Analysis of Suzhou's Ecological Environment Construction Measures Based on Caohu's Experience and Achievements

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Abstract. In recent years, the city's ecological environment construction and environmental protection work have made good progress. The ecological environment still have many weak links and problems in the construction of ecological environment. This article combines Suzhou's achievements and experience in ecological environment construction of Caohu Lake, and analyzes Suzhou's measures and achievements in ecological environment construction and environmental protection. Provide experience reference for the construction of ecological environment in other regions.

Keywords: Caohu Lake; ecological environment, water consumption, air quality.

1. Introduction
Suzhou is endowed with good ecological resources and rich in waters and villages. It is known as the "Oriental Water City" and "Heaven on Earth". Protecting and managing this land and water well, taking the road of green development, and leaving room for sustainable development for future generations are the core elements of Suzhou's efforts to promote the construction of ecological civilization. The Suzhou Municipal Government has always adhered to the strategic concept of "environmental development" and "green development", taking environmental protection as an important political task, as the core content of the vanguard of the construction of the "strong, rich and beautiful" new Jiangsu. And promote the progress of ecological civilization construction and environmental protection. The Suzhou Municipal Government continuously makes new progress and achievements, and continuously improves the people's satisfaction and sense of acquisition of the ecological environment [1,2]. Under the guidance of the spirit of the 19th National Congress of the People's Republic of China, Suzhou has continuously promoted the construction of ecological civilization. Suzhou must firmly establish a socialist concept of ecological civilization, unswervingly remove the path of civilization development in production development, affluent life, and good ecology, and place ecological environmental protection in a more prominent position. It is necessary to put the construction of ecological civilization in a more important position, correctly handle the relationship between economic development and environmental protection, adhere to the priority of environmental protection, resolutely take the path of green development, circular development, and low-carbon development, protect the ecology in the development of the economy, and protect the ecology China promotes development and improves environmental quality in the development of the economy. We should resolutely abandon the old road of extensive growth in the past, and would rather temporarily slow down a bit, but also do a good job of the two articles of environmental protection and transformation and upgrading. Further establish the concept of respecting
nature, adapting to nature, and protecting nature. We must attach importance to ecological protection as we value economic development, and do a good job of environmental construction like we do projects and investment promotion.

2. Countermeasure
In recent years, the capacity for green and low-carbon development has improved significantly. The construction of the Taihu Ecological Protection Circle and the Yangtze River Ecological Safety Belt was accelerated, and the ecological environment continued to improve. The industrial structure has been optimized, and the proportion of the tertiary industry has exceeded 50% [3,4]. The total energy consumption of industrial enterprises fell by more than 7 million tons of standard coal, and the water consumption per unit of GDP fell by more than 20%. The overall quality of the environment has improved significantly. In 2019, the average concentration of PM2.5 in the urban area decreased by 38.6% from the 2013 baseline, and the number of days with good air quality increased by 44 days; the proportion of section III with excellent water quality reached 74%, and there was no inferior V section. The city organized the implementation of more than 3,000 key pollution control projects, rectified nearly 4,000 coal-fired boilers, eliminated more than 220,000 yellow-label vehicles and old motor vehicles, and the capacity for safe disposal and utilization of hazardous waste increased by 40%. Since the implementation of the new environmental protection law, a total of 5,606 cases of environmental violations have been filed and investigated; 250 cases of environmental violations have been filed and investigated, and 458 criminal suspects have been arrested, all reaching record highs. In 2015, Suzhou became the province's first provincial-level eco-industrial park with full coverage of prefecture-level cities; in 2016, the country's first national eco-city cluster was built, and Suzhou and Kunshan became the country's first It was approved as a national ecological garden city; in 2017, Suzhou became the first national demonstration city of ecological civilization construction and the first batch of beautiful landscape cities [5-7]. Suzhou Environmental Protection Bureau was awarded the honorary title of "National Advanced Group for Environmental Protection System".

![Figure 1. Standard coal, water consumption and air quality comparison](image)

Suzhou implemented a series of atmospheric governance. Change the extensive development model, continuously optimize the industry and energy structure, deepen energy conservation and emission reduction, eliminate backward production capacity, and develop green GDP. By the end of 2019, the
city has shut down and eliminated 4190 backward and inefficient production capacity companies and 1848 chemical companies; implemented a total of 315 energy-saving technological transformation projects, completed an investment of 2.02 billion yuan, and reached 411 "Energy Efficiency Star" companies. Suzhou is the first city in Jiangsu province to build an industrial enterprise resource-intensive use of big data platforms, carry out comprehensive evaluation of industrial enterprises, and use market-oriented means to force enterprises to improve quality and increase efficiency and green development. By the end of 2019, a total of more than 2,100 treatment projects have been implemented, with a total investment of nearly 100 billion yuan, nearly 4,000 coal-fired boilers have been rectified, and a heavy pollution weather monitoring and early warning system has been built [8].

Suzhou vigorously implement the water pollution prevention action plan, comprehensively promote Taihu Lake governance and Yangcheng Lake ecological optimization actions, and implement a total of 2,455 key projects. Deepen the prevention and control of industrial pollution, carry out compliance with industrial pollution sources, and eliminate 996 low-end and backward productions. Promote the prevention and control of agricultural pollution, carry out livestock and poultry farming and purse seine farming and remediation, all the farmers in the newly designated forbidden areas will be shut down, 170 farms in the Taihu First-level Protection Zone will be shut down in advance. And the Taihu Lake body and coastal tidal flats will be completely cleaned up and removed. The illegal seine is 4950.9 mu. Strengthen the treatment of domestic pollution, promote the construction of rainwater and sewage diversion pipe networks and upgrade the standards of urban sewage treatment plants. In 2019, 887 kilometers of sewage pipes were added, the urban sewage treatment rate reached 97%, and the rural sewage treatment rate reached 80%. Vigorously rectify the black and stinky river channel, and start to rectify 105 river channels. By the end of 2019, the water quality of Lake Taihu and Yangcheng Lake was 74.0% better than that of Category III, and the water quality standard of drinking water sources reached 100%.

The beautiful ecological environment is the most beautiful business card of Caohu. In recent years, Caohu Sub-district of Suzhou has actively implemented the concept of "green water and green mountains are wealth". Adhere to green development, effectively promote the construction of ecological civilization, with the goal of preventing floods and water logging to ensure safety. The river chief performing duties to manage rivers and lakes, and smooth the water system, implement the innovative project of "the river leader leads the demonstration to create the cleanest lake", focusing on
implementing along the Caohu overall environmental improvement project and Wangyu River. The water environment improvement project of the industrial zone have steadily promoted various water conservancy and water works, and strived to create a good water environment and water ecology.

Caohu Sub-district strengthens the implementation of responsibilities, builds a guarantee system, promotes the work of river system, and conducts normalized management of river channels. Caohu Sub-district establishes a leading group for the demonstration area of river maintenance standardization, solidly promote the regulation of rivers and lakes within the jurisdiction, and assist river leaders at all levels to carry out patrol, management and protection of rivers. A total of 67 river-length publicity signs were established in the jurisdiction, including 4 blocks at the district level and above, 2 blocks at the town level, and 61 blocks at the village level. More than 50 publicity boards for various river and lake conservations were simultaneously arranged. Carry out the renovation of intercepting facilities in rivers and lakes and the area, clean up ships and shacks along the route, promote comprehensive management, and vigorously improve the water surface environment within the jurisdiction. Caohu streets have stepped up efforts to improve, and the ecological environment of Caohu has improved significantly. At present, there are 4 backbone rivers above the district level, 2 town-level rivers and 61 village-level rivers in the street. The water surface cleaning tasks in the jurisdiction area are routinely salvaged and cleaned by river cleaning personnel. Caohu Sub-district mobilizes young cadres to be leaders, propagandists, and practitioners of water management, regularly organize volunteers to conduct river patrols, clean up riverbank sanitation, organize into communities to promote the idea of love for rivers, and protect rivers and homes with practical actions. Caohu Sub-district carries out dredging work on the backbone river branch and other rural rivers, and completed 11.3 kilometers of 9 treaties for Backbone River and branches of Wangyu River.

Caohu Sub-district clean up the construction along the Wangyu River more than 500 remaining wooden piles, cooperate with Rongwang environmental protection to open the east side of the river channel, unblock the original Shangbang Village water system, and speed up the circulation of water. Caohu Sub-district carries out special clean-up activities for water-related illegal construction and ships in the jurisdiction, and dismantles sheds and various types of fences. There are about 2,000 square meters in 6 places and more than 240 sunken and miscellaneous ships have been cleaned. Water environment governance is the call of public opinion and the responsibility of the times. Unify the thoughts on the whole street, firmly follow the path of ecological priority and green development, and strive to write a new chapter of beautiful, Caohu with the greatest determination and the most powerful measures to achieve comprehensive governance, water quality control must also be taken from the source. In 2019, in order to promote the improvement of the water environment of Caohu Lake and promote the comprehensive improvement and construction of aquatic ecology, Caohu Subdistrict coordinate with relevant departments to carry out special rectification work to solve the problems of water resource protection, water environment improvement, and cleaning up of floating garbage. By renovating village channels in the jurisdiction, looking forward to the dredging project of the Yuhe River and Caohu branch and the water environment improvement project of the industrial zone, etc., in accordance with the arrangement of superior tasks, actively promote the governance of the water environment of the jurisdiction, improve water quality, create a smooth water system, and build ecology beautiful river and lake. Caohu Sub-district actively promote the construction of a municipal-level river management and protection demonstration area, lay out 7.5 kilometers of 60 acres along the river, and more than 30,000 plants of various types of vegetation, further accelerate the realization of river flow, clear water, green shore, and beautiful scenery. Ecology and environmental protection are of great benefit in the contemporary era. In 2020, Caohu Sub-district will continue to improve the long-term organizational system of rivers and lakes, and continue to improve the appearance of rivers and lakes and the aquatic ecological environment.

The seven major actions of the "Three-year Action Plan for the Improvement of the Ecological Environment" include adjustment of industrial structure, construction of national circular economy demonstration cities and low-carbon cities, closure of non-standard enterprises and elimination of low-end and low-efficiency production capacity and continuous development of "scattered pollution"
enterprises (workshops). Remediation work is the content to promote green development actions; water pollution control in Taihu Lake, ecological optimization of Yangcheng Lake, comprehensive treatment of key rivers and lakes, treatment of urban and rural rivers and black and odorous water bodies, comprehensive discharge of industrial pollution sources, and reduction of agricultural non-point source pollution. Action; total coal consumption control, volatile organic compounds control, dust control, motor vehicle tail gas pollution control, ship pollution control, atmospheric environment control actions; soil pollution status investigation, safe use of contaminated agricultural land, safe use of polluted land Environmental protection actions for the content; ecological restoration and protection actions for the red line management and control, comprehensive land remediation, wetland protection, and green Suzhou construction; urban and rural sewage treatment, solid waste disposal and utilization, harmless disposal of garbage and resource utilization Contents of environmental infrastructure construction actions; environmental risk prevention and control management and emergency disposal, water quality monitoring and early warning, port wharf and ship pollution management, nuclear and radiation control and control content to enhance environmental risk prevention capabilities.

3. Conclusion
The total area of Suzhou City accounts for 0.09% of the country's total land area. Not only has it created 2.3% of the country's GDP and 2.9% of fiscal revenue, but the environmental quality has remained stable and improved. At the same time, in the past five years, the total emissions of major pollutants in Suzhou have continued to decline, with chemical oxygen demand, ammonia nitrogen, sulfur dioxide and nitrogen oxides falling by 32.8%, 22.4%, 33% and 34.6%, respectively. This set of data shows that Suzhou has made remarkable achievements in the construction of ecological civilization in recent years. For the economy to grow, the environment also needs to be improved. Suzhou has achieved mutual promotion of economic development and environmental protection. Suzhou firmly establishes the concept of "ecological priority, green development", resolutely implements the deployment requirements of the central government and the provincial party committee and provincial government on environmental protection work, correctly handles the relationship between economic construction and environmental protection, and strives to take advantage of production development, affluent life, and good ecology. On the road of sustainable development, with the continuous growth of the total economic volume and the increasing urbanization rate, the ecological environment continues to improve, and the ecological barrier is more consolidated, achieving green and low-carbon development capacity, overall environmental quality, pollution control and emission reduction, The effectiveness of environmental supervision and law enforcement and ecological creation have been significantly improved.

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