

# Strategy Analysis of Vitality Enhancement of Traditional Village Public Space

## -- Take Nuhei Village as an Example

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### Abstract

Based on the theory of scale space, place space, fuzzy space and sequence space, the public space of Danohei Village is identified and classified, and divided into node space and ribbon space. Through the study of the characteristics of village public space, taking the transformation of public space as the starting point, the optimization and improvement strategies of natural landscape public space, vernacular architecture public space, cultural activities public space, folk culture public space and other aspects are proposed, and node optimization and upgrading design is carried out.

### Keywords

Village; Public Spaces; Vitality Boost; Tactics.

## 1. Introduction

Under the background of rural revitalization in China, village public space as an organic part of village revitalization and development has attracted more and more social attention, clarifying public space and its fundamental value, exploring its mechanism of action, and studying its optimization strategy, which is conducive to the restoration and shaping of public space and promoting the healthy development of traditional villages.

The public space of the village includes both tangible node space and ribbon space, which carries invisible kinship, regional culture, and collective memory. The vitality and development of the village public space is not only the inheritance and continuation of the living state, but also the restoration of the village traditional space of the existing place.

## 2. Demonstration Location

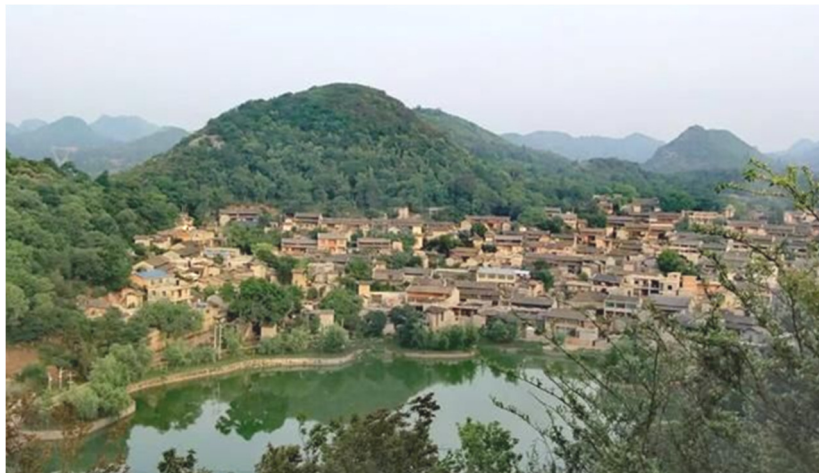
### 2.1. Geographical Environment

Nuohei Village belongs to Guishan Town, Shilin Yi Autonomous County, Kunming City, Yunnan Province, with a land area of 39.8 square kilometers. Nuohei Village belongs to the Nuohei Village Committee of Guishan Town, Shilin County, and is located in the northwest of Guishan Town, Shilin County, Kunming City, 4 kilometers away from the town government, 30 kilometers away from Shilin County and 120 kilometers away from Kunming. The Jiu-Shi-A tourist line passes through Nuohei Village with convenient transportation. The whole village has jurisdiction over two villager groups, large and small.

### 2.2. Natural

Nuohei Village is located in the karst karst development area, and the nearby mountains are mostly stone mountains, and people go up the mountain to quarry stone and transform it into stone strips and slabs of different sizes to build houses. Nuohuro Village and the famous Old Kei Mountain are far away, surrounded by green mountains. People in the village, looking up at a

blue sky, looking at the lush greenery, one green, one green and one blue, the three colors reflect the world of life of the Sani people.



**Fig 1.** Map of Nuohei Village

### 2.3. Cultural Background

Sani culture: Sani is a branch of the Yi people, mainly distributed in the stone forests of Yunnan. Nuohei Village still retains a pure Sani culture, all speak Yi language, and when celebrating the traditional festivals of the Yi people, they will follow the ancient traditional culture of the Yi people. Yi embroidery culture: The traditional culture of the Nuohei Yi ethnic group is an intangible cultural heritage of Yunnan Province. Sani embroidery was popular as early as the Ming and Qing dynasties, and the technique of picking flowers gradually became popular and became the main method of production.

### 3. Public Space Type Analysis

Public space is divided into two categories: node space and linear space according to the function of use. The study area survey visited 92 points, including 25 node spaces and 67 linear spaces.

**Table 1.** Public Space Type Census Table

Node space	Portal space	Entrance plaza	Village archway	Main entrance	Bridge end			
	Neighborhood space	Solitary plant	Well	By the pond	Small park	Hydrophilic dock		
	Assembly space	Node Plaza	Village Office	Cultural Activity Room	Senior Activity Room	Ancestral hall	Temple	Academy
Ribbon space	Alley	Village main road	Roadway	Roadway intersection	End road			
	River bank	River	Creek					
	Ribbon landscape	Green belt						

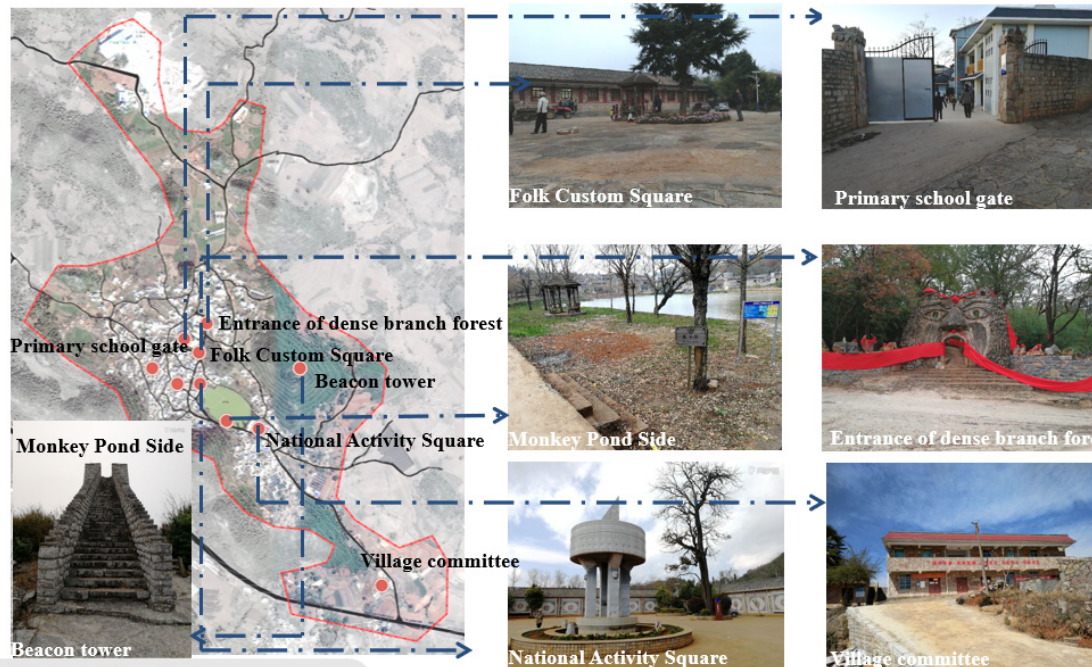
#### 3.1. Public Space Classification – Point Space

The following three dot-like spaces are one of the few three historical building points in Nuohei Village, which are elderly people who have witnessed the development of the village, and the current situation protection is not very in place, and the evolution gradually fades out of people's memory.



**Fig 2.** Point space classification-Three historic sites

The following dotted spaces are points with high collective memory in Nuohei Village, many of which have been planned and built-in recent years, with imperfect facilities and relatively low spatial vitality.



**Fig 3.** Point space classification-Points with higher collective memory

### 3.2. Public Space Classification – Node Space Subdivision

The node space of public space can be divided into three categories: portal space, neighborhood space and assembly space according to the functions it carries. The study area surveyed 25 nodes, including 3 portal spaces, 12 neighborhood spaces, and 10 assembly spaces. The following is a schematic diagram of the location of node space classified by bearing function in public space and a typical node space status diagram.

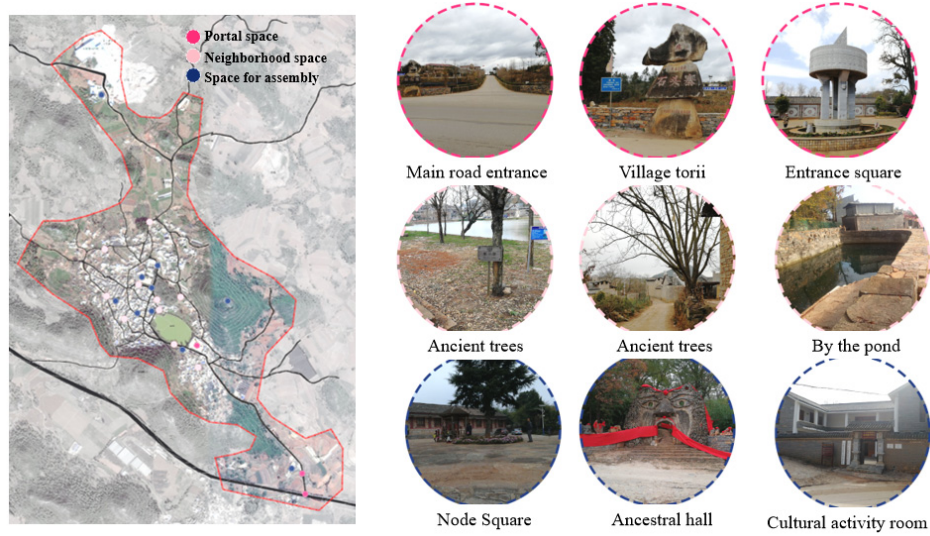


Fig 4. Public Space Classification – Node space subdivision

### 3.3. Public Space Classification – Linear Space

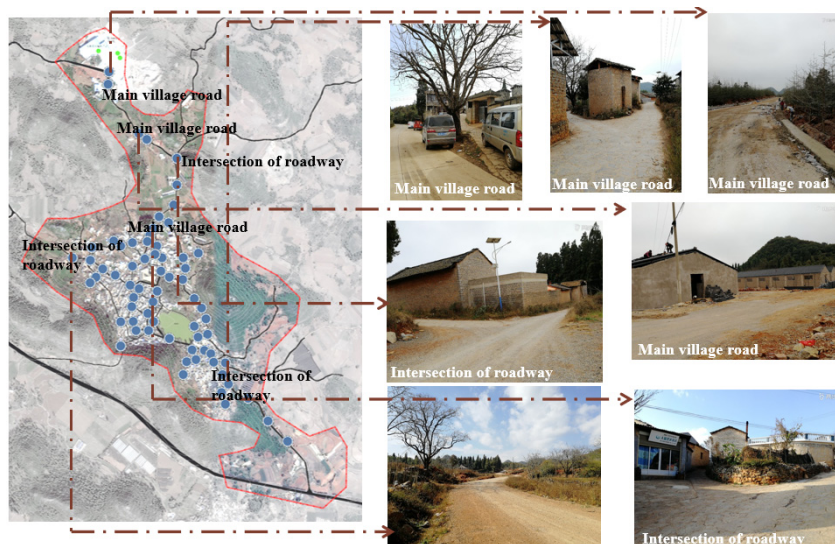


Fig 5. Public Space Classification – Line Space

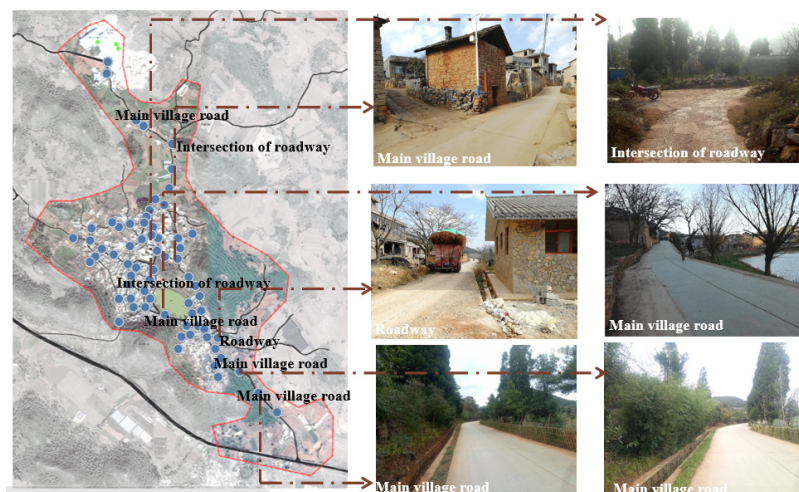


Fig 6. Public Space Classification – Line Space

### 3.4. Public Space Classification – Linear Spatial Segmentation

According to its bearing function, the linear space of public space can be divided into road space and landscape space. 67 points in linear space were collected in the study area, including 7 points in landscape belt space and 60 points in road space. The following is the position diagram of linear space classified by bearing function in public space and the status diagram of typical linear space.

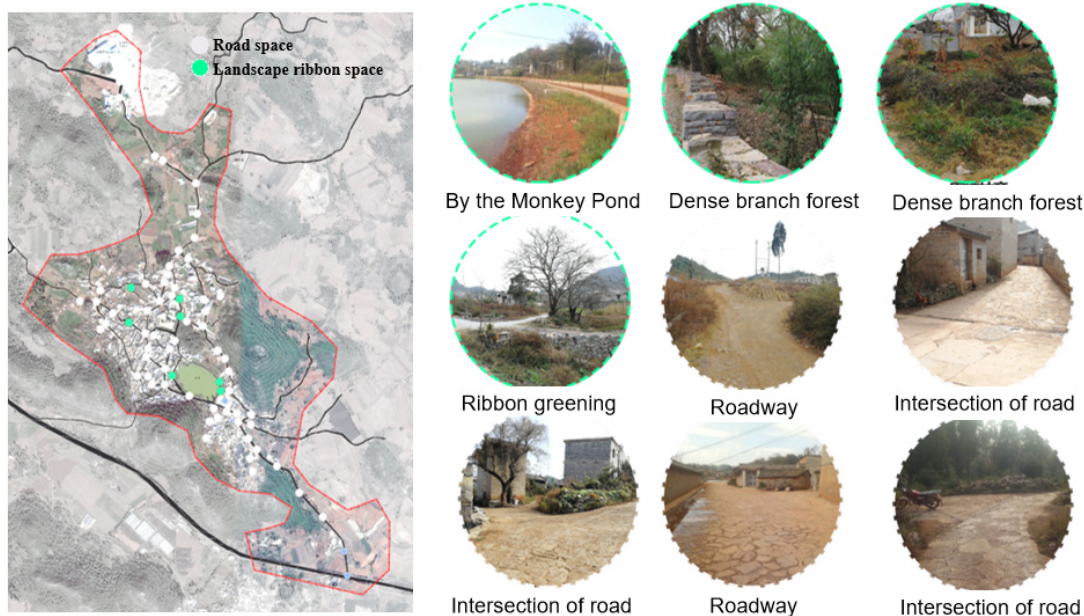


Fig 7. Public Space Classification – Linear spatial segmentation

### 3.5. Public Space Classification – by Location

Public space is divided into five categories: courtyard space, door space, road space, node space and boundary space according to its location. The study area visited 92 points, including 5 courtyard spaces, 7 front door spaces, 57 road spaces, 18 node spaces and 5 boundary spaces. The following is a typical spatial status map of public space by location.

## 4. Anatomy of the Main Problems in Public Space

### 4.1. Natural Landscapes, Communication Spaces are Cluttered and Somewhat Damaged



Fig 8. Natural landscapes, communication spaces are cluttered and somewhat damaged

In Nuohei Village, the natural environment of villagers' construction activities and the natural growth of the population are affected, the mountain forest on the edge of the village is scarce, and part of the mountain and woodland is developed for construction land and agricultural land. On the other hand, there are some problems of overgrown weeds and debris piled up on both sides of the road.

**4.2. The Waterfront Space Morphology Lacks Activity**

The landscape around the monkey pond in Nuohei Village lacks corresponding systematization and integrity, appearing chaotic and inactive. And the lack of rest seats, landscape buildings, etc., makes the monkey pond lack the activity and landscape role it should have.



**Fig 9.** Natural landscapes, communication spaces are cluttered and somewhat damaged

**4.3. The Use of Communication Space in Typical Historical Vernacular Architecture has been Weakened**

The village has many typical historical and local communication spaces, such as the royal family compound, the border longitudinal headquarters, the Panjiang Daily, etc.; However, with the development of society, historical buildings and historical culture have been severely challenged, especially modern civilization has a strong impact and rejection of traditional residential architecture culture, resulting in the weakening of the use of historical and vernacular architecture communication space in Nuohei Village.



**Fig 10.** Typical historical vernacular architecture communication space utilization weakened

#### 4.4. Public Spaces Lack Infrastructure Such as Lounge Seats and Trash Cans

The public space in Nuohei Village basically has no special rest seats or rest pavilions, and there is no corresponding garbage can and other infrastructure, such as there are no garbage cans next to the monkey pond, and there is no perfect resting place, which is not very attractive to villagers to use this public space.



**Fig 11.** Public spaces lack infrastructure such as lounge seats and trash cans

#### 4.5. Comprehensive Analysis

From the above analysis, we can see that: (1) The layout of traditional villages is maintained well and has local characteristics. (2) The structure of the current public space has begun to take shape, and it only needs to be optimized and improved. However, there are still certain problems in the public space of villages: (1) Most of the public spaces have a poor environment, which affects the appearance of the village. (2) Some public spaces are privately occupied, and the utilization rate of sharing is low. (3) There is a lack of public space in local areas, and it is inconvenient for a small number of people to use. (4) Some public spaces have low agglomeration and lack vitality overall.

### 5. Public Space Enhancement and Optimization Strategies

#### 5.1. Public Space Enhancement Strategies

##### 5.1.1. Enhancement of Public Spaces for Natural Landscapes

In addition to the quiet and harmonious, simple and spring rhythm of the landscape, the natural landscape is also a "place to find roots" for villagers and emotions. Public spaces such as mountains, forests, fields, and dams are excellent natural landscapes, and enhancement should actively protect their ecological origins.

(1) Improvement of natural environment: 1) Maintain the basic conditions of water bodies, protect the original natural ecosystem, and create an ecological river network water system. 2) Plant aquatic native plants, keep water sources clean and species diversity, and create a refreshing landscape on the waterfront. 3) Stacking bluestones, removing weeds and garbage, repairing forms, and maintaining the sight of each space.

(2) Spatial pattern rectification and optimization: 1) Optimize each space, create, and make the connection between each other systematic and orderly. 2) Fine-tune the azimuth axis to enhance the hierarchy and systematization of each space. 3) Follow the road skeleton to ensure the unobstructed accessibility of the landscape view.

##### 5.1.2. Enhancement of Public Space for Vernacular Architecture

Vernacular architecture is not an exhibit, but a continuation of traditional life, not only rich past and present, but also future. Vernacular architecture is continued and developed in the practice of continuous understanding and transformation of human beings. The continuity of vernacular architecture is often realized from three aspects: culture, place spirit, and function, and the promotion strategy is also considered from these three aspects.

(1) Improvement by means of repair: 1) Retention. The use of traditional building materials, local characteristics of construction and decoration to complete the vernacular architecture and enhance his public space. 2) Repair. Reinforcement, renovation, replacement, renovation and other methods are used to enhance the public space of vernacular architecture with different situations and values.

(2) Use borrowed methods to improve: 1) Learn from the public space improvement strategy of similar situations, and further modify and improve it in combination with its own local folk characteristics. 2) Draw on the public space improvement strategy with good response effect, replace elements, symbols, materials, etc. with soil, and modify and improve.

(3) Improve through further excavation: 1) Excavate the building construction technology that is adapted to local conditions and has distinctive folk local characteristics. 2) Excavate the green construction technology with ecological connotation of local materials and harmonious coexistence with nature.

### 5.1.3. Enhancement of Public Space for Humanistic Activities

The public space for cultural activities in traditional villages mainly includes semi-open communication spaces such as activity squares, street spaces, and road spaces. This type of space often requires "humanized design", including the process of designers using design elements to build space, and the process of designers giving meaning to space while constructing space to meet the different needs of people.

(1) Strategy 1: Create a harmonious group space: "Harmonious" space refers to the four indicators that the design should achieve accessibility, controllability, perceptibility and pleasantness. 1) Enrich communication activities and optimize places to achieve the "accessibility" target. 2) Create a scale of matters to meet the sense of security, so as to achieve "controllable" indicators. 3) Add elements to meet the sense of cognition and belonging, and achieve the "perceptible" indicator. 4) Facilities and plant configurations that make people feel comfortable and comfortable, so as to achieve the "pleasant" indicator.

(2) Strategy 2: Create humanized nodes: 1) Square - break the space, see sewing needles. Do not deliberately pursue ornamental and certain forms, symbolism, dynamic elements of change, scale matters, let the square reflect its own value. 2) Streets and alleys - maintain the original spatial scale. The streets and alleys of traditional villages are generally accompanied by squares, and the nodes of streets and alleys are places where the space of streets and alleys changes, such as turning, closing, guidance, and transition. 3) Courtyard - optimize structure and function. When renovating the courtyard, the historical character should be respected, new materials should be selected, but the color style should remain traditional.

(3) Strategy 3: Improve infrastructure conditions: The serious lag in infrastructure and sanitation facilities is a factor that seriously restricts the quality of residents' living environment and living standards. 1) Increase infrastructure such as garbage cans and ecological seats, and give priority to stone benches and garbage cans, in line with the traditional pattern of Nuohei villages. 2) Strengthen the construction of water, electricity and communication infrastructure, and timely repair or rebuild the aging power and telecommunications of the facilities. 3) When adding infrastructure, add more folk symbols and local characteristic sketches and structures to enrich the space elements.

### 5.1.4. Enhancement of Folk Culture Public Space

The charm of the stone forest lies not only in the natural landscape, but also in the unique indigenous style of Nuohi Sani. Adhering to the principles of representativeness, aesthetics, original ecological subjectivity, grading and classification of protection and future, the public space of Nuohesani folk culture is inherited, improved and optimized.

(1) Optimization and improvement of exhibition room space: It is recommended that the exhibition room collect and organize the materials of local tangible and intangible heritage, and

some intangible cultural heritage that is facing loss will be preserved in the form of audio and video recordings, and let people understand the existence of this cultural phenomenon through museum exhibitions and broadcasts.

(2) Dense forest space protection management: strictly protect dense forests, limit the flow of tourists, and avoid personnel activities exceeding the environmental carrying capacity of dense forests.

(3) Beacon tower repair protection and improvement: Beacon tower has always been an important place for festivals, and it is also an important tourist node for tourists to check in and take photos, and must be repaired and strengthened to ensure its safety.

(4) Optimization and improvement of folk activity square: add some folk culture and local elements, increase the vitality of the square and the gathering degree of residents, equip corresponding landscape plants and leisure activity facilities, optimize its layout, and improve its availability.

## 5.2. Node Lifting Optimization Design

### 5.2.1. Optimization Design of Landscape Space Nodes in Monkey Pond



Fig 12. Monkey pond landscape space node design

### 5.2.2. Optimization Design of Activity Space Nodes in Folk Square

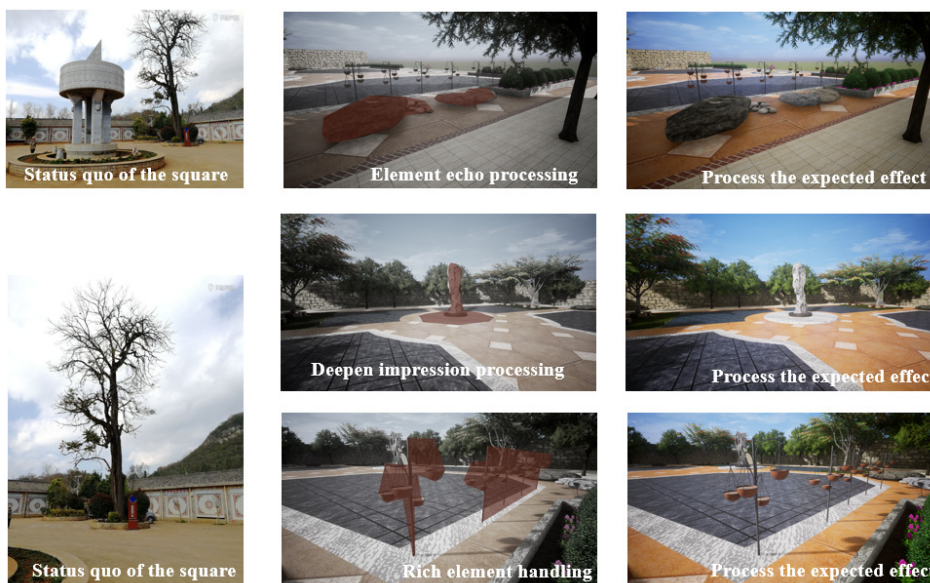
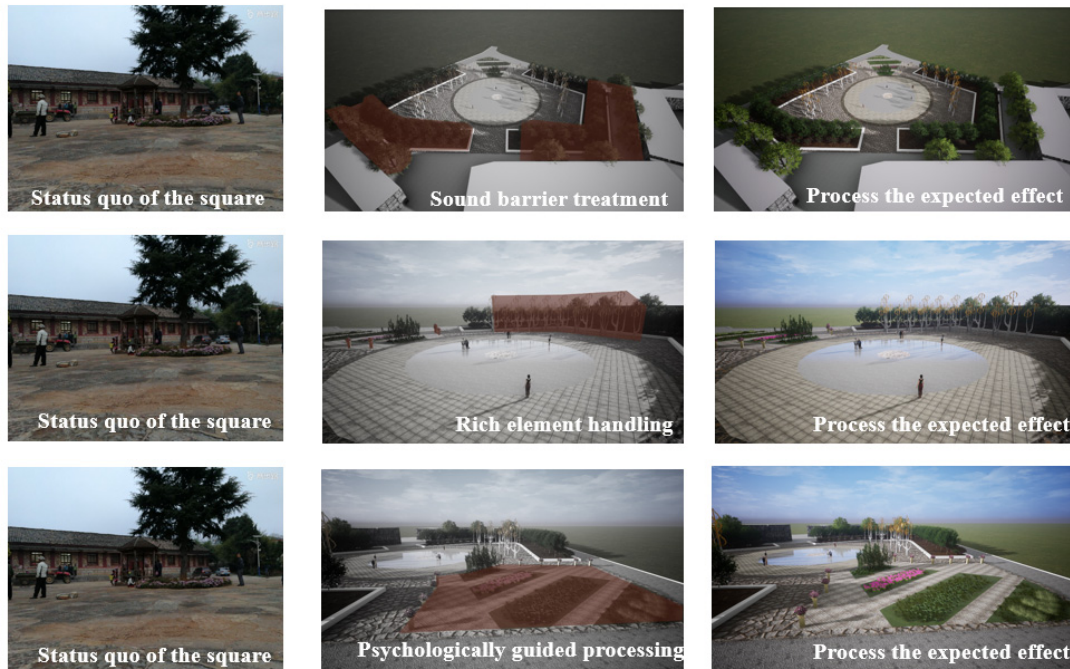


Fig 13. Folk Square activity space node design

### 5.2.3. Optimization Design of Activity Space Nodes in National Unity Square



**Fig 14.** National Unity Square activity space node design

### Acknowledgments

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