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Planning and Design for Rural Agro-Tourism Development from the Perspective of Distinctive Industries

-- A Case Study of Zhehugang Village in Wuhan City

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Abstract: In the new development stage of advancing the modernization of Chinese society, comprehensively promoting rural revitalization has become a critical task and strategic orientation for building a stronger agricultural nation. Taking Zhehugang Village in Wuhan City as an example, this paper explores the advantages and prospects of rural agro-tourism planning and design from the perspective of distinctive industries. By analyzing the current issues within the rural agro-tourism sector, it summarizes strategic approaches for agro-tourism planning and design based on distinctive industries, thereby providing effective new paths for rural revitalization.

Keywords: Distinctive Industries; Agricultural Tourism Integration; Planning and Design; Rural Revitalization.

1. Introduction

The Report to the 20th National Congress of the Communist Party of China states: "We must advance the rejuvenation of the Chinese nation on all fronts through a Chinese path to modernization, comprehensively promote rural revitalization, and adhere to the principle of prioritizing the development of agriculture and rural areas. Concurrently, we must strive to promote urban-rural integration and coordinated regional development to advance rural revitalization across the board[1]."Under the strategic backdrop of comprehensively promoting rural revitalization and beautiful countryside construction, rural development urgently requires solutions to the dual dilemmas of industrial hollowing-out and homogenization of rural landscapes. However, most villages still face common challenges including a singular industrial structure, inefficient resource utilization, and the fragmentation between ecological and residential spaces. Therefore, exploring rural agro-tourism development from the perspective of distinctive industries has become a critical research imperative.

2. Problems in Rural Agro-Tourism Industry Development

Influenced by local economic development levels, resources, and policies, there currently exist significant disparities in the developmental stages and sophistication of rural tourism across China[2]. The overall development level of rural areas remains suboptimal, with prominent issues of product and project homogenization and insufficient innovation momentum. These challenges severely constrain the further advancement and upgrading and transformation of China's rural tourism sector. Research synthesis reveals three primary problems in rural agro-tourism industry development:

2.1. Coexistence of Short Industrial Chains and Homogenized Formats

Current integration between agriculture and tourism remains at an initial stage with generally low overall efficiency. Regarding industrial chains, most villages engage only in agricultural planting and elementary processing but lack advanced deep-processing technologies. Additionally, inadequate emphasis on excavating cultural resources and brand building results in low product value-added, hindering the formation of a complete industrial closed-loop. In terms of industrial structure distribution, rural tourism projects exhibit high similarity across regions. Most initiatives focus on traditional formats like Orchard Picking and Leisure Angling, while innovative formats such as Study-Tour Education, Eco-Wellness, and Digital Cultural Tourism remain underrepresented. Consequently, this homogeneous industrial layout not only fails to satisfy tourists' diversified consumption demands but also underutilizes distinctive rural resources, thereby impeding the long-term healthy development of rural tourism industries.

2.2. Low Integration of Agricultural Tourism and Lack of Systematic Planning

Agricultural Tourism Integration is not merely a combination of agriculture and tourism industries, but requires deep convergence across industrial, spatial, and cultural dimensions. However, many villages currently lack scientific and systematic holistic planning when developing agro-tourism industries, resulting in underutilized synergistic effects between agriculture and tourism sectors. Regarding industrial linkage, agricultural production and tourism activities fail to achieve effective cohesion. Tourism projects often remain disconnected from actual agricultural processes, preventing tourists from authentically experiencing the distinctive features and value of rural agriculture[2]. Current Agricultural Tourism Integration is often confined to superficial juxtapositions of agricultural landscapes and tourism facilities, such as basic projects like picking orchards and agritourism homestays (nóngjiālè). It neglects to transform agricultural activities and processing techniques into immersive experiential programs

2.3. Insufficiency of Rural Public Service Facilities

Rural public service development constitutes a weak link and vulnerable area in rural revitalization, while also serving as the foundation for improving people's living standards [3]. Currently, rural public service facility construction faces three primary issues: Primarily, incomplete facility allocation leaves some villages lacking essential educational and medical resources, with cultural and sports facilities also being scarce. Additionally, facility obsolescence renders many public service facilities outdated due to long-term lack of maintenance, failing to meet modern living requirements. Finally, inadequate fiscal support results in insufficient investment for the construction and maintenance of rural public service facilities, leading to slow renewal rates and functional limitations.

3. Agro-Tourism Planning and Design Strategies for Distinctive Industry Development

3.1. Developing Regionally Distinctive Products and Optimizing Industrial Structure

Regional distinctiveness constitutes a unique advantage for rural development. Fully leveraging local natural conditions to create market-competitive distinctive products is pivotal for achieving diversified development paths in rural industries. Take villages specialized in agricultural cultivation as an example: focus should be placed on regionally distinctive crops, employing advanced cultivation techniques to enhance product quality and yield. Simultaneously, it is imperative to transform the conventional single-revenue model reliant solely on primary agricultural sales. This approach facilitates the transformation of rural resource advantages into industrial competitiveness, thereby strengthening market positioning.

3.2. Innovative Design for Agricultural Tourism Integration

Innovative design for Agricultural Tourism Integration serves as a pivotal approach to advancing distinctive industry development and rural revitalization. During planning, it is essential to accurately identify convergence points between agriculture and tourism, employing innovative concepts to develop attractive and distinctive agro-tourism products and experiential programs. Specifically, interactive initiatives such as agricultural sightseeing, farming experiences, and leisure picking can be established, enabling tourists to immerse themselves in agricultural production settings and appreciate the unique charm of farming culture and rural lifestyles. Concurrently, in-depth excavation of cultural resources—including folk crafts and traditional festivals—should be integrated into tourism product design to form culturally distinctive brands. This innovative design paradigm facilitates complementary advantages and synergistic development between agriculture and tourism. It also contributes to preserving rural landscapes and cultural heritage while meeting tourists' diversified demands for high-quality experiences, ultimately achieving the dual objectives of industrial growth and rural characteristic conservation.

3.3. Strengthening Rural Public Service Facility Development

Rural infrastructure constitutes the physical foundationof public service systems, whose completeness directly impacts residents' quality of life and economic sustainability [5]. Firstly, optimize rural transportation networks by widening and hardening roads while planning parking facilities to ensure unimpeded movement, facilitating agricultural product circulation and resident mobility. Secondly, advance the construction of essential utilities such as water and electricity supply, prioritizing the renovation of outdated water systems to enhance water supply stability and safety. Lastly, improve activity centers and health stations to elevate villagers' living standards.

4. Agro-Tourism Planning and Design for Zhehugang Village, Wuhan, Based on Distinctive Industry Development

4.1. Location and Village Profile

Zhehugang Village is situated within Dongshan Subdistrict, Dongxihu District, Wuhan City, Hubei Province. The village comprises 350 households with a total population of approximately 1,117 residents. Its settlement layout features clustered small hamlets (wan), encircled by water bodies, operating under a state-owned farm system. Post-renovation, it embodies the design ethos of "One Village, One Product; Dual Centers; Three Streets and Seven Lanes preserving rural nostalgia". On September 9, 2020, Zhehugang Village was designated as a "2020 China Beautiful Leisure Village" by the Ministry of Agriculture and Rural Affairs, P.R.China.

4.2. Industrial Structure and Distinctive Industry

Grape cultivation constitutes the cornerstone industry of Zhehugang Village. This distinctive sector generates substantial economic benefits while providing a critical foundation for integrated agricultural-tourism development. According to the village Party Secretary, over 60% of villagerscurrently engage in grape cultivation, with a total planting area spanning 2,000 mu (≈133 hectares) and an average yield of approximately 3,200 jin (≈1,600 kg) per mu.

The village's unique climatic conditions and fertile soil provide exceptional growing environments for grapes, enabling rapid expansion of the viticulture industry. This development has emerged as a pivotal force driving both household income growth and local economic advancement. As cultivation scales increase, accumulated industrial resources create favorable conditions for deep agriculture-tourism integration. Such synergy not only consolidates the economic pillar status of rural industries but also pioneers new pathways for diversified rural development.

4.3. Agro-Tourism Planning and Design Strategies Based on Distinctive Grape Industry

4.3.1. Sightseeing Factories

Industrial tourism utilizes distinctive industrial resources as objects of observation, where operators selectively present production machinery and processes in whole or in part to non-producers[5].By enabling comprehensive understanding

of the creation process of daily commodities or food items—coupled with integrated supporting services—this approach enhances product and regional visibility, thereby revitalizing local economies.

Traditional rural processing workshops suffer from functional monotony and experiential deficiencies. In contrast, grape-themed sightseeing factories adopt industrial visualization and interactive experiences as core principles, constructing multifunctional composite spaces. Transparent workshops and circular pathways are established within facilities, allowing visitors to observe grape cleaning and processing procedures through glass partitions. This model not only elevates agricultural product value-added but also drives the transformation of traditional processing toward visualized production. It achieves a virtuous cycle of production-driven tourism and tourism-driven production, while pioneering innovative pathways for integrated rural industrial development.

4.3.2. Grape Origin Pavilion

The Grape Origin Pavilion (Táoyuán Yìzhàn) serves as a pivotal landmark bridging village life with the grape industry. Strategically situated within the ecological buffer zone at the junction of residential and cultivation areas, it eliminates spatial fragmentation between living and production zones while functioning as a symbolic gateway for tourists entering grape industry landscapes. The pavilion incorporates a large-scale parking facility, effectively resolving issues of illegal roadside parking caused by insufficient village parking infrastructure while enhancing peak-period carrying capacity during holidays. This two-story structure features a ground-floor cultural creative products and processed grape goods retail area, and an upper-level themed restaurant whose terrace offers distant views of the sightseeing factory and extensive vineyards. During holidays, it hosts large-scale events such as weddings and harvest festivals; on regular days, it transforms into a multifunctional community space for villager gatherings and meetings, achieving multimodal compact operation through integrated functionality.

4.3.3. Improving Public Service Facilities

Field surveys indicate that while the village's environment and public service facilities are generally well-maintained, several issues persist: potholes and uneven road surfaces, ill-defined primary/secondary roads, and fitness equipment deterioration due to aging. These deficiencies negatively impact villagers' daily lives. Consequently, the design process for enhancing public service facilities involves systematically planning secondary and branch road networks to improve traffic capacity, meeting both residents' daily commutes and tourists' travel needs. Concurrently, inspections of fitness equipment will be conducted, and new public activity spaces will be strategically added to comprehensively upgrade rural public service standards.

5. Conclusion

Robust industrial development serves as the prerequisite for resolving rural challenges and constitutes a fundamental component of rural revitalization. Its integrated planning with agricultural tourism holds significant implications for coordinated development within the Production-Living-Ecological Spaces (PLES). Focusing on the practical issues of singular industrial structure and superficial agricultural tourism integration in Zhehugang Village, Wuhan, this study constructs an agricultural tourism integration framework centered on viticulture. Through whole-industry-chain development encompassing primary industry enhancement, secondary industry extension, and tertiary industry integration, multifunctional spaces have been established. This achieves experiential production processes, interconnected PLES, and people-centered infrastructure development, thereby providing targeted theoretical frameworks and practical models for sustainable rural revitalization.

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