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The Integrated Urban Strategies Based on Deep Urban History and Modern Technology Study: Tourism and Leisure Industries as Driving Force to Reactivate Historical Area

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Abstract**—**Embracing the upcoming era of urbanization with the challenges of limitation of resources, disappearing cultural identities and conflicts among different groups of stakeholders, new integrated approaches are offered in our urban practice to help decision-makers and stakeholders frame and develop well-conceived, practical strategies for urban developing trajectories to approach urban-level sustainability in multiple social, cultural, ecological dimensions. Through bottom-up participation, we take advantage of tourism and leisure industries as driving forces for urbanization in China to promote integrated sustainable systems, with the hope of approaching both historical and ecological aspects of urban sustainability; and also thanks to top-down participation, we have codes, standards and rules established by the governments to strengthen the implementation of ecological urban sustainability. The results are monitored and evaluated experimentally and multidimensionally and the sustainable systems we constructed with local stakeholder groups turned out to be effective. The presentation of our selected projects would indicate our different focuses on urban sustainability.

Keywords**—**Urban sustainability, integrated urban strategy, tourism and leisure industries, history, modern technology.

I. Introduction

THE emerging tourism and leisure industry today has gradually became a very important driving force of the new sustainable era characterized by the "second wave of urbanization" [2] in China. And the emergence of integrated commercial patterns taking tourism & leisure, shopping, residence and other related industries into consideration further enhanced the ecological effects. However, the sustainable development of tourism and leisure industry meets great challenges because of the insufficient methods dealing with complex relationships among various groups of stakeholders, which caused the limitation of sustainable development and the loss of cultural authenticity of historical touring area. The prosperity of tourism real estate development somehow further enhanced the tendency by chasing the instant short term profit. Among those new proposed tourism facilities, large amount of efforts is devoted to restore historical cultural identities while neglecting features with other deep social and ecological potentialities. Thus we intended to discuss the possibilities of finding integrated urban strategies to approach both the historical and ecological aspects of urban sustainability. A fundamental definition of sustainability is employed in this paper as social, cultural, economic and environmental sustainability for current and future generations [2] with the cultural, social, environmental aspects emphasized. Facing the upcoming era of urbanization with limited resources, we offer approaches integrating advanced modern technology like BIVP eco-technology and deep urban history study to eliminate the conflicts among urban sprawl, disappearing cultural authenticities and limited resources. The bottom-up participation is in parallel with the top-down process, which essentially enhance the feature of integration. Taking advantage of the preservation of heritage, support from government, innovative technology and the power of market, our dynamic integrated design system with deep intelligence is constructed, much more powerful than piecemeal solutions theoretically. The integrated design strategies need to be systematically analyzed at different dimensions and experimentally tested in dynamic social and economic environments. The design system is meant to enhance and preserve cultural linkages and its ecological effects in the process of urban renewal and social regeneration emphasizing the integration going beyond piecemeal solutions. There are four of our recent architectural and planning urban practices we picked up in this paper that will demonstrate different focus of our urban strategies towards building a more balanced and sustainable tourism and leisure industry based on deep heritage and modern technology studies.

There are three dimensions in promoting sustainable development today: ecological, economic and social dimensions. Sustainable urban development is a creative dynamic and multidimensional process, the mechanism of analysis of the process offered us the principles that guided our urban practices. The project listed below were all from tourism and leisure urban programs, each of them is an examples of the principles we try to integrated into our urban strategies.

II. The City Garden Project of Bozhou Gujingong Wine Corporation

In the city garden project of Bozhou Gujingong wine corporation, we intended to demonstrate the relationship between the historical wine production and the transformation of the city through different historical period. Heritage of the

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city and the wine industry is actually a dynamic social relationship that changes from time to time and creates the unique media: the wine culture that lasts forever till today. Therefore, the real powerful thing that promotes sustainable development is its daily needs and close to life itself. And the historic relics are preserved and integrated carefully into the newly-designed infrastructures considering factors mentioned above to approach cultural and social aspects of sustainability.

A. Conflicts

The main conflicts in the project are among the urban sprawl and redevelopment, local heritage preservation and commercial operation mode. The cooperation was planning to redevelop the local dying cultural community, which is quite dangerous since the value of local heritage could be easily neglected leading to a fault line of culture. And the powerful role that cultural memory and socialization play in shaping commerce and tourism patterns could be so dominant that it may inhibit the process of urban sprawl and local development. The original could contradict dramatically with the upcoming. The process of introducing new volumes and activities may therefore become a threat to the sustainability of local community.

Fig. 1 General plan of the project

B. Methodology

The most dominant advantage that integrated urban strategies could provide is that complicated and subtle relationships among different groups of stakeholders could be mediated in a progressive and balancing way. We started from deep study of local cultural heritage and analyze the root of the wine making historical culture. And the historical community have urban-scale influences in economic, culture and political aspects. To preserve historical memory of wining making culture and recreate the fascinating and traditional atmosphere of the original, conventional architectural elements were studied and integrated into the new architecture and landscape system. The special cultural wine making memory is preserved physically and metaphysically acting as the central idea of tourism pattern in spiritual aspect. The stories and processes of wine making are portrayed in subtle and vivid ways which are integrated into the programs of the project. Besides, the appliance of conventional elements in architecture creates a harmony relationship between the original and the new.

There are relics like the statue of a famous emperor on the site that define several axes of the landscape and architecture system. We think that the extraction of historical axis will emphasize the value of local heritage metaphysically and preserve open area systematically for future development in local community ensuring the sustainability in urban-scale in some degree. It is also seen as a discontinuous factor in the process of arranging programs of commerce and tourism. Thus, people's activities will interact with the relics on the site closely along with new systems inserted. For instance, the proceeding of traditional Chinese etiquette will be carried out along the planned axis interacting with historical nodes in a traditional sequence. The interesting part is that the cooperation itself is a famous and powerful wine making company in local area. And the historical community have urban-scale influences in economic, culture and political aspects.

Fig. 2 Visual expression of atmosphere of the project at night

The heritage-integrated commercial patterns could be powerful a stimulus for future sustainable development of local community in both economic and cultural aspects satisfying different groups of stakeholders. Commercial mechanisms and heritage preservation have been transplanted into tourism and leisure. The industries promote the integrated operation mode, stimulating dynamic relationships.

C. Summary

The integrated design methodology is aligned with bottom-up process of cognition meaning to reevaluate the heritage. With the appliance of several elaborate design techniques, the new and the past are able to get integrated and future potentials of development are preserved. Heritage here as a special and unstable factor is not seen as a fixed ancient product or limiting condition; instead, it is deeply studied and integrated into the whole system as a dominant partner for whom open space and potentials of adaptations and regenerations are provided [4]. Moreover, heritage is offered an opportunity to promote tourism and leisure industries and further enhance the sustainability of local commercial development.

III. The Yiwu Dayuan Village BIVP Project

In the Yiwu Dayuan village BIVP project, we adopt Building-Integrated Photovoltaic Technology to recreate a half modern and half historical mixed use neighborhood in urban

area of Yiwu city in Zhejiang province. Strong planning legislation (government) as well as an open dialogue with different stakeholder groups are the key factors of the great success of this project. Both the local residents' functional demands and local political contains are properly satisfied. Because there is a very important historical site in the central area of the community, people there cherished this heritage as an important influence of the building style while demanding the new living conditions meeting local criteria. Thus, we use solar panel to integrate into historical architecture components, to re-create the historical style while adding technology there to promote ecological sustainability. This example helps to illustrate that historical elements can be preserved in a subtle way and get involved with modern technology to create deep ecological significances towards modernization.

A. Conflicts

Facing limited resources and overdeveloped photovoltaic industries in Zhejiang Province, China, the local government and property developer decide to work together and discuss the possibility to develop highly integrated BIVP projects. The problem is that benefits of different stakeholders are dramatically hard to get balanced. The original residents demonstrate their living habits demands supported by specific architectural constructions while BIVP buildings have technical limitations. Moreover, the property developer and photovoltaic developer are also negotiating let alone the dominant role the government played in this game. A systematical industry chain is needed to satisfy everyone' demands. Different aspects of sustainability are approached through bottom-up design process.

B. Methodology

The project is meant to explore new possibilities of engagement between photovoltaic techniques integrated with cultural elements and government-aided architecture projects to reactivate local photovoltaic industries. Deep heritage study enables us to extract essential historical elements to cowork with photovoltaic device manufacturers and develop new photovoltaic devices with both heritage value and available performance. Residents' demands like ventilation are satisfied through selective appliance of the technique. The project's benefit is elaborately calculated and expected to recollect extra costs in 7 years which is accepted by financial support provider. Policy of using photovoltaic (as a renewable energy technology) is encouraged by the government. The renewable energy tech is acceptable and familiar among local inhabitants. The market needs more efficient architecture, and the government is willing to push. So in this case, both market and government need a cultural, social and ecological architecture.

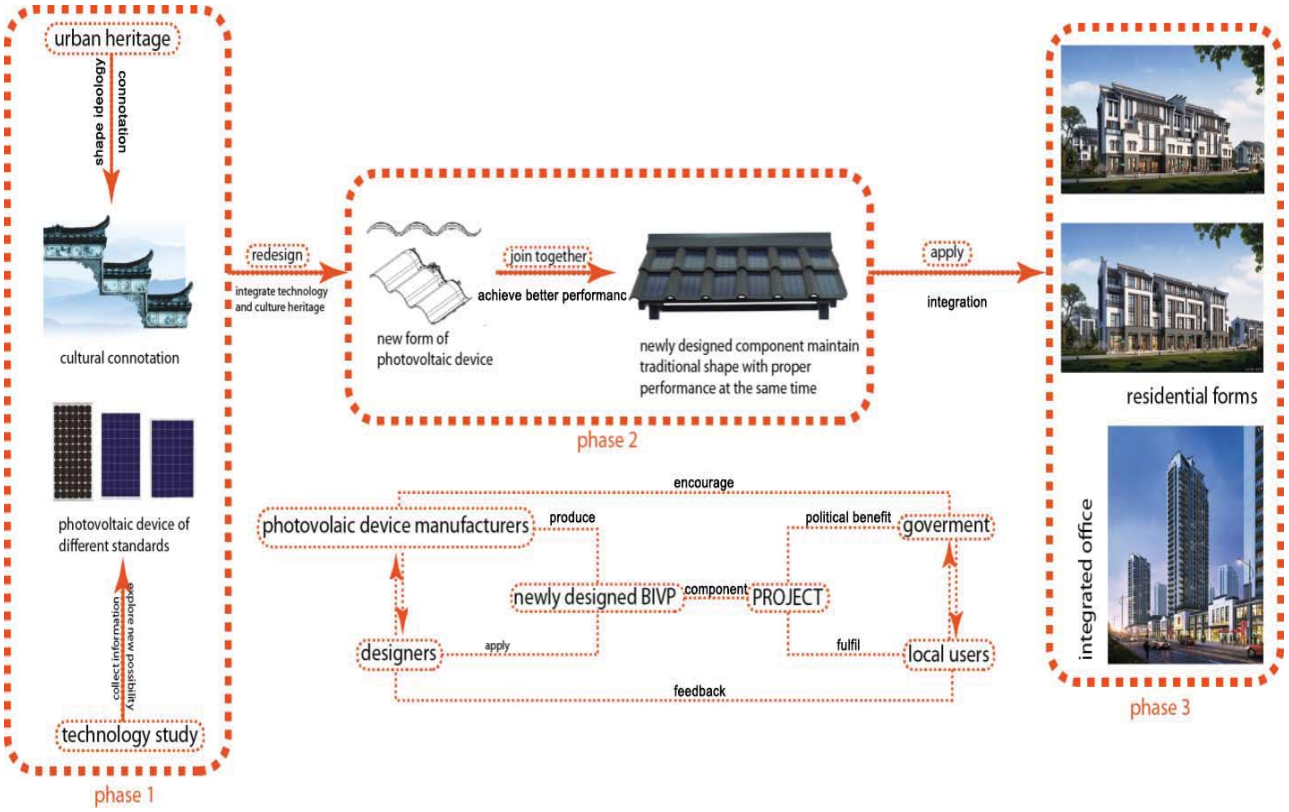

Fig. 3 The process of integrating photovoltaic devices and local heritage into architecture system

C. Summary

The project is developed in a complicated context including different stakeholders with different purposes. The appliance of the technique of photovoltaic produce ecological effects in different fields of industries. As a result, the overdeveloped photovoltaic industries are reactivated with governmental political support and new possibilities of appliance in new fields. Cultural factor playing an important role in shaping photovoltaic components enhance culture sustainability of the residential project. Cultural, social and ecological aspects of Sustainability are approached through cooperations among different industries.

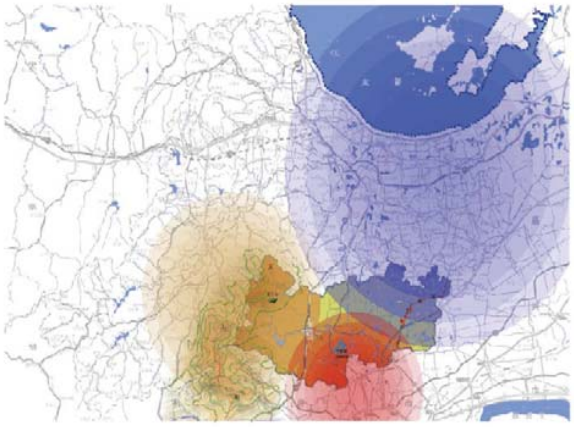

Fig. 4 Division of three main regions in Zhejiang Province

IV. Deqing Rural Housing Historical Feature Control Project

In Deqing rural housing historical feature control project, we cooperate with the local government, to recreate their traditional living environment and restore their cultural identity. Integrated territorial policy approaches above the local level are also integrated to steer urban development in the interests of the wider region [3]. The process urban expansion is discussed in detail. Moreover, an integrated consultancy system is digitally constructed and modified taking political, economic and cultural factors into consideration. We started with thorough survey to local people, and analysis the connections between distribution of the historical housing style and their living habits, especially, their attitudes towards modern style. Finding the deep ecological purposes behind the historical style, and take advantages of the modern technology to make sure the significance of special historical features embraces our living style today as well, which emphasizes the cultural and historical aspects of sustainability. The appliance of the created system will satisfy the special demands in the swift process of Chinese urbanization in rural area.

A. General Introduction

In the rapid process of urban sprawl in rural area in Zhejiang Province, China, lack of professional designers to deal with specific situations leads to superficial imitations during construction neglecting cultural and rural special house features. In the meantime, urban culture and living styles have dramatic impacts on traditional rural lives in villages. Heritage of rural villages is therefore greatly challenged facing various criticism. The problem is rooted in the social and economic system which has been operating for hundreds of years. A controlling system is needed to optimize the situation and ensure the cultural authenticity and regional living demands. The development of villages is not processing in clear direction and the collective effects further enhance the chaos in those areas. Besides, traditional up-bottom design and planning methodology could not satisfy multidimensional cultural and people's mental demands. In rural areas different from urban areas, population is fewer and communication is much more easier, which provides us the opportunity to take bottom-up participation in the research process. With the supported provided by local government, we are enabled to survey and evaluate the situation more systematically in fields of residential environment and social economy. Opinions from original residents are considered as an important part.

B. Methodology

The proposal presents a new design based solution to the problems in rural housing architectural style development and village features in the rural areas in Deqing County by proposing a new systematic architectural cultivation and controlling system based on regional architectural characteristics and historical cultural context distribution. By taking advantage of local field survey and full cycle architecture and construction projects of local rural housing design and planning, we tested the system of architectural feature cultivation in order to rethink the traditional methods of rural housing management and the collective psychological feelings towards the original residents own standards of aesthetics. Thus the evaluation process also includes residents' participation. Advanced digital information collecting system is applied in the thorough survey and construction of digital consulting platform hoping to optimize the design and planning process and control the development in rural areas in large scales approaching aspects of sustainability.

C. Principles & General Directions

The key point in the process of architectural feature cultivation: systematically construct and repair a architectural feature cultivation constructing system with characteristics of epoch for newly developing villages. Instead of developing architectural aesthetics individually, we try to proceed our design and planning on urban-scale and consider the distributions of villages in the county as a whole system. Distributions of villages are analyzed in deep historical context and different groups of architectures in various styles are developed according to the analysis. As a result, historical heritage and features of traditional villages could be preserved [5] and redeveloped integrating into new modern techniques of construction. Regional architectural characteristics are formed contributing to the sustainability of local area. Architectural feature cultivation system is constructed specifically for different villages in Deqing County. Evaluation methods are

designed systematically and dynamic solutions will be offered periodically to adjust and modify the process. Based on deep analysis of village industries features and dynamic experiences of future construction, along with composition and distribution of architectural feature cultivation controlling areas, the solution will further enhance the systematic and sustainable development of rural village housing projects.

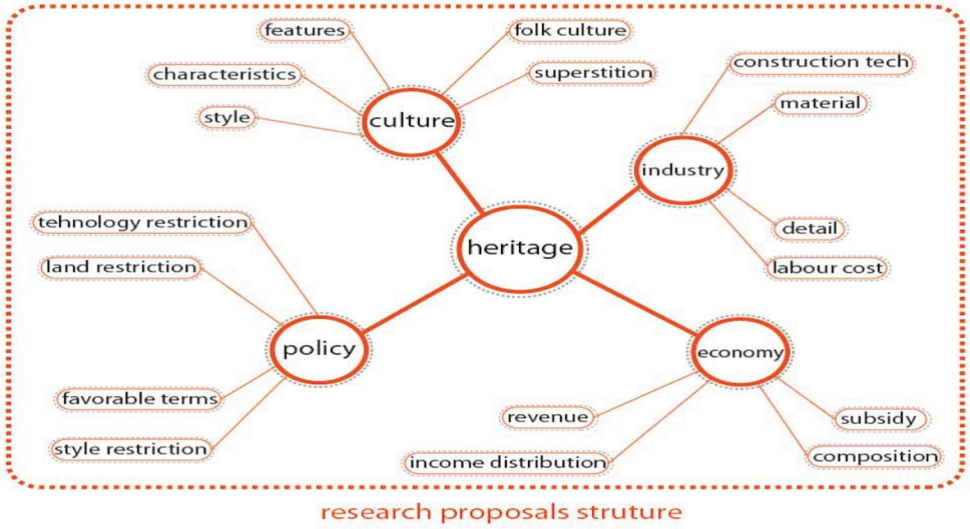

Fig. 5 The structure of the proposal and deconstruction of heritage

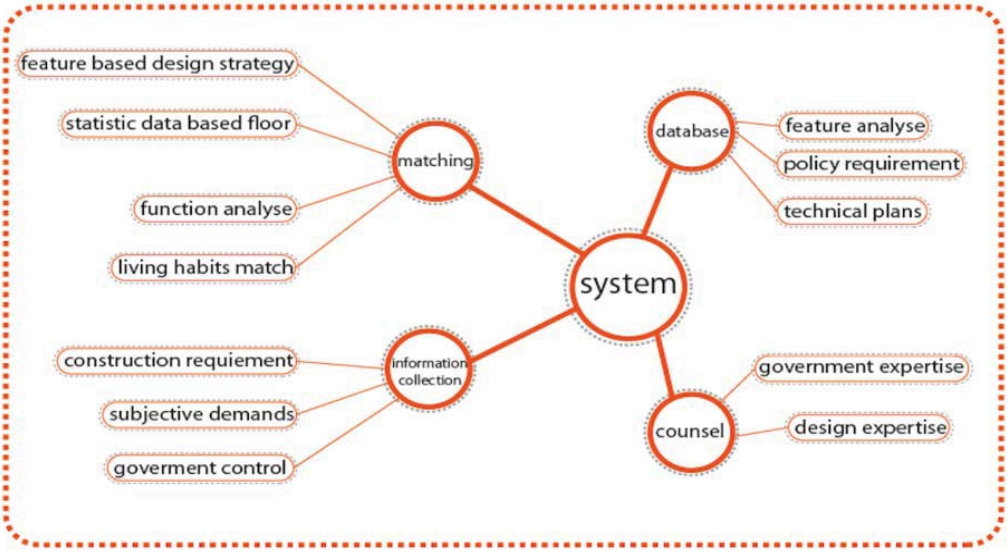

Fig. 6 General visualization of the project

D. Points Emphasized in the Information Collecting Process

- What caused the variety of housing styles in rural areas?
- What are the specific residents' own economic factors?
- How can historical heritage get expressed through architectural design methods?
- Meanings for preservation of historical heritage.
- How to integrate with modern aesthetics standards?
- Advantages and disadvantages of various editions of housing design and planning.
- Different construction techniques in different regions.

The whole survey is divided into three parts of three regions of Deqing county including the west, the east and the middle. And each of them is influenced by different cultures and develops different architectural characteristics. Full-cycle participation in practical projects design and planning process also provide us with multidimensional testing environment. Methods of intervention are therefore modified dynamically.

V. Zhang Jiajie Museum

Last one is from Zhang Jiajie in Hunan province, we are asked to design a museum for Kaiyuan Group which located in a historical tourism and leisure zone. And the project turned out to act as a stereotype of integration of the industries with regional development. The clients intended to use heritage to attract people to come to visit while combine the other commercial programs in this museum. Trying to make a powerful compound integrating different industries, we developed new commercial operating patterns to support the whole dynamic system. Since pedestrians and shopping malls are essential to urban environment [1], the new meanings of their importance are redeveloped. And the integrated commercial patterns fully take advantage of ecological effects of sustainability. The programs include: shopping mall, museum for heritage exhibition, local minority cultural show. The modern commercial purposes with historical significances as the main theme in this development.

A. Methodology

As heritage is so dominant in shaping the whole system, a deep study of local traditional architecture forms is conducted. And the architectural forms act as a reflection of traditional architectural culture in local areas representing local heritage. Different customs from local peoples are integrated into the exhibition. And the exhibition in the museum includes various stuff from local cultural heritage like Chinese medicine making, Chinese ancient tablet. To optimize the visit experience, we try to integrate cultural exhibition into architectural forms and function. For instance, the pictures on the left indicate the interior pedestrians design.

Famous ancient religious artworks are exhibited on the ceiling. The latent sequence of visit matches the sequence of chronology of the paintings. Stories are portrayed in a subtler and vivid way, which enhance the visiting experience. A leavening influence is taking effects on tourists.

Fig. 7 Visualization of pedestrian system

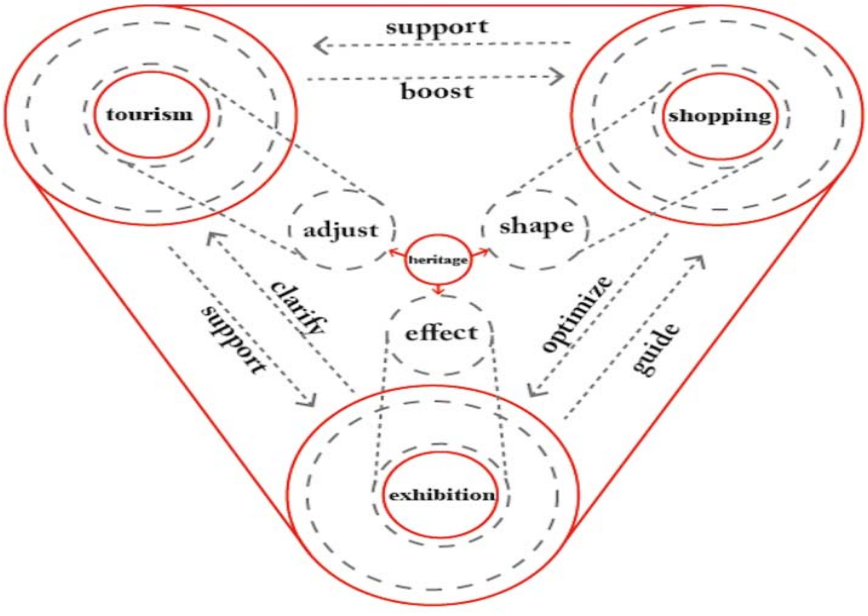

Fig. 8 Newly developed operation model

Heritage here plays a powerful role in shaping both architectural and landscape system and operation mode. Preservation of heritage ensures the vitality of tourism and leisure industry.

Besides visiting and exhibiting activities, relative events are also introduced producing ecological effects. Different programs from different fields are actually interacting with each other in a dramatically dynamic way. Mixed mode of operation indicates a solution facing limited resources. Development of integrated ecosystems ensures the sustainability of local community.

VI. Conclusions

In the game of thrones in the process of urbanization, piecemeal solutions are often offered by different groups of stakeholders for their own sake. We, architects, are playing the role of avoiding fragmentation, trying to apply integrated urban-scale strategies to construct ecosystems with sustainable potentials. In the city garden project of Bozhou Gujingong wine corporation, the study and redevelopment of wine making culture gift the project with important value of cultural sustainability. And other physical architectural methods like form-finding and programs organization are deeply integrated with cultural connotation. Thus, a highly integrated system is constructed to represent the company's cultural features and reactivate the dying local community. In the Yiwu Dayuan village BIVP project, which is quite typical as an integration of all factors. Through to-down intervene, the project obtained political and economic support and supervision from local government and technical support from local photovoltaic industries. General perspectives of cooperations among different industries guarantee the possibilities of the integrated ecological system, which also represents the independent power of Chinese market. Meanwhile, bottom-up participation offers authentic and phenomenological guidance to the project ensuring that the cultural aspects of sustainability and living demands are approached. In Deqing rural housing historical feature control project, our methodology is integrated in the feature consulting system. Governmental intervene provides political and economic benefits, which also plays an important part in the design process. Local field survey provides reliable bottom-up reference like local residents' living demands and local cultural customs. As a result, a government-supportive architecture features cultivation controlling system is promoted in the whole province. In the last one, from Zhang Jiajie in Hunan province, local heritage is playing the dominant role, in shaping the commercial operating mode of the project. Local cultural heritage is preserved and redeveloped to take sustainable effects. Integration of physical and metaphysical programs and connotations proves to be effective in approaching cultural and ecological aspects of sustainability. Our practicing projects presented above proved the possibilities of integrated solutions to approach cultural, social and ecological aspects of sustainability. And the precious experiences will continue to take essential effects in future urban-scale practices. We do need both bottom-up and top-down approach to accomplish a cultural, social and ecological area. And top-down controlling factors will also play a dominant role in the process. Culture preservation, utilization of innovative technology, power of market and governmental support will all contribute to the integrated system. And the dynamic design system will be modified continuously according to fluctuating factors in Chinese market like generating policies and people's attitudes towards heritage. Also, the system will be tested and optimized in the future multidimensionally.

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