

# **Multidisciplinary approach for a new vision of urban requalification. Multi-scale strategies of social innovation, economic improvement and environmental sustainability practices.**

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**Keywords:** Relationship | Multidisciplinary approach | Sustainability | Requalification | Social Innovation | Multiscalar approach | Valorization of heritage | Diffused quality

**Fundamental topic:** University Education

## **Abstract**

This work is an operative best practice of new methodological approach that connects three disciplines - Planning, Design and Environmental Technological Design – in a holistic project.

A multidisciplinary approach is necessary to understand the complexity of urban phenomena meeting social, economic and environmental needs. It is very important boosting virtuous mechanisms for urban regeneration spreading innovation, guiding and shaping spontaneous social-change initiatives, starting from local traditions.

The work team was involved in an international workshop, called “Urban Village and Renovation Design”, took between Rome and Shanghai, within May and November 2016, in collaboration with the School of Design and Arts, East China Normal University of Shanghai.

Our research team composed by planners, architects and designers has drawn up a methodology in order to apply it in a small rural village requalification project in China. The town, named XibinZhen (Fujian Region) is undergoing in an economic and social contraction process which is bringing it to an incessant depopulation. We recognize landscape aspects, in our case the Youxi River, like a key resources to improve the urban area and the identity related with the context.

The methodology is composed in this way: 1) research and analyses in order to know places and ongoing multiscale phenomena; 2) collection of international best practices and references applicable in the specific case study; 3) brainstorming in which different disciplinary figures, local stakeholders and citizens are involved; 4) design strategies considering different stakeholders needs and different cultural approach or points of view; 5) starting from those strategies, definition of specific goals for a design concept and a sub sequential project propose.

Our proposal is composed by multi-scale strategies of social innovation, economic improvement, environmental sustainable practices, through a new setting of spaces and uses. Our new vision of Xibin Town runs around three key words for development: “new”, that is to have a “*for change*” approach; “river”, that is to recognize what we may call “*genius loci*”; “town”, that is to recognize the urban character of Xibin and its role in a broader context.

The three themes on which we set up the project strategy are:

- ENVIRONMENT: two linear promenades (the Urban Promenade and the Green Promenade), of new public space for the town with different characters related to the different nature of the waterfronts, north and south. The implementation of landscape qualities (industries on the facing coasts)

- URBAN LIFE: two axes: the Urban Axis that consolidates and upgrades the vital core of the collective life, organizing places and activities from the city gate by the Boulevard to the Market Street, to administration and public services (the Civic Street and the Civic Center); the Heritage Path that works between tradition and innovation, organizing step by step from culture to nature (traditional ateliers street, green street, educational theme park)

- Functional to these themes is the MOBILITY SYSTEM, re-organized fundamentally in an Urban Ring that distributes the main traffic.

The final output is a masterplan which collects and coordinates all the specific project actions redefining spaces, the use of them and architecture, starting from a reinterpretation of traditional technology and local material.

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## 1 | INTRODUCTION

This paper describes our international research experience took in China, which involved the department of Planning, Design and Technology of Architecture, Sapienza University of Rome and the East China Normal University of Shanghai. This international workshop, called “Urban Village and Renovation Design”, has been taken between Rome and Shanghai, within May and November 2016. Our university was invited to share its knowledge and academic expertise, in order to stimulate new ideas and project solutions to reduce conflicts between disruptive urbanization process and preservation of china’s heritage and rural landscape. The purpose was to build a common research framework and a base, both theoretical than practical, in order to rethink the identity and the future, between development and preservation, of the rural China.

In twenty-five years the Chinese cities growth faster than in other countries. The dimension and rapidity of this phenomenon hasn’t precedents. In this extremely urbanization process, a huge amount of urban areas lack of planning and regulations. China is, for these reasons, the perfect example of the conflict between local and global, and between tradition and homologation process. The beginning of this phenomenon has to be searched in the explosion of Chinese economy, which has upset the Chinese society and has determined a deep change in the cities’ architecture. The industrial development has changed completely the nature of rural areas. Agricultural lands became industries, farmers became workmen, villages became cities. The faster increasing of the migration process towards megacities, by rural workers, doesn’t stop. Between thirteen and fifteen million of people each year move to urban areas, without have the citizen rights to be urban<sup>1</sup>. This phenomenon is creating not only an incredible explosion of urban areas, but also the creation of a huge social problem which crossover the whole country<sup>2</sup>. The experience showed in this paper, wants to explain the role of a holistic approach to try to give answers within complex context, like Chinese rural areas represent.

## 2 | THE MOTODOLOGY

This work is an operative and experimental practice of a new methodological approach that connects three disciplines in a holistic project, in an academic context. This experience highlights the key role of project in the architectural education, which have to become a practical verification of theoretical hypothesis.

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<sup>1</sup> *Hukou* is the right that gives access to essential services at the population. There are two declinations of *Hukou*: one urban and the other one rural. These different right allow Chinese families to enjoy distinct services in relation on their type of residential characteristic. With the *Mingong* right (the one related to the rural residences), rural migrants have been identified as B-series population. When this category arrives in the cities, they don’t have the same rights and services as the urban residents.

<sup>2</sup> Greco C., Sanntoro C. (2010), “2(0),1,0... Cina! Il Drago d’oriente si è risvegliato”, in *New settlements in China*, Lotus, v. 141, pp. 8-20.

The workshop focused on the requalification of a small rural village named Xibin-Zhen, located in the Fujian region, South-east of China. The city lies beside one of the most important river in the region, both under commercial and environmental/ecological issues. The core of the city is built on a peninsula, surrounded by the river, named Youxi River. The nature characterises strongly the territory, with a huge presence of bamboo forests and agricultural production.

The town is undergoing in an economic and social contraction process, which is bringing it to an incessant depopulation. The local administration wish was to manage and guide the urban growth, avoiding the migration through metropolitan cities and attracting new investments. These requests follow the national policy to reduce the depopulation process, ongoing in rural villages. In this political environment, is being developed a new vision of “planning for human”, to contrast the phenomenon of urban migration and to make people return to the country side. But the idea: “planning for people” in China means to assume a different meaning and result. *“L’urbanizzazione incentrata sull’uomo che ha in mente il premier Li non va intesa come incentrata sulla libertà individuale dell’uomo, bensì come incentrata sul buon governo dell’uomo, una ingegneria urbana (e umana) cinese”*<sup>3</sup>. This vision of urbanization is reflected perfectly by the wills of town administration, in terms of increasing the urban density and boosting the economy income of the county, by developing the local productions (industrial and agricultural). The quality of life means to be secondary in relevance, mentioned only in terms of increasing the hygienic conditions.

The project brief was to re-design the main street layout – with a commercial vocation - and design a new multifunctional building, in the north side of the peninsula, able to give quality to the urban area. Before to start with the project actions, it was necessary to spend some time studying Chinese cultural and architectural context. In this preparatory research phase, we could verify the rapid Chinese evolution, and its consequences on the social and the environmental systems. China is the perfect materialization of the conflict between local and global, tradition and homologation, and their impossibility to be conciliated. Architecture, Design and Urban planning disciplines become tools for understanding ongoing phenomena and try to give them solutions, at different levels. Starting from this point of view, we tried to investigate the territorial complexity. We recognize landscape aspects, in our case the Youxi River, like a key resource to improve the urban area and the identity related with the context.

The methodology developed within this research, aims to transfer our multidisciplinary knowledge in a project, starting from understanding material and immaterial potentialities, at different scales. Our strategy began with the analysis of the state of art and the study of the morphological, functional, socio-economics, cultural and environmental aspect of the area. Our cultural background, mediated by a gradual approach to Chinese culture, influences this critical analysis. The approach adopted try to resolve the complexity and interaction of different urban phenomena, and it does not focus only on searching for specific architectural solutions. Not only an urban requalification project, but also a territorial vision, considering environmental, economic and social aspects. The goal was to valorise a territorial system, which it is able to enhance the quality connected to the local identity for Xibin. Our actions consisted in increasing the liveability, the healthiness and the quality of public spaces. We gave attention to pre-existences, to territorial peculiarity and to social components.

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<sup>3</sup> “The human-focused urbanization, in the mind of Prime Minister Li, is not oriented on human individual freedom, but it is focused on good human and urban engineering”. Battaglia G. (2016), “L’urbanizzazione Cinese: la tela del ragnò”, *Q Code Town: China Files*, 9 February 2016 [translated by the authors].

The work is organized in different steps with a “learning by doing” perspective. The conceptual diagram (Figure 1) show our methodology.

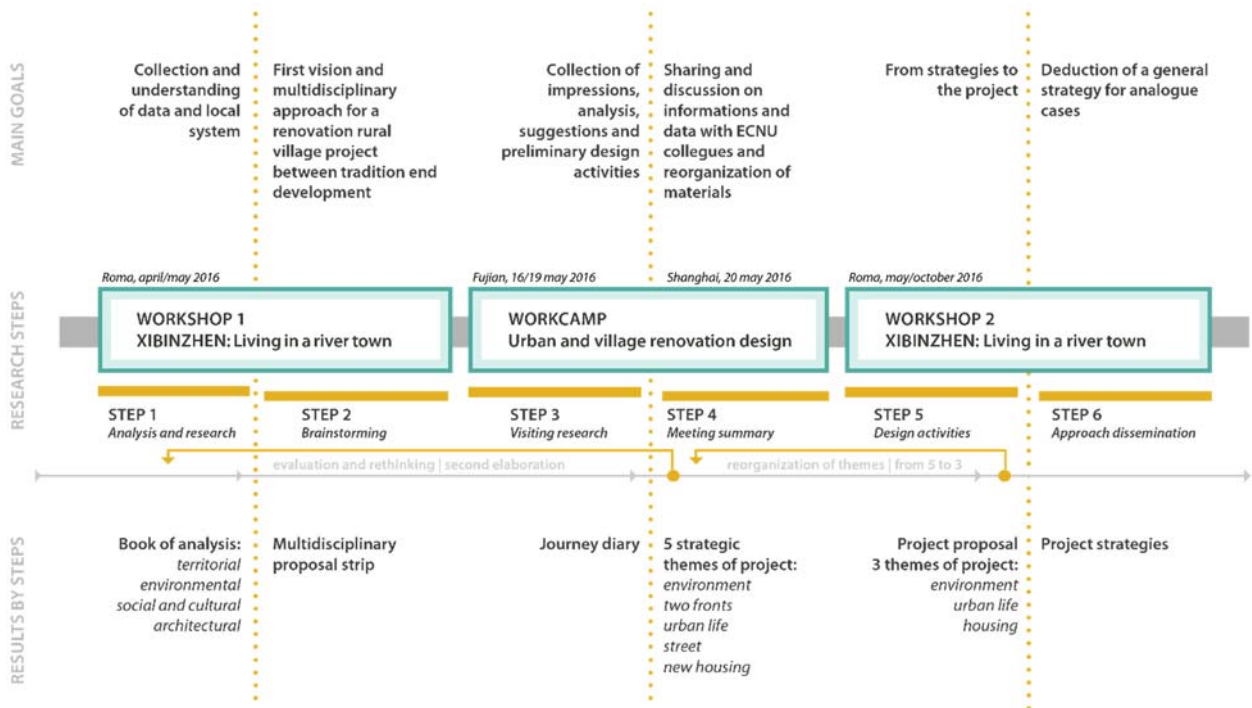


Figure 1 A time line of methodological process

The diagram shows three workshop phases, each one is organized in two steps of action.

- 1) The first one is an analysis and research about territorial context.
- 2) The second one is a brainstorming moment in which we have a multidisciplinary discussion.
- 3) The third one is a visiting research in which we verified hypothesis and obtain new information and suggestions oriented towards preliminary design actions. In this step was crucial the debate with: local government, citizens and ECNU university students.
- 4) As result, we identified five project themes which at the next step became three (Figure 2): environment, urban life, housing.
- 5) Important was search and analyse international best practice which could lead us to the project definition.
- 6) In the last step we translate our strategies in project action.

### 3 | THE PROJECT THEMES

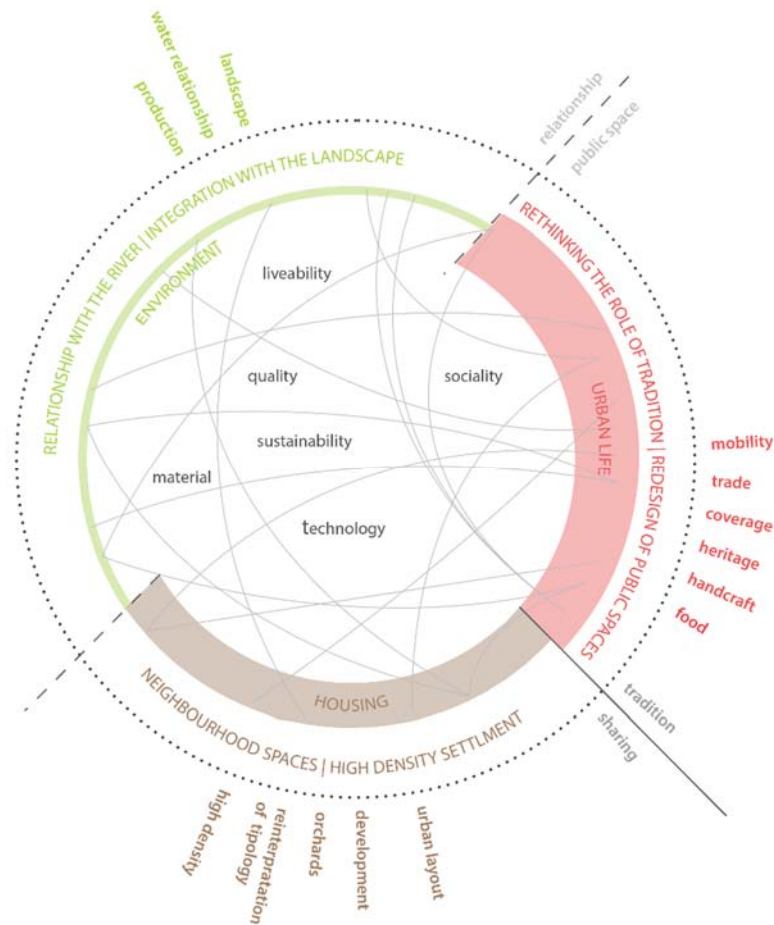


Figure 2 Conceptual diagram | This circular diagram shows the key words that inspired our strategies and their interconnections.

Starting from these three themes, we defined a series of project goals, which became specific project actions. For each topic we referred to some international best practices to guide and sustain our choices in the design phase. We selected not only international references, but also, we took advantages from our visiting period in China, to grab some architectonic or landscape architecture solutions developed in Chinese's towns, in order to give answers, which reflect the country way to plan and build spaces, improving, in this way, the society acceptance of them.

Considering the context features, in order to increase the harmony between the urban and "environmental systems", our strategies were to define a new relationship with the river and to boost a better integration of human activities and settlements within the landscape. It is important to highlight that in 1991 the county was affected by a national law about the creation of a dam system for the hydroelectric energy production. Some parts of the original Xibin village were submerged to create a water basin for the dam system. The citizens were moved in new buildings, upper than before within the peninsula, which replaced traditional houses with anonymous buildings, and most of traditional activities were replaced by industries. This event created a diffidence and non-involvement feeling towards the river.

Consequently, we paid attention to:

- Using of compatible material and innovative technologies to improve landscape integration of factories;
- Mitigation of urban production effects and pollution;
- Support agriculture and fishing;

- Reconquer the original relationship with the water, following the natural morphology of the peninsula.

To reinterpret the idea of “urban life” we try to recreate the sense of belonging to the place, redesigning the public spaces considering the uses and social needs and rethinking the role of tradition.

Consequently, we paid attentions to:

- The multiuse of the place both for free time and for trade;
- Use of material and urban furniture to give new identity of public spaces and part of them;
- Rethinking the role of the rural villages and life style connected compare to the Chinese megacity.

Housing assumes a particular relevance in the Chinese depopulation process, which affects especially rural towns. Following the repopulation national strategy, carrying on by the president Xi Jinping, is important to give a new attractiveness to rural areas, reinterpreting the traditional habitat. *“Secondo le direttive del presidente Xi Jinping, le nuove costruzioni devono essere adeguate, tradizionali e piacevoli, abbandonando esagerazioni prive d’identità. Le trasformazioni degli ultimi anni hanno infatti riflettuto una mancanza di fiducia culturale”.*<sup>4</sup>

Thus, our goals were to rethink the relationship between private and public or shared spaces, starting from the Chinese habits, and to increase urban density and decreasing land consume with a special attention for urban space quality.

Consequently, we paid attention to:

- Reinterpretation of traditional housing typology, of local building techniques using local materials;
- Intensifying urban density through blocks with courtyard, as in traditional housing;
- Mixing of residential and productive pattern, fostering urban orchards.

We developed an inner research about Chinese original architectonic characters, based on both technological and expressive innovation and the re-appropriation of ancient signs and ancient values: the declination of the court typology, the reproduction, in a contemporary way, of the visual schemes, the textures, the modulation of light.

#### 4 | THE NEW VISION

Our vision for Xibin is a new idea of town development, summarized in tree word: *NEW RIVER TOWN*: “new”, that is to have a “for change” approach; “river”, that is to recognize what we may call “genius loci”; and “town”, that is to recognize the urban character of Xibin and its role in a broader context.

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<sup>4</sup> “According with President Xi Jinping's directives, new buildings must be adequate, traditional and enjoyable, abandoning exaggerated identities. The transformations of recent years have in fact reflected a lack of cultural confidence “. Visetti G. (2016), “Il libretto rosso delle Città”, *La Repubblica*, 25 February 2016 [translated by the authors].

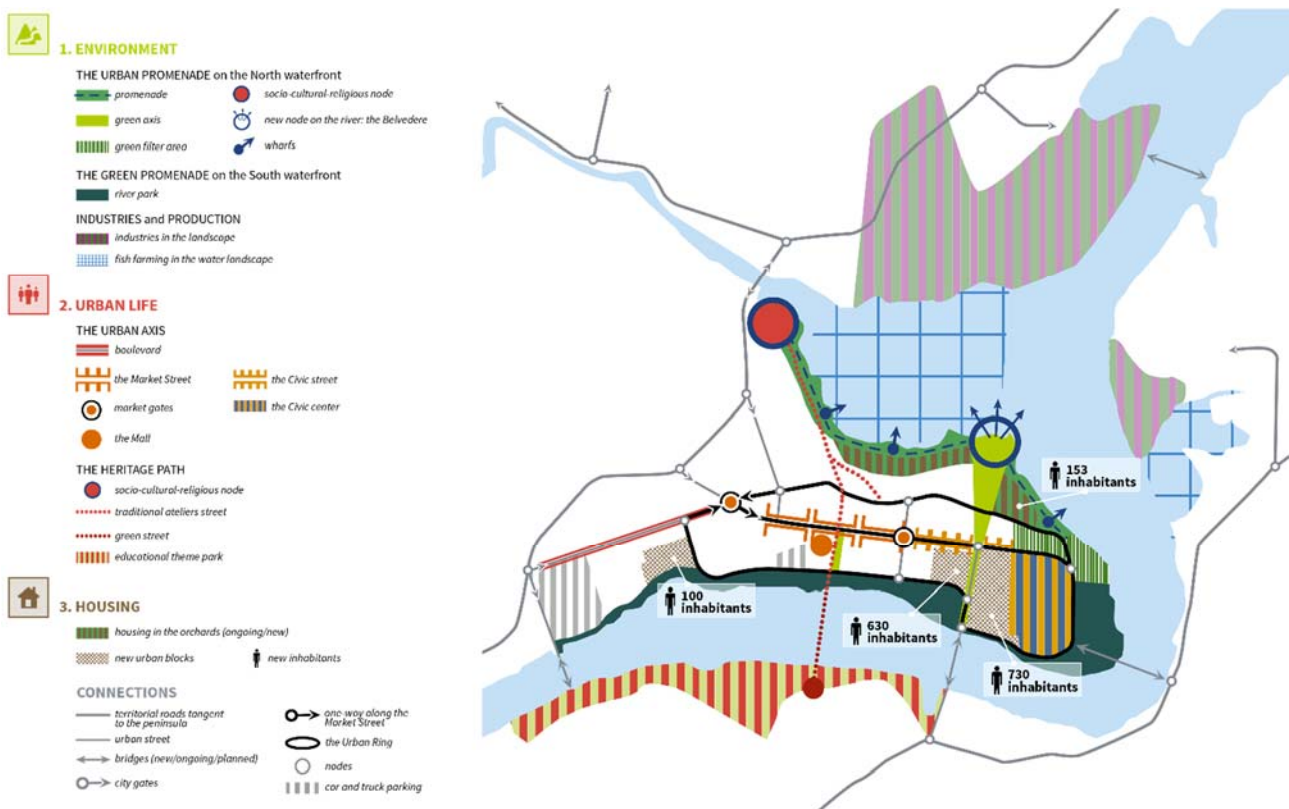


Figure 3 Strategic Concept

This vision is materialized in five project goals:

- to strengthen Xibin as the “town on the water” which hosts mainly urban functions, from residence to commerce to administration;
- to make only one system among the town and the villages;
- to improve the accessibility;
- to change the relationship with the river, from production to fruition too;
- to consolidate the population and to attract economic activities.

These goals lead to project actions for “environment system”, “mobility system”, “residential system”, considering the urban life.

To improve environment quality, we designed two linear promenades (the Urban one and the Green one), which connect existing and new public spaces related to the different nature of the waterfronts, north and south. To reduce the industry impacts, we imagine the application of camouflage techniques. To foster urban quality, we gave a new value to urban axis that structure the vital core of the collective life, organizing places and activities from the city gates to the market street. The main street is so divided in two parts: “The market street” with a commercial vocation, and “The civic street” with the public and administration functions. Transversely to the main axis, we give a new identity to the Heritage Path that works between tradition and innovation, organizing step by step from culture to nature with traditional ateliers, green area, educational theme park and laboratory). Functional to these themes is the mobility system, re-organized fundamentally in an Urban Ring that distributes the main traffic.



*Figure 4 The Masterplan*

The main elements, which appear from the masterplan (Figure 4), is the great green belt that governs the relationship between city and river. The different morphology of the waterfront implicates a different characterisation of the two parts. Is important to highlight the green axis that connect the two sides crossing the market street and the peninsula.

The north side has a more direct relationship with the water in fact it has a drop of 4 meters. Here we design a promenade, which connects and combine different public spaces between water and city re-framing the connection with the river. The public space takes possession of the river with wharfs and terraces. The green pattern has a direct connection with the residential layout with urban orchard. In this side, we design a new urban node for public and social activities. We decided to design different way to approach to the river, changing always the point of view: with stairs, wharfs, covered terrace. The south side, instead, has a drop of 25 meters and for that we create a series of paths on different levels surrounded by the nature.





Figure 5 Prospective view of market street project proposal



Figure 6 Section of market street project proposal

Concerning on the market street which is the core of urban life, we started from the actual use, and proposed a street layout re-design, setting up commercial boxes and their position. We imagined inserting local trees in the quiet areas and between the commercial boxes (Figure 5-6).

We paid attention to the covering, following whether, and architectural tradition, people needs. We verified, in fact, that everything has a canopy, even if the motorcycle, according to a curious adapting phenomenon that involve each urban object.

A special focus is dedicated on social innovation, which inspires and drives each project actions, involving citizen and their needs. These start from re-design public/natural/shared spaces until the reinterpretation of uses and identities of parts of the city. Exemplary, in this sense, is the proposal to create a "Heritage Path", which works between tradition and innovation, in the oldest urban neighbourhood. The lack of preservation of the old village part, is typical of a process of undefined urbanisation, which pass through the indiscriminate replacement of historic and traditional settlements. The idea to give a new life and relevance to the historic part of the town and its characteristic architecture, is realized by the identification and valorisation of a "traditional path". In this way is possible not only recover the architecture but also rediscover and reinterpret the lifestyle and traditional activities correlated. We took inspiration by the experience of Caochangdi village, where Ai Weiwei (the Chinese contemporary and controversial artist) created its studio

involving the whole social context in an interactive and continue changing lab of renovation and creation. This path aims to activate citizens and identifies guideline for future services, jobs and economic income. It is a connection across the peninsula, which is organized step by step from culture to nature. It starts from a reconfigured cultural-religious node, passes by the street of traditional ateliers, goes through the green street, and it finishes in an educational theme park. The “ateliers street” is setting as a cultural itinerary to understand, develop and pass down to future generations the lifestyles and traditions of the country, through creative workshops. The “green street” is a connection between urban area and nature embodied by an educational “theme park”, which valorises the agricultural production.

## 5 | CONCLUSION

Our project solution represents one of the possibilities to requalification and valorisation the rural village, respecting the context features and the needs expressed by the citizens and the local authority. The primary aspect that we would like to explain, by this work and experience, is the methodology adopted and the process at the base of our practical solutions. The way on which we defined and developed our project, could be used in each other contexts, which present similar problems and needs. The focus of the work is, in fact, test and evaluate the goodness of our methodology in a concrete case study.

The workshop, is inside a wider research project, which aims to discover new approach in urban and rural regeneration projects, within three different recurrent situations in contemporary China. The research involved three case studies: one focused on the regeneration process of a village, with a strong rural dimension; the second one focused on the regeneration of a village with a natural and landscape characteristic; the third focused on the regeneration of a village with an industrial vocation.

Working on a Chinese context, characterized by rapidly changing and flexibility, was a unique opportunity to experiment some theories, which are impossible to test in Europe, and try to prove their capability and benefits.

## 6 | BIBLIOGRAPHY

- Battaglia G. (2016), “L’urbanizzazione Cinese: la tela del ragno”, *Q Code Town: China Files*, 9 February 2016.
- Cattaneo T. (2015), *China’s rural-urban intensification. Envisioning the habitat of the future- Proposal for Rural resilience*.
- Cesarin C., Fornari D. (2010), *Estetiche del camouflage*, Et al. Editore, Milano.
- Gazzola L. (1995) (edited by), “Cina architettura e città”, in *Bollettino della Biblioteca della Facoltà di Architettura della Unoversità degli studi di Roma “La Sapienza”*, vol.52.
- Greco C., Santoro C. (2010), “2(0),1,0... Cina! Il Drago d’oriente si è risvegliato”, in *New settlements in China*, Lotus, v. 141, pp. 8-20.
- La Cecla F. (2015), *Contro l’urbanistica, La cultura delle città*, Einaudi editore, Torino, pp. 29-30.
- Lee C.C. M. (2016), “The city as a Common Framework. Rethinking the Developmental City in China”, in *Xianmeno Megaplot*, Harvard Press.
- Manzini E. (2015), *Design, when everybody designs: an introduction to design for social innovation*, The MIT press, Cambridge.
- Rampini F. (2006), *Il secolo cinese – storie di uomini, città e denaro dalla fabbrica del mondo*, Saggi Mondadori, Milano.
- Visetti G. (2016), “Il libretto rosso delle Città”, in *La Repubblica*, 25 February 2016.

Zhijian D. (2011), "The distinctions of architectural morphology between Tubao and Tulou in Fujian", in Workshop: *Rammed Earth Materials and Sustainable Structures & Hakka Tulou Forum*, Xiamen University, China.