

# Environment-friendly Olympics, Culture-enriched Olympics and the Urban Green Space System Planning of Beijing

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*Key Words: Planning, Design, Olympics, Landscape Architecture, Planning and Design*

## 1. Environment-friendly Olympics, Culture-enriched Olympics and the Urban Landscape

All the three concepts of "environment-friendly Olympics, culture-enriched Olympics and technology-empowered Olympics" have close relationship with Urban Landscape which is playing a significant role in the practice of Olympic-related activities.

### 1. The Imperial Gardens are the Landscape and Culture Symbol of Beijing Olympics

Urban Culture covers an extremely wide range of content. While, since Beijing is a historical and cultural city and a world famous ancient capital, the brilliant ancient architectures and imperial gardens should be one of the most important and representative culture characteristics of the city. Beijing, which has more imperial gardens than any other cities around the world, displays a unique urban culture in terms of its old history and its royal spirit. "Mother of Gardens" is a metaphor of China exemplifying the abundance of Chinese plant germplasm and the perpetual charm of Chinese gardens.

Chinese Gardens, together with the Beijing Opera, Chinese Cooking and Chinese Painting and Calligraphy, are four of the most precious culture heritages of Beijing. Many imperial gardens more or less suffered from devastation caused by the tragedy of the late Qing Dynasty and lack of maintenance, while most of them are rebuilt in recent 50 years. For presenting Beijing a fresh look to visitors, a new rebuilding project for Imperial Gardens is in process. Many famous

historic sites, such as the Hall of Prayer for Good Harvests (Qinian Hall) in the Temple of Heaven, the Tower of Buddhist Incense (Foxiang Ge Tower) and the Long Corridor in the Summer Palace, as well as the Jade Flowery Islet (Qionghua Island) in Beihai Park will show their original appearance before the advent of the Beijing Olympic Games.

### 2. Landscaping is the Core Content of the Environment-friendly Olympics

The Environment-friendly Olympics, also called Green Olympics, includes a variety of aspects, such as green environmental protection, green food, green GDP, etc., while landscaping or urban greening should be the primary one of all.

Beijing is a beautiful city with large-scaled public green space, shade-covered streets and communities and a variety of modern parks. Owing to taking sound measures to expand urban green space and to develop the greenbelt construction near the suburb in recent years, Beijing has become one of the first cities awarded the National Garden City for its leading position and high standard of the ratio of green space, the percentage of greenery coverage and the per capita public garden space. In addition, the improvement of municipal facilities such as the urban road system has accordingly impelled the development of urban green space system of communities, institutes, schools, hospitals and the greenbelts along the streets.

### 3. Landscape Gardens are Show-Window for Displaying the City Characters of Beijing and Achievements of Green Olympic Activities

Modern garden design shows context of multiple inheritance trend and pursues a perfect integration of contemporary features and traditional culture. Green, which is the key word of Environment-friendly Olympics, is a harmonizer between the environment, architectures and human beings. So, the primary function of modern gardens is to provide the public a pleasing green space. Various modern parks with tens of thousands of square meters to even dozens of square meters of green space, such as Huangchenggen Park, Changpuhe Park, the outer park of the Temple of Earth, Nanguan Park, The Ming Dynasty Wall Relic Park, Yuan Dynasty Capital City Wall Relics Park, Haidian Park, Yuquan Park (International Sculpture Park), Shijingshan Green Square, the Public Green Space at the Southern City Axis, Madian Park, Rose Garden, Olympic Community Park, Sun-xingqiba Park, Fengyi Park and some newly-built parks such as Baiwang Park, Beixiaohe Park, Beierhuan Urban Park have been put into use. Meanwhile, many other large-area public parks, such as Olympic Forest Park, Chaoyang Park are preparing to construct. A modern garden prototype of the new Beijing has appeared.

#### 4. The Five Principal Functions of Landscape Gardens are in Accordance with the Objectives of Environment-friendly Olympics, Culture-enriched Olympics

Landscape Gardens show an irreplaceable social function in the city's ecology, landscape, culture, leisure, recreation and mitigation and contribute much to achieving the goal of 'fresh air, comfortable environment and harmonious ecological system'. In addition, landscape gardens are expression of the unique city culture.

#### 5. Environment-Friendly Olympics, Culture-enriched Olympics is not only a Momentum but an Opportunity to the Development of Landscape Garden

Previously, Chinese gardens are either private gardens or imperial gardens which are not open to the public. While in modern society, gardens are no longer leisure area for the minorities but public places serving for all citizens. The concepts of 'Environment-friendly Olympics, Culture-enriched Olympics and Technology-empowered Olympics' require that

modern landscape layout should base on the human-centered and scientific concept of development. Entering the new century, especially after SARS, urban construction and management have paid more attention on how to make the city more suitable for the living of human beings and as a result developed some public welfare programs, such as urban greening, public sanitation. The practice of Culture-enriched Olympics has been promoting the progress of human-centered projects.

## II. Environment-friendly Olympics, Culture-enriched Olympics and the Urban

### Green Space System Planning

Systematic planning of urban green space is a significant progress of city development that enhanced people's understanding of the city with its layout. The urban green space, which is a key to maintaining urban landscape and ecosystem, contributes to the harmony between the natural and human beings.

Urban green spaces are often compared as 'the lung of a city' for its environmental protection function.

The urban green spaces are multi-functional places where not only displaying the urban culture but also providing the public leisure areas. In cities of developed countries, blocks of well-planned green space, together with the surrounding buildings, show a colorful and harmonious scene. In addition to urban green spaces, planning of greenbelts and wedge-shaped green space in suburb is another important component of city greening. Many projects of the urban green space system planning of Beijing have been completed in recent years. Those Olympic landscaping projects could display the comprehensive greening ability of a garden city and will definitely give Beijing a facelift.

The urban green space system planning is one of the bases of city landscape construction and a key to the implement of the Environment-friendly Olympics, Culture-enriched Olympics. Compared with the developed countries, Beijing has less total green area and less urban public area. Its distribution and structure of urban green space still need to improve. Many new issues, such as the treats caused by urban heat island effect, the effect of urban pollution on the quality of the environment and the application of mitigation function of urban green space have become increasingly prominent in many cities. Aimed at these issues, many coun-

termeasures on the urban green space system planning have been taken.

### 1. Extending the Total Area of Urban Green Space

According to the Urban Green Space System Planning, Beijing will step into the advanced rank of National Garden Cities until 2010 when it is going to achieve the aims of the urban green coverage rate of 45%, per capita public green space of 15 square meters, of which the city center district within 4th Ring Road of 6 square meters per capita. To reach these objectives, it relies on the cooperation between municipality and all citizens and requires a comprehensive consideration of all aspects, such as greening projects around Olympic-related constructions, urban restoration, protection of city heritage, traffic system restructure, water system restructure, construction of Zhongguancun district, CBD district and Financial Street, urban village problems and industrial restructure as well. It is important to extend the total area and to improve the management level of urban green space.

### 2. Enhancing the Construction of the Large-Scale Green Space in the Center of the City

The distribution of urban green space is uneven in Beijing and more green space should be planned to reach the goal of 6 square meters per capita within 4th Ring Road. It has gained great achievements from the project named 'Construction of Ten-thousand-square-meter Green Space'. Greening projects in many parks, such as Huangchenggen Park, The Ming Dynasty Wall Relic Park, Changpuhe Park, Yuan Dynasty Capital City Wall Relics Park and the Beierhuan Urban Park and the reconstruction of Southern City Axis have extremely enlarged the total area of urban green area. Besides, new measures would be taken for better landscape scenes in the coming years.

### 3 Rationalizing and Scientizing the Structure and the Layout of Urban Green Space

Five main projects are progressing smoothly for rationally adjusting the structure and layout of urban green space system. The first one is forming a cross sight-seeing axis. The one is the east-to-west horizontal axis along the Chang'an

Street with its extension and the other is the south-to-north vertical center axis of the city. The second one is the "Green City Wall" project along the Second Ring Road(Erhuan Road). The third one is to build one-hundred-meter greenbelts along the Fourth Ring Road(Sihuan Road) and isolation greenbelts close to the Fourth Ring Road. The fourth one is planning 7 blocks of wedge-shaped green space extending wider and wider from the city center radially. The last but not the least is ensuring that people in the city can get to an over 3000-square-meter public green space not further than 500 meters wherever they are. To realize these objectives and the terminal aim of 'integration of urban and suburb areas' needs a scientific framework of public green place system structuring various types of green spaces and well arranging ringed green space and wedge-shaped green space. Based on this framework, programs on the plants biodiversity, especially on indigenous landscape plants are carried out.

### 4. According to the Urban Green Space System Planning, Green Line is Necessary to be Delineated for the Layout and Management of Current Green Space

## III. Environment-friendly Olympics, Culture-enriched Olympics and Olympic Greening

The "New Beijing, Great Olympics" urban greening projects are ongoing currently. The government has been increasing the expenditure and investment in the construction, reconstruction and extending of urban green space. Many voluntary tree-planting activities have been implemented. Beijing has gained remarkable achievements in strengthening urban greening.

### 1. Urban Greening Projects

Beijing in its bid has put forward "Green Olympics" as one of the three themes for 2008 Olympic Games. For the preparation and organization of the Olympic Games, the competent authority predicted three main objectives of Urban Greening Projects, which are, firstly, the centralized urban green space should reach 1000 hectares. Secondly, the amount

of public parks in Beijing should reach 1000. Thirdly, the environmental infrastructure around Olympic venues should be completed.

## 2. The Beijing Olympic Forest Park

Locating at the north end of the vertical city axis, with the natural landscape as skeleton, Beijing Olympic Forest Park is a natural green area and a giant botanical garden with the main Olympic venues to its south. Beijing Olympic Forest Park covers an area of about 680 hectares in total, which is 2.4 times of the area of the Summer Palace and twice of the area of New York Central Park in Manhattan.

The completed Olympic Forest Park, which would be the largest urban park in China, is going to be not only an important activity area required during the Olympic Games but a leisure-oriented place always available to the public. The layout of Beijing Olympic Forest Park includes rolling hills and an 80 hectare water area. Extending from the Tucheng Roundabout to Olympic Forest Park, the Olympic Center Street creates a convenient traffic net between venues and the Olympic village and a green gallery for exhibiting a variety of culture and the Olympic spirit. The surrounding green space arranged for each venue is adequate and is harmonious with its main architectures. To enhance the environmental infrastructure development, many large-scaled public green space projects are progressing smoothly, such as 290 hectare Chaoyang Park project, 350 hectare Yuanmingyuan Park project as well as Wukesong venue green space project.

## 3. Principles of Olympic-related Urban Greening Project

- Comply with the applicable national standard of the ratio of green space and abide by the greening-centered prin-

ciple of plant landscape

- Adhere to the human-centered principle
- Design style should be magnificent, majestic, simple and full of contemporary sense of feeling
- Well combine the traditional culture with the modern style
- Stick to the frugal and economical greening principle
- Ensure high quality of civil engineering and construction. Insist on a fair and open bidding process for the assignment of designer, construction organization and supervisors
- Choose local plants as dominant plants. Introduce selected new high-quality cultivars. Apply the cutting-edge science results to plant landscape practice
- Give full play to the ecology, landscape, culture, leisure, recreation and mitigation functions of garden cities
- Realize the integration of urban and suburb areas
- The principle of biodiversity
- Advocate using environmental materials to save energy
- Take appropriate water collection measures and take full advantage of intermediate water to improve water efficiency
- Pay more attention to biological control techniques to decrease the pollution caused by pesticide
- Ecology, culture, landscape and Space Optimization should always be the keywords and considerations during the "New Beijing, Great Olympics" urban greening system development

A revised version of Beijing Urban Plan has just completed recently. It is an unprecedented work never did before. The new urban city framework with two axes two belts and multiple centers would have profound impact on the urban development of Beijing. The practice of "environment-friendly Olympics, culture-enriched Olympics" is a turning point and must contribute Beijing to be a top-ranking national garden city.