

The Coupling Mechanism and Empirical Study of Sports Events Empowering Rural Revitalization — A Case Study of the Orienteering Competition in Zhaoqing's "Hundreds, Thousands, and Millions Project"

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Abstract

From perspectives of social sports studies and the sports industry, this study examines how orienteering competitions, as a "Sports Plus" integration model, generate coupling effects with rural revitalization across economic, social, cultural, and ecological dimensions. Using case study methodology with the "Hundred-Thousand-Million Project" Orienteering Competition in Zhaoqing as the research subject, it employs literature review, in-depth interviews, and participatory observation. The event follows a "traffic-activation-identity-sustainability" pathway, significantly boosting rural consumption in the short term while promoting cultural identity reconstruction and environmental governance enhancement in the long term. Its core coupling mechanisms lie in resource integration, functional synergy, and value regeneration. The "lightweight, embedded, community-co-governed" event model serves as an effective pathway for achieving sustainable rural development, offering replicable insights for similar regions.

Keywords

Rural revitalization; Orienteering; Sports tourism; Coupling mechanism; Village revitalization

1. Introduction

Today, China is comprehensively advancing the Rural Revitalization Strategy and Healthy China Initiative. Against this backdrop, sports—as a multifaceted social activity embodying economic, cultural, and social values—are increasingly becoming a vital pathway to invigorate rural systems and promote urban-rural integration. This phenomenon stems from the imperative to resolve the contradiction between the people's growing needs for a better life and the unbalanced and inadequate devel-

opment. The most significant imbalance lies in urban-rural development disparities, while the most glaring inadequacy resides in rural underdevelopment. Sports events, particularly small-to-medium-sized local competitions rooted in rural communities, offer novel solutions through their unique experiential and cultural narrative capabilities. From Guizhou's "Village BA" basketball phenomenon to the revitalization of Guangzhou's Landlord Dragon Boat Race, these iconic cases demonstrate actionable strategies and models for leveraging sports events to boost rural economies, tourism, and culture.

Academic circles have conducted multidimensional explorations on the topic of sports empowering rural revitalization, accumulating a solid theoretical foundation. Zhao Jifeng posits that the primary pathways for sports-driven rural revitalization include sports culture empowerment, "Sports+" industrial empowerment, and exploring concrete implementation approaches. This indicates that sports intervention in rural development is not one-dimensional but involves multi-faceted innovation and coordinated advancement. Huang Bo further elaborates on the profound contemporary value of high-quality rural sports events, highlighting their irreplaceable role in driving comprehensive rural socioeconomic development, advancing national sports and cultural initiatives, and solidly implementing the Healthy China strategy. This elevates rural sports events beyond mere activities to vital vehicles for national macro-strategies. Regarding practical implementation, Feng Junxiang emphasized that government support is indispensable—whether for funding approval, facility construction, or event bidding. Secondly, while serving athletes, events must also drive local revitalization, making a people-centered approach the core principle. Third, China's vast rural areas exhibit significant variations in natural resources and cultural endowments. A one-size-fits-all approach to integration would greatly diminish effectiveness. Tailoring competitions to the unique topographical features of each village is the key to success. These studies consistently demonstrate that sports events driving rural revitalization cannot be achieved merely through hosting competitions. Rather, it requires actively leveraging the catalytic role of sports events throughout the organizing process to foster sustainable development.

The integration of sports and tourism represents a profound transformation where "sports form the framework, culture serves as the soul, and resources provide the foundation." What constitutes sports tourism? Yang Qiang defines it as a new service model emerging through the mutual integration of sports and tourism value chains. Centered on core sports resources—such as fitness and leisure programs, sporting events, and large-scale stadiums—and facilitated by tourism service elements, this model evolves through technological, operational, and market convergence to embody characteristics of both industries. The integration of sports significantly enriches tourism product offerings, driving a shift from "passive spectating" to "active participation." However, while this convergence has been implemented in numerous regions, outcomes remain mixed. Li Jinrong's research highlights current challenges

in developing sports tourism complexes, including insufficient precision in top-level design and policy guidance, difficulties securing land and other essential resources, shortages of professional operational management talent, and severe homogenization in product competition. Nevertheless, both the transformation of consumer demand and the inherent need for deep integration between the two sectors continue to drive industry growth. Existing issues will not constrain its future development.

Among numerous sports, orienteering stands out as an intensely practical activity. Athletes navigate using compasses and maps, systematically checking all control points along designated routes. Beyond route requirements, the terrain depicted on maps must also meet specific standards. Its appeal far surpasses conventional sports, seamlessly blending physical challenges, navigational decision-making, spatial orientation, and environmental exploration. Participants continuously consult, interpret, and select routes while running, creating an experience rich in exploration, enjoyment, and travel-like immersion. Scholars like He Xiaozhi have summarized its core characteristics while Hou Zhongren further analyzed its multifaceted values—competitiveness, mass appeal, practicality, and playfulness—within a social context. It is precisely these distinctive traits that enable orienteering to integrate deeply with local environments through low barriers to entry and flexible formats.

A comprehensive review of existing literature reveals a substantial body of work on rural revitalization, sports tourism, and their integration, laying the theoretical foundation for this study. However, when focusing specifically on the system of sports events empowering rural revitalization, several gaps remain. First, most studies concentrate on the economic benefits of large-scale events, with insufficient exploration of small-to-medium-sized, culturally embedded events. Activities like orienteering—which feature low participation barriers and strong ties to local environments and cultural contexts—differ significantly from existing research. Second, research on the "sports + tourism" integration model often remains superficial. While much literature demonstrates the influx of visitors and consumption generated by sports tourism, in-depth analysis of sustainability is relatively scarce. Therefore, this study will use the "Hundred-Thousand-Ten-Thousand Project" Orienteering Competition in Zhaoqing—a small-to-medium-sized, culturally embedded event—as an empirical case study. It will focus on analyzing its multifaceted relationships with the rural system across economic, social, cultural, and environmental dimensions.

Thus, this study aims to address these research gaps. By deeply analyzing the "Hundred-Thousand-Million Project" Orienteering Competition in Zhaoqing, Guangdong—a typical small-to-medium-sized, culturally embedded event—it moves beyond singular examinations of economic benefits. Instead, it focuses on the multidimensional interactions between the event and the rural system. This study aims to reveal the specific pathways through which sporting events empower rural revitali-

zation, their multidimensional comprehensive effects, and the underlying coupling mechanisms. This not only enriches the interdisciplinary research between "sociology of sport" and "rural geography" theoretically, promotes the integration of these two disciplines, and provides new insights for disciplinary innovation, but also offers actionable strategies and models for Zhaoqing and similar regions to advance rural revitalization through distinctive events.

2. Research Subjects and Methods

2.1. Research Subject

This study focuses on the "Hundred-Thousand-Million Project" Orienteering Competition in Zhaoqing City. It examines the event as a dynamic sociocultural process, concentrating on its complex interactions with Zhaoqing's traditional village system. The aim is to uncover the specific pathways, multidimensional effects, and underlying coupling mechanisms through which sporting events empower rural revitalization. Through in-depth empirical analysis of this concrete, vivid case, the study seeks to distill theoretical models and practical experiences worthy of reference.

2.2. Research Methods

2.2.1. Case Study Method

In-depth analysis of the "Hundred-Thousand-Million Project" Orienteering Competition in Zhaoqing City as a typical small-to-medium-sized event to examine the multidimensional effects of a single case.

2.2.2. Interview Method

Based on observations of the event, in-depth interviews were conducted with organizers, village representatives, and key participants to understand the event's original intent, its impact on the village, motivations for participation, and other evaluations, thereby gaining a multidimensional understanding of the event's relationship with the rural system.

3. Results and Analysis

3.1. Empowerment Effects of the Orienteering Competition on Rural Revitalization

3.1.1. Economic Empowerment

To encourage broad participation, the orienteering competition featured six categories: Family, Elementary School, Middle School, Charm, High School, and Adult. This inclusive structure accommodated participants of diverse ages and skill levels, allowing even those unfamiliar with orienteering to engage and enjoy the experience. Consequently, the event attracted over 500 participants from Wuhan, Xiamen, Guangxi, and the Guangdong-Hong Kong-Macao Greater Bay Area, creating a significant presence. This boosted tourism-related revenues in surrounding areas, such as

accommodation and catering. Additionally, during the competition, it provided a showcase platform for local villages' intangible cultural heritage products and agricultural goods. For instance, Deqing Gonggan oranges were featured as competition prizes and exhibition products, increasing their recognition among athletes and tourists, significantly boosting their visibility and driving growth in both online and offline sales.

Table 1. Revenue Breakdown of the 2024 Zhaoqing City "Hundred-Thousand-Million Project" Orienteering Competition

Event	Competition Date	Location	Number of Participants	Event Revenue
First Stop	June 8, 2024	Juzhi Town, Sihui City	450	80,000 yuan
Second Stop	June 22, 2024	Fulang Village, Dinghu District	500	80,000
Third Stop	September 15, 2024	Gaoyao District, Baitu Town	600	200,000 yuan
Fourth Stop	October 20, 2024	Gaoyao District, Baitu Town	500	100,000 yuan
Fifth Stop	December 15, 2024	Gaoyao District, Hui-long Town	580	100,000 yuan

3.1.2. Sociocultural Empowerment

When the event was first introduced, some villagers viewed it as mere spectators or even skeptics. However, as the competition progressed, their roles evolved. In Licha Village, Gaoyao District, the village chief proactively shared the origin stories behind the village's octagonal layout with the course designers. This provided them with deeper insights, leading them to incorporate ancient wells, ancestral halls, and stele inscriptions as checkpoints. This intertwined participants' physical journey with the village's historical spaces. The inherent "treasure hunt" and "exploration" elements of orienteering provided a novel pathway for preserving forgotten rural cultural heritage—one that engages the body to perceive the village's spatial layout and historical context.

3.1.3. Empowering Environmental Governance

Many villages in Zhaoqing City suffer from depopulation. Despite abundant natural resources, long-term disuse and lack of management have created numerous safety hazards on these sites. To ensure the smooth operation of the event, present the best possible image, and provide participants with a positive experience, environmental remediation is essential. Consequently, model villages in Gaoyao District and Dinghu District have undertaken environmental improvements, implementing the "Three Clearings, Three Demolitions, and Three Remedies" initiative. This involves optimizing village roads, enhancing green landscapes, and creating beautiful villages suitable for both living and tourism. The events have thus served as a catalyst for upgrading the rural environment.

3.2. How Events and Rural Systems Interact

3.2.1. Resource Coupling

The event's traffic and attention dynamically reawaken long-dormant static resources in rural areas. Resource coupling serves as both the starting point and material foundation for events empowering rural revitalization. First, the event channels "human flow"—including participants, spectators, and journalists—to otherwise neglected ancient villages and historic trails, transforming these idle resources into "event stages" and cultural exchange hubs. Second, the attention generated by media coverage and social media dissemination elevates rural cultural heritage—such as intangible skills and folk traditions—from "local knowledge" to "regional hotspots" through modern cultural transmission. For instance, the wok-eared houses of Guangfu residents gained public visibility through events, with many participants and spectators taking photos and sharing them online.

3.2.2. Functional Coupling

The inherent functions of sporting events intertwine with the multifaceted roles of rural systems, creating functional coupling that drives value-added processes in rural revitalization. First, orienteering's treasure-hunt-like nature inherently combines "competitiveness" with "entertainment value." Simultaneously, rural systems typically possess "historical depth" and "cultural richness." When these elements converge, participants engage not only in competition but also unconsciously absorb local history and culture. Thus, the dormant history of ancient villages is conveyed in an engaging manner. Second, the event's momentum drives rural governance improvements. To host the competition, villages must upgrade environmental sanitation, road infrastructure, and landscape beautification—indirectly benefiting local residents.

3.2.3. Subject Coupling

The execution of the event is the result of multi-stakeholder collaboration, where each entity must fully leverage its role. Thus, stakeholder coupling serves as the organizational safeguard ensuring the smooth operation and sustainability of all aforementioned mechanisms. First, stakeholders must clearly define their roles: the government primarily provides policy support and coordinates relationships among parties; sports organizations or universities offer professional event operations, technical preparation, and theoretical guidance; Enterprises or markets primarily provide sponsorship, market promotion, and derivative product development; villages contribute the most essential cultural content, local customs, and traditions. Crucially, these actors do not operate unilaterally but establish "consultative-cooperative" partnerships. The success of the event-driven rural empowerment system lies in forming a "symbiotic system" where multiple actors

engage in positive, interactive dynamics.

3.2.4. Spatial Coupling

Spatial coupling primarily manifests in the creative transformation of rural spaces. Events repurpose abandoned threshing floors into starting zones and neglected country lanes into thrilling, challenging racecourses. This process activates underutilized or idle spaces within villages. Second, the event map and checkpoint tasks serve not merely as tools for participants to achieve results, but also as a guidebook narrating the village's historical stories. By following the sequence of checkpoints on the map, participants chart their routes—from ancestral halls to ancient wells, and from ancient wells to former residences of educated youth—measuring this narrative thread with their footsteps. This process elevates the geographical space into a narrative space.

3.3. Challenge Reflections

While the event has driven economic, cultural, and infrastructural development in the rural system to varying degrees, relying solely on short-term crowds cannot establish a stable industrial chain. However, events are not continuous. Enthusiasts from across the country gather locally for the event, causing a sudden surge in visitor traffic. After the event concludes, how to avoid a drop in visitor numbers and maintain momentum is a major challenge for promoting sustainable rural development. Second, as events gain prominence and attract large numbers of tourists, the influx of visitors brings challenges alongside the benefits. Maintaining harmonious coexistence between tourists and villagers, and balancing ecological conservation with development, creates potential pressures on the rural system post-event. Finally, the core of any event remains "people." The healthy development of rural events must consistently uphold the principle of villagers as protagonists. This involves both encouraging villagers to keep pace with the times and preserving local customs and traditions, ensuring genuine benefits for the community—a matter worthy of deep consideration.

3.4. Suggested Optimization Pathways for Event-Rural Integration

3.4.1. Innovation in Event Models

Developing "regular, lightweight, and digital" events represents an innovative approach to addressing sustainability challenges. Large-scale events involve lengthy timelines and substantial human, material, and financial resources. After the event concludes, organizers withdraw, leaving villagers unable to sustain activities independently. Thus, lightweight, regular event formats become crucial. For instance, AI-based orienteering leverages artificial intelligence (AI), augmented reality (AR), and location-based services (LBS) to create checkpoints by scanning specific buildings, landmarks, or QR codes. This approach builds a new

activity model unconstrained by physical infrastructure.

3.4.2. Multi-Industry Integration

A comprehensive industrial chain is vital for meeting user needs and enhancing the user experience. It drives the construction of a full-cycle chain spanning "pre-event, during-event, and post-event." Pre-event efforts should focus on media promotion, using the event as a platform to attract enthusiasts while providing accommodation, dining, and other services tailored to diverse needs. This transforms each participant drawn by the event into a tourist. During the event, transform large-scale centralized competitions into stable, ongoing weekend races. These "low-barrier, short-duration, themed" weekend activities sustain the short-term traffic generated by major competitions, preventing the village from becoming deserted after the event concludes. Post-event, actively develop derivative industries. For instance, retain culturally significant landmarks and interactive tasks proven successful during the event to create engaging village exploration courses for primary and secondary schools. This transforms one-time participants into a long-term, repeat-purchasing educational tourism clientele.

3.4.3. Providing Policy Safeguards

A rural revitalization model grounded in stable, forward-looking policy frameworks is inherently sustainable. This paper proposes two approaches to building an incentive-compatible institutional ecosystem with clear delineation of rights and responsibilities: First, establish a long-term incentive fund using "awards instead of subsidies" to replace one-time investment models. This fund would provide financial rewards to successful post-event spin-offs with growth potential, incentivizing their self-sustaining development. Second, clarify the boundaries of authority and interests among multiple stakeholders by issuing guiding opinions that define the respective responsibilities, rights, and profit-sharing ratios of the government, village collectives, operating enterprises, and villagers during competitions and subsequent industrial development.

4. Conclusions

4.1. Key Findings

4.1.1. Sports Events Revitalize "Hollowed-Out" Villages

Research confirms that by leveraging the unique characteristics and formats of orienteering competitions, ingeniously integrating village resources into events, and implementing precise economic empowerment, socio-cultural empowerment, and environmental governance empowerment, competitions effectively channel human traffic and public attention into villages. This approach rapidly boosts local economies and improves living environments within a short timeframe,

yielding significant immediate benefits.

4.1.2. Sustainable Socio-Cultural Empowerment

Social and cultural empowerment represents the most significant and sustainable contribution events offer villages. While sports events drive rapid economic growth by attracting visitors, their more profound impact lies in fostering active villager participation and revitalizing living cultural traditions. The coupling of resources and space transforms scattered rural cultural landmarks into a string of pearls connected by the event. This coupling of subjects allows villagers to witness the event's influence and the changes it brings, encouraging active integration. This effectively reshapes villagers' sense of agency and cultural confidence. The social and cultural functions of sporting events provide intrinsic momentum for rural revitalization.

4.1.3. Rural Event Integration: Multi-Layered, Systemic Coupling

If the integration of rural areas and events is merely superficial, the outcomes will inevitably fall short. This study demonstrates that event empowerment is not a linear, single-dimensional influence but a multi-layered, interconnected, and mutually reinforcing systemic process. Therefore, based on the orienteering Competition, this paper reveals a quadruple coupling mechanism of "resources-functions-subjects-spaces." Together, these four elements construct a complete interactive framework, revealing the intrinsic logic of the progression from initial contact to deep integration between sporting events and the rural system.

4.1.4. Dual-Drive Model: Innovation and Institutional Safeguards

Single, short-term events struggle to sustain long-term development. While they generate immediate benefits, once the hype fades and new trends emerge, villages may revert to desolation. To retain foot traffic and attention, this study recommends adopting an innovative model of digital, regularized events. Through forward-looking industrial integration and equitable distribution mechanisms, a robust institutional foundation can be established, enabling the transition from "momentary brilliance" to "enduring prosperity."

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