



# Research on Sustainable Utilization of Major Sports Venues After Competition

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**Abstract.** How to effectively develop and utilize major sports venues after the event is an important challenge at present. This paper uses the case study method, fieldwork interview method and other research methods, combined with the experience and inspiration of the post-competition utilization of stadiums in the Beijing 2022 Winter Olympic Games and the investigation of the Hangzhou Asian Games stadiums, digging deeper into diversified utilization mode of major sports event venues, and putting forward strategies suitable for the post-competition utilization of major sports event venues.

**Keywords:** Sustainable Utilization · Major Sports Venues · Competition · Asian Games

## 1 Introduction

The majority of the stadiums were built to meet the purpose of sports events, and problems such as ambiguous main function, single operation mode and poor operation condition surfaced in the later utilization of the stadiums [1]. This paper actively explores the sustainable post-competition utilization of major sports event venues, and provides some theoretical and empirical references. The issue of post-competition use of major sports event venues has always been a worldwide problem, and there is no standard answer for the use of major sports event venues at home and abroad, as the nature and type of stadiums are different, the way of post-competition use may also be different [2]. At present, the research on the specific path and improvement countermeasures for the post-competition utilization of major sports event venues in China is relatively weak.

## 2 Investigations into the Construction and Planning of Venues for the Hangzhou Asian Games Research Ideas

### 2.1 General Layout of the Hangzhou Asian Games Venues

The planning and layout of the stadiums for the 19th Asian Games follows the urban layout strategy of Hangzhou, which is “Hangzhou as the main city, shared by the whole

province” and “two centres and seven vice centres, one axis and eight pieces, balanced network” [3]. “Green, intelligent, frugal and civilized” is the guiding concept for the construction of Hangzhou’s Asian Games stadiums. Therefore, on the basis of the principle of protecting the old venues, the Asian Games will make full use of the existing building space to achieve space sharing and reduce management costs. The Hangzhou Asian Games will have a general layout structure of “8 + 4 + N”, spread over 12 districts and counties. In other words, there are 8 major venues, 4 multiple venues and N other venues [4].

## **2.2 Post-games Planning and Use of Hangzhou Asian Games Venues**

Hangzhou Asian Games Sports has a variety of venue ownership types and diversified venue affiliations. There are 40 venues, including university stadiums, provincial and municipal stadiums, district stadiums and social stadiums, with a more diversified overall composition, in line with the reform and development situation of stadiums in China. The different types of ownership create more favourable conditions for the post-competition use of the stadiums [5].

First, physical education and training in colleges and universities are the main post-game services of college stadiums. Second, provincial and municipal sports venues are designed to meet the needs of national sports talent training and to meet the needs of the surrounding masses for physical exercise. Third, District-owned sports centres serve the public with the public interest of public sports facilities. Finally, the operation mode of the social sports centres is to improve the economic benefits of the venues by serving professional event teams training professional team training, large single or integrated events, cultural performances, etc. to improve the revenue of the venues [6]. The advantages of different types of stadiums can be fully utilised to create a synergistic effect of “1 + 1 > 2” in the post-event utilisation of Asian Games venues, and to enhance both social and economic benefits, so that all types of venues can embark on a sound operational path.

## **3 Post-competition Use of Venues for the 2022 Beijing Winter Olympics**

### **3.1 Create a “One-Stop” Sports Service Complex**

The urban sports service complex not only activates urban consumption momentum and promotes urban sports development, but also brings together multi-functional functions such as national fitness, sports training, event activities, accommodation and catering, leisure and entertainment in one [7]. The Winter Olympics venues not only host sporting events, but also contain the functions of landmarks, commerce, entertainment, exhibitions, performances, etc. Through a complete industrial chain to achieve multi-industry cluster operation. Let a variety of industries support each other in a coexistence and symbiosis mode. Gathering resources to form market energy, “body-based” to promote the release of sports consumption, to create a “one-stop” sports service complex [8].

### **3.2 Collaborative Stakeholder Governance**

It is understood that Zhou Xing, deputy director of the Finance and Market Development Department of the Beijing Winter Olympic Bid Committee, pointed out that of the \$1.56 billion event operation budget for the Winter Olympics, government subsidies accounted for only 6%, which translates into about US\$94 million. From the initial stage of venue planning and construction to the post-competition operation and management of the venues, the organic combination of government macro-control and market resource allocation is fully reflected. Accountability, participation, performance and transparency are all incorporated by the government in the post-competition operation and management of the venues. It emphasises and adheres to the principle of “who invests, who owns and who benefits”. Leveraging the rich resources of social organizations to build a collaborative governance framework from a stakeholder perspective. Encourage enterprises, social organizations and other subjects to join, and achieve the goal through the joint collaboration of multiple subjects. At the same time, through collaborative governance to balance the interests of multiple subjects, to enhance the scale, professionalism and socialization of operation and management [9].

### **3.3 Building a Professional Operations Team**

“During the “14th Five-Year Plan” period, China will hold and host a series of major international sporting events, including the 2022 Beijing Winter Olympic Games, 2022 Hangzhou Asian Games, 2023 Asian Cup and 2025 Chengdu World Games, etc. There is an urgent need for professional staff to manage the stadiums. The post-competition maintenance cost of winter Olympic stadiums is high, and their special characteristics require professional operation talents and professional management teams. Therefore, the Beijing Organizing Committee of the Olympic Games (BOCOG) should train composite operation talents and build a professional operation team to meet this demand. Reasonably set up internal departments and positions to provide specialized services to meet market demand. In addition, the need to develop venue service specifications according to the actual venue, to further clarify the service standards and processes, so that the service will be professionalization, standardization. In addition, we can also increase the research of local university experts, professors and researchers on stadium operation and management, while strengthening cooperation with local schools to offer courses related to stadium management and train professional stadium operation talents in many aspects.

## **4 Diversified Post-competition Use of Major Sports Event Venues**

### **4.1 Multiple Paths for Post-competition Use of Major Sports Event Venues**

#### **4.1.1 A Sound Management System Led by Policy**

Since the reform and opening up in 1978, with the rapid growth in the number of stadiums, there has been more and more support for specialized stadium policies. Up to now, China has promulgated a total of 30 specialized stadium policies. In October 2021, the 14th

Five-Year Plan for Sports Development mentioned the need to fully mobilize stadium resources, promote the development of intangible assets and expand operational benefits. Therefore, for the post-competition utilization of major sports event venues, we must change the concept of post-competition utilization and establish the concept of diversified utilization of the stadiums after the competition. Optimizing the management system of the venue should enhance the operational efficiency of the venue as well as motivate the staff. Implementing the “separation of management and administration”, i.e. “separating the helm from the oars”. Strengthen the effectiveness of government supervision, break through the shackles of the original system management, while giving full play to market dynamics, giving tax breaks and other support efforts.

#### **4.1.2 Improve the Industrial Chain of the Venue and Increase the Value of Subsidiary Utilization**

While satisfying the event, improve the industrial chain of the venue to achieve a balance between public welfare and industry, thus increasing the value of the ancillary use of major sports event venues. Such as: sports + tourism, event culture and other intangible assets of the transformation of the sale. Introduce a variety of businesses such as theater, tourism, culture, education and entertainment, create special event cultural IP, carry out a series of event cultural exhibitions, clubs and commercial platforms, etc. In the “post-epidemic” and “double-cycle context”, stadiums can introduce digital technologies and use new technologies such as artificial intelligence, big data, cloud computing, etc. to realize data realization. Through intelligent construction to promote the refinement of venue management, the integration of new media to build a network publicity platform to develop a “online + offline” combination of characteristics of the development of the road. Break the space and time constraints to create new profit growth points to solve the problems of high operational energy consumption and weak risk resistance, thereby improving the utilization rate of affiliation.

#### **4.1.3 Diversified Cooperative Utilization Model - PPP Model**

PPP model (Public-Private-Partnership) refers to the direct cooperation between the government and social capital, forming a cooperative relationship of “benefit sharing and risk sharing”. As a national PPP demonstration project, the Hangzhou Olympic Sports Centre - the main Asian Games venue, has achieved the separation of ownership and operation of major sports event venues, formed a cooperation model in which the government and commercial capital share the risks and benefits, and reflected the fundamental role of market resource allocation. On the basis of the PPP model, the post-competition use of venues can adopt the “availability + operation performance payment” model. Not only can the goal of private return on investment be met, but also public goods and services can be provided to society more efficiently [10]. Therefore, the PPP model is a more appropriate choice for the post-game utilization of stadiums, which can not only stimulate the benign interaction of multiple parties, but also reduce the pressure of government finance and governance.

## **4.2 Integration of “Sports Service Complex” to Form the “Regional Sports Venue Alliances”**

Actively explore new models and concepts for the collaborative development of regional sports venues, integrate multiple “sports service complexes”, promote the cluster development of sports venues, and form the “Regional Sports Venue Alliances”. To realize the complementary advantages, resource sharing and common development of sports venues in the region, and to form a cooperative development pattern of sports venues with the characteristics era.

### **4.2.1 Improve the Top-Level Design and Promote the Construction of Intelligent Stadiums**

Carry out scientific and reasonable overall planning, accurately grasp the problems of the regional sports venues and the corresponding solutions, and improve the top-level design. Establish and improve the “top-level design - policy coordination - policy implementation - implementation assessment” of regional policy coordination system. Also accelerate the construction of the Regional Smart Sports Public Information Service Platform. Use 5G, artificial intelligence, big data, cloud computing, Internet of Things, blockchain and other technologies to achieve the establishment of a database of stadiums in the regional sports venues. Use data to drive operational efficiency improvement and promote digital and intelligent management of stadium information. Give full play to the intelligent venues to drive the effect and promote the intelligent development and intelligent transformation of regional sports venues.

### **4.2.2 Focus on “High Quality” and “Integration” to Promote the Development of Sports Industry Clusters**

With the national strategy of “integrated regional development” as the link, we focus on “high quality” and “integration”. Formation of the “regional sports venue alliance”, so that regional sports resources across provincial and municipal flow channels. Strengthen the collaboration and sharing with other co-host cities, linking up to create the international “Regional Stadium Alliance” cultural brand, and jointly show the new events together in the new era. At the same time, governments at all levels should actively optimize the layout of regional sports venues, integrate cross regional sports venue resources, explore regional sports resources, extend the sports industry chain and promote the innovative development of the sports industry.

### **4.2.3 Building Regional Collaboration to Build a Modern Sports Industry System**

Build a collaborative platform for regional sports venues, and promote the deep integration of sports industry with cultural tourism, recreation, education and other related industries. The function of culture, sports and tourism should be implanted to form a spatial pattern of “one core, two axes, three belts and five circles”. Foster “sports +” and “+ sports” new business development, strengthen the role of sports venues event services, cultural tourism, science and technology services. In addition, through the establishment

of five-level systems such as sports rehabilitation hospital, sports medicine comprehensive clinic/sports cloud hospital, sports health promotion center, elderly sports health home/health guidance station and community doctor/Health Manager/sports formula-tor, one-stop sports and leisure services can be established to carry out multi field and cross regional cooperation and jointly promote the alliance of regional stadiums and gymnasiums.

## 5 Conclusion

This paper mainly analyses the construction and planning of the sustainable major sports event venues, and explores the diversified utilization mode of major sports event after the games, so as to provide some ideas for the utilization of major sports event venues after the games. The main conclusions of the study are as follows: First, the planning layout of major sports event venues basically covers a wide range, which can effectively improve the layout and construction of public sports facilities, to “return the museum to the people”. The major sports event venues seek to create a comprehensive building that combines a smart national sports and fitness centre, a sports tourism destination (refer to the Bird’s Nest in Beijing), an exhibition hall for the cultural dissemination of the event brand (cultural education) and an emergency shelter (such as the Square Cabin Hospital in Wuhan). Secondly, major sports event venues should take the road of diversified utilization development after the competition, actively explore diversified modes of utilising sports venues, such as the PPP model, and establish an internal management mechanism for sports venues, mobilise the enthusiasm of venue staff and strengthen the training of professional talents.

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