

Research on planning and design strategy of Gully Ecology Park—Take Shanxi's Northern gully Park as an example

Liu Rongrong *, Liu Yuanping

College of Architect and Civil Engineering, Taiyuan University of Technology, Taiyuan 030024, China

Abstract. The Li Cheng Northern gully Central Park is located between the new and old city of Li Cheng county, Changzhi city, Shanxi province. It is the link between the new and old urban areas and the ecological corridor of the central county. There are villages, water systems and abundant vegetation in the gully. Relying on the rich natural historical resources of the northern gully area, the leisure tourism service is developed, and the red cultural temperament of the area is combined to create a large green space central park, which integrates display, commemoration, sightseeing, rest, office and office. Based on the general idea of "water moisten garden, green shade garden and cultural nourish garden", we plan to build a homestead rural for urban people.

1 The general situation of Li Cheng County

1.1 A survey of the history of Li Cheng County

Li Cheng County is the county of Changzhi city of Shanxi province. It is called the kingdom of Li Hou in ancient times. It is the old district of Taihang Mountain revolution. It is located in the border of Shanxi, Hebei and Henan provinces. It is the "East Gate" of Shanxi province. It is known as "the thoroughfare of three provinces". Li Cheng County has a long history and is one of the birthplaces of Chinese civilization. "The ancient cultural site of Jin Jia Street" indicates that in the Neolithic age, human beings had flourish on this land of Li Cheng, and the history of civilization lasted for more than 2700 years. The excavation of the ancient tombs in the Western Zhou Dynasty proves that Li Cheng County is the seat of the ancient kingdom of Li Hou.

1.2 The location of Li Cheng County

The advantage of location for Li Cheng County is very obvious. The county is located in the west of Shexian County, Hebei province, north of Pingshun, Lucheng, east of Xiangyuan, Wuxiang, south of the Zuoquan, Jinzhong, and neighbours to Linzhou, Henan province. Logistics interflow, well-informed information, large market capacity and fast transfer that constitute the "Golden Triangle" of regional economic development and have great potential for development.

2 Analysis of the current situation of the Northern gully

According to the data of the northern gully of Li Cheng County, Changzhi city, Shanxi province, the streams in the northern gully are flowing and the vegetation is flourishing. In the spring, the flower of apricot and pear being to compete for opening up and the gully is in a vast expanse of white. Therefore, the North Square, also is known as the "white square", and the North Fang village is also known as "flower village". However, with the development of the times, the modern construction of the surrounding areas has caused pollution to the ecological environment of Northern gully. At the same time, due to the lack of supervision and management of the relevant departments, the northern gully is no longer the beautiful scene of that year, the environment is polluted in the gully, the vast land becomes a wasteland, and the clear stream becomes sewage. The whole environment is dirty, messy, and poor. It turned into a city scars from a former paradise. Therefore, the renovation and construction of the northern gully is extremely urgent.



* Corresponding author: liurongrong0391@link.tyut.edu.cn



Figure 1 Present picture

(Photo source: self-made by the author)

3 The difficulties in planning and design of Northern gully park

First, the park is belongings to valley topography; the bottom of the gully is relatively flat, relatively easy to plan and construct, while the two sides of the gully are more difficult to deal with. Using the methods of steep cliffs sheltered with trees and terraced fields transformed from gently slope may be better. On the steep cliff, there are vine plants such as the climbing tiger. Tall plants such as poplar over the sky and cedar are used in front of the cliff, so as to form the green barrier with several rows, several layers of up and down, as well as three-dimensional. In the gentle slope area, terraced fields are built along the slope, forming a landscape like urban contour terrace with rich rhythms, clear layers and rare urban terraces. This is probably the key factor that reflects the pastoral style of this park, and is also a distinguishing feature and highlight from other urban parks. In the process of planning and construction, we should carefully study the width of the terraces, the height of the terraces and the varieties of plants planted in the future, in order to meet the requirement of level sense and consider as a whole. Efforts should be made in the material and shape of the external facade, not only to meet the engineering requirements, but also to meet the needs of the landscape.

Second, valley topography determines the different levels of bottom of gully and the bank, so as the different visual needs of the valley. Therefore, the landscape of the park should not only meet the aesthetic requirements after entering the garden, but also take into account the beautiful requirements of the park on both sides of the shore and on the bridge. I am afraid it is necessary to work hard in the large structure, the large frame and the general layout, to create a landscape of "bird" to see the scenery (it looks like anything at the height), and it will be another big feature if well projected. Third, the overall coordination with the surrounding environment on the shore. Where is the boundary of this park? Where is the edge area? It should be clear. The border area and the core area should be coordinated. The road system in the north bank should be re-planned. The farmers' courtyards

in the northern edge of the north bank should be moderately beautified, and the south bank should develop the green space on the maximum limit.

4 Research on planning and design strategy

4.1 "Moisten" the park with water

"Water" is the first major element. It is the first major landscape in the park. It is an important part of the "water moisten city".(It can make the Tapo reservoir and the Donghe Park in the West as a whole, and make the dead water of the East River to live water.) The three characters of "moisten" "close" "live" should be closely linked to the planning and design.

"Moisten" means "moist", "moistening" and "moisted" "Moistening" is not great water and great lakes, but shallow ponds, rivulet and creeks. It is not only compatible with the size of the park, the topography and geomorphology, but also different from the large water and cascade dams in other places, which may be more flavorful.

"Close" means close to water, water is the source of life, and water is human nature. It is necessary to plan and establish a water system matching the main water area with the auxiliary water area, and water can be seen in hundred (or ten) steps. If we want to "Close", it needs to be "near" and convenient. You can bend the waist to play the water, walk to wade the water, swim in the water, raise the rod to go fishing, and squat down to wash the pulp.

"Live" is flexible. The water source of this park comes from the Zhangbei canal water (self flowing and controllable) in Tapo reservoir, and the natural drop of the water easily increase the flow of water. The water moves clean, and the water moves spirit. Small waterfalls can be set up in suitable areas to create the artistic conception of small rivers and streams, which can not only meet the visual needs of tourists, but also satisfy the hearing needs of tourists. Through various forms of small bridge (level, arch bridge, stone bridge, wooden bridge, iron bridge, rattan bridge, fixed bridge, sloshing bridge and so on) and the "stone" to connect the park, an atmosphere of water flowing under small bridge is created. Where possible, a small "water wheel" can be set up to increase movement. Water flows in the garden, people swim on the water (side), people move in the water, the water and the human is harmonious, and the pastoral taste is thicker.

To work hard in "moisten" "close" "live", to think in the details, to make a delicious taste, this may be a major feature of our park, a big spot, is one of the core attractions of this park, but also different from other counties in making water.

4.2 "Shade" the park with green

The vegetation is the dominant element in the landscape elements of the park. According to the requirement of

the concentrated edition, the diversity is the core, and the difficulty is the collocation and the layout. The Northern gully has already existed in the history of Li Cheng. It has provided the design basis for the present transformation, and it needs to be carefully studied.

Three "hundred": hundred trees (fruits) garden, hundred seedlings garden, hundred flowers (grasses) garden, "hundred" is meaning of a lot, is the embodiment of diversity, "tree" "flower" is possessed in the general city park, and the "seedling" is more able to express the garden characteristics of this Park.

The layout of three "hundred" garden is a difficult point. There are no more than three modes: first, simply divide three large areas into layout. The second is to thoroughly disrupt the three "hundred" category and disperse the layout. The third is the combination of small scale relative concentration and distribution. The third one of the three patterns may be better. For example, the persimmon in the Li Cheng "four treasures", selected eight or ten (or more) persimmon trees, plant concentrated together to form a "persimmon garden", embellished scatteredly one other places, so the whole park has a number of theme parks, and not monotonous on the whole.

4.3 "Nourish" the park with culture

4.3.1 Road system

Planning and design based on the concept of road landscape and landscape roads.

(1) The access around the park and among the park should be convenient, and the four entries in the southern, eastern, northern and western orientation can be considered.

(2) The main roads in this park need to have the characteristics of circulation (standard for single carriages of the trolley), and the high-quality asphalt road is the first choice. The walkways in the park must have ecological features and a sense of quietness, and they should be near water.

4.3.2 Public place system

(1) A basic prediction of the maximum tourist capacity of the park.

(2) The park needs to set up two or three major activity places and a number of forest activities and rest points.

4.3.3 Resident system

As regards the combination of protection and regeneration for old building, on the basis of retaining courtyard texture, old buildings and trees, it is essential to combine new elements, maintain the characteristics of traditional folk houses, add some elements and symbols of farming civilization, create new space conforming to the present crowd, meanwhile, without losing the characteristics of the original site, so as to achieve the

high consolidation of the authenticity of site and the peculiarity of landscape originality.



Figure 2 Land area

(Photo source: self-made by the author)

5 Conclusion

The Northern gully is rich in historical spatial memory, highlighting regional culture and natural features. Through building, landscape, planning and design, we can reproduce the romance of mountain and flowers, the meandering streams, the colorful fields, the crisscross streets and the row upon row farmhouses. It is beneficial not only to beautify the city, but also to provide a link between the old and new urban areas, to become a new city corridor, and to improve the quality of life of the residents in the surrounding areas, and to provide a positive attitude towards the economic and ecological development of the region.

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