

Research on the Comprehensive Development Trend of National Fitness Activity Centers

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Abstract: With the further advancement of the “National Fitness” strategy and the continuous development of the information age, the National Fitness Activity Centers have become more comprehensive. The comprehensiveness is reflected in the design of diversified sports functions and spaces. The article serves to explore the comprehensive development trend of National Fitness Activity Centers. Through summarizing and sorting out domestic and foreign cases, the trend of the comprehensive development of National Fitness Activity Centers is predicted at three levels: industry, city, and individual functions.

Keywords: National fitness; National fitness activity center; Comprehensive development trend

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1. Introduction

Since the concept of “National Fitness” was introduced in the late 1980s, it has been largely advocated by the Chinese government as a key approach for encouraging widespread participation and comprehensive promotion of physical activity. According to relevant policy documents and future development trends in the sports industry, “National Fitness” has evolved from continuous in-depth development into a national strategy, significantly boosting public enthusiasm for participation. Guided by the National Fitness Plan during the “14th Five-Year Plan” period, national sports facilities have seen continuous improvement and development, leading to the establishment of National Fitness Activity Centers across various regions ^[1].

During the “14th Five-Year Plan” period, the goals of the sports industry include reaching a total scale of 5 trillion yuan, with its added value accounting for 2% of GDP. The total scale of residents’ sports consumption is expected to exceed 2.8 trillion yuan with a workforce of more than 8 million employees. The proportion of people who regularly participate in physical exercise is projected to reach 38.5%. By 2025, it is estimated that the scale of the sports industry will reach 5 trillion yuan, with an average annual compound growth rate of 12.8%. This indicates that the sports industry has substantial macro policy support and significant development potential ^[2]. Overall, the sports industry is a rapidly growing sector and is gradually becoming a pillar of the national economy. It offers extensive opportunities for future development and continues to infuse new vitality and energy into economic, social, and urban development.

2. Problems faced in the comprehensive development of National Fitness Activity Centers

The construction of National Fitness Activity Centers plays a significant role in urban development because the core of a city lies in the health and happiness of its residents. Therefore, understanding and meeting the fitness needs of residents is key to facility construction. A National Fitness Activity Center is not only a sports venue, but also a comprehensive fitness and sports facility that serves the community and the city. However, the construction of these centers comes with several challenges.

One of them is the functional singularity of sports building design. Many sports venues are designed with specific sports in mind, often ignoring the needs of daily use outside the Olympic Games. This results in lower utilization of these venues on non-match days or non-specific event days, resulting in lower investment returns^[3].

In addition, the lack of individual characteristics and functions of sports buildings is also a problem. In a competitive urban environment, the uniqueness and versatility of sports buildings are crucial to attracting more users. In addition, the operation and management of sports venues also face challenges. Some stadiums find themselves struggling to achieve economic sustainability due to high maintenance costs and low utilization rates. Hence, collaboration between government and the private sector is essential to develop more attractive operating models.

The design of greenways, community sports parks, and sports plazas also needs to be revisited. These public spaces play a vital role in cities, providing places for people to exercise, relax, and socialize. However, some greenway designs may not fully consider the requirements of multi-functional aggregation, resulting in the inability to meet the needs of different groups of people in some cases. In addition, the accessibility of some community sports parks and sports plazas needs to be improved^[4].

Today's National Fitness Activity Centers are no longer limited to traditional sports venues but emphasize complex functions and diversification. These new types of sports buildings need to incorporate multiple functions such as sports, theatrical performances, exhibitions, entertainment, hotels, restaurants, shopping, and leisure to cater to the needs and interests of diverse groups of people. The development of these centers has evolved from a single sports function stage to a composite function stage, necessitating innovative construction concepts for functional composite sports buildings.

3. Overall development trend of National Fitness Activity Centers

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3.1. Overall trend of sports industry clusters

The compounding of the sports industry system refers to the combination of the sports industry and urban planning. By developing and merging the sports industry within cities, this approach aims to achieve deep integration and coordinated development between urban areas and the sports sector, known as the "Sports +" model. This involves linking with related industries to foster the in-depth integration of sports with tourism, cultural creativity, technology, and other sectors, forming a complex industrial structure (**Table 1**).

Table 1. Compilation of industry types of national sports projects

Number	Project (year)	Industrial composite model
1	Hangzhou National Fitness Center (2022)	Culture-sports-business
2	Chengdu Xinjin Sports Center (2023)	Sports-culture
3	Zhuhai National Fitness Complex (Under construction)	Culture-sports-business-health
4	Tampines World, Singapore (2017)	Culture-sports-business-health
5	SESC Complex, Brazil (2019)	Culture-sports-business
6	Churchill Meadows Community Center (2021)	Sports-catering-training

3.1.1. Sports industry and business

The model of integrating the sports industry with business has matured and is now exhibiting diversified development trends. People’s demand for sports consumption is gradually shifting from purely leisure and fitness to a multi-functional approach encompassing leisure, entertainment, shopping, and business. This change is also driving the construction of comprehensive sports service facilities with sports as the theme in cities. This further enhances the integration of the sports industry with other industries.

The currently popular development model of “mutual promotion of sports and business” – “nurturing the body through business and promoting business through sport” – emphasizes the reciprocal relationship between commercial and sports activities. This concept highlights that commercial activities can provide financial support and development opportunities for sports, while sports activities can generate more market opportunities and brand value for businesses (**Figure 1**).



Figure 1. “Sports industry and business” development model

3.1.2. Sports industry and cultural industry

The integration of the sports industry and the cultural industry is an important trend in the development of “Sports+.” This integration not only provides the possibility for the long-term development of the industry but also lays the foundation for the comprehensive promotion of urban culture and sports. The integrated development of the sports and cultural industries is one of the important trends in today’s social and economic development. The key lies in their mutual penetration and cooperation to create richer and more diverse cultural and sports products and services ^[5].

Sports elements should be integrated with cultural elements by holding large-scale cultural and sports events and other activities to create more attractive and unique cultural and sports products. Additionally, the influence and market share of the sports industry can be expanded by developing extended products, such as sports peripherals and sports-themed amusement parks. Promoting sports culture and enhancing the structure of the sports culture industry are also crucial directions for advancing the integrated development of the sports and cultural industries (**Figure 2**).

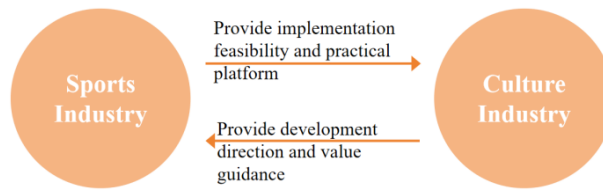


Figure 2. “Symbiosis of culture and sports” development model

3.1.3. Sports industry and health industry

The report of the 20th National Congress of the Communist Party of China emphasized “Promoting the construction of a healthy China” and prioritized the protection of people’s health as a key strategic goal. In line with this, governments at all levels have issued various policies and regulations, such as the “Healthy China 2030 Planning Outline,” which elucidates the relationship between sports and health and outlines their respective roles in health promotion. The integrated development of the sports and health industries has thus become a crucial component in advancing the construction of a healthy China [6].

In this context, the National Fitness Activity Center has become an important platform, not only a venue for sports and fitness services but also a hub to promote a healthy lifestyle. With the expansion in scale and number of National Fitness Activity Centers, a new sports rehabilitation industry has emerged. This model of sports rehabilitation centers deeply integrates “Body” and “Nurturing,” fostering a comprehensive service industry that integrates “ecology, leisure, sports, and healthcare.” Ultimately, this development transforms the National Fitness Activity Center into a multifunctional venue offering comprehensive support services, marking a significant trend in the integrated development of China’s sports and health industries (Figure 3).

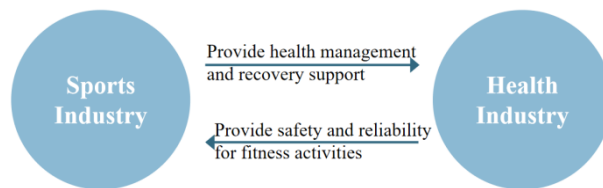


Figure 3. “Integration of sports and health” development model

3.2. Trend of sports industry clusters

emphasis should be placed on promoting the integration of urban functions and achieving coordinated regional development. Urban functional space encompasses the diverse functions and activities performed within different areas of the city. These functions are typically aligned with the city’s development objectives, demographic requirements, and economic, cultural, social, and other considerations (Table 2).

Table 2. National fitness project urban public space resource complex

Number	Project (year)	Composite urban function type
1	Hangzhou National Fitness Center (2022)	Community
2	Chengdu Xinjin Sports Center (2023)	City park
3	Zhuhai National Fitness Complex (Under construction)	City parks, communities
4	Maryland Heights Community Center (2017)	City park
5	SESC Complex, Brazil (2019)	Town square
6	Churchill Meadows Community Center (2021)	City parks, communities

3.2.1. Integrating “urban sports functions” into urban parks

As an important green space in the city, urban parks serve many purposes, including providing fitness, leisure, social, and other services. They are also an important part of the ecological environment (Figure 4). In urban development, urban parks are not only concentrated displays of green spaces but also the core elements of urban demonstration areas [7].

Urban green open spaces, particularly parks and green areas, have evolved beyond conventional land use practices and urban environmental management concerns. In the context of National Fitness Activity Centers being strategically positioned near city parks, these centers typically feature fitness facilities as the core infrastructure, complemented by diverse outdoor sports venues and green spaces. This composite approach enhances the synergy between National Fitness Activity Centers and parks, fostering a feedback loop where emerging trend sports and current activities are integrated to enhance the park’s appeal and utilization among the public.

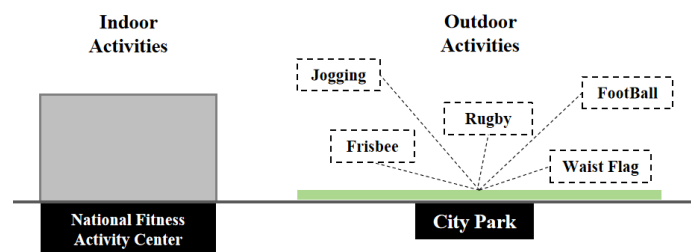


Figure 4. “Urban sports function” and urban parks

3.2.2. Integrating “urban sports function” into urban community spaces

An urban community space usually includes aspects of residence, community activities, and commerce, all designed to fulfill people’s fundamental needs for survival and daily life. The development of urban community spaces often coincides with urban renewal initiatives and the integration of regional resources, aimed at enhancing the quality of life services and living experiences for residents (Figure 5).

Positioning National Fitness Activity Centers near urban communities is a growing trend aimed at enhancing accessibility to physical exercise and fitness activities for nearby residents. By locating these centers within urban communities, not only are the community’s sports amenities enriched, but additional commercial, leisure, entertainment, and other functions are also brought in. This dual benefit enhances the development and appeal of urban communities, offering new opportunities and perspectives for the construction of urban community spaces.

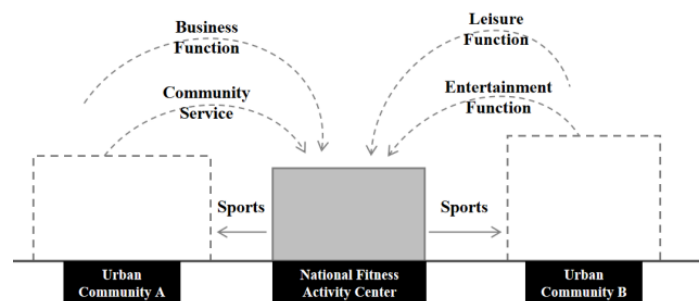


Figure 5. The compound relationship between “urban sports function” and urban community space

3.2.3. Integrating “urban sports function” into urban square spaces

The city square serves a pivotal role in urban planning and design, functioning not only as a key node and iconic landscape but also as a hub for daily activities. As a leisure area within the urban fabric, the city square

draws significant numbers of sports and fitness enthusiasts owing to its high foot traffic. Its central location also appeals to visitors and tourists, facilitating their participation in fitness activities and contributing to the promotion and growth of National Fitness initiatives.

In addition, the city square provides huge development opportunities for the National Fitness Activity Center and also brings new business opportunities to sports-related industries. For instance, suppliers of fitness equipment, specialized sports product stores, and other businesses can establish outlets here to offer a wide range of services and products to fitness enthusiasts. This symbiotic relationship fosters the vibrant expansion of the sports industry, generating additional employment opportunities and driving economic growth (Figure 6).

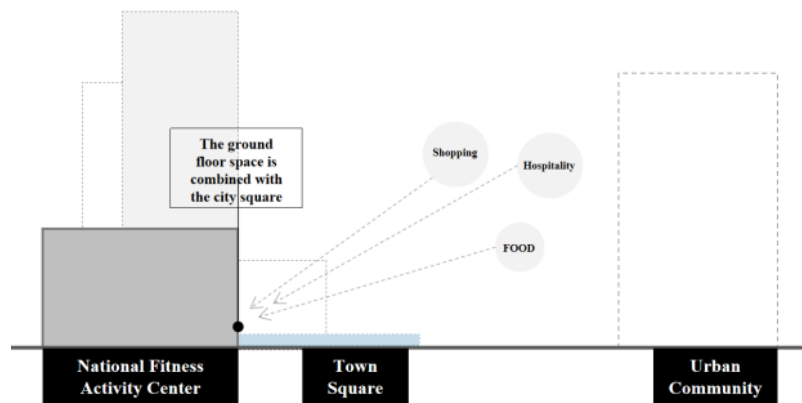


Figure 6. The composite relationship between “urban sports function” and urban square space

3.3. Integration of sports industry clusters

In previous design studies, the integration of National Fitness sports buildings primarily emphasized diversifying sports functions through the configuration of various small and medium-sized spaces to cater to different needs. However, the current trend in integrated design suggests that it is not merely about intensifying these sports functions independently. Instead, it advocates viewing various sports functions as components of a unified “National Fitness” function and exploring their composite development in conjunction with other functions. This approach delves deeper into understanding how sports facilities can synergize with other activities, offering insights and guidance for future projects in this domain.

3.3.1. “National Fitness” + “business services” functional model

Over the past two decades, the integration of “National Fitness” + “business services” in China’s large shopping malls has progressed through three distinct stages. Initially, the focus was on introducing basic sports amenities, exemplified by the debut of the Guomao Ice Rink in 1999, marking the first phase where shopping centers began incorporating sports activities. This laid the groundwork for subsequent developments in combining business formats. In the second phase, driven by increasing consumer demand and the expansion of commercial centers, a wider array of renowned domestic and international sports brands and fitness facilities emerged. Simultaneously, children’s sports venues were introduced to cater to the growing interest in youth sports. The third stage has seen a more diversified approach, with shopping malls exploring specialized sports IPs such as indoor ice and snow sports and Frisbee sports. These projects not only satisfy citizens’ sporting interests but also enhance shopping malls by offering new attractions and experiences.

However, the “National Fitness” + “business services” functional composite model focuses predominantly on sports functions, typically occupying areas exceeding 10,000 m². Often referred to as a commercial activity center or sports business complex (Figure 7), this model’s essence lies in attracting consumers through sports

activities while offering diverse business services like dining, retail, and entertainment to boost operational revenue. It balances both public welfare objectives and profit motives, ensuring sustainable funding for sports venues while delivering high-quality facilities and services to the community. This symbiotic relationship is pivotal in advancing the National Fitness initiative.

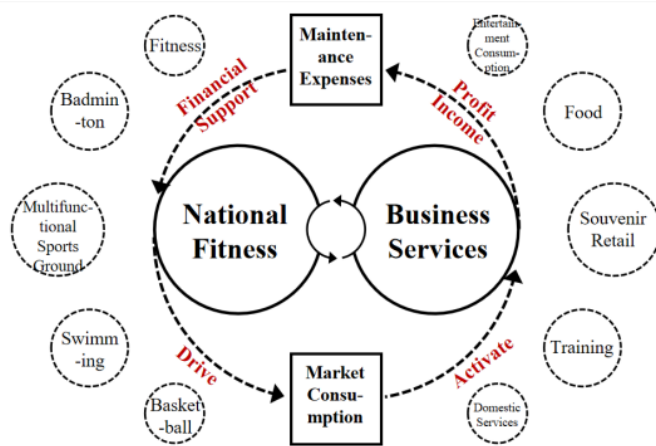


Figure 7. “National Fitness” + “business services” functional model analysis

3.3.2. “National Fitness” + “production and life” functional mode

The integrated development model of “National Fitness” + “production and life” services represents a crucial trend in current residential area construction. In these developments, the sports functions of National Fitness Activity Centers are seamlessly integrated into community living spaces, incorporating multi-functional sports fields, social leisure areas, and other facilities. Through participating in mass sports activities, residents engage in communication and cooperation, fostering community cohesion and vitality. The “National Fitness” function not only offers residents convenient venues for physical exercise but also generates ample social opportunities, enriching community life.

In the integrated model of “National Fitness” + “production and life” (Figure 8), various social production and life services are incorporated alongside sports activities [8]. This includes setting up exhibition venues for hosting a variety of exhibitions, performances, and cultural events, providing residents with diverse cultural and entertainment options. Additionally, training centers and office spaces are established to offer convenient facilities for learning and work. This development model focuses on meeting residents’ material needs while also enhancing their social awareness and promoting physical exercise awareness.

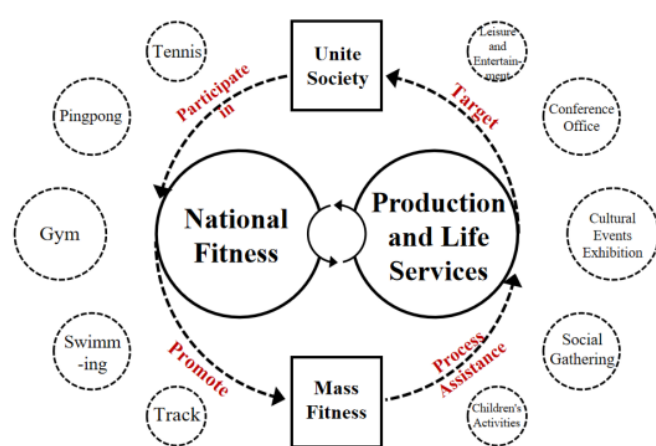


Figure 8. “National Fitness” + “production and life” functional model analysis chart

4. Conclusion

In the context of high-density urban construction, the National Fitness Activity Center serves as a pivotal point for exploring its functional composite design. Through an analysis of existing issues and related cases, including industrial integration categories, urban public space types, and their own functional types, several trends in the comprehensive development of National Fitness Activity Centers emerge:

- (1) The trend of “Sports +” industry integration development focuses on integrating the sports industry with other sectors such as business, culture, and health.
- (2) The trend of “New Sports Space” involves integrating National Fitness Activity Center buildings with urban resources such as parks, squares, and communities to create innovative urban sports environments that diversify the venues beyond traditional sports facilities.
- (3) The trend towards complex development integrates “multiple functions” into National Fitness Activity Centers, transforming them into multifaceted sports complexes that combine fitness, entertainment, cultural events, commercial exhibitions, and more.

Looking ahead, the complex development of National Fitness Activity Centers is a growing trend. This preliminary study underscores their potential to enhance urban development by providing multifunctional, convenient, and attractive spaces that improve residents’ quality of life and enhance the city’s image and competitiveness. The “people-oriented” composite design model aims to cater to diverse resident needs effectively.

Disclosure statement

The authors declare no conflict of interest.

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