

Exploration and Practice of “Five Waters Integration” in the Eco City of Dongying

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Abstract

Dongying Swan Lake Flood Storage Project is a major strategic project planned and implemented by CPC Dongying Committee and Dongying Municipal Government. Focusing on urban flood control security, ecological security, water security and future development of the city, it will integrating “water resources, water ecology, water environment, water security and water culture”(Five Water Integration). In-depth analysis and summary of the construction background, implementation process, change effectiveness and experience inspiration of this project is of great theoretical and practical significance to strengthen urban governance and promote the modernization of municipal governance.

Keywords

Ecological civilization construction; Swan Lake Project; Five Water Integration; Dongying City.

1. Introduction

On September 18, 2019, General Secretary Xi Jinping hosted a symposium on ecological protection and high-quality development of the Yellow River Basin in Zhengzhou, Henan Province, and delivered an important “9.18 speech” named Speech at the Symposium on Ecological Protection and Quality Development of the Yellow River Basin. He proposed a few important assertions such as “Let the Yellow River become a river of happiness for the benefit of the people” and “depending on water, act according to the amount of water”, making a blueprint for the management and protection of the Yellow River in the new era. Subsequently, the ecological protection and high-quality development of the Yellow River Basin was elevated to a national strategy. Dongying Swan Lake Flood Storage Project is a major strategic project planned and implemented by CPC Dongying Committee and Dongying Municipal Government. Focusing on urban flood control security, ecological security, water security and future development of the city, it will integrating “water resources, water ecology, water environment, water security and water culture” (Five Water Integration). It is aimed to ‘play a good implementation of major national strategies ‘first move’ to create the Yellow River Delta ecological protection and high-quality development ‘pioneer area’’. In-depth analysis and summary of the construction background, implementation process, change effectiveness and experience inspiration of this project is of great theoretical and practical significance to strengthen urban governance and promote the modernization of municipal governance.

2. Realistic background of the construction of Swan Lake Flood Storage and Retention Project

Dongying is a city facing to the Bohai Sea. The Yellow River, Mother river of the Chinese nation, flows into the Bohai Sea through Dongying from west to east. Because of its unique geographical position, Dongying is known as the "Water City of the Yellow River". The city should be with sufficient water resources blessed by the Yellow River and has a strong ability to discharge flood for its facing the sea. However, the city's flood control safety, ecological safety, water safety and other problems have been bothering the people of Dongying.

2.1. Frequent Urban Flooding

In recent years, due to extreme weather, Dongying city has suffered from typhoons and rare heavy rainfall. In 2018, "Storm Yagi" and "Typhoon Rumbia" passed through the city. During the period of "Typhoon Rumbia", the rainfall in the city was as high as 302mm, with a total precipitation of nearly 2 billion cubic meters, equivalent to 763 Qingfeng Lake (located in the downtown of Dongying city, storing about 2.6 million cubic meters of water). More than 13,000 vehicles in the city were flooded. In 2019, super typhoon "Lekima" brought the strongest rainfall in dongying city during the same period in history. From 9 o'clock on August 10 to 11 o'clock on August 13, the average precipitation of Dongying city was 342.5 mm, breaking the historical extreme value, and the maximum precipitation point reached 464 mm. More than 4100 vehicles in the city were flooded. The sudden continuous rainstorm brought a severe test to the urban flood control work in Dongying city. Many places in the central city experienced extremely rare large area of water, and "waterlogging" appeared in different degrees, which brought great inconvenience to the normal production and life of the people, and even affected the safety of life and property of some people. Through the blanket mapping and comprehensive investigation and demonstration, it is found that the root cause of waterlogging is the lack of emergency treatment capacity and effective flood storage and detention measures. Once there is the coexistence of heavy rainfall and the sea water brought by the strong storm surge, the rain and flood cannot be discharged, which is easy to form urban waterlogging.

2.2. Limited Total Amount of Ecological Water

Dongying occupies 296 cubic meters of local water resources per capita, which is only 11% of the national average and less than 3% of the world average. It is far below the internationally recognized critical value of 1000 cubic meters of water resources per capita. Dongying is a typical water-shortage city in northern China. Due to uneven precipitation of different regions within the City, 75% of the annual precipitation mainly concentrated in the flood season (June to September). During the eight drought months, the amount of precipitation accounts for only about 25% of the annual precipitation. The surface runoff supply is insufficient, leading to regional internal waters fragile ecological condition. The natural repair ability is relatively poor, it is in great need to use of the Yellow River ecological water for ecological protection and restoration. The total amount of water resources available in Dongying City is 1.3 billion cubic meters. Local water resource availability is 265 million cubic meters (surface water 180 million cubic meters, groundwater 85 million cubic meters), and customer water availability is 1.035 billion cubic meters (including the Yellow River 728 million cubic meters, the Yangtze River 200 million cubic meters, the Zhimai River 36 million cubic meters and the Xiaoqing River 71 million cubic meters). Although there are a number of rivers in Dongying city, such as Guangli River, Yihong River, Xinguangpu River, etc., most of these rivers are artificial channels for flood control and drainage with little stable water source, small watershed area and limited storage capacity. For example, Xiaoqing River and Zhimi River have sufficient rain and flood, but the rain and flood regulation and storage project, water pump station and other supporting

facilities are not perfect, resulting in the low utilization rate of the development of rain and flood resources in the city under the current conditions.

2.3. Poor Regional Ecological Environment

The area where the Swan Lake flood storage and detention project is located is adjacent to the Nanjiao Reservoir in the west, which is an important drinking water source of Dongying city. It is connected to Guangnan Reservoir in the east, which is the main regulation and storage reservoir of the emergency project of the East Yellow Water Diversion project, and it can guarantee the production and domestic water demand of the four cities in Jiaodong Peninsular. It is also an important strategic reserve water source of Dongying City, and its geographical location is extremely special and important. Before the implementation of the Swan Lake flood storage and detention project, there were a large number of scattered and polluting enterprises such as saltpan, breeding plant, bromine plant and commercial concrete station in the region. The regional ecological environment problems and poor conditions not only seriously affected the city image and ecological environment quality, but also brought great hidden danger and serious threat to the water source security.

2.4. Slow Shift of Growth Drivers

Most of the original enterprises in the region are the traditional industries and production capacity of "three high and one low" (high input, high energy consumption, high pollution and low benefit), and the projects of "two high and four new" (high output, high added value, new technology, new industry, new form of business and new mode) are scarce. The contradiction between regional economic development and the carrying capacity of resources and environment is prominent. There is a large amount of backward production capacity, the cultivation of new development drivers is lacking, the capacity of sustainable development is insufficient, and the environmental risk is high.

3. Basic process of construction of swan Lake flood storage and detention project

In view of the above problems, how to coordinate the relationship between city and water, people and water, wetland and water, environment and water? Dongying City has found the answers from the concepts and requirements of General Secretary Xi Jinping, such as "depending on water, act according to the amount of water", "promoting the economical and intensive use of water resources", "giving priority to water saving" and "system governance", that is, "Integration"-integration of "water resources, water ecology, water environment, water security and water culture" to solve security problems, make use of limited resources and conserve water intensively. With the technical support of top experts in China, Dongying took the lead in putting forward the concept of "Five Water Integration" in the country, and landed this concept in the Swan Lake flood storage and detention project. Swan Lake flood storage and detention project is located in the southeast of downtown, from Guangli River to the north, Zhimai River to the south, Dengzhou Road extension line to the west and Guangnan reservoir west pipeline road to the east. It covers an area of about 40 square kilometers and is divided into two north and south flood storage and detention areas. The total flood storage capacity of 42 million square meters. The northern flood storage and detention area covers 20 square kilometers with a capacity of 30 million square meters, while the southern flood storage and detention area covers 12 square kilometers with a capacity of 12 million square meters.

3.1. Build a Crucial Team as soon as Possible

CPC Dongying Committee, Dongying Municipal government conducted special research. They set up a special work team led by Wang Xiaojun, Standing Member of CPC Dongying Committee

and Executive Vice Mayor and Han Lixue Vice Mayor of Dongying City and determined the "trinity" construction mode of "integrated planning by the work team, constructed by enterprises and territorial relocation and occupation". "Integrated planning by the work team" -Led by Dongying municipal Bureau of Water Affairs, Dongying municipal Bureau of Natural Resources and Planning, Dongying municipal Bureau of Administration of Housing and Urban Construction, Dongying municipal Bureau of Culture and Tourism, Management Committee of Dongying Economic and Technological Development Zone, Dongying Urban Construction and Investment Company as well as Luchen Water Affairs Company sent business backbone personnel to set up a special engineering work team which is responsible for project schedule planning and design, supervision, organization and coordination, overall consideration, etc. "Constructed by Enterprises"-Dongying Urban Construction and Investment Company shall be the main body of the implementation of the specific organization of the project implementation and be responsible for the financing of the project construction. The whole project investment did not use budgetary funds, but taking use of special debt, supplementary capital, bank loans, the capital market bond issue, packaging projects to attract investment and other ways to effectively solve the financing problem. Dongying Urban Construction and Investment Company, Dongying Municipal Bureau of Water Affairs and Dongying Municipal Landscaping Center shall be responsible for the construction of the project. "Territorial relocation and Occupation"- The project is located within the administrative region of Dongying Economic and Technological Development Zone, covering an area of 40 square kilometers, The area is covered with salt pans, bromine plants, farms, oil Wells and power lines, with complex historical and ownership relations. In order to effectively promote the speed of project relocation, the administrative committee of Dongying Economic and Technological Development Zone is determined to be responsible for the relocation of the project area.

3.2. Making Favorable Top Level Design and Planning

Planning goes first in project construction. In order to ensure the Swan Lake flood storage and detention engineering fully embody the concept of "Five Water Integration", Dongying city gives priority to planning, strengthens the top-level design. Through bidding, it introduced a top institution led by professor Yu Kongjian, dean of the school of architecture and landscape design, Peking University- Beijing Turen Urban Planning and Design co., LTD. According to the regional characteristics of the project, combined with the advanced experience of wetland construction in many cities in China, and through full demonstration and research, the *Construction Planning scheme of Swan Lake Flood Storage and Detention Project* has been compiled and completed. The project is positioned as a lake swamp-type urban flood detention wetland with primary function of flood storage and detention, and ecological service functions such as water conservation, groundwater recharge, bird habitat and climate regulation. By connecting the river and wetland, it increases the function of flood storage to guarantee the safety of urban flood control. The water pollution will be reduced and the water conservation and groundwater replenishment ability will be improved. To improve the habitat conditions of living creatures, it withdrawals salt pan to flood detention wetland. Making full use of rain and flood to increase regional water capacity, it improves urban climate and alleviate heat island effect. It uses its wetland resources to develop urban waterfront leisure, wetland ecological recreation and wetland cultural tourism industry. The project fully embodies the concept of "Five Water Integration", covering the storage, purification, ecology, cultural tourism and other functions.

3.3. Three-step Construction Mode

In order to ensure the orderly development of the project, the CPC Dongying Committee and Dongying Municipal Government set up a systematic thinking and determined the "project construction trilogy" of flood storage and detention project construction, wetland construction

and cultural tourism project construction. The first step is the construction of flood storage and detention area. By excavating 11 kilometers of water system, dredging through 40 square kilometers of flood storage and detention area, and building more than 30 hydraulic structures, two flood storage and detention areas in the north and south have been formed, with a total flood storage capacity of 40 million square meters. The second step is wetland construction. After the completion of the flood storage and detention project, wetland construction will be carried out. The wetland project is mainly concentrated in the northern flood storage and storage area, covering an area of 28 square kilometers, to make a city-wet-lake experience corridor, lake recreational ecological loop and urban colorful ecological green corridor. The three characteristic corridors will run through the scenic area. It will also build three state islands namely 100 mu of lotus pond, thousand mu of weed island, wetland new garden and other waterfront plant space. The third step is the construction of cultural and tourism projects. It will be promoted simultaneously with the construction of wetland projects, and promote the development of regional cultural tourism industry through attracting cultural tourism investment and introducing strategic investors.

3.4. Establishing a Supervision and Assessment Mechanism

In order to ensure the Swan Lake flood storage and detention project to play a role in the flood season, CPC Dongying Committee and Dongying Municipal Government decided to complete the construction of the first phase of the flood storage and detention project by the end of June 2020. The project has been fully started since November 2019. Facing the arduous task of excavating 11 kilometers of water system, dredging through 40 square kilometers of flood storage and detention area, building more than 30 hydraulic structures and 49 kilometers of new roads. The construction period is only 8 months, and the time is tight and the task is heavy. To this end, the special work team established the supervision and assessment mechanism, carded the formation of the project schedule and engineering cross chart, making schedule coordinately and strictly adhered to the schedule. "Three One" inspection mechanism has been established. "One week scheduling"-The special work team established a joint meeting system, held a weekly meeting of the relevant units to report this week's work, to remind each unit this week should complete the key tasks. "Inspect once a week"-Organize inspection team to conduct field inspection every week and make records. "Notifying each month"-report the monthly completion of work to all relevant units. Finally, a good situation has been formed, ensuring that all parties involved in the construction accelerate the project according to the time node.

4. Changes in the construction of the Swan Lake flood storage and detention project

The project has solved the problem of water control in Dongying for many years, strengthened the determination of the leading cadres to control water, improved the urban flood control and drainage, improved the environment, made new achievements in the clean water and shore, and gained a good reputation which was praised by all parties and people's satisfaction. The changes can be summarized in the following five aspects.

4.1. Water Security: Urban Flood Control and Drainage has been Upgraded

The primary function of the swan Lake flood storage and detention project is to ensure the safety of flood control and minimize the flood disaster. The project has built two flood storage and detention areas covering an area of 40 square kilometers, with a total flood storage capacity of 40 million square meters. Among them, the northern flood storage and detention area covers an area of 28 square kilometers, flood storage capacity of 28 million square meters, mainly receive the Guangli River flood, through the Dongsu Road water system, Xuzhou Road water

system, Dongqi Road water system inlet sluice 170 discharge (m^3/s) minute discharge Guangli River flood; The southern flood storage and detention area covers an area of 12 square kilometers and has a flood storage capacity of 12 million square meters. It mainly receives the flood of Xinguangpu River and releases the flood of Xinguangpuhe River by 45 flows (m^3/s) per minute through the entrance sluice of the southern flood storage and detention area. The south and north flood storage and detention areas are connected through the Xuzhou Road water system, and they both assume the task of flood storage and detention by camera storage. Swan lake engineering can collect a flood storage and detention downtown rain floods, within the scope of 222 square kilometers of downtown planning area of 486 square kilometers, nearly half of adopting "swallow to vomit, vomit after swallow" in operation, timely given upstream flood peak, timely discharge flood detention, to realize the downtown flood control and drainage standard due to inadequate overall once every 10 years up to 50 years once, It improves the flood control and drainage ability of the central city and provides a fundamental guarantee for the construction of a waterlogging free city.

4.2. Water Resources: The Total Amount of Ecological Water has been Effectively Guaranteed

During flood season, it plays the function of engineering delay, storage, discharge, rainstorm period or river flood period, fast absorption of outside the center drainage river rainwater, cut flood peak, slow down the flow speed, even the runoff released. Excessive rain and flood discharge, the maximum absorption of rainwater savings, effectively avoid the previous rain and flood resources randomly discharged into the sea caused by water resources waste. During the non-flood season, functions of purifying and usage would be used. The obtained the rain flood in flood storage and detention after wetland purification standard, goes into urban channel drainage system by the gate outside into the urban drainage system and used for covering the Guangli river and ecological water use of rivers, lakes, wetland in east downtown, to achieve maximum rain flood resource utilization, change before relying too much on Yellow River water as the main source of ecological structure. On the basis of truly realizing the economical and intensive utilization of water resources, the diversification of ecological water sources has been realized, providing a stable and reliable water source guarantee for ecological water refill, and promoting the normalization of ecological water refill.

4.3. Water Ecology: Water Ecological Restoration has been Significantly Improved

Flood storage and detention project has wetland water conservation, water purification, groundwater recharge, bird habitat, climate regulation and other ecological services. The wetland area of the flood storage and detention project is up to 40 square kilometers. As rain floods enter the wetland, the flow rate slows down and toxins and impurities are deposited to the maximum extent. The water-borne, floating and submerged aquatic plants such as reed in wetland can retain, decompose, absorb and purify all kinds of sediments, poisons, impurities and nitrogen, phosphorus, potassium and other nutrients, eliminate toxins and purify water quality. After being purified by the wetland, the rain flood is discharged into the urban river system through the outlet gate, and can supplement the ecological water of Guangli River and river system, lakes and wetlands in east downtown. Wetland abundant plant communities can absorb a large amount of carbon dioxide gas, and release oxygen, some plants can also absorb harmful gases in the air to effectively regulate the atmosphere composition. Wetland as a natural humidifier. Through plant transpiration and evaporation, the water flows back into the atmosphere, increases the humidity of the air, purifies the air quality to improve local microclimate, which provides more help for birds, fish and other animal to breed, habitat and migrate. Biodiversity could be promoted by upgrading ecological service function.

4.4. Water Environment: Regional Ecological Environment Achieves a New Look

The implementation of the project has thoroughly renovated 102 saltpans, breeding plant, bromine plant, commercial concrete station and other scattered and polluted enterprises in the region. A total of 155,400 square meters of houses and houses have been demolished, 16.57 million square meters of breeding water surface and 3.34 million square meters of salt pond have been recovered, and the hidden dangers affecting the security of the two strategic water sources of Nanjiao Reservoir and Guangnan Reservoir have been eliminated. It solved several problems that are determined to be solved by CPC Dongying Committee and Dongying Municipal Government but have not been solved, tackled the influence of urban development and residents' living environment, deep-rooted miasma chronic disease, the regional ecological environment has taken on a new look.

4.5. Water Culture: The Characteristic Culture of Dongying Area is Highlighted

After the completion of the flood storage and detention project, the wetland project will be continued. The wetland project covers an area of 28 square kilometers. In line with respecting the nature and building wetland, it is designed to make a city-wet-lake experience corridor, lake recreational ecological loop and urban colorful ecological green corridor. The three characteristic corridors will run through the scenic area. It will also build three state islands, namely 100 mu of lotus pond, thousand mu of weed island, wetland new garden and other waterfront plant space. In the process of construction, we should adhere to ecological management, retain more original ecological landforms, and highlight elements such as wetland culture and petroleum culture with Dongying characteristics. At the same time, it will coordinate flood storage and detention and ecological leisure. Combined with the advantages of wetland water area, it will develop waterfront leisure and ecological recreation, expand wetland sightseeing and recreation, wetland agricultural experience, wetland cultural experience and other projects, and build itself into an urban wetland ecological leisure area integrating waterfront leisure, ecological recreation and cultural tourism upgrading, boosting the ecological protection and high-quality development of the Yellow River Delta.

5. Experience and enlightenment of swan Lake flood storage and detention project construction

"Lucid waters and lush mountains are mountains of gold and silver" embodies profound changes in China's development philosophy and model. Taking water control as the breakthrough point, the plan not only ensures urban flood control safety, but also ensures ecological water use. At the same time, it restores the ecological environment and promotes industrial transformation and upgrading. It meets the essential requirement that "clear waters and lush mountains are gold and silver mountains" and "we need to find a new governance approach from the perspective of systematic engineering and overall situation. We can no longer manage each other's situation at the expense of others. Instead, we must take a holistic approach and adopt multiple measures. The requirement of carrying out ecological civilization construction in an all-round, all-region and whole-process manner conforms to the requirements of "giving priority to water saving, spatial balance, systematic governance and both hands", "adhering to the principle of giving priority to ecology and green development, and taking measures according to local conditions and taking measures according to categories". Practice has proved that the "five waters overall planning" has improved the security of the city, the beauty of the beautiful waters and the sustainability of development, and the road to "lucidity and green mountains are golden mountains and silver mountains" has been broadened.

5.1. In line with Ecology-oriented, Steady the Rudder of Thought

Only when the concept is updated can we find a new path of ecological governance. Dongying city, guarded by Xi Jinping ecological civilization ideology, adheres to the concept of "Lucid waters and lush mountains are mountains of gold and silver", and the harmonious coexistence between man and nature, protects the ecological environment as eye protection, ecological environment with the consideration humans extend to other life the good ecological environment as the most well-being of the people's livelihood through persistent efforts. It makes ecology become the greatest wealth and advantage of Dongying. We have always adhered to the principle of "ecological benefits for the people", "ecological benefits for the people" and "ecological benefits for the people". We have formed spatial patterns, industrial structures, modes of production and ways of life that conserve resources and protect the environment, and constantly met the people's growing needs for a beautiful ecological environment.

5.2. Building a Beautiful City of People-centered

In 2018 and 2019, floods caused by typhoons and rains for two consecutive years have seriously affected the production and life of citizens in the central city. CPC Dongying Committee and Dongying Municipal Government adhere to the principal of problem orientated, scientific analyzing, careful study and judgment, in order to find the crux of the flood season, especially the super typhoon rainfall during the city waterlogging. According to local conditions, based on the "Five Water Integration", the Swan Lake flood storage and detention project was planned and implemented. Through the implementation of this project, the flood control and disaster reduction system of the central city has been enriched and improved, the flood control and drainage standards of the central city have been improved, and the problem of waterlogging in the central city has been effectively solved. At the same time, the project area was originally a bromine plant, commercial mixing station with farms all over the dirty mess. The regional ecological environment and ecological environment are bad. There are many problems that are determined to be solved by CPC Dongying Committee and Dongying Municipal Government but have not been solved. CPC Dongying Committee and Dongying Municipal Government made a firm decision to move out all the businesses in the region and tackled the most difficult problems. By implementing the Swan Lake flood storage and detention project, recovering the land and making scientific planning and utilization, the urban environment and ecological environment around the central city have been further optimized, and the livable environment and recreational places have been provided for the people, fully reflecting the orientation of the CPC Dongying Committee and Dongying Municipal Government.

5.3. Adhering to Systematic Thinking and Paying Attention to Scientific Planning

General Secretary Xi Jinping has pointed out that "We should view problems from the perspective of system theory. An ecosystem is an organic body, and we should make overall plans to control water and mountains, water and forests, water and fields, and mountains and forests." The Swan Lake flood storage and detention project is born because of "water security". In the planning process, CPC Dongying Committee and Dongying Municipal Government have a lofty idea, adhering to the principle of water determining the city, the land, the people and the production, and focusing on the integrity of the regional ecosystem and the future development of the city. Ecological management comprehensive process, the whole region, pay attention to the relationship between city and water, the relationship between human and water, the relationship between wetland and water, the relationship between wetland and the urban, the relationship between the ground and underground, water resources, water environment and water ecology, water security, water culture "Five Water Integration" blueprints, to enhance

the "five water" and the correlation of the coupling. It fully conforms to the ideas and requirements for systematic governance put forward by General Secretary Xi Jinping at the Fifth Plenary Session of the 19th CPC Central Committee. In the project implementation process, CPC Dongying Committee and Dongying Municipal Government try to make the project be systematic, holistic, collaborative by strengthening the overall planning, strategic layout, integrity. They put forward a three-step construction mode. After the completion of the flood storage and detention project, the construction of wetland and cultural and tourism projects will be carried out. Overall planning and coordinated promotion ensure the seamless implementation of the project.

In the planning and construction of the Swan Lake flood storage and detention project, we respect, conform to and protect nature, give priority to protection and give priority to natural restoration. It fully takes into account the natural factors such as the narrow and flat terrain in the central city, the relatively concentrated and single channel into the sea, and the fluctuation law of the sea tide. It insists on the overall planning of regional development and utilization and ecological management and protection, and determines the fundamental principles of retaining the original ecological landform and making the best use of the situation to build ecological water conservancy projects. Through the construction of flood storage and detention areas and river, lake and wetland connection projects, it not only fundamentally solves the problems of urban waterlogging water storage and seawater supporting, but also effectively improves the regional ecological environment through the thorough renovation of scattered and polluted enterprises such as salt pans and aquaculture plants. The ecological environment improvement effect brought by the project is becoming more and more obvious. The species of birds such as swans and wild ducks are increasing. The birds inhabit and feed on the water surface, attracting many citizens.

5.4. Adhering to Local Conditions to Build a Wetland City

Ecology is the biggest feature and advantage of Dongying. Wetland is the most valuable ecological resource and the most prominent ecological advantage of Dongying. The first international wetland city in the world is the dazzling name card of Dongying. For a city, wetland is the spirit of vitality and the soul of development. It gives birth to infinite vitality and potential. The wetland and the city coexist in harmony, which can be said to be the unique vitality of Dongying wetland. In the fourth plenary session of the sixth Session of CPC Dongying Committee, "to build the growth pole of high-quality development in Shandong Province, a cultural tourism destination of the featured by the Yellow River delta, and build a dynamic modern wetland city" were established as the development goal of Dongying in the new era. Centering on this development orientation, Dongying city focuses on building the Swan Lake flood storage and detention project to make itself a wetland civilization city of "blue and green, fresh and bright, wetland in the city and a city in the wetland". Dongying city maximizes the functions of wetland to conserve water, purify water, discharge alkali and store waterlogging, improve ecological security, and highlight the characteristics of "international wetland city".

5.5. Being Diligent and Having the Courage to Take Responsibility

The whole project is planned from the end of August 2019, and is operated from November 2019. By the end of June 2020, the first phase of the flood storage and detention project has been completed. By the end of April 2021, the second phase of the wetland project has been completed. During the process, all the participants kept a close eye on the site to spare their courage and courage, in spite of "high temperature, cold and epidemic, working hard and skillfully on both sunny and rainy days day and night". All the staff work overtime in 7 days for week. They united together and work in full sail, thus to solve various kinds of problems confronted. They removed 120 households and make 136 km power line and 40 square kilometers of inadaptable land available to guarantee the execution of the project.

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