

Research on Rural Landscape Enhancement Design Based on the Perspective of Urban-Rural Integration

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Received: 26 August 2023; Accepted: 24 October 2023; Published: 14 December 2023

Abstract:

The urban-rural transition area is a product of the urbanisation process, and also the core area where the conflict between the city and the countryside is intensified. The purpose of this paper is to explore how to enhance the rural landscape in urban-rural transition areas, improve the quality of life of rural residents, and try to reduce the gap between cities and villages. Through the study of the current situation and development of the villages in the urban-rural transition area, we find out the dilemmas and challenges faced by the villages, and select the public areas with village characteristics for transformation. It cuts in the way of points and connects the overall layout of the village. The practical part takes Zhoujiazhuang Village in Xi'an City, Shaanxi Province as an example, and provides new ideas for the development of villages in urban-rural transition areas through the study of landscape enhancement design of Zhoujiazhuang.

Keywords:

Rural Landscape Design, Urban-Rural Transition Areas, Zhoujiazhuang Village

1. Introduction

As China's urbanisation process continues to accelerate, the villages in the urban-rural transition areas have begun to lose touch with urban development due to their own development conditions. This trend has led to very slow or even stagnant development in villages. Although the villages on the edge of cities are close to the cities, the lack of reasonable design guidance makes the villages as a whole different from the surrounding environment, eroding the original culture of the villages and fragmenting the high quality natural landscape. How to adjust the complex junction edge of urban-rural transition areas, build a harmonious humanistic and natural symbiotic environment, improve the lives of residents and increase their sense of well-being, has become an urgent problem to be solved. However, at present, most of the cities for the sake of urban image choose to use the wall to enclose the transition area of the countryside, only to retain individual entrances and exits to pass, such a simple and brutal way of dealing with the countryside will only be more restrictive to

the countryside development, not only can't repair the transition area with the shackles between the city and the countryside, but also exacerbate the deterioration of the status quo. This paper will be elaborated from three aspects: the first part will briefly summarise the common problems of rural landscapes in urban-rural transition areas. The second part will be based on the study of villages, and put forward the design optimisation principles suitable for the development of villages. The third part is the focus of this paper, taking Zhoujiazhuang Village as an example, by proposing specific design strategies to enhance the landscape, trying to improve the current situation of the village and alleviate the conflict between urban and rural areas.

2. Problems with the Current State of Rural Landscapes

The author has conducted an in-depth research on the villages in the urban-rural transition area, from the historical development of the villages, the current economic model, the current staff structure, industrial structure, location flow, functional layout, village development planning and other aspects of the study. Through the study, it is found that there are certain commonalities in the villages of urban-rural transition areas, and the common problems of the rural landscape in the transition areas are summarised here.

2.1. Poor landscape continuity and layout

In the landscape layout of the countryside, the connection between similar landscapes, especially natural and semi-natural landscapes, is poor. On the whole, there is a lack of good continuity and transition between rural landscapes and urban landscapes, so the transition between urban-rural and rural-natural landscapes has been affected to varying degrees [1]. By interpreting the satellite maps of the villages in the transition areas in different periods (Figure 1), it can be seen that due to the lack of planning consideration for the villages in the urban-rural transition areas, the layout of the landscape in the villages is chaotic and there is no clear landscape grouping. In the current development, residents in the villages of the various urban-rural transition areas generally do not have a fixed place for activities. Most of the sites with square functions have unsound landscape elements, cluttered environments and lack of infrastructure. Most of the villages with riverfront landscapes have a large number of anglers and cropland farmers clustered in the landscape area. As far as the landscape itself is concerned, it varies in width along the banks, and due to the lack of certain design interventions, it is not only severely damaged, but also has great safety risks [2].



Figure 1. Satellite map showing the same plot at different times. Data source: Goldmap.

2.2. Single landscape form

Most villages in the transition area lack a landscape concept. Basic landscape sketches, art installations, etc. generally do not exist in the villages, and the overall landscape form is mainly based on natural and semi-natural landscapes. Most of the buildings in the villages are brick-concrete structures, some of the building structures are exposed, and a few of them have been painted on the surface, visually presenting a sense of disorder and dilapidation, and the villages generally do not have their own characteristics, and are seriously homogenised. Although the agricultural landscape in the countryside is based on farmland, it is close to the city, and the planting area is scattered and small, mostly private farmland, without forming a more systematic agro-ecology [3]. Many villages have good natural landscape resources, but the resources have not been utilised properly and have been damaged to varying degrees.

2.3. Landscape lacks a cultural core

The characteristics of an area lie mainly in its cultural connotations, its natural environment or the atmosphere of human settlements. The construction of villages in transition areas often neglects the inheritance and protection of traditional culture. In fact, each village has its own unique historical and cultural lineage, but the lack of attention in development makes this uniqueness lose its meaning. If it is properly utilised, it can give life to the design and empower the village. However, under the current development trend, villages lack of independent cultural awareness and thinking, and tend to follow the development of urbanisation in landscape construction, taking the urban landscape as the wind vane [4].

2.4. Increased land use conflicts

The urban-rural transition area is close to the city, with a significant spatial structure of urban-rural functional interpenetration, and the nature of land use shows a transitional relationship related to the distance from the city, that is, as the distance from the city grows further and further, the nature of land use begins to favour agricultural land, and non-agricultural land use is on a decreasing trend. The process of increasing distance between the whole is also a process of ecological dominance. In this process, the development strength of the countryside is getting weaker and weaker as the distance from the city increases (Figure 2).

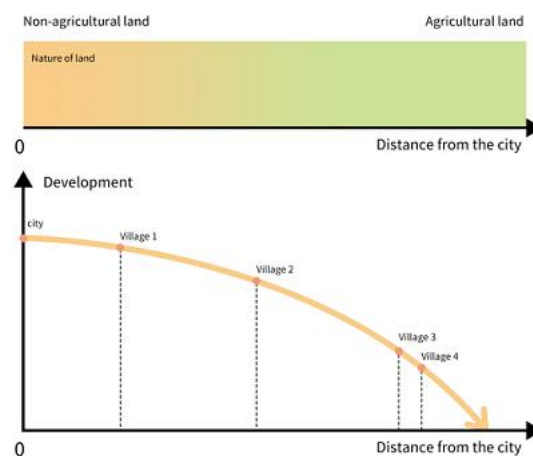


Figure 2. Distance correlation graph. Drawn by Taiming Chen.

However, due to the rapid advancement of urbanisation in China, what was an orderly advancement has evolved into a disorderly advancement, and non-agricultural

land and agricultural land have begun to intermingle in a chaotic manner, and conflicts have begun to intensify [5]. The urban-rural transition zone landscape is distinguished from the urban landscape, and mainly develops the ecological landscape related to nature and agriculture, however, at this stage, the landscape and infrastructure are in a relatively lagging state within the urban-rural transition zone. Most villages are rapidly expanding non-agricultural land for the sake of driving, and the ecological environment has been damaged.

3. Principles for Optimising Rural Landscape Design

Based on the study of the rural areas in the transition between urban and rural areas, regarding the proposed landscape problems, three design principles are proposed here as the basic requirements for landscape design, as a preliminary reference and basis for rural landscape design in the transition area.

3.1. The people-centred principle

The optimisation of rural landscapes is based on the people in the area. This is not only because the design needs to satisfy aesthetic and functional needs, but also because the design should establish a harmonious and complementary relationship between people and the environment [6]. Compared with the urban environment, the countryside has its own unique mode of living and interaction, and the connection between human and nature is also closer in the countryside. In the optimisation and transformation, it is necessary to widely consult the villagers' opinions and suggestions, so that they can really participate in the design. Fully understand the daily life needs of the village residents. Give full consideration to the actual application function, and make clear the functional zoning. Meet the needs of residents' gathering and interaction. Based on the development of the village and the production and life of the villagers, the design is flexible and adapts to the possible changes in the future. Link each functional block through the village landscape to form a complete landscape system.

3.2. Eco-led principle

Protecting pre-existing ecosystems. The environment is the basis for rural development in urban-rural transition areas. Before starting the design, an ecological assessment should first be carried out to clarify the existing ecological resources, vegetation, hydrological conditions, etc., in order to ensure that the design is compatible with the existing ecological environment. The ecology that has been damaged should be repaired as far as possible to establish a sense of protection. Using techniques such as rainwater harvesting and ecological vegetation filtration, the landscape is transformed into a green infrastructure that has practical ecological benefits while beautifying the environment [7]. When designing interventions, it is important to make full use of the original natural terrain, do organic integration, try not to destroy the native vegetation, and do not deliberately modify the natural ecosystem. Educational elements can be set up in the landscape, interpretation boards, etc., to strengthen the villagers' ecological cognition and protection awareness.

3.3. Principles of cultural empowerment

The greatest characteristics of a region are based on the cultural kernel of the region, and nowadays the countryside development in China is seriously homogenised without any memory points. The historical background, folklore and traditional

activities of the region can be studied in depth to ensure that the design can reflect its cultural heritage. On the basis of retaining and promoting traditional culture, modern elements can be introduced as appropriate. The design can be integrated into a variety of cultural experience projects, such as handicraft production, watching traditional art performances, so that tourists and village names can deeply understand and participate in cultural activities [8]. Tap into the cultural lineage of the village. Incorporate a strong cultural flavour into the countryside and activate the unique attributes of the countryside.

4. Strategies for Enhancing Rural Landscape Design

Zhoujiazhuang Village, as a typical village in the transition between urban and rural areas, is used as an example to propose a landscape enhancement strategy adapted to the village through the study of the village.

4.1. *Optimise the layout of the landscape plan to bring out the best of the best*

The rural landscape within the transition area consists mainly of natural, semi-natural landscapes. Followed by a small part of urbanised landscape, road landscape [9]. To optimise the landscape layout, it is necessary to do reasonable planning first, select key nodes according to the existing situation of the village, and regenerate the nodes. Through the research of Zhoujiazhuang village, the author selected the abandoned chicken coop area with village memory attributes to put forward the transformation concept, the chicken coop is the most common space in Zhoujiazhuang village, through the villagers to understand, originally, Zhoujiazhuang village has a large number of chicken farmers, and then in the process of urbanisation, driven by the search for industrial transformation, have to give up raising chickens. Due to the loss of population, the subsequent abandonment of many places, no one is willing to take care of. Here we hope to combine the original materials and framework of the site, without destroying the general form, fully utilise the original wood, stone, soil and discarded materials of the site to create, through the extraction of the framework of the abandoned chicken coops, and then based on the function to give new structures (Figure 3). The villagers' needs for life are integrated into the space to create a landscape space that belongs to Zhoujiazhuang. From the point to the surface to improve the landscape quality of Zhoujiazhuang village. The chicken coop was once part of the development of Zhoujiazhuang village, which drove the economy of the village, and its conceptual significance should be fully preserved.

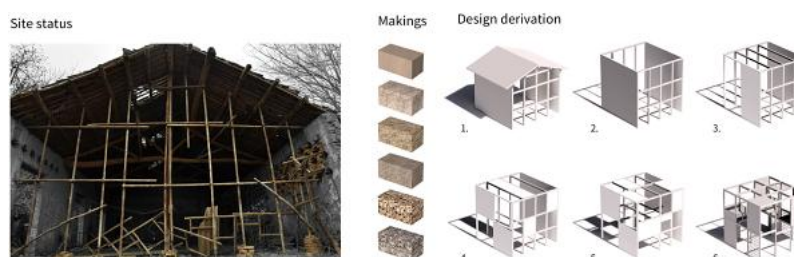


Figure 3. Chicken house renovation analysis diagram. Drawn by Taiming Chen.

4.2. *Injecting cultural attributes into the landscape*

Zhoujiazhuang Village is located near the University City in Chang'an District, Xi'an, itself a city with rich history and a very cultural atmosphere, and the cultural atmosphere surrounding the village can provide a tone of support for development.

The village has a long history of folk art and mass theatre activities, especially social fire cores and stilt art, which promote the development of mass amateur theatre. In the southern part of the village, there is an ancient tomb, which is called “Three Pests Mound” by the public, which is the mausoleum of Zhou Chu, a royal historian of the Western Jin Dynasty. This is where the story of Zhou Chu's elimination of the three evils originated [10]. Based on cultural considerations, the water tower in the village was chosen as the carrier of the design. The water tower is one of the few special structures in the village, and the emotion it contains is strong. It has existed for almost sixty years, and has accompanied the growth of a generation. The villagers have integrated the water tower into their lives. The design takes the water tower as the core and preserves the original structure. Using native materials, the water tower is given a new skin, and functions such as observation and performance are incorporated into it. It provides a venue for the villagers to carry out traditional activities and enhances the cultural atmosphere.

4.3. Rational land use, integrated environmental remediation

The sluggish state of the village's overall development has led to a lagging economy [11], which has given rise to a large number of resident economies, mainly in the form of small restaurants, scrap recycling, and a number of car repair shops relying on the driving school next to the village. The village should make a clear distinction between non-agricultural land and agricultural land. Non-agricultural land should be used for cultural landscapes to enhance the cultural atmosphere of the village and improve the quality of life of the villagers. Agricultural land should be combined with nature to create an agro-ecosystem to drive economic development, establish agricultural landscapes to maintain the quality of the environment, and repair the ecology of the site [12]. By changing the overall development landscape of the village, improve the economic status quo of the village, inject new business in the village, create employment opportunities for village residents, so as to retain the lost labour force. With regard to basic environmental management, the village needs to relocate the waste disposal station and waste recycling station to the south of the village next to the factory, and establish a complete recycling path to facilitate the centralised disposal of waste. Strict monitoring and control of the factories and waste disposal should be carried out on the basis of the treatment.

5. Conclusions

In order to enhance the development of rural and urban transition area villages, it is necessary to accurately judge the land use from the perspective of the interaction and penetration of urban and rural landscapes from the current situation of villages and inherent, and to go to the suitable landscape scheme design according to the existing site factors, to further create the ecology of rural landscapes in the transition area. According to the research, I have come to the following conclusions:

a. With the acceleration of urbanisation, the boundaries between urban and rural areas are gradually blurred. However, the villages in the urban-rural transition area are often neglected in this process, leading to waste of resources and cultural disconnection. Through an in-depth study of the rural landscape of Zhoujiazhuang Village, we realise that only by paying sufficient attention to and planning for this special region can we achieve urban-rural integration in the true sense of the word.

b. Rural landscapes in urban-rural transition areas are rich in traditional elements as well as facing the challenges of modernisation. In planning and design, we should not only pay attention to the protection of traditional culture and natural resources, but also pay attention to the combination with modern lifestyle and seek balance and integration between the two.

c. In order to guarantee the sustainable development of the countryside, a reasonable land use strategy is key. This paper proposes that non-agricultural land should be clearly distinguished from agricultural land, and at the same time, the construction of agro-ecosystem is emphasised, as well as the organic combination of agriculture and cultural landscape.

d. The development of villages cannot be separated from the actual needs and participation of villagers. The case of Zhoujiazhuang Village shows that communication and co-operation with villagers can lead to a better understanding of their needs, and thus create a more meaningful and satisfying rural space for them.

In summary, through an in-depth study of Zhoujiazhuang Village, this paper reveals the multiple problems and challenges of rural landscapes in urban-rural transition areas, and proposes a series of specific and feasible optimisation principles and strategies to address these problems. These conclusions not only provide scientific planning suggestions for Zhoujiazhuang Village, but also provide valuable references for other similar villages in urban-rural transition areas. It is hoped that future research in this area will be further deepened to achieve true urban-rural integration and sustainable development.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

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