committee of the Blue Shield (ICBS). Furthermore the 'Blue Shield' movement also got echoes from state parties of WHC and country-level heritage conservation agencies. E.g. ICOMOS Canada hosted a first Canadian Summit Meeting on Cultural Heritage and Disaster Preparedness in 1997 in Quebec Canada. The outcome of the conference is the '*Declaration of Quebec*' in which the declaration asserts some principles of risk preparedness i.e. highlighting the importance of collaboration between heritage conservation units and emergency response authorities. The year after, Japanese authorities organized a meeting of risk preparedness for cultural heritage, which learned lessons from the 1995 Kobe Earthquake. The conclusion of this meeting is summed in the '*Kobe/Tokyo Declaration*'. The Force regards this document is "focused on improved integration of preparedness measures for cultural heritage in existing risk-preparedness infrastructures as the key to increased effectiveness". (IATF, 1997, p.133) Based on those acknowledgements, in 1998, Herb Stovel published a book: '*Risk Preparedness: A Management Manual for World Cultural Heritage*'. The *Manual* is commissioned by ICOMOS and UNESCO. This book suggested the heritage conservationists should locate their focus on prevention rather than curative interventions. The book illustrates how to make a risk preparedness planning for heritage sites, a plan against natural hazards and armed conflicts. Meanwhile the *Manual* also provides some appropriated strategies and measures for heritage properties. He stressed that " the design and installation of disaster-protection systems or mechanisms in ways which will minimize impact on heritage values". (Stovel, H. 1998, p.21) The *Manual* could be regarded as a key achievement of risk reduction and prevention for cultural heritage in the 1990s. In the 21st century, the discussion of risk management of cultural heritage remains as a prevalent topic in the community of heritage. The 'Blue Shield' movement has been released the considerable impacts on the community, and ICBS has developed a number of national 'Blue Shield' committees. Prevention becomes a key word of risk management for cultural properties after 2000. In an article, Canadian conservationists try to use IT tech to systematically analyzing the

potential risks towards heritage in the future. They think in order to predict those risk needs three key elements (R. Waller & S. Michalski, 2004):

- a common scale for magnitude of all risks, such as fractional loss of value per century, so that we can compare and arranges;
- a prediction of the magnitude of each risk fi nothing is changed;
- a prediction of how these magnitudes will change if certain improvements are made.

In 2005 ICOMOS Japan hosted an expert meeting on risk preparedness for cultural heritage and announced the '*Kyoto Declaration'* [36]. This declaration stressed again the importance of intergradation between heritage sites agency and risk response agencies. In that meeting experts also believed that cultural properties "embodies accumulated knowledge in disaster prevention based on past experiences and traditional practices". Therefore they suggest prevention measures should take reference both from traditional and modern knowledge.

On the threshold of the 21st century, the organizations outside the heritage community also paid their attention on disaster risks' reduction of heritage. As a result a cross-discipline corporations are undertaken in order to bring the sustainability and resilience in cultural heritage properties. International disaster reduction society regards heritage properties as a very important public asset. This thinking is taken account into their current practice planning – Hyogo Framework for Action (HFA)[37]. This action aims to reduce losses of disaster substantially by 2015 by "building the resilience of national and communities to disasters" (UNISDR, 2005). For achieving that goal, HFA forms five prioritized actions within principal guidelines in which action no. 3 is "use knowledge, innovation and education to build a culture of safety and resilience at all levels". The knowledge contains "relevant traditional and indigenous knowledge and cultural heritage". A close relationship thus emerges

[36] The full name of the declaration is the *Tokyo declaration 2005 on Protection of Cultural Properties, Historical Areas and their Settings from Loss in Disasters.* Full document see http://www.international.icomos.org/xian2005/kyoto-declaration.pdf

[37] The Hyogo Framework for Action (HFA) is 'the first plan to explain, describe and detail the work that is required from all different sectors and actors to reduce disaster losses. It was developed and agreed on with the many partners needed to reduce disaster risk - governments, international agencies, disaster experts and many others - bringing them into a common system of coordination' (UNISDR, 2005).

between the heritage conservation community and disaster reduction community. The interaction between those two communities is initiated. On the one hand the community of disaster reduction realized the crucial role of heritage in the aim of building a resilience community. In May 2013 a conference of global platform for disaster risk reduction, experts concluded that (UNESCO, 2013):

> Heritage can play a very important role in building the resilience of communities to disasters and climate change […] but also by its function as an anchor and binding element of our social fabric, related to its symbolic and spiritual meaning. Heritage should, therefore, be seen […] as a key resource to building resilient communities, to be protected, nurtured and fully integrated within disaster risk reduction strategies and processes.

On the other hand, community of heritage conservation realized the challenge of systematically integrating disaster risk reduction management into ongoing heritage management. For instance in a survey towards 60 world heritage sites only 10% of the cases have an effective and extensive risk preparedness plan in the current heritage management system[38]. Apparently, it is still needed to more corporation between a heritage conservation community and a disaster reduction community.

A few researches, so far, are related to the post-disaster reconstruction of vernacular heritage settlement. Most of these researches are supported with solid evidences through the case study. Some scholars' cases are from their practice in which they conducted or participated a restoration of heritage settlement after disaster. For example Chen Tongbin a Chinese conservation architect had a discussion about rescuing heritage village after disaster[39]. She applied reconstruction of Taoping as a research case due to she was the chief architect in that project. Technical and engineering analysis also appears on the heritage settlement against natural hazards e.g. B.D. Loustalot in her paper pointed out[40] that the new design process during the

[38] This study is carried by Pinelopi Antoniou and commissioned by UNESCO. Re: http://icorp.icomos.org/images/documents/Heritage%20and%20Resilience%20Book%20for%20GP2013%20Disaster%20Management.pdf

[39] Her study appears in her paper named as *'The Rescue, Conservation, and Restoration of Heritage Sites in the Ethnic Minority Areas Ravaged by the Wenchuan Earthquake'* which is published on the journal of Frontiers of Architecture Research (2012) 1, 77-85

[40] '*Beyond the Appearance of Heritage: Reconstruction of Historical Areas Affected by Earthquake in Chile'* is the title of that paper I mentioned, published on *'International Journal of Architecture Research'* volume 7 issue 3 November 2013

reconstruction has not leaned sufficiently from heritage building in the case of a historical village, Lolol, Chile, which was hit by an earthquake on February 27th 2010. She also found out that when an area is often visited by seismic hazard the historical buildings of this area have the record of previous reconstructions, which is also a testimony and should be remained as a part of history. The outstanding contribution of this specific area is from Dr. Rohit Jigyasu. In his PhD dissertation[41], he discussed the local inhabitants' knowledge and capacity against the disaster risks in the rural area by adopting the cases from India and Nepal. He found that the traditional knowledge and capacity were capable of coping with the issues of reducing the disaster risk. In his case he also showed that this capacity was severely challenged by the social and economic transformation. After his PhD research he continued to focus on this area, in an article[42], he suggested about the outsiders' post-disaster relief to rural dwellers should respect local community's cultural context, traditional livelihood, and ecological relationship. In another paper[43], he aimed to integrate the risk management into heritage conservation in order to ensure the sustainability. He found the power of community which contained the living dimension of heritage and carrier of traditional knowledge and capacity against disasters.

[41] The name of this thesis is *'Reducing Disaster Vulnerability through Local* Knowledge *and Capacity-the case of earthquake prone rural communities in India and Nepal'* published by Norwegian University of Science and Technology, 2002, Trondheim, Norway.

[42] This article he co-wrote with Teddy Boen title as *'Cultural Considerations for Post Disaster Reconstruction Post-Tsunami Challenges'*

[43] The paper name is '*Sustainable Post Disaster Reconstruction Though Integrated Risk Management – the case of rural communities in south Asia'*

Part III

Part III Method

Chapter 4
Research Methodology

4. Research Methodology

4.1 Research Approach

It is important to understand what this research is about and what kind of knowledge the research can contribute to the world. Without identifying the theme of research and the realm of knowledge, it is a challenge to locate the appropriate research approach. Confirming this defines the possibility of the results of the research rather than confines them, especially when the research keeps the questions open-ended. This research is about studying a phenomenon where a vernacular heritage settlement has experienced a post-disaster reconstruction. Specifically, it attempts to investigate what reactions (alterations) the heritage settlement takes towards the reconstruction. It also wants to explain why heritage settlements undertake those reactions. Moreover it is to uncover what sort of impacts of reactions on the heritage settlement itself. The above introduction of my research indicates the knowledge claims of this study that relates to epistemologies (questioning 'what') and ontologies (questioning 'why'). Meanwhile the topic of the research also confines that outcomes (new knowledge) of this study are not the 'absolute true' but belong to socially constructed knowledge claims. The engaged experiences are believed to contain the varied subjective meanings from individuals, according to Creswell (2003, p.8). The complexity of subjective meaning of individuals requires that the researcher puts his/her study in a specific context. That restrains the results of this research to reach to absolute truth. The results of this research are rather to make sense of data on some certain perspectives. The defined research topic and knowledge claims this research to employ the approach of the qualitative research. Applying this approach is for pursuing the 'qualities' and 'characters' of the phenomenon of rebuilding a vernacular heritage settlement which has been exposed to disasters. It may need the quantitative data to support this research however this research does not focus on 'amount of something' (quantitative approach pursuing). This research cannot employ the mix methods either due to my study regards the research subject as a phenomenon rather than a problem. Mixed methods are based on the consideration of the research subject is a 'problem' therefore it always aims to solve this 'problem'. Apparently my research pays attention to interpreting a phenomenon without the specific anticipated consequences.

4.2 Case Study

This research applies case studies as the strategy associating with qualitative inquiry. This strategy is "an empirical inquiry that investigates a temporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 1994, p.13). I regard vernacular heritage settlement as a 'combination' of original settlement dwellers and traditional living environment. In my research I 'insert' this combination in a process of post-disaster reconstruction in order to investigate the reconstruction-caused alteration and combination's reaction to those alterations. Further I aim to analyze the impacts of those reactions on this combination itself. Apparently, this research cannot rely on an experiment to simulate a reconstruction of a disaster-damaged vernacular heritage settlement. It is due to the complexity of samples i.e. how to choose heritage settlement and how to define the level of damage of disaster to the settlement etc. However, case studies are based on the exist 'samples' (cases). Also, in heritage settlements, local community and physical environment coexist in nowadays society which makes it impossible to study them without regarding their social context. Case study is an effective approach to 'glue' the social context within this phenomenon investigation just like Yin asserts that case studies approach is appropriate towards contemporary events. Also, case studies are the process of "understanding and communication rather than prediction" (Skotte, 2004, p.110). This process is suitable for this study based on the aim of my research is to understand a phenomenon.

4.2.1 Case Selection

The possibility of being my research cases is that the phenomenon I am observing actually has happened, which means that any disaster-damaged vernacular heritage settlement which has experienced a process of reconstruction is technically valid. According to Yin the 'specialty' of case study approach is coping with phenomenon in the real life context (ibid p.13). Nevertheless the real life context of research project and researcher also designates the most of constraints, which may narrow down the scope of cases option. This research being a doctoral research project carries out a mixed process. A process contains the program of learning how to be an academic and practicing the act of an academic. That is why "doctoral research is a

key mechanism through which academic knowledge is produced and reproduced" (Atkinson et al. 1999, p.1). That means doctoral research is for "socialization into the culture of the discipline" (ibid). However it meanwhile requires the doctoral students to shift their 'mode' from learning knowledge to producing a new one. From this point of view the start of a doctoral research is not the real start of an academic research but overcoming that 'mode shift'. Therefore, being aware of producing knowledge and learning how to do it, is taken account into the process of a doctoral research. This real life context becomes the constraint of choosing research cases. That is due to the academic research cannot occupy the limited term of a doctoral research alone. In order to accomplish the aforementioned goals in my 4-year-long PhD study process, I have to re-verify the scope of research cases. The cases are among the vernacular heritage settlements which experienced the reconstruction due to an attack by the same natural disaster event in China. This confined rule of case option is based on the real life context of research, a doctoral research and a Chinese native researcher, who is very familiar with the cultural context of cases and speaking the same language of dwellers of settlements, which is convenient and efficient during the fieldwork.

In my research, selecting a natural disastrous event of China is the precondition of choosing the individual case(s). I am adapting 2008 Sichuan Earthquake as the disastrous event. After the Quake, several traditional Qiang settlements have been reconstructed. How to identify the case is based on that I adapted a case study approach to fill the gap between 'here and where' which Yin named, and refers to "where here may be defined as the initial set of questions to be answered, and there is some set of conclusions" (Yin, 1994, p.19). The case(s) therefore I choose have to provide profound relevant empirical data which links to the study proposition. Apparently, the unit of analysis of my research has to be the vernacular heritage settlement. Being identified as a heritage settlement in Sichuan Earthquake affected area are the 'candidates' of cases. In fact, there are three traditional Qiang settlements – Taoping Village(桃坪寨), Buwa Village(布瓦寨), Heihu Village(黑虎寨)– are

identified as the National Treasures of China[44]. How to filter these case candidates relies on the result of data collection through the primary fieldwork.

According to the primary fieldwork[45], I found Buwa Village and Heihu Village cannot provide the profound data that links to the study proposition. On one hand, the main reason of Buwa is failed of being the case is that the villagers are gradually moving out of the village. According to the interview with the head of Buwa Village, I learned that there were 135 families used to live there, now the number is decreased to 80. There are still 522 registered residents in this village but many of them have immigrated to cities. Even the people who remained, planned to move out of the old village after the disaster. The site becomes the 'dead' historical monument rather than a vernacular heritage settlement due to the lack of activity of habitation. Heihu Village on the other hand, the core zone of heritage, is too small to be regarded as a settlement. Heihu locates in the valley area in which the most of residents of the villages live in the valley area. The heritage core zone however – featuring as 11 historical watchtowers in a small area - is on the top of the mountain with only 16 families living there. Although Heihu is a qualified rural settlement with enough population and rural activities, it is hard to be a rural heritage settlement. It is due to that most of the built environment in Heihu are non-historical. The above facts show that those two villages are heritage sties with high values whereas they are not the rural heritage settlement the object of research. Therefore I decided to filter Buwa and Heihu Village out of the list of research case.

[44] National Treasures (国家重点保护单位) is the highest level of heritage conservation in the country, being selected in the list of National Treasure means this site consists high quality of heritage values.
[45] The primary fieldwork includes a physical data collection and a short visit of candidate sites in which I spent a-day trip to each site.

Figure 4. 1 Buwa Village 2011

Figure 4. 2 Heihu Village 2011

Taoping Village has become the only case of my research since Heihu and Buwa are unqualified as my research cases. Taoping is a traditional Qiang settlement with 95 households and more than 500 people. Now, most of them are living in Taoping, which positively supports Taoping as a holistic community. The historical buildings of Taoping have been identified as National Treasure since 2002. The reason of listing Taoping is the built environment of Taoping being integrated one consists the high historical and asthenic values. Conservationists claim that "Taoping is an outstanding town with fortress-style defense system and remarkable skill of site selection among mountains and river. It is a manifesto to the unique traditional Qiang architecture as well as building technology. Besides it has high aesthetic value of landscape, a localized combination of village, mountain and river" (Chinese Architecture History Research Institute, 2008, p.2). The above description illustrates that Taoping is a valid vernacular heritage settlement keeping the key feature of activity of living in a built heritage settlement. That is the exact object this research focusing on. Furthermore, a 3-year-long post-quake reconstruction of Taoping is a matched event to the research. Through the investigation of this event, especially to the interaction between rebuilt built environment and community, I can collect the profound data, which can be analyzed for answering the research question.

Figure 4. 3 Taoping Village 2011

According to the abovementioned, Taoping as the only research case meets all the conditions of my research. This research therefore switches into a state of single-case design. And then another concern is arising; that is whether the case of Taoping can be capable of answering the research question. My research states to question 'the truth behind the phenomenon'. A type of research is appropriate applying an in-depth exploration to one single event rather than comparing several similar events. Single-case design allows scholars to inquiry more easily the essence of phenomenon. Just as Beveridge (1951, p.95) mentioned "More discoveries have arisen from intense observation than from statistics applied to large groups". A single case design is more and more acceptable in the community of scholars. Many scholars attempt to highlight the power of single-case study. In the book of '*Case Study Research, design and methods*', Robert K. Yin claims "the single case can represent a significant contribution to knowledge and theory-building" (Yin, 1994, p.38). Bent Flyvbjerg (2006, p.219) even thinks academic world has a common misunderstanding that is "one cannot generalize from a single case, therefore the single-case study cannot

contribute to scientific development". He forwardly corrects this misunderstanding in his essay '*Five Misunderstandings About Case-study Research*' as: (ibid)

> One can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods. But formal generalization is overvalued as a source of scientific development, whereas 'the force of example' is underestimated.

4.3 Data Collection

In this research method towards data collection is not only the instruction of guiding how to gather the data but also setting a 'caution'. A caution reminds the researcher to stay 'open attitude' during the data collection, especially when the researchers ask open-ended research questions. When we collect data our senses towards research case are often accompanied by our own knowledge or experience. This makes that we only sometimes pay attention to what we are interested in or what we know about during the case study. Consequently, we learn and analyze the facts we are familiar with and good at. Staying in a circle of knowing the things we have known and keeping out some facts that we are unfamiliar with may be very important to the research. That is a phenomenon what Bourdieu asserted "we are in a way studying our won knowledge of reality, or the reality as it is known" (in Callewaert, 1992, p.149). This 'habitus' challenges us during the data collection and sometimes it even turns "collecting qualitative data into construction data" (Skotte, 2004, p.114). Therefore in order to overcome this challenge I need to keep the open attitude to all the facts in my case, meanwhile to jump out of 'box' to investigate them.

According to my research and choice of case, data collection is focused on a single event, a post-quake reconstruction of Taoping. To be specific the evidences this research take account of are mainly from the facts of event, the experience and comments of participating groups of people, and the situation of post-event. Based on Yin, there are six kinds of sources of evidences as documents, archival records, interviews, direct observation, participant-observation, and physical artifacts (Yin, 1995, p.78). Likewise my research data comes from those sources i.e. the most of facts of reconstruction of Taoping can be found in the documents and archival records. The investigation to the stakeholders, I am facing a challenge that is multiple skills

are required, which are observation, participant-observation, and interview. Getting to know the situation of post-reconstruction of Taoping in one hand is through the study of solid realities in Taoping after reconstruction. Those realties are tangible which can be found in the documents and direct observation. On the other hand, what the reconstructed settlement mean to those stakeholders is intangible. Getting this information relies on the approaches of participant-observation and interviews.

4.4 Facts of Events

Collecting the facts is through a review of the reconstruction and an observation of a reconstruction-created 'new world'. I regard the post-quake reconstruction as a process and a project. As a process, reconstruction consists a lot of procedures. Reconstruction is a man's response for their disaster-damaged society. This response is realized by coordination and cooperation among different organizations or groups of people. Post-quake reconstruction of Taoping started at the procedure of decision-making. In this procedure I needed to find out what the policy was; who participated in the program of policy-making; and how long it took to finalize the policy. While the decision-making finished, a procedure of transforming the policy to action plans was needed. In this procedure I wanted to know who associated the decision-body to do the transformation; how long it took to do it; and what are the details of this transformation. Likewise in order to gather the information I needed to read the related documents and archive records. The last procedure was the implementation of action plans. In this procedure I looked for who carried out this mission; how they did it and key events which happened during the implementation. All those answers may be found in the news reports, legal instruments, and archive records.

As a project, reconstruction is a business of building construction. It is a review of this event on the perspective of architecture. A reconstruction project of Taoping initiated at the stage of design. In this stage, the construction drawings, and reconstruction planning are worth collecting for the research. Besides, the principles the design group followed are also important. Of course, during the investigation, the maps and the other geographic data of Taoping are in the files of the design documents.

An observation towards post-reconstruction Taoping is one of the tasks during the fieldwork. The changes caused by reconstruction are worth being recorded. Shooting photos and videos are the effective way to mark the reconstruction-caused changes of Taoping. In order to highlight the difference between before and after reconstruction, a collection of old photographs of Taoping were important to study. It is also important to know when the photos were taken. Drawing and quick sketches is also a good method to depict the post-reconstructed Taoping. Drawing is not only to picture the scene like photos but also a way of analyzing and selecting the key factors which relate to the research. Drawing is a way of filtering the irrelevant information of observing objects. However, drawing is also a skill controlled by the architecture professional training. When an architecture researcher chooses the drawing of a built environment, it may lose the information, which relates to the research.

4.5 Direct & Participant Observation

Observation is an effective tool to collect data during the case study. In this research it is also a needed tactic for acknowledging and understanding Taoping as a traditional Qiang settlement. At the beginning of the fieldwork I encountered a barrier to Taoping community. But observation along with other methods gradually broke this barrier. During my research observations became a process of perceiving the Taoping case from a certain perspective. This perspective, which I employed during the observation, is about the interactive relationship between man and the built environment; a basic research topic of architecture.

Direct observation is the start of my field study. According to Skotte (2004, p.117), observation is about using the senses to understand what is observed. But what is observed is interpreted from the observer's own referential history or preconceived notions. Through direct observation research question primarily 'communicate' with cases. In this communication, I can examine whether case is capable of answering the question. In the meantime, the evidences, which are collected from direct observation of the case, can give feedback to the questions. Of course, direct observation is more close a professional 'first impression' by the researcher, which is orientated by the pre-experience and research question. However the direct observation is not valid

enough to be the single evidence to support an assumption. It therefore needs more approaches such as interviews to re-confirm the same evidence.

Only adapting direct observation cannot support an in-depth investigation. Therefore different approaches are required in order to get more empirical data. Participant observation is suitable for this research due to "the methodology of participant observation focuses on the meaning of human existence as seen from the standpoint of insiders" (Znaniecki, 1934 in Jorgensen, 1989, p.14). One of the challenges of this research locates at uncovering the interactive impacts between reconstruction-created environment and community. It is an inside communication, which outside researchers are hardly aware of through the direct observation. But participant observation is an effective approach for that issue. However, inquiring the viewpoints of Taoping community is difficult for researchers. That is because of that human beings likewise behave differently when they know they are being studied, especially when the researcher is very obtrusively manipulating the environment (Jorgensen, 1989, p.15). The key scheme in participant observation the researcher can let people freely express their opinions is to 'perform' a different role into the world of daily life of your study community. Being a role is the meaning of participation is "a very special strategy and method for gaining access to the interior, seemingly subjective aspects of human existence" (ibid p.21).

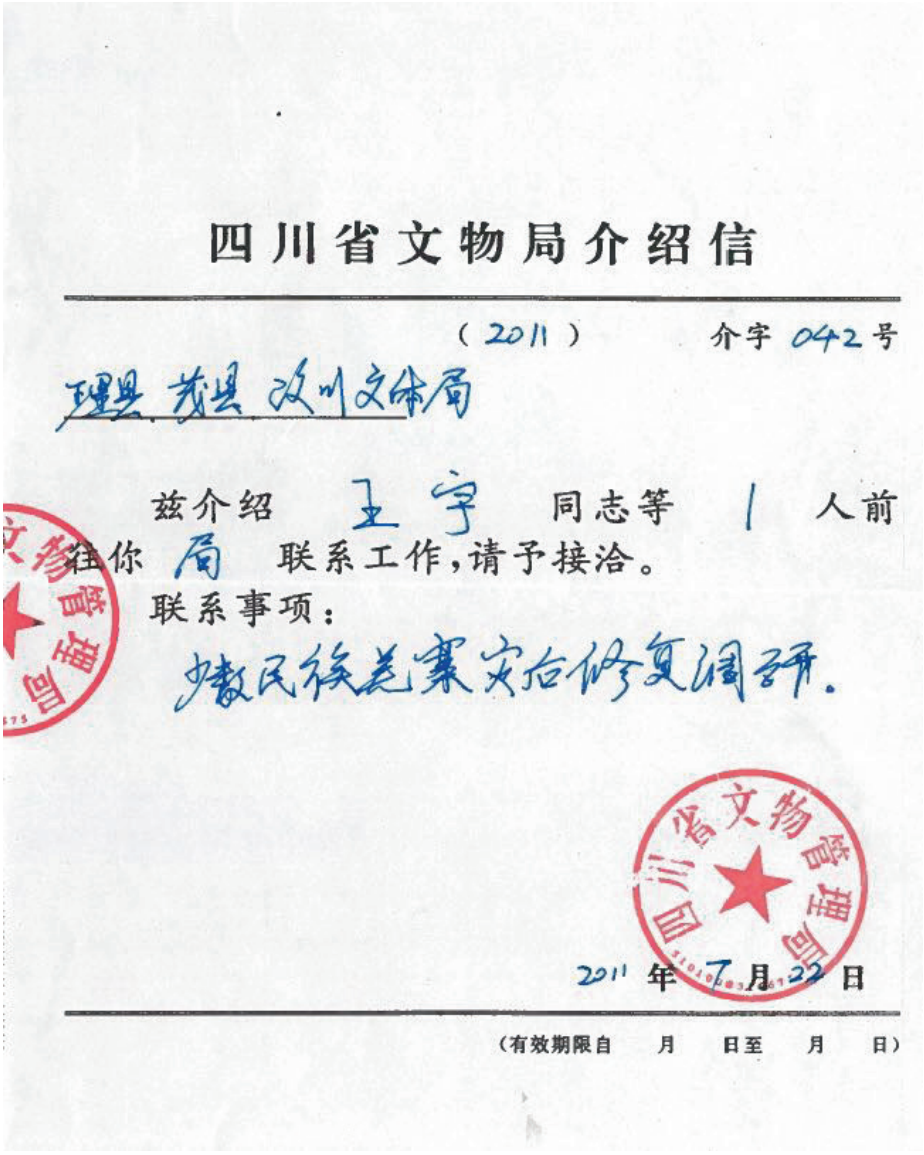
Post-quake reconstruction of Taoping is a process, which involves lots of participants beside the community of Taoping. Therefore when I collect data during my fieldwork it is important to clarify the target groups in my case. As aforementioned, this reconstruction is a project dominated by official administration and carried out by heritage conservation professionals. Hence, there are three major groups of people who participated the reconstruction of Taoping. They are local community, heritage conservationists, and government. I need to gain the data from those three groups of people through playing different roles inside each group of people. That means in participant observation I have to play multiple roles.

As a researcher of heritage conservation, I am really close to the group of conservationists. Getting information from them is easier than from the other two groups. I introduced myself to them as a researcher and brought some discussion

subjects with some jargon terms. Soon after they believed I was one of the experts in heritage conservation. Besides, my experience of conservation in China helped me to understand the context of heritage reparation after Sichuan Earthquake. Going into backstage of the other two groups is a substantial challenge. Through which role into those groups is the key issue for collecting data. The group of people who are from the government are the policymakers and functionaries who implemented the policies. In my investigation I focus on the latter. Those people are the region's officers, functionaries of Culture & Sport Office[46] and the head of the village of Taoping.

From my experience, I learn that getting data from the government in China is difficult if you only hold an ordinary identity. That is partly because China's regime is heavily relying on the Top-down model. That model creates a popular phenomenon in the system of government in which the lower officers have to obey the lead of their superiors absolutely. My tactic thus was attempting to build a connection with the 'Top' and show this connection to the target group of the government. Therefore, my first visit was to Sichuan Cultural Relics Administration, the top official agency of heritage conservation in Sichuan Province. In that visit I had a conversation with the vice director of that agency Mr. Zhu Xiaonan (朱小南). The reason why he was willing to meet me was that his agency used to commission several heritage conservation projects to the institute I used to work for. During the conversation I introduced my research project to him. He said he liked my project. Then I asked for his help. He asked his colleague to write an 'Introduction Letter'[47] for me in which it indicated that I was doing the research of reconstruction and that related agencies could give the necessary assistance during my fieldwork. That letter successfully helped me to switch my role from an ordinary person to a person sent by the 'top'. Accompanied by this letter, I could collect data smoothly from the group of people of the government who regarded my data collection as one mission required by their superior.

[46] Culture & Sport Office of Li County is the local administration, which is response for the heritage management of Li County. During the reconstruction this office was bottom of regime to implement the policy. In the mean time this office supervised all the projects of heritage reconstruction.
[47] Introduction Letter is a paper with particular form and official stamp for clarifying the identification and missions of letter holder to the other official agencies in China.



四川省文物局介绍信

（2011）　介字042号

理县、茂县文体局

兹介绍　王宇　同志等　1　人前往你　局　联系工作，请予接洽。

联系事项：

羌族民俗聚落灾后修复调研。

2011年7月22日

（有效期限自　月　日至　月　日）

Figure 4. 4 Introduction Letter

However I met a challenge when I did participant observation to the last group people - Taoping community. The challenge is when I begin to visit this village lots of the community members thought I was the 'inspector' of reconstruction. Taoping community's first impression of me distanced myself from the community. This recognition is derived from the process of participant observation towards group of people of government in which I play the role who had connection with the 'top'. The

relationship between government and local community has become tense since reconstruction. That is due to top-down oriented government aimed at efficiently finishing the reconstruction that hardly invited the local community to participate the policy-making and implementation[48]. In that tense relationship, the title of 'inspector' could not help me to get close to the Taoping local dwellers. I thus had to decompose their first impression of me and gain their trust. The measure I took is redefining myself to the community members. I started to introduce myself as a scholar and a former teacher of a university in China. I followed the tone of people and chatted with locals with the topics they are interesting with. I soon after earned a new title they called me teacher Wang; and finally they called me Wang, which they call each other in that way. The evolution of title of me is the process of role switch. It took time to access into the community daily life.

4.6 Gathering Data Through Interview

Interview is the major source of data during the case study especially when the research topic is relate to human affairs according to Yin (Yin, 1994; 84). Likewise I spent the most of time on interview during my fieldwork. That becomes a key tool for collecting information. However interview standing as the only source of empirical data constrains the validity of research data due to the subjective views from respondents. Thus that requires testing interview data with the information from multiple sources. As the matter of fact this multiple source approach is also available to the interview itself especially when the interview is towards different target groups. In the case of Taoping three groups[49] of people have been involved in the process of reconstruction. Those three groups of people – experts, government staffs and community members – are the witnesses of that event. Consequently, I conducted the interview towards these three groups with same topics. Interviews are accompanying with participant observation. The forms and skills of interview are different to the different group. During the interviews to groups, there are some joint topics in order to picture the holistic image of the reconstruction. Thus some questions have been

[48] More detail seeing the article: Wang, W. & Skotte, H. (2014), Reconstruction after Reconstruction. In Awotona Adenrele (ed.) *Rebuilding Sustainable communities after disasters in China, Japan and Beyond*. Cambridge Scholars Publishing, UK

[49] Here I mean at least three groups of people are the target people in this research

some questions have been mentioned to all the respondents such as what happened during the reconstruction; what is your duty or response during the reconstruction; what is your opinion upon this reconstruction etc. However due to the characteristic of groups is different that require me to seek out the relatedly appropriated manner of interview. Meanwhile when asking some open-end questions such as the commentary on the reconstruction, it is a challenge of how to activate the respondent to fully express his/her idea.

I label experts and government staffs as the same category in interview. Those tow groups of people I adopt the similar form and approach of interview. This consideration is based on the few facts. Firstly they are both mandated to participate Taoping reconstruction with specific duties. They are the outsiders to Taoping people. Secondly the data I plan to collect data from those tow groups of people through interviews is alike. What happened during the reconstruction and their understanding of reconstruction is the major topic in my interviews to those tow groups. Last fact is that my roles are similar in those tow groups of people during the participant observation. A conservationist and the one having the connection with the 'Top' are putting me in the 'circle' of groups. Therefore the most of interviews to those two groups of people are the focused interviews with a major purpose and several structured questions.

My interviews towards Taoping community members are not only for knowing what happened during reconstruction and their comments on reconstruction but also uncovering the impacts of reconstruction on Taoping. Undertaking that purpose I need to adopt the matched manners and skills during the interview. Furthermore, in the participant observation towards locals, my role had a transformation from an 'inspector' of reconstruction to a locals' acquaintance. That forces me to consider the order of the investigation. As 'inspector' the main content of interviews is about the reconstruction. In that period the interview form and manner is alike the former tow groups. However when people regarded me as their friend the long conversation without specific topic is available in which it is possible to have a discussion about the their feelings to the reconstructed living environment. Therefore this open-end and conversation-style interview is suitable for exploring the interaction between community and rebuilt living environment.

Part IV

Part IV Case Study

Chapter 5
Bridging My Triple-phased Research

5. Bridging My Triple-Phased Research

This research holds a prospect of contributing knowledge of rebuilding a sustainable and resilient heritage settlement after natural disasters. Underpinning that aim, the main body of my PhD research is a case study of Taoping reconstruction, which is a heritage settlement and had experienced a post-disaster reconstruction. The case study adopted a triple-phase research approach, which follows a timeline from the past to the future. The analysis of this case study is set in the context of modernity and citizenship. This context gives a better understanding of reaction of heritage settlement towards reconstruction.

5.1. Why three phases?

My case research is planned to describe three stages in which each research phase is built on the learning of previous stages. In this research I regard reconstruction as a key event leading to create a sustainable and resilient heritage settlement. Around this event I plan to describe it in 3 phases:
1 investigating reconstruction, which occurred in the past
2 uncovering the impacts of reconstruction,
3 assessing the quality of reconstruction.
However to answer this research question is necessary to get to know the performance of reconstruction. Testing performance of reconstruction is a prediction to the future. But there is a gap between future and past that is present. Knowing the present thus is a precondition to predict the future. Therefore the occurrence of present becomes the middle stage of my research. In another word it is an inquiry of the relationship with different aspects of the past. These three stages are in the frame of time a continued term from past to future.

In my case the reconstruction of Taoping was carried out in the period 2008-2011. The first stage of case research inquired the consequences of the reconstruction. That is an investigation of past with thinking of what kind of outputs of the reconstruction produced. Meanwhile I want to know what changes directly were caused by the reconstruction. After acknowledging the outputs and changes, the second stage study targets present Taoping. The second stage is a study of ongoing impacts of

reconstruction on Taoping society. It focuses on the reconstruction influences Taoping community and what reactions Taoping community has taken to re-rebuild its physical environment. When the impacts are clarified, it is possible to predict the future. Last stage is to test Taoping whether Taoping is a sustainable and resilient heritage settlement. That cannot work until knowing the consequence and impacts of reconstruction.

5.2. Why is heritage settlement?

The design of three-stage case research is also sourced from the characteristics of built vernacular heritage. And after the research a better understanding of heritage settlement is anticipated.

This research is built on the knowing the fact that a community cannot isolate from heritage conservation of settlements[50]. That brings a state of coexistence of habitation and conservation in historical buildings of Taoping. Consequently while reconstruction happened, it emerged a phenomenon that reconstruction towards historical buildings was not only professional heritage reparation, but also was to rebuild homes for Taoping dwellers. With that understanding, the first stage case study locates its investigation upon that phenomenon in which locals had different meaning about reconstruction towards historical buildings. Local community may prior to rebuild homes rather than saving heritage values. That illustrates a complex role of community in post-reconstruction of heritage settlement.

A relationship between historical buildings and community is very important to the business of heritage conservation in settlement. Likewise, in the pre-modern era a stable relationship was the key element to create the heritage and provided a positive impact on conservation. However in the process of modernity, this traditional relationship may change due to the livelihood altering. Underpinning that thinking, in post-reconstruction terms, due to massive changes happen a new relationship between community and historical buildings might establish. Therefore, the second stage of case research needs to uncover this new relationship by seeking out the

[50] ICOMOS's statement indicates this is a core principle of protecting the built vernacular heritage in its 'Chapter on Built Vernacular Heritage'. The more detail seeing: http://www.international.icomos.org/charters/vernacular_e.pdf

reconstruction's impacts on community. In this stage, it is anticipated to observe the variation of this relationship. Then it can evaluate the changed relationship impact on conservation and community itself.

Undertaking an uncovered new relationship, Taoping is no longer following the former track of development. An unknown future of Taoping challenges the aim of rebuilding a sustainable and resilient heritage settlement. Within this new relationship and a new mode of livelihood testing the performance of heritage settlement under the extreme situation becomes a core concern in the third stage of case research. The results of the test can be a verdict of the outside-aided reconstruction, which might also have been seen as a rush modernization.

5.3. Why Taoping?

In order to better understand the main body of this thesis, the next three chapters, it is necessary to introduce Taoping, a Qiang Minority traditional settlement, which experienced 2008 Sichuan Earthquake and post-quake reconstruction from 2008-2011.

Taoping locates in Li County, a region of the western part of Sichuan Province next to the Tibet Plateau with mountainous and valley landscape. Zagunao River cuts across the whole county to reach the Minjiang River, one of the main rivers in Sichuan Province. The village of Taoping covering about four hectares, lies on the South side of Dabao Mountain at the bottom of the ridge. Zagunao River runs along the South edge of Taoping. To the west runs a deep gully with a river that provides water to the village. The area on the East side of Taoping village is alluvial plain created by Zagunao River. This area used to be the village's agricultural land before the earthquake. After the reconstruction, this area has been developed as the new residential area of Taoping and the site for Taoping's tourists center.

Figure 5. 1 Taoping in Map of China

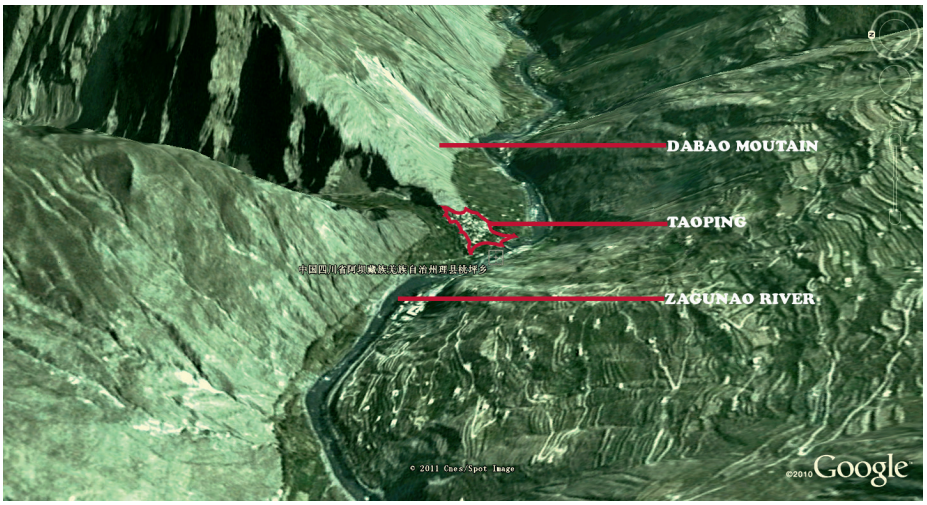


Figure 5. 2 Satellite Photo of Taoping by Google Maps

The inhabitants of Taoping belong to the Qiang ethnic group, a national minority with its own language, customs, religions and lifestyle. The population of Qiang is around

300,000[51] and most of them are settled in mountainous fortress villages, like Taoping, in West Sichuan. This is a transition area between the Han Chinese and Tibet because of this their ethnic character has been influenced by both Han Chinese and Tibetans. Hence the Qiang people are close to Tibet they have acquired words from the Tibetan language and their customs are similar to those practiced in Tibet. Some even share their religious beliefs. In similar ways the Han Chinese have influenced the Qiang people living in areas bordering the Han regions (Wang 2008)

The Qiangs of Taoping have inhabited this fortress village for several centuries. Today 95 families, more than 500 people, are living in the village. The social structure is based of blood relations and clans. All families belong to one of the five clans, Big Yang, Small Yang, Yu, Chen, and Wang. Among these, Big Yang and Small Yang are the biggest families in Taoping. Big Yang alone holds 23 families. The family clans are organized by seniority making the elders of the clan dominate the family affairs. This system was previously also the social safety net of Taoping shoring up the most vulnerable families. However, the clan system has gradually lost its power as most households in Taoping have now overcome dire poverty.

Taoping's historical buildings have been identified as a "National Treasure" since 2002, which is the highest level in heritage conservation of China. The conservation architect T.C. Chen who as chief architect carried out the reparation work of Taoping heritage after the Quake, concludes the values of Taoping heritage in this way: "The triple-network defense system and its location among the mountain and the waters are the typical results of the very defensive spatial system accumulated from wars engaged in by the Qiang Minority. Ethnic-specific mountain building technology and architecture forms have witnessed the long history if he Qiang Minority, especially the rise and fall of the Chieftain System. With distinct regional characteristic, the landscape formed by the village and mountain waters has an obvious aesthetic value." (T.B. Chen 2012, p. 78) In another report the value of heritage is thus: "Taoping is seen as an outstanding example of a village with a fortress-style defense system and showing remarkable skill of site selection among mountains and river; a manifesto of the unique traditional Qiang architecture as well as building technology, and the high

[51] This figure refers to the census of 2000. The 2008 Sichuan Earthquake, however, is claimed to have killed about one tenth of the Qiang people.

aesthetic value of landscape of Taoping. In short: a unique localized combination of village, mountain and river". (CAHRI 2008 p1)

Figure 5. 3 Taoping before 2008 Earthquake by Wenjian Yang

On the afternoon of May 12, 2008, a 7.9 magnitude earthquake hit Sichuan Province, a mountainous region in Western China, killing about 70,000 people and leaving over 18,000 missing. The worst-hit zone, an area nearly the size of Greece or Iceland, was confronted with severe damage which completely destroyed 5.46 million residences and severely damaged another 5.93 million, leaving 11 million people homeless, 5 million of them in immediate need of relocation. Sichuan Earthquake damaged all 115 buildings in the Taoping protection zone. After the quake the State Administration for Cultural Heritage commissioned the Chinese Architecture History Research Institute (CAHRI) to make plans for rescuing the damaged historical buildings. In June 2008 CAHRI took on the Taoping historical building reconstruction. After three years, in 2011, the Taoping reconstruction project was completed. The work was strictly managed and implemented by professional conservationists, a process constantly disrupted by community members who did not appreciate this professional way of reconstruction (Wang & Skotte 2014).

The principal means of livelihood of Taoping has until the 2008 earthquake been agriculture. However, the post-quake reconstruction of Taoping fundamentally changed its livelihood. Their agricultural land was converted into their new residential area, making their fortress village a tourist attraction. Without farmland, the Taoping community had no choice but to enter the tourist business. Pursuing profits the tourism business developed quickly but without considerations of possible safety issues. Specifically, many families of Taoping have converted their traditional vernacular house into family inns with enlarged windows.

Figure 5. 4 Taoping after Reconstruction 2011

5.3. How do the three articles bridge together?

The next three chapters are in the form of individual papers. This chapter aims to glue them together. All empirical evidences of these three papers derive from the same investigation of post-quake reconstruction of Taoping. The design of those papers is following the idea of triple-phase research strategy, which is framed by a continued timeline. A post-quake reconstruction, the past event, is the start. The rest of two phases are inquiring the present and future. The present and future inquires are

tunneling that past event through different perspectives. Each inquiry absorbs the research results of the previous phase.

These three articles are armed by an understanding of heritage settlement. Meanwhile they all carry a mission to further explore this very type of heritage in the context of modernity and citizenship. This understanding informs that a community is an essential factor in conservation of built vernacular heritage. The community's habitation keeps the heritage settlement alive nevertheless community's daily activities occur in the buildings, which used to/is to/going to leave traces on the historical dwellings. Nowadays, dwellers' trace marking upon the buildings make an impact on the heritage values significantly. On the other hand heritage conservation also alters the natural process of the community's evolution, which becomes another transformation from tradition to modernization.

Heritage identification also brought a new meaning of dwellings, which community lives in. This new perspective viewpoint could also modify the behavior of community members. This interaction between community habitation and heritage conservation is another key factor of heritage settlement. Habitation-caused trace marking and conservation activities are accelerated during the post-disaster reconstruction. Reconstruction of home and reparation of heritage properties is overlapped on the same objects in the heritage settlement. That produces more interaction between the community and the heritage conservation. Along with community study those three papers also pay attention to this interaction between conservation and habitation.

5.4. What do I present in these three papers?

Paper one is an investigation of post-quake reconstruction of Taoping in which I found there had been two uncoordinated reconstructions, official heritage reparation and locals self-restoration. The role of community in that event is the one important investigating spot. The reaction of community towards reconstruction is another important one. It is aimed to find out why those two reconstructions were uncoordinated and what is the consequence of the two reconstructions.

Paper two is a study of nowadays community which is altered by a reconstruction. The biggest change to the members of the community is the change of livelihood from agricultural activities to tourists business. This change is due to the farmland was taken by the new residential buildings. Starting a new living altered the interaction between the community and heritage buildings. This paper aims to uncover what the new interaction is and if this interaction goes on, what effects could be the result. New interaction triggers a changed relationship between the living environment and the inhabitants. During the change, living environment needs to be changed again for the new livelihood. Furthermore daily marking of locals is different from the marking during former agricultural livelihood. Through a study towards present Taoping, I am going to seek out the new relationship between community and living environment and uncover its impacts on the heritage conservation and community itself.

Paper three attempts to know whether post-quake reconstruction delivers a 'robust' heritage settlement of Taoping, which can resist the natural hazards in the future. In order to know the answer, paper 3 aims to uncover the vulnerability of the heritage Taoping. The reconstruction-caused alterations form a process in which vulnerability of Taoping has changed. The study of variation of vulnerability cannot be pursued until acknowledging the past and present of Taoping. Despite reconstruction was focused on the historical dwellings; vulnerability of the rebuilt heritage of Taoping does not only exist in the buildings, but deeply bounds with community. Therefore the study in paper1 and paper 2 become the essential references. Meanwhile the study of community and interaction continue to stay in the center of research in paper 3.

In Taoping, the official post-quake reconstruction is planed however the consequences of this reconstruction are unpredicted. This study aims to illustrate that reconstruction could be a short-term action but recovery is a long-gone process. Therefore 'time' becomes a theme word. Instead of the term of reconstruction, post-reconstruction is an important period to heritage settlement in which the community is going to process reconstruction and take necessary reaction to the reconstructed world. Through this process the elaborated planned reconstruction may change fundamentally that would increase the challenges to rebuild a sustainable and resilient heritage settlement after a disaster.

Chapter 6
Reconstruction After Reconstruction[52]

[52] This chapter has been published as a book chapter in *Rebuilding Sustainable Communities after Disasters in China, and Japan and Beyond*. Awotona, A. ed. Newcastle: Cambridge Scholars Publishing. See Appendix II.

6. Reconstruction after Reconstruction:

A Study of the Post-Earthquake Reconstruction of Taoping Village, a Traditional Qiang Settlement in Sichuan, China

6.1 Introduction

Involving communities in the conservation of cultural heritage has recently attracted greater attention in the heritage conservation arena. The importance of community to heritage protection is reflected in the recent key documents approved by the World Heritage Convention (WHC) of UNESCO. In the 2002 Budapest Declaration, WHC stated four strategic objectives: Credibility, Conservation, Capacity-building, and Communication, in order to enhance implementation of the declaration.[53] Five years later, in 2007, this "four-C" strategy became a "five-C" strategic objective, as it was joined by Community. In line with New Zealand's proposal, WHC now holds that "heritage protection without community involvement and commitment is an invitation to failure."[54]

The issue of community involvement has been widely discussed in the community of heritage conservation since it became the fifth C, as shown by the chosen theme for the fortieth anniversary of the WHC in 2012: "World Heritage and Sustainable Development: The Role of Local Community." Through these discussions, a series of relevant questions about this issue have arisen, such as how to raise local awareness of the unique values of cultural heritage, how to secure local benefits from heritage, and how to enhance development of the local community based on its heritage values.

This chapter is an attempt to join this ongoing discussion through a case study of the post-Sichuan earthquake[55] reconstruction in Taoping,[56] a traditional Qiang

---

53 UNESCO, *Convention Concerning the Protection of the World Cultural and Natural Heritage, Item 9: The Budapest Declaration on World Heritage*, WHC-02/CONF.202/5 (Paris, France: Author, 2002),

54 Ibid., *Convention Concerning the Protection of the World Cultural and Natural Heritage, Item 13: Evaluation of the Results of the Implementation of the Committee's Strategic Objectives*, WHC-07/31.COM/13B (Paris, France: Author, 2007),

55 On the afternoon of May 12, 2008, a 7.9 magnitude earthquake hit Sichuan Province, a mountainous region in Western China, killing about 70,000 people and leaving over 18,000 missing. The worst-hit zone, an area nearly the size of Greece or Iceland, was confronted with severe damage which completely destroyed 5.46 million residences and severely damaged another 5.93 million, leaving 11 million people homeless, 5 million of them in immediate need of relocation.

settlement, by reviewing and analyzing the phenomenon of two uncoordinated reconstructions, the official reconstruction and the local self-restoration, which happened in the process of reconstructing Taoping. My research addresses this observed reconstruction phenomenon: after the "official" expert-driven reconstruction was completed, a second reconstruction took place. Community members made substantial changes to their heritage properties. How can this be explained and what is there to learn from this when reconstructing what I call Lived-in Cultural Heritage[57] settlements?

In this research I divide the reconstruction program into four periods: 1) the very beginning; 2) policy formulation; 3) experts' practice; and 4) the second reconstruction. The purpose of this "periodization" is to identify the events which occurred during each period and, through that, uncover those events' impact on the relationship between government reconstruction policies, the conservation experts, and the local community. This is necessary in order to explain the final outcome.

6.2. The Very Beginning

This refers to a very brief period, approximately half a month long, beginning about two weeks after the quake and ending when the Sichuan Earthquake Reconstruction Regulations were published. In this period there was a major shift in focus from emergency rescue of survivors to forging a policy for building refugee resettlement and for post-disaster reconstruction. During this period, quake victims started to return to their damaged dwellings and some even started to rebuild.

China's State Council reconstruction efforts were officially underway on May 25, 2008, thirteen days after the quake, when Prime Minister Wen announced to the public that quake relief was shifting to reconstruction.[58] The Policy Bureau of China's Communist Party, the top leadership of China, confirmed Wen's announcement in a meeting the day after. At the same time a number of ministries, directly under the

---

[56] Taoping, representing the Qiang minority traditional settlement, is right in between the foot of Dabao Mountain and the Zagunao River, a branch of the Min Jiang River. The people of Taoping have lived in this place for several centuries. Remarkably skilled local craftsmen built the houses of Taoping centuries ago using local materials such as stones, yellow mud, and timber.

[57] *Lived-in cultural heritage* is a term coined by myself (with Dr. Skotte) referring to a cultural heritage site or settlement where people live and whose cultural properties are used to sustain their livelihoods.

[58] Xinhua News Agency, "Premier says Quake Relief Shifting to Reconstruction," *China Daily*, May 25, 2008

State Council, launched their own reconstruction measures, e.g., the Ministry of Housing and Urban-Rural Development pledged to build 1.5 million temporary housing units for more than 11 million homeless people in the quake-hit areas.[59]

The State Council launched Regulations on Post Sichuan Earthquake Restoration and Reconstruction on June 8, 2008. This is the legal document that defined Taoping as a Qiang heritage village and thus defined the reconstruction strategy to be employed, all according to Chapter V, Article 39, stating that

> Relevant authorities shall take effective measures to protect earthquake ruins….
> Protected sites of cultural relics shall be preserved in-situ….structures of historic value and ethnic characteristics and historic architecture that may be preserved….[60]

The reason for Taoping's reconstruction following this article is that since 2007 Taoping has been included in the list of Major Historical and Cultural Sites Protected at the National Level, which is the highest level of heritage protection in China, recognized by the State Administration of Cultural Heritage (SACH). Furthermore, the importance SACH placed on the reconstruction of Taoping was made evident by the official Chinese press agency, *Xinhua News*, when the village was mentioned alongside the reconstruction of the Erwang Temple, a site on UNESCO's World Cultural Heritage list. The reason for Taoping's high profile was SACH's plan to make the reconstruction of this village a model for the reconstruction for other Qiang settlements, in spite of the fact that the quake left most of the conservation zone of Taoping intact. That was not the case for the region as a whole.

There were no records of destroyed buildings within the Taoping historic conservation zone, whereas a good number of newer buildings adjacent to the old town were severely damaged by the quake, leaving some fifty inhabitants homeless.

---

59 Ibid., "China to Build 1.5 Million Make-Shift Houses", *China Daily,* May 25, 2008.

60 State Council of the People's Republic of China, "Regulations on Post-Wenchuan Earthquake Restoration and Reconstruction," Order of the State Council of the People's Republic of China no. 526, June 8, 2008.

Within the village proper, however, the quake did cause substantial damage to the old building stock.

Quake survivors living beside the ruins of their dwellings were confronted by crucial questions of survival after the disaster, particularly those living in rural areas. This required the quake refugees to rebuild their livelihoods spontaneously. For example, a report in *The Guardian*, a UK newspaper, reported on Mr. Zhang who, after burying his wife, rushed back to his fields because he was really concerned about planting his seeds in time for September's harvest. In the end he said he is alive and could use his hands to rebuild his house.[61] Similarly, a group of Taoping famers who lived in the worst quake-hit area had similar priorities pertaining to the reconstruction of livelihoods and housing.

Inhabitants perceive Taoping in a different way from government agents and conservation experts. To the people who live there, Taoping is a settlement of nearly 100 families, in which they live and are going to live in the future. Officials and experts regard Taoping as a place of cultural value containing traditional historical residential buildings representing the Qiang nation's history and cultural symbols. Consequently, the government's reconstruction plan for Taoping was to preserve its heritage value and repair quake-damaged heritage properties, a standard approach to cultural heritage reconstruction. Meanwhile inhabitants also expected to rebuild the same buildings, but the reason for rebuilding is primarily for living, i.e., rebuilding their homes. Therefore, a conceptual difference existed from the very beginning between the conservation authorities and the inhabitants of Taoping as to the purpose of the reconstruction.

6.3. Formulating the Reconstruction Policy

The reconstruction regulations as formulated by the State Council stated in general terms how to treat quake-damaged cultural heritage properties in its Article 39. It was left to SACH to develop these policies into a plan for reconstruction activities. For this mission SACH mobilized itself quickly and positively by undertaking extensive efforts to assess heritage damage, composing reconstruction plans, channeling financial support, etc.

---

61 Tania Branigan, "Survivors Look to Rebuild Their Homes and Lives," *The Guardian*, May 21, 2008.

On May 14, 2008, two days after the quake, SACH launched an emergency notification about the requirements of heritage protection and disseminated it to the lowest levels of the hierarchy, the local Culture and Sports Offices. Two days after this notification, the first sixteen sets of reports on heritage sites damage were fed back to SACH. These primary reports basically gave photographic documentation of the damage. Because of the general urgency of the reconstruction these constituted the principal background material for the subsequent reconstruction plans.

SACH assembled the reports of quake-damage assessments rapidly and in June 2008 released the document "Sichuan Earthquake Damage Assessment on Cultural Relics of Sichuan Province," which classified all the quake-hit zone's heritage properties into four levels of damage. This assessment was a necessary reference for the reconstruction plans for cultural heritage properties.

Figure 6. 1 State Planning of Post-quake Reconstruction of Cultural Heritage

On July 20, 2008, five weeks after the quake, SACH released a fairly detailed document, "Post-Quake Reconstruction Planning on Cultural Heritage." The SACH document is a comprehensive scheme for reconstructing cultural heritage sites in the quake-hit zone. It determines the number of heritage properties in need of repair; how to rebuild those heritage sites; how long the whole program should take; and the reconstruction budget for each property. According to the SACH document, Taoping was assessed as category B, "Building Structure Seriously Damaged", which called for immediate structural repair. SACH also indicated that around 12.4 million CNY

(US$1.9 million) would be invested in Taoping heritage reconstruction over a period of three years.[62]

SACH also gave instructions on the management approach to the implementation of the reconstruction projects. This approach applied a three-level hierarchical structure with designated roles and responsibilities. SACH was the senior inspectorate and the principal planning, coordinating, and overseeing body. The second tier was the provincial heritage administration, which was required to set up a heritage reconstruction office that was to take full responsibility for the implementation of all reconstruction projects within the province. The Cultural and Sport Office at the regional level was the "ground agency" directly conducting the physical projects within its own county, instructed by the provincial level of administration and SACH.

The cultural heritage reconstruction was organized to ensure efficient and fast reconstruction according to China's State Council instructions, as were all reconstruction sectors. This meant organizing management hierarchies where authority and responsibilities were clearly defined from top to bottom, which, by the way, is the way the Chinese society is organized, i.e., in a traditional "top-down" manner. Donovan describes this as when

> a political elite makes public policies that are implemented through a stable, strict and sequential chain of command by bureaucrats and service providers.[63]

In terms of a speedy reconstruction they succeeded. In their report on the reconstruction, the FAFO Institute for Applied International Studies was openly impressed.[64]

---

62 中国国家文物局，中国建筑研究院建筑历史研究所 [State Administration of Cultural Heritage (SACH), China, and the Chinese Architectural History Institute (CAHRI)],《国家汶川地震灾后重建划文物救保修复划大纲》["2008 Post-Sichuan Earthquake Reconstruction Planning on Cultural Heritage"], unpublished paper on architectural design, 2008.

63 Claire Donovan, "Top-Down Approach," *Encyclopedia of Governance*, vol. 2, ed. Mark Bevir (Thousand Oaks, CA: Sage, 2007), 14.

64 Kristin Dalen, Hedda Flatø, Liu Jing and Zhang Huafeng, *Recovering from the Wenchuan Earthquake—Living Conditions and Development in Disaster Areas 2008–2011* (Oslo, Norway: Fafo, 2012).

However, this time-efficient, top-down approach had certain crucial weaknesses. It contributed to serious grievances on the part of the local community. The approach adopted did not accept any participation or contribution from the victims. They remained—in the name of efficiency—bystanders to their own homes and means of livelihoods being reconstructed according to plans on which they had no influence. This exclusion stands out as the main reason for the "second reconstruction".

Figure 6. 2 Top-down Frame

6.4. Experts' Practice

Experts were answerable for the reconstruction implementation, relying on their technical and professional knowledge and skills informed by administrative frameworks and reconstruction policies. In the case of Taoping, most experts came from the Chinese Architectural History Research Institute (CAHRI), a highly regarded institute in the field of cultural heritage conservation in China. They carried out the design planning, while the Dalong Construction Group (DCG), an experienced builder of Chinese traditional architecture, took on the actual (re)construction work.

CAHRI, after the initial four-day field assessment in June, published the "Planning of Post-Quake Cultural Heritage Conservation of Taoping" at the beginning of July 2008. Two months later they presented their "Design for Rescuing, Repairing and Protecting the Historical Buildings of Taoping." These two documents presented CAHRI's methods and plans for Taoping's cultural heritage reconstruction. Their methodological approach relied on the theories of cultural heritage conservation

as presented in the "2004 Principles for Conservation of Heritage Sites in China," issued by China ICOMOS. CAHRI's plan aimed at preserving what they held to be Taoping major heritage values, its outstanding defense system,[65] the quality of the village location, the distinctive construction technologies applied, the typical Qiang building style and the magnificent landscape.

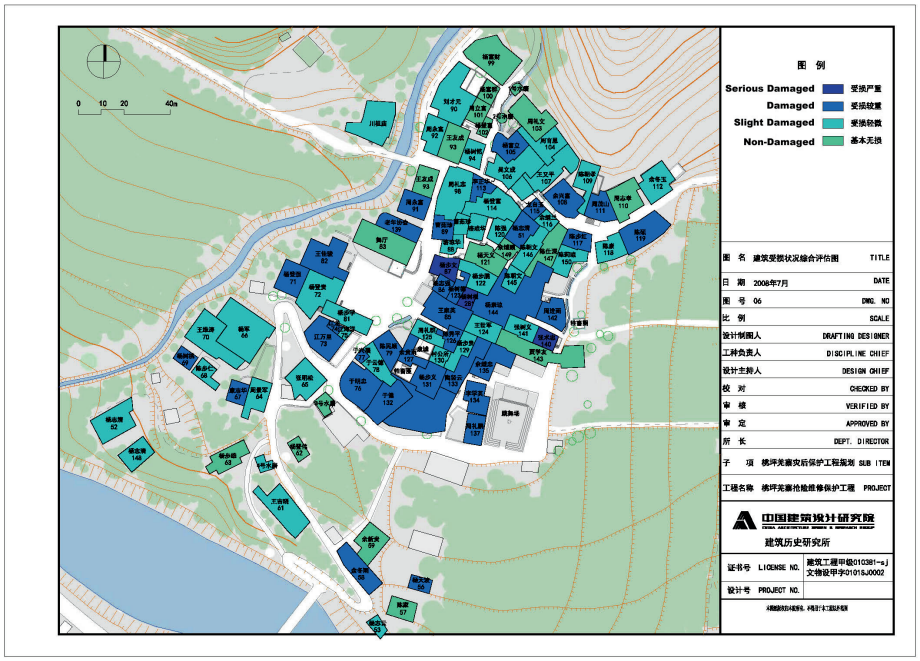


Figure 6. 3 Damage Assessment of Taoping by CAHRI

CAHRI's documents on planning and design assessed every historical building in Taoping on the basis of its heritage value and level of damage. This was done according to professional standards as applied in international heritage conservation.

Based on the outcomes of these assessments, all 115 buildings of the core district of Taoping were classified into four categories, and each level had a set of related treatments with specified measures for repairing and rebuilding. Meanwhile, CAHRI experts also formulated the underlying principles to be applied in the overall repair and rebuilding process. Here they particularly highlighted the principle of adopting traditional construction technology, employing local craftsmen to repair and rebuild

[65] In order to prevent the robbers' invasion, hundreds of years ago the Taoping people designed a defense system by building watchtowers to spy on would-be attackers, constructing a water supply system both for daily life and agriculture, and creating a complex road system in the village to confuse robbers when they went into the village.

the damaged buildings, and using local materials such as yellow mud, stone, and timber as much as possible. Besides traditional skills, advanced modern technologies in construction were also allowed, but were to be used cautiously, according to its guidelines on planning and design.[66]

The experts' practice in the reconstruction of Taoping could thus be defined as a process of applying general expert skills and knowledge irrespective of context. It is an example of applying single-solution thinking where

> problem-seeking and problem-solving is linear and predictable: diagnose the problem, search out for opportunities, assess your risk, assemble the team, sort out the budget, draw up the plans, design a response and deliver

[66] CAHRI, "2008 Post Sichuan Earthquake Reconstruction Planning…", "2008 Post Sichuan Earthquake Reconstruction Design…".

whatever.[67]

【001】 桃坪村 051 号受损评估及修缮/整治方案

基本信息				平面位置图
门牌号	51	户主姓名	杨志清	
结构形式	石木	建筑层数	3	
建造年代	1950 年前	建筑面积（㎡）	793	
碉楼	无	罩楼	有	

主要受损情况	评估等级
北墙整体歪闪，局部坍塌，多处结构裂缝、构造裂隙，且上下贯通。 罩楼墙体局部垮塌、构造裂隙。	B

主要修缮/整治方案
北墙墙体局部拆砌。对结构裂缝采取内部加木筋锚固、灌浆的修缮措施。罩楼垮塌重砌，裂缝灌浆修缮。

受损情况勘察							修缮/整治方案
序号	勘察单元	残损部位	基本构造	勘查特征	程度描述	受损照片	
				Damage Description	**Damage Assessment**		**Reparation Plan**
01	一层	北墙	石墙	墙体纵向构造裂隙、裂缝。	裂缝长度 6m，最宽 4cm，裂缝局部疏松约 4 ㎡。		裂缝灌浆加固。 沿裂缝局部挖补墙体 4 ㎡。
02	二层	东墙	石墙	墙体局部垮塌，纵向构造裂缝，裂缝上下贯通。	裂缝长度 14m，最宽 10cm，2－3 层较严重。墙体局部垮塌 1 ㎡。		裂缝灌浆加固。 沿裂缝局部挖补墙体 2 ㎡。

001-1

Figure 6. 4 The Measures of Historical Buildings Reparation N0.51 by CAHRI (Part 1)

[67] Nabeel Hamdi, *The Placemaker's Guide to Building Community* (London, UK: Routledge, 2010), 142.

【001】 桃坪村 051 号受损评估及修缮/整治方案

受损情况勘察							修缮/整治方案
序号	勘察单元	残损部位	基本构造	勘查特征	程度描述	受损照片	
				Damage Description	**Damage Assessment**		**Reparation Plan**
03		南墙（两家外墙间隔墙）	石墙	墙体局部垮塌	墙体垮塌面积 4 ㎡。		拆砌垮塌隔墙 5 ㎡。
04	單楼	北墙	石墙	梁架错位	木梁架错位 8cm。		结合垮塌墙体拆砌，木梁复位。
05		西墙	石墙	墙体局部垮塌	墙垮塌面积 2.5 ㎡。		拆砌垮塌墙体 2.5 ㎡。
06		东墙	石墙	墙体局部垮塌，多处裂缝。	墙体垮塌 1 ㎡，裂缝总长 4m。		拆砌垮塌墙体 1 ㎡。裂缝灌浆加固。
07	外墙	北墙	石墙	墙体局部垮塌，结构裂缝贯通。	墙体垮塌面积约 12 ㎡，结构裂缝总长 15 m。		拆砌垮塌墙体 15 ㎡，裂缝处室内侧每隔 1～1.5 米，加埋 ϕ10～15 木筋锚固，共约 4 根。

001-2

Figure 6. 5 The Measures of Historical Building Reparation No.51 by CAHRI (Part 2)

【001】 桃坪村 051 号受损评估及修缮/整治方案

备 案			
相关各方	签 字	日 期	代表单位
户 主	[illegible]	2009年10月12日	产权人
调查/设计人			中国建筑设计研究院建筑历史研究所
设计负责人			
甲 方	[illegible]	2009年10月13日	理县文化体育局

Figure 6. 6 Agreement Between CAHRI and the Householder of No.51 by CAHRI

However, in CAHRI's expert approach, several provisions of their plan were incompatible with the realities of the Taoping reconstruction challenges. Some of the

generalized approaches were deemed inappropriate in the context of Taoping. The village inhabitants expressed difficulty in understanding the results of the assessments and CAHRI's professional analysis:

> I don't think the repair work is finished in only twenty-five days when only the east and the west walls are fixed as long as the two other walls are still unsecured. Besides, the workers [have spent] more time repairing someone else's house which does not have [as] high [a] ranking as mine.

This was stated by Mr. Yang, a local resident aged thirty, whose dwelling was assessed as one of the eleven most valuable buildings in Taoping. He and his family refused to move back into their house.

Figure 6. 7 Mr. Yang Complained the Reparation

Likewise, experts' fundamental strategy, applying traditional technology, employing local craftsmen, and using ordinary local materials, did not sit well with the reconstruction realities. Repairing the housing stock for the ninety-five families of the village required nearly 900 workers, twice the number of people living in Taoping. Only about eighty of the 900 were craftsmen, and only a few of those were

experienced in building traditional Qiang stone housing. Before the quake most of the local stonemasons and carpenters had lost their knowledge and skills because no one had built a traditional-style building for the previous twenty years. Consequently, a few local inhabitants rejected the proposal of the experts to repair their dwellings because they simply did not trust the construction skills of the local craftsmen.

Similarly, the prescribed approach of using local materials proved inappropriate in that such a vast amount of local construction material could not be provided in a mere three-year period. For instance, yellow mud, the traditional adhesive material for stone walls, should be dug only in autumn, when it contains the appropriate level of moisture to serve as an adhesive, according to the older experienced local craftsmen. That in turn meant it might take far more than three years to finish Taoping reconstruction projects, if this traditional method of only constructing housing in autumn was followed.

Also, some of the modern construction technologies applied to the reconstruction could not be adapted to traditional construction systems. A number of buildings in Taoping developed leaks in their roofs during the rainy season after reconstruction. Here the roofs were built with a modern waterproof layer widely used in modern concrete roof structures, which works very well against water and snow when connected to a flat and smooth surface such as a concrete slab, but in the Taoping buildings it was used inappropriately on flat roofs; it was layered and glued sloppily to rough surfaces made of wood or mud, which resulted in leaks that were difficult to detect and repair.

Figure 6. 8 Water Leakage on the Roof

The result of Taoping's official reconstruction was that the inhabitants were not satisfied; instead its various deficiencies caused anger. Meanwhile, in the course of their practice, the experts focused their attention only on cultural heritage repair rather than seeing that this was the reconstruction of people's homes and part of the livelihood of the Taoping population. They seem to have missed the perspective of Taoping as a lived-in cultural heritage. Furthermore, the experts, being limited in their practice perspective, were unable to listen to the demands of the inhabitants, thereby losing the opportunity to establish a platform for communication between the reconstruction authority and the local community, a critical chance to fill the gap between them. They lost the chance to acquire essential knowledge and skills for reconstruction from local people as well. On the contrary, due to the experts not meeting the expectations of the local community through the applied reconstruction approach, local inhabitants were angered by their practice, which in turn fueled the locals' misunderstanding of the official reconstruction objectives.

6.5. The Second Reconstruction

After the official reconstruction, a large number of Taoping's inhabitants spontaneously started to carry out their own renovations of their newly repaired and rebuilt houses. These "self-restoration" projects were driven by personal and local needs and aspirations. This stands in paradoxical contrast to the official Taoping reconstruction being awarded a prize as one of the ten best-reconstructed cultural heritage sites in China in 2011.

Most of Taoping residents' self-restoration projects could be regarded as adaptation to the local economic changes after the quake, in which Taoping people were forced to leave their agricultural life because their farm land had been taken over by new commercial and public buildings and housing. The most obvious economic alternative after the quake was to move into the booming tourist business, which explains the need for physical alterations to the reconstructed building stock.

Due to the economy shifting to tourism, many people in Taoping redecorated their houses in order to adapt to this significant change. For example, Mr. Yu, aged forty, whose dwelling was near the village square, converted his house after the official repair was completed in order to catch up with the new lifestyle and thus prepare for the anticipated wave of tourists. "We enlarged former windows and also added some windows on the external walls to bring more sunlight into our rooms," Mr. Yu's wife said. Bringing more sunshine into the house meant enlarging the former window openings of approximately 20 x 20 cm to 80 x 100 cm, which fundamentally changed the original façade pattern and the proportions between windows and wall.

Figure 6. 9 The Enlarged Windows after the Self-restoration

Because Mr. Yu decided to give up his previous career as farmer, rooms on the ground floor, which had been the space for livestock, were redecorated as guestrooms with big windows and flush toilets. Likewise, the attic, a space used previously for storing harvests and farm tools, was also changed into another guestroom, which Mr. Yu expected to rent to tourists during the holiday season. In the interior, the Yu family also changed the living room, which was once a traditional Qiang space with a square fire-pit in the center. Now the room has been converted into a modern-style living room with a three-person sofa, a square tea table and an entertainment center.

> We also installed a flush toilet next to the living room instead of the traditional pit latrine because a flush toilet is more hygienic. It will also prevent the stink of feces, which used to bother the tourists,

Mrs. Yu said.

Figure 6. 10 The Former Storage Room Converted into the Guest Room

Besides the approach applied by Mr. Yu in his self-restoration, there are two other much more radical examples of conversions and changes to the official reconstruction. In 2011 Mr. Zhou, aged fifty, practically demolished the entire internal structure of his house. Only the external walls and the roof were left standing. His ambition was to build a unique high-standard hotel in this village. So he hired construction workers to build a new three-story concrete structure to replace the former traditional structure within the old external walls.

The other conversion was initiated by the Long family. They are pioneers in the tourist business in Taoping, having started up twenty years ago. After the quake, they successfully persuaded three neighboring families whose houses connect to theirs to sell to them. Shortly afterward, the Longs combined all four houses into the biggest building in Taoping. Meanwhile they rearranged the rooms of this new giant building with antique furniture and vintage decorations collected from the neighboring villages and named it “The Qiang Palace”.

Besides conversions due to alternative modes of livelihood, changes were also justified by acts of appropriation, i.e., changes stemming from the strong emotion people invest in their houses as homes, or “housing as [a] symbol of home,” as

claimed by Skotte.[68] Because a house "becomes a symbol of home by representing the system of activities with a system of settings" and "is not only an area for everyday life [it also] provides meaning to life."[69] These activities in themselves entail, or may entail, physical changes to one's "officially repaired, culturally appropriate heritage property."

"Security and control" could be one highlighted attribute among those multiple meanings associated with home, according to a 1995 American study.[70] The purpose of post-disaster reconstruction would then be about regaining that control. However, this dimension of the reconstruction was neglected during the official reconstruction because government officials and experts only focused on the issue of cultural heritage conservation and ignored other dimensions of the complex meanings of buildings to the local community.

The second reconstruction could therefore be considered the Taoping inhabitants' self-adaptation of livelihood change and restoration of the lost attributes that recreated their dwellings as symbols of home. Unfortunately, in Taoping, the official reconstruction modified their way of life, and moreover failed to provide a platform for the inhabitants to accomplish the mission of "going home". The inhabitants were not able perceive the official rebuilding as a recreation of home. Therefore they began their other reconstruction as a "home reconstruction". The "second reconstruction" instigated by the village inhabitants negated the officially defined cultural heritage reconstruction by acting on livelihood prospects and the need to appropriate their property as a home space. Hence the second reconstruction fundamentally changed the results of the official reconstruction and diminished the cultural heritage value of the village of Taoping.

---

68 Hans Skotte, "Theoretical Foundation and Current Practice," in "Tents in Concrete," PhD dissertation, Norwegian University of Science and Technology, 2004, 36.

69 Irwin Altman and Setha M. Low, *Place Attachment* (New York, NY: Plenum Press. 1992), 109.

70 A. Rapoport, "A Critical Look at the Concept of 'Home'," in *The Home: Words, Interpretations, Meanings and Environment*, ed. David N. Benjamin, 25–52 (Aldershot, UK: Avebury, 1995).

Figure 6. 11 The Birth of a Big Window in Half Day

6.6. Conclusion and Recommendation

The post-Sichuan earthquake reconstruction of Taoping was divided into an uncoordinated two-stage reconstruction effort: an official reconstruction and a local self-restoration effort. This paper argues that this situation is due to the implementation of inappropriate post-disaster reconstruction planning practices. Because of this split, the reconstruction effort failed or at least diminished the cultural heritage properties of the village, and failed to accommodate a transition toward the new livelihood challenges of the post-quake era.

The reason for this double reconstruction stems from the fact that the officials and the experts on the one hand, and the local inhabitants on the other, applied irreconcilable concepts as to what the reconstruction was about. This was apparent at the very beginning. The official approach was grounded in the urge to preserve the cultural heritage of the Qiang minority; the inhabitants, themselves of Qiang stock, saw the reconstruction as a means of accommodating the changes in livelihoods caused by the quake and as a process of rebuilding their homes. Policymakers seemed not to have acknowledged the locals' understanding. They were at no stage invited to participate in deciding on reconstruction issues. Experts moreover rejected the wishes of Taoping inhabitants to take charge of rebuilding their own dwellings, and as a result the locals rejected the official reconstruction because of the experts' tendency to provide and apply their expert knowledge rather than to communicate with the community and listen to their aspirations. This was particularly damaging to the reconstruction process, as such communication could well have provided a useful source of contextualized expert knowledge. Instead the local residents of Taoping seemed to have retaliated against this process by venturing into a series of self-restoration projects to respond to the livelihood challenges as they perceived them and as a way of reclaiming control of their dwellings. Without any inspection and technical advice, locals' self-restoration has seriously changed the achievements of official reconstruction and ultimately damaged the cultural values of the heritage properties of Taoping.

There seems to be one principal lesson from the Taoping case: reconstructing a lived-in cultural heritage site requires a negotiated approach. The absolute, almost abstract, way the reconstructions efforts focused on the formal "cultural heritage" values seemed not to recognize the difference between a lived-in cultural heritage and,

say, that of a "cultural heritage monument". The local community living in the heritage environment harbors its own expectations, aspirations and interests. Without these being recognized in the reconstruction phase and respected by the conservation authorities and experts, any reconstruction efforts might prove useless. The heritage values may be damaged and/or the site might be deserted. To secure a sustainable post-disaster reconstruction of a cultural heritage site where heritage values are honored and communities may prosper requires a different approach than the one applied in Taoping. If nothing else, this study is field-based evidence that confirms in full the WHC claim that "heritage protection without community involvement and commitment is an invitation to failure." [71] Indeed.

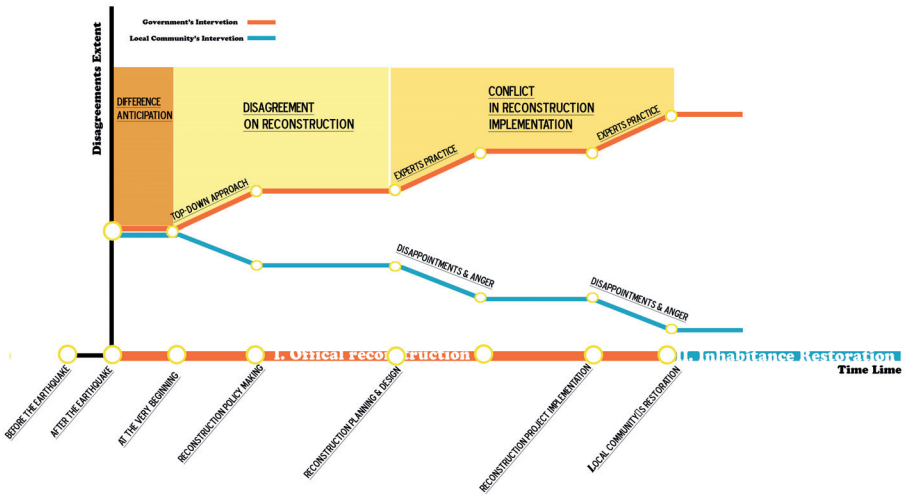


Figure 6. 12 Two "Reconstructions"

[71] UNESCO, 2007.

Chapter 7
Reshaping Place, Reshaping People? [72]

[72] This Chapter is published in the conference proceeding of The 2nd Biennial Conference on Anthropology and Sustainability in Asia. Hiroshima, Japan, March 16-18, 2014. See Appendix III.

7. Reshaping Place, Reshaping People?

The social impact of the reconstruction strategy applied in reconstructing the Qiang village of Taoping following the 2008 Sichuan earthquake.

7.1 Introduction

Sichuan-earthquake-effected[73] regions have experienced a fundamental alteration. China's central government launched an ambitious post-disaster reconstruction plan, according to which a large number of construction projects have been erected in those regions within only a 3-year period after the Quake. As a consequence, this reconstruction program has released enormous impacts not only on the physical environment but also on Qiang Minority, the major ethnic group in the region. These changes have also influenced the Qiang cultural identity. This article's main concern is how these changes have affected Qiang cultural identity. Undertaking this topic, we have chosen Taoping[74] as our research case. To look closer into this subject we will try to answer four questions:

What are the alterations after the reconstruction?

What measures did locals take in response to those alterations?

Why were those measures chosen?

What are the impacts of those measures?

7.2. Reconstruction-caused Alterations of Daily Life

The foremost alteration for Taoping people is how their livelihood has changed from a self-sufficient, agricultural-based settlement into a heritage-sightseeing tourism

[73] On the afternoon of May 12, 2008, a 7.9 magnitude earthquake hit Sichuan Province, a mountainous region in Western China, killing about 70,000 people and leaving over 18,000 missing. The worst-hit zone, an area nearly the size of Greece or Iceland, was confronted with severe damage which completely destroyed 5.46 million residences and severely damaged another 5.93 million, leaving 11 million people homeless, 5 million of them in immediate need of relocation.

[74] Taoping, representing the Qiang minority traditional settlement, is right in between the foot of Dabao Mountain and the Zagunao River, a branch of the Min Jiang River. The people of Taoping have lived in this place for several centuries. Remarkably skilled local craftsmen built the houses of Taoping centuries ago using local materials such as stones, yellow mud, and timber.

village[75]. The first 6 months Taoping opened for tourists 6,300 people visited, creating income of 4,160 yuan (688 USD). This number is close to the average annual income of famers of Li County according to 2011 annual report of economic and social development[76]. The year after, 2012, the tourists business increased. As a result, Taoping village has become a success regarding tourism industry in the region.


IE GLOBAL EDITION OF THE NEW YORK TIMES SATURDAY-SUNDAY, OCTOBER

Post-quake Reconstruction in Sichuan

An earthquake caused massive devastation to Southwest China's Sichuan Province on May 12, 2008. But three years later, post-disaster reconstruction in the area has been completed. New homes and communities have been built on the once-shattered land, and the people's living standard and economic development level have been improved. Many thanks to people from all over the world who gave aid and support to Sichuan. A more beautiful Sichuan is now ready to welcome your visits.

Birth of a New City
The housing problem for over 5.3 million urban and rural families has been solved. More than 12 million people have been resettled. Life in the 38 major cities and towns has returned to normal. The picture shows the new Beichuan county seat.

Homeland Rebuilt on Ruins
Rows upon rows of new houses stand in a picturesque landscape that once conta nothing but ruins.
Beautiful new homeland in Dujiangyan City.

Figure 7. 1 China's Post-quake Reconstruction by New York Times

The shift in livelihood is the result of development of a new residential area. This residential area was built on former farmland, an 8-hectare flat area on the east side of the old village and next to Zagunao River. Most of the new dwellings are formed as 3-storey independent modern buildings, a prevailing scene that can be found in many cities in China. The buildings adapt the structure of reinforced concrete beams and columns; however a-thin-layer stone warped façade sends a message of an old masonry tradition. Next to the new residential area, some new facilities and buildings

[75] Taoping historical buildings have been identified as national treasure since 2002, which is the highest level in heritage conservation of China and according to authorities, Taoping contains certain historical and asthenic values as: an outstanding sample of fortress-style defence system and remarkable skill of site selection among mountains and river; a manifesto to the unique traditional Qiang architecture as well as building technology; high aesthetic value of landscape of Taoping – a localized combination of village, mountain and river.

[76] This report is published on http://www.ablixian.gov.cn/jinryw/gongsgg/201204/t20120405_437852.html

are constructed to serve tourism. This includes parking lots, a tourist centre, Taoping Museum and Taoping Plaza etc.

Figure 7. 2 Taoping before and after the Earthquake

According to the above facts, it is clear that the post-disaster reconstruction caused Taoping people to convert their livelihood from agricultural activities into tourism business. The reconstruction and the attitude of the government encouraged Taoping people to change their livelihood. The statistics indicate that this new occupation is capable of supporting their daily life.

Figure 7. 3 Tourism Businesses in Taoping

7.3.The Measures of Locals to Adapt the New Livelihood

To deal with the dramatic changes from being a farming community to tourism industry Taoping has adopted a series of measures in order to undertake this new career. The purposes of these measures are to create this traditional living environment into a tourist attraction. That requires the old village to promote its unique features for amusing tourists and to establish certain necessary facilities. These measures were mainly focused on the areas, such as: traditional living environment rearrangement; performance that flaunts the Qiang's social memory; and unfound replication of antiquity.

7.4. Traditional Living Space Rearrangement

Two features are worth highlighting in that wave of self-restoration after official reconstruction. Old houses were converted into family inns with standard guests rooms and other modern facilities; and some old dwellings were maintained in traditional style or made even more 'vintage'.

Mr. Yu for example, converted his house after the official repair was completed. No longer a farmer, the space traditional used for livestock were made into guest rooms with big windows. The attic used for storage became another guest room. In the interior, the Yu family also changed the living room, which was once a traditional Qiang space with a square fire-pit in the centre. Now the room has been converted into a modern-style living room.

Figure 7. 4 The Former Storage Room Converting into a Guest Room

Unlike Yu's approach to modernize the interior of an old dwelling, Mr Yang's house was renovated under the principle of making the building more 'older'. Yang's house was classified as the most important heritage property by heritage conservation

experts who carried out the mission of official reconstruction[77]. Mr Yang utilized this official assessment on his house as a proof of antique. After official reconstruction his ideal to utilize his house is to be the example of well-conserved traditional Qiang dwellings. Therefore he moved out from this house and attempted to make this house 'frozen' at the moment of ancient time by eliminating the traces of on-going daily life. 'I moved out because my daily life, especially the behaviour of cooking meal, would bother the tourists.' Mr. Yang replied to my question: why did you move out after the reconstruction?

Figure 7. 5 The Interior of Yang's House

7.5. Performance that Flaunts Qiang's Social Memory

In earlier history of China, 'Qiang' referred to the tribes who populated the western border of Huaxia, the ancestors of Han nation around 3,000 years ago. Some scholars, however, claim that these tribes should be regarded as different ethnic groups with different cultural traditions. Some tribes did agricultural activities or were conquered

[77] According to Planning of Post-Quake Cultural heritage Conservation of Taoping, all 115 buildings of the core district of Taoping were classified into four categories, and each level had a set of related treatments with specified measures for repairing and rebuilding. Yang's dwelling along with the other ten houses was on the list of the most important cultural heritage properties in the village.

by Huaxia people, and eventually became members of the Huaxia people. Those who had to migrate to the west and south due to the boundary expansion of the Han's are the founders of ethnic groups in Sichuan and Yunnan province. The present-day Qiang are a group of people living between the Han and the Tibetans. Today they are deeply influenced by their two neighbours. When they were labelled as one ethnic group[78], this was a new identity for them. They had to uncover, stress or even invent certain joint social habits through a review of the social memory in order to mark themselves as Qiang, different form the other nations.

In Taoping social habits and traditions have now been retrieved, gradually reorganized and re-edited to accommodate the tourists' wishes. For instance, women in Taoping working as tourist guides wear the flamboyant Qiang's costume, which is a long sleeve gown with colourful embroidery on the cuffs and neckline. However, according to anthropologist doing fieldwork in the 1930s this costume was not in use at that time. It has become a 'uniform' rather than a traditional costume. Another example is Qiang's New Year - regarded as the most important traditional festival. This did not exist until the 1990s when local government relabelled NIUWANG Festival (牛王节) (King of Bulls Day) as Qiang's New Year. An old dance[79] connected to this festival has been revived and performed daily for the tourists.

[78] Since 1950s, Chinese government have carried out the policy of equity for all ethnic groups and initiated the program of ethnic group identification during demographic census. In 1979, China's central government claimed that China has 56 ethnic groups in which Han is the majority, over 90%, along with 55 minorities.

[79] Qiang people have a special gala in which they did the group dance – Guozhuna (锅庄), a kind of folk dance, which was also unpopular in the old days and only the people who lived close to Tibetan have this folk dance.

Figure 7. 6 Modifying Qiang's Costume: Left, Qiang a Lady in 1910 by Sidny, d. Gamble; Right, the Present-day Qiang Costume

7.6. Unfounded Duplication of Antiquity

Locals have made new stories and scenes to create a past in order to impress the tourists. For example, one family saw the potential early. After the Quake, they persuaded three neighbours to sell their house. Shortly afterward, the family combined all four houses into the biggest building in Taoping. Meanwhile they rearranged the rooms of this new giant building with antique furniture and vintage decorations collected from the neighbouring villages and named the building "The Qiang Palace". I observed that when the tourists came the guide interpreted this building as a 'Palace' with some stories about the king of Qiang, a person that has never existed.

When a movie[80] taking place in the 1920s, was made in the village lots of fictional settings were kept by the local residents. For instance, Mr Yang kept all the film decorations saying he supported the idea of conservation. He was very satisfied with

[80] The movie called Design of Death (also known as Sha Sheng 杀生), detail of this movie seeing http://www.imdb.com/title/tt2290645/

living in the old house and liked the atmosphere of the past. He asked local carpenters to copy this decoration but this time using wood. Similar events 'created' an old temple and blacksmith [81] .

Figure 7. 7 A Movie Scene Taken in Yang's House

[81] A building, located on the plaza in the old village, used to be a state-run agricultural service cooperative. It is now called a 'temple' of Qiang after film crews converted it into a temple. The blacksmith at the entrance of the old village is also made by filmmakers but there was no the blacksmith in the old village. When tourists visit the village, there is no sigh to tell this story.

Figure 7. 8 Film Crews Created a Piece of Furniture Kept by Mr. Yang

Figure 7. 9 Film Crews Built a Fake black Smith Shop Kept by the Taoping Inhabitants

7.7. On the Perspective of Modernity to Explicate the Locals' Measure

Taoping people are changing from a close, self-sufficient traditional community to an open, wide-connected society heavily influenced by the surrounding Han. A three-year-long reconstruction as the catalyst has substantially accelerated the process of modernity. Consequently, the measures adopted by local inhabitants could be regarded as not merely the response for this suddenly accelerated process of modernity but rather releasing the long-term accumulated impacts of modernity on the community.

The fact that Taoping is identified as a cultural heritage settlement is the consequence of development of modern society. The traditional social fabric is changed due to modernisation. Cultural heritage has become a manifestation of cultural diversity and the container of cultural identity. Present-day people regard remains from the past as symbols of their roots. Furthermore through modernity the worldview of humankind has converted into anthropocentricism such as Heidegger pointed out in his essay of 'The Age of the World Picture':

> The fundamental event of the modern age is the conquest of the world as picture. The word "picture" now means the structured image that is the creature of man's producing which represents and sets before… Namely, the more extensively and the more effectually the world stands at man's disposal as conquered, and the more objectively the object appears, all the more subjectively, i.e., the more importunately, does the *subiectum* rise up, and all the more impetuously, too, do observation of and teaching about the world change into a doctrine of man, into anthropology.

A new sense of history and past is created in modern society. Therefore modern society expresses appreciation and enthusiasm to traditional living environment, and Taoping's traditional dwellings become a new resource. Ruskin expressed it as:

> '(T)he great glory of a building is not in its stones, nor in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy, nay, even of approval or condemnation, which we feel in walls that have been washed by the passing wave of humanity.'

7.8. The Impacts of Locals' Measures

The period of implementation of those measures is also a period of adjustment for Taoping people, catching up the accelerated process of modernity caused by post-Quake reconstruction. This adjustment has influenced the relationship between traditional living environment and Taoping people; but also weakened the cultural continuity.

7.8.1. The Changed Relationship Between Nature and People

The traditional living environment of Taoping is a consequence and achievement of a long-term communication between nature and human beings. It was a closed, self-sufficient micro-society in which a sustainable relationship between built environment, local community, and nature results from agricultural livelihood. This relationship has been inherited from generation to generation creating the historical and aesthetic values of Taoping today.

The traditional relationship between nature, living environment and people has been broken since the inhabitants adopted tourism as a new livelihood after the reconstruction. The traditional living environment has become the resource, which new livelihood relies on; and farmland has been converted to a new living environment. Like the agricultural activities shaped the traditional dwellings, tourism business also reshaped the traditional built environment. Consequently, the relationship between natural environment and people has become uncertain since the tourism replaced agricultural activities as new livelihood.

7.8.2. Modified Past and Collective Memories

The aura[82] of past in Taoping is the essential feature to assure Taoping as a tourist attraction. And this sense of past is not only due to the relics and historical living environment but also can be perceived through the observation of daily life of local people. This indicates that for the tourists the sensation of antiquity matters rather

[82] The term of 'aura' is borrowed from '*The Work of Art in the Age of Mechanical Reproduction*' by Walter Benjamin in which it refers the authenticity of original art works.

than the authenticity of it. Based on the awareness of this demand of tourist market Taoping people therefore implemented certain measures in order to create this aura of past. Meanwhile, daily life in the old village has also participated in this creation that gradually tends to perform a show of past to the tourists. To use Erving Goffman's concepts, Taoping people are utilizing the old village as their 'front stage' by acting their daily life to the tourists in the aims expression of an exotic past.

Whereas, the aura of past, the measures' created, the conflicts with authenticity severely challenges the local inhabitants' process of retelling the past of Taoping. According to David Lowenthal, we perceive the past through history, memory, and relics. In Taoping, the locals' measures have modified and interfered with this. Consequently, locals' memory of the past is no longer in accordance with what is presented. This makes it likely to assume that their cultural identity will be unclear.

Likewise, the behaviour of acting out a past in daily life also interferes with the process of conveying and sustaining of collective social memory, which is also a crucial factor to preserve the Qiang cultural identity. According to Paul Connerton, conveying the social memory is through individual's bodily practice, like he asserted in his book 'How Societies Remember' as:

> Our bodies, which in commemorations stylistically re-enact an image of past, keep the past also in an entirely effective form in their continuing ability to perform certain skilled actions… In habitual memory the past is, as it were, sedimented in the body.

The acting behaviour in daily life can be regarded as a new form of bodily practice and join the process of 're-enacting an image of past' since the new livelihood adaption in Taoping. However this 'image of past' may even not exist in the history, such as creation of Qiang's palace and stories of King of Qiang Kingdom. This acting performance modifies and rearranges the social memory of Taoping community and obscures the original social memory, and therefore challenges the sustainability of the Qiang cultural identity. Meanwhile, it is very noticeable that the impact of performance is camouflaged with its appearance, which is unlike the other traditional Qiang settlements and labelled as the model of conservation of rural culture and which is threated severely by modernity and urbanization[83] in China.

[83] The decay of rural cultural is accompanies with the disappearance of villages in China in recent decades due to urbanization and millions of rural population immigrate into cities; The number of villages has dropped dramatically. According to a study conducted by Tianjin University, in 2000,

7.9. Conclusion

From the above discussions, the reconstruction-caused livelihood shift has broken the traditional stable relations between natural environment, living environment and people. Those relations used to cultivate the Qiang culture, sustain tradition, and assure to remain the Qiang cultural identity. Whereas the new livelihood changed the old relations; consequently, the traditional stable social environment disappeared, which challenges the Qiang culture sustainability. Furthermore, the approaches of Qiang history modification and unfound replication of past substantially interrupt the inquiry and study to the past of Taoping, which enhances the difficulty further in retaining the original Qiang cultural identity for the next generation of Taoping.

The alterations taking place in Taoping can be regarded as the consequence of an accelerated modernity process despite utilizing past and historical remains. These approaches thus generate a dualism in which pursuing ideal modern life relies on performing an act of living-in-the-past. This dualism raises considerable questions as to the cultural sustainability of Taoping as a Qiang village.

China had 3.7 million villages. However, by 2010, that figure had dropped to 2.6 million, a loss of about 300 villages a day.

Chapter 8
Still At Risk? After Reconstruction[84]

[84] This chapter is accepted as a chapter in a book of *Planning for Community-based Disaster Resilience Worldwide: Learning from Case Studies in Six Continents.* Awotona, A ed. UK: Ashgate Publishing Limited. See Appendix IV

8. Still At Risk? After Reconstruction

How does the mode of reconstruction cause new vulnerabilities when rebuilding a vernacular cultural heritage settlement?

8.1. Introduction

Natural disasters along with uncontrolled urbanization, unsustainable tourism, war and conflicts have caused a significant loss of cultural heritage. The completely destroyed Christchurch Cathedral in New Zealand by seismic disaster in 2011 is a recent case in point.

The recently published map by RitsDMUCH[85] indicates that a considerable number of world heritage sites are located in active earthquake zones - without the present cultural heritage management having responded by focusing on disaster risk reduction (DRR) regarding to the sites located in the danger zones. For example, UNESCO's World Heritage Committee admits in a survey of 60 world heritage properties located in disaster risk affected areas that only 10% holds a Risk Preparedness plan. ' (UNISDR 2013) Given the increasing threats to our heritage sites from natural disasters, this paper argues for reducing the risk through a systematic risk management program embedded in the current cultural heritage management system.

An integrated disaster risk management is conceptualized as a circle, which starts at 'risk prevention & mitigation'; then goes to 'risk preparedness'; onwards to 'emergency response' and finally 'the process of recovery' (Figure 8.1). In the recovery section post-disaster reconstruction, i.e to repair and restore the disaster-caused damages is the core practice. The mode of repair and restoration can significantly impact the next round of risk management when it encounters similar hazards. Recovering heritage cannot be done merely through simple physical reconstruction, it requires elaborate professional assistance in its reparations. Due to its irreplaceability post disaster reconstruction of cultural heritage has a duty to not only rescue the heritage from the present dangers and secure the remaining values but

[85] RitsDMUCH is the short name of Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University, Tokyo, Japan http://www.rits-dmuch.jp/en/index.html

also to eliminate vulnerabilities and improve the resilience of the site in question - in order to mitigate the disaster risks of the future.

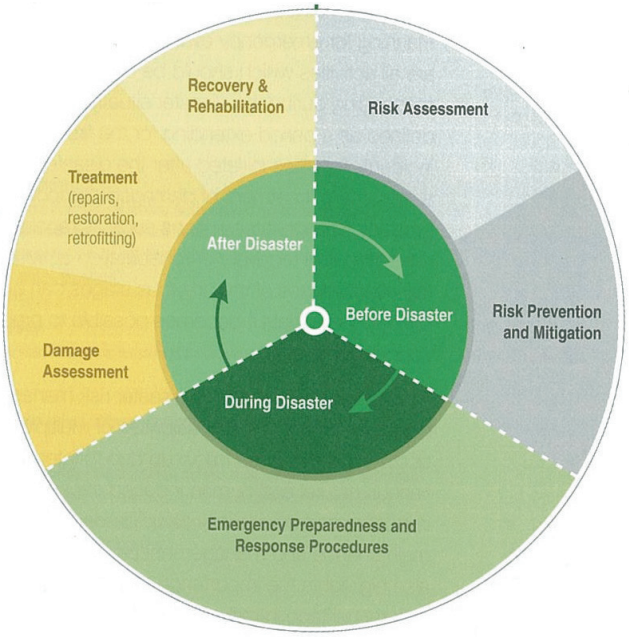


Figure 8. 1 Risk Management Circle by Rohit Jigyasu

From the discussion above, conducting DRR risk assessments of cultural heritage sites is necessary – and urgent. Because the Disaster-Risk-Management (DRM) is a constantly running circle, reconstruction is not the end state. It is merely a phase on to the next stage. But the way post-disaster reconstruction is conduced may ultimately determine how it will protect the remaining heritage values from underlying hazards in the future. Our research attempts to tackle how to assure a sustainable continuity of the 'DRM circle' in cultural heritage sites. We will employ evidence from Taoping, a traditional Qiang settlement, recently reconstructed after the 2008 Sichuan earthquake in asking if, and how, the reconstruction created the new vulnerabilities in Taoping as a vernacular cultural heritage settlement?

In order to answer that question two modes of analysis are worth bringing into this research, i.e. the Disaster Risk Reduction (DRR) assessment on cultural heritage and the Pressure and Release (PAR) model. The risk assessment is for verifying the vulnerabilities of the rebuilt Taoping. To choose vulnerability as an investigating factor emerges from the definition of risk given by Wisner: '*risk of disaster is a compound function of the natural hazard and the number of people, characterized by*

their varying degrees of vulnerability to that specific hazard, who occupy the space and time of exposure to the hazard event' (Wisner 2004 p. 49). This is further grounded in the United Nations International Strategy for Disaster Reduction (UNISDR) claim that risk assessment '*is to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend*' (UNISDR 2007).

The PAR model is '*an explanation of disasters* [that] *requires us to trace the connections that link the impacts of a hazard on people with a serious of social factors and process that generate vulnerability'*. (Wisner 2004, p 52) Applying the PAR model in this paper is for uncovering what factors generate the present vulnerabilities. Also, when applying this model we understand vulnerability not only as a 'product' but also is a 'process', i.e. we assess how *'vulnerability of the cultural property has increased, decreased or reinforced over time, especially with respect to disaster situations*' (Jigyasu: 2010, p 4). This acknowledges the dynamic nature of vulnerability where long-term effects may stem from short-term interventions. In our case reconstruction-caused alterations release considerable effects on the physical and social environment of Taoping. Those effects may extend to the long-term vulnerability of Taoping as a rural cultural heritage settlement. This is what this paper is about.

8.2. Risk Assessment of Taoping

Disaster occurs when '*a significant number of vulnerable people experience a hazard and suffer severe damage and/or disruption of their livelihood system in such a way that recovery is unlikely without external aid*' (Wisner 2004, p 50). The primary measure to prevent disaster happening is identifying potential disaster risks from relevant information about hazards and vulnerability. Risk assessment is the vital approach to acquiring knowledge of the underlying disaster risks.

A comprehensive risk assessment program constitutes 1) risk identification, 2) disaster risk scenarios simulation, and 3) risk magnitude evaluation (Jigyasu 2010). Disaster risk identification aims to clarify the potential hazards and vulnerabilities. Scenarios simulations are to determine possible activities when certain hazard happens at a specific time based on the results of the risk identification. Evaluating

the magnitude of risk is where we systematically conclude the level of disaster risk by referring to the results of the scenarios.

8.2.1 Risk Identification & Risk Analysis

8.2.2.1.1 Underlying Hazards

Risk identification is about locating potential hazards and investigating relevant issues which may make Taoping's heritage property vulnerable. This constitutes a study of data and statistics from primary and secondary sources, classified in two categories: information on locating hazards and information on relevant issues. Specifically, locating potential hazard needs base data, e.g. geographic, hydrological, seismic information, as well as the history of natural hazards of Taoping etc. Relevant issues address the management of heritage, physical condition of the heritage property, and social and economic conditions in Taoping etc.

Li County, the region which Taoping belongs to is located in the western part of the Sichuan Province next to the Tibet Plateau with mountainous and valley landscape. Zagunao River cuts across the whole county to reach the Minjiang River, one of the main rivers in Sichuan Province. The village of Taoping covering about four hectares lies on the South side of Dabao Mountain at the bottom of the ridge. Zagunao River runs along the South edge of Taoping. To the west runs a deep gully with a river that provides water to the village. The annual precipitation in Taoping is between 650-1000mm a year, most of which occur in summer and autumn. The area on the East side of Taoping village is alluvial plain created by Zagunao River. This area used to be the village's agricultural land before the earthquake. After reconstruction, this area has been developed as the new residential area of Taoping and the site for Taoping's tourists center. (Figure 8.2)

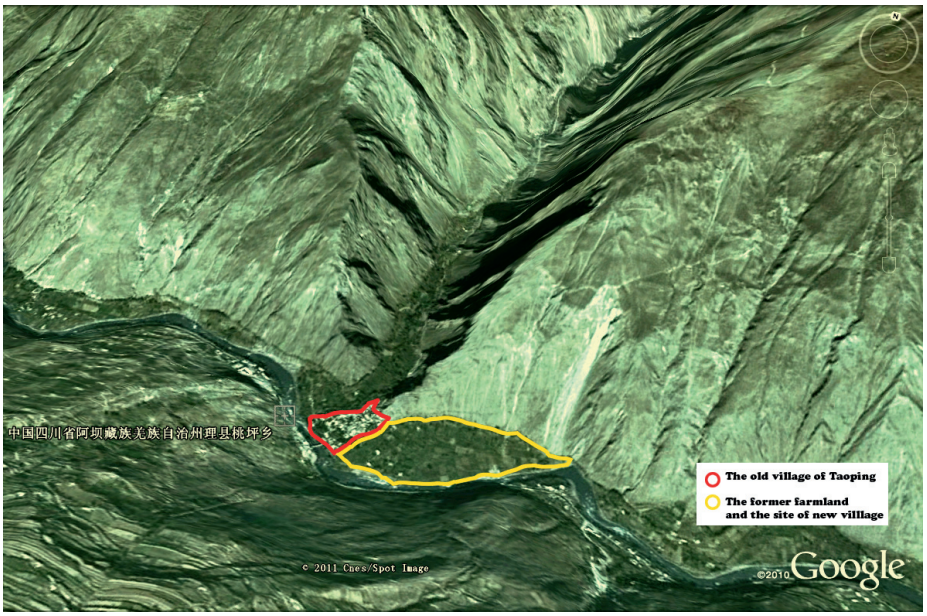


Figure 8. 2 The Taoping Village Satellite Photo by Google Inc.

Pursuing the identification of hazards to Taoping, we also need to investigate the seismic situation and review the history of disasters of the region. The seismic activity of Taoping region is quite energetic due to its being in the middle of the Longmen Shan Fault Zone, which runs along the Longmen Mountain between the Tibet Plateau and the Sichuan Basin. Longmen Shan Fault Zone (Figure 8.3) is the zone where tectonic plates may collide and release energy that causes earthquakes. Due to the location in an active seismic zone Taoping has been through several catastrophic earthquakes during its history. In recent times, after the quakes were scientifically recorded, the Diexi Earthquake was the first one. In August 1933 an earthquake of a magnitude of 7.5 struck Diexi Town, Mao county killing more than 8,000 people and leaving more than 10,000 people injured. The epicenter of the Diexi Earthquake was 100 km North of Taoping. This earthquake totally changed the landscape of that region, totally erasing the Diexi Town, literally converting it into a lake. The 2008 Sichuan Earthquake is the most devastating earthquake recorded with a magnitude of 8.0, leaving more than 69,000 dead and 17,000 still missing. The epicenter of the Sichuan quake is 70km South of Taoping. The latest earthquake in the region happened in 2013. This earthquake in Lushan was of a 7.0 magnitude and killed more than 190 people. The epicenter was 100km South of Taoping. All these recorded

earthquakes occurred in the areas along the Longmen Mountain in the Longmen Shan Fault Zone.

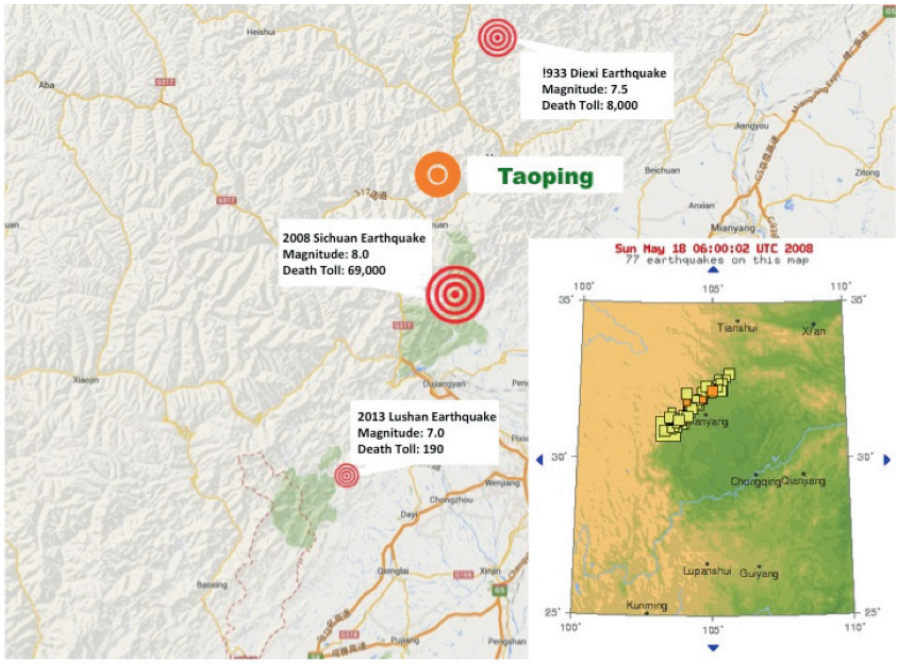


Figure 8. 3 Earthquakes around Taoping along the Longmen Shan Fault Line

Besides earthquakes, the Taoping region is also threated by the hazards of landslides and floods. Landsides happen quite frequently in this area during the rain season, especially in summer. The latest heavy rain caused several landslides bringing this hazard into national focus. During four days of heavy rain from 7th to 11th July 2013 generated landslides and flood affecting 13 counties of the Aba Prefecture in which over 900 residential buildings were damaged and blocked the national road 317 isolating several cities and towns for several days. This disaster killed 16 people and 20 are still missing. The economic loss is estimated to approximately 6.8 billion RMB or about 1 billion US dollars[86].

The geographic, topological, hydrological, and seismic information of Taoping show that this village is located in an active seismic zone, surrounded by gigantic mountains, next to a powerful river, and experiencing heavy rains almost every year. The history of disasters in the region of Taoping reveals that beyond the

[86] The information about damage caused by landslides and flood released by Aba Prefecture Emergency Management Office http://www.abazhou.gov.cn/yjgl/

disasters referred to above, this village has recurrently experienced several types of natural hazards during the last century, be it earthquakes, landslides, or floods. There is no information that indicates that this will not also happen in the future.

8.2.2.1.2 Relevant Issues

After uncovering the potential hazards, it is important to study the relevant issues, which may make Taoping vulnerable to the underlying hazards. These refer to the social and economic situation, heritage factors, and standing of the local community, etc.

The inhabitants of Taoping belong to the Qiang ethnic group, a national minority with its own languages, customs, religions and lifestyle. The population of Qiang is around 300,000[87] and most of them are settled in mountainous fortress villages, like Taoping, in West Sichuan. This is a transition area between the Han Chinese and Tibet Because of this their ethnic character has been influenced by both Han Chinese and Tibetans. Hence the Qiang people inhabiting the area close to Tibet has borrowed words from the Tibetan language and their customs hold similarities to those practiced in Tibet. Some even share their religious beliefs. The Han Chinese has in similar ways influenced the Qiang people living in areas bordering the Han regions (Wang 2008)

The Qiangs of Taoping have inhabited this fortress village for several centuries. Today 95 families, more than 500 people live in the village. The social structure is based of blood relations and clans. All families belong to one of the five clans, Big Yang, Small Yang, Yu, Chen, and Wang. Among these, Big Yang and Small Yang are the biggest families in Taoping. Big Yang alone holds 23 families. The family clans are organized by seniority making the elders of the clan dominate family affairs. This system was previously also the social safety net of Taoping shoring up the most vulnerable families. However, the clan system has gradually lost its power as most households in Taoping have now overcome dire poverty.

The principal means of livelihood of Taoping has up until the 2008 earthquake been agriculture. However, the post-quake reconstruction of Taoping fundamentally changed its livelihood. Their agricultural land was converted into their new residential area, making their fortress village a tourist attraction. Without farmland, the Taoping community had no choice but to enter the tourist business. Since the reconstruction,

[87] This figure refers to the census of 2000. The 2008 Sichuan Earthquake, however, is claimed to have killed about one tenth of the Qiang population.

the income from tourism has replaced the income of traditional agriculture. In 2011 63000 tourists visited Taoping leaving an average income of 3000 RMB, or about 500 US dollars per person in Taoping, equal to the annual income of a regular famer in Li County. Ever since the opening in 2011 the number of tourist is reported to have increased, and so has the income to the villagers.

Pursuing profits the tourism business developed quickly but without considerations of possible safety issues. Specifically, many families of Taoping have converted their traditional vernacular house into family inns with enlarged windows, which may make the traditional mason building more vulnerable to earthquakes. The tourism facilities so far are lacking streetlights, accurate tourist maps, professional tour introduction, and credible exhibitions etc. Furthermore, there are no fire extinguishers in Taoping - a village where people traditionally use open fire in wooden houses. There are no evacuation plan or escape route for the tourists in case of emergency - a tourist site famous for its labyrinthine streets.

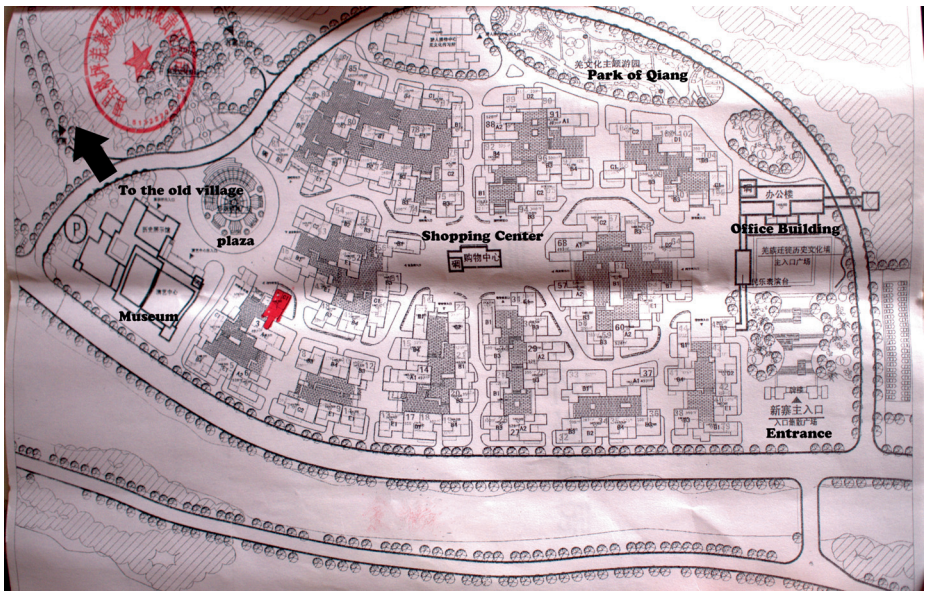


Figure 8. 4 Plan of the New Village

The landscape of Taoping also changed due to the new uses of the farmland. The Taoping community has gradually moved to the new residential area since the reconstruction finished in 2011. The new residential plan is a copy of official urban residential district plan with independent houses and garden. (Figure 8.4) Each of these buildings adapts a reinforced concrete structure designed strong enough to

withstand earthquakes of magnitude 8. Although the new standards are the consequence of lessons learnt from latest seismic disaster, the very location of the new residential area raises other issues of safety. It is built on agricultural land, a flat area of alluvial plain, which is very close Zagunao River and lower than the original Taoping village. The new residential area is also at the foot of the slope of Dabao Mountain. In a region frequently visited by floods and landslides, and the fact that the new residential area is in the affected zone of flood and landslide, no specific measures or plans are made for flood and landslide prevention.

The heritage status is also an important relevant issue pertaining to risk identification. Taoping's historical buildings have been identified as a "National Treasure" since 2002, which is the highest level in heritage conservation of China. "*Taoping is seen as an outstanding example of a village with a fortress-style defense system and showing remarkable skill of site selection among mountains and river; a manifesto of the unique traditional Qiang architecture as well as building technology, and the high aesthetic value of landscape of Taoping. In short: a unique localized combination of village, mountain and river"*. (CAHRI 2008 p1)

Sichuan Earthquake damaged all 115 buildings in the Taoping protection zone. After the quake the State Administration for Cultural Heritage commissioned the Chinese Architecture History Research Institute (CAHRI) to make plans for rescuing the damaged historical buildings. In June 2008 CAHRI took on the Taoping historical building reconstruction. After 3years, in 2011, the Taoping reconstruction project was completed. The work was strictly managed and implemented by professional conservationists, a process constantly disrupted by community members who did not appreciate this professional way of reconstruction (Wang & Skotte 2014). After the somewhat controversial reconstruction, the management of the heritage of Taoping was left to the local Culture & Sport Office of Li County, which in effects means no managements since they, with their 16 employees, also are responsible for all sports and cultural activities in Li County such as libraries, publishing, etc. Heritage management comes on top of that[88]. Hence, there is no professional management or monitoring system for the heritage of Taoping. An emergency plan, a risk preparedness plan or a risk management plan for the heritage of Taoping are also nonexistent.

[88] The introduction to the Sport & Culture Office of Li County re.: http://www.abztyj.gov.cn/Article/ShowArticle.asp?ArticleID=77

8.2.2. Risk Analysis

Risk analysis builds upon the identified potential hazards and issues relevant to determining the vulnerabilities of Taoping. It is a study of the impacts of underlying hazards on heritage of Taoping based on the reality of those relevant issues. The underlying hazards are earthquake, landslide, and flood according to risk identification. The potential hazards may occur solo or together with one as primary hazard with other hazards to follow. For instance, heavy rain may cause hazards of flood and landslide happening together, or earthquake as the primary hazard may cause landslides as secondary hazard with landslides blocking the river causing floods as a tertiary hazard, etc.

From our investigation into relevant issues, it is evident that the reconstruction has altered Taoping fundamentally, changes that are making Taoping vulnerable to other hazards. During the reconstruction, most of the farmland was taken for constructing of new residential buildings. New residential buildings may be strong enough against the high-magnitude earthquakes; the new village is on lower alluvial plain next to the river, which may let this new village face the risk of flooding. The risk of landslides in new village is higher than the old village, because the area of new village is directly facing the South slope of Dabao Mountain.

Without farmland the community was forced to convert its livelihood to tourism. This move partly leads to the 'second reconstruction' of the old village, which weakened the ability of traditional buildings to resist the earthquake. Meanwhile, due to the uncontrolled development and lack of planning, the tourist facilities are not scaled to support such a large number of tourists. In case of an underlying hazard occurring, there exist no emergency plans. For example, if an earthquake accompanied by fire (which often occurs) and a landsides strike Taoping, it would be very challenging to evacuate the considerable number of panic-stricken tourists through the labyrinthine streets of Taoping.

Based on the investigation of the heritage status, the reconstruction only focused on heritage rescue and reparation. It neglected the opportunity of eliminating vulnerabilities and to introduce DRM into the heritage management. The current heritage management in Taoping is negligible as there is no specific heritage agency monitoring and preparing emergency interventions or risk assessments. That may

leave the heritage of Taoping vulnerable to underlying hazards. When hazards occur without an efficient monitoring system it is difficult to give early warnings if a hazard has or is about to occur. It is also difficult for external recue services to assist efficiently. As for rescuing Taoping's built heritage should a new disaster strike, emergency personnel would have no clue how to go about saving the heritage without a professional risk preparedness plan.

8.2.3. Building Disaster Scenarios

Running disaster scenarios aims at uncovering further impacts of the underlying hazards that may threaten the heritage of Taoping. It does so by simulating how underlying hazards may strike Taoping at specific times and/or in certain situations. In these simulations, several sequential events will be predicted based on the same facts and current situation of Taoping uncovered through the risk identification and risk analysis. Those predicted sequential events are addressed as a series of cause-effect assumptions. Disaster scenarios are mere prediction, not realities, and many uncertainties always remain despite the assumptions being based on information gathered from risk identification and analysis.

8.2.3.1. Scenario 1

Scenario 1 is a magnitude 7.5 earthquake occurring in the Longmen Shan Fault line on a mid-summer afternoon. The epicenter of the earthquake is 50 km Southwest of Taoping. The energy released violently shakes Taoping. Not only the Taoping village is shaking, mountains of the region are also affected. As a result the quake causes gigantic rocks and debris to roll down the mountain side causing subsequent landslides.. Taoping locating at the bottom of valley is hit by rocks, flows of mud and debris hitting the new village much more severely that the old village because of the new towns location at the foot of the Dabao Mountain. The old town is not hit by such landslides because of its location on the ridge and in a blind zone for landslides. Earthquake-caused landslides smash the road and block the traffic, which cut off National Road 317, the only road connecting Taoping and the other villages in the valley to the outside world. The detached giant stones from landslides also block the river and dam the water; soon after the new village is flooded. The same landslides also block the river and dam the water causing it to flood into the plains of the new

village settlement. At the same time fire breaks out in Taoping old town due to the use of open fires and the 'fact' that some of the old buildings collapse, due to their structural failings caused by inappropriate post-reconstruction restorations as implemented by some of the local inhabitants.

The heritage property of Taoping is in danger because the threats from the earthquake, landslides and fire. However, no specific people or agency in Taoping has the defined responsibility to respond to this emergency situation because no one has been authorized to manage the heritage property of Taoping. Further to this, the local community has no idea on how to rescue the collapse and burning historical buildings because of lack of training and preparedness for this situation. Even if people wanted to extinguish the fire, there are no fire extinguishers in the old town. The historical buildings are situated closely making fire spread easily, all the more so through the new and bigger windows and doors. Some streets are tunneled under wooden structures that would collapse if caught by fire making escape all the more difficult. The national road is cut off delaying professionals for several days at arriving to guide on how to save the cultural heritage properties.

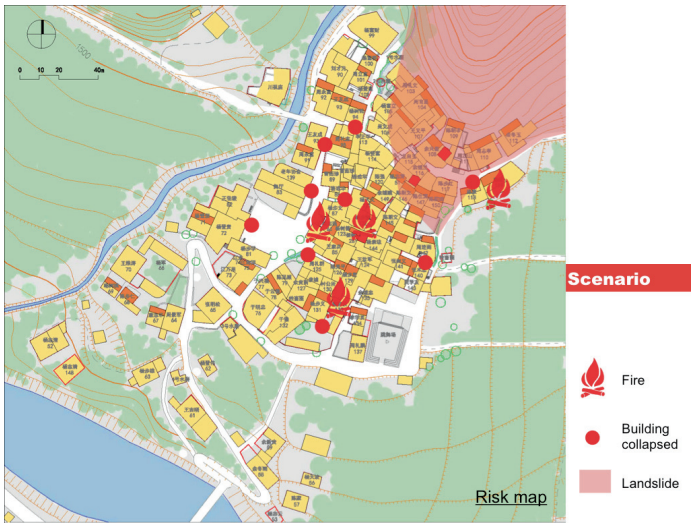


Figure 8. 5 Scenario 1 Risk Simulation in the Old Village

The local populations as well as tourists are also unsafe. A few locals are injured and killed when caught by the landslide that hit the residential area, even burying some of the new houses. Some people are trapped in some of the collapsed buildings; there is no local expertise nor equipment to help save the people trapped. On that very day of

the earthquake, there are around 100 people in old town of Taoping[89] most of them tourists in groups organized by travel agencies visiting Taoping for the first time. When earthquake strikes tourists panic and want to get out of the old town, but because of the unfamiliar environment and the labyrinthine street structure, they cannot find their way out. There is no map nor are there signs showing the evacuation route. Most of them are trapped in the old town. Some are buried or trapped by collapsing buildings and by fire, some are injured or killed. Those who have survived try to help the trapped but collapsed tunnel streets make certain areas of the old town inaccessible. After a few days food and other necessities are no longer available due to the main road being blocked. This also prevents emergency medical rescue teams entering Taoping leaving seriously wounded patients dying. Others die trapped under the rubble not rescued in time because the professional rescue teams could not get through to Taoping. (Figure 8.5)

8.2.3.2. Scenario 2

Scenario 2 is about heavy rainfall hitting the Taoping area. A three-day long and intense rainfall, 100 mm in three hours, has poured down in the Taoping region. Due to the bad weather some groups cancel their plan of visiting Taoping. There are therefore not as many tourists as usual. Most of the local population stay indoors in their new houses in the new village area. Meanwhile, the water level of Zagunao River has constantly risen to the level where the local municipality has released flood alarm. As the people wait for the rain to stop, a thunderous sound is heard and seconds later rocks, rubble and mud slides down the North slope of Dabao Mountain. Giant stones with tons of rubbles crash into the new residential buildings, some continue all the way into the Zagunao River. Many new buildings have been hit; most of those closest to the mountain are literarily buried. The initial thunderous sound made some of the people believe it was an earthquake. They therefore ran to some open spaces, the square or the parking lot where they instead were caught by the sliding mud and debris. Some are injured and some are killed. Those still in their houses are trapped as their houses collapse. Those not hurt cannot help people out as there is not efficient equipment in the settlement. The constant rainfall causes the water level of the river while the debris in the river raises the level further. With the

[89] This is an average daily number based on annual figures.

water level rising, water begins flooding into the new residential area. Survivors from the village informs the local authorities about what is happening, but when they send a professional rescue team they cannot reach Taoping because of a landslide that has blocked the road between the regional headquarters and Taoping. Days later the rescue team arrives and are able to save the people still trapped in the collapsed buildings, get the debris and rocks out of the river and pump water out of the house still flooded.

8.2.4. Evaluating the Magnitude of Risks

Evaluation of the underlying risks is the third stage of the DRR analysis where we compare the various underlying risks under certain criteria such as probability and consequence, and then evaluate the level of those potential risks to Taoping as a rural heritage settlement (Jigyasu & Arora 2013). It also uncovers the highest risk in Taoping from which we prioritize the measures in risk mitigation of Taoping.

The underlying hazards in the Taoping area are earthquakes, landslides, floods, and fire according to foregoing stage of risk identification. As we showed in Chapter 2.2, some primary hazards inevitably unleash secondary, and even tertiary hazards, either in sequence or simultaneously as the preceding scenarios show. Although the likelihood of earthquake is high, the frequency of earthquake in Taoping is lower than that of other hazards like landslides and floods caused by extreme weather which occurs very often in the Taoping area during the rainy season. Therefore, comparing those two likely hazard events, landslides and floods are more likely to occur than the hazard of earthquakes.

Disaster scenarios simulate the severity of the consequences of a likely disaster event. As we saw in Scenario 1, a powerful future earthquake hitting would damage the historical buildings and would significantly decimate the heritage value of the village. The heavy rains, landslides and flooding in scenario 2, would not in any significant way damage the old village and the historical buildings. However, the local community who intimately relate to heritage is severely hit through Scenario 2. Individual property and homes are lost, people, family and friends are lost or injured, the tourist facilities are damaging etc. Taoping's heritage value as an outstanding example of a traditional Qiang settlement has been indirectly damaged because the disaster damaged the local community. Yet all in all, when combining the

consideration of the local community, scenario 2 has still only a mild severity of consequence on the heritage property of Taoping.

In scenario 1, the local community faces even more serious challenges. The earthquake destroying the historical core of Taoping signifies a serious crisis to the livelihoods of the community. Death and injuries to members of the community and to visiting tourist is much higher in Scenario 1 than in Scenario 2 and when adding the economic and material destruction, Scenario 1 signifies a much more severe disaster for the community.

According to a criteria-guided comparison of those two the most likely underlying risks – earthquake and disastrous weather caused landslides and flooding, the conclusion is as follows: The hazard of earthquake occurring in the Taoping area is of low probability, whereas if it occurs, it could substantially destroy the historical buildings, kill and injure numerous people from both the local community and visitors, seriously damage, even annihilate, the tourism-based livelihoods, spoil enormous economic investments.

Heavy rains causing landslides and floods in Taoping has high probability. When it happens, it could severely damage the new residential area, killing and injuring several local residents, cause heavy economic losses due to severe destructions in the new residential area.

Analyzing all available information, earthquakes represent a high level of risk to Taoping, whereas disastrous weather caused landslides and floods represent a mild level of risk.

8.3. Press and Release Model upon Current Vulnerability

The vulnerability of Taoping relate to the heritage property, local community, and the other relevant issues that '*influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard'* (Wisner 2010 p11). The factors from which vulnerabilities emanate, has been deeply related to the post-quake reconstruction. As mentioned earlier, vulnerability is not a 'product' but a 'process' in which vulnerability may increase, decrease, or be reinforced. To further investigate how reconstruction may have increased vulnerabilities in Taoping the Pressure and Release (PAR) model is applied to analyze this particular issue.

What the PAR model is and how it works requires an introduction. The model was initially introduced in the seminal book, *At Risk: Natural Hazards, People's Vulnerability and Disasters* (Wisner et al 2010) and is conceptualized as per Figure 5 and described like this:

> *"[...]a disaster is the intersection of two opposing forces: those processes generating vulnerability on one side, and the natural hazard event (or sometimes a slowly unfolding natural process) on the other[...] that an explanation of disasters requires us to trace the connections that link the impact of a hazard on people with a series of social factors and processes that generate vulnerability. The explanation of vulnerability has three sets of links that connect the disaster to processes that are located at decreasing levels of specificity from the people impacted upon by a disaster. The most 'distant' of these are root causes… that give rise to vulnerability (and which reproduce vulnerability over time) are economic, demographic and political processes [...] Dynamic pressures are the processes and activities that 'translate' the effects of root causes both temporally and spatially into unsafe conditions [...] Unsafe conditions are the specific forms in which the vulnerability of a population is expressed in time and space in conjunction with a hazard. (Wisner et al 2010 p. 52-55)*

The PAR model overlaps the DRR risk assessment model when 'unsafe conditions' in PAR as understood as 'relevant issues' in DRR, and the post-quake reconstruction is understood as 'dynamic pressure' in PAR. This makes the quest for the 'root causes' the focus of the PAR analysis.

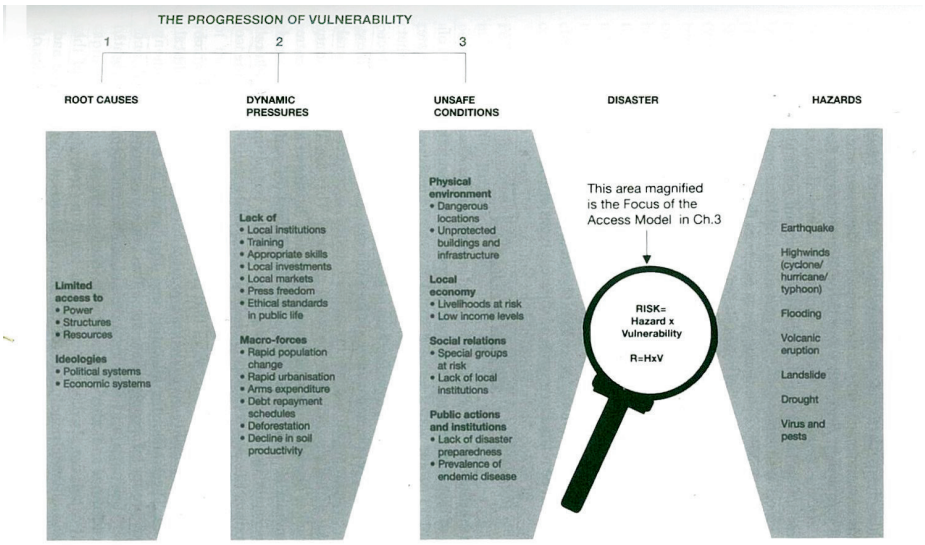


Figure 8. 6 Pressure and Release Model: the Progression of Vulnerability by Ben Wisner

PAR's 'Unsafe conditions' to the underlying hazards have been uncovered as relating to the settlement location in an active seismic zone in a mountainous landscape. The new residential area is exposes to the hazards of landslides and flood. In the investigation of reconstruction it is learned that the structure of historical buildings may not be strong enough to resist the powerful earthquake due to the uncontrolled and unprofessional self-restoration after the official reparation. The new livelihood of Taoping is more fragile than former due to lack of training, skills and experience in tourism. Moreover the local community primarily focus on maximizing profits without investing in disaster preparedness measures or equipment for emergency situation. And finally, no official institution monitors Taoping's heritage properties or prepares the local population for a possible future disaster.

The 'dynamic pressure' of the PAR model is, when applied to Taoping, the initial, fast and top-down managed reconstruction, executed without reference to the DRM circle (fig.8.1) The reconstruction created a series of cause-effect events in Taoping that made the village more vulnerable towards underlying risks. The farmland-taking caused the Taoping people to adapt tourism as their new livelihood using the historical buildings and living environment as a resource to attract tourists. That decision created an animosity towards the official reconstruction, including that of the reparation of the historical buildings. Almost all families in Taoping therefore conducted – on their own - a second 'reconstruction' in order to transform their

buildings into a family inns or guesthouses. Those unprofessional restoration works have subsequently decreased the 'formal' value of the heritage of Taoping. Moreover due to the lack of construction skills, the local restorations has also weakened the traditional structure, a stone warped wooden frame structure that principally do not allow big windows in the stone walls.

Reviewing the changes stemming from the reconstruction, most of them add to the vulnerability of Taoping and its citizens: their new settlement is exposed to the hazards of landslides and floods. Using their agricultural land for new housing deprive the people of their traditional livelihood and makes tourism their new means of livelihood, an occupation where they lack skills and experience. Their new dependency on tourism drives a second 'reconstruction' of the old village, which makes the historical buildings no longer strong against powerful earthquakes in future. The official reconstruction of the old village was solely based on the criteria of heritage conservation, and therefore ignored the importance of establishing a DRM system on the site. The reconstruction only paid attention to the heritage reparation and neglected the crucial fact that heritage conservation is a long-term process that also requires management measures. The 'self-restoration' done by the locals can thus be seen as a consequence of the absence of a heritage management system

These dynamic pressures causing unsafe conditions are embedded in PAR's 'root causes'. The root causes in this case stem from the authority ignoring the crucial role of the local community in reconstructing the cultural heritage of Taoping.

The cultural heritage of Taoping deeply bonds with the community, and the local community plays a crucial role in upholding the Taoping heritage. Taoping is a rural settlement, categorized as a "vernacular cultural heritage", which ICOMOS claims to hold "*a central place in the affection and pride of all people*" (ICOMOS 1999 p.1). ICOMOS particularly highlights the importance of the community in vernacular cultural heritage; "*the appreciation and successful protection of the vernacular heritage depend on the involvement and support of the community, continuing use and maintenance.*" (ibid).

The community was the creator of the historical and aesthetic values attributed to the rural settlement of Taoping. Adapting agriculture as its livelihood is why a rural settlement emerged in the first place. Agricultural activities generated a sustainable relationship between man and nature generating stable social practices that continually left traces on the buildings. These marks slowly, over time, make up, what

Ruskin called the settlement's 'voicefulness'[90] (Ruskin 1989) – and its value as heritage. Under a livelihood-dominated relationship, the community not only created those values but also maintained them for generations. These social practices protected and accumulated these values long before they were identified and labeled 'heritage'.

Local communities play an essential role in rural settlement heritage conservation. This follows the unique position the inhabitants hold by actually living *in* their heritage. This is a different position from any other heritage monument that have become mere physical and symbolic artefacts. The reciprocity between the physical environment and the social practices is made manifest as living *in* their 'physical and symbolic artefacts' is essential for preserving and reproducing the own cultural identity of its inhabitants. This places the community in the primary position of 'heritage user'. It also makes the community the principal 'heritage keepers' along with the heritage administration. And finally, the community is 'teacher' to settlement heritage conservation. Local inhabitants are thoroughly familiar with their living environment and have learnt, or 'inherited' the skills and knowledge on how to build and repair their dwelling in a way experts cannot learn from books.

However, the official understanding of the heritage of Taoping does not recognize the essential role of community in vernacular heritage sites. The official heritage identification of historical Taoping only focuses on the physical buildings and environment. At the beginning of the reconstruction the policy makers did not regard the local community as crucial stakeholders. Even the professionals who were responsible for implementing the project of heritage reparation in Taoping did not recognize that the heritage of Taoping as a vernacular cultural heritage, as by definition, has a very intimate relation with the local community. As a result the reconstruction in Taoping in effect has devalued the heritage, forced to change locals' livelihood, and move the people to a place exposed to hazards. As a result the reconstruction has made Taoping vulnerable to new, potential hazards. (Figure 8.7)

[90] John Ruskin saw 'voicefulness' in buildings as very important. He praised the work of time upon the building as:
(T)he great glory of a building is not in its stones, nor in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy, nay, even of approval or condemnation, which we feel in walls that have been washed by the passing wave of humanity. (Ruskin 1849, Chapter 6)

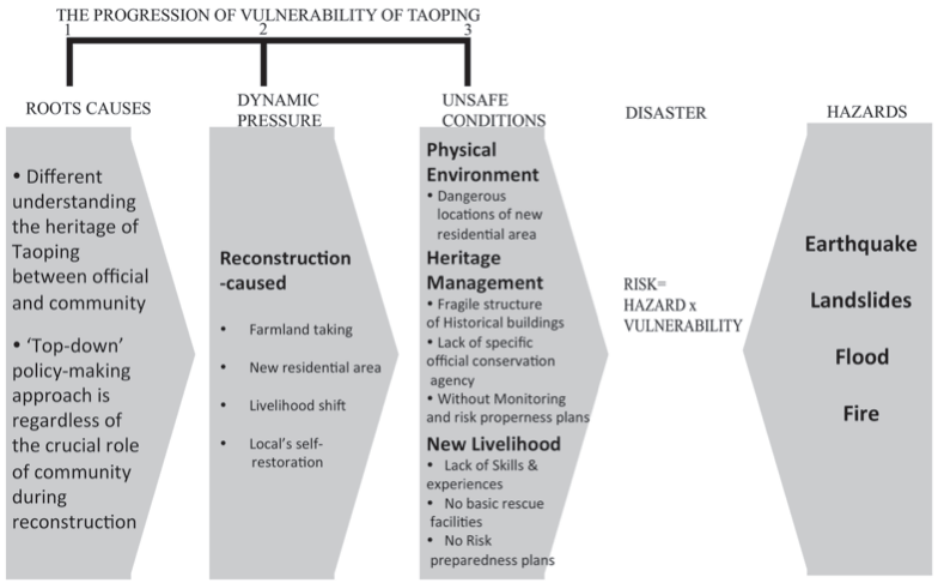


Figure 8. 7 PAR Model Analysis of the Taoping Heritage Settlement

8.4. Conclusion

This article has uncovered that even after post-Sichuan-Earthquake reconstruction, the heritage of Taoping is at high-level risk of earthquake and mild-level risk of disastrous weather caused landslides and flood. The reason lies in the inappropriate post-quake reconstruction program implemented in Taoping. The program of reconstruction has created a series of impacts on the heritage and community of Taoping, that is heightening their vulnerable to the underlying hazards.

The PAR analysis shows that the different understandings the concept of heritage between the local community and policymakers of reconstruction is a central root cause that generate these unsafe conditions. Another root cause is the current 'top-down' implementation approach that largely ignores the crucial role the local community plays in generating and preserving the vernacular cultural heritage of Taoping.

This research can address the following crucial issues: The Disaster Risk Management (DRM) circle requires post disaster reconstruction to respond to a variation of vulnerabilities. Neither post-disaster reconstruction nor DRM cannot work sustainably without recognizing the crucial role of the local community in

vernacular cultural heritage settlements. Risk assessment of vernacular heritage settlements is an effective tool for uncovering the long-term, underlying disaster risks. Combining it with the PAR model can further put the results of the assessment in a social context and thus uncover the root causes of the unsafe conditions.

Part V

Part V Conclusions

Chapter 9

A Sustainable Approach for Post-disaster Rehabitation of Rural Settlement Heritage[91]

[91] This chapter is published in the conference proceeding of 20th Annual International Sustainable Development Research Conference Norwegian University of Science and Technology, Trondheim, Norway, June 18-20, 2014. The second edition of this chapter is accepted for publication in the journal, *Sustainable Development*, John Wiley & Sons. See Appendix V

9. A Sustainable Approach for Post-disaster Rehabitation of Rural Settlement Heritage

9.1. Introduction

The empirical evidence on which this paper is based, stems from the investigation of the reconstruction of the Taoping Village. Taoping is a traditional Qiang minority settlement in China destroyed by the 2008 Sichuan Earthquake. Those events eventually fundamentally altered Taoping both physically and socially. The arguments of this paper rest on these changes.

Rural settlement, meaning "the totality of human society in rural areas with all the social material organizational, spiritual and cultural elements that sustain a community" (Mandal, 1979) was the mainstay of human living space in pre-modern society. Urban settlements, however gradually replaced rural settlements, and have by now become the prevailing mode of human habitation. In fact the UN Population Division proclaimed that as of 2008 more than half of the population on the planet would live in cities (UNFPA 2007). The trend continues. By 2030 more than 80% of the population in developed counties will be urban, and in the less developed counties this figure is predicted as 56% (ibid). Urbanization along with industrialization and capitalism etc. have nurtured a process of modernity. Globalization substantially accelerates it. Both the territorial expansion of cities and the urban migration the urban have caused a dramatic declined the prevalence and vitality of rural settlements. For instance, in the first decade of this century the number of villages in China dropped from 3.7 to 2.6 million, which means that more than 300 villages vanished every day during the past decade.[92]

However, rural settlements manifest the long-term conversation between the human and natural environment and thus hold the records of history and society from the pre-modern era. Hence rural settlements become linkages to the past, i.e. containers of cultural identity and remain vivid examples of how manmade environments sustainably coexisted with the natural environment. That is why rural settlements are

[92] The data is sourced from a report of New York Times, seeing http://www.nytimes.com/2014/02/02/world/asia/once-the-villages-are-gone-the-culture-is-gone.html?_r=0

worth preserving from the wave of urbanization. As matter of fact, traditional rural settlements have been recognized as a certain type of cultural heritage by ICOMOS already in 1999. ICOMOS commended the built vernacular heritage as occupying "a central place in the affection and pride of all people". And apparently, traditional rural settlements compose the major part of this category. From the perspective of ICOMOS, rural settlement heritage, unlike monuments, hold characteristics such as 'utilitarian' and 'imprints of contemporary life' (ICOMS 1999,p1). This paper will try to extend these features in an attempt to explore concept of the rural settlement heritage further. We will do so in the context of post-disaster reconstruction as this will allow us to also uncover the factors that challenge the very idea of rebuilding a sustainable rural heritage settlement in the twenty-first century.

9.2. Characteristics of Rural Settlement

9.2.1. The Livelihood-dominated Relationship between Nature and Built Environment

Rural settlements can be regarded as the outcome of a long-term, pre-modern communication between nature and human beings. This communication was realized through the livelihood activities of agriculture. This stable communication also embodied the process of establishing and maintaining a stable relationship between the natural environment and the built rural settlement, in line with the ICOMOS claim that the built vernacular heritage is 'the fundamental expression of the culture of a community, of its relationship with its territory' (ICOMOS 1999, P1).

Agricultural activities bridged the natural environment and the built rural environment because farming defined the how resources of nature was being utilizing as well as how the built environment best served this livelihood. For instance, the typical residential building of the Qiang people populating the West Sichuan Province in China, was that of a three-storey structure in which first floor was for cattle, the second was for human habitation, and the third floor was for harvest storage. Rural livelihoods, their physical features and social practices are all parts of what Yrjö Haila labels an 'organismic community' (Haila 2000) where 'nature is shaped within social practices'. Farming as a means of livelihood for instance imbued the Qiang people with links to nature so strong that they affected their ontology: they held their

surrounding mountains as sacred. Every year a festival was conducted to show respect to that mountain. In rural settlements, therefore, farming was not merely the linkage of communication between man and nature but also shaped their social practice to form the rural culture as well. Under such circumstances, human culture cannot be isolate from nature just as Haila explained through the 'ecosocial complex':

> Nature consists of a hierarchically organized set of processes which are locally and temporarily stabilized. Human activities are in contact with a restricted set of such processes at any one time. Culture, on the other hand, might be profitably broken into parts by drawing distinctions between 'social practices' (…) which have relatively independent connections with their natural background. (Haila 2000, p167)

The above discussion indicates that agricultural livelihood was not only a way for living but also the way of living. A stable relationship has been founded in which nature, livelihood, social practice, and the built rural settlement were tightly connected in rural settlements. This puts the rural settlement heritage into a 'living context' which leaves it impossible to separate the built rural environment from the other constituting parts. Mediated by agriculture we cannot separate nature and culture. To study vernacular settlement heritage needs to understand this relationship and the research of rural settlement heritage cannot separate the issues of livelihood, nature, and social practice as separate conceptual elements.

9.2.2. Accumulating the Values of Rural Settlement Heritage

ICOMOS asserted that although the built vernacular heritage "is the work of man, it is also the creation of time." (ICOMOS 1999, p1) This assertion also applies to rural settlement heritage. The historic and aesthetic values of rural settlement derived from local inhabitants leaving traces of their daily-life on their dwellings throughout time. However, time is not the only agent, so is the local community. It is thus the interaction between community and time and their impact on settlement buildings that create their historical and aesthetic value.

Time is thus an essential element in creating the values of architecture heritage. This derives from the efforts of time to enhance the appearance of works of art. The term 'patina' is applied to describe this phenomenon. For instance, people do appreciate the changing surface of a bronze sculpture as copper reacts with oxygen in the air and forms a layer of copper oxide with its matt greenish-grey color. The aesthetic values

in works of art are primarily embedded in the initial objects. The other values are just added bonuses. Unlike works of art, buildings were constructed for utility reasons; they were not objects for mere appreciation. As Alois Riegl claimed, we turned many utility works into 'monuments' that was never intended as such by their creators, who were primarily concerned with practical tasks rather than aesthetic goals (Riegl 1928, p44-93). He therefore developed a series of values besides aesthetic value. They are such as 'age value', 'use value', 'newness value', and 'contemporary value'. Among those values, 'age value'' is directly linked to time and is thus recognized as 'historical value'. But for buildings time not only contributed to their historical value but also deliberately empowered building to achieve its aesthetic value. Just as John Ruskin advocated 'voicefulness' in buildings as very important; he praised the work of time upon the building as:

> (T)he great glory of a building is not in its stones, nor in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy, nay, even of approval or condemnation, which we feel in walls that have been washed by the passing wave of humanity. (Ruskin 1849, Chapter 6)

Hence, time in buildings generates both their aesthetic and their historical values in holding the traces everyone in each generation left behind.

Pertaining to rural settlements this linkage to time in particular highlights the traces of daily life, more so, the stability of daily life. The agricultural-livelihood-dominated relationship between nature and built environment assured the continuity and stability of this relationship throughout the pre-modern era. That is due to farming being the dominant agent of the relationship between nature and the permanent housing. This stable relationship secured the same form and function of their built environment for generation upon generation as it also corresponded to a set of stable set of social practices including that of maintaining their physical environment. Hence, the sustainability of their livelihood assured the stability whereby the rural settlements over time accumulated their historical and aesthetic value.

9.2.3. The Modernity Caused Dualism State

Those above achievements of accumulating values and maintaining a generically sustainable relationship between nature and man only exist under the umbrella of the pre-modern. That statement can by itself only be formulated from a present-day

viewpoint – from that of a modern society. As matter of fact, post-tradition generations - standing on the shoulders of enlightenment and equipped with advanced science and technology – initiated a new relationship between nature and humankind. Progressively this new relationship shaped modern society; modernity featuring i.a. capitalism, industrialization, and secularization. Furthermore, through modernity the prevailing worldview converted into anthropocentricism as Heidegger pointed out in his essay of 'The Age of the World Picture':

> The fundamental event of the modern age is the conquest of the world as picture. The word "picture" now means the structured image that is the creature of man's producing which represents and sets before… Namely, the more extensively and the more effectually the world stands at man's disposal as conquered, and the more objectively the object appears, all the more subjectively, i.e., the more importunately, does the subiectum rise up, and all the more impetuously, too, do observation of and teaching about the world change into a doctrine of man, into anthropology. (Heidegger 1977, p115)

The anthropocentric worldview of modern society has generated a dualistic understanding of the past. Modernity has molded a new sensibility and awareness of history and the values of antiquity which can only be fully realized under new and unsustainable relationship between nature and man. A relationship lacking the reciprocity of old as a consequence modern society's sense and value of time is recognized through cultural heritage conservation, which is now universally pursued, re UNESECO's definition:

> The cultural heritage may be defined as the entire corpus of material signs – either artistic or symbolic – handed on by the past to each culture and, therefore, to the whole of humankind. Ad s constituent part of the affirmation and enrichment of cultural identities as a legacy belonging to all humankind, the cultural heritage gives each particular place its recognizable features and is the storehouse human experience. The preservation and the presentation of the cultural heritage are therefore a corner-stone of any cultural policy. (UNESCO 1989, p57)

On the other hand, the reason of extending the cultural heritage territory into built vernacular environment is as ICOMOS admitted that

> Due to the homogenization of culture and of global social-economic

> transformation, vernacular structures all around the world are extremely vulnerable, facing serious problems of obsolescence, internal equilibrium and integration. (ICOMOS 1999, P2)

'Homogenization' of culture and internationalization of the built environment represents a serious threat to cultural identity for present-day people all over the globe and may be seen as the most direct and tangible expression of modernity. In this modernity-caused dualism conserving heritage is a logical necessity in order to protect the fragile and faltering linkage to the past and with traditions we now are able to identify and appreciate.

This is particularly highlighted when dealing with the built rural settlements. Rural settlements used to represent the common arrangement of living space in the pre-modern era, now being replaced by the urban-living model of modern society. Moreover, the traditional relationship between nature and the built rural settlement has been significantly challenged because the conventional agricultural activities might no longer be the dominant mode of livelihood any more. Residents of rural settlement might pursue more profitable and easier careers, livelihood options that would never emerge in the pre-modern society. When these new modes of livelihood took over from faming, a new relationship between nature and community were established in rural settlements. These new livelihood options therefore logically affected the built rural environment: they had to physically adjust in order to suit this new situation. Rural settlement's self-adjustment has been a critical feature throughout history in its response to the requirements of 'daily life'. But in the face of modernity those changes and adaptation might be fundamental and they might thus suspend the very process of value accumulation. Furthermore those modernity-oriented self-adjustments may deconstruct – and destroy - the achievements and values made by the pre-modern paradigm.

9.2.4. A Critical and Controversial Role of Community

Identifying the value of the built vernacular environment as a particular type of cultural heritage is a claim rooted in the modernity-caused dualism. However, to verify it as an independent category and highlight its unique features, the local community plays a critical role in vernacular heritage conservation. Just as ICOMOS advocates "the appreciation and successful protection of the vernacular heritage depend on the involvement and support of the community, continuing use and

maintenance." (ICOMOS 1999, P1) The controversial dimension emerges when the local community is in the process of modernizing, i.e. is changing their social practices and thus their innate relationship to the environment they now are advocated to maintain and protect.

The community was the creator of the historical and aesthetic values attributed to rural settlements. Adapting farming as its livelihood is why a rural settlement emerged in the first place. Agricultural activities generated a sustainable relationship between man and nature in which embedded and stable social practices constantly left traces on the buildings. These marks slowly evolving over time make up the settlement's 'voicefulness' – and its value as heritage. Under the livelihood-dominated relationship, the community not only created those values but also maintained them for generations. These social practices protected and accumulated these values long before they were identified and labeled 'heritage'.

Local communities play an essential role in rural settlement heritage conservation. This follows the unique position the inhabitants hold by actually living in their heritage. This is a different position from any other heritage monument that have become mere physical and symbolic artefacts. Through the fact that the inhabitants are living in their 'physical and symbolic artefacts' is essential for preserving their own cultural identity. This places the community in the primary position of 'heritage user'. But this also makes the community in their capacity as inhabitants the principal 'heritage keepers' along with the heritage administration. And finally, the community is 'teacher' to settlement heritage conservation. Local inhabitants are thoroughly familiar with their living environment and have learnt, or 'inherited' the skills and knowledge on how to build and repair their dwelling in a way experts cannot learn from books.

However, the community stands to play a controversial role in the rural settlement heritage conservation when the community finds itself progressing towards modernity as this process alters the very character of a community and its relationship to the environment. The new livelihood adaption and the ensuing self-adjustment of the community also leave their marks on the traditional rural dwelling. Those marks are unlike those emerging under the umbrella of a traditional society. Moreover those new traces may cover, even destroy the values of heritage generated by the former marks.

9.2.5. Lived-in Cultural Heritage

The circumstance of modern society, have forced the rural settlements to detach from the traditional living model which made the local community the very creators of settlement heritage values as well as their principal protectors. Being detached from the mode of livelihood that generated the heritage values, they also lose their capacity to create and protect, and may ultimately represent a threat to the rural settlement heritage.

From this perspective, the 'policy of conservation' towards settlement heritage can be regarded as another approach to achieving modernity. Although the conservation-generated modernity is much 'milder' than urbanization, the activity of conservation has created a possibility to form the rural settlement heritage into a 'lived-in cultural heritage' showcases. These are places where people live and where their cultural properties are used to sustain their livelihood. "Lived-in cultural heritage" as a self-coined term is differs from a "living cultural heritage" as it refers to the specific situation experienced by traditional rural settlements today.

9.3. The Challenges in Post-disaster Reconstruction of Rural Settlement Heritage

Based on the understanding of the characteristics of rural settlement heritage, we can then try to identify the factors can challenge the aim of reconstructing and rehabilitating a sustainable and resilient rural settlement heritage site after natural disasters, and consequently be able to recommend the necessary tactics towards that aim.

9.3.1. The Complex Process of Reconstruction

Unlike other types of heritage, in a rural settlement heritage site, heritage conservation is an activity that coexists with habitation due to the fundamental function of a rural settlement (heritage): that of living. This coexistence therefore requires that post-disaster reconstruction not merely to rescues the disaster-damaged heritage properties but also – in order to sustain its conservation into the future - to rehabilitate 'the function' of living.

Post disaster heritage reconstruction unlike other objects, cannot be reproduced or renewed during the reconstruction. Because of that, to recover cultural heritage

requires the professionals' delicate and elaborate reparations. Due to irreplaceability of cultural heritage, post disaster reconstruction of cultural heritage can never achieve the aim of retrieving all the values which heritage holds before the disaster. Natural disaster-caused damage is permanent. What one can do is maintain its remained values. Moreover is can be the opportunity to find and then eliminate vulnerabilities by increasing its resilience in order to mitigate the risk from potential natural hazards in the future.

Regarding the community, post-disaster reconstruction means to bring the disaster-affected society back on 'track', which requires recovering or replacing the damaged parts.

Rebuilding damaged living spaces carry fewer restrictions than repairing heritage properties. In this the community may seize the opportunity of pursuing new models of living since the former dwellings were destroyed.

Heritage rescue-reparation is normally secondary to rebuilding dwellings in a post-disaster context. However, those two activities overlap in rural settlement heritage sites as these two missions focus on the very same object– the residential buildings. A challenge, a conflict actually, emerges between pursuing the ideal living space and adhering to the strictly rules-dominated heritage reparation.. Another challenge follows when it comes to appropriately preserving the rebuilt dwellings. Those challenges stem from the complex coexistence of conservation and habitation in rural settlement heritage as they represent both heritage values and living, respectively.

9.3.2. Volatility of Community after Reconstruction

Post-disaster reconstruction is basically about normalizing the disaster-affected area. The reconstruction is primarily focused on the physical environment, For example, the post- earthquake reconstruction in Sichuan took only three years, from 2008 to 2011, to (re)construct more than 2.2 million new dwellings and repair approximately 4.4 million damaged dwellings93. These achievements of reconstruction ensure the return to some sort of normality for the disaster-affected society. But they create a different' 'normalized society', unlike the society before the disaster. The people living there needs time to understand this 'new society' and respond to the alterations caused by reconstruction.

[93] As per data from the National Audit Office of P.R China in its annual audit report of the Post Sichuan earthquake reconstruction, 2011.

Likewise, the community of a rural settlement heritage site needs time to adjust to this reconstruction-altered society. For those in the process of modernizing this adjustment may be seen as an opportunity. When traditional livelihoods are declining along with their living environment, the reconstruction after may be a way of pursuing a modern life style. This way post-disaster reconstruction becomes an accelerated process of modernity. Under such circumstances the community's reactions to reconstruction are unpredictable, which makes the community volatile after reconstruction. In general terms the community may, in other words, utilize reconstruction to shift its livelihood from agricultural activities to something that can modernize the community. However, this renders the community volatile and future livelihood activities unpredictable as they enter into a new and unfamiliar relationship with nature.

Consequently, this volatility of the community challenges the official and predetermined aim of reconstruction: to recreate and thus conserve what was there before the disaster. In effect, the community may actually thwart this mission by altering the (official) reconstruction in order to pursue their strategy towards modernization.

9.3.3. Uncertain Reflection upon the Physical Environment

In a rural settlement heritage site, the reconstruction-caused alterations at first appear in the physical environment. Those alterations soon after impact the social dimension of the community. Furthermore, the impacts do not remain within the social dimension, but also 'rebound' back to the physical environment. This is the uncertain reflection from the rebuilt rural settlements.

This uncertain 'feedback' results from the volatility of a community in the process of modernity in which, the community experiences an accelerated decomposition of their traditional-structured system and hence respond to the opportunities to quickly accomplish their version of modernity. No matter what opportunities community selects, it alienates the rural settlement heritage from the tradition-structured system. Gradually a new relationship between nature and community is established as along with adapting a new means of livelihood. This new livelihood may rework the (re)built environment, i.e. readjusting the recent reconstruction.

The post-Sichuan earthquake reconstruction, for example, experts of heritage conservation repaired the traditional Qiang dwellings, 3-storey stone-timber structured buildings. After the reconstruction, however, the community opted for the

opportunities in tourism as a new means of livelihood. This new livelihood no longer relied on nature's resources but on their living environment, the rural settlement heritage,. Following the requirements of this new livelihood, local residents rearranged the detailed and professionally guided repaired old dwellings into family inns by converting the cattle-breeding place on the first floor and harvest storage space on the third floor into guestrooms. In As we see new livelihoods force alterations, readjustments to the (re)built living environment.. What sort of 'feedback' the environment will give is impossible to state beforehand. The community has several strategic options after reconstruction. As a result, this reflexivity on the part of the community makes the rebuilding of a rural settlement heritage very difficult as the predetermined aim of reconstruction, may not correspond to what the inhabitants see possible after the reconstruction.

9.3. Conclusion & Recommendations

This paper is an attempt to uncover the characteristics of rural settlement heritage, demonstrating that agricultural livelihood was the corner stone to a sustainable relationship between nature and the built environment in the rural world. This relationship is the precondition for a long-term stable collaboration between a community's daily life and time. , Time has left traces in and on the buildings for generations and these marks were recognized as the core values of heritage, as conceptualized by modern society. This social practice-time collaboration continued to accumulate values of heritage until modernity driven changes in livelihoods. These are in turn causing new alterations, new imprints that may be of a totally different nature and thus devalue the heritage. ; Such modernity-driven alternations may question the local community's capacity to maintain and conserve rural settlement heritage.

This exposes three issues which interfere with, and challenge the aim of rebuilding a sustainable and resilient rural settlement heritage site as 'per book'. Issue no. 1 is the complex process of reconstruction due to the coexistence of habitation and conservation in a rural settlement heritage site. That leaves the reconstruction balancing the requirements of preservation with that of contemporary living conditions. Issue no. 2 is the volatility of the community after reconstruction related to the aspirations of the community towards modernization, i.e. a perceived better life.

And in their pursuit towards modernity, the local community may react unpredictably to the reconstruction-created new 'normalized' society because of the uncertainty of their new 'modernized' livelihoods. Humans are reflexive and may not respond 'as predicted' or 'expected'. Issue no. 3 is – for similar reasons - the uncertain response the community will have upon the 'new' physical environment. Again this points to the reflexive relationship man holds towards his built environment. The outcome is thus unpredictable – and may result in the community changing the 'correctly reconstructed' heritage settlement by alterations that they find more useful in their pursuit of a more modernized way of living.

The above discussion indicates that focusing only on the reconstruction is insufficient for achieving a sustainable and resilient built rural settlement heritage site. And it is also clear to accomplish this aim in a short term perspective, is impossible. The reconstruction itself seems to create a volatile situation in which the community's unpredictable reactions to reconstruction may cause alterations to the built environment again - after its reconstruction. That requires a constant monitoring and investigation after reconstructions in order to find out what reactions the local community actually has and what 'feedback' they send back to the rebuilt physical environment – by possibly altering it. During the monitoring and investigation, a non-stop communication and collaboration between heritage conservationists and community members is crucial in order to find a win-win solution. Such a collaboration will have to acknowledge the aspirations of the community for comfortable living. This is a requirement for (re)developing a sustainable and resilient built rural settlement heritage.

Chapter 10
Implications for Practice and Future Research

10. Implications for Practice and Future Research

This research has gained a better understanding of *how do we preserve a cultural heritage settlement damaged by disaster?* In this journey, I explored the very concept of heritage settlement also known as built vernacular heritage. Then I employed the theories of modernity and citizenship to justify my research question. This justification went further when I stood upon the previous experiences of rebuilding heritage after disasters. In addition I deployed a series of research methods for a case study of Taoping, a Qiang traditional settlement which had been reconstructed after 2008 Sichuan Earthquake. The Taoping case research gave a better understanding of that question. However it may be worth normalizing those findings and summarize them as a holistic body that may benefit practice and research of this area.

As aforementioned I name heritage settlement as 'lived-in cultural heritage' despite ICOMOS regards the built vernacular heritage as a 'living heritage'. I agree that habitation continues from then and now in settlements. That empowers heritage settlements a unique attribute which differ themselves from monuments. However when we look at present living activities of habitants we find the way of living is compared to the past. The way of living in the past formed a long-period stable relationship between the community and the living environment. The traditional livelihood i.e. agricultural activities is the reason of remaining this relationship. Consequently this stable relationship helped to shape the social practices of a community and values of historical buildings.

When a settlement is identified as a cultural heritage the coexistence of habitation and conservation creates a state, in which historical buildings cannot change although a new way of living is taking place. This new way might result from the change of inhabitants' livelihood or the ideal pursuit of modern life. That might suspend the accumulation of heritage values due to the former stable relationship has broken. But one of values of heritage settlements shows the life experiences of pre-modern society that is thus mixed with the new way of living. 'Lived-in cultural heritage' highlights the mixture between traditional living activities and modern living activities, which uncovers that present habitation has gradually broken the traditional relationship and

then founded a new one. This new relationship may make an impact on the heritage settlement conservation substantially. ‘Lived-in cultural heritage’ also poses a question of what is the role of local community in a heritage settlement.

Rethinking heritage settlement revealed the local community study is the key issue to answer my research question. That is because the habitants’ living activities and their attitude towards historical buildings heavily influence the practice of heritage conservation. Likewise after disasters the reactions of local residents to the reparation of historical buildings are the important reference for rebuilding plans. It is worth asking what attitudes and reactions local residents hold and why. In this way it is a result from the locals’ understanding of heritage settlements and heritage conservation. This understanding stems from the social environment. Specifically this understanding is determined by a situation of modernity and status of citizenship in the community. Therefore we can ‘measure’ community in a ‘reference frame’ created by modernity and citizenship. By locating the ‘coordinates’ of community in this frame can be supportive to predict the possible reactions of habitants. The ‘coordinates’ can be identified by investigating the extent of modernization and stage of citizenship.

Likewise the community’s attitudes and reactions are critical towards heritage settlement reconstruction after disasters. Historical dwellings are the homes of local people that is the precondition to let those buildings become a heritage. Post-disaster reconstruction of heritage settlements is not only to repair the damaged heritage but also to help local residents to reestablish their homes. Meanwhile during the post-disaster recovery ‘coordinates’ of community might change that could generate new attitudes and reactions to rebuild heritage settlements. The ‘changed coordinates’ however cannot be predicted before disasters. That needs to modify the pre-set goal of reconstruction. Hence post-disaster reconstruction of heritage settlements is more complex and challengeable than the other types of heritage due to the community’s volatility.

Let me reclaim my assumption: heritage settlement is ‘lived-in cultural heritage’ that features local community is a key issue to the practice of heritage settlement conservation. The extent of modernity and stage of citizenship heavily influenced

what attitudes and reactions community might hold when they face heritage settlement reconstruction after disasters. And those attitudes and reactions might change after the reconstruction and the change might rebound to rebuilt heritage settlements.

I conduct a case study to verify the above assumption. In this case research three individual studies have been carried out. The assumption has indeed been proved in my case study. However some parts of assumption did not get enough spotlights in the papers I have published. That is due to this thesis adopts the form of papers collection. Consequently the final insights were not enough clarified when I drew the conclusions in those papers. That I mean is a natural way of getting new knowledge through research, a way of gradually step-by-step understanding the object you are studying. On this perspective those papers were the evidences of perceiving new knowledge stage-by-stage. However that is needed to clarify the process of verifying this assumption in this three-phased case study.

The first study is the research of post-quake reconstruction, a past event, in which I found: during top-down policymaking guidance habitants of Taoping were absent during the official reconstruction. Meanwhile experts of heritage conservation failed to identify Taoping as a lived-in cultural heritage settlement when they rebuilt Taoping. Consequently official reconstruction failed to satisfy the dwellers of Taoping that lead to 'the second reconstruction' – locals' self-restoration. The local community absence from official reconstruction because that Taoping people has not got full rights of citizenship which constrain them to have a voice in the official reconstruction. The motivation of self-restoration implied that Taoping people were in the process of modernization, a transformation from pre-modern to modern society.

The second study is about the impact of reconstruction on local community, an ongoing influence. According to my investigation the new residential area has been built on the former agricultural land which forced Taoping inhabitants to change their livelihood from agricultural activities to tourism business. During the livelihood change people of Taoping redecorated their historical housing then converted them into tourist attractions, family inns etc. In addition they also modified their social memory, history and tradition in order to be a Qiang culture showcase to tourists. In

this study I use the modernity and citizenship 'reference frame' to explain why local residents take those actions. Also via that frame I uncovered what attitudes the community holds towards heritage settlements. The locals' efforts for new livelihood can be regarded as the powerful impacts of social modernity on community members who however did not gain the full rights of citizenship. When the social right is still missing in the citizenship of Taoping, inhabitants cannot appreciate the values of heritage which is the host of their joint identity. They are unable to recognize the serious consequence of modifying their memory and history. On the contrary the community regards heritage and their history as the unique capital in pursuing their economic right. Consequently the new livelihood turns Taoping into a 'history Disneyland'.

The last study is about the performance of changed heritage settlements in facing with future underlying disaster risks. The change results from 'two reconstructions'-created unexpectedly built environment according to the first study. Community's livelihood shift and social practice of modification enhance the level of change according to the second study. In this study I applied risk management as a research tool which follows the form of a circle and it keeps running. Reconstruction and recovery after disaster becomes the foundation of next round of risk preparedness. However built environment changed a lot and the community of Taoping has changed a lot. That engages us to reconsider Taoping's future of facing the underlying disaster risks. Risk assessment towards Taoping is worth employing in order to identify the vulnerability of Taoping. In fact, the result of risk assessment shows Taoping remains vulnerable to earthquake and extreme-weather-caused hazards. Study 1 and study 2 can explain why Taoping is still vulnerable after the reconstruction. Study 1 illustrates the reason of making the structure of historical buildings more weak is self-restoration after official reconstruction. Study 2 illustrates the location of a new residential area is vulnerable to flood and landslides. New livelihood now is developing in a way of unsustainable which makes Taoping people vulnerable to the hazards. The modernity and citizenship crated 'reference frame' benefits this study to locate out the root reason of making Taoping vulnerable. Poor-developed citizenship failed to involve the community in the official reconstruction and it also let conservationists hardly recognize key the feature of Taoping – a 'lived-in cultural heritage' settlement.

During the transformation from pre-modern to modern society Taoping people focus on social modernization but neglect the development of a cultural modernity.

Some important principles can be refined in the journey of answering my research question. The principles may benefit the practice. They are as following:

- Heritage settlement conservation after disasters is inevitable to consider the interaction between habitation and conservation and to explore the relationship between community and historical buildings.
- A successful practice requires heritage administrations and conservationists to be aware of the critical role of the community.
- During post-disaster reconstruction what attitudes the community might response and what reaction a community may take towards heritage conservation are the crucial references for making reconstruction policy and plans.
- In order to uncover the attitudes and reactions it is needed to have a good investigation and study to local inhabitants.
- Modernity and citizenship can make an efficient 'reference frame' to identify community's status which is the key to predict locals' reactions and attitudes.
- Heritage administrations and conservationists need to employ risk management system to the practice by admitting risk management is a non-stop constant running circle.
- Reconstruction is not the end but also the beginning of management. They need to pay attention to the impacts of reconstruction on the community. This impact may change a community in many ways.

All in all reconstruction is not the end but just the beginning.

Reference

Altman, Irwin, and Setha M. Low. *Place Attachment.* New York, NY: Plenum Press. 1992.

Atkinson, P. et al. (1999) *The Doctoral Experience; Success and Failure in Graduate School*. New York: Routledge

Baudelaire, C. (1846) The Salon of 1846. In: Charvet, E. P. (trans.) (1972) *Baudelaire Selected Writings on Art & Artists*. Cambridge: University of Cambridge

Baudelaire, C. (1863) The Painter of Modern Life. In: Mayne, J. (trans. & ed.) (1995), *The Painter of Modern Life and The Other Essays*. London: Phaidon Press

Baudelaire, C. [trans. H. Curwen] (1873) Edgar Allan Poe: His Life and Works, In: *The Works of Edgar Allan Poe*. London: John Camden Hotten. p. 1-21

Benjamin, W [trans. Zohn, H.] (1940). On Some Motifs in Baudelaire. In: Arendt, H. (eds.) (1968) *Illuminations: Essays and Reflections*. New York: Schocken Books

Beveridge, W. I. B. (1951) *The art of scientific investigation*. London: William Heinemann.

Boen, T. & Jigyasu, R. (2005) Cultural Considerations for Post Disaster Reconstruction Post-Tsunami Challenges*. Asian Disaster Management News 11(2)*

Bowman, I (1988) Conservation of Historical Buildings in a Seismic Zone: a New Zealand Perspective. In *Bulletin of the New Zealand National Society for Earthquake Engineering*. 21 (2). P.128-134

Brandi, C. (1963) Theory of Restoration. In: Price, S. N. et eds. (1996) *Historical and Philosophical Issues in the Conservation of Cultural Heritage.* LA: Getty Trust p. 230-235, P339-342

Branigan, Tania. "Survivors Look to Rebuild Their Homes and Lives." *The Guardian*, May 21, 2008. http://www.theguardian.com/world/2008/may/22/chinaearthquake.china

Calinescu, M. (1987) *Five Faces of Modernity: Avant-Grade, Decadence, Kitsch, Postmodernism*. Durham: Duke University Press

Chen, T. (2012) The Rescue, Conservation, and Restoration of Heritage Sites in the Ethnic Minority Areas Ravaged by the Wenchuan Earthquake. *Frontiers of Architectural Research* 1 (1) p.77-85

Connerton, P. (1989), *How Societies Remember*, P. 72-105, Cambridge University Press, New York

Creswell, W. J. (2003) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. California: Sage

Croci, G. (2003) Structures and Architecture. In *More Than Two Thousand Years in History of Architecture – Safeguarding the Structure of our Architectural heritage, September 10-12, 2001, Paris*. Paris: UNESCO. P. 31-37

Dalen, Kristin, Hedda Flatø, Liu Jing, and Zhang Huafeng. *Recovering from the Wenchuan Earthquake—Living Conditions and Development in Disaster Areas 2008–2011*. Oslo, Norway: Fafo, 2012.

Donovan, Claire. "Top-Down Approach." *Encyclopedia of Governance*, Vol. 2. Edited by Mark Bevir. 971–2. Thousand Oaks, CA: Sage, 2007.

Duff, M. (2008) Pisa's Leaning Tower 'Stabilised'. *BBC* May 28th [Online] Available from http://news.bbc.co.uk/2/hi/7423957.stm [Accessed: 27th Feb. 2015]

Erving, G (1959), *The Presentation of Self in Everyday Life,* Chapter 1, 3, Anchor Book, P. New York

Feilden, M. B. (1981) Conservation of Materials and Practical Applications of Scientific Research in Restoration Work. In *Nessum Futuro Senza Passato*. Roma: ICOMOS

Flyvbjerg, B. Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*. 12(2) p.219-245

Gay, P. (1995) *The Enlightenment: An Interpretation*. New York: W. W. Norton & Company

Giddens, A. & Pierson, C. (1998) *Conversations with Anthony Giddens – Making Sense of Modernity*. Stanford: Stanford University Press

Great Britain. Department of National Heritage (1993). *Fire Protection Measures for the Royal Palaces.* London: Stationery Office Books

Habermas, J. (1983) Modernity – An incomplete Project. In: Foster, H. (eds.). *The Anti-Aesthetic: Essays on Postmodern Cultural*. Seattle: Bay Press

Haila, Y. (2000), Beyond the Nature-Culture Dualism. *Biology and Philosophy*. Kluwer Academic Publisher, Netherlands

Hamdi, Nabeel. *The Placemaker's Guide to Building Community*. London, UK: Routledge, 2010.

Heidegger, M. (1977) *The Question Concerning Technology and Other Essays*. New York: Harper Torch Books

Heidegger, M.(1977), *The Question Concerning Technology and Other Essays*, P.115-154, Harper Torch Books, New York

ICOMOS (1964) *International Charter for the Conservation and Restoration of Monuments and Sites (Venice Charter).* [Online] Available from: http://www.icomos.org/charters/venice_e.pdf [Accessed: 24th Feb. 2015]

ICOMOS (1892) *Declaration of Dresden on the "Reconstruction of Monuments Destroyed by War".* [Online] Available from http://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/184-the-declaration-of-dresden [Accessed 27th Feb. 2015]

ICOMOS (1999) Charter on the Built Vernacular Heritage. [Online]. Available from http://www.icomos.org/en/practical-information/179-articles-en-francais/ressources/charters-and-standards/164-charter-of-the-built-vernacular-heritage [Accessed: 24th Feb. 2015]

ICOMOS (2005) *Kyoto Declaration 2005 on Protection of Cultural Properties, Historic Areas and their Settings from Loss in Disasters.* [Online] Available from http://www.international.icomos.org/xian2005/kyoto-declaration.pdf [Accessed: 27th Feb. 2015]

Jigyasu, R. (2002) *Reducing Disaster Vulnerability through Local Knowledge and Capacity- the case of earthquake prone rural communities in India and Nepal.* Trondheim: Norwegian University of Science and Technology

Jigyasu, R. (2004) Sustainable Post Disaster Reconstruction Though Integrated Risk Management – the case of rural communities in south Asia. *Research in Architecture and Planning*. 3(3)

Jigyasu, R (2006) "Integrated Framework for Cultural Heritage Risk Management" in *Disaster and Development*, Vol1, No1, New Delhi

Jigyasu, R (2010) *Risk Assessment of World Cultural Heritage: Tools & Methodology, conference paper for Risk Assessment in Heritage: a need or a luxury?,* University of Porto, Portugal

Jigyasu, R. & Arora, V. (2013) *Disaster Risk Management of Cultural Heritage in Urban Areas;- A Training Guide*, RitsDMUCH, Kyoto, Japan

Jokilehto, J. (1999) *A History of Architecture Conservation*. New York: Routledge

Jokilehto, J. (2013) Reconstruction in the World Heritage Context. In *European Association for Architectural Education*, Rome 28-31 October 2013

Jokilehto, J. (1999) *A History of Architecture Conservation*. New York: Routledge

Jorgensen, L. D. (1989) *Participant Observation: A Methodology for Human Studies*. California: Sage

Kant, I [trans. Nisbet B. H.] (2009). *An Answer to the Question: 'What is Enlightenment'*. London: Penguin Books

Loustalot D. B. (2013) Beyond the Appearance of Heritage: Reconstruction of Historical Areas Affected by Earthquake in Chile. *International Journal of Architecture Research* 7(3). P.24-39

Lowenthal, D. (1999) *The Past is a Foreign Country*, Chapter 2, 5, 6, Cambridge University Press, New York

Marshall, H. (1950) Citizenship and Social Class. In: Manza, J. & Sauder, M. eds. (2009) *Inequity and Society*. New York: W. W. Norton and Co.

Morris, W. et al, (1877) The Manifesto. [Online] 2009. Available from: http://www.spab.org.uk/what-is-spab-/the-manifesto/ [Accessed: 24th Feb. 2015]

Poe, E. A. (1840) *The Man of the Crowd*. [Online]. Available from http://pinkmonkey.com/dl/library1/crow.pdf . [Accessed: 24th Feb. 2015]

Petzet, M. (2003) The Politics of Conservation on the Threshold of the Third Millennium. In *More Than Two Thousand Years in History of Architecture – Safeguarding the Structure of our Architectural heritage, September 10-12, 2001, Paris.* Paris: UNESCO. P. 26-28

Pierre, P. (1985) *Emergency Measures and Damage Assessment after an Earthquake*. [Online] Available from http://unesdoc.unesco.org/images/0006/000632/063242eb.pdf [Accessed: 27th Feb. 2015]

Price, U. (1796) *An Essay on the Picturesque: As Compared with the Sublime and the Beautiful; And, on the Use of Studying Pictures, for the Purpose of Improving Real Landscape.* London: J. Robson. [Online] May 2008 Available: http://books.google.no/books?id=Nbo8AAAAYAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false [Accessed: 24th Feb. 2015]

Price S. N. Talley M. K. Vaccaro A. M. (1996) *Historical and Philosophical Issues in the Conservation of Cultural Heritage*. P. 69-84, 42-44, 365-366, Getty Conservation Institute

Ram B. Mandal (1979), *Introduction to Rural Settlement*, P.22 Concept Publishing Company. New Delhi

Rapoport, A. "A Critical Look at the Concept of 'Home'." In *The Home: Words, Interpretations, Meanings and Environment.* Edited by David N. Benjamin. 25–52. Aldershot, UK: Avebury, 1995.

Riegl, A. (1905) Neue Strömugen in der Denkmalpflege. In: Bacher, E. (ed.) (1995) *Kunsewerk oder Denkmal? Alois Riegls Schriften zur Denkmalpflege*. Köln/Weimar Böhlau Verlag

Riegl, A. (1903) The Modern Cult of Monuments: Its Essence and Its Development. In: Price, S. N. et eds. (1996) *Historical and Philosophical Issues in the Conservation of Cultural Heritage.* LA: Getty Trust

Ruskin, J. (2006) *The Poetry of Architecture.* [Online] Project Gutenberg Available from http://www.gutenberg.org/files/17774/17774-h/17774-h.htm [Accessed: 24th Feb. 2015] (Original work published 1885)

Ruskin, J. (1851) The stone of Venice. In: Cook T. E. & Wedderburn, A. (eds.) (1903) *The Works of John Ruskin*. New York: Longmans, Green & Co.

Ruskin, J. (1849) The Seven Lamps of Architecture. In: Cook T. E. & Wedderburn, A. (eds.) (1903) *The Works of John Ruskin*. New York: Longmans, Green & Co.

Skotte, H. (2004) *Tents in Concrete: What International Funded Housing does to Support Recovery in Areas Affected by War (Doctoral Thesis)*. Trondheim: Norwegian University of Science and Technology (NTNU)

State Council of the People's Republic of China. "Regulations on Post-Wenchuan Earthquake Restoration and Reconstruction." Order of the State Council of the People's Republic of China no. 526. June 8, 2008. http://www.sc.gov.cn/10462/10758/10759/10764/2012/7/26/10219700.shtml [Accessed: 24th Feb. 2015]

Stovel, H. (1998) *Risk Preparedness: A management Manual for World Cultural Heritage*. Rome: International Center for the Study of the Preservation (ICCROM)

Turner S. B. ed. (1993) *Citizenship and Social Theory*. London: SAGE Publications Ltd

UNESCO (2007) *Item 13 of the Provisional Agenda: Evaluation of the results of the implementation of the Committee's Strategic Objectives - Proposal for a 'Fifth C' to be added to the Strategic Objectives.* [Online] Available from http://whc.unesco.org/archive/2007/whc07-31com-13be.pdf [Accessed: 24th Feb. 2015]

United States. National Fire Protection Association (2007) *NFPA 914: Code for Fire Protection in Historic Structures, 2007 Edition.* Massachusetts: NFPA

United States. National Fire Protection Association (2010) *NFPA 909: Code for the Protection of Cultural Resource Properties - Museums, Libraries, and Places of Worship, 2010 Edition.* Massachusetts: NFPA

UNESCO (1954) *Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention 1954*. The Hague. [Online] Available from http://unesdoc.unesco.org/images/0008/000824/082464mb.pdf [Accessed: 27th Feb. 2015]

UNESCO (1994) *Nara Document on Authenticity*. [Online] Available from http://whc.unesco.org/document/116018. [Accessed 27th Feb. 2015]

UNESCO. *Convention Concerning the Protection of the World Cultural and Natural Heritage, Item 9: The Budapest Declaration on World Heritage.* WHC-02/CONF.202/5. Paris, France: Author, 2002. http://whc.unesco.org/archive/2002/whc-02-conf202-5e.pdf[Accessed: 24th Feb. 2015]

UNESCO. *Convention Concerning the Protection of the World Cultural and Natural Heritage, Item 13: Evaluation of the Results of the Implementation of the Committee's Strategic Objectives.* WHC-07/31.COM/13B. Paris, France: Author, 2007. http://whc.unesco.org/ archive/2007/whc07-31com-13be.pdf [Accessed: 24th Feb. 2015]

UNESCO (2013) *Event description of The Fourth Session of the Global Platform for Disaster Reduction*. [Online] Available from: http://whc.unesco.org/document/123578. [Accessed: 27th Feb. 2015]

UNFPA (2007), *State of World Population*, Available: http://www.unfpa.org/webdav/site/global/shared/documents/publications/2007/695_filename_sowp2007_eng.pdf [Accessed: 24th Feb. 2015]

UNISDR (2005) *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.* [Online] Available from http://www.unisdr.org/files/1037_hyogoframeworkforactionenglish.pdf [Accessed: 27th Feb. 2015]

UNISDR et al. (2013) Heritage and Resilience – Issues and Opportunities for Reducing Disaster Risks. [Online] Available from http://icorp.icomos.org/images/documents/Heritage%20and%20Resilience%20Book%20for%20GP2013%20Disaster%20Management.pdf [Accessed: 27th Feb. 2015]

Waller, R. & Michalski, S. (2004) Effective Preservation: From Reaction to Prevention. *Conservation The Getty Conservation Institute Newsletter* 19(1). P.4-9

Walter, B. (2008) *The Work of Art in the Age of Mechanical Reproduction*, P.1-51, Penguin Books, London

Wang, Y. Sauarlia, L. (2014) Reshaping Place, Reshaping People? in *the 2nd Biennial Conference on Anthropology and Sustainability in Asia, Hiroshima, Japan*,

Wang, Y & Skotte, H (2014) "Reconstruction after Reconstruction" in Awotona, Adenrele (ed) *Rebuilding Sustainable Communities after Disasters in China, Japan and Beyond*, Cambridge Scholars Publishing, UK

Wang, Y. Skotte, H (2014), Still at Risk? in *2014 CRSCAD international conference in disaster mitigation, preparedness, response and sustainable reconstruction – the role of architectural, planning, and engineering education, UMASS Boston, USA*

WHC (2013) *The Operational Guidelines for the Implementation of the World Heritage Convention*. [Online] Available from http://whc.unesco.org/en/guidelines/ [Accessed: 27th Feb. 2015]

Wisner, B. & Blaikie, P. (2010) *At Risk Nature Hazards, People's Vulnerability and Disaster*, Routledge, New York

Wordsworth, W. (2013). pp. 236-7. *The Poetical Works of William Wordsworth (Vol. 8)*. London: Forgotten Books. (Original work published 1886)

Xinhua News Agency. "Premier says Quake Relief Shifting to Reconstruction." *China Daily*, May 25, 2008. http://www.chinadaily.com.cn/business/2008-05/25/content_6709999.htm [Accessed: 24th Feb. 2015]

Xinhua News Agency. "China to Build 1.5 Million Make-Shift Houses." *China Daily*, May 25, 2008. http://www.chinadaily.com.cn/bizchina/2008-05/25/content_6709814.htm [Accessed: 24th Feb. 2015]

Xinhua News Agency. "文物局表示将尽快开展地震灾区文物抢救工作" ["Cultural Relics Bureau Says it Will Carry Out Work as Soon as Possible to Rescue Cultural Relics from Earthquake Disaster."] *China News*, May 19, 2008. http://news.xinhuanet.com/newscenter/2008-05/18/content_8199391.htm [Accessed: 24th Feb. 2015]

Yin, K. R. (1994) *Case Study Research: Design and Methods*. California: Sage

孙成民 (2010) 四川地震全记录 公元前 26 年至公元后 2009 年, 四川人民出版社, 成都－Sun Chengmin (2010) *Records of Sichuan Earthquake from 26 BC to 2009 AC*, Sichuan People Publisher, Chengdu

沈三陵(2001) 桃坪羌寨保护规划，清华大学，北京－Shen Sanling (2001) *Taoping Conservation Planning, Tsinghua University*, Beijing

王明珂（2008）羌在藏汉之间，中华书局，北京－Wang MIngke (2008) *Qiang Between Tibet and Han*, Zhonghua Book Company, Beijing

中国建筑研究院建筑历史研究所 "桃坪羌寨抢险修保护工程——灾后保护工程规划" -The Chinese Architectural History Institute (CAHRI), *"2008 Post Sichuan Earthquake Reconstruction Planning of Taoping*" Unpublished paper on Urban Planning. 2008.

中国建筑研究院建筑历史研究所 [The Chinese Architectural History Institute (CAHRI)]. "桃坪羌寨抢险维修保护工程——灾后保护工程规划" ["2008 Post

Sichuan Earthquake Reconstruction Planning of Taoping"]. Unpublished paper on Urban Planning. 2008.

中国建筑研究院建筑历史研究所 [The Chinese Architectural History Institute (CAHRI)]. "桃坪羌寨抢险维修保护工程——抢险维修工程方案" ["2008 Post Sichuan Earthquake Reconstruction Design of Taoping"). Unpublished Paper on Urban Planning. 2008.

中国国家文物局，中国建筑研究院建筑历史研究所[State Administration of Cultural Heritage (SACH), China, and the Chinese Architectural History Institute (CAHRI)].《国家汶川地震灾后重建划文物救保修复划大纲》["2008 Post-Sichuan Earthquake Reconstruction Planning on Cultural Heritage"]. Unpublished Paper on Architectural Design. 2008.

Appendix I

Appendix I
"Modernity and Cultural Heritage Conservation" (现代性与文化遗产保护)
in the Chinese journal, *Community Design* (住区) 03/2014 (61), (p.34-p.37)

Is not included due to copyright

Appendix II

"Reconstruction after Reconstruction: A Study of the Post-earthquake Reconstruction of Taoping Village, a Traditional Qiang Settlement in Sichuan, China"
as published in a book of *Rebuilding Sustainable Communities after Disasters in China, Japan and Beyond*, Awotona, A. ed. (2014) Cambridge Scholar Publishing (P.55-p.59)

Appendix II

Is not included due to copyright

Appendix III

"Reshaping Place, Reshaping People? The Social Impact of the Reconstruction Strategy Applied in Reconstructing the Qiang Village of Taoping Following the 2008 Sichuan Earthquake"

published in the conference proceeding of The 2nd Biennial Conference on Anthropology and Sustainability in Asia. Hiroshima, Japan. March 26-18, 2014 (p.91-p.96)

Appendix III

Is not included due to copyright

Appendix IV

"Still at Risk? After Recosntruction: How does the Mode of Reconstruction Cause New Vulnerabilities when Rebuilding a Vernacular Cultural Heritage Settlement."
accepted as a book chapter in *Planning for Community-based Disaster Resilience Worldwide: Learning from Case Studies in Six Continents.* Awotona, A. ed. Ashgate Publishing Limited

Appendix IV

Is not included due to copyright

Appendix V

"A Sustainable Approach for Post-disaster Rehabitation of Rural Settlement Heritage"
as published in a conference proceeding of 20th Annual International Sustainable Development Conference Norwegian University of Science and Technology, Trondheim, Norway June 18-20, 2014. (p.289-p.296) Second edition is accepted to the journal, *Sustainable Development*

Appendix V

A SUSTAINABLE APPROACH FOR POST-DISASTER REHABITATION OF RURAL SETTLEMENT HERITAGE

YU WANG[1], **HANS SKOTTE**[2]
[1]Yu Wang Ph.D. candidate, Dept. Urban Design and Planning, Norwegian University of Science and Technology; wang.yu@ntnu.no
[2]Hans Skotte Professor, Dept. Urban Design and Planning, Norwegian University of Science and Technology; hans.skotte@ntnu.no

ABSTRACT
Rural settlements emerged as a consequence of a long-term communication between nature and people. Agricultural activities as a sustainable livelihood were the means of this communication. Nowadays some of the remaining rural settlements are identified as cultural heritage as a demand from the development of modern society, which holds new and totally different relationship between nature and people. A change which tends to make different nations and cultures similar. Hence, a rural settlement heritage is a manifestation of a bygone traditional sustainable development model and a container of cultural identity.
Conservation of rural heritage settlements is also challenged by the extension of modern society and modernity, where the sustainable relationship between nature and the local community is being gradually replaced. In such circumstances, rural heritage settlements become 'lived-in cultural heritage settlements' rather 'living heritage settlements' in which the local community inherits the knowledge and skills of maintaining and preserving the built environment; whereas in the former modernity weakened that relationship not only towards their built environment, but also to nature.
Present-day post-disaster reconstruction of rural heritage settlements may not merely be about rescuing the damaged heritage artefacts and objects but also carries the mission of recovering the daily life of local communities. But in reality post-disaster reconstruction may also be an opportunity to accelerate the process towards modernity in which the relationship between nature, the traditional living environment and local community may be fundamentally altered during a very short period. However this new relationship needs time and cannot be predicted precisely and therefore becomes uncertain.

Keywords: Rural Settlement, Modernity, Post-disaster Reconstruction, Local Community

1 INTRODUCTION

The empirical evidence on which this paper is based, stems from the investigation of the reconstruction of the Taoping Village. Taoping is a traditional Qiang minority settlement in China destroyed by the 2008 Sichuan Earthquake. Those events eventually fundamentally altered Taoping both physically and socially. The arguments of this paper rest on these changes.[1]
Rural settlement, meaning "the totality of human society in rural areas with all the social material organizational, spiritual and cultural elements that sustain a community" (Mandal, 1979) was the mainstay of human living space in pre-modern society. Urban settlements, however gradually replaced rural settlements, and have by now become the prevailing mode of human habitation. In fact the UN Population Division proclaimed that as of 2008 more than half of the population on the planet would live in cities (UNFPA 2007). The trend continues. By 2030 more than 80% of the population in developed counties will be urban, and in the less developed counties this figure is predicted as 56% (ibid). Urbanization along with industrialization and capitalism etc. have nurtured a process of modernity. Globalization substantially accelerates it. Both the territorial expansion of cities and the urban migration the urban have caused a dramatic declined the prevalence and vitality of rural settlements. For instance, in the first decade of this century the number of villages in China dropped

[1] Most of the data appears in ref. 9, 10, 11, see list of references

from 3.7 to 2.6 million, which means that more than 300 villages vanished every day during the past decade.[2]

However, rural settlements manifest the long-term conversation between the human and natural environment and thus hold the records of history and society from the pre-modern era. Hence rural settlements become linkages to the past, i.e. containers of cultural identity and remain vivid examples of how manmade environments sustainably coexisted with the natural environment. That is why rural settlements are worth preserving from the wave of urbanization. As matter of fact, traditional rural settlements have been recognized as a certain type of cultural heritage by ICOMOS already in 1999. ICOMOS commended the built vernacular heritage as occupying "a central place in the affection and pride of all people". And apparently, traditional rural settlements compose the major part of this category. From the perspective of ICOMOS, rural settlement heritage, unlike monuments, hold characteristics such as 'utilitarian' and 'imprints of contemporary life' (ICOMS 1999,p1). This paper will try to extend these features in an attempt to explore concept of the rural settlement heritage further. We will do so in the context of post-disaster reconstruction as this will allow us to also uncover the factors that challenge the very idea of rebuilding a sustainable rural heritage settlement in the twenty-first century.

2 CHRACTERISTICS OF RURAL SETTLEMENT

2.1 The Livelihood-dominated Relationship between Nature and Built Environment

Rural settlements can be regarded as the outcome of a long-term, pre-modern communication between nature and human beings. This communication was realized through the livelihood activities of agriculture. This stable communication also embodied the process of establishing and maintaining a stable relationship between the natural environment and the built rural settlement, in line with the ICOMOS claim that the built vernacular heritage is 'the fundamental expression of the culture of a community, of its relationship with its territory' (ICOMOS 1999, P1).

Agricultural activities bridged the natural environment and the built rural environment because farming defined the how resources of nature was being utilizing as well as how the built environment best served this livelihood. For instance, the typical residential building of the Qiang people populating the West Sichuan Province in China, was that of a three-storey structure in which first floor was for cattle, the second was for human habitation, and the third floor was for harvest storage. Rural livelihoods, their physical features and social practices are all parts of what Yrjö Haila labels an 'organismic community' (Haila 2000) where 'nature is shaped within social practices'. Farming as a means of livelihood for instance imbued the Qiang people with links to nature so strong that they affected their ontology: they held their surrounding mountains as sacred. Every year a festival was conducted to show respect to that mountain. In rural settlements, therefore, farming was not merely the linkage of communication between man and nature but also shaped their social practice to form the rural culture as well. Under such circumstances, human culture cannot be isolate from nature just as Haila explained through the 'ecosocial complex':

> Nature consists of a hierarchically organized set of processes which are locally and temporarily stabilized. Human activities are in contact with a restricted set of such processes at any one time. Culture, on the other hand, might be profitably broken into parts by drawing distinctions between 'social practices' (…) which have relatively independent connections with their natural background. (Haila 2000, p167)

The above discussion indicates that agricultural livelihood was not only a way for living but also the way of living. A stable relationship has been founded in which nature, livelihood, social practice, and the built rural settlement were tightly connected in rural settlements. This puts the rural settlement heritage into a 'living context' which leaves it impossible to separate the built rural environment from the other constituting parts. Mediated by agriculture we cannot separate nature and culture. To study vernacular settlement heritage needs to understand this relationship and the research of rural settlement heritage cannot separate the issues of livelihood, nature, and social practice as separate conceptual elements.

[2] The data is sourced from a report of New York Times, seeing http://www.nytimes.com/2014/02/02/world/asia/once-the-villages-are-gone-the-culture-is-gone.html?_r=0

2.2 Accumulating the Values of Rural Settlement Heritage

ICOMOS asserted that although the built vernacular heritage "is the work of man, it is also the creation of time." (ICOMOS 1999, p1) This assertion also applies to rural settlement heritage. The historic and aesthetic values of rural settlement derived from local inhabitants leaving traces of their daily-life on their dwellings throughout time. However, time is not the only agent, so is the local community. It is thus the interaction between community and time and their impact on settlement buildings that create their historical and aesthetic value.

Time is thus an essential element in creating the values of architecture heritage. This derives from the efforts of time to enhance the appearance of works of art. The term 'patina' is applied to describe this phenomenon. For instance, people do appreciate the changing surface of a bronze sculpture as copper reacts with oxygen in the air and forms a layer of copper oxide with its matt greenish-grey color. The aesthetic values in works of art are primarily embedded in the initial objects. The other values are just added bonuses. Unlike works of art, buildings were constructed for utility reasons; they were not objects for mere appreciation. As Alois Riegl claimed, we turned many utility works into 'monuments' that was never intended as such by their creators, who were primarily concerned with practical tasks rather than aesthetic goals (Riegl 1928, p44-93). He therefore developed a series of values besides aesthetic value. They are such as 'age value', 'use value', 'newness value', and 'contemporary value'. Among those values, 'age value'' is directly linked to time and is thus recognized as 'historical value'. But for buildings time not only contributed to their historical value but also deliberately empowered building to achieve its aesthetic value. Just as John Ruskin advocated 'voicefulness' in buildings as very important; he praised the work of time upon the building as:

> (T)he great glory of a building is not in its stones, nor in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy, nay, even of approval or condemnation, which we feel in walls that have been washed by the passing wave of humanity. (Ruskin 1849, Chapter 6)

Hence, time in buildings generates both their aesthetic and their historical values in holding the traces everyone in each generation left behind.

Pertaining to rural settlements this linkage to time in particular highlights the traces of daily life, more so, the stability of daily life. The agricultural-livelihood-dominated relationship between nature and built environment assured the continuity and stability of this relationship throughout the pre-modern era. That is due to farming being the dominant agent of the relationship between nature and the permanent housing. This stable relationship secured the same form and function of their built environment for generation upon generation as it also corresponded to a set of stable set of social practices including that of maintaining their physical environment. Hence, the sustainability of their livelihood assured the stability whereby the rural settlements over time accumulated their historical and aesthetic value.

2.3 The Modernity Caused Dualism State

Those above achievements of accumulating values and maintaining a generically sustainable relationship between nature and man only exist under the umbrella of the pre-modern. That statement can by itself only be formulated from a present-day viewpoint – from that of a modern society. As matter of fact, post-tradition generations - standing on the shoulders of enlightenment and equipped with advanced science and technology – initiated a new relationship between nature and humankind. Progressively this new relationship shaped modern society; modernity featuring i.a. capitalism, industrialization, and secularization. Furthermore, through modernity the prevailing worldview converted into anthropocentricism as Heidegger pointed out in his essay of 'The Age of the World Picture':

> The fundamental event of the modern age is the conquest of the world as picture. The word "picture" now means the structured image that is the creature of man's producing which represents and sets before… Namely, the more extensively and the more effectually the world stands at man's disposal as conquered, and the more objectively the object appears, all the more subjectively, i.e., the more importunately, does the subiectum rise up, and all the more impetuously, too, do observation of and teaching about the world change into a doctrine of man, into anthropology. (Heidegger 1977, p115)

The anthropocentric worldview of modern society has generated a dualistic understanding of the past. Modernity has molded a new sensibility and awareness of history and the values of antiquity which can only be fully realized under new and unsustainable relationship between nature and man. A

relationship lacking the reciprocity of old as a consequence modern society's sense and value of time is recognized through cultural heritage conservation, which is now universally pursued, re UNESECO's definition:

> The cultural heritage may be defined as the entire corpus of material signs – either artistic or symbolic – handed on by the past to each culture and, therefore, to the whole of humankind. Ad s constituent part of the affirmation and enrichment of cultural identities as a legacy belonging to all humankind, the cultural heritage gives each particular place its recognizable features and is the storehouse human experience. The preservation and the presentation of the cultural heritage are therefore a corner-stone of any cultural policy. (UNESCO 1989, p57)

On the other hand, the reason of extending the cultural heritage territory into built vernacular environment is as ICOMOS admitted that

> Due to the homogenization of culture and of global social-economic transformation, vernacular structures all around the world are extremely vulnerable, facing serious problems of obsolescence, internal equilibrium and integration. (ICOMOS 1999, P2)

'Homogenization' of culture and internationalization of the built environment represents a serious threat to cultural identity for present-day people all over the globe and may be seen as the most direct and tangible expression of modernity. In this modernity-caused dualism conserving heritage is a logical necessity in order to protect the fragile and faltering linkage to the past and with traditions we now are able to identify and appreciate.

This is particularly highlighted when dealing with the built rural settlements. Rural settlements used to represent the common arrangement of living space in the pre-modern era, now being replaced by the urban-living model of modern society. Moreover, the traditional relationship between nature and the built rural settlement has been significantly challenged because the conventional agricultural activities might no longer be the dominant mode of livelihood any more. Residents of rural settlement might pursue more profitable and easier careers, livelihood options that would never emerge in the pre-modern society. When these new modes of livelihood took over from faming, a new relationship between nature and community were established in rural settlements. These new livelihood options therefore logically affected the built rural environment: they had to physically adjust in order to suit this new situation. Rural settlement's self-adjustment has been a critical feature throughout history in its response to the requirements of 'daily life'. But in the face of modernity those changes and adaptation might be fundamental and they might thus suspend the very process of value accumulation. Furthermore those modernity-oriented self-adjustments may deconstruct – and destroy - the achievements and values made by the pre-modern paradigm.

2.4 A critical and Controversial Role of Community

Identifying the value of the built vernacular environment as a particular type of cultural heritage is a claim rooted in the modernity-caused dualism. However, to verify it as an independent category and highlight its unique features, the local community plays a critical role in vernacular heritage conservation. Just as ICOMOS advocates "the appreciation and successful protection of the vernacular heritage depend on the involvement and support of the community, continuing use and maintenance." (ICOMOS 1999, P1) The controversial dimension emerges when the local community is in the process of modernizing, i.e. is changing their social practices and thus their innate relationship to the environment they now are advocated to maintain and protect.

The community was the creator of the historical and aesthetic values attributed to rural settlements. Adapting farming as its livelihood is why a rural settlement emerged in the first place. Agricultural activities generated a sustainable relationship between man and nature in which embedded and stable social practices constantly left traces on the buildings. These marks slowly evolving over time make up the settlement's 'voicefulness' – and its value as heritage. Under the livelihood-dominated relationship, the community not only created those values but also maintained them for generations. These social practices protected and accumulated these values long before they were identified and labeled 'heritage'.

Local communities play an essential role in rural settlement heritage conservation. This follows the unique position the inhabitants hold by actually living in their heritage. This is a different position from any other heritage monument that have become mere physical and symbolic artefacts. Through the fact that the inhabitants are living in their 'physical and symbolic artefacts' is essential for preserving their own cultural identity. This places the community in the primary position of 'heritage user'. But this also makes the community in their capacity as inhabitants the principal 'heritage

keepers' along with the heritage administration. And finally, the community is 'teacher' to settlement heritage conservation. Local inhabitants are thoroughly familiar with their living environment and have learnt, or 'inherited' the skills and knowledge on how to build and repair their dwelling in a way experts cannot learn from books.

However, the community stands to play a controversial role in the rural settlement heritage conservation when the community finds itself progressing towards modernity as this process alters the very character of a community and its relationship to the environment. The new livelihood adaption and the ensuing self-adjustment of the community also leave their marks on the traditional rural dwelling. Those marks are unlike those emerging under the umbrella of a traditional society. Moreover those new traces may cover, even destroy the values of heritage generated by the former marks.

2.5 Lived-in Cultural Heritage

The circumstance of modern society, have forced the rural settlements to detach from the traditional living model which made the local community the very creators of settlement heritage values as well as their principal protectors. Being detached from the mode of livelihood that generated the heritage values, they also lose their capacity to create and protect, and may ultimately represent a threat to the rural settlement heritage.

From this perspective, the 'policy of conservation' towards settlement heritage can be regarded as another approach to achieving modernity. Although the conservation-generated modernity is much 'milder' than urbanization, the activity of conservation has created a possibility to form the rural settlement heritage into a 'lived-in cultural heritage' showcases. These are places where people live and where their cultural properties are used to sustain their livelihood. "Lived-in cultural heritage" as a self-coined term is differs from a "living cultural heritage" as it refers to the specific situation experienced by traditional rural settlements today.

3 THE CHANLENGES IN POST-DISASTER RECONSTRUCTION OF RURAL SETTLEMENT HERITAGE

Based on the understanding of the characteristics of rural settlement heritage, we can then try to identify the factors can challenge the aim of reconstructing and rehabilitating a sustainable and resilient rural settlement heritage site after natural disasters, and consequently be able to recommend the necessary tactics towards that aim.

3.1 The Complex Process of Reconstruction

Unlike other types of heritage, in a rural settlement heritage site, heritage conservation is an activity that coexists with habitation due to the fundamental function of a rural settlement (heritage): that of living. This coexistence therefore requires that post-disaster reconstruction not merely to rescues the disaster-damaged heritage properties but also – in order to sustain its conservation into the future - to rehabilitate 'the function' of living.

Post disaster heritage reconstruction unlike other objects, cannot be reproduced or renewed during the reconstruction. Because of that, to recover cultural heritage requires the professionals' delicate and elaborate reparations. Due to irreplaceability of cultural heritage, post disaster reconstruction of cultural heritage can never achieve the aim of retrieving all the values which heritage holds before the disaster. Natural disaster-caused damage is permanent. What one can do is maintain its remained values. Moreover is can be the opportunity to find and then eliminate vulnerabilities by increasing its resilience in order to mitigate the risk from potential natural hazards in the future.

Regarding the community, post-disaster reconstruction means to bring the disaster-affected society back on 'track', which requires recovering or replacing the damaged parts.

Rebuilding damaged living spaces carry fewer restrictions than repairing heritage properties. In this the community may seize the opportunity of pursuing new models of living since the former dwellings were destroyed.

Heritage rescue-reparation is normally secondary to rebuilding dwellings in a post-disaster context. However, those two activities overlap in rural settlement heritage sites as these two missions focus on the very same object– the residential buildings. A challenge, a conflict actually, emerges between pursuing the ideal living space and adhering to the strictly rules-dominated heritage reparation.. Another challenge follows when it comes to appropriately preserving the rebuilt dwellings. Those

challenges stem from the complex coexistence of conservation and habitation in rural settlement heritage as they represent both heritage values and living, respectively.

3.2 Volatility of Community after Reconstruction

Post-disaster reconstruction is basically about normalizing the disaster-affected area. The reconstruction is primarily focused on the physical environment, For example, the post- earthquake reconstruction in Sichuan took only three years, from 2008 to 2011, to (re)construct more than 2.2 million new dwellings and repair approximately 4.4 million damaged dwellings3. These achievements of reconstruction ensure the return to some sort of normality for the disaster-affected society. But they create a different' 'normalized society', unlike the society before the disaster. The people living there needs time to understand this 'new society' and respond to the alterations caused by reconstruction.

Likewise, the community of a rural settlement heritage site needs time to adjust to this reconstruction-altered society. For those in the process of modernizing this adjustment may be seen as an opportunity. When traditional livelihoods are declining along with their living environment, the reconstruction after may be a way of pursuing a modern life style. This way post-disaster reconstruction becomes an accelerated process of modernity. Under such circumstances the community's reactions to reconstruction are unpredictable, which makes the community volatile after reconstruction. In general terms the community may, in other words, utilize reconstruction to shift its livelihood from agricultural activities to something that can modernize the community. However, this renders the community volatile and future livelihood activities unpredictable as they enter into a new and unfamiliar relationship with nature.

Consequently, this volatility of the community challenges the official and predetermined aim of reconstruction: to recreate and thus conserve what was there before the disaster. In effect, the community may actually thwart this mission by altering the (official) reconstruction in order to pursue their strategy towards modernization.

3.3 Uncertain Reflection upon the Physical Environment

In a rural settlement heritage site, the reconstruction-caused alterations at first appear in the physical environment. Those alterations soon after impact the social dimension of the community. Furthermore, the impacts do not remain within the social dimension, but also 'rebound' back to the physical environment. This is the uncertain reflection from the rebuilt rural settlements.

This uncertain 'feedback' results from the volatility of a community in the process of modernity in which, the community experiences an accelerated decomposition of their traditional-structured system and hence respond to the opportunities to quickly accomplish their version of modernity. No matter what opportunities community selects, it alienates the rural settlement heritage from the tradition-structured system. Gradually a new relationship between nature and community is established as along with adapting a new means of livelihood. This new livelihood may rework the (re)built environment, i.e. readjusting the recent reconstruction.

The post-Sichuan earthquake reconstruction, for example, experts of heritage conservation repaired the traditional Qiang dwellings, 3-storey stone-timber structured buildings. After the reconstruction, however, the community opted for the opportunities in tourism as a new means of livelihood. This new livelihood no longer relied on nature's resources but on their living environment, the rural settlement heritage,. Following the requirements of this new livelihood, local residents rearranged the detailed and professionally guided repaired old dwellings into family inns by converting the cattle-breeding place on the first floor and harvest storage space on the third floor into guestrooms. In As we see new livelihoods force alterations, readjustments to the (re)built living environment.. What sort of 'feedback' the environment will give is impossible to state beforehand. The community has several strategic options after reconstruction. As a result, this reflexivity on the part of the community makes the rebuilding of a rural settlement heritage very difficult as the predetermined aim of reconstruction, may not correspond to what the inhabitants see possible after the reconstruction.

[3] As per data from the National Audit Office of P.R China in its annual audit report of the Post Sichuan earthquake reconstruction, 2011.

3 CONCLUSION & RECONMMONDATIONS

This paper is an attempt to uncover the characteristics of rural settlement heritage, demonstrating that agricultural livelihood was the corner stone to a sustainable relationship between nature and the built environment in the rural world. This relationship is the precondition for a long-term stable collaboration between a community's daily life and time. , Time has left traces in and on the buildings for generations and these marks were recognized as the core values of heritage, as conceptualized by modern society. This social practice-time collaboration continued to accumulate values of heritage until modernity driven changes in livelihoods. These are in turn causing new alterations, new imprints that may be of a totally different nature and thus devalue the heritage. ; Such modernity-driven alternations may question the local community's capacity to maintain and conserve rural settlement heritage.

This exposes three issues which interfere with, and challenge the aim of rebuilding a sustainable and resilient rural settlement heritage site as 'per book'. Issue no. 1 is the complex process of reconstruction due to the coexistence of habitation and conservation in a rural settlement heritage site. That leaves the reconstruction balancing the requirements of preservation with that of contemporary living conditions. Issue no. 2 is the volatility of the community after reconstruction related to the aspirations of the community towards modernization, i.e. a perceived better life. And in their pursuit towards modernity, the local community may react unpredictably to the reconstruction-created new 'normalized' society because of the uncertainty of their new 'modernized' livelihoods. Humans are reflexive and may not respond 'as predicted' or 'expected'. Issue no. 3 is – for similar reasons - the uncertain response the community will have upon the 'new' physical environment. Again this points to the reflexive relationship man holds towards his built environment. The outcome is thus unpredictable – and may result in the community changing the 'correctly reconstructed' heritage settlement by alterations that they find more useful in their pursuit of a more modernized way of living.

The above discussion indicates that focusing only on the reconstruction is insufficient for achieving a sustainable and resilient built rural settlement heritage site. And it is also clear to accomplish this aim in a short term perspective, is impossible. The reconstruction itself seems to create a volatile situation in which the community's unpredictable reactions to reconstruction may cause alterations to the built environment again - after its reconstruction. That requires a constant monitoring and investigation after reconstructions in order to find out what reactions the local community actually has and what 'feedback' they send back to the rebuilt physical environment – by possibly altering it. During the monitoring and investigation, a non-stop communication and collaboration between heritage conservationists and community members is crucial in order to find a win-win solution. Such a collaboration will have to acknowledge the aspirations of the community for comfortable living. This is a requirement for (re)developing a sustainable and resilient built rural settlement heritage.

REFERENCES

[1] ICOMOS (1999), *Chart on the Vernacular Heritage*, P.1-2 Available: http://ciav.icomos.org/images/stories/charters-texts/charter-vernacular-en.pdf

[2] Jukka Jokilehto (2011), *A history of Architecture Conservation*, P. 1-19Routledge, New York

[3] John Ruskin (1989), *The Seven Lamps of Architecture (Dover Architecture),* Chapter 6, Dover Publications, New York

[4] Martin Heidegger (1977), *The Question Concerning Technology and Other Essays*, P.115-154, Harper Torch Books, New York

[5] Price S. N., Talley M. K., Vaccaro A. M. (1996) *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, P. 69-84, 42-44, 365-366, Getty Conservation Institute,.

[6] Ram B. Mandal (1979), *Introduction to Rural Settlement*, P.22 Concept Publishing Company, New Delhi

[7] UNFPA (2007), *State of World Population*, Available: http://www.unfpa.org/webdav/site/global/shared/documents/publications/2007/695_filename_sowp2007_eng.pdf

[8] Yrjö Haila (2000), *Beyond the Nature-Culture Dualism,* Biology ad Philosophy, Kluwer Academic Publisher, Netherlands

[9] Yu Wang, Hans Skotte (2014), *Reconstruction after Reconstruction* in Awotona Adenrele (ed) *Rebuilding Sustainable communities after disasters in China, Japan and Beyond*, Cambridge Scholars Publishing, UK

[10] Yu Wang, Lisbet Sauarlia (2014), *Reshaping Place, Reshaping People?* in *the 2nd Biennial Conference on Anthropology and Sustainability in Asia*, Hiroshima, Japan, ISSN 2188-3440

[11] Yu Wang, Hans Skotte (2014), *Still at Risk?* in *2014 CRSCAD international conference in disaster mitigation, preparedness, response and sustainable reconstruction – the role of architectural, planning, and engineering education*, UMASS Boston, USA

Appendix VI
Design Documents for Heritage Reconstruction of Taoping (excerpts)
by Chinese Architecture History Research Institute

Appendix VI

Is not included due to copyright