

# What is the villager's concern in rural landscape?

Shuo-Wen Tseng<sup>i</sup>、Kang-Ting Tsai<sup>ii</sup>、Po-Ju Chang<sup>iii</sup>  
Jian-Hon Dong<sup>iv</sup>

## Abstract

This study treats the rural communities of Nantou County as the target locations in the survey, trying to study the environmental perception and evaluation of rural community residents on country environmental features by perception and attitude measurement and construct the assessment factors for investigating country environment landscapes through the residents' cognitive degrees. We analyze the country residents' feelings via questionnaire survey. The result of the survey shows that the rural community residents suggest that "Nature" is the principal characteristic of country environment. Besides, we extract "environmental amenity", "environment landscape characteristics" and "community participation" from the assessment factors of country environment landscapes by factor analysis; the highest cognitive degree of the residents refers to "environmental amenity" which demonstrates that what is desired and perceived is comfortable living environment which is closely connect to their life. This study also investigates and compares the country environmental features of mountain, lake, plain and suburb rural communities. The result shows that the distance from the cities and the urbanization are the major factors influencing the country residents.

Keywords: environmental comfort, environmental feature, environment amenity

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<sup>i</sup> Shuo-Wen Tseng, Assistant professor, Department of landscape architecture, National Chiayi University

<sup>ii</sup> Kang-Ting Tsai, Associate professor, Graduate institute of rural planning, National Chung Hsing University

<sup>iii</sup> Po-Ju Chang, Ph.D. student, Department of Recreation, Park, and Tourism Management, University of Pennsylvania.

<sup>iv</sup> Jian-Hon Dong\*, Assistant professor, Graduate institute of rural planning, National Chung Hsing University (corresponding author)

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### **Introduction**

In recent years, the features of country environment landscapes in Taiwan are gradually fading away. Many policies focus on landscape maintenance in countryside but cannot recognize the real needs and perception with regard to living environment of the country residents; thus, there is the gap between the policies and reality; the traditional country environment landscapes disappear rapidly and new landscapes cannot show the creation of establishment of countryside. The phenomenon becomes the obstacle of future country environment landscape development in Taiwan. In order to probe into the characteristics of countryside and the country residents' environment perception, This study tries to study the rural community residents' environment perception and evaluation on country environmental features by perception and attitude measurement in order to obtain the residents' objective opinions on modern country environment.

This study aims to explore the country residents' environment perception and cognition on country environmental features and propose the assessment factors for country environment landscapes and find the influence of the residents' attributes on country environment. The residents living in the countryside are the observers and country environment is the target being observed. The information provided by the observers is the assessment criteria on the targets being observed. The research scope includes the definition and classification of country environmental features and we reorganize and analyze the literatures related to environment perception theory, landscape preference and environment.

After proposing the suitable environment assessments for This study, we discuss the analyzing methodology for the questionnaire survey.

The terms "Landscapes(Ching-kuan)" and "landscapes (Feng-mao)" are often discussed as the same category. Zube(1982) defined landscapes as "the residents of the wide field still have the imagery and values with regard to the region" which also involved land, spatial and aesthetic feelings. The definition was similar to Wang's (1986) view with regard to rural landscapes. Wang(1986) suggested that rural landscapes resources could be divided into natural and cultural landscapes which could further allocated into tangible and intangible ones.

Thus, landscapes in urban areas were called “urban landscapes” whereas those in the countryside referred to “country landscapes”.

In the study with respect to the plan of urban and rural landscapes and manipulation, Guo (1999) categorized urban and rural landscapes into natural and living culture landscapes and further included artificial landscapes; he defined urban and rural landscapes as below: “people’s overall visual imagery and memory on urban and rural environment is mainly constructed by artificial environment, natural environment, life and cultural activities”. Artificial and natural environment landscapes included tangible land use, green field in the parks, topography, terrain features, urban and rural green field and ecological landscapes; living culture landscapes included local characteristics which were allocated into tangible and intangible ones, including local important traditional and cultural assets, such as historic interests, monuments, significant folk custom and festivals and daily life and entertainment, such as important local industry landscape, exhibitions, etc.

In This study, we will categorize the rural terrain into mountain, lake, plain and suburb according to “country landscape outline and planning of the counties” of Nantou County and followed the classification of urban and rural landscapes in Guo’s(1996) study to allocate country landscapes into artificial, natural and living culture environments. We further explore the rural residents perception and preference to the environmental features in different environments and obtain the assessment factors of country environment landscapes.

Environment perception means peoples’ direct perceptive experience in the environment. One of the important characteristic of environment perception study is the emphasis of environment reality. Comparing with traditional studies, environment perception study attempts to construct the situation connection between the targets and environment. Thus, This study treats the residents in country environment as the targets and directly explores the residents’ environment perception on the living area to lead to the research findings with few errors.

Kaplan (1982) suggested that people tended to pay attention to the things which were significant for them and they were created to adapt to everything in the environment, meet the basic demands of species’ pursuit for survival and have the needs to look for food and shelters to increase the opportunity to survive. Kaplan’s study related to pragmatism demonstrated the point. As to the investigation of the residents, we could probe into the environmental factors concerned by the residents and obtain their environment perception and assessment. Lin(1988) indicated that people’s environment perception was the base of their environmental consciousness. The core value was the maintenance of environment quality. Thus, we could assume that the residents’ affection to the environment might be based on the residents’ view to ecology. Thus, in the following chapters of research design and analysis, This study will focus more on the factors related to natural environment and environment maintenance.

Hou (1984) suggested that landscape perception referred to a series of environment perception value and judgment process. The physical mechanism was that through vision, hearing, sense of smell, sense of taste, sense of touch and sense of movement, people had aesthetic perception and stimulation with regard to the stimulus in the environment.

Many studies indicated that environment preference might involve the variable of ages (Balling&Falk, 1982; Bernaldez et al., 1987; Lyons, 1983; Zube et al., 1983). Lyon(1983) suggested that environment preference would be different with ages, sex and residential areas. Kaplan and Kaplan also emphasized the role of “familiarity” when assessing the value of environment. Generally speaking, people yearned for the “intimate and realistic” dimension in the environment.

Marans and Spreckelmeyer(1982) suggested that even though the assessment of each level included aesthetic and physical factors, what’s really important for the users was the space they directly lived and worked. The users’ judgment on the quality of living environment would be different with individual personality traits.

Thus, this study is designed to target on the users’ actual living space and emphasized the functional significance instead of aesthetics and further explored the age and sex of individual attributes. In addition, in order to explore the factors of different residential areas, we treated the residents of 4 types of rural communities as the targets and included living culture aspect in the questions which not only met the previous classification of country environment landscapes in this study, but also demonstrated the “familiarity” in actual living area in the theory and the importance of living culture.

Generally speaking, in the studies of environment assessment and landscape preference, the scholars tended to use questionnaires and devise a series of adjectives to describe the environment so that it was easier for the respondents to understand the questions and they could compare and express without difficulties in the investigation. When comparing the landscapes with totally different patterns, most of the respondents treated the concrete environment factors as the criteria for classification and comparison. When comparing similar landscapes, their criteria tended to be based on more abstract adjectives, such as the sense of order and change (Yan, 1995). This study compared more similar country environment landscapes. Thus, we would construct the environment assessment factors for questionnaires survey by investigation method of the latter.

## **Materials and method**

### **1. Questionnaire design and test survey**

As to the investigation locations, we targeted on the communities in Nantou County which have implemented overall construction and six-star project of Taiwan health communities. In addition, we classified the rural terrain into mountain, lake, plain and suburb

according to the criterion of “country landscape outline and planning in the counties” in Taiwan. We respectively selected on rural community as the targets. Mountain community referred to Kuanghsin community of Lugu Township, lake community referred to Yitashao community of Yuchih Township, plain community referred to Chungshan community of Mingchien Township and suburb referred to Paotsailiao community of Caotun Township. We treated the above 4 communities as the target investigation locations. The research targets were the local residents living in Nantou County Kuanghsin community, Yitashao community, Chungshan community and Paotsailiao community.

This study included three major research factors: the attributes of the residents' basic background, cognitive degree on country environmental features and the types of country community; we also followed the related environment assessment factors of the previous studies and the base characteristics of this study to extract 6 assessment factors of country environmental features and three overall assessment. These 6 assessment factors were nature, diversity, consciousness, health, sustainability and comfort; three overall assessments were country environment utility, country environment aesthetics and overall country environment assessment. We defined the assessment factors below.

Nature: natural degree of country environmental features, including natural primitive landscapes and building material use of artificial aspect.

Diversity: the diversity degree of country environmental features refers to the aesthetics of landscapes, including positive variance such as open-air vision, plant diversity and environment order.

Consciousness: this study try to find if the respondents can perceive the natural features and cultural features of the living environment and probe into the relation between their environmental feature assessment and their consciousness.

Health: the influences of country environmental features on people's health, including the quality of water, noise, etc.

Sustainability: it refers to the maintenance of country environmental features, including peoples' maintenance and management and cultural passing.

Comfort: the comfort degree of country environmental features for human beings, including environment convenience, security, etc.

Besides the above 6 cognitive variables of country environmental features, in questionnaire design, the researcher also included the aspect of participation in order to find if there was correlation between the residents' community participation and their cognition with country environmental features.

The questionnaire design of this study was based on structural close-questionnaires. This study measured the community residents' basic attributes by categorical scale and ordinal scale. With regard to the residents' cognitive degree of country environmental features, it was

based on “Likert-type” scale upon positive scoring, “Totally agree” stands for 5 points, “agree” refer to 4 points, “no comment” was 3 points, “disagree” was 2 points and “totally disagree” was one point. The scoring was not positive or negative; it simply showed the respondents’ agreement degrees on the descriptions of the questions. The reason to use positive scoring was that the residents tended to have positive reaction upon natural landscapes according to some research survey (Agnes E. Van den Berg, 2006).

## **2. Number of samples and questionnaire survey**

This study first distributed 100 resident test questionnaires in Paotsailiao community of Caotun Township on Dec., 22, 2006 in order to modify the readability and errors in the words of meanings in the questions of the questionnaires. It took 5-10 minutes to fill in a questionnaire. The questionnaires with over one questions left out in environment landscape assessment and residents’ basic attributes were treated as invalid ones. There were 413 questionnaires returned in formal questionnaire survey. The targets spent about 5-10 minutes in average for filling in one questionnaire. After eliminating the invalid questionnaires, there were 90.6% valid ones. In total formal survey, there were 389 valid questionnaires.

## **3. Data analysis**

After the questionnaires returned, this study encoded and registered the valid questionnaire survey by statistical software of sociology (spss/window10.0) and had initial analysis of the investigation result. This study further analyzed and validated the results of different hypotheses and the statistical analysis methods this study used included frequency distribution of descriptive statistics analysis, percentage, mean, factor analysis of inferential statistics, T test, etc.

# **Results and discussions**

## **1. Personal trait analysis of the country residents**

According to the analytical results of residents’ attributes of overall questionnaires in Nantou County, this study found that the ratios of male and female targets were about 1:1 in the samples and most of the residents were between 40-49 years old. The residents’ occupations were in order below: military, the police and the teachers, housekeeper, agriculture, forestry, animal Husbandry and fishery. As to educational level, most of them were high school educated (vocational school); 80% of them were married. Average annual income of the household was NT\$200,000 (and below). Nearly 80% of the residents did not participate in community groups and about 90% of the residents did not participate in environmental groups. As to individual types, the residents in mountain rural community joined in environmental groups the most. As to suburb rural community, since it was close to the cities and the country environmental features were damaged, the natural landscapes and

living culture were also affected. Thus, the residents should have eager devotion to their own community in order to maintain and preserve the hardly left rural environment. Thus, most of the residents in the suburb community participated in community groups. On the other hand, country environmental features in mountain rural community were preserved and most of the residents devote themselves in agriculture as their occupation. They involved in natural environment for long term which allow them to recognize the natural features in their environment. For those reasons, they were willing to maintain the environment where they grew, lived and worked. Thus, most of them joined in environmental groups.

With regard to individual communities, among four types of community, the composition of mountain community residents was different. The mountain community was based on agriculture and the educational level was lower. However, the residents participated in the environmental groups the most; suburb rural community had the most community participation.

## **2. Extraction of the country environmental features cognized by the country residents**

This study studied country environment landscape assessment by reliability analysis and we found that total reliability of 28 questions reached 0.9592 which demonstrated certain degree of reliability in the questions and it was not necessary to eliminate the questions in order to increase reliability. This study had factor extraction from the remained 28 questions by Principal Component Analysis. The analytical result showed the corresponding relations of three components. This study then had factor rotation by varimax method and obtained factor analysis table of country environment landscape assessment after rotation. According to factor loading, this study simplified the questions of country environment landscape assessment into three categories: "amenity", "landscape features" and "community participation". The total explanatory variance was 66.3%. Three assessment factors of country environmental features extracted in sample factor analysis were different from those when designing the questionnaires. After comparison, that in actual environment, country environmental features cognized by the residents were more general than the original survey plan. "Amenity" included the overall assessment of nature, health, aesthetics and utility. Country residents indicated that "amenity" was related to nature and health of community environment; "landscape features" included variance and consciousness. communities residents suggested that diverse environmental landscapes were the features of community; "community participation" included participation and convenience of sub-items in the category of comfort. "Amenity" included "tranquility", "natural environment without many artificial facilities" and "clean environment"; "environment landscapes features" included "diverse kinds of plant" and "primitive and natural landscapes"; "community participation" included "community participation"; the highest cognitive degree by the residents was in "amenity" which

demonstrated that the beautiful and comfortable environment closely connected with the residents' lives was what the residents really needed and felt. According to the results of factor analysis, this study also found that the features of rural community were the beauty and comfort of environment, special landscapes and residents' participation. In rural community, this study found the ecological public facilities and fine environment quality and the characteristics in terms of nature, humane or industry aspects. Rural community residents tended to identify with their own community and people were not as indifferent as those in urban community and they were more willing to join in community groups to develop their own community.

In order to find the factors of individual community types, this study also had factor analysis on the individual community samples. According to the analytical result, this study found that in individual community, the shared cognitive factors included "amenity", "natural landscapes" and "living culture". "Amenity" was the first in the order of individual community which showed that the most important factor for the rural residents was the beauty and comfort of the environment. The factors extracted from factor analysis also represented the features of individual communities. This study would treat the importance degree of the cognitive factors of residents' environment landscapes (factor analysis loading) as the assessment factors of the environment landscapes to extract the factors by 0.7 loading. This study arranged the importance degrees of the factors in order as below:

### **(1) Assessment factors of mountain rural community**

Amenity and cognitive factors included: fine environment maintenance, living health and living security.

Natural landscapes and cognitive factors included: open-air natural environment, fresh air and rich green field.

Harmonious facilities and cognitive factors included natural water channels of the rivers and natural environment without many artificial facilities.

### **(2) Assessment factors of lake rural community**

Amenity, cognitive factors included community participation, features of landscapes, local industrial features, living health, diverse landscapes, and environmental comfort.

Living culture and cognitive factors included rich cultural features, buildings with cultural features, natural building materials and passed cultural features.

Natural features and cognitive factors included natural landscapes and diverse kinds of plant.

Rich green field and cognitive factors included rich green field.

Tranquility and cognitive factors included tranquility.

### **(3) Assessment factors of plain rural community**

Amenity and cognitive factors included clean environment.

Natural landscapes and cognitive factors included rich green field, features of landscapes and



open-air natural environment.

Living culture and cognitive factors included: rich cultural features, buildings with cultural features and passed cultural features.

Natural facilities, cognitive factors included natural water channels of the rivers.

#### **(4) Assessment factors of suburb rural community**

Amenity and cognitive factors included living security, living health and fine environment maintenance.

Harmonious landscapes and cognitive factors included Ordered and splendid buildings, natural building materials.

Landscape features and cognitive factors included local industrial features, passed cultural features.

Living convenience and cognitive factors included living convenience.

Community participation and cognitive factors included community participation.

After the statistical analysis and extraction, this study could use these factors for individual community types of country environment landscape assessment.

### **3. Cognitive degree analysis on country residents' environment landscapes**

When this study compared the satisfaction degrees of different community factors, this study found that the factors showing high cognitive degrees in four types of community were “primitive and natural landscapes” and “open-air natural environment” which demonstrated that rural community had certain degree of natural landscapes. This study further compared the factors extracted from factor analysis and cognitive degree and found that the residents' cognitive degrees on overall environmental features were in order as below: “landscapes features” (55.29%), “community participation” (51.9%) and “amenity” (35.71%) which showed that country residents had lower cognition toward “amenity” which was closely related to their living environment and lives. With regard to the features of living environment, in terms of natural or humane aspects, the cognitive degree all reached to 50%. They were willing to participate in community activities to maintain the environment. Nowadays, amenity of country environment is gradually not important for human beings. If the country residents identify with and recognize the features of their living environment and they are willing to maintain them, the act will facilitates the sustainability of country environment landscapes.

With regard to different types of rural community, mountain community residents had higher cognitive degree on the environment. They not only recognized the characteristics of landscapes, but also were willing to participate in community activities to maintain the beauty, comfort and features of the environment which facilitated the long-term development of the community and highlighted the future of environment landscape. “Amenity” of lake community was significantly lower than that in mountain community and the cognitive

degrees of “landscapes features” and “community participation” were similar to that in mountain community. Lake community in this study had business activities as the major economic income. In order to attract the tourists, the residents expected for the original landscape features as well as “amenity”. Comparing with other types of communities, the residents’ cognitive degree in plain community was lower and the landscape features were also not significant. The residents had lower cognition on “landscape features” and “community participation” and they were only enthusiastic about community participation. The phenomenon reinforced the maintenance and improvement of “amenity” and environmental features. The cognitive degrees of the suburbs were higher in “landscapes features” and “community participation” since “amenity” was affected due to being close to the cities. However, the community residents had full understanding toward the characteristics of the living environment and they were willing to join in community activities and maintain the landscape features which helped the environment landscapes of the community.

In “amenity”, environmental amenity was lower when being closer to the cities. On the other hand, product-moment correlation analysis between “landscape features” and “community participation” is significant. According to the activities promoted by the suburb community in recent years, this study could infer that when the residents were willing to participate in community organizations, they had higher cognition toward the community and also recognized the landscape features of the community in the same time. This study further analyzed and found that the “amenity” of the country area close to the cities should be further maintained and managed. When the community environment was not beautiful and comfortable, the residents would not be willing to participate in the community activities and the country landscape features would be affected.

This study also investigated and compared the country environmental features of mountain, lake, plain and suburb rural community. It found that the cognition of the residents in mountain, lake and plain rural communities is closer. Suburb community residents showed another kind of cognition. It demonstrated that the distance from the cities and urbanization degrees were the major factors influencing country residents. Thus, when the study and plan country regions in the future, it should consider the residents’ cognition and the rural community types studies or planned in order to fulfill sustainable country environment landscapes.

After analyzing and inferring the samples, we reviewed the research process. This study treated landscape assessment of Zube et al. as the theoretical base to construct the research process and design the questionnaires. In practice, few samples are available from lake community due to the few population in aboriginal community which is the sample for lake community. However, the number has reached 6% of the total number of people in the

communities which could represent the samples of the category. The questionnaire distribution of the other three types of community through community organizations was successful. This study further found that country environment landscape assessment would be changed because of the residents' will on community participation. Thus, in the future studies, we should consider this variable: the samples collected by the community organizations might reveal stronger community participation; as to data analysis, the test methods had sampling significance and the analytical results could also be corresponded to the reality.

## Conclusions

This study obtains different results with regard to the country residents' assessment factors on environment landscapes. The residents in different environment landscape areas have different assessment factors and items. In mountain rural environment, the residents' assessment factors on environment landscapes included: 1) amenity and the cognitive factors include fine environment maintenance, living health and living security; 2) natural landscapes and the cognitive factors are open-air natural environment, fresh air and rich green field; 3) harmonious facilities and the cognitive factors are natural water channels of the rivers and natural environment without many artificial facilities. Assessment factors of Lake rural community include: 1) amenity and the cognitive factors are community participation, features of landscapes, local industrial features, living health, diverse landscapes and environmental comfort; 2) living culture and the cognitive factors are rich cultural features, buildings with cultural features, natural building materials and passed cultural features; 3) natural features and the cognitive factors are natural landscapes and diverse kinds of plant; 4) rich green field and the cognitive factors are rich green field; 5) tranquility and cognitive factors are tranquility. The assessment factors of plain rural community include: 1) amenity and cognitive factors are clean environment; 2) natural landscapes and the cognitive factors are rich green field, features of landscapes, open-air natural environment; 3) living culture and the cognitive factors are rich cultural features, buildings with cultural features and passed cultural features; 4) natural facilities and the cognitive factors are natural water channels of the rivers. The assessment factors of suburb rural community include: 1) amenity and the cognitive factors are living security, living health and fine environment maintenance; 2) harmonious landscapes and cognitive factors are ordered and splendid buildings and natural building materials; 3) landscapes features and cognitive factors are local industrial features and passed cultural features; 4) living convenience and cognitive factors are living convenience; 5) community participation and cognitive factors are community participation .

On the other hand, the research analysis showed that the residents between 60-69 years old are the group with the significant relation with amenity and highest cognitive assessment.

Most of them are retired and can spend more time and effort on the maintenance of community environment. Thus, they have high cognition toward amenity. When we further explore the types of the residents' community, we find that there is no significant relationship between community participation and lake community residents' country environment landscape assessment. The sample base of lake community has business as the major economic activity and the residents pay more attention on the maintenance of living income instead of participating in community activities which demonstrates that the areas with different economic background will influence the residents' country environment landscape assessment in living environment; suburb residents' cognition toward community participation will influence the result of their country environment landscape assessment which also reinforce the above conclusion. When the residents find the negative aspects of the country environment landscapes in their living environment, they will hope to maintain and preserve the rural environment left which increases the residents' will of community participation.

The assessment results of country environmental features in This study can be applied for the future quantitative comparison and assessment of rural physical environment and as the criteria for rural development policies, as well as the planners when they plan the country environment landscapes.

Table 1. Background attributes of overall country residents

Residents' basic attributes	Classification of attributes	Marking times	Percentage (%)
Sex	Male	185	47.6
	Female	204	52.4
Age	Below 20 years old	29	7.5
	20-29 years old	43	11.1
	30-39 years old	107	27.5
	40-49 years old	126	32.4
	50-59 years old	43	11.1
	Above 60 years old	41	10.5
Occupations	Agriculture, forestry, animal Husbandry and fishery	56	14.4
	Retail and restaurants	24	6.2
	Personal services	37	9.5
	Manufacturing	9	2.3
	Military, the police and	75	19.3

	teachers		
	Industrial and business services	27	6.9
	Social services	38	9.8
	Housekeepers	69	17.7
	Students	39	10.0
	None (including retirement)	15	3.9
Educational level	Below junior high school	104	26.7
	Senior high school (vocational school)	155	39.8
	College	112	28.8
	Above graduate school	18	4.6
Marital status	Unmarried	65	16.5
	Married	324	83.3
Annual income of the household	NT\$200,00(and below)	166	42.7
	NT\$20~400,000	82	21.1
	NT\$40~600,000	83	21.3
	NT\$60~800,000	27	6.9
	Over NT\$800,00	31	8.0
Community groups	Yes	73	18.8
	No	316	81.2
Environmental groups	Yes	49	12.6
	No	339	87.1

Table 2 Basic information of different types of rural community

	Mountain	Lake	Plain	Suburb
Sample bases	Kuanghsin community, Lugu Township	Yitashao community, Yuchih Township	Chungshan community, Mingchien Township	Fuliao community, Caotun Township
Date of survey	2007/02/08	2007/02/14	2007/01/24	2006/12/22
Valid questionnaires	125(there are totally 200 questionnaires)	24(there are totally 24 questionnaires)	133(there are totally 200 questionnaires)	107(there are totally 200 questionnaires)

	and return rate is 66%)	and return rate is 100%)	and return rate is 63%)	and return rate is 62%)
Age	Above 60 years old (37%)	40-49 years old (29.2%)	40-49 years old (45.9%)	40-49 years old (29.9%)
Sex(Male)	60%	54.2%	50.4%	28%
Marital status	Married (81.6%)	Married (58.3%)	Married (90.2%)	Married (82.2%)
Occupations	Agriculture (36%)	Retail and restaurants (37.5%)	Military, the police and teachers(33.1%)	Housekeeper (33.6)
Educational levels	Below junior high school (45.6%)	Senior high school and vocational school (50%)	Senior high school and vocational school and college (36.8%)	Senior high school and vocational school (53.3%)
Incomes	Below NT\$200,000 (39.2%)	Below NT\$200,000 (75%)	Below NT\$40-600,000 (33.1%)	Below NT\$200,000 (70.1%)
Participation in community duties	22.4%	16.7%	8.3%	28%
Participation in environmental groups	18.4%	4.2%	6.8%	15%

Table 3 Factor loading analysis of overall samples

Factor	Factor 1	Factor 2	Factor 3	Shared points
Natural water channels of the rivers	0.775	0.201	-6.683E-02	0.646
Natural environment without many artificial facilities	0.841	0.156	-7.196E-02	0.737
Harmonious natural environment	0.685	0.407	4.071E-02	0.637

Rich green field	0.789	0.249	9.815E-02	0.685
Natural building materials	0.717	0.403	2.036E-02	0.677
Ordered and splendid buildings	0.769	0.287	7.703E-02	0.674
Clear water in the ditches of rivers	0.697	0.437	0.151	0.700
Fresh air	0.762	0.2<08	4.192E-02	0.625
Tranquility	0.875	3.373E-02	8.995E-02	0.775
Clean environment	0.832	0.148	0.224	0.765
Living security	0.760	8.733E-02	0.367	0.721
Living health	0.779	8.941E-03	0.410	0.776
Fine environment maintenance	0.733	0.162	0.458	0.774
Buildings with cultural features	0.612	0.400	0.298	0.623
Environmental comfort	0.784	6.508E-02	0.376	0.760
Environmental amicability	0.677	0.149	0.497	0.728
Overall environment fun	0.610	0.208	0.536	0.703
Overall environment satisfaction	0.700	0.146	0.449	0.714
Primitive and natural landscapes	0.219	0.715	-3.277E-02	0.560
Diverse kinds of plant	0.145	0.773	0.137	0.637
Features of landscapes	0.389	0.671	0.128	0.619
Diverse landscapes	0.340	0.686	0.177	0.617
Open-air natural environment	0.218	0.661	6.264E-02	0.488
Rich cultural features	0.161	0.690	0.438	0.693
Passed cultural features	-5.440E-02	0.711	0.403	0.670
Local industrial features	-1.476E-02	0.642	0.462	0.626
Living convenience	2.194E-02	0.261	0.639	0.477
Community participation	0.226	0.305	0.561	0.459
Eigenvalue	10.528	5.099	2.937	
Explanatory variance (%)	37.599	18.211	10.490	
Accumulated explanatory variance (%)	37.599	55.810	66.300	

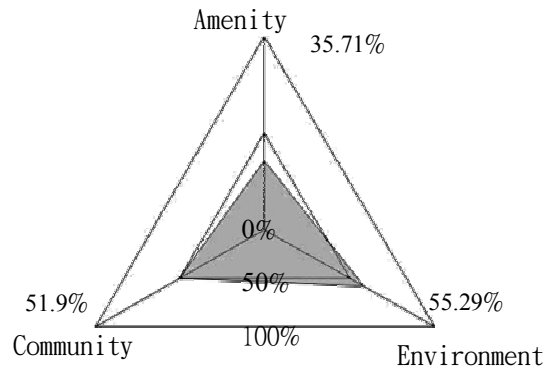


Figure1 Cognitive degree of overall assessment factors of country environmental features  
 Table 2 Cognitive degrees of assessment result of different types of country environmental features

Mountain	Lake
Plain	Suburb



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