

Research on Experiential Design Methods for Traditional Villages in the Context of Sustainable Development

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Abstract:

Based on the principles of sustainable development, this study uses experiential design methods to analyze the tourism and cultural needs of different population groups. By assessing visitor, social, and environmental demands based on experience analysis, a traditional village planning and design method is constructed that can be evaluated through user feedback. Combining users' needs, this method provides valuable references for reconstructing the ecological balance of ancient villages and exploring human-oriented design approaches.

Keywords:

Sustainable Development, Traditional Villages, Harmonious Coexistence, Experiential Design, Human-Centredness

1. Traditional Villages in the Context of Sustainable Development

1.1. Sustainable Development and Planning Design of Traditional Villages

Sustainable development refers to satisfying the increasing needs of people while utilizing resources in a reasonable manner to achieve harmony among economic development, resource conservation, and environmental protection [1]. It emphasizes that development should be based on sustainability. The concept of sustainable development emerged in response to the development of the times and socio-economic progress, dating back to the 1980s when the World Commission on Environment and Development proposed it. The 19th National Congress of the Communist Party of China introduced the concept of Chinese-style modernization which advocates for a harmonious coexistence between humans and nature. The goal is to realize the sustainable development of the Chinese nation, pursue a path of civilized development, strive for coordinated development among the economy, resources, ecology, culture, and environment, and achieve the objective of sustainability.

Traditional villages play a significant role in preserving China's outstanding traditional culture. The planning and design of traditional villages require greater

attention to cultural inheritance and resource conservation, aiming for the planned utilization and protection of culture and ecological environment while meeting the needs of modern people. By introducing sustainable development into traditional village planning and design, it is possible to address the deficiencies in such design guided by the principles of sustainable development. This approach optimizes planning methods and design approaches, resolves the issues between cultural ecology and development, and promotes the harmonious development between the original natural environment of traditional villages and modern society.

1.2. Issues Arising in the Planning and Design of Traditional Villages

Traditional villages[2] generally refer to villages with a long history, unchanged architectural environment, and village location that have been serving people till today, possessing unique folk customs and characteristics. They are important carriers of local features and traditional culture, having formed unique spatial forms, cultural connotations, and ecological environments through the changes of time and historical evolution.

As urbanization[3] progresses rapidly, some traditional villages have blindly pursued new functions and facilities in their development, overlooking their own resource advantages, cultural characteristics, and the genuine needs of residents. The unplanned development of these villages has led to the destruction of their original ecological and cultural aspects, giving rise to various issues that run counter to the principles of sustainable development. Examples include the damage inflicted upon historical buildings and the surrounding ecological environment, disruptions to the lives and social interactions of indigenous communities, the lack of protection for regional culture, and the forced transformation of unique spatial features. The primary factors contributing to these problems are the planning and design models characterized by unplanned and impulsive development, capital dominance, and repetitive construction.

The research, centered around sustainable development, aims to explore new models that foster coordinated development between the cultural ecology and society, heritage conservation and economy, as well as spatial optimization and the environment by improving and optimizing the planning and design approaches for traditional villages.

2. Sustainable Development Goals and Experiential Design

2.1. Planning of Traditional Village Development Objectives

In the new era of Chinese socialist characteristics, the notion of harmonious co-existence has become a focal point that emphasizes social and sustainable development. The 19th National Congress of the Communist Party of China states[4], “We should stimulate the whole society's creativity and development vitality and strive for higher-quality, more effective, fairer, and more sustainable development.” “We should persist in the harmonious co-existence between humans and nature. Building an ecological civilization is the thousand-year plan for the sustainable development of the Chinese nation.” “The modernization we want to build is the modernization of harmonious co-existence between humans and nature” which pointed out the direction of traditional village development objectives.

Traditional villages inherit historical culture, folklore, unique social customs, and distinct social environments, which contain rich historical information and cultural landscapes and are the biggest legacy of China's agricultural civilization. Respecting the unique culture and ecological environment of traditional villages, meeting the residents' genuine development needs, protecting historical and cultural relics, ensuring the coordination of village construction with human and ecological development, achieving economic growth and coordinated sustainable development of ancient villages, increasing residents' happiness, and returning to the original purpose of harmonious coexistence and sustainable development. To achieve the sustainable development objectives of traditional villages, it is necessary to optimize planning and design methods and explore new ways and methods from unplanned to planned, from ignoring ecology to harmonious coexistence, and from blind introduction to human inheritance in traditional village planning and design.

2.2. Characteristics of Experience Design Theory

Experience Design[5] is a design approach that focuses on user experience and revolves around user needs. It emerged after Joseph Pine and James H. Gilmore introduced the concept of “the experience economy.” By involving users and increasing interactivity, it centers around users and their real needs and experiences, transforming the traditional design approach that neglected user experience and needs, and emphasizing a human-centric perspective.

Experience Design[6] has the following characteristics: a. Inviting users to participate in the design process and listening to their actual experiences. b. Based on direct perception and personal experiences, rather than rumors, speculations, or imaginations. c. It has characteristics of subjectivity, contextuality, complexity, and dynamics. d. It can validate whether a product meets the design objectives and user needs. Traditional village planning and design is also a type of product, with various social groups within the village as users. Integrating Experience Design into traditional village planning and design can fulfill the actual needs of residents and enhance the applicability of the design outcomes, which is an important approach to achieving sustainable development goals.

3. Experiential Design Methods for Traditional Villages in the Context of Sustainable Development

Protecting and inheriting traditional culture[8] is the primary task in the planning and design of traditional villages. Guided by the concept of sustainable development, experiential design methods have become powerful tools for the protection and inheritance of traditional villages, meeting the needs of modern society while preserving and inheriting traditional culture. The experiential design method for traditional villages emphasizes the concept of harmonious coexistence, considering the architecture, planning, community organization, and cultural activities of traditional villages as a whole. It encourages local residents to participate in the design process, ensuring that their voices are heard and respected, combining the unique charm of traditional villages with the needs of modern society. By preserving traditional architectural styles and traditional craftsmanship, participants can experience the charm and uniqueness of traditional culture, creating a sustainable village.

Experience-based design for traditional villages consists of demand analysis[9], targeted design, and resident feedback. By integrating experience-based design into traditional village planning and design, a framework for traditional village experience-based planning and design method is created. Prior to design, the experiential demand analysis is used to establish the design tone, clarify residents' needs, cultural needs, environmental and ecological demands, and design direction. Targeted design methods are then employed to address unique environments, special needs, basic facilities, and livelihoods. During implementation, real experiences of residents and participants are used for dynamic feedback on the design plan, to validate and evaluate it, discover new problems and improve the plan accordingly, thus promoting sustainable development of traditional villages.

3.1. Needs Analysis in Traditional Village Planning and Design

Through methods such as field investigations, literature research, and interviews with local residents, a comprehensive study and investigation are conducted on the history, culture, architecture, and structural composition of the target traditional village. Early communication with residents is conducted to clarify their needs and understand the demographic composition and differences in needs within the traditional village. By gaining in-depth understanding of the background and characteristics of the traditional village, the resources, spatial capacity, and ecological environment of the village are organized and integrated, providing data support for the design proposal.

The preliminary research includes understanding the living conditions, livelihoods, and distribution of living spaces of the residents[10]. It also involves investigating the development trends of the village and analyzing the reasonable spatial proportions for living, transportation, and tourism. It is necessary to conduct a sustainability assessment of the traditional village's resource utilization, ecological environment, and socio-economic aspects, including the village's characteristics, energy consumption, water resource utilization, waste management, and the health of the ecosystem. By evaluating unsustainable factors and issues, the key points and directions for planning and design are determined. Finally, observations and analyses are conducted from the perspectives of different population groups to identify their expectations and research design methods that suit the unique characteristics of the village, providing a basis for further design proposals.

3.2. Targeted Design in Traditional Village Planning and Design

Based on the data from needs analysis and research, the traditional village is planned and designed. The functional zoning of the traditional village is conducted according to the needs of different population groups, including infrastructure, residential areas, industrial layout, and original features. In the process of zoning, targeted design is emphasized based on practical needs, population classification, terrain characteristics, and architectural types.

3.2.1. Design Targeting Residents' Needs

For residential areas where residents gather, it is necessary to improve the living environment based on residents' needs and consider issues such as employment, regional transportation, resident entertainment, and environmental greening. Comprehensive considerations should be made to maximize the spatial functionality. The design of residential area space should include improving infrastructure, road

planning, functional optimization, and increasing greenery, while also expanding local spaces and implementing environmental improvement based on residents' demands. In the planning and design of residential areas, there are often a significant number of historical buildings and streets involved. It is important to implement targeted protective measures for these areas based on their specific characteristics and protection requirements in order to prevent damage to historical cultural heritage. On the basis of protection, the unique cultural connotations should be rationally utilized, cultural-ecological protection strengthened, the continuity of ecological culture ensured, and the sustainability of traditional village development improved, while concurrently carrying out cultural inheritance during cultural preserv.

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3.2.2. Design Targeting Improved Quality of Life for Residents

Based on the sustainable concept, it is crucial to consider residents' income and employment issues when planning and designing traditional villages. The ultimate goal of planning and design is to ensure the resolution of residents' employment and survival issues while meeting the demands for ecological environment and historical and cultural dissemination. Reasonable planning and layout of industrial spaces should be conducted, integrating living and industrial spaces while carrying out production activities without compromising the ecological environment and quality of life. For the development of village industry, distinctive industrial development areas should be established to improve residents' living standards and enhance cultural dissemination methods. Diversified industries should be developed based on residents' demands and actual village conditions, utilizing the cultural advantages and natural ecological advantages of traditional villages to achieve diversified unity in space, synchronously promoting cultural preservation and inheritance along with improved residents' quality of life.

Firstly, for traditional handicrafts, they should be integrated and planned into a specific area to enhance the integrity of the industrial chain and increase the region's attractiveness and influence. In functional zone planning and design, the convenience of the working population's living should also be considered, and a reasonable division of residential and work areas should be based on regional conditions. To address the needs of social and regional development, supporting communities should be established for new industries, which have different attributes from traditional industries regarding job requirements and enterprise demands. Therefore, when

distributing new industry locations, factors such as traffic and policy facilitation should be considered in combination with the overall layout plan without compromising the village's ecological environment. For the tourism industry, visitors' needs should be given priority, focusing on their desire to experience local customs and practices while preserving traditional village historical sites and surrounding ecological environments. Historical buildings and local culture should be used as the main attractions and the ecological landscape as a secondary attraction. A diversified regional development path with strong geographical characteristics can be formed by combining local cultural characteristics with modern industries, enhancing regional influence and attracting others while promoting the overall harmonious development of traditional villages and improving residents' quality of life.

3.2.3. Design Targeting Regional Environment

Guided by the principles of sustainable development, in order to meet the diverse needs of different groups regarding transportation, services, public facilities, and other aspects, the design aims to optimize the transportation road system based on comprehensive planning. It focuses on enhancing connections between regions, villages, and individuals, promoting direct and face-to-face interactions, expanding communication spaces among people, households, and villages. The design aims to address the current challenges faced by traditional villages, including inconvenient transportation, limited employment opportunities, and severe cultural loss. By establishing node connections, the design intends to provide diverse travel options for both residents and tourists.

Regarding infrastructure, it is important to consider the overall needs of residents and tourists, identify deficiencies in existing facilities in traditional villages, and clarify infrastructure requirements based on the actual conditions of the villages. In the planning and design process, an overall approach should be adopted, grouping and categorizing based on functional zones, and constructing targeted facilities according to the characteristics of different population groups within the region. When planning and designing basic service facilities such as clinics, schools, and bus stations, attention should also be paid to transportation convenience, and the design should be oriented towards meeting the needs of the community, ensuring convenience and benefits for the residents. For areas such as historical districts and traditional buildings that showcase local characteristics, it is necessary to set up cultural display areas accordingly and design basic service facilities in a rational manner. Improving the rationality of overall spatial layout and increasing avenues for the protection and dissemination of traditional culture should also be emphasized.

3.3. Experiential Feedback in Traditional Village Planning and Design

The planning and design of traditional villages aims to protect and inherit traditional culture while creating high-quality living spaces and tourism experiences. Experiential feedback methods can guide user participation, amplify the voices of residents and tourists, and enable designers to understand their true feelings and needs. This provides valuable information and suggestions for design, leading to further adjustments and improvements in design proposals to better meet the needs of residents and tourists.

Experiential feedback methods are diverse and can include focused interviews and participatory observation, allowing for an observer's perspective from users. By collecting feedback on residents' real experiences of using the designed spaces,

understanding the satisfaction levels, improvement suggestions, and development directions for residents and tourists regarding the planning and design of traditional villages. After gaining in-depth understanding of individual perspectives and experiential feelings, combined with personal participation in the daily life and activities of the village, experiencing and understanding the characteristics and atmosphere of the village, identifying problems and potential areas for improvement in the design proposals. Based on this, a problem-oriented approach is used to further refine and adjust the design proposals, ensuring that the planning and design solutions for traditional villages effectively meet the needs of various communities, ultimately achieving the goal of sustainable development for traditional villages.

4. Conclusions

Traditional villages are important cultural heritage, hence the protection and inheritance of traditional villages are particularly important in the process of modernization. Experiential design methods emphasize participation and interaction, aiming to provide richer and more meaningful experiences. In the context of sustainable development, this approach can help traditional villages achieve sustainable development goals. Through interactions with local residents and tourists, it promotes cultural exchange while enhancing the sustainability of the village.

The experiential design approach for traditional villages can enhance tourists' understanding and appreciation of these villages, promoting the development of cultural tourism. Through the experiential feedback from residents and tourists, designers can gain a better understanding of their needs and expectations, and use this information to optimize the design solutions. This approach aims to provide better living and tourism experiences while preserving and inheriting traditional culture. Additionally, the experiential design approach can provide more opportunities for participation, enhancing the sense of identity and awareness of conservation among local residents towards traditional villages. By integrating local resources, it improves the economic, social, and environmental sustainability of the villages.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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