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Landscape Design Guidelines for Eco-Tourism-Oriented Rural Homestays Based on ESG Performance

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INTRODUCTION:

Ecotourism is a responsible tourism based on the concept of sustainable development, the principle of achieving harmonious coexistence between man and nature, the premise of protecting the ecological environment, relying on a good natural ecological environment and the human ecology that coexists with it, emphasizing ecological protection, environmental education, and bringing benefits to the local community.The booming tourism industry has driven the development of homestays. ESG can measure a region's ability to respond to and mitigate environmental, social and governance-related risks to a certain extent.Incorporating ESG concepts into the research of the homestay industry can create long-term value and promote rural tourism towards high-quality and sustainable development.The sustainable development practice of homestays is reflected in the experience value perceived by tourists. Experience and emotional value are important factors affecting homestay satisfaction and revisit intention, and are also the core of improving its market competitiveness.With the development of Internet technology, using web text mining methods to study tourism attractions has gradually become a research hotspot.**This study aims to propose a homestay landscape design guide based on the ESG performance evaluation system, and explore how homestays can balance environmental protection, social equity and governance effectiveness, while promoting cultural heritage and economic sustainability by deeply mining relevant online text information.**

MATERIALS AND METHODS:

Suty Area This study uses the rural homesatys in Moganshan Mountain Area, Huzhou City, Zhejiang Province as the research area.Zhejiang Province is located on the southeast coast of China. Six representative cases were selected as research objects.

Table 1: Homestay Cases in Zhejiang Province

No.	Homestay Name	Official Rating	Unique Features
A01	Naked Stables	International LEED Platinum Certification for Green Buildings	Western-Style Rural Homestay;Eco-Resort
A02	Leafone	National Class-A Homestay; Zhejiang Platinum Homestay	Hub for Art and Culture
A03	YingXuan	Zhejiang Platinum Homestay	All-Electric Homestay
A04	View in the Cloud	Zhejiang Gold Homestay	Focus on Natural Ecology & Immersive Experience
A05	FanGu	Zhejiang Silver Homestay	French Manor Style
A06	YunAn ShanJu	Zhejiang Provincial Cultural Theme Homestay	Traditional Chinese Medicine Wellness Culture

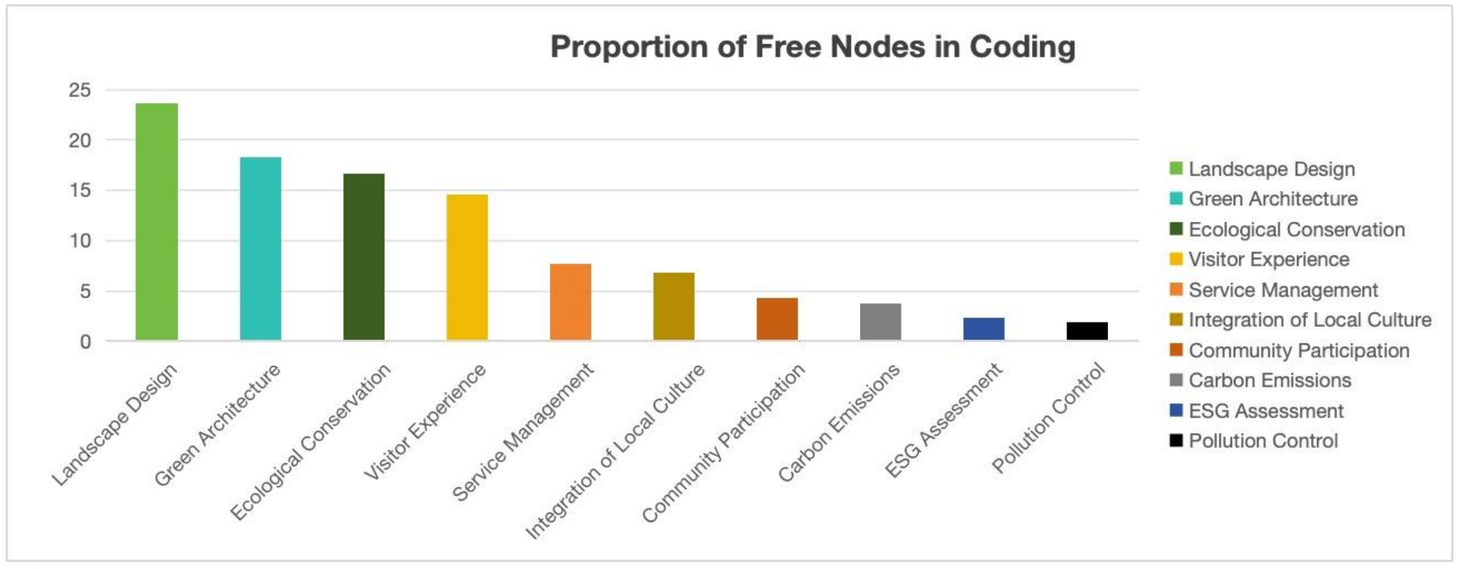
Research Methodology This study first used Python software to crawl 5,846 comments on these six homestays on the two major platforms of Meituan and Ctrip.First, a custom word list is established to segment the text, and then a filter word list is established to filter out words that are not related to the travel experience, and finally the top 120 network review feature words are selected.

Table 2: Key Semantic Feature Words Identified from Online Review Data

Value Dimension	Secondary Dimension	High-Frequency Feature Words from Online Reviews
Environmental Value	Ecological Conservation	eco-quality, nature, environmental protection, lucid waters and lush mountains, harmony with nature, plant diversity, birdsong, lush greenery, pet-friendly, insect sounds, fireflies
	Green Architecture	solid wood, natural materials, site-specific adaptation, thatched roof, rammed-earth cottages, natural stone, renovation of old houses
	Aesthetic Landscape Quality	beautiful scenery, sense of design, well-organized layout, fairyland, sunrise, poetic atmosphere, bamboo forest, viewing platform, swimming pool, sunset, swing, rice field, sense of home, streams and bridges, wooden horse, flower appreciation, display design
	Climate	fresh air, clean air, high oxygen level, mist, open view, stargazing, moon viewing, high visibility
	Carbon Emissions	walking, low carbon, cycling, zero carbon, energy saving
	Pollution Control	waste sorting, rainwater harvesting, waste reuse
Functional Value	Food	delicious food, local specialties, organic farm, fresh, fruits, healthy, agricultural products, limited breakfast options
	Accommodation	clean, tidy, floor-to-ceiling windows, spacious room, good appliances, balcony, outdated facilities, poor sound insulation, dripping noise, water not hot
	Recreation	taking photos, sightseeing, driving, swimming, courtyard, drinking tea, children's playground, horseback riding, rock climbing
	Transportation	convenient, nearby, easy to get a taxi, parking lot, mountaintop, remote location, halfway up the mountain, no streetlights
	Shopping	handicrafts, tea, cultural and creative products, calligraphy works
Service Value	Service Attitude	enthusiastic, polite, no one answers the phone, indifferent, unresponsive
	Service Management	housekeeper, service evaluation, staff training, poor management
Emotional Value	Enjoyment	happy, joyful, warm, blissful, will come again, recommend
	Healing	stress relief, peaceful, relaxed, quiet
	Boredom	not fun, low cost-performance, not as expected, disappointed
Social Value	Cultural Identity	local characteristics, localization, cultural integration, modernization
	Community Participation	local villagers, corporate team building, government support
	Intergenerational Interaction	parent-child travel, family travel

Source of Data In this study, two mainstream portal websites, Ctrip and Meituan, were selected as the sources of online review data. The initial research data was obtained by crawling the online evaluation data of the travel platform, and the online text was screened, cleaned, high-frequency words were obtained, and sentiment tendency analysis was performed to obtain objective data reflecting the real feelings and evaluations of tourists.

In addition, this study also draws on official data, mainly from policy documents and official propaganda texts on homestays issued at the national, provincial, municipal and county levels.In order to ensure the comprehensiveness and scientificity of the research perspective, an interview outline was designed for landscape assessment based on the ESG concept, and a 5-person expert team was formed.In order to explore the weight of each dimension, Nvivo12 was used to encode the expert interview texts and gradually refine the themes.



After completing open coding, the expert interview transcripts and tourist review texts were integrated. Based on the current logical structure of the free nodes, each segment of text was manually coded to determine its emotional tendency.

RESULT AND DISCUSSION:

Principal Component Analysis (PCA) This study adopts Principal Component Analysis (PCA) to extract key influencing factors and conducts a correlation matrix analysis.By quantifying the rating levels of homestay cases, the ratings are converted into numerical values..

Table 3: Comprehensive Landscape Evaluation Table

Homestay No.	Official Rating X (1–6)	Environmental Perception Factor F1 (Variance Contribution Rate 45.833%)	Social Perception Factor F2 (Variance Contribution Rate 23.062%)	Governance Factor F3 (Variance Contribution Rate 19.375%)	Comprehensive Landscape Evaluation F
A01	6	2.153	1.379	0.928	1.485
A02	5	1.556	1.233	0.745	1.142
A03	4	1.672	1.158	1.257	1.277
A04	3	1.306	0.857	-0.064	0.784
A05	2	0.824	0.962	0.811	0.756
A06	1	0.679	1.216	0.468	0.682

By repeatedly comparing online reviews of various cases and referencing expert feedback on landscape design, this study summarizes three major categories of influencing factors based on government rating standards:Spatial Layout,Landscape Facilities,Plant Diversity,Ecological Protection Measures, Application of Sustainable Materials, Green Building,Carbon Emissions,Pollution Control.These eight landscape variables primarily represent visitors' positive ecological experiences within the homestay environment.Overall, the analysis shows that the frequency of positive ecological terms in reviews is significantly correlated with official environmental ratings, while the frequency of cultural-related descriptions is positively correlated with guest ratings. Prioritizing ecological and cultural benefits in homestay landscape design enhances market competitiveness and resilience.

CONCLUSION:

1.Ensure good ventilation and daylight by adapting building orientation and layout to local conditions during initial design.
2.Implement new energy solutions and smart systems (e.g., carbon tracking for ESG reporting) to reduce emissions.
3.Integrate traditional architectural elements and handicrafts to showcase culture and enhance guest interaction.Partner with communities to host immersive events, deepening cultural understanding.
Therefore, this study proposes a landscape design guideline centered on "green technology, cultural empowerment, and social identity."