Investigation and Evaluation Analysis on the Effect of Landscape Improvement in Zhuang Traditional Villages

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Abstract. Masa Village is located in Maguan County on the Sino-Vietnamese border. It is one of the traditional villages with Zhuang characteristics. This research takes the final construction effect of the "Masa Ten Scenery" in Masa Village as the specific research object, and uses SPSS software to carry out statistical analysis of variance through a combination of field investigation and big data investigation, and then obtains a comprehensive and objective evaluation result. To facilitate the summary and improvement of methods and measures, to better improve the level of renovation and design of ethnic minority villages, and to better guide design practices.

1. Introduction
With the comprehensive promotion of rural revitalization strategy and global tourism, governments at all levels and relevant departments in Maguan County have led the construction of beautiful villages in Masa Village on the Sino-Vietnamese border. It took three years from preliminary planning, research, design, construction to final perfection. Now Masa Village has become a star village and rural tourism destination in Yunnan Province and even Wenshan Prefecture, and the "Ten Scenic Spots of Masa" has become a rural tourism in Maguan County. business card. The success of the design practice project of ethnic minority village landscape renovation does not only stop at the preliminary planning and design planning, but also through practice and empathy, summing up and accumulating experience in the constant exchange of roles.

2. Research object
As a key project in the construction of beautiful villages in Maguan County, Masa Village has a demonstrative and leading role. Through government-led and coordinated efforts in many aspects, good economic and social benefits have been achieved. This research mainly takes Masa Village, a traditional village with distinctive characteristics in Maguan County, as an example. The effect of its landscape renovation is taken as the specific research object, and the specific landscape type is used as the verification indicator. Questionnaire survey and statistical analysis are conducted on it, and then the evaluation is obtained. As a result, it is further verified whether the public's demands and vision have been met, and fully prepared for the next development.
3. Questionnaire design and survey methods

3.1. Questionnaire design
For traditional village landscape improvement projects, there are too many factors involved. Generally speaking, it will not be separated from the two major types of public environment landscape and residential building landscape. Ethnic minority traditional villages have a certain degree of enclosure and defensiveness, but in a relatively enclosed space, the landscape of the village square is the focus of the public environment landscape. The residential building landscape is an important part of the village landscape. Each family has a separate courtyard or courtyard building. There are big
differences due to the economic strength and the size of the family. From the actual situation of the research object and the scientific consideration of the later statistical analysis, the questionnaire variable requirements are clear, and the indicators must be clear. This research mainly investigates the satisfaction of "Masa Ten Scenics" from four levels of gender, age, education and occupation. The independent variables include ten indicators of Shenfrog Square, Dongmen Square, Old People's Hall Square, Tonggu Square, Gujing Square, West Gate, East Gate, North Gate, South Gate, and residential buildings. The dependent variable indicators are divided into 5 points (very satisfied); 4 points (satisfied); 3 points (relatively satisfied); 2 points (not too satisfied); 1 point (unsatisfied) Process design, and then form a relatively reasonable survey questionnaire.

3.2. Research methods
The questionnaire was conducted by a combination of on-site research and big data research. Big data research is fast and convenient, with wide coverage, high efficiency, and effective statistics. The disadvantage is that it is difficult to communicate face-to-face with the public, and the effect of interaction and experience is poor. Although the efficiency of on-site research is low, it can face-to-face with the public and conduct in-depth and adequate communication to make up for the deficiencies of big data research. The questionnaires collected in the field survey can be manually entered into the database. Thereby enhancing the breadth and depth of the data, thereby improving the scientificity of data analysis and the rationality of the evaluation results.

4. Effect evaluation and statistical analysis
For the statistics and analysis of the questionnaire, it mainly starts from the four levels of the interviewee's gender, age, education background, and occupation, and uses the analysis of variance in the SPSS software to perform statistical analysis and interpretation. details as follows:

4.1. Satisfaction evaluation and analysis of the ten scenic spots of Masa by interviewees of different genders

Table 1. Variance analysis results of the satisfaction evaluation of Masa Shijing by respondents of different genders.

|                          | Gender (mean ± standard deviation) | F   | p     |
|--------------------------|-----------------------------------|-----|-------|
|                          | Male(n=25)                        |     |       |
| Shen Frog Square         | 4.52±0.51                         | 3.178 | 0.081 |
| Dongmen Square           | 3.56±1.00                         | 0.096 | 0.758 |
| Old People's Hall Square | 4.04±0.93                         | 0.661 | 0.420 |
| Tonggu Square            | 3.96±0.73                         | 0.940 | 0.337 |
| Gujing Square            | 4.20±0.71                         | 0.396 | 0.532 |
| West Gate                | 4.60±0.50                         | 0.000 | 1.000 |
| East Gate                | 4.40±0.71                         | 0.411 | 0.525 |
| North Gate               | 4.36±0.70                         | 0.045 | 0.832 |
| South Gate               | 4.44±0.65                         | 0.441 | 0.510 |
| Folk Houses              | 4.48±0.59                         | 1.459 | 0.233 |

* p<0.05 ** p<0.01
It can be seen from the above table that interviewees of different genders have a higher evaluation of the overall effect of "Masa Ten Scenery", and none of them show significant (p>0.05), which means that interviewees of different genders, Elderly Hall Square, Tonggu Square, Gujing Square, West Gate, East Gate, North Gate, South Gate, and residential buildings all showed consistency and no difference.
4.2. Evaluation and Analysis of Satisfaction Evaluation of the Ten Scenic Spots in Masa

Table 2. Variance analysis results of the satisfaction evaluation of Masa Shijing by respondents of different ages.

| Age (mean ± standard deviation) | Under 18(n=8) | 18-45 years old(n=61) | 46-60 years old(n=45) | Over 60 years old(n=15) | F       | p     |
|--------------------------------|---------------|-----------------------|-----------------------|------------------------|---------|-------|
| Shen Frog Square               | 4.13±0.35     | 4.49±0.99             | 4.04±1.24             | 4.53±0.52              | 1.962   | 0.123 |
| Dongmen Square                 | 4.00±0.00     | 4.21±1.17             | 3.56±1.16             | 3.53±1.13              | 3.512   | 0.017*|
| Old People's Hall Square       | 2.38±1.06     | 4.36±1.10             | 3.78±1.24             | 3.93±1.16              | 7.830   | 0.000**|
| Tonggu Square                  | 4.13±0.35     | 4.38±1.04             | 3.69±1.18             | 3.80±0.77              | 4.120   | 0.008**|
| Gujing Square                  | 4.13±0.35     | 4.30±1.04             | 3.87±1.24             | 4.13±0.52              | 1.453   | 0.231 |
| West Gate                      | 1.50±1.41     | 4.41±1.02             | 4.20±1.25             | 4.53±0.52              | 17.414  | 0.000**|
| East Gate                      | 2.38±1.06     | 4.33±1.04             | 4.07±1.19             | 4.33±0.72              | 8.076   | 0.000**|
| North Gate                     | 1.50±1.41     | 4.36±1.02             | 4.04±1.24             | 4.33±0.72              | 16.264  | 0.000**|
| South Gate                     | 5.00±0.00     | 4.36±0.95             | 4.07±1.25             | 4.40±0.63              | 2.187   | 0.093 |
| Folk Houses                    | 4.00±0.00     | 4.28±1.21             | 4.02±1.22             | 4.47±1.13              | 0.775   | 0.510 |

* p<0.05 ** p<0.01

It can be seen from the above table that respondents of different ages do not show significance for Shenfrog Plaza, Gujing Square, South Gate, and residential buildings (p>0.05), which means that respondents of different ages do not show significance for Shenfrog Plaza. The Gujing Square, the South Gate, and the residential buildings all show consistency and no difference. In addition, some interviewees showed significance in 6 items of Dongmen Plaza, Elderly Hall Plaza, Tonggu Plaza, West Gate, Dongmen, and North Gate (p<0.05), which means that respondents of different ages have Hall Square, Tonggu Square, West Gate, East Gate and North Gate are different. Specific analysis shows that:

Respondents showed significance at the 0.05 level for Dongmen Square (F=3.512, p=0.017), and the specific difference in comparison shows that the group with obvious differences, the average score comparison result is "18-45 years old>46-60 years old; 18-45 years old> over 60 years old".

Respondents showed a significant level of 0.01 (F=7.830, p=0.000) for the old people's hall square, and the difference in specific comparison shows that for groups with significant differences, the average score comparison result is "18-45 years old>18 Under the age of; 46-60 years old> under 18 years old; over 60 years old> under 18 years old; 18-45 years old> 46-60 years old".

Respondents showed significance at the level of 0.01 for Tonggu Square (F=4.120, p=0.008), and the specific comparison difference shows that the group with more obvious differences, the average score comparison result is "18-45 years old>46-60 years old".

Respondents showed significance at the level of 0.01 for Simon (F=17.414, p=0.000), and the specific comparison difference shows that for groups with more obvious differences, the average score comparison result is "18-45 years old> below 18 years old ; 46-60 years old> below 18 years old; above 60 years old> below 18 years old".

Respondents showed significance at the level of 0.01 for Dongmen (F=8.076, p=0.000), and the difference in specific comparison shows that for groups with more obvious differences, the average score comparison result is "18-45 years old> 18 years old Below; 46-60 years old> below 18 years old; above 60 years old> below 18 years old".

Respondents showed significance at the 0.01 level for the North Gate (F=16.264, p=0.000), and the difference in specific comparison shows that for groups with more obvious differences, the average
score comparison result is "18-45 years old> 18 years old; 46-60 years old> below 18 years old; above 60 years old> below 18 years old".

Generally speaking, interviewees of different ages do not show significant differences in the four items of Shenfrog Plaza, Gujing Square, South Gate, and Folk Houses. In addition, interviewees of different ages do not show significant differences in Dongmen Plaza, Elderly Hall Plaza, and Tonggu Plaza. A total of 6 items in the west gate, east gate and north gate showed significant differences.

4.3. Analysis of the satisfaction evaluation of the interviewees with different educational backgrounds on the ten scenic spots

Table 3. Variance analysis results of the satisfaction evaluation of Masa Tenjing by respondents with different educational backgrounds.

| Education (mean ± standard deviation) | Elementary school (n=44) | Junior high school (n=23) | High school (n=4) | University (n=38) | Others (n=20) | F     | p     |
|--------------------------------------|--------------------------|---------------------------|------------------|------------------|--------------|-------|-------|
| Shen Frog Square                     | 4.25±0.75                | 4.00±1.51                 | 4.75±0.50        | 4.45±1.18        | 4.50±0.61    | 1.063 | 0.378 |
| Dongmen Square                       | 3.68±0.83                | 3.30±1.55                 | 4.50±0.58        | 4.34±1.17        | 4.05±1.00    | 3.966 | 0.005**|
| Old People's Hall Square             | 3.48±1.02                | 3.87±1.63                 | 4.50±0.58        | 4.42±1.15        | 4.30±1.08    | 3.860 | 0.005**|
| Tonggu Square                        | 3.70±0.73                | 3.65±1.58                 | 4.75±0.50        | 4.45±1.08        | 4.40±0.60    | 4.626 | 0.002**|
| Gujing Square                        | 3.95±0.75                | 3.83±1.47                 | 4.50±1.00        | 4.37±1.17        | 4.25±0.72    | 1.483 | 0.211 |
| West Gate                            | 3.91±1.46                | 4.09±1.50                 | 4.50±0.58        | 4.37±1.20        | 4.40±0.75    | 0.924 | 0.452 |
| East Gate                            | 3.89±1.15                | 3.87±1.49                 | 4.50±0.58        | 4.37±1.13        | 4.35±0.75    | 1.484 | 0.211 |
| North Gate                           | 3.75±1.45                | 3.83±1.47                 | 4.50±0.58        | 4.39±1.15        | 4.35±0.75    | 1.907 | 0.113 |
| South Gate                           | 4.41±0.82                | 3.87±1.49                 | 4.50±0.58        | 4.39±1.08        | 4.35±0.67    | 1.273 | 0.284 |
| Folk Houses                          | 4.16±0.94                | 3.83±1.61                 | 4.50±1.00        | 4.34±1.28        | 4.35±0.75    | 0.890 | 0.472 |

* p<0.05 ** p<0.01

It can be seen from the above table that interviewees with different educational backgrounds will not show significance for the 7 items of Shenfrog Plaza, Gujing Square, West Gate, East Gate, North Gate, South Gate and Residential House (p>0.05), which means Respondents with different educational backgrounds showed consistency in Shen Frog Plaza, Gujing Plaza, West Gate, East Gate, North Gate, South Gate, and residential buildings, and there was no difference. In addition, respondents with different educational backgrounds showed significant differences in Dongmen Plaza, Elderly Hall Plaza, and Tonggu Plaza (p<0.05), which means that respondents with different educational backgrounds have differences in Dongmen Plaza, Elderly Hall Plaza, and Tonggu characteristics. Analysis shows that:

Respondents showed significance at the level of 0.01 for Dongmen Square (F=3.966, p=0.005), and the specific comparison difference shows that the group with more obvious differences, the average score comparison result is "university> elementary school; high school> Junior high school; university> junior high school; others> junior high school".

Respondents showed a level of significance of 0.01 (F=3.860, p=0.005) for the old people's hall square, and the specific difference shows that the group with more obvious differences, the average score comparison result is "university> elementary school; other> primary school".

Respondents showed significance at the level of 0.01 for Tonggu Square (F=4.626, p=0.002), and specific comparison differences show that for groups with significant differences, the average score comparison result is "University>Primary School; Other>Primary School ; High school> junior high school; university> junior high school; others> junior high school".
Generally speaking, interviewees with different educational backgrounds do not show significant differences in the 7 items of Shenfrog Plaza, Gujing Square, West Gate, East Gate, North Gate, South Gate, and Residential Buildings. In addition, respondents with different educational backgrounds have no significant differences in Dongmen Plaza. There are significant differences in 3 items in the Plaza of the Elderly Hall and the Plaza of the Tonggu Plaza.

4.4. Analysis of the satisfaction evaluation of the interviewees of different occupations on the ten scenic spots of Masa

Table 4. Variance analysis results of the satisfaction evaluation of Masa Shijing by respondents of different occupations.

| Profession (mean ± standard deviation) | Farming at home (n=51) | Civil servants (n=16) | Migrant workers (n=11) | Self-employed (n=9) | Others (n=4) | F | p |
|--------------------------------------|-----------------------|----------------------|-----------------------|-------------------|-------------|----|----|
| Shen Frog Square                     | 4.20±1.17             | 4.06±1.61            | 4.55±0.69             | 4.44±0.73         | 4.48±0.67    | 0.823   | 0.513 |
| Dongmen Square                       | 3.47±1.21             | 3.94±1.53            | 4.18±1.25             | 4.00±1.00         | 4.29±0.77    | 3.308   | 0.013* |
| Old People's Hall Square             | 3.73±1.23             | 4.06±1.57            | 4.36±1.21             | 4.33±1.00         | 4.10±1.16    | 1.088   | 0.366 |
| Tonggu Square                        | 3.69±1.14             | 4.13±1.50            | 4.00±1.18             | 4.33±0.87         | 4.43±0.63    | 3.124   | 0.017* |
| Gujing Square                        | 3.92±1.15             | 3.88±1.59            | 4.36±0.67             | 4.33±0.87         | 4.33±0.72    | 1.361   | 0.251 |
| West Gate                            | 4.31±1.19             | 4.13±1.59            | 4.64±0.50             | 4.56±0.53         | 3.81±1.47    | 1.577   | 0.185 |
| East Gate                            | 4.10±1.19             | 4.06±1.48            | 4.45±0.69             | 4.56±0.73         | 3.98±1.16    | 0.719   | 0.580 |
| North Gate                           | 4.08±1.18             | 4.00±1.59            | 4.55±0.69             | 4.56±0.73         | 3.86±1.46    | 1.003   | 0.409 |
| South Gate                           | 4.10±1.19             | 4.00±1.46            | 4.55±0.69             | 4.67±0.50         | 4.52±0.67    | 1.820   | 0.129 |
| Folk Houses                          | 4.12±1.21             | 4.19±1.47            | 4.00±1.55             | 4.00±1.00         | 4.38±0.91    | 0.455   | 0.769 |

* p<0.05 ** p<0.01

It can be seen from the above table that interviewees of different occupations do not show significance for the 8 items of Shenfrog Plaza, Elderly Hall Plaza, Gujing Plaza, West Gate, East Gate, North Gate, South Gate, and residential buildings (p>0.05), Which means that interviewees of different occupations show consistency in Shen Frog Plaza, Elderly Hall Plaza, Gujing Plaza, West Gate, East Gate, North Gate, South Gate, and residential buildings, and there is no difference. In addition, interviewees of different occupations have significant differences in Dongmen Plaza and Tonggu Plaza (p<0.05), which means that respondents of different occupations have differences in Dongmen Plaza and Tonggu Plaza. Specific analysis shows that:

Respondents showed significance at the 0.05 level for Dongmen Square (F=3.308, p=0.013), and the specific comparison difference shows that for groups with significant differences, the average score comparison result is "other>house farming".

Respondents showed significance at the 0.05 level for Tonggu Square (F=3.124, p=0.017), and specific comparison differences showed that for groups with significant differences, the average score comparison result was "other>household farming".

Generally speaking, interviewees of different occupations do not show significant differences in the 8 items of Shenfrog Plaza, Elderly Hall Plaza, Gujing Square, West Gate, East Gate, North Gate, South Gate, and residential buildings. In addition, respondents of different occupations For Dongmen Square, Tonggu Square has a total of 2 items showing significant differences.
5. Conclusions
The public's evaluation of the construction effect truly reflects the degree of conformity between the remediation results and the demands of the people. Respondents of different genders, ages, educational backgrounds, and occupations are generally more satisfied with the effect of village landscape improvement. After careful analysis, there are still many points worthy of reflection and research. As a designer, I deeply understand that the landscape renovation design of ethnic minority traditional villages is a research work with cultural pertinence and adaptability.

Villages with ethnic minority characteristics are a complex of ethnic and regional cultures, and belong to a cultural landscape with a sense of time. The renovation of the village landscape should be based on the cultural characteristics of the environment in which it is located, and the traditional human settlement culture should be emphasized in the spatial organization of the environment, so that the effect of landscape construction can be recognized by the public and cultural identity.

Traditional village landscape renovation design should maintain the original landscape as much as possible, avoid large-scale new construction, and try to adopt “micro-renewal” methods for renovation, so that the village landscape ecology can be restored as soon as possible, the landscape can be effectively reshaped, and the memory of the site can be sustained Keep.

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