

Characteristics of Environmental Installation in Shanghai Fengjing Scenic Area --Study on Methodology for Environmental Installation Design of Public Space which is in the Process of the New-type Urbanization(1)

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Abstract

In order to find the characteristics, utilizing situation, and user requirement of environmental installation, the author did some field work about environmental installation classification, quantitative statistics, spatial position and other factors (physical investigation), and questionnaire study to the users (psychological investigation). And, through psychological and physical investigation above, some problems come out that various environmental installations are uneven distributed in space; lack of obvious features; disordered planning; clean problem; improper maintenance and other issues. These problem points not only are the key points to solve the problems of the current Fengjing situation, but also to improve the quality of various environmental installations. The finding of this two investigation is an important reference which are valuable for the redesign of each environmental installation in Fengjing in the future.

Keywords

Public space, environmental installation, new-type urbanization.

1. Purpose and Significance

Located in Jinshan District, Fengjing town is the first 'Chinese historical and cultural town' in Shanghai. At the same time, it is also a famous town with strong economy, lively trade, rich cultural heritage, good ecological environment and public health. In the past, it is located in Wu Yue intersection, known as Wu-Yue said town; today, it is at the junction of five counties from Shanghai and Zhejiang, which means it is the gateway to the southwest from Shanghai. In 2009, Fengjing town has been named the national 4A level scenic spots and one of the new Shanghai eight-resorts. In order to meet the needs of domestic and foreign tourists, environmental installations, such as sign system, rest chairs and bins, had been rebuilt. And the nighttime lighting and night drama has been successfully completed in the preparation for Shanghai Expo, to further enrich the night travel in Fengjing.

However, we find lots of problems on environmental installations, especially on sign system, illuminating system, rest chairs, bins and so on during the use in recent years. Some because of material improper use, causing natural decay and aging. Some because of tourists and local people's improper use, which forms a man-made damage. In addition, government departments' warranty maintenance work is not timely that aggravate these problems.

With the development of globalization, information and the transformation of the modern China, we entered the era of multiculturalism which is a combination of tradition and modern; local and oversea; mainstream and non-mainstream; elite and masses. All of these affect people's lifestyle and aesthetic pursuit. Therefore, the needs of redesign work of Fengjing environmental installations in public space, which now is old, inadequate maintained and lacking modern aesthetic, is very important.

Through the field work in Shanghai Fengjing scenic area and its surrounding area, the author find that it still remains the traditional lifestyle and customs, though tens of thousands of tourists come for sightseeing each year. Therefore, a study of environmental installations in public space comes out. Ecologicalization, human, localization should be considered in the study. The author did some field work about environmental installations classification, quantitative statistics, spatial position and other factors (physical investigation) in order to find the installations situation, characteristics, utilizing situation and user requirement. And much questionnaire is sent to the users (psychological investigation). And, through psychological and physical investigation above, the author analyzed the interrelationship and problem of both. Giving the important basis for environmental installations redesign. The innovative design method of environmental installations in public space used in this study would give a valuable reference in the process of the new urbanization.

2. Methodology

2.1 Field Work

We did twice field work about quantitative statistics of different kinds of environmental installations such as sign system, illuminating system, rest chairs, bins, in July, 22nd, 2015 and November, 17th, 2015, In order to find the characteristics, utilizing situation, and user requirement of environmental installation.

Selected sections of the road are mainly based on the relevant planning of local government departments, popular walking line, and attraction distribution. South Street, North Street, Maple Road and White Cattle Road connect main entrance and bus stations. Feng Li Road, Heping Street, New Jing Road are like a circle.

Secondly, in order to better carry out qualitative and quantitative survey of various environmental physical installations statistics and analysis, referencing the concept and types from professor Morita at Kyushu University in Japan that divide each environmental installations into three parts as time, space and information. Where in the time part contains street lamps, lanterns and other environmental installations, which is characterized by working within a specific period of time. The space part contains a gallery-style seating area, independent lounge, bins, public toilets, sculpture, covers, hydrants, and distribution boxes ----- eight kinds of environment installations. After the statistics of this installation the investigation will be draw into eight bar graph. And in order to improve clarity and readability of the bar graph, these eight environmental installations will be divided into space class A and space class B based on the tightness of interaction with users. Information part contains identification guides systems, direction guides systems, spac guides systems and management guides system.

In the field investigation, the two groups of roads are cut into several parts which makes 100 m as a unit. And parts which is less than 100 m is also listed. Calculate the average distribution of each environment installations in each unit segment, then comparative analysis the data. Group 1 also called V road, is divided into 16 units of segments. Except for V16 is 55m, the rest are 100m (Figure 1). Group 2 called H road, is divided into 13 units of segments. Except for H13 is 20m, the rest are 100m (Figure 2).

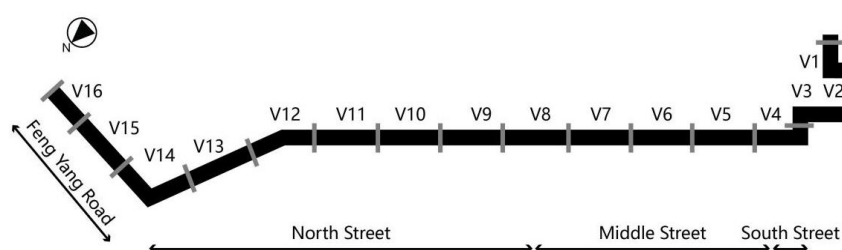


Fig. 1 Section group 1

Then, design special symbols for each environmental installation, to mark and count the number of each environmental installation on the roads. The characteristic of the environmental installations distribution comes out through the total and average distribution of each environment installations.

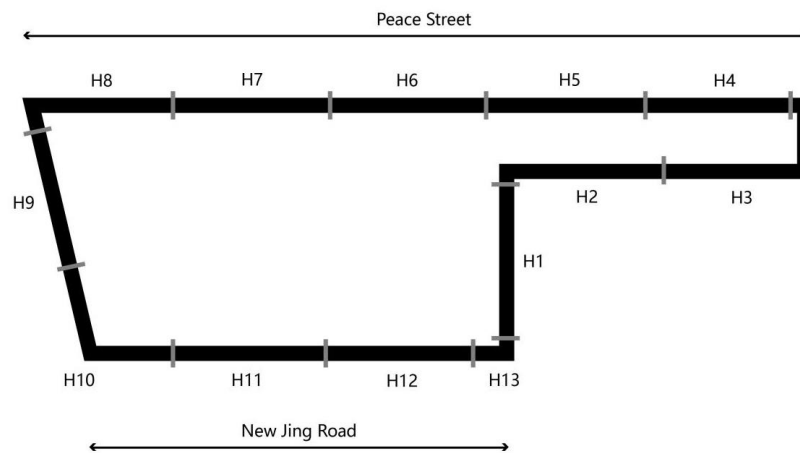


Fig. 2 Section group 1

2.2 User Evaluation

On the other hand, in order to grasp the state of the environmental installations in Fengjing scenic area and the main use problem of the installations, as well as draw the relationship between environmental installations and user needs, a user evaluation study carried out. Evaluation study is mainly based on questionnaire survey. And 156 questionnaires were sent to the tourists, which had 142 valid questionnaires in November 17th, 2015 and November 20th, 2015.

3. Result

3.1 Environmental Installations Distribution of Two Groups of Roads

(1) the total number of the environmental installations ditribution

First, according to the result, the total number of environmental installations in V road is 240. 110 in time part, accounting for 45.83%, nearly a half. 70 in space part, accounting for 29.17%. 60 in information part, accounting for 25%. The total number of environmental installations in H road is 156. 42 in time part, accounting for 26.92%. 62 in spsce part, accounting for 39.74%. 52 in information part, accounting for 33.33%.

(2) the time part environmental installations distribution

From the view of total number, there are 85 lamps and 25 lanterns in V road, while 18 lamps and 24 lanterns in H road. So, the lanterns have an important effect not only as lights, but also as a tool, which brings an ancient atmosphere. While lamps in V road are unified, but there is no lamp in H 2, H3, H7 ~H13. There are some obvious problems. In the continuity in H road.

(3) the space part environmental installations distribution

V road, space class A: only V 1 has gallery-style seating area, accounting for 1.43%. There are two public toilets, in V 1 and V 10, accounting for 1.43% respectively. The independent lounge is in V 1, V 2, V 3, V 8, accounting for 2.86%, 2.86%, 5.17% ,2.86%. The number of bins is high, most in V 1, accounting for 5.71%. Then V 3, accounting for 4.29%. V 8 and V 14, accounting for 2.86%. V6, V9, V10, V11, V12 , V15, V16, share the same of 1.43%.

V road, space class B : the sculpture located V1, V3, V12, V13, V14 ,accounting for 1.43%, 2.86%, 2.86%, 2.86%, 4.29%; covers located V3, V6, V7, V16 , accounting for 5.71%, 2.86%, 1.43% and 2.86%; hydrants located V1, V4, V6, V7, V6 is 2.86%,and others are 1.43%; distribution box in V8, V9, accounting for 7.14%, in V6, V7, V10, V11, V15, accounting for 1.43%.

H road, space class A : the number of space class A is significantly less than the number of space class B . There is no independent style lounge and gallery-style seating area. The number of bins is very

small, and in H1, H8 is only 1.59%, in H12 is 7.94%. Only one public toilet in H2, accounting for 1.59%. As all can be see, there is a serious shortage of gallery-style seating area, independent lounge, bins and public toilets in these 13 units in H road.

H road, space class B: the number of space class B increases significantly. Except no sculpture, there are numbers of distribution box and covers. In H5 covers has the highest rate, accounting for 15.87%. In H4 and H6, accounting 11.11%. Accounting for 6.35 % in H10. Accounting for 4.76% in H1. Accounting for 1.59% in H3, H7, H8, H9, H11. Distribution box in H3 is 3.17%. Accounting for 1.59% in H2, H9, H11, H12, H13. Accounting for 7.94% in H3. Accounting for 6.35% in H2. Accounting for 1.59% in H5, H9, H12.

(4) the information part environmental installations distribution

V road (FIG.3) : Identification guide system is 3.33% in V1 and V8. Accounting for 1.67% in V2, V3, V4, V5, V9, V14. Direction guide system is 13.33% in V1 ; 1.67% in V2; 5% in V3, V7, V10; 6.67% in V4, V5; 3.33% in V6, V8. Space guide system is 1.67% in V1, V2, V3, V4. Management guide system is 15% in V1; 3.33% in V2; 6.67% in V3; 1.67% in V15. The information installations are very unevenly distributed, especially there is no information installations in V11, V12, V13, V15, V16.

H road (FIG.4) : For kinds of information installation distribution are quiet different. The most is the management guide system which is 26.92% in H2, 25% in H3, 1.92% in H 11, 3.85 in H 12. Second is the direction guide system which is 5.77% in H1, 9.62% in H3, 1.92% in H6, H10, H11, H12. Identification guide system is 1.92% in H1, 5.77% in H3. Space guide system is 1.92% in H1, H3, H6. The information installations are very unevenly distributed, especially there is no information installations in H4, H 5, H7, H8, H9,H13.

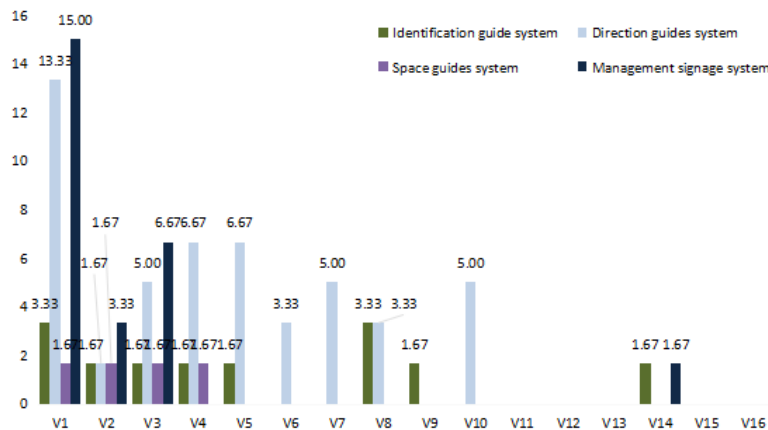


Fig. 3 The percentage of information category in environmental installations at V road

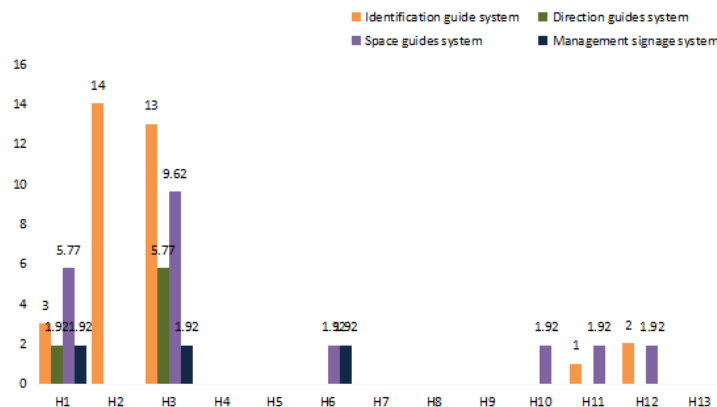


Fig. 4 The percentage of information category in environmental installations at H road

3.2 User Evaluation Result

(1) satisfaction and dissatisfaction points in Fengjing town

Among the satisfaction investigation, the choice of 'distinctive characteristics' accounted for 24.94% of the total; the choice of 'beautiful natural environment' accounted for 17.56% of the total; the choice of 'rich food' accounted for 15.31% of the total; the choice of 'interesting cultural exhibition Museum' accounted for 13.23% of the total; the choice of 'convenient transportation' accounted for 10.18% of the total; and the choice of 'enrichment activities', 'perfect environment installations', 'good security management', 'well-planned' and other choices are no more than 7%.

Among the dissatisfaction investigation, the choice of 'inconvenient transportation' accounted for 17.58%, the choice of 'bad quality of goods' accounted for 16.14%, the choice of 'not-well-planned' accounted for 14.70%, the choice of 'feeling confused' accounted for 14.70%, the choice of 'no clear special activities' accounted for 13.54%, etc.

(2) Fengjing environmental installations evaluation

First, in the question of 'whether you can successfully find the bins', 70 individuals selected the choice of 'quickly', which is 49.30% of the total; 21 individuals selected the choice of 'not very easy', which is 14.79% of the total; 39 individuals selected the choice of 'common', which is 27.46% of the total; 12 individuals selected the choice of 'hard to find', which is 8.45% of the total; no one selected the choice of 'can't find'. In the investigation of the distribution of bin in both V road and H road, we can find that the total number of the bins is large and it is almost evenly distributed. There is no surprise that nearly 50% people can quickly find the bin.

Second, in the question of 'whether you can successfully find the public toilets' 38 individuals selected the choice of 'quickly', which is 26.76% of the total; 39 individuals selected the choice of 'not very easy', which is 27.46% of the total; 46 individuals selected the choice of 'common', which is 32.39% of the total; 17 individuals selected the choice of 'hard to find', which is 11.97% of the total; 2 individuals selected the choice of 'can't find', which is 1.41% of the total.

Meanwhile, in the satisfaction investigation on the sign system, 22 individuals selected 'very satisfied', 15.49% of the total number; 32 individuals selected 'somewhat satisfied', 22.53% of the total; 80 individuals selected 'common', 56.34% of the total; 8 individuals selected 'somewhat dissatisfied', 5.63% of the total; no one selected 'not at all satisfied'. From dissatisfied feedback, the first three were: 'bad color selection' (or 'bad color assortment'), 23 times; 'size is too small' (or 'not obvious'), 12 times; 'featureless' (or 'inconsistent with the ancient town') 12 times.

Then, in the satisfaction investigation on the number and distribution of the rest chair, 19 individuals selected 'very satisfied', 13.38% of the total number; 54 individuals selected 'somewhat satisfied', 38.02% of the total; 48 individuals selected 'common', 33.80% of the total; 15 individuals selected 'somewhat dissatisfied', 10.56% of the total; 6 individuals selected 'not at all satisfied', 4.23% of the total. From dissatisfied feedback, the first three were: 'small number' (or 'not enough density'), 43 times; 'placing unreasonable' (or 'disorganized'), 18 times; 'not very clean' (or 'dirty') 4 times.

In the satisfaction investigation on the green design, 17 individuals selected 'very satisfied', 11.97% of the total number; 67 individuals selected 'somewhat satisfied', 47.18% of the total; 47 individuals selected 'common', 33.10% of the total; 10 individuals selected 'somewhat dissatisfied', 7.04% of the total; 1 individuals selected 'not at all satisfied', 0.70% of the total.

At last, in the satisfaction investigation on the environmental installations in public space, 19 individuals selected 'very satisfied', 13.38% of the total number; 63 individuals selected 'somewhat satisfied', 44.36% of the total; 50 individuals selected 'common', 35.21% of the total; 8 individuals selected 'somewhat dissatisfied', 5.63% of the total; 2 individuals selected 'not at all satisfied', 1.41% of the total. From dissatisfied feedback, the first three were: 'featureless' (or 'no obvious feature'), 19 times; 'not-well-planned' (or 'confused'), 15 times; 'not clean' (or 'dirty toilets, etc.') 9 times.

Based on the above evaluation for each environment installations in Fengjing, except for bins, users are not very satisfied with the public toilets, sign system, the rest chair, the green design, the environmental installations in public space, etc.

4. Conclusion

According to the results of the field study over the environmental installations in Fengjing scenic area and user evaluation investigation, the author did some summary about environmental installations distribution and correlation of user awareness and needs.

(1) Inconvenient transportation

From the current situation, moving from the Shanghai central area to Fengjing scenic area is not convenient, apart from Mellon to Fengjing transit hub maple plum line buses can reach directly, the other routes require multiple transfers, and spending longer time on the way. Evaluation of user investigation shows Fengjing and surrounding traffic conditions can not meet the needs of most users. For example, if one comes by car, parking is a difficult problem. And if comes by train, it still takes about 20 minutes by car after arrive at Jiashan railway station. Currently, Fengjing relevant government departments have launched a series of transportation hub construction projects, such as construction of intercity railway, rehabilitation Fengjing railway station, and Fengjing cars alterations. Convergence with good construction and transportation hub will lay a solid foundation for the development of Fengjing tourism and characteristic industries.

(2) sign system are imperfect

insufficient information presentation content:

① Most of the tourists who use the public transportation are making their first visit to Fengjing. They are always not very familiar with local terrain and especially the return trip. Lots of users complained about the difficulty of finding the sign system, which prone to psychological anxiety.

② According to the results of the environmental installations field study, many units of the two groups of roads are lack of directional signs, causing the difficulty of finding the toilets, finding the entrance. The continuity of the orientation system on the main street is very bad, causing some tourists can't enter the scenic area successfully.

③ Comparing to the rapid development of tourism, the tourism traffic digitized information management is lagging behind, which limited the tourist traffic information service for visitors. In addition, only a few of tourist traffic information query functions, and information update is not timely, especially in the peak travel period.

sign system lacks systematization:

① The sign system standards are not clear, and its sizes are not uniform, its color and material are used too freely, resulting in a messy impression.

② The relationship between the installations' number and distribution and the users' requirements still needs further study. Modular design, systematic design can be considered to strengthen the continuity-oriented role. And the appearance design can bring aesthetic value and emotional value.

mismanagement of sign system

guide signage materials serious broken, improper use, maintenance neglect, etc.

(3) The quantity and distribution of the environment installations are lack of planning, and design innovation.

According to the study of physical and mental capacity of sign system, lamps, bins, rest chairs and other environmental installations, the environmental installations on the V road and H road are uneven distribution, and lack of continuity, thereby reducing its convenience and functionality. Secondly, the design of each environment installations lack of new ideas, and somewhat neglect for convenience, continuity, integration, and cultural characteristics. In order to meet 2020 new urbanization city, the innovative design and systems plans for the environment means imminent .

(4) The unified plan for scenic area building's external elevation

From the field visits, the shops on both sides of the main street and town have a very clear sense of violation from ancient town, and cause visual clutter and tune impression. In the scenic area, some

local people still live there, but some of their house are new, some are old. The designs lack of unified plan and maintenance management. If makes some in-depth work, it will inevitably enhance the sense of Fengjing construction quality.

(5) need more local and cultural product and program

The theme of today's urban tourism decide positioning and trends of the tourism industry, but also to build town tourism brand needs. Fengjing town river weddings have been held for tenth which had obtained a high degree of attention and promotion. In the name of culture, combined with the representative elements of each period, manifestations. Fits the nature of the intangible cultural heritage protection, contains times changing style. Not only be able to demonstrate a lively atmosphere of contemporary cultural activities, but also can better reflect the historical and cultural heritage and memory, yet contemporary cultural taste, the pursuit of the perfect combination of philosophy, access to community good reviews. The ancient trees, bridges, buildings, houses, historic emotion and human story in Fengjing, can all bring into the tourism activities. It will be the continuation of the extended part of the Shanghai cultural memory. However, many users complained Fengjing town belonging to one of the southern town, but its visibility, business development and scale are all weaker than the neighboring resorts of Xitang, Zhujiajiao, etc. Therefore creative development with regional cultural souvenirs and other products are particular important.

By the results of field study of Fengjing scenic area environmental installations distribution and user evaluation investigation, we can summarize that various environmental installations are uneven distribution in space. There are no obvious features. The planning is

disordered. The clean problem is serious. And improper maintenance and other issues exist. These problem points not only are the key points to solve the problems of the current Fengjing situation, but also improve the quality of various environmental installations. The findings of two studies is an important reference which are valuable for the redesign of each environment installations in Fengjing in the future.

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