

<b>Paper ID</b>	123
<b>Author(s)</b>	Miwa Shimada
<b>Title</b>	Chinese water conservancy projects and technology transfer
<b>Abstract</b>	
<p>This study examines the transfer of modern hydronic technology in China's water conservancy projects during the Republic of China and the early years of the People's Republic of China. I mainly focus on international technical involvement and the perceptions of water conservancy and forestry experts regarding these flood prevention projects in the upper reaches of the Yongding River. American engineers and Chinese engineers from the North China Water Conservancy Commission, who studied civil engineering in the U.S., introduced Western water management technology to this area. These engineers are connected to the Tianjin Concession and The Association of Chinese-American Engineers. They proposed constructing dams for flood control and various hydraulic plans tailored to the local land use. At the same time, the conflict between civil engineers advocating dam construction and forestry experts concerned about dam impacts was also brought from the United States to China. During the Sino-Japanese War, Japan took over their Yongding River water management project, while the Nationalist Government attempted soil and water conservation in Gansu Province. These projects continued in the development plan for the upper reaches of the Yongding River, including the construction of the Guanting Dam in the early years of the People's Republic of China. This indicates the continuity of water management projects from the Republic of China to the People's Republic of China.</p>	
<b>Keywords</b>	water conservancy project, hydronic technology, technology transfer

<b>Paper ID</b>	192
<b>Author(s)</b>	Daxue Wang
<b>Title</b>	Issues of Sino-Western Technological Exchange in Water Conservancy Projects in the Lower Reaches of the Yangtze River in Modern China
<b>Abstract</b>	
<p>China's modern water management history reflects a gradual integration of global water conservancy technologies. Starting in the 1870s, Western engineers introduced systematic data collection, advanced surveying instruments, and modern materials like reinforced concrete, shaping China's approaches. Beyond merely adopting these techniques, the interaction between Western and traditional Chinese methods offers a nuanced perspective, as seen in the bank regulation efforts along the Yangtze River near Nantong in the early 1900s.</p> <p>New sandbanks near Nantong caused severe erosion, prompting Zhang Jian to establish the Tong-Hai Pasture Reclamation Company and the Nantong Bank Erosion Prevention Association. In 1908, Dutch water expert Johannis de Rijke was invited to survey the site and propose solutions, later joined by British and Swedish engineers. Diverging opinions led to a 1914 conference in Nantong, where experts decided on a combined approach of spur dikes and cement block slope protection. This collaboration highlighted not only the blending of international experiences but also the experimental nature of global water engineering during this era.</p> <p>The project was led by Hendrik C. De Reike, Johannis' son, who applied Western techniques while respecting China's traditional methods. He studied ancient Chinese water management literature, finding parallels with Western practices. His work revealed that effective water management in China required combining both</p>	

traditions. This case demonstrates that the global spread of modern Western water technologies should not overshadow the scientific merit of traditional Chinese methods. Instead, it emphasizes the significance of their fusion, showcasing a dynamic process of technological localization and mutual influence.

<b>Keywords</b>	technological exchange, water conservancy project, the Yangtze River, Modern China
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<b>Paper ID</b>	061
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<b>Author(s)</b>	SHIGU LIU
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<b>Title</b>	People in the Lowlands: Water Management and Regional Development in the Ganjiang Delta since the Early Modern China
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#### Abstract

The Ganjiang Delta Plain is located in the north-central part of Jiangxi Province, China. It is an alluvial plain formed when the Ganjiang River was pushed up by the lake water when it flowed into Poyang Lake, the flow rate slowed down, and silt gradually accumulated. It has low terrain, crisscrossing water networks, and is easily affected by floods.

The Ganjiang Delta Plain is a typical waterfront lowland. It not only has convenient water transportation conditions and abundant aquatic resources, but also has new land that is constantly rising. It became a new place for people to develop land as the relationship between man and land became increasingly tense during the Ming and Qing Dynasties. However, the waterfront lowlands are easily affected by floods due to their low-lying terrain. In order to control floods, people used the natural flow of water to divert it and then built dams to protect polders and settlements. Therefore, water management has always been a core issue that cannot be avoided by waterfront lowland societies. It can be said that the development history of the Ganjiang Delta is largely the history of human water control and reclamation.

The development of the Ganjiang Delta Plain mainly centered around Nanchang and gradually spread to the surrounding areas, constantly competing with water for land. This article mainly focuses on the following three issues: First, as a waterfront lowland city, what kind of complex water environment does Nanchang face, and how does it handle and respond to frequent urban floods? Second, how does the unique water environment affect the livelihood patterns and settlement forms of lowland people? How do people transform the Ganjiang Delta Plain through water conservancy projects such as building embankments and sluices, thereby reshaping the lowland environment and landscape? Third, dikes, which are important for protecting the people's livelihood and national wealth in low-lying societies, are not only extremely expensive to build and maintain, but are also subject to the risk of breaching and requiring reconstruction at any time. So, what are the characteristics of social integration and local governance around the construction and maintenance of dikes?

The data of this article mainly come from the local chronicles of Nanchang, Xinjian and other prefectures and counties, as well as relevant archives held by the First Historical Archives, Jiangxi Provincial Archives and Nanchang Municipal Archives, supplemented by literary collections, newspapers and periodicals of the Republic of China, oral interviews and other materials. In addition, in order to better understand the natural environment, human settlements and livelihood patterns of this area, the author also conducted field investigations in the Ganjiang Delta area many times, and visited a number of villages in the Delta.

This article found that The Water Management of Nanchang City is mainly carried out around the East Lake in the city. The comprehensive use of water conservancy facilities such as dikes, ponds and ditches has been made to prevent the overflow of river water into the river and lake. In the hinterland of the Delta, people built the dams in the lowlands along the river and lake to block the floods outside and defend farmland inside, and setting up

the gates to leak the inner water. During the Early Modern China, the lower reaches of the Ganjiang River were flooded year after year, resulting in two peaks of large-scale dams building and lowland development. The Zhao family was one of the earliest low-land settlements in the Delta. A large number of Zhao descendants dispersed in the delta area, occupying water resources such as lake, polder and grass island, and living mainly by farming, fishing and selling grass. Although it is susceptible to frequent floods, the settlement was not interrupted by this, but continued on the basis of adaptation and modification of the lowlands.

<b>Keywords</b>	The Ganjiang delta, Lowland, Water Management, Dykes and dams, Land reclamation.
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<b>Paper ID</b>	157
<b>Author(s)</b>	Hiroshi G Takahashi and Tomoko Shiroyama
<b>Title</b>	What atmospheric patterns induced historical, catastrophic floods in East Asia? - Predictability and uncertainty –

#### Abstract

China experienced a catastrophic flood in the summer of 1931, which affected society and flood control in China. Climatologically, high precipitation is observed in the Meiyu season in China, but the timing was probably slightly different. Therefore, the cause of the high precipitation may be different from other floods in China. This paper analyzed the flooding from the perspective of atmospheric science. However, global atmospheric circulation data, called reanalysis data, is unreliable during this period. Therefore, we had to rely on other sources. The 1931 flood was probably to have been caused by tropical cyclones in early August 1931 in the post-Meiyu season. Actually, high precipitation was observed in July and August, which was not the main Meiyu season. The tropical cyclones in the atmospheric reanalysis around 1931 are unlikely to be reliable, but the presumed certainty of the existence of the tropical cyclone of 1931 has been increased by historical documents. Tropical sea surface temperature anomalies of post-El Niño might not have directly contributed to the 1931 floods. Also, we should also be noted that unusual weather events during El Niño years are not explained deterministically, which are stochastic.

<b>Keywords</b>	Asian monsoon, flood, China, atmospheric circulation
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