

# Exploring consensus and divergence in different societal groups' preferences for typical urbanized landscapes: Implications for rural planning

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## Research Article

**Keywords:** Urbanized landscape, landscape preference, rural construction, social groups, landscape planning

**Posted Date:** May 9th, 2022

**DOI:** <https://doi.org/10.21203/rs.3.rs-1618034/v1>

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# Abstract

Urbanization has brought dramatic landscape changes in rural areas, leading to the emergence of urbanized landscapes (ULs). Despite the extensive preference research on rural landscapes, the ULs has hardly been studied, especially from the outsider's perspective. In this study, we chose three outsider groups of landscape professionals (PRs), governmental officials (GOs), and city residents (CRs) to explore their preferences towards five typical ULs: hardened water bank (HWB), big pavilion (BPA), big memorial arch (BMA), big ornamental lawn (BOL), and big square (BSQ). Quantitative method of questionnaire survey was used to identify how these ULs and their related landscape characters (LCs) were rated and ranked (N = 780), and qualitative method of semi-structured interview was used to explore a more comprehensive understanding about the outsiders' view on rural constructions (N = 45). The results revealed 1) Although distinct ratings and rankings, the outsiders had general support for the constructions of ULs, with PRs being the most demanding group. 2) Despite various demographic backgrounds, there is surprisingly broad consensus in two preference themes, i.e. a livable village and a featured village, and it posed a challenge for the landscape designers to balance the relationship between them. 3) All the five ULs being surveyed were considered to be replaceable by other landscape forms, thus it could be unnecessary to decide which specific type to be moved away or kept in rural areas, but the more important is to investigate the site-based LCs. This study provides evidence to better understand public perception on rapid landscape change and rural constructions from the perspectives of different social groups, which has some implications for planners and decision-makers to incorporate the public shared values into planning process.

## 1. Introduction

Urbanization characterizes an intense concentration of urban population, human activities, and extensively built-up land development (Foley et al., 2005; Grimm et al., 2008; Song et al., 2018). It may be the most powerful and visible anthropogenic force that has brought about fundamental changes in land use and landscape pattern around the globe, especially in developing countries in the 21st century (Deng et al., 2009). During the past four decades, China's urbanization growth has been at an unprecedented speed, with the population dwelling in cities increased from 17.9% in 1978 to 63.89% in 2020 (*National Bureau of Statistics, 2021*). However, in this process, a variety of problems have arisen (environmental degradation, urban-rural inequality, excessive land development and farmland loss etc.), with the call for more attention to China's rural decline generates a loud voice among all the concerns (Li et al., 2018). Rural decline refers to the process of population outflow from rural areas to cities, resulting in population reduction, industrial decline and economic recession in rural areas (Zhou et al., 2020). As a result, the rural hollowing problem emerged, with the dwellings unoccupied and farmland abandoned in villages (Yu et al., 2018). To revitalize the rural economy, Chinese government launched the proposal of *Beautiful Village* constructions since 2017. In this process, rural landscapes are inevitably urbanized because too much attention has been paid to upgrade the infrastructures and improve the living environment. However, after years of constructions, rural identity, which mainly describes site characteristics from the

physical aspect, has been raised concerns because of the building boom. In 2019, an official document criticizing urbanized landscapes (ULs) was released by the Department of Housing and Urban-Rural Development, Fujian Province (source: [https://www.sohu.com/a/300034261\\_671828](https://www.sohu.com/a/300034261_671828)). In the document, ULs were criticized for being too large scale, using the modernized industrial materials like concrete, thus destroying the ecology, traditions, and rural identity of the countryside. According to the previous studies, ULs can be summarized as all the new elements and structures being superimposed upon the traditional landscapes during the process of urbanization (Antrop, 2004; Dadashpoor et al., 2019). The ULs listed in the document include hardened water bank, big pavilion, big memorial arch, big ornamental lawn, and big square. Although the government had proposed a general criticism for the ULs, it still lacks specific and detailed investigation on different social groups, such as the officers from other local governments, the experts from landscape planning field, and the general public. Therefore, the main goal of this study is to explore how different social groups hold views on the ULs, which is a new type of landscape in rural areas and has hardly been studied as we know it.

To study how people's perceptions have changed with the dramatic landscape change and the related human-landscape relationships, an increasing number of researchers have conducted landscape preferences (LPs) studies (Agnoletti, 2014; Yang et al., 2021). There are multiple perspectives in LPs studies, such as how people with different demographic characteristics hold views on various landscape types, and how some landscape characters (LCs) that represent the physical characteristics of certain landscapes have affected people's LPs (Yang et al., 2021). Specifically, several landscape types related to rural landscape change have been studied, such as the traditional farming landscapes (Ruskule et al., 2013), animal habitats of agrarian landscapes (Schüpbach et al., 2021), pasture landscapes (Schaak & Musshoff, 2020), and agrarian historical landscapes (Tempesta, 2010). In addition, Atik et al. (2016) had some definitions on LCs: characters are distinct recognizable patterns in the landscape that were comprised as a result of human and nature interactions. LCs demonstrate precise features and values that exist in the current environment and provide information for those who use, manage, live in, benefit from and enjoy the landscape. Hence, LCs have been widely used as an assessment tool to recognize values in the early stage of decision-making process, which could help make informed judgement, planning decisions and management of landscape change, and enhance the quality of landscape assessments (Butler, 2016; Bartlett et al., 2017). Further, LCs could have different classifications on multiple aspects, such as the aesthetic characters (i.e., historicity, maintenance, coherence), and multifunctional characters (i.e., biodiversity, production, tourism).

Exploring different social groups' perceptions on landscapes is the other significant part of LP studies, which is important for true collaborative, bottom-up landscape management (Hunziker et al., 2008; Foelske et al., 2019; Cifuentes-Espinosa et al., 2021). However, with different interests among groups, it can be important to reconcile the views of different stakeholders and minimize conflicts. Specifically, the identification of similarities would assist in the development of general guidelines for landscape design, while the group differences would help to raise concerns about the "proper" way of combining different landscape strategies (Rogge et al., 2007; Dupont et al., 2015). Therefore, many studies have explored the LPs of different groups. For example, Van Den Berg et al. (1998) discussed the views of farmers,

residents, and visiting cyclists in the aesthetic evaluation of natural landscapes; Rogge et al. (2007) found that farmers, experts and the general public attach importance to different rural landscape features; van der Zanden et al. (2018) assessed the preferences of local inhabitants, visitors and experts regarding land abandonment. However, it's worth noting that these studies mainly focused on the divergence rather than the consensus among groups, which may ignore some important information that could help to draw a more complete picture of the respondents' preferences towards certain landscapes. Specifically, for rural landscape change, the days when agriculture was solely expected to supply food are gone. There is increasing social demands for rural landscape to provide diverse ecosystem services that are experienced by those who live, work, visit and recreate in the areas, which constitute an important element in rural development plans (Domon, 2011; Zakariya et al., 2019). Hence, despite the great implications of studying local residents' preferences who have direct interests with the ULs from their daily life perspective, it is rather indispensable to study the outsiders' preferences towards ULs which could help to inspire new landscape functions in rural areas. The various outsider groups could include not only experts who have more knowledge about landscape, but also the governmental officials who work for local governments, as well as the general city residents who live in urban areas but go to the countryside sometimes.

Based on the above Chinese context and international research progress, this paper aims to answer the following research questions: (1) Among the different types of ULs, which is most and least preferred? Is it possible to definitely decide which type to be kept in and which type to be moved away from the villages? (2) Among the several landscape characters (LCs), which is valued to be more important? Are there any unifying patterns to be found within different groups of respondents? (3) Among the different social groups, is there any general consensus or divergence to be discovered as a guide or reminder for the future rural constructions? Exploring these research questions from the point of ULs may help to find the emphasis to be addressed in the future rural constructions, thus contributing to more favorable rural landscape planning.

## **2. Materials And Methods**

### **2.1 Study area**

In this study, since the ULs being criticized are from the official document by the Department of Housing and Urban-Rural Development, Fujian Province, five ULs from five villages of Fujian are determined as study objects: hardened water bank (HWB) in Zhentou, big pavilion (BPA) in Jiangfang, big memorial arch (BMA) in Guanqian, big ornamental lawn (BOL) in Changfu, and big square (BSQ) in Shiheng village (Fig. 1). Fujian has an urbanization rate of 59.6% people live in cities in 2012, which was higher than the national average of 52.6% (Luo et al., 2018), and the five villages are all experiencing large-scale rural constructions. The registered population from those villages are between 1000 to 2000, where most of the middle-aged residents make a living in big cities and rarely go back all year round, leaving their young children and elder parents at home. A few people who still live in the villages rely on the farmland, but they also seek a temporary job in the nearby cities to increase income in non-farm seasons. In general,

the villages' population is older, less educated and has a much lower per capita income compared to the city residents.

## 2.2 Data collection

Applying structured questionnaire to do quantitative analysis has been used in a predominantly number of LPs studies (Tiebel et al., 2021; Harris et al., 2018; Özgüner & Kendle, 2006), and in most cases the questionnaire includes some photographs to study the respondents' visual preference towards a specific landscape (Liu et al., 2021; Polat & Akay, 2015; Hammitt et al., 1994). Although a quantitative study allows people to express their degree of preference without having to explain every evaluation verbally, at the same time providing statistically valid results (Schroeder, 1991; Surová & Pinto-Correia, 2016), there are some questions that a quantitative approach cannot answer (de Bell et al., 2018; Lee et al., 2020). For example, what kinds of experiences do people have in particular types of landscapes, and what are the values associated with preferred landscapes (Schroeder, 1991). Hence, qualitative research allows for more exploration of the respondents' points of view and are highly regarded for generating a wealth of information (Surová & Pinto-Correia, 2016; de Bell et al., 2018). As a result, more and more researchers started to integrate the quantitative and qualitative methods in preference studies (Hammitt et al., 1994; Mc Morran et al., 2008; Lokocz et al., 2011; Granados et al., 2021), which can provide a more complete and deep understanding of human response to landscapes. Therefore, in this paper, not only a structured questionnaire is used to do quantitative analysis, but also the semi-structured interview as a qualitative method is used as another way of approaching the same research questions.

### 2.2.1 Structured questionnaire survey

A structured questionnaire was used to investigate the outsiders' preferences for ULs. Three groups were included: professionals (PRs), government officials (GOs), and city residents (CRs) being representatives of the outsiders. PRs include both teachers, students, and people who are working in landscape architecture and planning related fields; GOs work in different sections of local government; and CRs can be seen as the lay people. we used "snowball" sampling to approach the group of PRs (n = 246) and GOs (n = 254), while a random sampling was used to investigate the CRs (n = 280). Responses were collected between September and November 2021, which was carried out through an online platform called *Questionnaire Star* (<https://www.wjx.cn>), as well as on-site face to face distributions (we got about 500 samples from online, and 280 samples from on-site). It should be noted that in the previous LPs studies, the use of Internet showed no significant difference in the validity of data collected by standards surveys (Rogge et al., 2007; Cortés-Capano et al., 2021). In this study, an online survey allowed us to reach a larger proportion of target groups by inviting the respondents to distribute the link of the online questionnaire to other PRs and GOs.

In the first part of the questionnaire, the respondents were asked for some basic information (i.e. gender, age, annual income etc.) (**Table 1**). In the second part, respondents were asked to give attractiveness scores to the five photos of ULs in a Likert-scale, from 1 (the least appealing) to 5 (the most appealing); subsequently, they were asked whether they thought it necessary to construct this UL in the countryside.

The next set of questions was designed to assess LCs related to rural constructions (*coherence, legibility, historicity, biodiversity, naturalness, neatness, maintenance, recreation, accessibility, production, tourism*). Those eleven LCs were chosen from the previous literature (Coeterier, 1996; Tveit et al., 2006; van der Jagt et al., 2014; Martín et al., 2016), under the criteria of being able to describe some rural landscape features. Respondents were required to give importance scores on a five-point scale, based on their assessment of whether this character plays an important role in the overall attractiveness of the landscape. After finishing rating the five photos, respondents were required to rank the five photos according to their overall preference, which can be a complement of the rating method (Sayadi et al., 2005). In the last part of the survey, there is an open question: what else do you want to say about the *Beautiful Village* constructions? The respondents were not forced to answer this question and they were allowed to skip it. However, many people submitted an answer, showing the great interest and active participation of this survey.

Table.1

Demographic information of the samples.

<b>Demographic characteristics</b>	<b>variables</b>	<b>Number of participants</b>	<b>Percentage of participants (%)</b>
Gender	Male	432	55.38
	Female	348	44.62
Age	18–40 years	515	66.03
	41-65years	258	33.08
	66 years and above	7	0.89
Education level	Elementary and below	4	0.5
	Junior	20	2.56
	Senior	85	10.92
	Undergraduate	544	69.74
	Master/ PhD	127	16.28
Occupation	Landscape architecture related	246	31.54
	(including students)	254	32.56
	Governmental officials	280	35.90
	Others		
Annual income (RMB)	9,999 and below	191	24.49
	10,000–39,999	107	13.72
	40,000–79,999	198	25.38
	80,000 -119,999	127	16.28
	120,000-199,999	94	12.05
	200,000 and above	63	8.08
Childhood residency	Rural areas	450	57.69
	Urban areas	222	28.46
	Urban-rural fringe	108	13.85

Demographic characteristics	variables	Number of participants	Percentage of participants (%)
Frequency to the rural areas (on average)	Once a day	122	15.64
	Once a week	144	18.46
	Once a month	132	16.92
	Once three months	102	13.07
	Once half a year and above	280	35.91
Communist Party of China member or not	Yes	404	51.79
	No	376	48.21

## 2.2.2 Semi-structured interview

In the second phase, some of the respondents who have taken part in the questionnaire survey were invited to participate in the semi-structured interview, with the same groups of PRs (n = 15), GOs (n = 15), and CRs (n = 15). This small number of interviewees have been proved to be useful to fully explore the perspectives of each participant (Westling et al., 2014; López-Rodríguez et al., 2019). Participants were presented with the photos which they had seen during the questionnaire phase. Topics in the interview included the respondent's perspectives on: descriptions about the feelings on the five photos of ULs, attitudes and suggestions towards the constructions of ULs; experiences and perceptions on rural landscape change, and anticipations on the future rural landscape constructions. Beyond these topics, different follow-up questions were adjusted to the topics brought up by the interviewees (Westling et al., 2014; Lübker et al., 2021). Therefore, the interviews were flexible, allowing participant to diverge from the themes identified by the interviewer. Following ethical clearance, 45 interviews were conducted from 15th November to 15th December 2021, and each interview lasted about one hour. All interviews were audio-recorded for later transcription. As a complement of the quantitative research method, the semi-structured interview not only explores the outsiders' perceptions and preferences purely on ULs, the more important is to provide an opportunity to recognize their attitudes towards rural landscape change, as well as the most valued components of rural constructions.

## 2.3 Data analysis

We used the SPSS 26 software to do the quantitative analysis. Some descriptive data were used to check the group difference of their attitudes towards the necessity of UL constructions, as well as their evaluations on the five UL types, including both ratings and rankings. The different importance levels of LCs assessed by different groups was analyzed by one-way ANOVA.

As for the qualitative data analysis, we used the software NVivo 12 as part of a thematic analysis. Thematic analysis is a process of coding qualitative information, and could lead to the identification of a set of themes (Surová & Pinto-Correia, 2008). By using NVivo, the audio files of interviews were converted to text documents, and then transcripts were systematically and rigorously coded line-by-line through an open-coding exercise. In this phase, no predefined categories were imposed on the data (Kirillova et al., 2014). After collapsing codes and removing repetition and redundancy, a large number of open-codes was aggregated into axial codes and then aggregated again into theme (Marr & Howley, 2018; de Bell et al., 2018).

## **3. Results**

### **3.1 Analysis of structured questionnaire surveys**

#### **3.1.1 The influential demographic variables**

As shown in Table 2, almost all demographic variables had some influences to varying degrees except whether the respondent is a Communist Party of China membership or not. Specifically, people with older age and higher frequency to rural areas gave higher scores to these ULs, while the group of high education level with a master or PhD degree was apparently less supportive for the ULs. Besides, gender and childhood residency affected the respondents' attitude towards the HWB, while males and people who lived in rural areas at childhood gave higher scores on it. Furthermore, the demographic variable of annual income, which represent the respondent's socio-economic status, was also found to be an influential factor when assessing the ULs of HWB, BSQ, and BPA. It is interesting to note that people with extremely low and high income (below 9,999 and above 200,000) were less preferred for these landscapes compared with people who had a middle income.

Table 2

one-way ANOVA examining demographic factors influencing preference for landscape types.

Demographic characteristics	HWB	BSQ	BPA	BMA	BOL
Gender	<b>5.106*</b>	0.682	0.009	0.029	1.003
Age	<b>17.893***</b>	<b>3.266*</b>	<b>4.135*</b>	<b>4.218*</b>	<b>3.180*</b>
Education level	<b>14.666***</b>	<b>9.255***</b>	<b>4.234**</b>	2.042	<b>4.901***</b>
Occupation	<b>30.710***</b>	<b>31.280***</b>	<b>10.137***</b>	2.580	<b>15.521***</b>
Annual income	<b>3.091**</b>	<b>4.620***</b>	<b>4.282***</b>	1.318	1.713
Childhood residency	<b>4.045**</b>	2.286	0.946	0.536	0.782
Frequency to the rural areas	<b>6.446***</b>	<b>2.613*</b>	<b>2.228*</b>	1.751	<b>2.412*</b>
CPC membership	2.182	0.000	0.022	0.574	0.322

\* Significant at 5 percent level; \*\* significant at 1 percent level; \*\*\* significant at 0.1 percent level. **Note:** CPC-Communist Party of China

### 3.1.2 Distinct rankings and ratings of landscape types

Despite several demographic factors being found to affect respondents' preferences for ULs, we would focus more on the occupational groups, which were intentionally set up in the survey. It is interesting to note that landscape professionals (PRs) are more demanding than other groups, who had much higher proportions of saying "no" to the constructions of ULs. In contrast, city residents (CRs) were more tolerant and held a more positive attitude, where there were low proportions of saying "no" towards all landscape types (**Fig 2**). We can see similar result from the ANOVA result, and there was significant group difference in evaluating the ULs (**Fig 3**). In general, PRs gave much lower preference scores to the ULs, next to it was governmental officials (GOs), while CRs gave the highest scores to ULs, regardless of the types.

As for the specific landscape types, there were both similarities and differences among groups. By analyzing the respondents' ratings and rankings of the five ULs, 44.23% of the respondents chose to rank BOL the first, with the highest mean score of 3.83, while 33.85% of the respondents ranked HWB the last, with the lowest mean score of 2.98. However, the most contested types where the three groups showed the most disagreement was BSQ, which was ranked the second lowest by PRs, but was ranked the second highest by CRs. In addition, BMA was the only type that was affected by the least number of demographic variables, and got the highest group consensus.

### 3.1.3 Varying importance levels of landscape characters

To identify the statistical differences in the effect predictors between three outsider groups (PRs, GOs, and CRs), an ANOVA analysis was conducted (**Table 3**). Generally, all LCs were considered important with

a positive attitude assessed by the three groups. In particular, there were high consensus in the evaluations of naturalness and maintenance, which were considered more important than other characters across all the three groups; Within the group, GOs paid more attention to the production and tourism, the evaluations of which were close to “very important”. In comparison, for PRs, the apparent differences compared with the two other groups exist in their relatively lower evaluations on legibility and neatness, while the CRs attached great importance on a clean and neat environment in rural areas.

Table 3

ANOVA results for the mean importance scores of landscape characters

	Mean scores				ANOVA (F value)	Differences in mean scores for the target groups (L.S.D post hoc test)		
	PRs	GOs	CRs	Total		PRs- GOs	PRs- CRs	GOs- CRs
Coherence	4.06	4.15	4.01	4.07	0.823	-0.089	0.047	0.135
Legibility	3.39	3.76	3.69	3.62	<b>5.419**</b>	<b>-0.370**</b>	<b>-0.295*</b>	0.074
Historicity	4.32	4.46	4.34	4.37	1.107	-0.136	-0.022	0.114
Biodiversity	4.30	4.33	4.36	4.33	0.156	-0.030	-0.052	-0.022
Naturalness	4.40	4.52	4.50	4.47	1.090	-0.113	-0.094	0.019
Neatness	4.36	4.53	4.58	4.49	<b>3.762*</b>	<b>-0.174*</b>	<b>-0.217**</b>	-0.044
Maintenance	4.33	4.43	4.41	4.39	0.567	-0.096	-0.081	0.015
Recreation	4.25	4.41	4.35	4.34	1.730	-0.165	-0.102	0.063
Accessibility	4.00	4.15	4.16	4.11	1.897	-0.146	-0.160	-0.015
Production	4.33	4.59	4.33	4.42	<b>6.467**</b>	<b>-0.261**</b>	0.005	<b>0.266***</b>
Tourism	3.96	4.21	4.09	4.08	<b>3.031*</b>	<b>-0.253*</b>	-0.130	0.123

\* Significant at 5 percent level; \*\* significant at 1 percent level; \*\*\* significant at 0.1 percent level

PRs: Professionals (n=246), GOs: Governmental officials (n=253), CRs: City residents (n=274)

## 3.2 Analysis of semi-structured interviews

We finally found two main themes and several subthemes related to the outsiders' preferences for ULs (Fig 4). On the one hand, most of the participants explicitly expressed the importance of a livable village, with their support for village urbanization and modernization. They viewed the whole thing from the villagers' daily life experiences, and believed villagers would like to live in a place that enjoys similar living conditions with the cities. Three subthemes included 1) improved infrastructures and easy accessibility, 2) function related and recreational use, 3) good maintenance and clean environment. On the other hand, outsiders constantly referred that villages should have their characterized rural features which are distinct from the cities. Almost all participants expressed their needs for a featured village under the context of urbanization and modernization. Three subthemes include 1) agricultural landscape, 2) variations of natural elements, 3) man-made features and landscape design, respectively.

In addition, we found that some descriptions on the rural landscape values expressed by the participants were quite relevant to the LCs used in the quantitative analysis, which in turn verified the rationality of using those LCs in the questionnaires. Besides, though we intentionally set up three groups of PRs, GOs, and CRs as we did in the questionnaire survey, no big differences were found in the interviews. Interestingly, the two main themes together with the several sub-themes were repeatedly mentioned in various descriptions. Furthermore, we found that the five typical ULs were not only a type of landscape anymore, but also represented some public demands for rural constructions.

## 3.2.1 Outsiders' preferences for a livable village

### 1. Improved infrastructures and easy accessibility

Almost all the participants treated ULs as a representative of improved infrastructures, because usually these ULs were not built independently, but were collaborated with other basic infrastructures. Hence, when talking about the ULs and rural constructions, many respondents explicitly said they prefer to visit the village which was equipped with good infrastructures.

*"Some basic infrastructures such as underground drainage and electricity supply are the preconditions of the Beautiful Village constructions. Without them, the ULs constructions cannot be sustainable". [PR - No.6]*

Among the many factors of improved infrastructures, the well-constructed road was mentioned many times as a represent of the easy accessibility. It was thought to be an important factor that influences not only the outsider's village visiting frequency, but also the residents' daily life convenience.

*"No matter the village will develop tourism or not, a very important premise is to build quality road. A good road network should be connected to every village and every house. If there is no good road, it can be a trouble driving the car to the village, hence I would not be motivated to go to the villages, even it's my childhood hometown". [PR -No.5]*

*“Actually, I don’t care much about the construction of these ULs, but the most important thing is to build good road. I used to see some very old man who live in the countryside have to walk long distances on muddy road to sell some vegetables in nearby cities, which impressed me a lot. A well-constructed road can bring a lot of convenience for the villagers’ daily life”. [CR-No.1]*

## *2. Functional use and recreations*

The respondents tend to attach more importance on the functional aspect of ULs, including some safety and production related factors, while the aesthetic aspect was not so important.

*“Although HWB really looks bad and couldn’t meet my aesthetic requirements, however, if it has the function of protecting the farmland from flood, it is essential to be built. Anyway, Safety comes first”. [PR-No.7]*

*“In some villages where there is no square or enough open space, farmers would spread their newly harvested rice along the road, which is really dangerous since they are working together with the fast running cars. BSQ can be useful to provide space for the fresh rice to bask in the sun”. [PR-No.6]*

In recent years, villagers’ recreations are being paid more and more attention, accompanied by the fact that they are having increased leisure time. Therefore, almost all respondents mentioned the necessity of creating enough recreational space for the villagers, especially when discussing the ULs of BSQ and BPA. However, it’s also interesting to note that some respondents thought the ULs can be replaced by other forms.

*“I think it’s useful to have a pavilion in the village. Especially on summer days, the farmers need a place to shelter from the sun after heavy farm works. But it’s not necessary to build a pavilion from your picture, it can be other forms”. [CR-No.2]*

*“From my observation, a bunch of villagers like to gather together and chat with each other. The shelter can be pavilions, as well as big trees”. [GO-No.3]*

*“Though there is enough open space in rural areas, it lacks place like a BSQ to provide some group activities, such as square dancing. Also, BSQ can be equipped with some sports facilities”. [GO-No.8]*

## *3. Good maintenance and clean environment*

Maintenance is the other character that has been repeatedly mentioned, especially when referring to the type of BOL. It’s noticeable that despite BOL got the highest preference scores in quantitative analysis, many respondents suggested not to choose this kind of landscape in rural constructions, because of its high cost of maintenance. Some people even considered the lack of maintenance as a huge problem of unsustainable rural constructions.

*“I have done some landscape design projects in the Beautiful Village constructions, but we hardly ever choose the lawn. Once there is the kind of lawn from your picture, there must be someone who knows*

*gardening from the village specializing in maintaining it. I once met a village that build BOL. It was so beautiful and attractive in the first year, however when I went there in the second year, it was deserted and there was dead weed everywhere. And I think it's a huge waste and unnecessary". [PR NO.6]*

*"The BOL must be built in some rich villages that are able to provide sufficient funds for regular maintenance. Otherwise, it can degenerate into some ordinary rural landscape and finally be abandoned". [GO-No.7]*

Furthermore, a clean and neat environment is prioritized. Though we were talking about the constructions of ULs, topics like garbage classification, rain and sewage diversion were constantly mentioned. Some people even treat the HWB as an effective way to improve the cleanliness of the river.

*"My hometown is a village that grows along the river. Therefore, people attach incredible importance on the environmental promotion of the river. In the past, there were all kinds of garbage in the river. After the Beautiful Village constructions, projects like HWB contributes quite a clean river, making it more attractive". [PR-No.8]*

## **3.2.2 Outsiders' preferences for a featured village**

### *1. Agricultural landscape*

It's quite interesting to hear from someone that farmland was the most featured rural landscape and should be well kept and developed. In their eyes, agriculture is more than production, but makes the rural landscape unique and attractive. The key nodes include crops, vegetables, fruit, and color contrast.

*"I don't really like these kinds of ULs. I would like to see something quite different in rural areas. I can imagine the scenery of large fields full of yellow wheat, with some weed on the ridge. I step on it, and pick some flowers, that is so relaxing and enjoyable!" [PR NO.7]*

*"Compared to the BOL that is common in urban areas, it would be better to plant some local fruit trees and vegetables which can be more rural scenery characterized". [GO-No.6]*

*"It's attractive for me that some villages are developing fruit picking industry and I can come for an experience that is not accessible in urban areas". [CR-No.4]*

*"My ideal situation is that after retiring, I would live in the countryside and own a land, planting some vegetables and fruit. This can be quite relaxing and I really enjoy the tranquility in rural areas". [CR-No.3]*

*"In different seasons, different colors are presented by different crops. I really appreciate those color changes in different seasons, which makes the countryside special and charming". [GO-NO.3]*

## 2. Variations of natural elements

The presence of natural elements (i.e. forest, mountain, wetland, water features), and the variations of such elements were enjoyed by almost all of participants. Villages with a better preservation and promotion of those natural elements were generally considered more attractive, and constitute the most important part of a featured village.

*"I still look forward to the old days when my hometown house was situated at the foot of a forest, with a river flowing away in front of the house. Those natural elements are getting less and less, and in my mind, the best rural construction was to keep the original naturalness and try not to destroy anything. I hate the scenery that the countryside looks like a city park". [CR NO.5]*

*"Developing and upgrading the villager's life quality is important, however preserving the previous natural elements such as wetland can't be ignored. I don't think the two things contradict". [GO-NO.5]*

## 3. Man-made features and landscape design

The preservation and application of some traditional and cultural man-made features was treated as another factor that contributes to a featured village. The first key node was rural buildings, which were thought to be important to shape the rural atmosphere and the ULs should be coherent to the buildings.

*"We should learn from Japan that has inherited the traditional wooden craftsmanship and apply it to their countryside houses. This can be a good way to create a unique rural atmosphere. I hope our rural buildings can reflect more native and historic-cultural elements, rather than efficiency-oriented with a modernized and urbanized appearance" [PR NO.3]*

*"Rural buildings can to a large degree reflect rural characteristics. Hence, some villages with valuable historical buildings should be well kept, and all the ULs should correspond to the historical styles" [GO-No.2]*

Besides, it's widely acknowledged that some iconic landscapes are necessary to show the village uniqueness, especially when talking about the BMA.

*"It's not necessary to build a BMA, but an iconic landscape is needed to distinct one village from others, especially at the entrance of the village". [GO-No.1]*

*"A well-designed BPA that fully demonstrated the local characteristics should be built at the entrance of the village, which not only provides a gathering space for most of the villagers, but can also serve as an iconic landscape that demonstrates the village's uniqueness". [GO-No.4]*

Actually, constructing ULs was also a way to demonstrate the characterized man-made features, thus the localization of ULs was repeatedly referred to.

*“It’s important that the ULs constructions could extract elements from the native history and traditions, thus being coherent with the village’s cultural background, as well as showing the village’s characteristics”. [PR NO.4]*

*“If a village has some historical stories and plans to develop tourism, then a BSQ can be of some exhibition use and demonstrate the village’s cultures. [.....] Anyway, the ULs must be integrated with the local realities”. [PR NO.6]*

In applying those man-made features, the huge influence of landscape design cannot be ignored. The respondents mentioned some parts of the landscape design that would affect the final appearance of ULs constructions, such as the scale and materials.

*“I think open space like the square is quite useful in the countryside, however, the scale must be alerted. Too big scale is not coherent with the rural reality, and it can be a heat source in summer days”. [PR NO.2]*

*“Instead of a big square, I think it’s better to break it and spread the small ones in several important spots of the village”. [PR NO.3]*

*“In rural constructions, take the HWB for example, some ecological materials such as the gravels and logs can be used to build a softer river bank, rather than concrete. Those industrial materials can’t match with the natural atmosphere of the countryside”. [PR NO.2]*

*“A wooden BPA looks more natural and can be more coherent with the rural styles”. [PR NO.1]*

## **4. Discussion**

### **4.1 The similar and different preference patterns among groups**

The outsider groups of PRs, GOs, and CRs were found to have divergent preferences towards the specific types of ULs, and PRs apparently had higher requirements on UL constructions compared with other groups. This can be partly explained by their education and scientific knowledge on landscapes (López-Rodríguez et al., 2019), as well as familiarity with the rural areas (Van Den Berg et al., 1998). In addition, although different groups had varying importance levels on the LCs, a huge consensus in preference themes was found in the semi-structured interviews. One theme was that outsiders prefer a livable village which demonstrates the human power on nature in order to satisfy people’s diverse needs for country life. This study result was particularly in line with Yang et al. (2022), who found that the residents valued highly on livability, from the point of view of economic development and modernization. The other theme was that outsiders preferred a featured village, which could help people escape from daily routine and urban hassles to find solitude and peace. A featured village was not only largely linked to the rural naturalness (Schroeder, 1991; Surová & Pinto-Correia, 2008), but was found to include man-made elements, as well as the preservation of agricultural landscapes. The two preference themes in this study

revealed similar contradictions conducted in other rural studies, such as the degree of wilderness and man-made elements (Arriaza et al., 2004), naturalness and maintenance (Özgüner & Kendle, 2006), aesthetic values and ecological services (Zheng et al., 2011), environmental conservation and human development (Leite et al., 2019). In those situations, people prefer more natural looking areas but also want the area neat and well maintained. Therefore, in future rural constructions, it can be a challenge to find tradeoffs between the two preference themes, and a rural landscape designer needs to explore a way to make “livable” look “featured”.

## **4.2 Should ULs be kept in or moved away from villages?**

Despite the general criticism on ULs from the local government, our study result showed that ULs, which indicate rural landscape change and the temporal dynamics of the rural landscape, were generally supported by the public. This can be explained that the public have growing demands for diverse recreational activities and aesthetic enjoyment in the countryside (Howley et al., 2012; Zhou et al., 2018), and ULs could improve their travelling experiences in rural areas. To be more specific, it is interesting to note that BOL got the highest score from all groups in the photo ratings, but was continuously doubted its rationality in rural areas in the semi-structured interviews, for the reason that it requires regular maintenance (e.g. mowing, trimming and watering) which can be a big financial burden for the village. Hence, a low-cost treatment in rural constructions should be considered (Nassauer et al., 2021). Also, HWB was scored the lowest by all groups in the questionnaire survey, but was thought to be critically valuable for its production related functions. In addition, despite BPA and BSQ got a relatively good score, respondents believed there could be other alternatives for their recreational values; BMA was thought to be replaceable once some characterized man-made elements that represent the local traditions and cultures could be applied on other landscape types. This also indicated people’s increasing needs for rural landscapes to provide various cultural ecosystem services such as recreational, aesthetic and spiritual benefits (van Zanten et al., 2016; Tieskens et al., 2017). Therefore, it is not wise to make decisions on which type of ULs should be kept in or moved away from the villages, but the more important is to investigate the site-based LCs of the village.

## **4.3 Implications and limitations**

This study had some implications for the future rural planning and constructions. First to be alerted is that the expert’s LPs could not represent the views of the wider public, who had divergent preferences towards the specific types of ULs, as well as varying importance levels on the LCs. Thus, it is necessary that decision-makers encompass different groups of the public when conducting the preference surveys. Second, according to the study result that the site-based LCs are much more important than deciding the landscape types, we recommend that future decision-makers conduct deep investigations on the local features of the village before making planning decisions. Third, the contradicted relationship between a livable village and a featured village proposed a theoretical basis for the following rural constructions, which need to be balanced to realize a more satisfying village for different social groups.

Limitations of the study need to be mentioned. One limitation concerns the choice of the villages. There are quite different levels of urbanization in China, such as the North and South, East and West. Even in the study area of Fujian Province, there is big economic gaps between eastern coast areas and western mountainous areas (Xu et al., 2020). However, we did not factor in this regional disparity when choosing the study cases. Hence, we suggest more types of villages to be included in future studies, both temporally (in different development periods) and spatially (in different geographical areas). In addition, we only include one photo concerning one type of UL without any comparisons from other villages. Though it can be enough to survey people's attitudes toward landscape change and rural constructions through the five ULs, it's better to include more on-site photos which could help to find out more details of the influential variables on LPs that might have been ignored in this study.

## 5. Conclusion

Urbanization has caused dramatic landscape change not only in big cities, but also in rural areas, with the emergence of urbanized landscape. To figure out human perception change towards the changing rural landscapes, we did preference studies on five typical ULs by applying several LCs to provide information on the human-environment relationships. With a combination of quantitative and qualitative research method on different social groups, the study revealed that all the outsider groups of PRs, GOs, and CRs had general support for the construction of ULs, with PRs being the most demanding group. Despite some group divergence in assessing the specific ULs and related LCs, there was huge consensus in two preference themes of building a livable village, as well as a featured village. This study had some implications for the future rural constructions. It can be unnecessary to decide which type of landscape to be moved away or kept in rural areas, but the more important is to investigate the specific site-based LCs which could better satisfy people's needs; for the reason that all the ULs being surveyed were considered to be replaceable by other landscape forms. In addition, this study further confirmed the necessity of combining the quantitative and qualitative methods together which could provide more comprehensive information for the landscape planners and decision makers.

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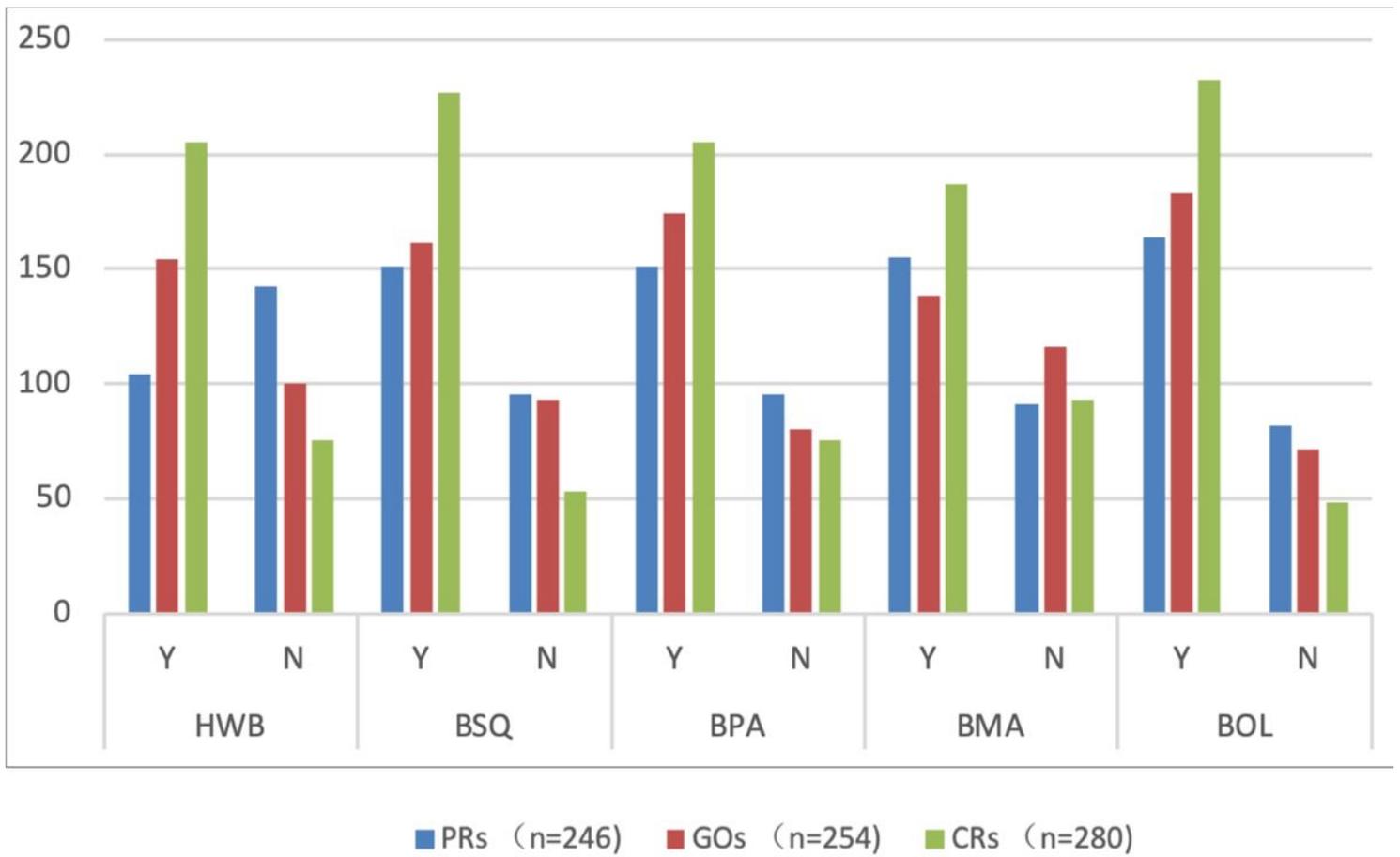
## Figures



**Figure 1**

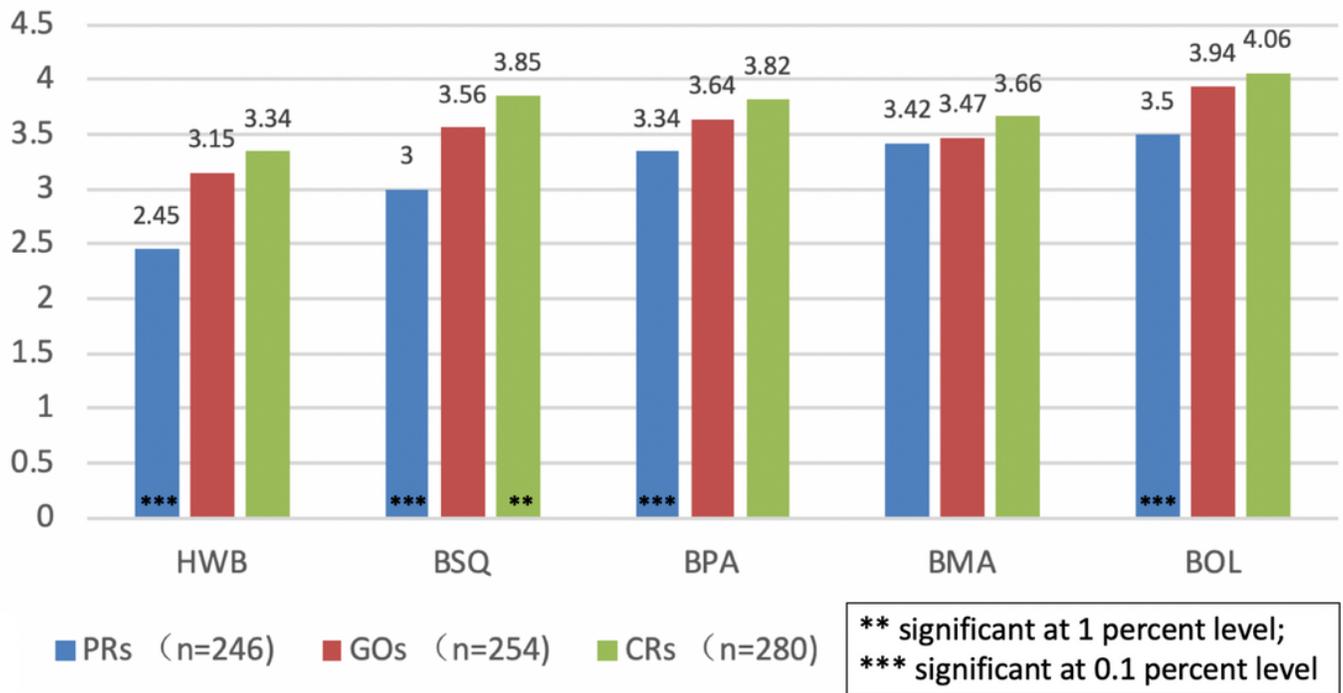
Location of the study area and five on-site photos from the villages.

**Note:** HWB: hardened water bank; BSQ: big square; BPA: big pavilion; BMA: big memorial arch; BOL: big ornamental lawn



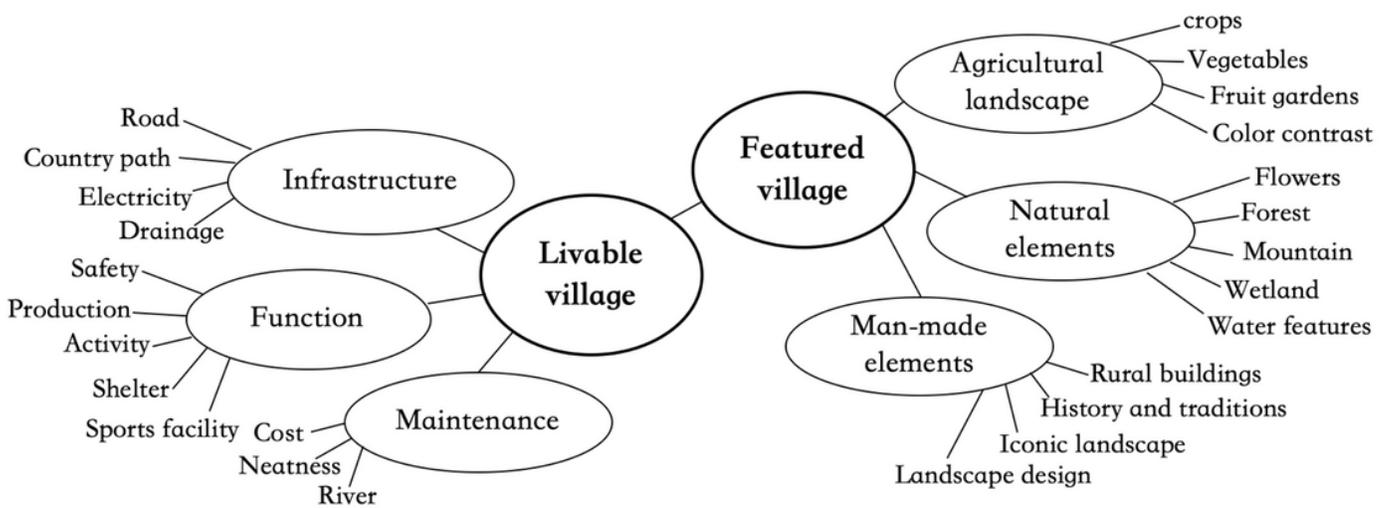
**Figure 2**

The proportions of whether PRs (n=246), GOs (n=254), and CRs (n=280) think it necessary to construct the ULs. **Note:** Y: Yes, N: No



**Figure 3**

One-way ANOVA to examine the occupational group difference for landscape types



**Figure 4**

The two preference themes, several sub-themes, and key nodes.