



Planning a National Park in Lower Yangtze Delta, China -- Taking the 1929 Taihu National Park Plan by Mr. Chen Zhi as a Case

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Chen Zhi(陈植)'s *National Taihu Lake Park* published in 1929, is the first planning of our country's national park. This article attempts to analyze the beautification and recreation of Chen Zhi's conception. The author starts with the development of the national park at that time and the practice experience of Chen Zhi, combing the Taihu Lake(太湖) watershed's natural and social conditions. What's more, the author interprets the planning text of Taihu Lake from four aspects, including landscape resources, traffic system, supporting facilities, and construction of scenic forests. Based on this, this article analyzes Chen Zhi's considerations of drawing lessons from abroad and integrating them into the local culture, pursues the relevance of its design concept with America and Japan, and presents the spread of national park's concept in our country in the same period.

Key Words: National Park, National Taihu Lake Park, Chen Zhi, Design Considerations

The national park is a land or water conservation area protected by the country, which is for people's recreation or wildlife survival. It plays an important role in cultural heritage and natural environment protection. China's earliest national park planning was in 1929. Commissioned by the ministry of agriculture and mining, Chen Zhi(陈植) planned the Taihu Lake(太湖), which has an area of 36,000 hectares between Jiangsu(江苏) and Zhejiang(浙江) provinces, as "National Park".

This planning is a relatively systematic and comprehensive design of national park. It is a modern case with historical values in the development of China's national parks. This article attempts to interpret this plan in the context of the society at that time, analyzes its considerations of drawing lessons from abroad and integrating them into the local culture, and pursues the relevance of its design concept with America and Japan.

Figure 1 Design Text Structure of *National Taihu Lake Park*

Number	Name of chapters	Main contents
1	Preface	Construction status, definition, nature, development purpose and benefits of national park
2	Park style	Taihu Lake has a large scale, including four parts and seven regions
3	Park landscape	Taihu Lake is rich in landscape resources, including two Dongting mountains, Maji Mountain; Wu River, Wuxian County, Wuxi, Wujin, Yixing, Changxing, and Wuxing that surround the lake
4	Required transportation system for development	Land traffic, water traffic and electrical traffic should be considered in the construction of park
5	Required corollary equipment for development	The construction of the park requires supporting facilities, including restaurants, hotels, swimming pools, electric lights, botanical gardens, zoos, sports grounds, parking lots, signs, museums, pavilions, benches, bridges and sentries



6	Construction of scenic forests	The national park's tree design should focus on scenic forests and street trees
7	Conclusion	Have a firm determination to implement, remove the barrier of lake bandits, contact relevant departments, and complete the construction of the National Taihu Lake Park with concerted efforts of central and local governments

1. Development Status of National Park

The construction of national parks can be traced back to 1872 when the United States established the world's earliest Yellowstone National Park. In the initial stage of development, representatives of the eastern America's intellectuals including artists, explorers and litterateurs came to realize that the Western Development had posed a threat to the original natural environment in the west. In addition, railway companies have found the potential value of using western landscape as tourism resources. Therefore, the idealists who protected the nature and the pragmatists who emphasized the development of tourism joined hands to urge the Congress to protect the peculiar landscape of the west, thus establishing the national park system. The exploration of the United States provides a reference for Chen Zhi's design of China's national parks. Following the United States, Canada, Australia and New Zealand established their national parks[2] respectively in 1885, 1879 and 1887. Basically at the same time, the concept of national park was introduced into Japan. The development of Japanese national park continued to 1930 (the design of Chen Zhi's Taihu Lake National Park was completed) after going through two stages of concept discussion and scale construction. In the early years of concept discussion, Japanese geographers and new mountaineering enthusiasts began to protect the "natural landscape of Japan", while railway experts hoped to stimulate the development of railway and tourism industry to earn foreign exchanges through the establishment of national parks. The stage of scale construction began after the enactment of the National Park Law in 1931. Since then, 12 national parks (Figure 1) were established between 1934 and 1936, and most of them were located in remote areas such as mountain areas or seaside. Nikko designated as the imperial park (帝国公园 teikoku kōen) in 1911.

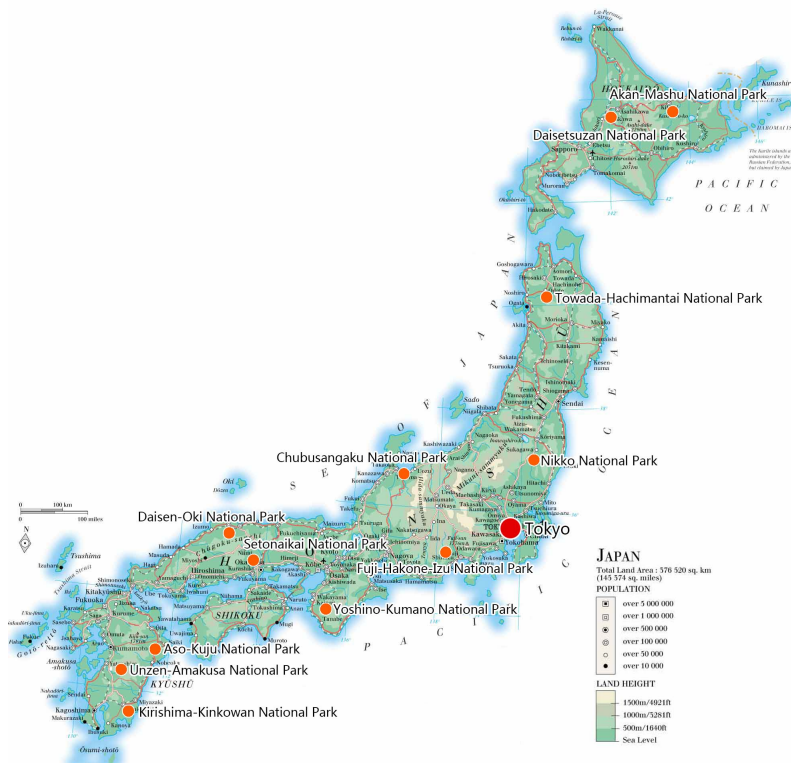


Figure 1 Distribution diagram of Japan's first batch of national parks, 1931 (Repainted by the author from Japanese elevation map)



In the 1920s, Chen Zhi learned the concept of national parks in the United States and Japan. In his *Conspectus of Landscape Making* written in 1928, the first part combed the history of gardening in China, the West and Japan. The history of western gardening alone mentioned the United States, and emphasized that there were much development and utilization of its large-scale parks. The part of Japanese gardening particularly emphasized that "the father of the Japanese National Park", Tamura Tsuyoshi (田村剛 Tiancun Gang), had played an important role. He pointed out in the book, "Dr. Tamura Tsuyoshi has made great efforts to promote the construction of the national park and to write books concerning the gardening (Figure 2)." Tamura Tsuyoshi put forward that natural park was set up for national health care and visits of overseas tourists. Based on natural resources in Japan, he emphasized the importance of Japan's mountains, lakes and hot springs, and puts forward specific requirements for location, scale and matching facilities.

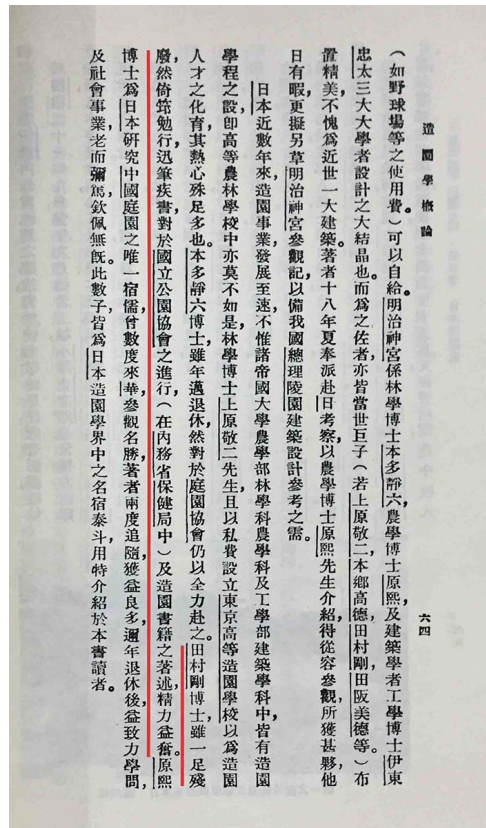


Figure 2 Chen Zhi's comments on Tian Cungang, 1935 (Cited from *Conspectus of Landscape Making*)

2. Professional Education of Chen Zhi

Chen Zhi was born in the intellectual family in 1899. At the strict request of his father, he went to private school at the age of 7, and he received a good humanistic tradition from childhood. After graduating from the first high school in Chongming in 1914, he was admitted to Forestry Department of Jiangsu provincial first agricultural school because of his excellent grades. The agricultural school was established and developed in 1913 under the guidance of Huang Yanpei, director of the Education Department of Jiangsu Province, who advocated pragmatism and vigorously developed industry. From 1919 to 1922, Chen Zhi entered the Tokyo Imperial College's Department for Agriculture, specializing in forestry and gardening. This department was the largest and most complete agricultural college in Japan at that time (Figure 3, Figure 4). Chen Zhi's courses included agriculture, forestry, forest utilization, horticulture, plants, animals, economics, agricultural engineering, farm internships and so on. His mentor was the famous Japanese landscape architect Honda Seiroku (本多静六 Benduo Jingliu), known as the "Father of the Japanese Park" and the "Father of Japanese Forestry." He was also a special member of the National Park Organizing Committee. In 1919, at the same time when Chen Zhi was admitted into the school, Tamura Tsuyoshi, the "Father of the National Park of Japan," also entered the Department for Agriculture as a lecturer, providing Chen Zhi with the possibility to understand the concept of national parks.



Figure 3 Aerial view of Tokyo Imperial College's Agriculture and Forestry Academy, 1926 (Cited from <http://www.a.u-tokyo.ac.jp/history/>)



Figure 4 Forest farm of Tokyo Imperial College's Agriculture and Forestry Academy, 1920 (Cited from <http://www.a.u-tokyo.ac.jp/history/>)

After returning to China in 1922, when the National Taihu Lake Park was designed, Chen Zhi served as a teacher in Jiangsu's first agricultural school, and the technical director and field director of the Jiangsu Education Group Public Forest (later renamed as Jiangsu Education Forest). Moreover, he put himself into the construction of practical projects like the Zhenjiang Zhaosheng Park. (now known as Jin Boxian Park). Many of Chen Zhi's achievements directly or indirectly reflect his concept of gardening, and laid the foundation for planning the national park. Chen Zhi had his own understanding of the national park. In terms of definition, Chen Zhi believed that: "The national park is characterized by the interest of the people, and its cause is to preserve and develop the landscape. The purpose of the national park is to protect historical and scientific materials from being destroyed. Besides, it has complete facilities for public recreation." In terms of importance, he concluded: "With lush forests, various security roles can be achieved; with frequent traffic, the local economy can be promoted, and robberies can be avoided; with a prosperous business, land values can be increased and various professions can be promoted such as farm, industry and commerce; in terms of environmental relations, its influence is huge" This not only focuses on the landscape space, but also pays more attention to the planning perspective of economic or model level, which responds to the development of Japanese national parks' original intention.

3. The History and Present Situation of the Taihu Lake Watershed

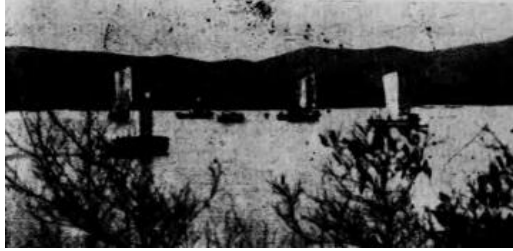
The Taihu Lake watershed has been known for its beautiful landscape since ancient times. In the Jiajing period of the Ming Dynasty, Wang Wen, a famous hermit, once engraved on the Hushan song tablet to praise the charming scenery of Taihu Lake. In addition, he also created *A Picture Describing the Returning to the Baojie Mountain* (Figure 5), showing the beauty of thatched cottages, fisherman's tillage, and the swaying of flat boats around Tortoise Head Garden. In 1924, after visiting the Taihu Lake, Guo Moruo wrote in the *Drifting Trilogy-Purgatory*: "The sun is going to fall. The seventy-two peaks on the lake are sometimes dark blue, sometimes light purple, and sometimes are hung over by the white vague mist. Half of the golden light from the west sky turns the lake into orange." This is also a high praise for the beauty of Taihu Lake.



Figure 5 *A Picture Describing the Returning to the Baojie Mountain*, Ming Dynasty (It is now a collection of the Palace Museum, provided by Huang Xiao)



By the middle of the 20th century, the *Taihu Lake Landscape Line* contained precious images during the period of the Republic of China (Figure 6). It vividly displayed the overall scene of the Taihu Lake's thousands of flat boats and the brilliance of light and shadow. In addition, it described the distinctive scenery of Tortoise Head Garden and Maji Mountain separately. Most of these photos have the cultural landscape intentions such as pavilions, terraces, boats, etc. At that time, people have naturally combined the beautification of landscape with the tourists' recreation, and have regarded both of them as an important part of the "landscape" of Taihu Lake.



Lots of sailboats are competing across Taihu Lake fiercely



The light and shadow of Taihu Lake



Shanjuan Hole in Yixing



Maji Mountains



Tortoise Head Garden



Jichang Garden in Huishan

Figure 6 Landscapes of Taihu Lake Basin(Quoted from reference [6])

4. National Taihu Lake Park

Based on superior natural and social conditions, Chen Zhi completed the planning of the National Taihu Park. At that time, people had already recognized the scenery of Taihu Lake that combined nature with the man-made. Chen Zhi had accepted a certain concept of national park. Therefore, on the one hand his design took the beautification of the Taihu Lake landscape into consideration, and on the other hand, he maximized its recreational functions from the perspective of park development and construction. Chen Zhi inspected the landscape resources of the Taihu Lake Basin in detail and conceived the development and construction of the park in terms of traffic, supporting facilities and the construction of scenic forests.

4.1 Remarks on Landscape Resources

Chen Zhi's commentary on landscape resources starts with the existing natural and artificial landscapes, taking into account the landscape's beautification and utilization potential, as well as the consideration of recreational facilities.

On the macro structure, Chen Zhi described the grand scene of the Taihu Lake region and elaborated the landscape pattern of Taihu Lake. Maji Mountain and Dongting Mountain are the skeletons of the region. Dagong, Xiaogong, Qianshan, Shaoshan and other natural landscapes are embedded therein. It also summarizes the four forms of lakes, islands, plains, and mountains in the Taihu Lake region. On the landscape of the Middle View, Chen Zhi discussed the landscapes by dividing them into two parts--landscapes in the lake and landscapes around the lake. In the lake, the three islands of Dongshan, Xishan and Majishan were introduced in detail (Figure 7). There are cultural landscapes such as the Ancient Snow Temple and Tsz Wan Temple in Dongshan. Swimming pools and bathing areas can be built in Xishan Mountain. Maji Mountain needs protection owing to



severe deforestation. Around the lake, Chen Zhi divided the landscapes into 7 regions, namely Wujiang, Wuxian, Wuxi, Wujin, Yixing, Changxing and Wuxing.

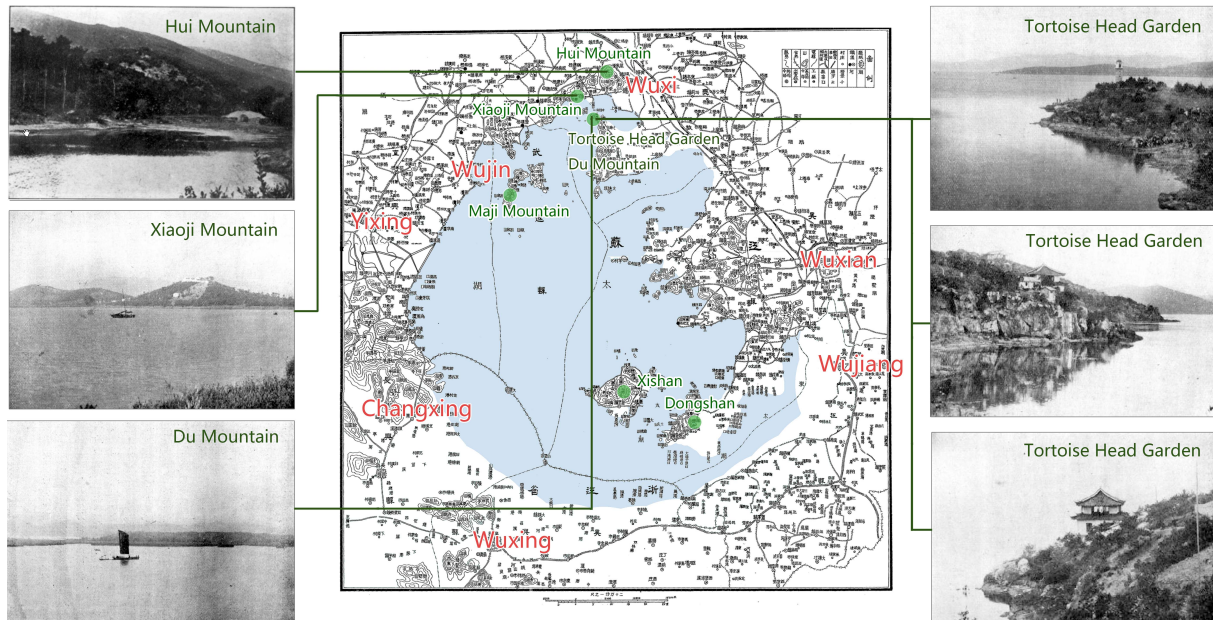


Figure 7 Chen Zhi's photographs and plans of the Taihu Lake Basin (redesigned from reference [5])

Chen Zhi's understanding of the landscape is also an environmental aesthetics concept that inherits Chinese traditional concepts. It integrates nature and the man-made. Text and photographs in the design text confirm this. Natural mountains, lakes, springs, islands, rock formations, and the view of the eagle flowing in the sky and the fish leaping in the water are what Chen Zhi pays attention to. Artificial temples, pavilions and terraces, and farming and fishing are also things he wants to beautify. In response to people's needs, Chen Zhi conceives two areas suitable for bathing in Wuxi and Xishan to provide recreational activities outside sightseeing. However, Chen Zhi's use of the lake does have some limitations. In the Theory of Cities and Parks, there are explanations for the use of water. For the use of waterscapes such as Xuanwu Lake, Daming Lake, and West Lake, natural tourism is still the main theme. Occasionally, activities such as swimming, fishing, and cruises are mentioned. Contents of dredging and water management etc. need to be deepened later.

4.2 Transportation System Planning

On the basis of exploring landscape resources, Chen Zhi takes into account the realization of the recreational functions of the national park, which requires a convenient transportation system in the Taihu Lake Basin. Chen Zhi has designed the traffic system from three aspects of water transportation, land transportation and electrical transportation. In terms of land transportation, Chen Zhi takes the Huanhu Road and Huanshan Road into consideration and emphasizes that "in a small area, we should intentionally twist the road to attract people, so as to extend the time; and in a large area, the width of the road should be wide, and cars should be driven straight. Time is the principle." There are detailed considerations for the width and type of the road. In terms of water transportation, Chen Shi emphasizes the necessity of water transport in light of the current state of national parks. "This park is centered on Taihu Lake, and its watersheds are numerous, so if we would like to have a glimpse of the lake...and get a view from all over the mountains, we will need boats. Otherwise, it will be difficult to get things done." The configuration of steamboats, sailboats, and melon boats has been planned in detail. In the area of electrical transportation, telephone and telegram should be set up to make the information more timely. The supporting facilities for this type of communication facilities are incorporated into the transportation system by Chen Zhi. The design of the three above mentioned aspects not only focus on the time, but also meet the needs of development for a period in the future.

4.3 Perfection of the Supporting Facilitates



In addition to transportation, the supporting facilities of the park are indispensable for the realization of recreational activities. Chen Zhi emphasizes that Taihu Park should be built with restaurants, hotels, swimming pools, electric lights, botanical gardens, zoos, playgrounds, parking lots, signs, museums, pavilions, benches, bridges, and guard posts. The design of Taihu Park mainly has two characteristics:

The first point is the design of tourist-oriented considerations, including the number of facilities, their forms, and even their production methods and operating channels. In the design of the swimming pool, the needs of different groups are also taken into account and several women's swimming pools should be built. The second point is to fully understand the significance of national parks for scientific research. In the construction of many ancillary facilities, services for scientific research should be mentioned. For example, in the construction of the museum, it is said that "for the purpose of academic research, all the materials in the hospital are concentrated." It can be said that Chen Zhi's consideration of the significance of the construction of the national park is very profound, considering future scientific research needs. Of course, there are also imperfections. In terms of the number of supporting facilities, he emphasizes that "more and better" and does not give a suitable reference range.

4.4 Construction of Landscape Forest

Regarding the beautification of the landscape, Chen Zhi also relies on his professional advantages to separate the construction of scenic forests (including scenic forests and street trees) into a chapter. He believes that the scenic forest should regard "beauty" as the main purpose, and "regard reconciling colors as the top priority." The scenic forest, also known as Fuchirin (风致林 Feng Zhilin) [4], is a term used in agriculture and forestry in Japan. The Japan scenic forest is a protected forest that is set up to protect the historical sites and natural landscapes of shrines and temples. Tamura set up a research room for scenic forest planning in 1920 and emphasized that landscape forests are an important factor in the landscape. It not only has a unique aesthetic feeling, but also sets off the background of the main theme of the landscape. It plays an important role in the aesthetic and ecological aspects. [16]. This idea is once again given direct feedback in Chen Zhi's planning of the national park.

As for the planting of landscape forests, Chen Zhi considers it from the perspective of tree species and operations. In terms of tree species, he believes that the Taihu Lake basin is "very suitable for the planting of various warm-banded trees." He also emphasizes the use of native plants. In terms of operations, it may not be too much because of space limitations. As for the planting of street trees, Chen Zhi also specifically mentions tree species, such as poplar, weeping willow, acacia, and so on. In terms of operations, there are also detailed regulations on the planting modulus of street trees. In consideration of the large number of trees required, Chen Zhi believes that there should be a large number of nurseries in need to prepare for the need.

5. Summary and Suggestions

This Taihu Lake project is a representative of the international communication of the national park concept, and is the embodiment of the concept's initial dissemination in China. Chen Zhi's National Taihu Park design has three major breakthroughs:

First of all, he fully realizes that the purpose of the establishment of the national park is to protect the economy and to protect natural human resources, emphasizes the recreation and beautification of the landscape, and innovatively puts forward the significance of the national park for scientific research. Second, he plans the National Taihu Lake Park in detail, changing the method of protection from a passive one to a positive one, and he hopes that people will have more chances to be close to nature and to study nature. Third, Chen Zhi combines the background advantages of his professional agricultural and forestry knowledge and his landscape architecture knowledge, introducing the concept of scenic forests into China, and plans and designs agricultural and forestry special projects for national parks.

After years of development, certain achievements have been made in the protection and development of the Taihu Lake Basin. In July 2016, the Overall Planning of Taihu Lake Scenic Area (2001-2030) was approved by the State Council and was replied by the Ministry of Housing and Urban Development. The Taihu Lake Scenic Area has ushered in new developments. This is a modern response to the idea of Chen Zhi's National Taihu Lake Park. The Taihu Lake landscape will be continued in the new round of construction.



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Image sources

Figure 1: Repainted by the author from Japanese elevation map

Figure 2: Cited from *Conspectus of Landscape Making*



Figure 3: Cited from <http://www.a.u-tokyo.ac.jp/history/>

Figure 4: Cited from <http://www.a.u-tokyo.ac.jp/history/>

Figure 5: It is now a collection of the Palace Museum, provided by Huang Xiao

Figure 6: Quoted from reference [6]

Figure 7: Redesigned from reference [5]